This chapter contains forward-looking statements about Orange, particularly in Sections 1.2 *Market, strategy and business model* and 1.4 *Operating activities*. These forward-looking statements are subject to numerous risks and uncertainties that could cause actual results to differ materially from the results anticipated in the forward-looking statements. The most significant risks are detailed in Section 2.1 *Risk factors*.

1.1 Overview

Orange is one of the world's leading telecommunications operators with revenue of 41 billion euros and 151,000 employees worldwide, including 92,000 in France, at December 31, 2018. The Group served 264 million customers at December 31, 2018, of which 204 million mobile customers and 20 million fixed broadband customers. The Group is present in 27 countries. Orange is also a leading provider of telecommunication services to multinational companies, under the brand Orange Business Services. In March 2015, the Group presented its strategic plan, *Essentials2020*, which focuses on its customers' expectations to ensure that they experience the best of the digital world and the power of its very high-speed broadband networks.

Orange SA is the parent company of the Orange group and also carries the bulk of the Group's activities in France. Orange has been listed since 1997 on Euronext Paris (symbol: ORA) and on the New York Stock Exchange (symbol: ORAN).

1.1.1 Company identification

Company name: Orange

Registration location and registration number:

Paris Trade and Companies Register
(*Registre du commerce et des sociétés* – RCS)
380 129 866
APE (principal activity) code: 6110Z

Date of incorporation and term:

Orange was incorporated as a French *société anonyme* on December 31, 1996 for a 99-year term. Barring early liquidation or extension, the Company will expire on December 31, 2095.

Registered office:

78, rue Olivier de Serres, 75015 Paris, France
Telephone: +33 (0)1 44 44 22 22

Branches: None

Legal form and legislation applicable:

Orange is governed by French corporate law subject to specific laws governing the Company, notably Act 90-568 of July 2, 1990 on the organization of public postal services and France Télécom, as amended.

The regulations applicable to Orange as a result of its operations are described in Section 1.7 *Regulation of activities*.

Company purpose:

The Company's corporate purpose, in France and abroad, specifically pursuant to the French Postal & Electronic Communications Code, shall be:

- to provide all electronic communication services in internal and international relations;
- to carry out activities related to public service and, in particular, to provide, where applicable, a universal telecommunications service and other mandatory services;
- to establish, develop and operate all electronic communications networks open to the public necessary for providing said services and to interconnect the same with other French and foreign networks open to the public;
- to provide all other services, facilities, handset equipment, electronic communications networks, and to establish and operate all networks distributing audiovisual services, and especially radio, television and multimedia broadcasting services;
- to set up, acquire, rent or manage all real-estate or other assets and businesses, to lease, install and operate all structures, businesses, factories and workshops related to any of the purposes defined above;
- to obtain, acquire, operate or transfer all processes and patents related to any of the purposes defined above;
- to participate directly or indirectly in all transactions that may be related to any of the purposes defined above, through the creation of new companies or enterprises, the contribution, subscription or purchase of securities or corporate rights, acquisitions of interests, mergers, partnerships, or any other means;
- and more generally, all industrial, commercial and financial transactions, or transactions involving movable or fixed assets, that may be related directly or indirectly, in whole or in part, to any of the aforementioned corporate purposes, or to any similar or related purposes, or to any and all purposes that may enhance or develop the Company's business.

1.1.2 History

Orange, formerly France Télécom, is France's incumbent telecommunications operator. The Group has its origins in the Ministry for Mail, Telegraphs and Telephone, later to become the General Directorate of Telecommunications, which in 1990 was accorded the status of independent public entity and, on January 1, 1991, renamed France Télécom. On December 31, 1996, France Télécom became a *société anonyme* (limited company). In October 1997, France Télécom shares were listed on the Paris and New York stock exchanges, allowing the French government the disposal of 25% of its shares to the public and Group employees. Subsequently, the public sector gradually reduced its holding to 53%. The law of December 31, 2003 authorized the transfer of the Company to the private sector and between 2004 and 2008 the public sector sold a further 26% of the capital, and then again 4% in 2014 and 2015. At December 31, 2018, the French State retained 22.95% of the share capital, held either directly or jointly with Bpifrance Participations.

France Télécom's area of activity and its regulatory and competitive environment have undergone significant changes since the 1990s. In a context of increased deregulation and competition, between 1999 and 2002, the Group pursued a strategy of developing new services and accelerated its international growth with a number of strategic investments. These included, in particular, acquiring the mobile operator Orange Plc and the Orange brand, which had been created in 1994, and taking a controlling stake in Poland's incumbent operator, Telekomunikacja Polska.

Since 2005, the Group has expanded strategically in Spain by acquiring the mobile operator Amena, then in 2015 the fixed-line operator Jazztel. Spain is the Group's second largest market, accounting for nearly 13% of consolidated revenue in 2018.

In parallel, the Group streamlined its asset portfolio by selling off non-strategic subsidiaries and holdings.

Over the last twelve years, the Group has pursued a policy of selective, value-creating acquisitions by concentrating on the markets in which it is already present.

Mainly targeting the emerging markets of Africa and the Middle East where the Group is historically present (in particular Cameroon, Côte d'Ivoire, Guinea, Jordan, Mali and Senegal), this strategy was implemented through the acquisition of Mobinil in Egypt (2010) and of Méditel in Morocco (2015) and more recently by the acquisition of a number of African operators (in Liberia, Burkina Faso, Sierra Leone and the Democratic Republic of the Congo) (2016).

It also resulted in the joint venture with Deutsche Telekom that combined UK activities under the EE brand (2010) followed by the disposal of EE in 2016, as well as the disposal of Orange Suisse (2012), Orange Dominicana (2014), Orange Armenia (2015) and Telkom Kenya (2016).

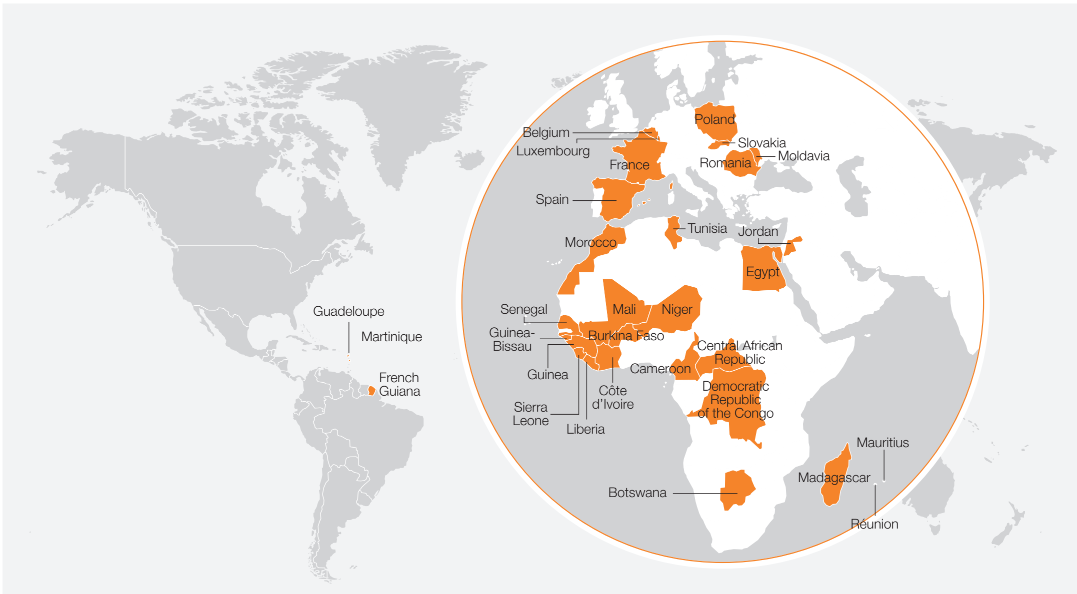
As part of its Enterprise Services and since the acquisition of Equant in 2000, Orange has been pursuing its strategy of becoming a global player in digital transformation and has accelerated its shift to services through a number of targeted acquisitions, notably in the fields of cyber security and Cloud services, such as those of Business & Decision and Basefarm in 2018.

Business diversification is one of the major pillars of the Orange group's *Essentials2020* strategy. The acquisition of Groupama Banque, now Orange Bank, in 2016, which launched its new banking offer in November 2017, illustrates the goal of diversifying into the mobile financial services sector.

In 2006, Orange became the Group's main brand for Internet, television and mobile telephony services in the majority of countries where it operated, most importantly France and Spain. In 2013, the Company adopted the Orange name, offering the full range of its telephony services in France under the Orange brand. This policy continued with the adoption of the Orange brand by Telekomunikacja Polska in 2013, by Mobinil in Egypt, Mobistar in Belgium and Méditel in Morocco in 2016, and by several of the Group's subsidiaries in Africa in 2017. Enterprise services in the world are offered under the brand Orange Business Services.

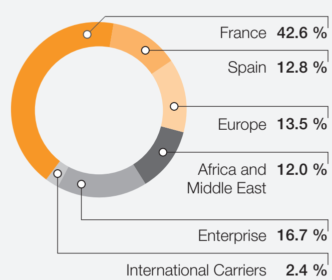
For more information on Orange's strategy and its business model, see Section 1.2 *Market, strategy and business model*.

1.1.3 Group’s main footprint and key figures

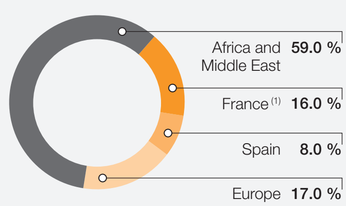


The list of the main consolidated entities of the Orange group at December 31, 2018 is provided in Note 18 to the consolidated financial statements (Section 3.3).

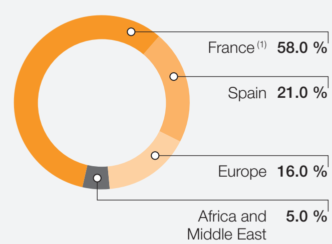
Revenue
41,4 billions of euros



Mobile customers
203,6 millions



Broadband internet customers
20,1 millions



(1) Includes business customers.

1.1.4 Selected financial information

The selected financial information presented below relating to the years ending December 31, 2014, 2015, 2016, 2017 and 2018 is extracted from the consolidated financial statements audited by Ernst & Young Audit and Deloitte et Associés for fiscal year 2014 and by Ernst & Young Audit and KPMG SA for fiscal years 2015 to 2018.

The selected financial information relating to the years ended December 31, 2018, 2017 and 2016 must be read together with the Group’s consolidated financial statements and Management Report for those years.

1

The information provided below for the years 2017 and 2016 have been restated in accordance with IFRS 15. The information provided below for the years 2015 and 2014 below have not been restated.

Consolidated income statement

Amounts in accordance with IFRS (in millions of euros, except for per share data)	2018	2017	2016	2015	2014
Revenue, net	41,381	40,859	40,708	40,236	39,445
Operating income	4,829	4,778	3,917	4,742	4,571
Finance costs, net	(1,362)	(1,715)	(2,097)	(1,583)	(1,638)
Consolidated net income of continuing operations	2,158	2,011	869	2,510	1,360
Net income (per share) of discontinued operations	0	29	2,253	448	(135)
Net income (attributable to owners of the parent company)	1,954	1,843	2,813	2,652	925
Earnings per share attributable to owners of the parent company					
Consolidated net income of continuing operations					
basic (1)	0.63	0.58	0.10	0.72	0.36
diluted (1)	0.62	0.58	0.10	0.72	0.36
Net income (per share) of discontinued operations					
basic (1)	0.00	0.01	0.85	0.17	(0.05)
diluted (1)	0.00	0.01	0.85	0.17	(0.05)
Net income					
basic (1)	0.63	0.59	0.95	0.89	0.31
diluted (1)	0.62	0.59	0.95	0.89	0.31
Dividend per share for the fiscal year	0.70 (2)	0.65	0.60	0.60	0.60

(1) Earnings per share calculated on a comparable basis.
(2) Subject to the approval of the Ordinary Shareholders' Meeting.

Consolidated statement of financial position

Amounts in accordance with IFRS (in millions of euros)	2018	2017	2016	2015 (3)	2014
Intangible assets (1)	41,247	41,250	41,581	41,398	36,595
Property, plant and equipment, net	27,693	26,665	25,912	25,123	23,314
Total assets	96,592	95,349	95,411	91,430	88,404
Net financial debt (2)	25,441	23,843	24,444	26,552	26,090
Equity attributable to the owners of the parent company	30,669	30,975	31,241	30,907	29,559

(1) Includes goodwill and other intangible assets.
(2) The components of net financial debt are described in Note 11.3 to the consolidated financial statements.
(3) The effects of IFRS 15 application on the consolidated statement of financial position as at January 1, 2016 are described in Note 2.3.2 to the consolidated financial statements.

Consolidated statement of cash flows

Amounts in accordance with IFRS (in millions of euros)	2018	2017	2016	2015	2014
Net cash provided by operating activities	9,506	10,174	8,750	9,527	8,802
Net cash used in investing activities	(8,552)	(7,941)	(4,879)	(9,406)	(6,352)
Purchase of property, plant and equipment and intangible assets	(7,642)	(7,527)	(8,492)	(7,771)	(6,111)
Net cash used in financing activities	(1,131)	(2,738)	(1,883)	(3,924)	(154)
Cash and cash equivalents – closing balance	5,634	5,810	6,355	4,469	6,758

Employees

	2018	2017	2016	2015	2014
Number of employees (active employees at end of period)	150,711	151,556	155,202	156,191	156,233

Dividends

(in euros)	2018	2017	2016	2015	2014
Dividend per share distributed for the fiscal year	0.70 (1)	0.65	0.60	0.60	0.60

(1) Subject to the approval of the General Shareholders' Meeting of May 21, 2019.

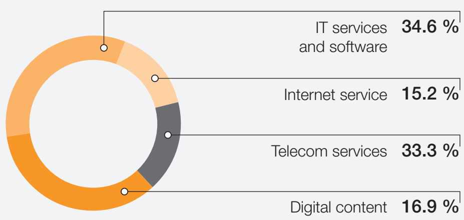
1.2 Market, strategy and business model

1.2.1 The global digital services market

The digital services market is a subsector of the broader Information and Communication Technologies (ICT) sector. It combines IT services and software, telecoms services, TV and video services, and Internet services. On the other hand, it does not include network equipment[1] and devices which are intermediate goods that automatically form part of the added value. The digital services market is an essential component of economic growth and accounts for significant value creation via the distribution of new services and new uses.

With growth of 4.5% in 2018, the global digital services market amounts to €3,383 billion and is continuing to grow steadily. The growth of this market is driven by the dynamic Internet services sector (up 13.6% in 2018) and IT and digital content (up 5.6% each). Revenue from telecoms services was €1,187 billion. It experienced moderate growth of 1.1% in 2018[2].

Breakdown of the worldwide digital services market*



* Before eliminations.

Source: Idate – Digiworld yearbook 2019.

Market growth by region[2]

North America remains the top region in the world in the digital services market with 37% of worldwide revenue, ahead of the Asia-Pacific region at 29%, driven by its economic and industrial development. Europe comes next with 24% of the market but is gradually weakening, whereas Latin America (5%) and Africa (4.6%) account for 10% of the worldwide market combined.

Digital services growth slowed in emerging markets owing to constraints on purchasing power, competitive pressure and, sometimes, the quality of service. The Asia-Pacific market suffered a decline in demand in India and a substantial slowdown in China. Growth in sub-Saharan Africa will likely not exceed 5%. While Africa will account for 25% of the world's population in 2050, compared with 17% in 2020, the potential of the Africa Middle East region, where the Orange Group is very present, remains strong in both access infrastructure and equipment. The digital ecosystem is currently being built in the region. It is emerging and adapting to local conditions in order to integrate IT in all areas of the economy (trade, agriculture, government, mobile payments, etc.).

Key trends and changes in telecoms services

The development of very high-speed fixed broadband and mobile and the high penetration of smartphones worldwide, lead to a growing demand for bandwidth[2].

The return to growth of telecommunications services which began in 2017 remains weak in Europe. The weight of telecommunications services is, therefore, trending downward in Europe due to strong competition between operators and the development of OTT services. The American market has also been in decline for the past two years, but while it is of comparable size, it generates twice as much revenue, traffic and investment. Lastly, growth in the rest of the world remains steadier, although there is an observable slowdown in emerging markets.

Convergence of services and market consolidation

Convergence, which provides a competitive advantage to operators with both fixed and mobile network infrastructures, continues to grow, particularly in Europe. It led to the development of so-called *quadruple play* offers (voice, Internet, television, mobile), as well as the growing use of WiFi in mobile networks.

The convergence of telecommunications and content operators is a feature specific to the North American and UK markets. In the United States, the acquisition by AT&T of the Time Warner media group, owner of television chains HBO and CNN, announced in June 2018, was approved by the competition authorities.

In Europe, the consolidation trend has slowed following mergers between telecoms operators in 2014-2015 which addressed the need for convergence and a reduction in the number of mobile operators. However, the merger between mobile operators Tele2 and T-Mobile in the Netherlands was approved by the European Commission at the end of November 2018. With respect to fixed/mobile convergence transactions, the merger of Vodafone and Liberty Global in Germany, Hungary, the Czech Republic and Romania, which was announced in May 2018, is underway. The merger of Tele2 and Telecom Hem in Sweden was approved by the European Commission in October 2018. In addition, in 2018, Iliad and its founder took a majority stake in the operator Eir in Ireland.

Network development and growth in telecommunication uses worldwide

While in Africa and the Middle East, Internet access networks are developing primarily via the deployment of mobile networks, in Europe, investment in networks has focused on very high-speed broadband access with the development of fixed-line fiber, 4G mobile network performance improvements and the first 5G tests. Concurrently, operators are upgrading their networks to make them more flexible and simpler to manage (thanks to virtualization) and more open (thanks to APIs).

Usage is continuing to grow under the combined effect of the deployment of new networks, the increase in capacity of existing networks and growth in the penetration rate of smartphones. The explosion in usage is mainly driven by the development of video and Internet services accessible via a multitude of screens (computers, smartphones, tablets, connected TVs, connected watches). Furthermore, the development of long-distance radio network technologies to connect low-consumption devices (LPWA) and 5G will allow an increase in the number of connected devices which is currently still quite low.

(1) Notably: the network equipment of telecoms operators, the servers of IT companies, the production and broadcast equipment of television industry players.
(2) Source: Idate – Digiworld yearbook 2019. The information relative to the breakdown of the revenues by region is given for 2017.

Consumer and company expectations

Digital technologies continue to gradually permeate all areas of daily life: family, home, well-being, entertainment, work, and money. More and more industries are being affected: domotics, the automotive sector, health, financial services, energy and retail. The big Internet players generate revenue through the monetization of data, collected and analyzed thanks to Big Data and artificial intelligence techniques.

In this context, consumers have strong expectations on the quality and reliability of the communication networks, but also on the protection of their personal data and on having a trusted relationship with their operator. In order to ensure the protection of citizens' right to privacy, in May 2018, the European Union implemented the General Data Protection Regulation (GDPR), a new legal framework to protect personal data in Member States (see section 1.7 *Regulation of telecom activities*).

The digitization of companies (IoT, Big Data) improves their performance and effectiveness through a better understanding and management of customer relationships and of their internal processes. Furthermore, in the face of the increased threats of cyber-attacks, cyber-security needs are increasing. Businesses therefore need to be assisted in this double aspect of their transformation process.

Artificial Intelligence (AI) on the rise

Big Data, advances in algorithms and access to processing power at very low cost, in addition to investments by American and Asian IT giants, have accelerated the performance of artificial intelligence. Major global players like Amazon and Google are positioned in the personal assistant voice market which is still little developed in Europe.

The emergence of AI should substantially change consumer services as well as processes within companies. AI opens up opportunities to create new value-added services such as the development of chatbot solutions (software robot that speaks to a user) in customer relationships. It can substantially improve operational efficiency in almost all major business lines: customer relationships, as well as IT, marketing, support functions, etc.

1.2.2 The Orange group strategy

Launched in 2015, the strategic plan, *Essentials2020*, focuses on Orange's ambition for 2020 to "provide its customers with an unmatched customer experience" by being ever-present to "connect every individual to what is essential to them". This involves providing exemplary basic services, quality and reliable access, customer connections at any time and from anywhere they want, as well as even more personalized options for services and offers.

The implementation of its *Essentials2020* strategy has enabled Orange to generate revenue and EBITDA growth again.

Orange serves every kind of customer: those who focus above all else on price and those who have a particularly high-level of service expectation, whether private individuals, very small companies or multinationals. The Group can rely on a series of key strengths for the mission that it has set out. With its brand and its 151,000 employees at end-2018, it is present in Europe, Africa and the Middle East on the residential market, and everywhere in the world on the Enterprise market.

Orange's ambition breaks down into five main drivers:

1. offering enriched connectivity;
2. reinventing the customer relationship;
3. building a company model that is both digital and caring;
4. supporting the transformation of business customers;
5. diversifying by capitalizing on its assets.

Moreover, the strategic plan will be achieved within the framework of a company that is digital, efficient and responsible.

A digital, efficient and responsible company

1. Offering enriched connectivity

The multiplication of screens, the generalization of video on the Internet and customers' growing need for online services and content has led to an explosion in usage and in mobile data traffic. Moreover, the digital revolution has created new customer expectations and has changed their behavior, making connectivity even more important. Offering an efficient network to all customers is no longer enough; services must now be tailored to each individual consumer and to each moment. Orange would like to offer richer connectivity to all its customers, whether retail or business.

In order to achieve its ambition, the Group invested €7.4 billion in 2018 in line with the annual objective announced for 2018. Clear priority is given to investments in very high-speed broadband, in order to respond to the explosion in traffic and meet customer expectations. These will allow Orange to develop broadband services, whether fixed or mobile, as well as convergence services in Europe. Investments are being made in particular in the following areas:

Development of very high-speed fixed broadband and of convergence

Fiber To The Home (FFTH) is a source of value creation for Orange, through the recovery of market share, customer loyalty and the improvement of the average revenue per user (ARPU). At the end of 2018, very high-speed fixed broadband accounted for 6.3 million customers and was up by 33% year-on-year.

The Group accelerated fiber deployment in 2018. At the end of 2018, there were 32.5 million very high-speed broadband connectable households (an increase of 5.9 million year-on-year, up by 22.4%), including 13.8 million in Spain, 11.8 million in France and 6.4 million in the rest of Europe.

Across Europe, the deployment of very high-speed fixed broadband networks provides a competitive advantage over fixed-mobile convergence where the Group is the leader with 10.9 million convergent customers at end-2018, up by 5.5% year-on-year, including 6.1 million in France, 3.1 million in Spain and 1.6 million elsewhere in Europe.

The Group's *Love* convergent offers are available everywhere in Europe. Convergence also allows better service to be provided to business customers.

Rollout of very high-speed broadband mobile networks (4G and 4G+)

The development of very high-speed mobile broadband is continuing in all regions in which the Group is present and Orange continues to make significant investments in geographical coverage. Investments in 4G and 4G+ mobile services continued to enjoy sustained growth in 2018. The deployment of 4G sites accelerated in France, Spain and in Africa and the Middle East, particularly in Mali, Morocco, Senegal and Côte d'Ivoire. The impact of the Group's investments in mobile networks in France is reflected in the results of Arcep's 2018 annual survey which ranked Orange as number one in network quality for the eighth consecutive year.

Continuation of network modernization

In anticipation of the future needs of its customers, the Group is upgrading its networks to make them more agile and automatically adaptable. Orange is thus continuing to drive the transition of its networks towards all-IP, the Cloud and the virtualization of networking functions, with the goal of being able to make them programmable in real time and dynamically, based on the evolution of traffic and needs. Orange has also begun using its expertise in artificial intelligence to improve the operational effectiveness of its networks and of its information system.

Orange is a world leader in the submarine cables market with a 450,000 kilometers network, i.e., 10 times the circumference of the Earth (either wholly-owned or held through international consortiums). The Internet and most international communications (over 99% of traffic) use these submarine cables. In 2018, Orange contributed to the deployment of the PEACE cable (Pakistan & East Africa Connecting Europe). It is 12,000 kilometers long and will connect Pakistan, Djibouti, Kenya, Egypt and France and later South Africa. It will strengthen the ties between the planet's three most-populated continents.

The Group is also preparing for the arrival of 5G: it is well-suited to new mobile Internet uses and to the Internet of Things and will also enable the emergence of new economic models. In 2018, Orange carried out the first conclusive 5G technical tests in France and in Europe. The Group will launch a pre-commercial phase in 2019 with the deployment of a 5G network in 17 cities in Europe: in France (Lille, Paris, Marseille and Nantes), Spain, Poland, Belgium, Luxembourg and Romania.

The Group's ambitions for the future are to continue to lead in FTTH and its future developments and to be leader in 5G. It also wants to take advantage of new, related sales opportunities while continuing to optimize the cost of the core networks and their CO_2 emissions.

For more information, see Sections 1.5.1 *Orange's networks* and 1.6.1 *Research and innovation*.

An enriched content experience

The quality of the Group's networks, particularly in very high-speed broadband, allows it to support the development of uses and respond to customer demands by offering a multi-screen experience. The development of uses is also based on access to quality content. In this area, the Group's strategy involves strengthening its role as a distributor by focusing on content aggregation able to choose, highlight, package and offer attractive content meeting customer expectations in a simple and fluid manner.

In a context of increased competition in 2018 resulting, in particular, from the development and distribution of content via Internet (streamed content services consumed on TV screens) which no longer requires an operator TV decoder, Orange has continued its strategy of creating value through content.

For more information, see Section 1.4.6.2 *Content activities*.

2. Reinventing the customer relationship

The relationship with the customer is a key success factor, thanks to the direct link with the end-customer, especially when facing competition from OTT platforms. The Group aims therefore to have an impeccable relationship with its customers, thanks in particular to:

- the power of the Orange brand;
- the simplification of the customer journey by limiting the number of steps and intermediaries;
- the improvement of the customer experience.

Brand identity

Orange has a strong brand, ranked 65th in the Top 100 BrandZ ranking (source: Kantar Milwardbrown survey of the Top 100 Most Valuable Global Brands in 2018). The Orange brand fell three places compared to its 2017 ranking due to the strong growth of certain American and Chinese brands.

An optimized customer journey

With the development of very high-speed broadband and the rapid growth in smartphones offering customers autonomy, speed and continuous availability, mobile services are becoming essential to the customer relationship. The Group optimized its network of physical sales locations and rethought their role with the use of the smartphone which is increasingly becoming the key contact point, notably through the *My Orange* customer app. It enables customers to manage their Internet and mobile offerings from their smartphone, to contact Orange easily and to resolve problems. It currently has 18.5 million active users.

The physical stores now focus on more sophisticated customer reception and advice tasks, and on the most complex transactions. The concept is one of service excellence, provided in larger and more welcoming stores that are organized by theme (home, family, work, well-being and entertainment) and known as Smart Stores. Orange had 883 Smart Stores at the end of 2018. The Group thus offers an optimized customer journey combining Smart Stores and digital channels through its self-care solutions such as "*My Orange*" or e-commerce solutions.

The improvement of the customer experience

New customer relations management tools allow services to be better targeted based on customer uses. The purpose of these tools is to reconstruct the history of a customer's relationship with Orange, regardless of their contact points, in order to better know the customer and propose customized solutions that correspond to his or her needs and expectations. According to Les Echos' e-CAC 40 study published in October 2018, Orange is ranked 5th in digital maturity among large French companies.

Orange is increasingly using its renowned expertise in artificial intelligence. After integrating an artificial intelligence solution (IBM's Watson) in its *Mobile Banking* offering, the Group announced that its Djingo smart speaker will be available in Orange stores in the spring of 2019. It will become the main interface for all Orange services. For more information, see Section 1.6.1 *Research and Innovation*.

A trusted operator

As part of its offers, Orange already secures its customers' identities (Mobile Connect), health data (Orange Healthcare) and, for some people, their money (Orange Bank, Orange Money). In addition to its existing cyber-security and digital identity services, Orange intends to become a trusted operator which secures and facilitates the digital lives of its customers.

Unlike several Internet giants who highlight free access to their service, the Orange business model is not based on using the personal data of its customers but rather on a subscription (see Section 1.2.3 *Business model*). At the *Show Hello* event, Orange announced the creation of an Ethics Committee on data use with customer and employee representatives.

Orange deployed a broad-based project across the Group to prepare for the entry into force of the General Data Protection Regulation (GDPR), which took place in May 2018.

3. Building a company model that is both digital and caring

Orange wants to be a company to which all its employees, women and men, are proud to belong. In order to measure employee satisfaction, which is a guarantee of business performance, Orange introduced an employee satisfaction plan with a bi-annual survey in France and an annual survey outside of France.

The Group is continuing its internal transformation driven by the three priorities of its promise to be a people-oriented and digital employer:

- relying on committed employees;
- developing collective agility by encouraging initiative and being always more customer-focused;
- and securing the skills needed for the future by developing expertise in-house and attracting new talent. The strong and rapid change in business lines and skills is becoming a major societal challenge.

In December 2018, Orange confirmed its policy of being an ambitious employer by signing a new inter-generational agreement for the 2019-2021 period based on three major themes: integrating young, measures for senior employees and end-of-career management, and the transmission of know-how, particularly between generations.

Orange has been committed to achieving gender equality in the workplace for over ten years. It has focused on four main areas: women's access to positions of responsibility and to every management level, balanced gender representation in all business areas including technical fields, equal pay, and private life/work life balance.

Orange is involved in the environmental and energy transition. In July 2018, it signed a new incentive agreement which, in particular, introduced a Corporate Social Responsibility indicator for energy management.

In order to develop the skills needed for the future, Orange Cyberdefense joined forces with Microsoft and ECE Paris to train future cyber-security experts at the heart of the digital transformation of companies.

A recognized policy of human resources development

In February 2019, for the fourth consecutive year, Orange received the *Top Employer* Global 2019 world certification, which rewards the best human resource policies and practices. Orange is one of the 14 employers in the world to be certified Top Employers Global 2019 and the only telecoms operator on the list.

On October 4, 2018, Orange also received the *Top Employer* Africa 2019 certification for the sixth consecutive year, placing it among the three first Top Employers on the continent.

4. Supporting the transformation of business customers

Carrying opportunity, efficiency, and growth, the digital revolution deeply transforms the activities, organization, tools (customer and employee relations) and the processes of businesses. In this context, Orange is positioned as a trusted partner to support companies in their digital transformation. To this end, the Group is attentive to the needs and specifics of each of its customers' industries, business lines and processes, and security constraints, from SMEs to multinationals. In addition to its traditional role as a supplier of connectivity wherever it is present, the Group focuses on four key areas:

- providing digital work solutions to allow employees to become more mobile, more connected and more collaborative;
- improving business line processes, particularly through applications and connected objects, which provide companies with new possibilities;
- providing multinationals with private and hybrid Cloud solutions;
- security solutions for the protection of all areas of companies' vital activities, which represent an increasingly important challenge today.

In 2018, Orange Business Services pursued its strategy of becoming a global player in digital transformation and accelerated its growth in services. In addition, the diversification of its B2B activities continues with the structurally important acquisitions of Enovacom (a leading player in e-health), Business & Decision (an international consulting and systems integration group) and Basefarm Holding (a major player in infrastructure and management services of Cloud critical applications in Europe).

For more information, see Section 1.4.5. *Enterprise*.

5. Diversifying by capitalizing on its assets

Orange concentrates on fields in which it can capitalize on its assets and be a legitimate player in its customers' eyes to develop new areas of growth: following on connected devices and mobile financial services, cyber defense has become a major challenge for companies and governments.

Connected objects and mobile financial services have fundamentally transformed customers' daily life, and Orange believes it can provide a real value-added service in these areas. These services require enhanced connectivity and offer numerous synergies with the Group's main assets: customer relationships, digital expertise, both physical and digital distribution power, capacity for innovation, brand strength (building confidence and trust with clients), networks and international presence.

Cyber-defense is another field in which the Group has all of the assets needed to offer the solutions of the future to its customers. The Group opened Orange Cyberdefense in Casablanca, Morocco in October 2018 to create the cyber-security leader in French-speaking Africa.

A new Group Executive Committee took office on May 2, 2018. The fifteen-member team, both diversified and more international, is tasked with ensuring the successful transformation of Orange into a multi-services operator by capitalizing on the progress achieved through the *Essentials2020* plan, and notably through its voluntary involvement in the deployment of very high-speed broadband networks and improvement of the customer experience.

Connected objects

The Group wants to be present across the entire value chain of connected devices: the distribution of connected devices, the supply of related value-added services, and the management of data from the connected devices, in particular using *Datavenue*, its open intermediation platform.

Orange Business Services launched the LTE-M technology in November 2018, dedicated to IoT in France. It also initiated a developer challenge to stimulate the LTE-M ecosystem. LTE-M technology is already available in Belgium, was launched in Romania at the end of 2018 and will be released in Spain in 2019.

Mobile financial services

The growth prospects for mobile financial services are significant, not only in Europe but also in Africa, where the mobile penetration rate is much higher than the percentage of people with bank accounts in most concerned countries, and where customers want to make an increasing number of payments using mobile devices, in a simple and fluid manner thanks to the dissemination of smartphones.

Orange's ambition in mobile financial services is to achieve the following by 2023:

- 4 million Orange Bank customers and €500 million in net banking income in Europe;
- over €800 million in revenue and over 30 million active Orange Money customers in Africa and the Middle East.

For more information, see Section 1.3 *Significant events*.

A digital, efficient and responsible company

The Group wants to meet its objectives in respect of CSR performance by being an ethical company, respectful of the ecosystem and the environment in which it operates.

Corporate responsibility

In order to respond to the social and environmental challenges related to the increasing number of devices (smartphones, tablets, connected objects), as well as to the multiplication of energy-consuming uses, Orange has committed to two priorities: to reduce its CO_2 emissions per customer use by 50% by 2020 (compared to 2006), and to promote the integration of circular economy principles within its organization and its processes. At the end of 2018, CO_2 emissions per customer use had been reduced by 56.6% since 2006. In March 2018, Orange extended its solar energy access services to the residents of rural areas in five new countries, confirming its intent to become a key player in the energy transition in Africa.

For more information, see chapter 4 *Non-financial performance*.

For the 2018 Shareholders' Meeting, Orange published its third Integrated Annual Report showing shareholders and all its audiences how its corporate project intends to create sustainable value shared by all.

Operational effectiveness

Orange continues to improve its operational effectiveness through the implementation of its *Explore2020* program. Orange has achieved gross savings of €3.5 billion since 2015, thus exceeding the €3 billion of gross savings initially forecast for the 2015-2018 period.

Over the 2019-2020 period, Orange will continue its efforts using as main drivers digitization, simplification and sharing to achieve additional gross savings of one billion euros over this period.

Since 2018, the Group has also leveraged a Lean CAPEX program for the gradual reduction of unit costs, which will result in savings of up to one billion euros by the end of 2020. This will be partly reinvested, in accordance with the Group's objectives.

Ambitions

Orange's strategy, in its core and new business areas, aims to generate new growth while maintaining a healthy financial position. Concerning operations, the Group tracks several major indicators allowing it to assess the implementation of the *Essentials2020* plan presented in March 2015:

Two global summary indicators reflect the core ambition of *Essentials2020* concerning Orange customers' digital experience:

- a leadership indicator in terms of customer recommendations (the *Net Promoter Score* or NPS), which encompasses all of the strategic plan's drivers. Orange had set itself the goal of becoming number 1 in NPS among 75% of customers before 2018. It achieved very positive results in 2017, with 68% ranking it number 1. In 2018 however, this score fell to 57% due to strong competitive pressure on prices in several countries. The global target of 75% was therefore not met. However, the Group does hold the top position in 15 out of 23 countries [(1)], with a notably high score in France, where Orange is number 1 in all segments [(2)];
- an indicator which measures the power of the Orange brand: the *Brand Power Index*. Orange's goal was to ensure ongoing improvement of this indicator in all of its markets by 2018. In 2018, compared with 2014, the *Brand Power Index* for fixed broadband and convergence increased in 7 countries out of 10 and the *Brand Power Index* for mobile increased in 15 countries out of 25.

Furthermore, Orange has one goal per driver:

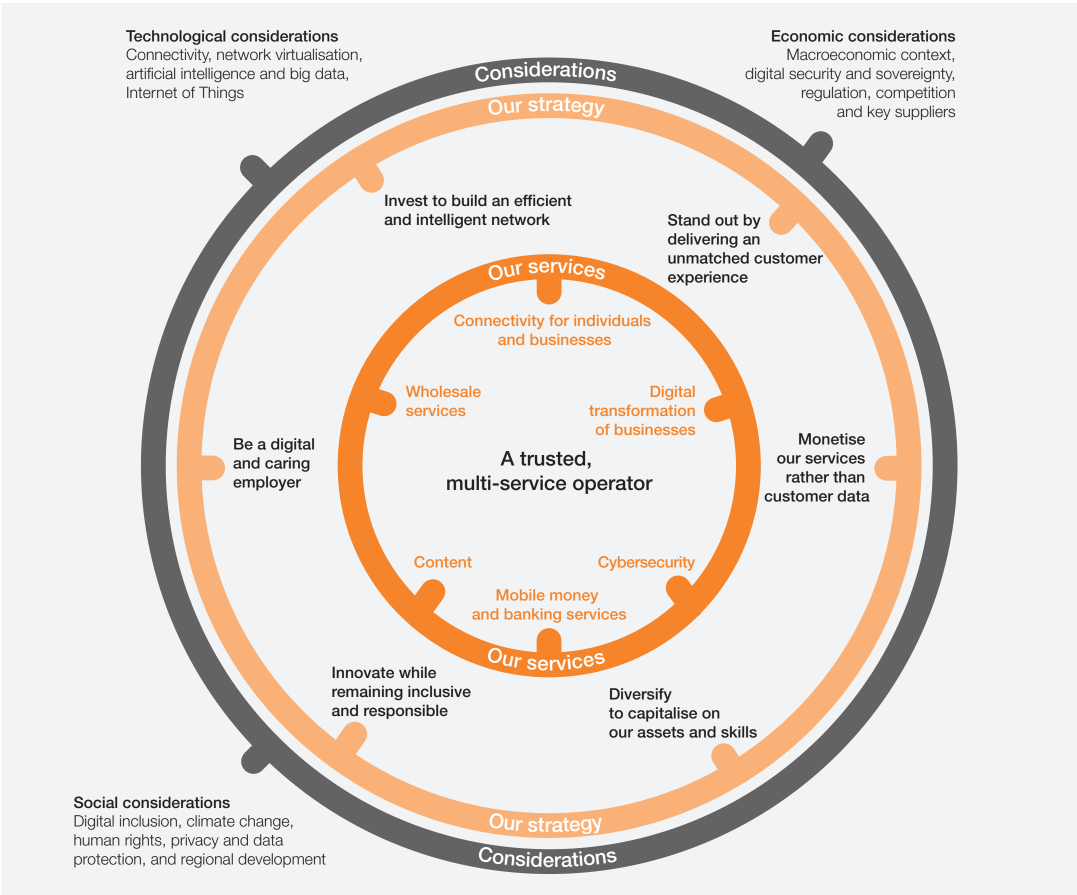
- for the first driver on enhanced connectivity, Orange set itself the objective of tripling the average data speeds of its customers on its fixed and mobile networks by the end of 2018 compared with 2014. At the end of 2018, compared with 2014, the average data speed of the fixed network increased 7.6 times thanks to the deployment of fiber and the average data speed of the mobile network increased 3.1 times;
- for the second driver, on customer relationships, Orange was aiming for 50% digitization of interactions with its customers in Europe by 2018. In 2018, 52% of Orange's customer interactions were via digital channels;
- for the third driver on the digital and caring employer model, Orange has chosen an indicator symmetrical to that chosen for its customers, based on recommendation. In 2018, 81% of employees recommended Orange as employer;
- for the fourth driver on the Enterprise market, Orange has chosen to measure the success of the transformation of its Enterprise business model towards IT services. The Group aims to raise the share of IT and integration services in the Orange Business Services revenue mix by 10 points by 2020. In 2018, revenue from IT and integration services accounted for 36% of OBS revenue on a like-for-like basis, i.e., an 8-point increase compared with 2014;
- finally, the selected indicator for the last driver measures the success of diversification into new services, notably connected devices and mobile financial services. The objective was for these new services to contribute more than one billion euros to the Group's revenue in 2018. With 2018 revenue of €862 million, this objective was not achieved given that the connected devices market grew less than expected.

Financial objectives

As regards the financial component, see Sections 3.2.2 *Outlook*, and 6.3 *Dividend distribution policy*.

(1) The Indicator is not measured in Luxembourg or the Central African Republic.
(2) In France, the indicator is measured in four segments: mobile, broadband, convergence and low-cost.

1.2.3 Business model



Creating shared value for the long term

Customer confidence is key to everything we do

Orange's core business is to provide efficient and intelligent global networks for customers while ensuring their data is secure and protected. Building on this foundation of technology and trust, Orange provides connectivity solutions to individuals and businesses, delivers network resources and enriched services to domestic and international carriers and supports the digital transformation of its business customers. The Group also develops new offers in content, mobile financial services and cybersecurity.

Digital technology to serve an advanced, informed and free society

Orange wishes to harness the potential of digital technology to ensure meaningful progress for people, society and the planet. Orange is aware of, and has an influence on, the technological, economic and social considerations associated with its operations, and helps its stakeholders to navigate this changing environment. Its business model is based on subscriptions, rather than exploiting value from the data generated by its 264 million customers, comprising individuals, businesses, local authorities and carriers. Another commitment made by Orange to its customers is to offer them an unmatched experience. Orange is leveraging its connectivity, assets, expertise, technology and skills to diversify into new markets. As a trusted operator, Orange must also take into account the deep inequalities that characterise the digital world. That is why Orange defines and implements innovation in an inclusive and responsible way. The Group owes the success of its strategy to the commitment of its 151,000 employees across the world to whom it reiterates its digital and caring employer promise.

Creating value for all our stakeholders

The figure below presents the indicators that illustrate the financial and non financial value Orange is creating for its stakeholders. Its large and highly-skilled workforce is one of its greatest assets and Orange is a leading employer in several countries. The result of an effective innovation and investment policy, its industrial and intellectual capital sets it apart from its competitors. The strength of its brand and the extent of its distribution network also provide a competitive advantage. Furthermore, excellent commercial performance across the Group, combined with operational efficiency, have produced solid financial results. With operations in 27 countries, Orange invests extensively in networks and therefore plays an essential role in regional development and people's daily lives. The Group maintains excellent relationships with its suppliers and partners, promoting responsible and ethical collaboration at every stage of the value chain. Moreover, the commitments made and the actions taken with respect to carbon footprint and circular economy demonstrate Orange's determination to reduce its environmental impact.

2018 data

Capital and ecosystem	Value created and shared
Human capital – 151,000 employees across the world – 75,000 customer relationship employees – 34,000 employees responsible for networks – 2,400 digital developers, integrators and experts – 30.4 training hours per employee of Orange SA	**A major employer** – **€9.1 billion in labor expenses, representing 22% of revenues** – 81% of Group employees recommend Orange as an employer – 73% of employees in France are Orange shareholders – 11,000 recruitments on permanent contracts across the Group, including 3,200 in France – *Gender Equality European and International Standard* (GEEIS) – 29.8% of women in management networks
Industrial and intellectual capital – **€7.4 billion net investment excluding licenses** – €700 million investment in Research & Innovation – 6,857 patents including 222 new inventions – 450,000 km of submarine cables owned or co-owned, six cable ships	**Leading the field** – 264 million customers, including 3,000 multinationals outside France – No. 1 in optic fiber in Europe: 29 million connectable households – 56 million 4G customers (coverage in Europe greater than 95%) – No.1 in convergence in Europe: 10.9 million customers – No.1 in terms of mobile network quality in France for the 8th time running (according to Arcep) – 15,1 million active Orange Money customers and 248,000 Orange Bank customers
Brand equity and commercial capital – A powerful brand with strong customer loyalty: ranked 65th in the BrandZ Top 100 most valuable global listed brands – Present locally with 5,326 stores across the world, including 883 Smart Stores – An Orange Money distribution network with 160,000 points of sale	**A customer experience that makes the difference** – No.1 in customer recommendations in 15 countries – No.1 in customer recommendations in France across all segments – 52% of customer interactions in Europe conducted on digital channels – Average broadband speed for fixed Internet network users 7.6 times faster than in 2014 – Average broadband speed for mobile Internet network users 3.1 times faster than in 2014
Financial capital – Significant equity: €33.2 billion – Moderate net financial debt: €25.4 billion – A stable and long-term shareholder base: 23% public sector, 5.5% employees and former employees	**Solid financial performance** – **Revenues: €41.4 billion (up 1.3% compared to 2017)** – Adjusted EBITDA: €13 billion (up 2.7% compared to 2017) – Adjusted EBITDA – CAPEX: €5.6 billion (up 1.7% compared to 2017) – **Paid dividends: €2.1 billion**
Regions and society – 27 countries for retail services and a global presence with Orange Business Services – 6 new agreements signed for public initiative networks (PIN) in France – National and local stakeholder dialogue: freedom of expression, respect for privacy, network shutdown requests	**Contribution to society and regional development** – **€2.2 billion in operating taxes and licenses paid** – **€0.9 billion in corporate taxes paid** – **€4.6 billion in network investments** – €260 million invested to support entrepreneurship over the last 10 years – €23 million invested by the Foundation to help young people and women in difficulty – Contribution to wealth creation: 11% of GDP in Senegal and Côte d'Ivoire, 2.9% in Niger – Orange is a member of the Global Network Initiative
Suppliers and partners – €19.6 million invoiced by companies in France's sheltered employment sector to Orange SA – 116 CSR audits conducted under the Joint Audit Cooperation (JAC) – Involvement in over 50 domestic and European research projects – 13 research chairs funded	**Responsible and ethical working relationships throughout the value chain** – **€18.6 billion in external purchases (suppliers, etc.)** – Responsible supplier relations label in France – 264,000 employees impacted by Joint Audit Cooperation action plans
Environment – Energy consumption: 5,697 GWh (scope 1 and 2) – CO_2 emissions: 1,4 billion tons (scope 1 and 2) – Environmental management (ISO 14001) certification for 60% of the Group's scope – Energy management (ISO 50001) certification in France	**Towards carbon neutrality and a circular economy** – Reduction of 3.2% in CO_2 emissions and 3.2% in energy consumption compared with 2016 – Energy efficiency: 56.6% reduction in CO_2 rate per customer usage compared with 2006 – €800 million saved in networks and IT's energy costs since 2010 – 15.4% of unwanted mobile devices collected in the European footprint

In bold : breakdown by financial flow of the value created by Orange.

1.3 Significant events

In 2018, the Group continued to carry out its strategic plan, *Essentials2020*, which relies primarily on the quality of the Group's networks resulting from targeted capital investments, the depth of its convergent and content products and the diversification into new services, particularly mobile financial services and connected devices. In the business segment, Orange Business Services made several acquisitions in 2018 to supplement its business customer digital transformation activities. The Group also continues to implement its operational efficiency and cost-control programs (with *Explore2020*) and investment programs (with Lean CAPEX).

In March 2018, Stéphane Richard, Chairman and Chief Executive Officer of Orange, announced a renewed Group Executive Committee, with a new, more diversified and international team of 15 members whose mission is to lead the transformation of Orange into a multi-services operator by capitalizing on the progress achieved through *Essentials2020*. The new Executive Committee started work on May 2, 2018 (see Section 5.1 *Composition of management and supervisory bodies*).

Investment in networks

In 2018, the investments in networks (besides telecommunication licenses) accounted for 62% of the Group's CAPEX. In particular, the installation of networks providing broadband and very high-speed broadband Internet access is one of the five levers of the *Essentials2020* strategic plan. In France, Orange invested 9 billion euros in the installation of networks between 2015 and 2018, 3 billion euros of which was on fiber optics.

Very high-speed fixed broadband networks

The Group is continuing the accelerated deployment of its very high-speed fixed broadband networks with 5.9 million new households connectable year-on-year. At December 31, 2018, Orange had 32.5 million very high-speed broadband connectable households throughout the world (up 22.4% year-on-year), including 13.8 million in Spain, 11.8 million in France and 6.4 million in the rest of Europe. In France, out of 11.8 million households and commercial premises in the available market for fiber at the end of 2018, Orange built 9.3 million fiber connections, using only equity capital. Orange has installed 69% of the fiber optic network in France (source: Arcep) and in 2018 signed six new agreements for operating the fiber optic networks of regional authorities (Bourgogne-Franche-Comté, Gironde, Vienne-Deux Sèvres, Orne and Var, plus a submarine cable in Guadeloupe, see *below*). Orange particularly made progress with installations in the less populated areas, with an increase of 40% in 2018 compared with 2017. In addition, in May 2018, Orange entered into commitments with the French government regarding the deployment of fiber optics in its «AMII» areas (areas covered by calls for expressions of investment intentions) (see Note 14.1 to the consolidated annual financial statements).

In April 2018, Orange also announced a commercial agreement with Eutelsat aiming to improve its satellite-based, very high-speed broadband Internet access services in the European countries where it operates in the retail market. This agreement will allow the Group to offer high quality access to digital services to all of its European customers, including in rural areas where it is sometimes difficult to introduce traditional very high-speed broadband networks.

Modernization of the fixed-line telephony network in France

In France, Orange has been gradually replacing the Public Switched Telephone Network (PSTN) technology installed in the 1970s in order to preserve fixed-line telephony service for years to come. IP (Internet Protocol) based technology, now an international communications standard, is already used by nearly 11 million Orange customers in France. It will gradually replace the old STN technology at Orange for all of its fixed-line telephony customers. Since November 15, 2018, Orange has only been marketing fixed-line telephony in metropolitan France using IP.

Very high-speed broadband mobile networks (4G/4G+/5G)

In 2018, Orange continued installing its 4G/4G+ networks. In France and in Spain, the investments made are mainly aimed at increasing the density of coverage outside of urban areas and at improving speeds in the major cities. At December 31, 2018, 4G coverage rates reached 98.6% of the population in France, 96.9% in Spain and 99.8% in Poland. In France, Orange will have converted nearly all of its 3G sites into 4G by the end of 2019. In addition, Orange's 4G+ is already installed in dozens of cities to meet the growing usage needs of customers. In Africa and the Middle East, deployments are continuing, particularly in Mali, Morocco and Senegal. With these investments, Orange has 56.2 million 4G customers across the world at December 31, 2018 (an increase of 21.7% year-on-year), including 15 million in France, 9.8 million in Spain, 14.8 million in Europe and 16.7 million in Africa & Middle East (excluding associates and joint ventures).

In addition, against a background of strong growth in mobile Internet traffic, the Group is actively preparing for the arrival of 5G technology and has, in particular, decided to carry out new large-scale trials in Europe, as a joint development with its technology and innovation partners. 5G promises a higher-performance network, with speeds up to 10 times faster than 4G and an altogether new network for the Internet of Things, able to connect objects on a massive scale. In countries where there is very little fiber optic infrastructure, 5G will also be an alternative for accessing very high-speed. In 2018, Orange conducted the first conclusive technical experiments of 5G in France and in Europe. Rolled out at the existing 4G sites, 5G will be installed in 17 cities in Europe in 2019 and be ready for commercialization starting in 2020, when a sufficient number of 5G smartphones will be available.

Orange ranked no. 1 mobile network in France

For the eighth consecutive time, Orange confirmed its ranking as the number one mobile network in France according to the results of the annual survey of the quality of service of mobile operators in mainland France published by Arcep (*Autorité de Régulation des Communications Electroniques et des Postes*) in October 2018. Overall, Orange was first or tied for first on 181 of the 193 criteria measured.

This survey also bears out the Group's continued efforts on mobile coverage for rural areas in France, by this year again ranking Orange in first place or tied for first place for voice services in communities with less than 10,000 residents. In January 2018, Orange and the other French mobile operators signed an agreement (called the «New Deal») with the French government, under the aegis of Arcep, on access by the French population to broadband in the whole country. The extension until 2031 of authorizations to use the 900 MHz, 1,800 MHz and 2,100 MHz frequencies expiring in 2021 will take place without an increase in fees or financial auctions, in exchange for increased coverage obligations for operators from 2018. In this connection, Orange has agreed along with the other French mobile operators to cover at least 5,000 new areas throughout the nation.

Submarine cables

Through new partnerships, Orange has strengthened its position in the submarine cable market. The Group's goal is to raise the quality of the services it offers on its global network, while optimizing costs, so as to handle the ever increasing volume of data exchanges.

In May 2018, Orange International Carriers announced the entry into service of a new land cable between Marseilles and Penmarch (two major geographic locations for submarine cables), which interconnects 15 submarine cables and thus improves connectivity between Asia, the Middle East and West Africa. In September 2018, Orange announced the improvement of its connectivity on the coast of West Africa due to its investment in the MainOne submarine cable. In October 2018, Orange also announced a partnership with Google as part of the Dunant Project, the first submarine cable to connect the United States and France in over 15 years. The 6,600 kilometer cable is set to go into service in late 2020. In addition, Orange and PCCW Global announced in October 2018 their partnership agreement to lay the new PEACE submarine cable (Pakistan & East Africa Connecting Europe). This cable, 12,000 kilometers long, is to connect Pakistan, Djibouti, Kenya, Egypt and France and should be operational in 2020. Finally, in January 2019, Orange inaugurated the Kanawa cable that connects French Guiana, Martinique and Guadeloupe. This cable, 1,750 kilometers long, was financed by Orange's equity capital.

The multi-services and enhanced services strategy

Content, mobile financial services and connected devices are major areas of diversification for the Group, one of the five levers of its *Essentials2020* strategic plan and a component of the broader strategy of developing enhanced services.

Mobile financial services (Orange Bank – Orange Money)

At the end of November 2018, Orange made known its goal of expanding in mobile financial services.

In terms of Europe, the Group's goal is to roll out its mobile financial services in seven European countries by 2023 through its Orange Bank services (in France, Spain, Poland, Belgium and Slovakia) and enhanced services through its Orange Money service (in Romania and Moldova). The Group aims to have 4 million customers by that date. Orange Bank was launched in November 2017 in metropolitan France and had served 248,000 customers as of December 31, 2018. In March 2018, Orange Bank enhanced its line of banking products with a personal loans offering. In October 2018, its banking products were launched in the French overseas departments.

With respect to Africa and the Middle East, the Group's goal is to extend Orange Money into 19 countries and aims to have more than 30 million active customers in 2023. Launched in 2008, Orange Money today has 39 million customers, including 15 million who use the service every month, in 15 countries in Africa and the Middle East (excluding associates and joint ventures). Another of the Group's goals is to launch, with partners, additional banking services (credit, saving and insurance products) in four African nations (Côte d'Ivoire, Senegal, Mali and Burkina Faso) through the launch of Orange Bank Africa, assuming the necessary authorizations can be obtained. Moreover, Orange and MTN, two of the largest mobile money operators on the African continent, announced in November 2018 the creation of Mowali, a joint operation that will enable interoperable mobile payments throughout the continent.

Content

Orange's content strategy will give priority to the broadest possible distribution of the best content offerings on the market, and to invest in movies and series via Orange Studio and OCS. It has been confirmed through a series of new agreements signed in 2018:

- in January and March 2018 respectively, Orange renewed distribution agreements with the M6 Group and TF1 Group channels as well as non-linear services associated with these channels.

  These agreements allow Orange TV customers to enjoy enhanced services and features for the two groups' programming. At December 31, 2018, Orange had 9.6 million IPTV and satellite TV customers (of which 7.0 million customers in France), a 6.1% increase year-on-year;
- in 2018, Orange extended its agreement with organizations in the film industry to invest in French and European movie productions via OCS, committing 125 million euros over the next three years (2019-2021);
- in April 2018, Orange and Fnac Darty announced the strengthening of their digital reading strategic partnership with the launch of a new audiobook offering, promoting the dissemination of new methods of digital reading. Following on from the «ePresse» (digital press) and «izneo by Fnac» (digital comics) services launched at the beginning of October 2017, since May 2018 Orange customers have been able to access 100,000 audiobooks and 3 million e-books, through the «Kobo by Fnac» audiobook service;
- in April 2018, Orange and Vivendi announced that they had signed a partnership with the CanalOlympia movie theater network, the leading movie theater and show network managed by Vivendi in Central and West Africa, with several dozen theaters planned in the coming years.

Internet of Things (IoT)

To support the explosion of the Internet of Things (IoT) market, Orange Business Services announced in November 2018 the introduction of LTE-M technology (Long-Term Evolution for Machines) in France. This is the first technology dedicated to connected devices on a mobile network in France. Installed on the Orange 4G network, this technology facilitates exchanges of enriched data (Data, Voice, Messaging) with devices that are in motion, in buildings or underground locations, and also is needed for logistical tracking, telesurveillance and medical remote assistance, and vehicle fleet management. At year-end 2018, over 98% of the population was covered. Starting in 2019, international roaming and other new features specific to LTE-M technology will be available.

This end-to-end technology supplements the existing IoT dedicated network products such as LoRa®, which remains the network of choice for connecting devices with very low energy consumption. The LoRa® (Long Range) network now covers over 30,000 towns and cities and 95% of the population of metropolitan France.

In April 2018, Orange Business Services also announced the launch, in France and in Europe, of the *Datavenue* Market web portal, putting the suppliers of connected devices in contact with companies or developers wishing to test and validate an IoT project, in a completely independent manner and at lower cost.

Lastly, Orange and Groupama announced in January 2019 their agreement to create a joint company called Protectline, operating in the property telesurveillance space. This company will be 51% owned by Orange and 49% by Groupama. Orange will introduce its property telesurveillance products for fixed and mobile retail customers in France in the spring of 2019.

Digital transformation of business customers

As part of the *Essentials2020* strategic plan, Orange is positioning itself as a partner of companies in their digital transformation. To that end, Orange has added to its activities through acquisitions and creating a joint company.

Following the takeover in June 2018 and additional acquisitions in second half of 2018, Orange acquired 88.2% of the capital of Business & Decision, a company specializing in data and digital technology, operating in business intelligence (structured analysis of business data) and customer relationship management (CRM), for a total amount of 36 million euros, net of the cash acquired. In addition, Orange benefits from mutually-binding options on the remaining 4.9% of the capital (see Note 3.2 to the consolidated annual financial statements).

In August 2018, Orange also acquired 100% of Baseform Holding, a European company active in infrastructure, Cloud services, the management of critical applications and data analysis, for a total of 230 million euros net of the cash acquired (see Note 3.2 to the consolidated annual financial statements). Henceforth, with 2,200 employees expert in the Cloud, more than half of whom work outside France, Orange Business Services plans to generate over half of its revenue in the Cloud internationally and is aiming at annual growth of 25% through 2022.

In February 2018, Orange also acquired Enovacom, which operates in the e-health sector. This acquisition forms part of the strategy of Orange Healthcare, its healthcare subsidiary, to be the leading partner in the digital transformation of health organizations and stakeholders in France and internationally.

Lastly, in February 2019, Orange announced the acquisition of the SecureData group and its subsidiary SensePost. SecureData is the largest independent provider of cyber security services in the United Kingdom, which is the largest market in Europe (see Note 17 to the consolidated annual financial statements).

Orange, a people-oriented and digital employer

Building a people-oriented and digital employer model by securing the skills needed for tomorrow, developing collective agility, and fostering individual commitment is one of the priorities of the *Essentials2020* strategic plan.

In December 2018, Orange signed a new intergenerational agreement with three French trade unions, covering the integration of young people, assistance with and preparation for retirement and knowledge transfer. This agreement, effective January 1, 2019, covers the years 2019, 2020 and 2021. Under this agreement, Orange has agreed that the Group in France will host an average of 4,000 young people on work-study and 2,400 interns at all times. Once they are trained, the Group further agrees to hire at least 2,000 from work-study or internships on permanent contracts. Lastly, Orange has given a three-year extension to the French «Part-Time for Seniors» plan of 2015, allowing employees to tailor their schedules during the three years preceding their retirement. The estimated number of beneficiaries of the extension of this plan is 6,000 employees (see Note 6 to the consolidated annual financial statements).

In June and December 2018, Orange announced that it had, in the context of its share Buyback program, acquired 6.9 million treasury shares for the amount of 101 million euros (see Note 13.2 to the consolidated annual financial statements). Those purchases were made in order to fulfill obligations related to (i) the «Orange Vision 2020» free share award plan covering 9.1 million shares and (ii) the plan for performance share awards as part of executives' multi-year variable compensation (Long Term Incentive Plan, LTIP 2018 - 2020). These plans were established with the objective of involving all Group employees and executives (subject to continued employment and performance conditions) in the success of the *Essentials2020* strategic plan (see Note 6.3 to the consolidated annual financial statements).

Furthermore, in December 2018, Orange announced the payment of an extraordinary «solidarity bonus» for 20,000 of the lowest-income employees as a commitment to the issue of people's purchasing power.

Operational effectiveness (*Explore2020*)

In 2018, Orange continued its operational effectiveness (*Explore2020*) program. The objective, which was reviewed in December 2017, was to exceed the 3 billion euros of gross savings initially projected for 2015-2018, thereby contributing to controlling the expected increase in operating expenses.

On an aggregate basis for fiscal years 2015 to 2018, the objective was reached, with 3.5 billion euros of gross savings over the period (953 million euros in 2015, 758 million euros in 2016, 934 million euros in 2017 and 893 million euros in 2018), thus surpassing the original goal by 18%. In 2018, this amount related to both operating expenses included in the adjusted EBITDA calculation, of 681 million euros, and in CAPEX, of 211 million euros.

Over the 2019-2020 period, Orange will continue its efforts on costs using as the main drivers digitization, simplification and sharing to achieve additional gross savings of one billion euros over the period 2019-2020. On investments, Orange will rely on Lean CAPEX, a program with the goal of gradually reducing unit costs by 15%, resulting in one billion euros in gross savings in 2020 (which will be partially reinvested in line with the Group's objectives).

1.4 Operating activities

Orange provides consumers, businesses and other telecommunications operators with a wide range of services including fixed telephony and mobile telecommunications, data transmission and other value-added services, including mobile financial services. The Group operates in 27 countries (including two in which it holds a minority interest). The Group's business is presented in this section under the following segments: France, Spain, Europe, Africa & Middle East, Enterprise, International Carriers & Shared Services, Orange Bank (see Section 3.3.1 Note 1 *Segment information*).

The results of Orange's activities in 2018 and its principal operating indicators in its various business segments are detailed in Section 3.1 *Analysis of the Group's financial position and earnings*.

Unless otherwise indicated, the market shares indicated in this chapter correspond to market shares in terms of volume, and the data related to customers does not include SIM cards dedicated to connected objects (Machine to Machine).

1.4.1 France

Orange is France's incumbent telecommunications operator (see Section 1.1 *Overview*). The bulk of its business is carried by Orange SA, which is also the parent company of the Orange group.

The France operating segment includes all fixed and mobile communication services to consumers and companies with less than 50 employees [(1)] in France [(2)], as well as services for carriers. Activities developed for companies with more than 50 employees, as well as content activities and those of Orange Bank are covered respectively in Sections 1.4.5, 1.4.6.2 and 1.4.7 of this document.

In 2018, the France operating segment generated 42.6% of the Group's consolidated revenue.

The market

At September 30, 2018, the revenue of French telecommunications operators declined by 1.1% on a sliding 12-month basis (source: Arcep, 3rd quarter 2018). While fixed narrowband telephony revenue continued its downward trend as a result of the steady decline in the number of lines, fixed broadband revenue continued its growth due to the increasing number of accesses. Despite intense competition, mobile services revenue rose driven by a sustained growth in access numbers.

The French broadband and very high-speed broadband Internet market is dominated by four main operators that account for over 99% of broadband customers. With a 40.3% market share, down 0.1 point compared with end-2017, Orange is the market leader on this market ahead of Free, Altice-SFR and Bouygues Telecom (nos. 2, 3 and 4, respectively, in number of customers). [(3)]

The French mobile market is dominated by the same four operators as the fixed market, which account for 89% of mobile customers (excluding M2M). With a market share of 32.5% in 2018 compared with 32.9% in 2017, Orange also remains the leader in this market ahead of its competitors Altice-SFR, Free Mobile and Bouygues Telecom (respectively nos. 2, 3 and 4 in number of mobile customers excluding M2M) and all of the MVNOs. [(3)]

Orange's business activities

Orange France's core business involves the provision of fixed-line, broadband and very high-speed broadband Internet and mobile telephony services for the Retail and Pro-SME markets. This strategy is underpinned by convergence, very high-speed fixed and mobile broadband and the Group's "unmatched" customer experience (see Section 1.2.2 *The Orange group strategy*).

In the Retail mobile market, Orange has segmented its offers into four main categories: 2h 100 MB or 2h 5 GB for customers looking for basic communication and Internet connectivity; 10 GB which offers a combination of enhanced Internet connectivity and increased communication possibilities; 50 GB adapted to meet the needs of heavier Internet users; and 100 GB and 150 GB for customers wanting the best smartphones and who have extremely intense connectivity needs both in France and abroad.

Orange is present in all market segments, including the entry-level market, with four types of mobile contract marketed under the Sosh brand at affordable prices that are available only on the Internet, with no commitment and no handset. At the end of December 2018, Sosh had 3.8 million mobile clients.

Since 2015, Orange has only marketed 4G offers, including entry-level packages.

Orange pressed ahead with its family-based strategy through its flagship *Open* offer with the development of multi-line contracts. *Open* mobile offers are available in the same ranges as traditional mobile offers and include the same levels of service.

The strategy of segmenting offers on the Retail and Pro-SME markets allows Orange to continue to grow its subscriber base while the decline in prepaid offers continues.

At the same time, the MVNO customer base hosted on Orange's network has remained stable on a sliding 12-month basis.

In the Retail broadband Internet market, Orange has segmented its offers into two main categories: *Livebox* designed for customers looking for basic Internet and TV services, and *Livebox Up* which meets the needs of customers who want the highest speeds and a premium TV experience. Regarding equipment, in October 2018 Orange launched a new HDTV decoder.

Sosh has also been present on the broadband Internet market since the end of August 2018, with affordable offers, available exclusively online and without commitment.

Orange's and Sosh's broadband Internet access offers are marketed with FTTH technology in eligible areas, or alternatively, with ADSL. Orange is the leader in terms of FTTH access sold, with a portfolio of nearly 2.6 million subscribers at the end of 2018.

Since the telecommunications market was opened to competition, Orange has been the operator responsible for part of the universal provision of services. These include a minimal set of basic services available to all citizens who request them, including connection to a fixed network open to the public, and the provision of quality telephone service at an affordable rate. See section 1.7.1.2.3 *Regulation of fixed-line telephony, broadband and very high-speed broadband Internet*.

(1) Respectively the Retail and Pro-SME markets.
(2) Metropolitan France, Overseas Departments and Overseas Territories.
(3) Source: Orange estimates.

Furthermore, Orange offers services to carriers, an activity which includes the interconnection of competing operators, as well as unbundling and wholesale services (ADSL and fiber optic), regulated by Arcep, and construction and marketing services for very high-speed fiber optic networks. Unbundling services saw a decrease in their price regulated by Arcep on January 1, 2018.

With the steady growth in full unbundling, as well as the wholesale of ADSL contracts and naked ADSL access to third-party Internet service providers, the decline in revenue generated by the traditional telephony service business continues.

Orange is also pursuing advertising activities via its websites, which are available in multi-screen web, mobile and tablet format with more than 27 million unique visitors per month. The most frequently visited French website on a daily basis, Orange.fr ranks 6th behind Google, Facebook, YouTube, Amazon and Wikipedia, with 8.8 million unique visitors per day. On mobile screens, Orange attracts 16.8 million mobile users as well as 4.1 million tablet users each month (source: Médiamétrie and Médiamétrie//NetRatings – Audience Internet Global – November 2018).

Against a backdrop of fierce competition and market restructuring, Orange has also continued to innovate, notably with the continuous development of mobile financial services (see Section 1.4.7 *Orange Bank*).

Distribution

Orange is pressing ahead with its digital development strategy with a 100% digital customer experience in Orange online stores (available on Orange.fr) and Sosh (via Sosh.fr), with Sosh offers available only on the digital channel. In 2018, the latter accounted for 26.4% of sales actions, up 5.5 points year-on-year. Digital technologies can address the growing needs of customers for autonomy and immediacy. Orange's contract management app *My Orange*, attracted 5.0 million unique visitors in December 2018.

The dedicated customer centers, based on the type of services marketed, accounted for 19.2% of sales actions, a decline of 1.4 point year-on-year. The development of the digital channel is thus continuing to relieve the pressure on call centers and reduces the use of outsourcing.

The network of retail stores spread across France continues to roll out the Smart Store concept launched in 2015. At end-2018, this network, which consisted of 394 stores owned by Orange (including 16 Megastores and 180 Smart Stores), and 201 *Générale de Téléphone* Stores (including 78 Smart Stores), accounted for 50.4% of sales actions, down 2.7 points year-on-year.

Lastly, the other channels, which include direct marketing, door-to-door and the multi-operator network, accounted for 4% of sales actions, a decline of 1.3 point year-on-year.

The Network

Orange's commercial leadership is partly based on its leadership in fixed and mobile networks.

In the fixed network, Orange continued to step up its very high-speed broadband program in 2018 with the installation of 2.7 million FTTH connections in one year (compared with 2.2 million in 2017), setting a new record in France. 69% of fiber optic installations were deployed by Orange in 2018 (source: Arcep, 3rd quarter 2018). At end-2018, Orange had 11.8 million FTTH-connections.

Actions to improve the fixed network speed with a view to significantly improving the Internet experience of households and professional customers in rural areas continued, with fiber deployment in town centers (subscriber connection node opticalization, fiber to sub-distribution frames), and participation in FTTH Public Initiative Networks (PIN) of local and regional authorities. Orange has enjoyed considerable success regarding its expertise in PIN deployment. Six new agreements relating to the operation of the fiber optic networks of local authorities (Bourgogne – Franche-Comté, Gironde, Vienne – Deux-Sèvres, Orne and Var, as well as a submarine cable in Guadeloupe) were signed in 2018.

As regards the mobile network, 2018 saw the continued deployment of 4G reaching a coverage rate of 98.6% of the French population (up 2,7 points compared with end-2017), which is still the best 4G coverage rate in France [1]. At the end of 2018, Orange had deployed 19,053 4G sites in France [2] (source: ANFr, January 1, 2019).

This deployment involves the continued extension of coverage in tourist areas, stadiums, trains (LGV and TER), subways and the motorway network.

For the eighth consecutive year, the Orange mobile network was ranked no. 1 by Arcep in 2018 (source: Arcep, October 2018).

As regards the cluster, transmission, and transport network, Orange carried on with (i) the simplification of fixed-line broadband access engineering (vDSL and FTTH) to accommodate the high growth in traffic, and (ii) works aimed at the transition from traditional telephony services to IP telephony.

1.4.2 Spain

The Group has been present in Spain since the liberalization of the Telecom market in 1998. Initially present in the fixed-line telephony market, it acquired the mobile telephony operator Amena in 2005, and then adopted the Orange brand in 2006. The acquisition of the Jazztel fixed-line operator in 2015 enabled Orange to consolidate its position in terms of convergence thanks to Jazztel's fiber coverage. The Group has also strengthened its presence in the low-cost market with the acquisitions of MVNO Simyo in 2012 and República Móvil in 2018, thereby consolidating its multi-brand strategy designed to cover all segments of the market.

In 2018, Orange generated 12.8% of its consolidated revenue in Spain, making it the second most important market for the Group.

The market

Since the beginning of market consolidation in 2014, four operators have dominated the telecoms market: Telefónica, the incumbent operator, which operates under the Movistar brand and which acquired D+ in 2014; Orange; Vodafone which acquired ONO in 2014; and MásMóvil Ibercom, initially an MVNO, which acquired Yoigo in 2016 and then signed a commercial agreement to access Orange's fixed and mobile networks.

Together, the four convergent operators control more than 90% of the market, with Telefónica ranked first, followed by Orange, whose market share in 2018 reached 26.7% on broadband Internet and 25.8% on mobile, then Vodafone [1].

In addition to competing on the B2B and B2C segments through their main brands, these four operators also compete via other brands in the low-cost market: Orange with Jazztel, Amena, Simyo and República Móvil; Telefónica with Tuenti and O2; Vodafone with Lowi; and MásMóvil with Pepephone.

(1) Source: Orange estimates.
(2) Metropolitan France, Overseas Departments and Overseas Territories.

Orange's activities in Spain

Orange is pursuing a multi-brand commercial strategy in Spain comprising a focus on convergent offers, the deployment of next-generation networks and prioritizing innovation in its services and business lines (*X by Orange*, wholesale, etc.). Its operating strategy combines the potential of its 4G and FTTH networks. In 2018, this strategy continued to be supported by the increased number of TV customers and the growing trend for convergence in the customer base.

In the mobile market, Orange has developed a wide range of 4G offers, both for convergent customers and for mobile-only customers. Orange's strategy focuses on providing value-for-money, very high-quality services, including for low-cost offers, to meet the needs of all customer segments. In 2018, Orange improved its offerings to meet the growing demands of its customers for data and services.

Orange also offers quality, high definition and multi-device TV contents. In 2018, Orange significantly developed its TV platform, both at the technical level and in terms of content, by enhancing its offer through broadcasting soccer matches and other premium content, which allowed it to reach a TV penetration rate of more than 17%[(1)]. Since August 2018, Orange has, with Movistar, been the only operator to offer its customers the entire soccer content available in Spain.

Orange is also a key player in the low-cost market with mobile-only and convergent offers available online under the brands Amena, Simyo and República Móvil.

On the fixed broadband market, Orange continued to be the leader in FTTH customer base growth.

On the B2B market, Orange launched *X by Orange* in 2018 to enable small offices and home offices (Sohos) and Small and Medium Enterprises (SMEs) to have access to high-end digital services. As a digital partner for large companies, Orange has developed cutting-edge technologies such as Big Data, the Internet of Things and cyber security services, enabling its key account clients to improve their operational efficiency and competitive position.

With the objective of differentiating itself from other operators, Orange launched several innovative solutions in 2018 such as *Smart WiFi*, which ensures an optimal wireless signal at home for its customers, and *WiFi with me*, which allows customers to access the Internet wherever they are. Orange was also the only operator in Spain to offer Google Home Assistant and was granted exclusivity for the launch of the *Pixel 3* smartphone.

Orange has also innovated in the equipment market, offering the best smartphones, tablets, video game consoles and Smart TVs in a bundle with offers tailored to meet the needs of each customer.

The Network

Orange continued to deploy its FTTH network, with 1.9 million new connectable households in 2018. In 2018, Orange was able to offer very high-speed broadband connections to 13.8 million households through its own fiber optic network and thanks to the network sharing agreement signed with Vodafone and MásMóvil.

Orange is also pursuing the roll out of its 4G network which, in 2018, covered 96.9% of the population[(1)]. Regarding 5G, Orange has launched a national testing program to develop real 5G usage scenarios and demonstrate the benefits of this technology to improve the customer experience.

1.4.3 Europe

Outside France and Spain, the Group is present in six countries in Europe, where it is implementing its convergence strategy through the deployment of very high-speed fixed and mobile broadband, and the launch of new offers. In 2018, Orange launched its *Love* convergence offers in all European countries. In each country, Orange develops its convergence strategy taking into account the local context and leveraging the strengths of its subsidiaries:

- in Poland where the Group is the incumbent operator, leader in fixed and number two in mobile;
- in Belgium and Luxembourg, where the Group launched its convergence offers via partnerships;
- and in other countries in Central Europe (Romania, Slovakia and Moldova) where the Group, leader in mobile, is a convergent player via the deployment of fiber optic, the use of 4G for the development of fixed via LTE, and its partnerships.

1.4.3.1 Poland

The Group has been present in Poland since 2000, the year it acquired an interest in the incumbent operator, Telekomunikacja Polska (renamed Orange Polska). In 2006, Orange became the single brand for mobile activities in accordance with the Group's brand policy. In 2012, it also became the single brand for all fixed-line telephony services offered by the Group in Poland. Orange owns 50.67% of the shares of Orange Polska, which is listed on the Warsaw Stock Exchange. In 2018, the Group generated 6.2% of its consolidated revenue in Poland.

Poland has four main mobile telephony operators: Orange, T-Mobile (owned by Deutsche Telekom), Polkomtel (operating under the Plus brand, owned by the Cyfrowy Polsat Pay-TV by satellite group) and P4 (operating under the Play brand, controlled by Tollerton Investments Ltd and Novator Telecom Poland SARL). At the end of 2018, these four mobile telephony operators accounted for 98% of the total number of SIM cards in Poland, with Orange ranking second after Play with a market share of 27.9% at end-December 2018[(1)].

In the broadband Internet market, Orange is the leading operator with a market share of 28.4% in the third quarter of 2018[(1)]. Its principal competitors are cable TV operators (mainly UPC Polska, Vectra and Multimedia Polska), as well as Netia, a traditional telecommunications operator. The telecommunications market is undergoing consolidation with Netia being acquired by the Cyfrowy Polsat group, followed by Vectra's announcement in August 2018 of its acquisition of Multimedia Polska. While these developments underscore the validity of Orange's convergent strategy in Poland, they are likely to boost competition.

Orange's activities in Poland

Orange's main strategic objective in Poland is to be the leader in convergence, by marketing packaged offers of fixed and mobile broadband access with financial incentives. Convergence enables Orange to differentiate itself from its competitors and gain a larger share of the household media and telecommunications budget and is an effective retention tool. In 2018, Orange pursued this strategy by focusing on its convergent offer, *Love*, which exceeded one million customers in October 2018. The basic formula of the *Love* package includes fixed and mobile services at an affordable price. This package can be extended for higher fixed broadband speed, additional SIM cards, additional TV contents and other value-added services.

Orange focuses on a differentiated approach in large cities and medium and small towns, as well as rural areas, by taking into account the local competitive environment, the potential in relation to population density, and customer needs. In large cities, Orange focuses on developing the FTTH coverage and improving its fixed broadband

(1) Source: Orange estimates.

market share, by leveraging its excellent positioning in the mobile market via the cross-selling of fixed and mobile telephony services. Mobile technologies in rural areas remain the first solution for broadband access.

The number of fixed voice lines continued to decline in 2018, with a net loss of voice customers (traditional PSTN or VoIP) due to structural demographic factors, as well as the growing appeal of mobile telephony services offering unlimited calls across all networks.

As announced in September 2017, Orange Polska continued to implement its new strategic plan Orange.one in 2018. This plan is designed to create long-term value and sets forth the strategic vision of the company by 2020.

In July 2018, Orange and T-Mobile forged a partnership giving access to Orange's fiber optic network to some T-Mobile customers in non-regulated areas. This 10-year partnership will maximize the use of the Orange fiber optic network and contribute toward a more rapid monetization of this investment.

The Network

In 2018, Orange pursued the deployment of its FTTH network in Poland, extending it to almost 3.4 million connectable households. vDSL coverage stood at 5.3 million households and has not changed significantly since 2017 because of the priority given to the fiber network.

LTE services (4G) are offered by Orange via 10,882 base stations. To meet the strong growth in 4G traffic, Orange focused on spectrum refarming in 2018 to increase the allocation made to 4G, by lowering allocations to 2G and 3G technologies. Orange also focused on increasing the number of sites allowing spectrum aggregation. At end-2018, Orange's 4G network covered 99.8% of the population [(1)].

1.4.3.2 Belgium & Luxembourg

In Belgium and Luxembourg, Orange operates via Orange Belgium (previously Mobistar) and its subsidiary Orange Communications Luxembourg. Orange Belgium is listed on the Brussels Stock Exchange. The Orange group holds 52.9% of the capital. Historically present in the mobile segment in Belgium, in 2016 Orange launched convergent offers across the entire country, based on the regulation of wholesale access to cable, and then adopted the Orange brand the same year. In 2018, Orange Belgium generated 3.0% of the Group's consolidated revenue.

Belgium

The competitive structure of the fixed-line telephony market remained relatively stable in 2018, with the predominance of the incumbent operator Proximus and the regional cable operators Telenet and VOO. Telenet acquired SFR Belux in 2017 and bought the cable network of Etterbeek, a municipality of Brussels, in December 2018.

On the mobile telephony market, Orange's competitors are two major mobile telephony operators: Proximus (the incumbent operator, 53.5% owned by the Belgian State) and Telenet (56.4% owned by the Liberty Global group), which acquired Base in 2016. With a market share in volume of 27.1% in the third quarter of 2018, Orange ranks third in terms of customer base, but is still second in value terms behind Proximus [(1)].

In 2018, Orange pursued its convergence strategy, notably by adding to its *Love* convergent offers a TV function on the *Orange TV* mobile app, and a fixed phone option. With its *Love* Internet and TV package, Orange is the first operator in Belgium to market a nationwide cable offer. The success of this high quality fixed offer at an affordable price has enabled it to sharply increase its customer base.

At the same time, Orange Belgium stands out as a "bold challenger" on the mobile market with the launch of the first completely unlimited offer (data, calls and SMS) on the market.

Investment in mobile networks remained high with the steady deployment of 4G, mainly to expand coverage within homes, and to invest in the core transmission network, as well as the steady deployment of 4G+, which provides customers with a more rapid download speed that is up to three times faster. Orange's 4G network covers 99.7% of the population [(1)]. In addition, Orange Belgium is the first Belgian telecommunications operator to team up with Fluvius, the electricity and gas distribution operator, in a joint fiber optic pilot project, which is in line with the future ultra-fast network objectives of the Flemish Government. Orange was also the first operator to launch end-to-end mobile IoT services.

Luxembourg

Orange started its operations in Luxembourg in 2007 via the acquisition of Voxmobile. The company adopted the Orange brand in 2009.

On the mobile segment, Orange Communications Luxembourg is ranked third behind Post Luxembourg, the market leader and incumbent operator, and Proximus Luxembourg, a subsidiary of the Belgian operator Proximus with its own brand, Tango (source: ILR for the year 2017). Post Luxembourg also has the largest market share in the fixed-line and Internet market.

In 2018, the Luxembourg market remained strongly oriented towards convergence.

In 2018, Orange continued to enjoy the success of its convergent offer, *Love*, which it completed with the launch of a high-speed fiber optic offer which now goes up to 1 Gbit/s, and its *Home Box* fixed LTE offer.

1.4.3.3 Central European countries

Romania

Orange Romania was founded in 1997 and adopted the Orange brand in 2002. Historically present on the mobile segment, Orange launched its satellite TV offers in 2013, then its fiber offer in 2016, following a wholesale agreement with Telekom. In 2018, the Group generated 2.7% of its consolidated revenue in Romania.

The Romanian Telecom market is dominated by four operators: Orange, Vodafone, Telekom (the incumbent fixed telephony operator, also present on the mobile segment, jointly owned by the Romanian government and OTE, which is itself jointly controlled by Deutsche Telekom and the Greek government) and RCS&RDS (operating under the Digi brand, owned by Digi Communications).

In the mobile telephony market, Orange's market share was 34.1% in 2018, compared with 34.8% in 2017. Orange maintained its leading position, followed by Vodafone, Telekom and Digi [(1)].

Following the recent launch of its fixed offers, Orange's market share in the fixed-line market increased by 1.8 point, but remains limited at 5.6%, in a market dominated by Digi, followed by the incumbent operator Telekom and UPC [(1)].

Orange's activities in Romania

Orange continued to increase its 4G presence, which is the largest in Romania and now covers 96.9% of the population throughout the country as a whole, and 100% in urban areas [(1)]. Orange continued to integrate more data into its offerings, enabling the rapid adoption of smartphones and significant growth in traffic and in revenue from data services. Orange has thus strengthened its leadership position in the 4G segment by maintaining its level of contracts which represent 52% of its customer base. In 2018, Orange improved its *Love* convergent offers and revamped its post-paid portfolio by focusing on three pillars:

(1) Source: Orange estimates.

convergence, simplicity and increased data. In September 2018, Orange acquired the rights to the Champions League and Europa League and launched HBO Go for *Orange Home TV*, in support of convergence.

In 2018, the National Bank of Romania approved the request of Orange Mobile Financial Services for a payment institution license. In July 2018, Orange Mobile Financial Services added new features to its e-wallet offer, in particular the option of having an IBAN account, a first in Romania. At the end of 2018, Orange signed a strategic partnership with VISA to provide Romanians with innovative payment solutions.

Orange is still the leader in terms of innovation thanks to numerous initiatives carried out in 2018, such as the first 5G test in real operating conditions in Cluj, which was carried out as part of Orange Group's 5G program. The initiatives also included a network coverage map and the launch of the Alex chatbot in June. This chatbot is unique in the Romanian market in that it can give personalized answers to customers' questions through advanced features that enable it to understand natural language.

Slovakia

Orange Slovensko started operating in 1996 and adopted the Orange brand in 2002. Historically present on the mobile segment, Orange reinforced its position in the area of convergence thanks to a new fiber deployment program in 2016 and the launch of fixed-line solutions via LTE in 2017. In 2018, the Group generated 1.3% of its consolidated revenue in Slovakia.

The fixed broadband market in Slovakia is dominated by the incumbent operator Slovak Telekom, whose infrastructure covers the whole country. Orange, which rolled out its own fiber optic network in Slovakia and markets DSL Internet services via a commercial agreement with Slovak Telekom, is ranked second in this market with a market share of 13% (1).

In the mobile telephony market, Orange competes with three other operators: O2 (owned by the O2 Czech Republic group), Slovak Telekom (owned by Deutsche Telekom) and Swan (national operator). The Slovak post and Swan started to offer mobile services in October 2015, only in prepaid formulas, available in all post offices. Although its market share declined by 1.5 point year-on-year, from 40.8% to 39.3%, Orange remains the market leader. Slovak Telecom is ranked second in value terms, followed closely by O2 (1).

Orange's activities in Slovakia

In 2018, Orange continued to execute its long-term strategy focused on strengthening its position on the convergent market. This is supported by its solid market share in mobile telephony and by the launch in August of a television service that is enhanced with exclusive content, including Champions League soccer matches, as well as premium HBO movie channels.

Orange continued to expand its 4G network in 2018. It also focused on extending its fixed broadband coverage by increasing its FTTH coverage (which amounted to 0.5 million connectable households at the end of 2018) and launching a satellite TV network.

Orange markets a number of innovative offers, particularly its convergent offer *Love*. At the same time, Orange has simplified its portfolios of mobile and fixed-line contracts and launched its new flexible *Smart Packages* contracts for *Funfon* prepaid customers.

Moldova

Orange Moldova started operating in 1998 and adopted the Orange brand in 2007. Historically present on the mobile segment, Orange launched its fixed and convergent telephony offers in 2017, following the acquisition in 2016 of SUN Communications, Moldova's main cable operator. In 2018, the Group generated 0.3% of its consolidated revenue in Moldova.

The main telecommunications operators active in Moldova are Moldtelecom (the fixed telephony incumbent operator, also present in the mobile segment under the Unite brand), Orange and Moldcell. In 2018, Orange maintained its position as the number one in the mobile telephony market, followed by Moldcell and Unite (1).

Orange's activities in Moldova

In 2018, Orange focused on growth in its fixed-line business and convergence offers, in response to the growing demand for data in fixed-price contracts, as well as the acquisition of new customers and the management of its customer base. The offer portfolio and processes have been streamlined to improve efficiency and customer experience.

1.4.4 Africa and Middle East

The Orange group is present in 19 countries in Africa and the Middle East of which 17 where it has controlling interests and two where it has minority interests. Part of the activities of the operating segment in Africa is structured into sub-groups (Sonatel and Côte d'Ivoire). In Africa and the Middle East, Orange primarily operates in the mobile markets, with the exception of countries where the Group controls the incumbent operator (Senegal, Côte d'Ivoire and Jordan) and Morocco, where it also provides telephony and fixed Internet services. In 2018, Africa and the Middle East accounted for 12% of the Group's consolidated revenue.

1.4.4.1 Sonatel sub-group

The Sonatel sub-group, in which the Orange group has been present since 1997, operates under the Orange brand in the five countries where it is present. Senegal and Mali account for 76% of its business and Guinea, Guinea-Bissau and Sierra Leone for the rest. The Sonatel sub-group has developed gradually, firstly by launching operations in Mali as of 2003, then in the Republic of Guinea and Guinea-Bissau in 2007, and then by acquiring Airtel Sierra Leone in 2016. In 2018, it generated 3.7% of the Group's revenue.

The mobile markets in which the Sonatel sub-group operates are mainly prepaid markets, largely driven by the rapid development of voice and data usage. These countries are currently experiencing tighter regulations, notably with increased controls on promotions, resulting in the forced suspension of certain offers, particularly in Senegal. At the same time, the different regulators are imposing increasingly strict requirements as to quality of service and compliance with environmental standards. The development of the Sonatel sub-group's markets continues to be affected by high tax levels.

In 2018, growth in the fixed market was based on the Flybox, TDD-LTE (fixed Internet on 4G) and fiber optic offers.

With respective mobile market shares of 53.1% in Senegal, 59.0% in Guinea (sources: local regulator, 3rd quarter 2018) and 56.9% in Mali (source: GSMA), the Sonatel sub-group is leader in all of its markets with the exception of Guinea-Bissau and Sierra Leone where it is the second largest operator with respective market shares of 47.6% and 31.0% (source: GSMA). Depending on the country, it has two or three competitors: Tigo and Expresso (Sudatel group) in Senegal; Sotelma/Malitel (Maroc Telecom group) and Alpha Telecom (the

(1) Source: Orange estimates.

Planor-Monaco Telecom International consortium) in Mali; MTN and Cellcom in Guinea; MTN in Guinea-Bissau; Sierratel (the incumbent operator), Africell and QCell (new entrant) in Sierra Leone.

By promoting the development of digital inclusion through its multi-service networks, the Sonatel sub-group contributes to economic and social development in all its operating countries in specific areas: community well-being, good governance, growth and development and protection of the environment.

In 2018, the Sonatel sub-group pursued its growth strategy by focusing on the following areas:

- command of broadband: with the commercial launch of fiber optic and 4G+ in Senegal and Mali and TDD-LTE in Mali;
- expansion to include new sources of growth with the market launch of the Orange Énergie solar energy service contracts in Senegal, Mali and Guinea;
- continuing to open new corridors for voice traffic in the sub-region and internationally;
- stepping up the development of Orange Money which promotes financial inclusion in the sub-region, with a new leadership role in Senegal in national money transfers.

With 4G networks already operating in Senegal, Mali and Guinea-Bissau (the first Sonatel sub-group operating country to launch 4G in 2015), Sonatel continued major works to modernize and extend its mobile network.

1.4.4.2 Côte d'Ivoire sub-group

The Côte d'Ivoire sub-group, in which the Orange group has been present through Orange Côte d'Ivoire since 1996, operates under the Orange brand in three countries. Côte d'Ivoire accounts for 71% of its business and the remainder is split between Burkina Faso and Liberia. The Côte d'Ivoire sub-group expanded through the acquisition of Cellcom Liberia in April 2016 and Airtel Burkina Faso in June 2016. It operates in a geographical region with a population of more than 48 million inhabitants. In 2018, it generated 2.6% of the Group's revenue.

There were opposing trends in the Côte d'Ivoire sub-group's markets in 2018 against the backdrop of the launch of the mobile roaming charges harmonization project in ECOWAS Member States, the continued growth of mobile financial services and relative tensions with the regulatory authorities on audits of compliance with mobile license specification requirements (Côte d'Ivoire and Burkina).

In Côte d'Ivoire, 2018 was marked, in particular, by stricter mobile customer identification requirements, resulting in a drop in the market's mobile customer base, the reconsideration of price differentiation between on-net and off-net calls and the regulator's heightened vigilance regarding quality of service and coverage level. In 2018, mobile number portability was also implemented in the country.

With mobile market shares of 41% in Côte d'Ivoire (source: Artci, 3rd quarter 2018), 43.3% in Burkina Faso (source: Orange estimates) and 60.5% in Liberia (source: GSMA), the Côte d'Ivoire sub-group is now ranked first in all of the countries where it operates. In Côte d'Ivoire, the sub-group is also the leader in the fixed telecommunications market and in mobile financial services.

The three entities have the following competitors in each of their regions: MTN and Moov in Côte d'Ivoire; Onatel and Telecel in Burkina Faso; MTN in Liberia.

In 2018, the activity of the sub-group was marked by the significant growth in revenue of Orange Burkina but also by the fire that broke out on April 30, 2018 in an Orange technical center in Abidjan which affected revenue growth.

In 2018, the Côte d'Ivoire sub-group continued its development strategy based on the following areas:

- modernization and extension of its mobile networks, notably 4G, in particular to meet requirements for mobile data;
- optimization of energy costs (solar panels, optimization of energy consumption);
- innovation with regard to uses and offers to speed up the development of mobile data;
- promotion of fixed Internet with the development of FTTH in Côte d'Ivoire (more than 8,500 active customers for around 34,000 available connections at the end of 2018) accompanied by content offers and the purchase of an TDD-LTE license (4G fixed Internet) in Liberia;
- extension of services eligible for Orange Money (payment of invoices, international transfers, etc.);
- development of the B2B business, in particular through a differentiated and integrated approach for offers targeting SMEs;
- distribution of integrated solar kits to provide electricity to Orange customers with no access to the electricity grid;
- strengthening of international connectivity.

1.4.4.3 Countries of North Africa and the Middle East

Egypt

The Orange group entered the Egyptian Telecom market in 1998 through a partnership with Orascom and Motorola in the operator Mobinil. It gradually increased its stake following the withdrawal of Motorola in 2000 and Orascom in 2015. Since 2016, all services are marketed under the Orange brand. In 2018, Orange Egypt delisted from the Cairo Stock Exchange. In 2018, the Group generated 1.6% of its consolidated revenue in Egypt.

The buoyancy of the market was driven by the launch of 4G services by all operators in the final quarter of 2017 and the simultaneous increase of 30% in the price of prepaid recharges following the regulator's decision. At the same time, Telecom Egypt, the incumbent operator until then present only in the fixed-line market, launched a new mobile operator under the brand WE, operating under a roaming agreement with Etisalat.

With a mobile market share of 31.7% (source: GSMA), Orange remains number two on the market, behind Vodafone and ahead of Etisalat.

Among the highlights for 2018, Orange notably:

- launched new mobile Internet offerings contributing to the development of data usage;
- expanded the coverage of its 4G service launched in September 2017 with a focus on Greater Cairo, Alexandria and the Nile Delta region;
- pursued the digitization of customer relations thanks to the success of the *My Orange* app and the partnership with Jumia to market mobile and 4G offers online.

Within the context of the 4G launch, Orange continued to modernize its access network in 2018 to support the growth in data usage, and notably replaced its old Alcatel Lucent equipment to enhance the capacity and quality of its network.

Morocco

The Orange group entered the Moroccan Telecom market in 2010 through a partnership with Médi Telecom. The company, which was operating under the Méditel brand, became a consolidated subsidiary of the Group in July 2015 after Orange increased its interest to 49% of the capital. Since end-2016, all services are marketed under the Orange brand. In 2018, the Group generated 1.3% of its consolidated revenue in Morocco.

With 33.1% of the mobile market (source: ANRT, 3rd quarter 2018), Orange is the second largest mobile operator in the country (behind the incumbent operator, Maroc Telecom, and ahead of Wana).

In 2018, Orange maintained its sales momentum on the back of:

- the revamping of its portfolio of residential and B2B offers;
- the launch of very high-speed fixed broadband offerings (fiber optic and TDD-LTE) for the Retail and B2B markets;
- simplifying the customer journey and digitizing the customer relationship;
- increasing the penetration rate of smartphones and data users and converting customers to 4G;
- reinforcing its distribution channel and developing the penetration and use of *My Orange* and E-Care B2B apps.

Orange was the first operator to launch 4G services in Morocco in April 2015, and in 2018 continued to develop its network to support the increase in data traffic. This involved the densification of its 4G network, boosting the capacity of the Core Data network and extending the national and international terrestrial transmission network.

2018 was also marked by measures taken to step up the implementation of the Group's fixed strategy for both B2C and B2B customers. This strategy is notably based on a new fixed telephony ecosystem that encompasses several partners across the entire value chain. At the end of 2018, the Orange Maroc fiber optic network had around 7,500 customers.

Jordan

The Orange group entered the Jordanian Telecom market in 2000 through a partnership with the incumbent operator Jordan Telecom. The company became a consolidated subsidiary of the Group in 2006 after Orange increased its interest to 51% of the capital. Since end-2007, all services are marketed under the Orange brand. In 2018, the Group generated 0.9% of its consolidated revenue in Jordan.

Orange is the country's second largest mobile operator, behind Zain and ahead of Umniah. In the third quarter of 2016 (the date of the last publication by the Jordanian regulator), its market share of the mobile segment was 32.4%.

Orange is also present in the fixed-line market through its ADSL Internet offers as well as FTTH, launched in 2016. In this segment, its competitors are Zain and Umniah, which use Wimax and TDD-LTE technologies, as well as fiber in the case of Zain.

In 2018, Orange pressed ahead with its development strategy with the following focus areas:

- the revamping of its portfolio of mobile offers, in particular to address the youth market;
- the exclusive development of very high-speed Internet and mobile 4G+ offers and fixed offers with the massive deployment of fiber in the capital and some large cities;
- reinforcement of international outgoing traffic with an increase in the number of corridor offers, in particular for Egypt;
- support for large B2B accounts.

Orange is continuing to contribute to the country's digital transformation by supporting start-ups in its accelerator program, by helping women learn to code (Orange Digital Centers), by accompanying its B2B customers (especially with its Datacenter), and via a highly ambitious internal digital transformation plan that includes the launch of chatbots (for in-house purposes as well as for its customers) and the first use of robots.

Tunisia

Orange Tunisie launched its activity in May 2010 after acquiring its license in July 2009. The Orange group is a partner with 49% of the capital.

Orange's mobile market share was 26.6%, up slightly on 2017, placing it in third position behind Ooredoo, which maintains its leading position, and Tunisie Telecom. Orange also confirmed its leadership in the segments of 3G and 4G keys with a market share of 51% (source: *Instance Nationale des Télécommunications*, 3rd quarter of 2018).

In 2018, Orange Tunisie created momentum for its B2B business which succeeded in winning several major accounts on the Tunisian market and recorded revenue growth of almost 14% compared with 2017.

Orange Tunisie also improved its performance in the mobile and data markets with the launch of several innovative offers, together with the Best Retail Network program and by strengthening its presence on digital platforms.

In terms of the network, Orange Tunisie continued to work on the extension and densification of 4G coverage by refarming certain frequency bands. In addition, Orange Tunisie was ranked "Best Mobile Data Operator in Tunisia" in 2017 following the survey conducted for the first time by Nperf in Tunisia.

1.4.4.4 Countries of Western and Central Africa

Democratic Republic of the Congo

The Orange group entered the Congolese telecom market in 2011 through the acquisition of Congo Chine Telecom. In 2016, Orange acquired Oasis, the Congolese subsidiary of the Millicom group, which operated under the Tigo brand. In 2018, Orange RDC generated 0.6% of the Group's consolidated revenue.

With a market share of 31.6%, Orange is the second largest mobile operator in the country behind Vodacom and ahead of Airtel and Africell (source: Arptc, 2nd quarter 2018). All operators hold and operate 3G licenses and 3 out of 4 acquired a 4G license in 2018.

2018 was marked by strong momentum driven by the sales teams, as well as the attractiveness of the offers, in a stable economic climate (after the sharp devaluation from mid-2016 to mid-2017). This made it possible to break through the symbolic 10 million customer barrier in the second half of 2018 (source: GSMA).

Furthermore, in 2018, the upgrading of the old Orange and Tigo networks was completed, enabling Orange to offer extensive 3G coverage and to differentiate itself from competing operators. 4G was launched in the three major cities (Kinshasa, Goma and Lubumbashi).

Cameroon

The Orange group has been present in Cameroon since the liberalization of the Telecom sector in 1999. All services, initially launched under the Mobilis brand, have been marketed under the Orange brand since 2002. In 2018, the Group generated 0.7% of its consolidated revenue in Cameroon.

With a market share of 34.9% in 2018 (Source: GSMA), Orange is the country's second mobile operator, behind MTN and ahead of Nexttel.

In 2018, against a backdrop of a declining global market, Orange Cameroun made a return to strong revenue growth thanks to the strong growth of Orange Money and the mobile data business.

Niger

The Orange group has been present in Niger since 2008 as the fourth entrant. In 2018, Orange Niger contributed 0.2% to the Group's consolidated revenue.

With a market share of 24.1% (source: Arcep, 2nd quarter 2018), Orange is the country's third largest mobile operator, behind Airtel and Moov and ahead of Niger Telecom.

In 2018, the tax burden was significantly heavier and the Niger government restricted taxpayer recourse to litigation procedures. In addition, on January 1, 2019, the government reintroduced the "International Incoming Traffic Termination Tax" (TATTIE), despite its adverse effects on traffic volumes.

In 2018, Orange Niger opened IRT corridors (international money transfer via Orange Money) with other Orange subsidiaries in the sub-region and with Benin thanks to an agreement signed with MTN Benin. Orange Niger also continued its strategy to modernize and improve its 2G/3G mobile network.

Botswana

The Orange group has been present in Botswana since 1998 and since 2003 under the Orange brand. In 2018, the Group generated 0.2% of its consolidated revenue in Botswana.

In a saturated market, with a penetration rate of 141%, Orange is the second largest mobile operator with a market share of 32.7%, behind Mascom and ahead of Be Mobile (source: GSMA).

In 2018, Orange's market share increased significantly thanks to a robust commercial momentum. With its unlimited voice and data offers, Orange continued to develop the B2B market and consolidated its leading position in mobile financial services via the Orange Money offering.

Orange was the first operator to launch 4G in 2015, and in 2018 it pressed ahead with its strategy of deploying the mobile broadband network in the country's main cities, modernization of the radio access network and densification of broadband access.

Madagascar

The Orange group has been present in Madagascar since 1998 and since 2003 under the Orange brand. In 2018, the Group generated 0.2% of its consolidated revenue in Madagascar.

Orange is the third largest mobile operator in the country with a market share of 25.8% (source: GSMA), behind the incumbent operator Telma and Airtel and ahead of MVNO Blueline.

In 2018, Orange's activity in Madagascar was marked by the launch of new abundance voice and data offers. Orange also developed its Orange Money financial service business by offering innovative "pico" and "micro" credit solutions with the M-kajy offer.

Orange launched 4G in early 2017 and throughout 2018 pursued its deployment and densification strategy for the mobile broadband network in the main cities and major tourist sites in the country.

Central African Republic

The Orange group entered the telecoms market in the Central African Republic in 2007 as the fourth entrant. In 2018, the Group generated 0.1% of its consolidated revenue in Central African Republic.

With revenue growth of around 15% in 2018, Orange is the second largest mobile operator in the country with a market share of 39.1%, behind Telecel and ahead of Moov and Azur (source: TeleGeography GlobalComms Database, 2nd quarter 2018). Orange Centrafrique is the leading player in the Mobile Money activity launched in April 2016. The main operational achievements in 2018 relate to the upgrading of mobile data offers and the densification of the Orange Money distribution network. Orange also continued to extend its radio coverage throughout the country (19 cities covered by 3G, making Orange Centrafrique a key player in the provinces), boost international satellite capacity and modernize the B2B access network.

Mauritius

The Orange group has been present in Mauritius since 2000 through a partnership with the incumbent operator Mauritius Telecom, in which it holds 40% of the capital.

Mauritius Telecom is the leader in Internet and fixed-line Telecom services in Mauritius, ahead of DCL, and in mobile services ahead of Emtel and MTML (source: GSMA).

The operator offers a comprehensive range of fixed and mobile data and voice services. It also offers convergence packages (voice, IP and TV) through its *MyT* service. The first operator to launch 4G and mobile payment services in 2012, Mauritius Telecom launched its fiber optic network (FTTH) in 2013.

The main growth drivers for Mauritius Telecom lie in content, in particular with a strategy of investing in premium content, enabling Mauritius Telecom to strengthen its position as the market leader.

The company also offers international connectivity via fiber optic submarine cables.

1.4.5 Enterprise

Operating under the Orange Business Services brand, Orange is one of the world leaders in supporting the digital transformation of enterprises. As an infrastructure operator, technology integrator and value-added services provider, Orange Business Services has a complete portfolio of offers designed to assist key accounts, local authorities and SMEs in France as well as multinationals around the world to carry out their digital transformation projects and implement their communication projects. Orange Business Services provides its clients with a high level of expertise to collect, transport, store, process, analyze and share their data and create value, while ensuring enhanced protection for this data at every stage. In 2018, the Enterprise segment, which includes the Orange Business Services activity, contributed 16.7% to the Group's consolidated revenue.

The market

The B2B market for communication services and IT services is part of the wider ICT market, which combines the technologies used in the processing and transmission of information. In 2018, it accounted for just over 1.2 trillion euros (1.4 trillion dollars) worldwide (source: Gartner, 3rd quarter 2018), up 3% on a constant currency basis. The value of this market by region breaks down as follows: North America for 39%, Asia Pacific for 26% and Europe for 24%. The markets for consulting and integration services and for managed services and Cloud infrastructure services grew in 2018 and respectively accounted for 29% and 28% of the world market in value terms (source: Gartner, 3rd quarter 2018).

The B2B telecommunication services market is shared by many players, notably telecommunications operators, network integrators, managed IT service providers, and Internet or digital players (GAFAM). Given the large number of players, there is no reliable, relevant information available on market shares.

Orange Business Services activities

Orange Business Services (OBS) offers a wide range of products and services, including those that are packaged or tailor-made and using different methods such as integrated, managed or Cloud, aimed at accompanying businesses in their digital transformation, structured around their main challenges (connectivity, mobility, streamlining of processes, fluidity of exchanges with customers and support for their projects).

OBS has structured its portfolio of offers around four main types of products and services:

- fixed telephony (traditional and IP) and audio conference services;
- enterprise mobile telephony offers;
- network offers, including certain service guarantee levels (mobile and fixed-line connectivity, data transfer, hybrid networks, fixed-line and mobile convergence offers);
- IT service offers and integration solutions, including:
  - unified communication and collaboration services (interoperability between telephony, messaging and video conference solutions, in *triple play* or *quadruple play*),
  - IT/Cloud solutions (virtualization, systems integration, business applications, API, building blocks for connected objects, Big Data and analytics),
  - managed and integrated or Cloud cyber-defense solutions covering infrastructures and users (safe work environments and infrastructure, cyber-defense, management and governance), supervised from a Cybersoc (security operations center),
  - consulting and customer services (analysis of needs, solutions architecture, deployment and installation support, user training, administration of services and solutions) in various areas: switching to "all-IP", adopting Machine to Machine and the Internet of Things, supervising and managing quality of service, switching to Cloud infrastructure solutions, digital transformation of enterprises.

These offers are also used to develop cross-sector business solutions (finance, transport, energy, government and public sector, geolocation and fleet management, etc.).

OBS relies on international partners to supplement its offer and geographical coverage in areas where its customers operate and where its presence does not offer a comprehensive solution. OBS is working to build this type of partnership in the most developed markets, preferably with the leading operator or its direct competitor, like NTT Communications in Japan or AT&T in the United States.

OBS also works closely with an ecosystem of leading international partners in each of its areas of activity.

In 2018, OBS concluded a series of major contracts to support its customers around the world, in particular: Siemens AG, with the expansion and digitization of its network worldwide; Enedis in its industrial project to transform its electricity distribution networks into smart electricity grids; Nova Veolia and its subsidiary Birdz in the digitization of remote water meter reading services in France; and, Dobroflot Group of Companies in developing an IoT solution for controlling the fuel used by its fishing fleet.

In 2018, Orange Business Services also pursued its strategy of becoming a global player in digital transformation and accelerated its shift to services through several acquisitions:

- Business & Decision, an international consulting and systems integration group with 2,500 employees, with the objective of reinforcing OBS's leadership as an operator and data services integrator in France and internationally;
- Basefarm, a leading European player in the fields of infrastructure, Cloud services, critical application management and data analysis;
- and Enovacom, publisher of software for the exchange, sharing and security of health information systems.

1.4.6 International Carriers & Shared Services

The operating activities of the International Carriers & Shared Services segment include:

- international carrier activities undertaken by the International Carriers Division (roll-out of the international and long-distance network, sales of international telephony and services to international carriers and installation and maintenance of submarine cables);
- and the activities of OCS and Orange Studio in content.

The segment also includes other cross-cutting activities of the Group, in particular research and innovation (see Section 1.6), or real-estate (see Section 1.5.2); as well as support and shared activities including headquarters corporate functions.

The operating activities of the segment accounted for 2.3% of the Group's consolidated revenue in 2018.

1.4.6.1 International Carriers' activities

The market for wholesale operators is made up of three categories of player: global wholesalers, multinational retail operators (including Orange) and regional players or specialists.

The wholesale market's customer base comprises voice market specialists (*call-shop*, prepaid cards), fixed and mobile domestic retail carriers (including MVNOs), Internet access and content providers and OTT players. International carriers also sell wholesale traffic to each other.

Orange International Carriers offers a broad range of solutions on the international market. Its business is structured on a large infrastructure of long haul networks. Its presence in both the retail and wholesale markets means it can develop solutions that are particularly well adapted to the needs of the retail operators. Orange has more than a thousand clients.

The Group is notable for being heavily involved in the design, construction and operation of submarine cables. With its ownership or co-ownership of several cable systems, Orange ranks among the world's largest owners of submarine links. This has enabled it to satisfy the increase in transatlantic traffic.

The Group's wholesale activity is based on:

- a seamless global network [(1)] and an IPX [(1)] protocol network supporting voice and data with points of presence around the world;
- a global network of dedicated IP routes with end users in more than 220 countries, connections to more than 200 Internet service providers, and connectivity in over 100 countries in a single IP network hop;
- 99.99% network availability, 24/7 centralized network supervision.

In 2018, voice traffic reported by Orange's International Carriers business remained stable, while data traffic increased by 37%.

Offers

Voice Services

Orange's voice network has switched or all-IP [(1)] routes to 360 operators, coverage in more than 1,200 destinations, and 24/7 technical support.

Services to Mobile Operators

Orange supports over 200 mobile operators worldwide by providing interconnection as well as SS7 [(1)] and LTE signaling services together with high value-added services and GRX/IPX [(1)] transport services. Orange also provides roaming, 3G/4G and messaging solutions.

Orange is involved in preparing GSMA [(1)] standards and has expanded its LTE and IPX connectivity both directly and via peering agreements [(1)]. The Group provides value-added mobile services solutions, such as an SS7 security offer, a secure messaging (SMS) offer, and Big Data.

Orange provides 4G roaming connectivity, on IPX, to a growing number of operators and continues to expand its coverage. This offer allows mobile operators to provide their customers with a 4G roaming service. Since the entry into force of free roaming in Europe in June 2017, international voice traffic via Orange France increased by about 40%.

Internet and Transmission Services

Orange's adjustable solutions meet the specific needs of Internet service providers and content providers. The offer includes a large range of connection offers on all continents, including investments in 2018 in Dunant submarine cable (between France and the United States) and in Kanawa (securing Internet connections in French Guiana).

In 2018, Orange expanded its Internet coverage in Europe with the recent deployment of new points of presence, particularly in Romania, providing faster connection speeds and enhanced security.

Convergence Services

Orange provides IPX solutions [(1)] through its *Multiservice IP eXchange* offer. This service gives operators access to voice and mobile data services over a single connection. It can also optimize quality of service and network costs.

Security and anti-fraud services

To protect the value of its customers' business, Orange International Carriers offers solutions covering the protection of identity and privacy and that of its networks, mobile traffic and voice traffic.

The portfolio of anti-fraud and security offers comprises voice, Internet and mobile service solutions designed to protect IP and SS7 transit networks and combat voice and messaging (SMS) fraud.

These offers include audit, detection and protection functions as well as the provision of analysis reports. The portfolio also contains offers specifically to fight the dangers of cybercrime and it is now possible for Orange International Carriers' customers to resell some of these offers to their own clients.

Orange Marine

Orange Marine is a major player in submarine cables, from the early research and engineering stage through to the setting up of intercontinental connections and the maintenance of existing cables. Orange Marine has installed more than 240,000 kilometers of submarine cables (including 28,000 kilometers of buried cables) across all oceans. Its vessels carried out close to 800 repairs on defective cables, some of which were performed at a depth of 5,000 meters. Orange Marine has a cable-laying fleet of six vessels. It represents 15% of the global fleet and is one of the most experienced worldwide.

(1) See Section 7.2.2 *Glossary of technical terms.*

1.4.6.2 Content activities

Content distribution activities (TV, video-on-demand, music, video games) are a key component of Orange's strategy as a multi-service operator with more than 9.5 million households connected to its TV universe at the end of 2018. These activities help promote the Group's very high-speed broadband, fiber optic and 4G offers. In 2017, the Group created a cross-functional entity, Orange Content, to manage its content strategy and support all Group countries in these activities.

Orange's content strategy is primarily based on developing partnerships with rights holders and service publishers. Orange is focused on its role of aggregator and distributor by referencing the best entertainment services available in order to offer them to its customers through its broadband networks.

Orange is also developing an ambitious strategy for producing and co-producing films and series, as well as publishing via its subsidiary Orange Studio and its premium OCS service (formerly, *Orange cinéma séries*). All of these programs are available in linear broadcast form and on demand. They are offered by most distributors in France and available live on the Internet. At end-2018, OCS had 2.9 million subscribers.

In 2018, Orange notably invested in two international series, "The Name of the Rose" and "Devils", which will be broadcast on OCS, and co-produced the movie, "Les Chatouilles" which was nominated for the Cannes Film Festival. In addition, at the end of 2018, Orange Studio launched the development of two series based on original works. At the same time, Orange Studio continued to enrich its catalog and launched an international sales activity via an agreement with UGC.

In 2018, Orange also renewed its commitment with professional movie organizations to invest, through OCS, in French and European movie productions, increasing its commitment to 125 million euros over the next three years. Orange also ratified the new media time-line which will shorten the time required for movies to be broadcast on OCS after their theater release date.

In Europe, the Group is pursuing the roll-out of content services, notably related to TV, a key element of convergence offers. As such, Orange is marketing TV channel packages in Spain based on soccer offers (La Liga and Champions League) whose distribution rights were renewed for the 2018/2019 season, and has launched its Orange Series 4k channel. The Group's other European subsidiaries are also developing this TV strategy, for example in Slovakia, with the launch of a satellite offer and an Orange Sport channel in August 2018 which offers exclusive coverage of the Champions League.

In Africa, Orange also continued to enhance its TV offers and ventured into production, particularly in Senegal with the Diamond House series. In the mobile sector, Orange also developed distribution partnerships in 2018 with several content publishers (video, games and music). In the video-on-demand segment, Orange offers programs from the catalogs of the major distributors.

The music market confirmed its revival in 2018 with growth in activity driven by streaming. In mid-2018, Orange reinvested in Deezer, which has been a partner of the Group since 2010. The number of paying subscribers has continued to grow and the service is now available in France, Spain, Romania, Luxembourg and Cote d'Ivoire. At the same time, Orange continues to roll out its Orange Radio service, which is now available in 17 countries.

In the video games sector, the Orange TV games streaming offer continued to grow in 2018. In the mobile segment, the success of the unlimited contract and *Freemium* games continued, with the relaunch of the Orange Juegos offer in Spain and sustained momentum in the African countries where the number of Orange mobile-game customers exceeded the million mark. In response to the real craze for eSports in Africa, Orange organized the first Orange eSports Experience in 2018, the first pan-African video game competition that brought together people from about ten countries for the Dakar final.

1.4.7 Orange Bank

Business diversification is one of the major pillars of the Orange group's *Essentials2020* strategy. The launch of Orange Bank on November 2, 2017, underscores the Group's ambition to diversify into mobile financial services which offer significant growth prospects due, notably, to Orange's in-depth knowledge of customer uses and expectations. With Orange Bank, the Group is aiming to provide a simple offer based on a smooth, personalized customer experience, as in Africa where the payment and money transfer service offered by Orange Money has enjoyed success for several years.

After France, the Group is planning to launch Orange Bank in Spain at the end of 2019.

The banking market

Although the banking market in France is still largely dominated by traditional banks, some new models are beginning to make their mark. In 2018, online banks had a market share of 3% (source: KANTAR-TNS, February 2018)[1].

The whole sector, which is undergoing far-reaching change, has become highly digitized. There are six major categories of player:

- the major traditional banking networks (which are gradually adapting their offers to the new situation). For example, La Banque Postale, which is preparing to launch Ma French Bank in 2019;
- online banks (of which some are subsidiaries of the traditional major banking networks) which developed mainly during the 2000s (Boursorama Banque, ING Direct, etc.);
- neo-banks, set up in the 2010's, which are based on a mobile application and simplified customer experience. Some have a banking license, others do not (N26, Revolut, Compte Nickel, etc.);
- Fintechs (financing platforms, means of payment and account aggregators);
- the tech giants who offer mobile payment solutions: Apple Pay, the Facebook Messenger payment function, Samsung Pay and Android Pay, etc. Through banking licenses, they can now directly offer financial services;
- lastly, large retailers (Carrefour, Leclerc, Fnac Darty, etc.), which aim to take a share of the mobile financial services value chain. Some of these brands already have banking subsidiaries and offer a range of services from bank accounts to consumer credit. Others offer means of payment to generate customer loyalty, better know customers and avoid "disintermediation" by losing payment-related data.

(1) SoFia study report on monitoring banking, savings, life-insurance and credit markets.

Orange Bank activities

Orange Bank is positioned at the frontier of the banking and telecom sectors. Its business model aims at combining the features of all of its competitors in a single offer.

Modeled originally on the mobile uses of customers, the offer carries no conditions related to income, savings or minimum balance. There are no bank charges attached to accounts and their associated bank cards (subject to certain terms and conditions of use). All basic banking services are offered: bank account, bank card, checkbook, authorized overdraft, savings account, *à la carte* insurance and personal loan. Customers can perform all their banking operations on a mobile handset. When opening a bank account, customers have access to a network of more than 200 approved stores.

Strongly relying on telecoms functions, Orange Bank's innovations offer customers the option of making contactless payments with credit cards or via mobile handsets, gaining immediate access to their bank account balance, temporarily blocking and unblocking their credit card from the application and sending money by SMS. Customer relations are based on the virtual advisor, Djingo, the bank's first point of contact, available 24/7. Since the launch, there have been more than one million discussions, of which 50% were managed entirely by the virtual advisor without redirection to the customer relationship center.

2018 was particularly notable for the launch of a personal loan offer in March. Orange Bank has also received several awards, and was notably rated "best digital customer experience" in July 2018 by the D-Rating agency (no. 1 out of 18 banks evaluated on the basis of 400 criteria).

Orange Bank had 248,000 customers at December 31, 2018.

1.5 Networks and real-estate

1.5.1 Orange's networks

For Orange Group, the networks are a strategic asset and, as such, are subject to constant supervision, maintenance and modernization.

At end-2018, Orange operated networks in almost 30 countries to serve its customers in the consumer market and in nearly 200 countries or territories to serve its Business customers. In line with its *Essentials2020* strategy (see Section 1.2.2 *The Orange group strategy*), Orange continues to modernize its networks in order to provide its customers with ever greater and enhanced connectivity wherever it operates.

The Group's investments in its networks, other than those to maintain their quality (pole, cable and pylon replacement) are designed to improve these networks in a number of respects:

- the development of very high-speed fixed and mobile broadband (FTTH and 4G), increased data transfer volumes and reduced connection latency. These investments concern all of the networks, from the mobile radio network and household Internet connectivity to submarine cables;
- implementation of the program to switch all services over to the IP infrastructure ("all-IP" program);
- the gradual virtualization of network control functions ("programmability" of networks so that they can be adapted more quickly to new services and uses);
- automation of network operation which improves the quality of service for customers.

The network architecture is broken down into (i) access networks (fixed or mobile), (ii) transmission and IP transport networks and (iii) service control networks.

Access networks connect each customer, whether an individual or a business customer, and provide a first level of customer data aggregation. Transmission and IP transport networks connect the access networks between them and with the service and data servers, which may be located in other parts of the world. Service control networks, which drive access, transmission and IP transport networks, provide the connection between people and manage the services (voice, TV, Internet access, data).

A glossary defining several of the technical terms used in this section may be found in Section 7.2.2 at the end of this Registration Document.

1.5.1.1 Access networks

Fixed access networks

Analog access and ADSL/vDSL broadband access

Copper access is made up of a pair of copper wires that connect each customer to a concentration point and give the latter access, via the distribution and transport network, to a local switch. It is used to deliver analog voice services and broadband access services.

Orange operates copper access networks in France and Poland, and in various countries in Africa and the Middle East (Côte d'Ivoire, Jordan, Senegal), to provide analog voice access services and data to the Retail, Enterprise and wholesale markets.

Fixed broadband ADSL/vDSL access (for voice applications, Internet access and television) is available:

- in France and in Poland, with coverage approaching 100% on the incumbent local loop;
- in the Africa & Middle East countries, where Orange is the operator of the copper local loop;
- in other countries (including Egypt, Spain and Slovakia), where Orange uses the local loop of the incumbent operators, either unbundled or via bitstream-type offers;
- in Belgium and Romania, where broadband offers are marketed using the network of third-party operators;
- in Moldova where, following the acquisition of Sun Communications, Orange operates a cable network.

Very high-speed broadband fiber optic access

FTTH (Fiber To The Home) network access can extend the available broadband ADSL/vDSL service offer to include upstream and downstream very high-speed broadband (of 100 Mbits/s and more), with improved performance, in particular response time.

In France, Orange has been deploying FTTH access for some ten years using GPON technology, which can pool several very high-speed broadband accesses on a single fiber without impairing the capacity of each access point's capacity to increase speed. The deployment of the FTTH network started in 2007 in a few major French cities and was then expanded to all large cities. During the years 2011 and 2012, Orange entered into sharing arrangements with other telecoms operators to speed fiber optic rollout. At end-2018, Orange was the leading fiber optic network in France with 11.8 million households eligible for Orange Fiber (see Section 1.3 *Significant events of 2018*).

In Spain, Orange is also deploying fiber and its FTTH network reached 13.8 million connectable households at end-2018. An FTTH network was also deployed in Poland, with connectivity offered to some 3.4 million households, as well as in Slovakia with 500,000 connectable households. The deployment of FTTH networks has also started in Jordan, Côte d'Ivoire, Morocco and Senegal.

Radio and satellite access

In a number of African countries, fixed services are available through 3G/UMTS, or Wimax. These services are gradually migrating to 4G/LTE technology. In Eastern Europe, fixed services are provided through 4G/LTE in addition to copper and fiber optic networks.

In addition to copper, fiber and radio access, fixed residential access and satellite television services are also marketed via satellite capacity rental.

Mobile access networks

The GSM (2G), UMTS (3G) and LTE (4G) access networks support voice and data communication services that reach several tens of Mbits/s, at an average bit rate, and up to several hundreds when conditions are optimal, which makes it easier to send and receive voluminous content (audio, photo and video). The Group operates a mobile network (2G/3G/4G) in each of the countries where it offers retail consumer telecommunications services.

To reduce its environmental impact and operating costs, Orange shares more than half of its radio sites with a competitor. Sharing can be either "passive" (limited to the masts only), or "active" (masts and active equipment).

2018 was marked by:

- continued growth of uses and traffic, across the Group's networks. To anticipate this growth, which will continue over the coming years, the Group invested in its networks to increase their capabilities and performance;
- preparing for 5G, particularly with preparations for the optical fiber connectivity of radio sites, in anticipation of needs related to 5G very high-speed broadband;
- continued rollout of 4G/4G+ networks in Europe to increase the coverage of the population and speeds;
- continued 4G deployments in the MEA region, with 14 of the 20 countries in the region commercially covered at end-2018;
- for the Internet of Things (IoT), continued deployment of LTE-M technology on the 4G network in European countries.

1.5.1.2 Transmission and IP transport networks

National networks

In each country where there are retail customers, Orange has a national IP transport network relying on a transmission network. This infrastructure is primarily made up of fiber optics, but also radio links, especially for alternative or purely mobile networks in MEA countries.

These networks support voice and data traffic, for fixed, mobile, enterprise and wholesale services.

In France, a dedicated Enterprise IP network is also in service. The main purpose of this network is to connect a company's French sites for internal data exchange on a Virtual Private Network (VPN) and provide it with Internet connectivity. It also provides Voice over IP transport for companies.

Optical links offer a bandwidth of up to 100 Gbits/s per wavelength, and Dense Wavelength Division Multiplexing technology (DWDM) makes it possible to have 80 wavelengths per fiber. Orange is one of the world leaders in the use of advanced optical functions in order to have a more flexible transmission network. For example, in a first of its kind worldwide, Orange deployed a 400 Gbits/s per wavelength optical link between Paris and Lyon in 2013.

Furthermore, Orange offers direct connections by fiber optic to business customers, providing them with very high-speed broadband services.

In the MEA region, Orange is the no. 1 telecommunications operator in kilometers of terrestrial transmission networks deployed (national and multi-country) with over 20,000 km.

International network

This international network relies on three networks:

- the European WELDON (WidE Long distance Domestic Optical Network) network, a long-distance network in France, whose deployment started in April 2012, and which was extended to serve Frankfurt, London, Barcelona, Madrid, and submarine cable stations. It is expected to be extended to other areas neighboring France as needed in the future;
- the North-American backbone served by the two arms of the TAT-14 transatlantic cable system;
- and the Asian backbone in Singapore served by the SEA-ME-WE3 and SEA-ME-WE4 submarine cables.

Satellites

Orange uses satellite communications to provide VSAT services (Very Small Aperture Terminal) to Orange Business Services' terrestrial or maritime customers and to ensure connection with isolated mobile sites in Africa and IP or voice connectivity to other operators. To provide those services, Orange purchases space segment from satellite operators (such as Eutelsat, Intelsat, SES and Arabsat).

Submarine cables

To address the strong growth in international telecommunications traffic and in a highly competitive market, Orange is maintaining its level of investment in submarine cables and is continuing to develop its network in order to meet the needs of its customers. Due to the high cost of investments required in the construction of cables, such investments are carried out with the different players involved (operators, private companies, GAFAM) and in various forms (consortiums, purchase of user rights, transmission-capacity rental, etc.)

Orange is part of some 50 consortiums covering various routes: North Atlantic, Caribbean, Europe-Asia, Europe-Africa. In 2018, the Kanawa cable linking Martinique and French Guiana was deployed, various cables were upgraded and some new projects launched (Dunant in the North Atlantic, and PEACE between Europe, East Africa and Pakistan).

1.5.1.3 Service control networks

National networks

Control network

In all countries where it has access and transmission/IP transport networks, Orange operates a control network (also called signaling network). This network manages calls or data connection, updates of location data for mobiles, roaming and SMS. These networks are upgrading to new standards, for example to manage 4G roaming.

Fixed-line voice network

In the countries in which it has fixed-line operations, Orange operates a switched telephone network (STN) to deliver analog voice and ISDN digital services. These networks are continually being optimized because of declining usage. In France, Orange stopped marketing its analog voice services at the end of 2018, and announced the first zones where voice services will only be available using IP technology from the end of 2023.

Orange also rolled out fixed-line VoIP networks using IMS technology (IP Multimedia Subsystem) in many countries for residential and business uses.

Mobile voice network

Until 2015, all mobile voice traffic was managed in switch mode by the mobile network in each country. In 2015, Orange rolled out mobile IMS infrastructure in Europe to offer VoLTE services (VoIP over LTE) and VoWifi (mobile *Voice over WiFi*). The first commercial application of this technology was in Romania, with the launch of VoLTE in September 2015. At end-2018, VoLTE and VoWifi were used by millions of customers in our European networks.

International networks

Voice network

Orange has international switching nodes (CTI 4G) to manage voice traffic to and from France in the fixed-line and mobile markets for retail customers, businesses and operators, and to centralize the transfer of international traffic for its subsidiaries. These switches, initially in circuit technology (TDM), have developed into hybrid NGN nodes to carry Voice over IP (VoIP) traffic.

Orange also operates a network for the supply of voice services for international businesses which is based on the international IP MPLS network.

Signaling network

Orange operates an international signaling network to manage the signaling associated with voice traffic, roaming and SMS of 2G and 3G mobile operators. This network is developing so that it can handle, in addition to SS7 standards, new standards such as IP SIGTRAN and DIAMETER.

Several centralized platforms have been rolled out on the international transit points to provide value-added services to mobile operators.

1.5.2 Real-estate

The Orange group's real-estate is made up of office buildings, technical buildings and points of sale. At December 31, 2018, the real-estate assets recorded in Orange's balance sheet had a net carrying value of 2.48 billion euros, compared with 2.54 billion euros in 2017.

Making full use of real-estate as one of its key transformation drivers, Orange is pursuing an ambitious program throughout France, comprising some fifteen major projects scheduled for delivery between 2018 and 2023.

At end-2018, Orange occupied in France 25,190 sites (including 211 with a surface area greater than 5,000 sq.m.), covering a total area of 5.5 million sq.m. including 2 million sq.m. of leased space and 3.5 million sq.m. of fully-owned space. A number of subsidiaries abroad also have significant real-estate portfolios, in particular Poland with 12.3 million sq.m. of land, including 1.6 million sq.m. of developed land.

In France, 84% of technical buildings are fully-owned, while 58% of service buildings are rented.

The buildings are very varied in terms of sizes and purposes.

Some service campuses, such as Orange Gardens in Châtillon, and by 2020, the Lyon 2020 project, as well as the Group's future headquarters in Issy les Moulineaux, have surface areas of more than 50,000 sq.m. for thousands of employees.

The technical buildings, some of which are unoccupied, are being continuously streamlined: some buildings have been sold, while there are new constructions to cater to new needs. Two new Data centers in Val de Reuil and Chartres will thus be delivered in 2020.

In 2018, the Group pressed ahead with the transformation of its points of sale in line with the Smart Store concept, while also taking into account the launch of Orange Bank and the need to install ATMs in some stores.

Within the context of its energy and environmental policy, Orange is looking to obtain the best environmental certifications for its buildings under construction.

In 2018, the Group pledged to adopt a certified Global Management System approach that already covers several of its buildings, particularly its head office, and enables it to achieve "High Environmental Quality Operations/Sustainable Management" certifications. In 2019, new buildings currently under construction in Lille and Rennes will be included in this approach.

At the international level, a number of significant projects are either ongoing, notably the headquarters of Orange Côte d'Ivoire, or being studied, such as Orange Guinée's and Orange Mali's headquarter buildings and the extension of Orange Sonatel buildings in Dakar.

1.6 Research and innovation

In the information and communication technology (ICT) sector, which is undergoing major change in its value chain with the increase in the number of players and the creation of new economic models, innovation is a major growth engine for the Orange group. It is supported by a community of around 6,000 persons, including 640 researchers. In 2018, the Group continued its research and innovation activities devoting 700 million euros (i.e. 1.7% of revenue) to them including employee costs, as well as operating and investment expenditure related to research and innovation for new products and services.

1.6.1 Research and innovation

Orange is currently a leading private player involved in digital research in France. The Group is developing an open, influential and differentiating research approach that is at once accessible to all and focused on a positive view of progress. Research and innovation are key to future growth and a differentiating factor for Orange vis-à-vis its competitors.

In order to achieve its goals in research and innovation, Orange has established a network of expertise spanning four continents. Technology and Global Innovation division employees work closely with innovative ecosystems, with start-ups and developers to accelerate innovation. Orange researchers investigate technological breakthroughs, new usages and innovative economic models. They invent the technologies required to deploy the networks and services of the future.

In response to new waves of technology and to help create the applications of the future, Orange group's research is organized into nine areas: digital personal life, digital society, digital emerging markets, the digital company, ambient connectivity, software infrastructure, the Internet of Things, data and knowledge, and trust and security. Moreover, in 2017, Orange launched three "integrative research" platforms, that are open to its customers, the Group and its ecosystems in order to identify and channel technological breakthroughs and uses and to build key assets.

Orange is convinced that using artificial intelligence (AI) in a responsible way will open new prospects for the individual, society and the planet. It will improve the management of cities and regions, transport, resources (energy, financial resources, etc.) and knowledge. With over 130 internationally recognized specialists and more than 200 hires planned in the AI field between now and 2020, Orange is making a growing contribution to supporting the AI sector in France and Europe. In particular, it is partnering with Microsoft's AI School, backing start-ups and the creation of the think tank Impact AI dedicated to responsible AI with members of the French digital ecosystem, and participating in the European agenda on AI.

Orange is actively preparing for the arrival of the 5G network with all the players involved (research organization, other operators, manufacturers, entrepreneurs and large companies) to get a better understanding of the issues, new business models and new uses, and therefore be able to take advantage of all the opportunities offered by 5G. For Orange, the development of 5G will be based on three main areas: enhanced mobile broadband to accommodate the growth in uses (with a speed ten times faster than 4G); an alternative to access very high broadband in countries where fiber infrastructures are little deployed; and, finally, the deployment of new services to support the digital transformation of companies.

The Internet of Things (IoT) is one of the diversification areas in which Orange is aiming to become a key player in Europe on the retail and Enterprise markets. In 2018, Orange pursued the deployment of its IoT networks in Europe (*LoRa®* and LTE-M). On the Enterprise market, Orange emphasizes ready-to-use offers notably with the launch of Smart Tracking, a solution designed to localize and track goods and equipment, which includes beacons, connectivity, a collection platform (Live Objects) and a visualization portal to trace objects. On the retail market, Orange launched in Spain *Serena*, a helpline for senior citizens, and *Alarma de Orange*, a telemonitoring service. On the French market, the launch of *Maison Protégée*, a telemonitoring offer, and *Maison Connectée*, a service to connect devices directly to the *Livebox*, operate them remotely, monitor their use and analyze their consumption, is planned for spring 2019.

In addition to 5G and IoT, Orange is focusing its connectivity innovation on the virtualization of networks (which allows the emergence of new services and offers greater flexibility) as well as their automation. So-called Self-Organizing Network (SON) features are integrated in the latest generation of mobile networks.

Orange presented its key innovations before an audience of 1,000 business leaders, decision-makers, tech experts and journalists at the 6th edition of *Show Hello*. Flagship event in the French digital landscape, it underscores Orange's innovative expertise. Among the innovations presented was the Djingo smart speaker developed with Deutsche Telekom, within the framework of the European AI alliance. Djingo, which is also voice controlled, is destined to become the preferred interface for all Orange services. It will also offer a wide range of daily services thanks to partnerships with selected players. Deutsche Telekom also uses it for its own assistant, Magenta.

1.6.2 Intellectual Property and Licensing

Intellectual Property and Licensing protects, manages and adds value to Orange's patent portfolio, which are among the Group's intangible assets. It also adds value to software. This offers Orange a differentiating advantage over its academic and industrial partners, and also serves to defend the Group's interests in the event of litigation.

At December 31, 2018, the Orange group had a portfolio of 6,857 patents or patent applications in France and abroad protecting its innovations. In order to maximize their value, some of these patents are licensed through patent pools for patents corresponding to industry standards (e.g. NFC, MPEG Audio, WiFi, HEVC). Value maximization also concerns software such as engineering tools for the mobile network.

In 2018, 222 new inventions were protected by patents, including major technical contributions to standardization (5G, coding, video, etc.). The Orange Labs network in France and abroad accounts for the bulk of the Group's inventions. In 2017, Orange ranked among the top three telecoms operators who filed patents in Europe (source: European Patents Office, Top 25 applicants per leading field of technology in 2017) and among the top 15 applicants across all industries in France (source: INPI, 2017 award for leading patent applicants).

1.6.3 Open innovation

More than ever, *Open Innovation* is a crucial strategy for research and innovation in order to capture trends and benefit from partners' skills, while relying on ecosystems that enable sustainable development. At Orange, this strategy is embodied by:

- the Orange Developer program, through which the Group opens its service platforms to application developers. At end-2018, Orange had a catalog of 60 self-service programing interfaces (APIs) in the areas of identification, payment, communications, IoT and data. These interfaces cover Retail services in Europe and Africa and Middle East, and Enterprises around the world;
- start-up and SME support. Orange has developed a network of 15 start-up accelerators known as *Orange Fab*, present in 16 countries across four continents at the end of 2018. Created in Silicon Valley in March 2013, the *Orange Fab* program was rolled out in France the same year, then in other countries from 2014 onwards. In 2018, this program was extended to Tunisia. Orange helps selected start-ups grow their businesses, and in certain countries provides financial and logistical support. Over 350 start-ups were or are being accelerated by *Orange Fab* as at end-2018;
- the alliance created in 2015 with Deutsche Telekom, Singtel and Telefónica gives selected start-ups access to the resources and markets of the four partners, thus promoting the emergence of new European and even global leaders. Known as "Go Ignite", a third edition was launched at the 2018 Mobile World Congress in Barcelona. It is designed for start-ups which are in a growth phase and have already developed marketable solutions in the following six areas: artificial intelligence (AI), cyber security, 5G, Big Data analytics, improving customer experience and the Internet of Things (IoT);
- Orange's presence in various global networks and events, notably in the *French Tech* network and at *Viva Technology*, where Orange presented some one hundred start-ups in 2018;
- a strong involvement in the research and innovation ecosystems. Orange is a key player in collaborative research programs and contributes to over 50 national and European projects, such as the major *AI4EU* initiative, which brings together the biggest artificial intelligence players in Europe. Orange is also very involved in the European public-private partnership on 5G, which has 22 projects including the recent autonomous driving cross-border project (5GCroco). The Group is also working increasingly in opensource consortiums;
- the development of ecosystems of excellence in France, in which Orange is a major player through its involvement in seven competitiveness clusters (including being the chair of the *Images & Réseaux* cluster) within a network of more than 3,000 industrial and academic players. The Group's investment in the development of technologies that ensure sovereignty for France and Europe is also embodied by its involvement in the Technological Research Institute *b<>com* which is chaired by Orange in the area of technology networks, security, hypermedia and AI;
- 30 research contracts concluded with the finest university laboratories as well as two joint laboratories with Inria on the virtualization of network functions, and with the University of Nice on antennae;
- the co-funding of 13 research chairs including one with the Polytechnique and Télécom Paris Tech on the economy and regulation, and another with the Institut Mines-Télécom on personal information values and policies.

Lastly, Orange has an active policy of forming strategic partnerships with leading industrial players worldwide, which allows it to enhance its portfolio of products and services and open itself to new ecosystems.

1.6.4 Capital investment

The Orange group plays a key role in financing innovation in the IT industry, drawing on various investment vectors managed by Orange Digital Investment:

- investment vehicles that are wholly-owned by the Group, known as mono-corporate ventures, in particular Orange Digital Ventures, which are in line with Orange's *Open Innovation* strategy, through which Orange acquires minority stakes in innovative start-ups, particularly in the following areas: new types of connectivity, corporate digital services (SaaS, Big Data, artificial intelligence, security, digitization of processes, etc.), *Mobile Banking* and mobile payment (FinTech), Internet of Things, and digital services for the Africa and Middle East region.

  This approach has two objectives: one of a financial nature (to generate capital gains on disposals) and the other to gain insight into new markets, disruptive business models and agile project management. In addition, start-ups not only obtain a source of financing, but also benefit from the Group's expertise and, where appropriate, its customer relationships (in particular B2B).

  In 2018, the Group used mono-corporate venture financing to invest in five new start-ups: Morphisec (cyber security, Israel), NGD (computational storage, United States), Aire (credit scoring, United Kingdom), Africa's Talking (communication APIs, Kenya) and Yoco (mobile point of sales, South Africa). In addition, several start-ups in the portfolio were refinanced, bringing the total amount invested in this scheme since 2015 to nearly 50 million euros for 20 start-ups;
- multi-corporate ventures (joint investment companies), in which Orange has generally invested with other investor-partners, mostly industry companies, but occasionally also involving purely financial firms. Examples include:
  - the Iris Next fund and the three Orange Publicis Ventures funds (Growth, Global and Early-Stage), created within the framework of a partnership with the Publicis Group, and managed by Iris Capital Management in which the Group is also involved at the governance level,

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- two funds who invest mainly in Africa: Partech Africa, managed by Partech Partners, and the Franco-African Fund, managed by AfricInvest,
- several other “thematic” funds, including Robolution Capital (focusing on robotics investments), which is managed by 360 Capital Partners, and Écomobilité Ventures (focusing on digital and sustainable mobility investments), managed by Idinvest Partners.

Orange Digital Investment also monitors more mature or late stage start-ups, which can be financed through strategic investments made directly by the Group, such as Deezer, Jumia and Soundhound.

Overall, for its private equity business, the Group’s financial investment commitments (made via direct and indirect equity investments) total more than 260 million euros over the last ten years.

1.7 Regulation of activities

1.7.1 Regulation of telecom activities

In most of the countries where it operates, the Orange group must comply with various regulatory obligations governing the provision of its products and services, primarily relating to obtaining and renewing telecommunication licenses, as well as to oversight by authorities seeking to maintain effective competition in electronic communications markets. Orange also faces specific regulatory constraints in some countries as a result of its historically dominant position in the fixed telecommunications market. The risks linked to the regulation of the electronic communications sector are described in Section 2.1.2 *Legal risks*.

1.7.1.1 European Union

1.7.1.1.1 Legal and regulatory framework

The European Union has laid down a common legal framework aimed at harmonizing the regulation of electronic communications. It is binding on the member states and must be implemented by the National Regulatory Authorities.

The overall legal framework of the European Union was modified by the new European Electronic Communications Code which took effect on December 20, 2018 (see Section 1.7.1.1.2 *Significant events in 2018*). The revised code includes four main directives deriving from the 2002 Telecoms Package on:

- a common regulatory framework for electronic communications networks and services;
- the authorization of electronic communications networks and services;
- access to and interconnection of electronic communications networks and associated facilities;
- universal service and users’ rights relating to electronic communications networks and services.

In addition, the Telecoms Package includes the directive on *Privacy and electronic communications* no. 2002/58/EC of July 12, 2002, concerning the processing of personal data and the protection of privacy in the electronic communications sector.

Furthermore, Regulation (EC) no. 1211/2009 of November 25, 2009, canceled and replaced by Regulation (EU) no. 2018/1971 of December 11, 2018, implemented the Body of European Regulators for Electronic Communications (BEREC).

The new regulatory framework has been fleshed out by a number of additional texts:

Analysis of relevant markets

On October 9, 2014, the European Commission adopted a new recommendation (2014/710/EC) identifying four relevant product and service markets for which National Regulatory Authorities are required to carry out market analyses potentially resulting in the implementation of ex-ante regulation, as opposed to seven in its previous recommendation of 2007:

- M 1: wholesale call termination on individual public telephone networks provided at a fixed location;
- M 2: wholesale voice call termination on individual mobile networks;
- M 3/a: wholesale local access provided at a fixed location;
- M 3/b: wholesale central access provided at a fixed location for mass-market products;
- M 4: wholesale high-quality access provided at a fixed location.

Roaming

Regulation (EU) no. 2015/2120 of November 25, 2015 (also known as the Telecoms Single Market package – TSM), which aims, in particular, to eliminate surcharges for international roaming within the European Union and Regulation (EU) no. 2017/920 of May 17, 2017, which lays down the rules for wholesale roaming markets [(1)]:

- impose, in the context of fair usage, the alignment of international roaming retail prices with national prices for intra-European communications (voice, SMS and data) from June 15, 2017;
- expands, for customers using their cell phones outside the EU, pricing transparency requirements and bill shock prevention measures for European operators;

(1) These rules amended regulation no. 531/2012 of June 13, 2012 on roaming using public mobile communications networks within the Union (Roaming III). They are rounded out by an implementing regulation on reasonable usage rules for intra-European roaming adopted on December 15, 2016.

- grant a regulated right of access to European roaming services for MVNOs and resellers, and sets new caps on wholesale markets:
  - voice: €0.032 excluding tax per minute starting on June 15, 2017,
  - SMS: €0.01 excluding tax per SMS from June 15, 2017,
  - data (price excluding tax):

	04/30/16	06/15/17	01/01/18	01/01/19	01/01/20	01/01/21	01/01/22
	€0.05/MB	€7.7/GB	€6.0/GB	€4.5/GB	€3.5/GB	€3.0/GB	€2.5/GB

A preparatory review, prior to the potential modification of the regulation of wholesale roaming prices is scheduled for 2019.

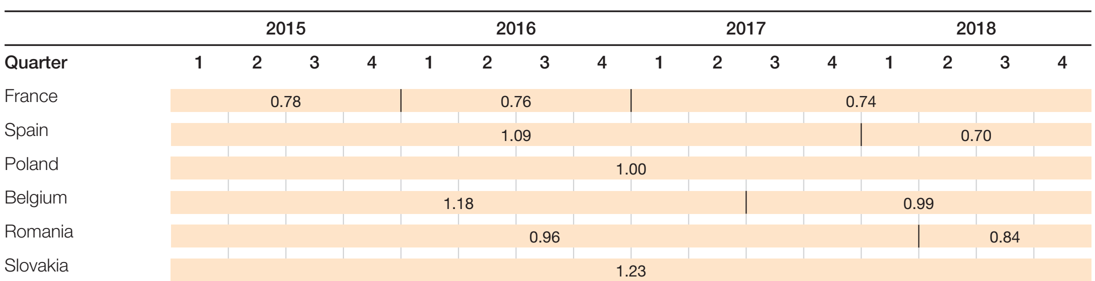
Suppliers of mobile services subject to the regulation on the pricing of intra-European roaming can apply a reasonable usage policy to their customers in terms of the consumption of these services in order to prevent abnormal or excessive use. Despite this option, in special and exceptional circumstances, when the supply of intra-European roaming at the national price threatens the viability of the supplier's national pricing model, they can ask the national regulator for authorization to bill additional charges for the use of intra-European roaming, which are limited to the caps on wholesale roaming prices.

Call termination rates

On May 7, 2009, the European Commission adopted a recommendation (2009/396/EC) regulating fixed and mobile voice call termination rates in the European Union. The Commission recommends that national authorities should apply the following principles:

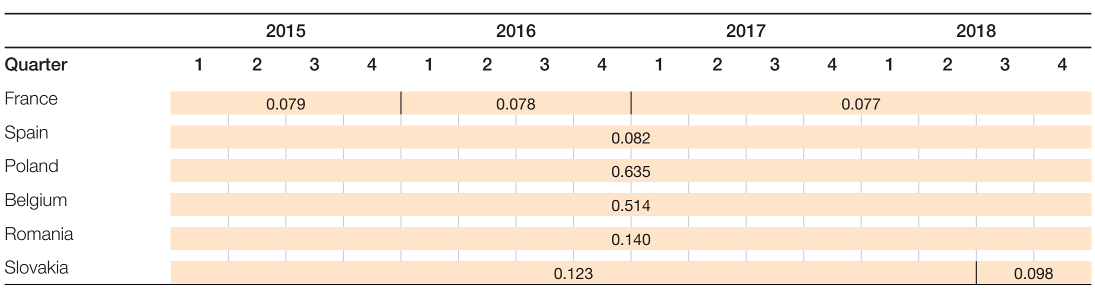
- symmetry in each Member State, first between the various operators' fixed-line voice call termination rates and second between their mobile call termination rates, with the option of allowing a four-year transitional asymmetry on fixed or mobile call termination rates for any new entrants;
- call termination rates geared towards the avoidable cost of this service for an efficient operator (i.e. about 1 euro cent per minute for voice MTRs and a lower rate for voice FTRs).

→ Change in Orange's mobile voice call termination rates in Europe (in euro cents per minute)



Source: Cullen International.
Currency exchange rates at 12/31/2018 for the whole period.

→ Change in Orange's fixed voice call termination rates in Europe (in euro cents per minute)



Source: Cullen International. Figures are tariffs at local level.
Currency exchange rate at 12/31/2018 for the whole period.

In accordance with the European Electronic Communications Code, European caps on fixed voice call termination rates and on mobile call termination rates will be set by the Commission before the end of 2020.

1.7.1.1.2 Significant events in 2018

	European Electronic Communications Code
December 2018	Entry into effect of the European Electronic Communications Code
	Protecting Personal Data
May 2018	Entry into effect of the reform on personal data protection rules

Adoption of the new European Electronic Communications Code

The new European Electronic Communications Code was published in the Official Journal of the European Union on December 17, 2018 (EU Directive 2018/1972). It took effect on December 20, 2018. The Member States have 24 months to transpose it into national law.

The Code includes a regulatory objective intended to support the deployment and adoption of very high-connectivity networks in accordance with Orange's request that the goals of the regulation be redirected, from the transition of monopoly to competition, to investment in telecommunication networks.

In addition, the rules governing the **access obligations** imposed on operators with significant market power have been adjusted in a positive way:

1) in practice, access obligations should generally be limited to fixed access infrastructure and to situations in which there are fewer than three competitors;

2) national authorities should only approve access to new fiber optic infrastructure for competitors willing to share the investment risk. Waivers to this principle will be subject to strict conditions and to a veto by the Commission;

3) obligations to provide access to fixed-access infrastructure serving subscribers, whose replicability is technically or economically inefficient, and that are symmetrically applicable to all infrastructure owners, can be imposed by the national regulator. These obligations are subject to a joint veto by the Commission and BEREC.

With respect to the **allocation of the radio frequencies** required for mobile services, the Code strengthens binding European rules for member states, including the minimum duration of spectrum licenses. Implementation is national, with light European oversight. Provisions facilitating the deployment of "limited range wireless access points" (defined in Article 2.23 of the Code) and the availability schedule of the 5G spectrum were also adopted.

With respect to the **regulation of communication services**, most of the obligations intended to protect end-users are for Internet access service and services using public numbering plan resources, independently of the service provider. Other services, such as interpersonal communication services independent of the numbering plan and signal transport services are only subject to a limited number of obligations. However, the Code reintroduces rules on competitive markets for intra-European calls and SMS by imposing a cap aligned with the caps of the 2012 Regulation, known as *Roaming III* (€0.19/minute and €0.06/SMS).

With respect to **universal service obligations**, the Code promotes the goal of supplying Internet access services which are both available and affordable but maintains the principle of the appointment of specific universal service suppliers and of a financing system provided by the industry. In addition, the Code opens the door to the extension of universal service obligations for the supply of affordable mobile services.

The Code and its associated regulation on changes in BEREC's responsibilities and governance do not create a European regulator. However, the Code does adopt the principle of full standardization of the rights of end-users, subject to exceptions, and strengthens the control exercised by the European Commission over access regulation and over the spectrum.

Protecting Personal Data

The new General Data Protection Regulation (GDPR) came into effect on May 25, 2018. The GDPR, which replaces a 1995 European directive, is a general-purpose regulation intended for both public and private entities which harmonizes the management of personal data protection in Europe.

GDPR principles include:

- single rules directly applicable immediately in each European Union country;
- application to all Internet users and service providers of the information society intended for the European market;
- a single supervisory authority responsible for the protection of data as the interlocutor for Internet companies: that of the Union country in which they have their primary office;
- unambiguous consent which explicitly covers the processing of personal data;
- definition of a pseudonymization process whose use is encouraged;
- strengthening of the obligation to provide information to consumers;
- the introduction of a "digital right to be forgotten".

National personal data protection authorities will have enhanced powers. They will be authorized to fine companies which breach European rules up to 4% of the annual overall revenue of the companies in question. In addition, the entry into effect of the GDPR has indirect effects on the implementation of sector directive no. 2002/58/EC on privacy and electronic communications of July 12, 2002 given that it changes the meaning of the concept of consent and the penalties to which this directive refers. The Commission wants to replace the 2002 directive with a new sector regulation, but there has been no political agreement on the new text.

1.7.1.2 France

1.7.1.2.1 Legal and regulatory framework

Legal framework

The electronic communications sector is primarily governed by the French Postal and Electronic Communications Code as well as legal provisions relating to e-commerce, the information society, consumer protection and personal data protection.

France transposed the European Telecoms Package, as amended in 2009, via the order of August 24, 2011 and the decree of March 12, 2012 for the implementing regulations.

The audiovisual communication services produced or distributed by the Orange group come under the specific regulations governing this sector and are governed by law no. 86-1067 of September 30, 1986 on the Freedom of Communication.

Regulatory Authorities

The Postal and Electronic Communications Regulatory Authority (Arcep) is an independent administrative body created by the law of July 26, 1996 and acts as the French regulator for these sectors nationwide. Within the electronic communications sector, Arcep's main missions are to define regulations for operators present in the markets in question. It has powers to sanction non-compliant operators and can rule on disputes between operators over technical and pricing conditions for network access and interconnection. Arcep also allocates spectrum and numbering resources. Finally, it determines the size of contributions to fund the universal service obligation and oversees the mechanisms for delivering this funding.

The French Competition Authority is an independent government authority responsible for ensuring open market competition and compliance with public economic policy. It has jurisdiction over all business segments, including the electronic communications sector. It has sanction powers for anti-competitive practices, as well as consultative powers. It is also responsible for overseeing mergers and acquisitions.

The ANFr (*Agence nationale des fréquences* – French national agency for frequencies) is responsible for planning, managing and controlling the usage of radio frequencies and for coordinating the establishment of certain radio transmission facilities. The frequency spectrum is covered by 11 controlling authorities: government departments, Arcep and the French Broadcasting Authority (CSA). Arcep and the CSA are in turn responsible for allotting to users the frequencies they control.

The CSA (*Conseil Supérieur de l'Audiovisuel*) is an independent administrative body created by the law of January 17, 1989. It is tasked with protecting the freedom of audiovisual communication in accordance with the law of September 30, 1986.

1.7.1.2.2 Regulation of mobile telephony

Significant events in 2018

	Spectrum
January 2018	Agreement on the renewal of the authorizations for the use of the 900, 1,800 and 2,100 MHz frequencies (known as the "New Deal")
July 2018	Inclusion of the New Deal commitments in the current authorizations of operators in the 900, 1,800, and 2,100 MHz bands
August 2018	Launch of the procedure for the allocation of authorizations for the renewal of the 900, 1,800 and 2,100 MHz frequencies
October 2018	Arcep initiated a consultation on the allocation of new 5G frequencies in the 1.5 GHz, 3.4-3.8 GHz and 26 GHz bands
November 2018	Allocation of the authorizations for the use of the frequencies within the framework of the re-allocation of the 900, 1,800 and 2,100 MHz frequencies provided for by the New Deal
	Others
June 2018	Publication by Arcep of the decision specifying the obligations for the accounting and reporting of costs charged to mobile operators (accounting separation)

Following the work carried out by Arcep, an agreement was signed on January 14, 2018 between the French government, Arcep and the four mobile operators (Orange, SFR, Bouygues Telecom and Free Mobile) to guarantee better mobile coverage throughout the country and, in particular, in rural areas. The agreement (known as the "New Deal") is the result of negotiations carried out for the expected reallocation of authorizations to use frequencies in the 900, 1,800 and 2,100 MHz bands for 10 years. The operators committed to providing enhanced coverage starting in 2018 (see below) in exchange for the elimination of auctions and the stability of current fees.

Spectrum

→ Main Orange frequency allocations in mainland France

700 MHz	– Authorization granted in December 2015 for 10 MHz duplex for 20 years. These frequencies are technology neutral
800 MHz	– Authorization granted in January 2012 for 10 MHz duplex for 20 years for the deployment of very high-speed mobile broadband (4G). These frequencies are technology neutral
900 MHz	– Renewal in March 2006 of the 2G authorizations granted for 10 MHz duplex for 15 years. This authorization, amended in July 2018, made the frequencies technology neutral. The 8.7 MHz duplex was reallocated until March 2031 under the New Deal
1,800 MHz	– Renewal in March 2006 of the 20 MHz duplex authorizations for 15 years. These frequencies have been technology neutral (they provide the option of operating 4G in the relevant band) since May 2016. These frequencies were re-allocated in the same quantity until 2031 as part of the New Deal
2.1 GHz	– 3G authorization granted in August 2001 for 20 years for 14.8 MHz duplex – 3G authorization granted in June 2010 for 20 years for 4.8 MHz duplex – Introduction of technology neutrality, issued for Orange in September 2017 – With respect to 14.8 MHz duplex, which expires in August 2021, 10 MHz duplex was reallocated until August 2031 as part of the New Deal
2.6 GHz	– Authorization granted in October 2011 for 4G services for 20 MHz duplex for 20 years for the deployment of very high-speed mobile broadband (4G). These frequencies are technology neutral

The New Deal

By decision of Arcep on July 3, 2018, coverage commitments under the New Deal (see below) for the period before 2021 are applicable immediately within the framework of current operator authorizations for the 900, 1,800 and 2,100 MHz bands.

The call for applications process for the allocation of frequencies in the 900, 1,800 and 2,100 MHz bands was initiated on August 2, 2018. The authorizations to use the relevant frequencies were adopted by Arcep on November 15, 2018. These authorizations will take effect for Orange from 2021.

5G bands (3.4-3.8 GHz, 26 GHz and 1.4 GHz)

The Government and Arcep provided information about the road map for 5G in France on July 16, 2018.

Three bands are considered at this point: the 3.4-3.8 GHz, the 26 GHz and the 1.4 GHz bands for allocation at the end of 2019 or in early 2020. A first consultation was launched on October 26, 2018 on the allocation of new frequencies for 5G in these three bands. A second consultation on the allocation procedure has been announced for April 2019.

Mobile coverage

The New Deal agreement

Under the New Deal, operators committed to:

- accelerating the pace of targeted programs to improve coverage and, within this context, for each one to cover at least 5,000 new areas throughout the country (most of which will be shared by the operators) replacing existing programs (the “town center dead zones” program, the “800 strategic sites” program and the “France Mobile” program) for which the operators will now be fully responsible;
- generalizing 4G reception by equipping all of their mobile sites with 4G by the end of 2020, 75% of the “town center dead zones” program sites by the end of 2020 and 100% by the end of 2022;
- accelerating the coverage of transport routes, ensuring that the main road and rail routes have 4G coverage. The agreement includes provisions for the coverage of regional trains;
- generalizing coverage within buildings, in two parts: gradual availability of voice and SMS services via Wi-Fi with the goal of enabling 80% of our customers with a compatible handset to benefit from these services by the end of 2019, and the marketing of an offering enabling public companies and individuals who so request to obtain improved *indoor* multi-operator coverage of their buildings at a reasonable rate;
- improving reception quality throughout the country, and particularly in rural areas. The new performance standard applied to operator obligations will be that of “good coverage” defined as the “ability to be able to call and exchange SMS outside of buildings in most cases and within buildings in some cases”.

Obligations to deploy and provide 4G coverage in metropolitan areas including that resulting from the "New Deal"

(as a % of the population)	Jan-17	Oct-19	Dec-20	Jan-22	Dec-22	Oct-23	Jan-24	Dec-25	Jan-27	End-2030
Regional rail network (coverage inside trains in each region as a % of track)									60%	80%
Regional rail network (national coverage inside trains as a % of track)				60%					80%	90%
Regional rail network (national coverage alongside tracks as a % of track)								90%		
Priority highways (as a % of outside areas)			100%							
Priority highways (as a % of areas from inside vehicles)				100%						
Town centers of the *dead zone* program [(1)]			75%		100%					
In the priority deployment area [(2)] with very high-speed broadband [(3)]	40% (800 MHz)			90% (800 MHz) 50% (700 MHz)					92% (700 MHz)	97.70% (700 MHz)
In each county (département)							90%		95%	
Throughout the metropolitan territory		60%				75%			98%	99.60%

(1) 1% of the population and 3,300 town centers.
(2) 18% of the population, 63% of the country.
(3) An operator has met their obligation to provide very high-speed broadband when the equipment deployed enables a theoretical peak speed of 60 Mbps.

Operators have an obligation to provide mobile radiotelephony service under the "good coverage" conditions required by Arcep to 99.6% of the population by March 2024 at the latest, and to 99.8% in March 2028. They must also provide very high-speed broadband access from all Orange network sites with more than 5W by the end of 2020 (excluding the town center dead zones program sites which have a target of 75% by the end of 2020 and 100% by the end of 2022).

At end-December 2018, Orange's 4G coverage was 98.6% of the population and 87.1% of the country.

Infrastructure sharing

The New Deal agreement contains clauses on network sharing. In addition to active sharing, which is required for the four operators on all sites that host them as part of the provisions for targeted coverage, operators are subject to an overall obligation to accede to the requests of the other operators to ensure ex-ante passive sharing in the priority deployment zone. However, the agreement states that this obligation can be waived if an access offering deemed satisfactory by Arcep is available for a sufficient number of sites and at a reasonable rate.

Orange's obligations regarding cost accounting and accounting separation for the mobile business

On June 19, 2018, Arcep published decision no. 2018-0685 specifying obligations for accounting for and the reporting of costs imposed on mobile operators. The decision supersedes decision no. 2013-0520. As was the case for the previous decision, it applies to Orange, SFR, Bouygues Telecom, Free Mobile, SRR and Orange Caraïbes. The new decision primarily simplifies operator obligations.

Analysis of the wholesale mobile call termination markets

The fixed and mobile termination markets are regulated by Arcep decision no. 2017-1453 for the 2017-2020 cycle. The decision confirms the cost-orientation obligation for call termination rates. The cap levels for call termination were eliminated in the final decision. Mobile operators, including Orange, have left their rates unchanged since 2017.

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1.7.1.2.3 Regulation of fixed-line telephony, broadband and very high-speed broadband Internet

Significant events in 2018

	Deployment of fiber optic networks
May 2018	– Arcep decision on the resolution of the dispute between Free and Orange on the conditions of the FTTH contract for less densely inhabited areas
July 2018	– Arcep adoption of a recommendation on the consistency of FTTH network deployment
August 2018	– Government approval of Orange's proposed commitments for FTTH deployment, taken under Article L. 33-13 of the French Postal and Electronic Communications Code
December 2018	– Arcep decision on the resolution of the dispute between Coriolis, THD Bretagne and Megalis regarding an FTTH bitstream offer request on the public initiative network of the Brittany region operated by THD Bretagne
December 2018	– Arcep decision no. 2018-1597-RDPI giving notice to Orange to comply with the completeness of certain FTTH sharing points outside of very densely inhabited areas
	Analysis of the broadband and very high-speed broadband markets
March 2018	– Publication of 2018 rates for wholesale high-quality copper access
July 2018	– Launch of resale offers for retail fiber pro offers (market analysis 3a obligation) and passive FTTH offers (Optimum Access and Optimum PM)
November 2018	– Launch of the activated FTTH offering (Optimum Ethernet Enterprises and Optimum Ethernet Lan)
December 2018	– Decision no. 2018-1523 of December 5, 2018 on the pricing framework for wholesale telephone service access (VGAST) rates and related call origination for non-residential access for 2019-2020
	Interconnection
April 2018	– Arcep decision on the resolution of the dispute between Free SAS, Free Mobile and Orange on VoIP interconnection
	Others
October 2018	– Arcep decision no. 2018-1276-RDPI notifying Orange that it must comply with its quality of service obligation required in the decree of November 27, 2017 on the appointment of the operator responsible for providing the "connection" and "telephone" services component of the universal service
December 2018	– Arcep decision no. 2018-1596-RDPI giving notice to Orange to comply with the quality of service of wholesale offerings for the mass and corporate markets

The ex-ante asymmetric regulation which Orange's fixed services are subject to relates solely to wholesale offers ensuring effective competition in retail markets (call origination and termination, wholesale line rental, unbundling, access to the civil engineering infrastructure, bitstream, passive access to the final segments of the FTTH network and capacity services).

Arcep decision on the resolution of the dispute between Free and Orange on the conditions of the FTTH contract in less densely inhabited areas

At the end of 2017, Free requested Arcep to rule on a dispute with Orange about the conditions for co-financed access to the Orange FTTH network in less densely inhabited areas.

In its decision of May 17, 2018, Arcep agreed to the following demands from Free:

- Orange must offer Free Medium Dense Area (MDA) access to the FTTH network for a set period of at least 40 years subject to Orange's decision to continue the technical and commercial operation of the FTTH network;
- the contract must define the relation between the main rates and the costs of the co-financed network and must provide for Orange to send Free a report on expenses presenting capital expenditures and operating expenses separately. This issue was submitted to the Paris Court of Appeal;
- the contract must detail the technical and rate conditions for access to the supernumerary fibers of the network co-financed by Free for the connection of Free Mobile's BTS.

Publication of enhanced coverage maps

On February 22, 2018, Arcep passed decision no. 2018-0169 on the content and publication procedures for network coverage and fixed-location Internet access services maps and on the methods for the transmission of underlying information. This decision compels operators to (i) publish coverage maps for fixed services, by speed and by technology, with information available at the level of each building, (ii) transmit the coverage maps to Arcep, and (iii) provide Arcep with the underlying network data used to establish the coverage maps.

Regulation of fixed-line electronic communications service offers: changes in the rates of wholesale offers subject to cost orientation

On December 21, 2017, Arcep passed a decision on the rate framework for the full unbundling of the local copper loop for 2018 to 2020. The decision sets a cap on the recurring monthly access rate for full unbundling and for the monthly recurring rate for naked bitstream access for the next three years:

		2017 rates	2018 rates framework	2019 rates framework	2020 rates framework
Unbundling	Total	9.45 €	9.31 €	9.41 €	9.51 €
Bitstream	Naked DSL access	12.93 €	13.19 €	13.30 €	13.41 €

In accordance with Arcep decision, the changes planned for the full unbundling rates and for naked ADSL for 2019 were adjusted to take into account the changes to the Imposition Forfaitaire sur les Entreprises de Réseau (*IFER*) (flat-rate tax on network businesses). The tax, which was only for copper lines, was broadened to include cabled networks and FTTH. Lines built fewer than five years ago are exempted. In accordance with the principle of non-discrimination, part of the decrease in the tax paid by Orange is passed on to the alternative operators via a reduction in wholesale rates.

Based on the new *IFER* value, which was definitively passed at the end of December 2018, rates for 2019 will be, respectively, 9.27 euros/month for full unbundling and 13.16 euros/month for naked DSL access.

Regulation of fiber optic networks

Regulatory framework governing very high-speed broadband wholesale offers

The current regulatory framework for the deployment of very high-speed broadband in France confirms the principle of symmetric regulation for the terminating segment of networks, and encourages sharing by operators, with potential co-financing following prior consultation with the municipality:

- no ex-ante regulation of retail prices;
- asymmetric regulation of access to civil engineering infrastructure which allows alternative operators to deploy their horizontal networks on Orange's infrastructure: non-discriminatory access at a rate that reflects costs;
- principle of sharing the terminating segment of networks between operators;
- no obligation for asymmetric access (unbundling or bitstream) for fiber, confirmed by the 3a and 3b market analysis decisions published by Arcep on December 14, 2017;
- symmetric regulation for access to the terminating segment of networks, including outside of very densely populated areas: same obligation to provide passive access to the terminating segment of FTTH networks under reasonable and non-discriminatory conditions, applicable to all operators equipping buildings with fiber optic in the entire French territory. Access must be from a reasonably situated shared access point (Arcep decision no. 2009-1106 supplemented by Arcep decision no. 2010-1312 for less densely populated areas). Rates must comply with the principles of efficiency, relevance, auditability and non-discrimination.

Arcep is of the opinion that the FTTH regulatory framework it decided on complies with the principles defined by the European Commission in its NGA (1) recommendation, applicable to broadband and very high-speed networks, published on September 20, 2010. It recommends asymmetric regulation requiring that operators in a dominant position provide access to the terminating segment of very high-speed lines and access from OCNs (2) while conceding a risk premium to operators who invest and an adaptation principle for national circumstances. The European Commission approved Arcep's position.

Orange's "L. 33-13" deployment commitments

In early 2018, Orange formalized its commitment proposals for FTTH deployment under Article L. 33-13 of the French Postal and Electronic Communications Code, confirming its prior commitments taken under the AMII (3), in 2011, then in 2013 and 2015.

Orange proposed that it commit to ensuring that, within its FTTH deployment scope in the AMII area: (i) by the end of 2020, 100% of homes and professional premises would have access to FTTH sales offers (including a maximum 8% of premises connectable on demand, excluding refusals by third parties), and (ii) by the end of 2022, 100% of homes and professional premises would be made connectable (excluding refusals by third parties).

These commitment proposals took into account the agreement reached at the end of May 2018 by Orange and SFR which led to Orange withdrawing from 236 municipalities to SFR's benefit.

Following Arcep opinion of June 12, 2018, Orange's commitment proposals (and those of SFR) were accepted by the French government on July 26, 2018 (4).

Completeness of FTTH networks

Arcep notified Orange that it must comply with the obligation for completeness of a list of 460 shared access points (as listed in the appendix of its decision no. 2018-1597 – RDPI), at the latest by December 31, 2019.

Orange is required to prove its compliance with the obligation for completeness of the 460 shared access points by January 31, 2020, at the latest, or to explain the difficulties encountered. Arcep stated in this respect that, "if Orange were to report exceptional difficulties which prevent it from making certain premises connectable, Orange should submit all appropriate supporting evidence demonstrating that it had implemented the resources required to resolve the issues, but that they persisted".

Arcep decision on the resolution of the dispute between Coriolis, THD Bretagne, an Orange subsidiary, and Megalis regarding a FTTH bitstream offer on the public initiative network in the Brittany region operated by THD Bretagne

In its decision of December 11, 2018, Arcep ordered THD Bretagne, the Orange subsidiary responsible for the operation of the Megalis public initiative network in Brittany, to provide Coriolis Telecom, within four months, "with an offer for activated wholesale access to very high-speed fiber optic lines enabling it to serve an end-user it operates,

(1) Next Generation Access network.
(2) Optical Connection Node.
(3) AMII areas are areas that were the subject of calls for expressions of investment intentions by an infrastructure operator.
(4) Decrees published in the Official Journal of July 31, 2018.

stating the technical and rate conditions and providing for activation of the lines within nine months maximum, as of the signature of the offer by Coriolis" (Article 1). Arcep did not issue a statement on the technical and rate conditions of the offer and sent the parties back to negotiations.

Analysis of the relevant markets

Broadband and very high-speed broadband markets

On December 14, 2017, Arcep published the following decisions resulting from the fifth analysis cycle of the fixed broadband and very high-speed broadband markets for the period from December 2017 to December 2020:

- decision no. 2017-1347 for market 3a (wholesale local access provided at a fixed location): unbundling on the copper local loop, access to civil engineering infrastructure, passive access to the local FTTH loop or bitstream with delivery to the optical connection node, passive FTTH offer with quality of service;
- decision no. 2017-1348 for market 3b (market for wholesale central access provided at a fixed location for mass-market products): regional copper bitstream or FTTH;
- decision no. 2017-1349 for market 4 (high-quality wholesale access): LPT, SDSL, FTTO and FTTE wholesale offers;
- Arcep decision no. 2017-1488 of December 14, 2017 setting the financial conditions for access to the civil engineering infrastructure of the Orange local loop which confirmed most of the rules previously decided in 2010.

These decisions extend virtually all of the obligations previously imposed on Orange, which remains the only dominant player in the various markets.

In the general market, Arcep only preserved the symmetrical framework for FTTH, and does not impose an obligation of equivalence of inputs on Orange. Orange committed to (i) upgrading information systems by September 1, 2018 for the eligibility processes and by December 31, 2018 for order processes, (ii) providing Arcep with commercial contacts for optical connection nodes/shared points in very densely inhabited areas, and (iii) reducing cases of proven difficulty in connecting third party operators to Orange's shared access points in buildings by mid-2019.

In the Enterprise market, Orange saw its obligations in the wholesale market increased by the introduction of new remedies:

- the obligation to provide an enhanced quality of service option on its FTTH infrastructure;
- the obligation to provide a wholesale offer for passive access to the local shared optical loop suited to new infrastructure players dedicated to the intermediary market for activated access offers for companies;
- the obligation to provide a resale offer for its retail offers for the enterprise market (FTTH Pro).

Fixed-line telephony

As part of its fifth round of analysis of the relevant fixed-line markets for non-residential customers for the 2018-2020 period, on December 21, 2017, Arcep adopted decision no. 2017-1568, which restricts the obligation to formalize a wholesale offer for access to telephone service to the non-residential market only.

Wholesale non-residential line rental rates are now governed by decision no. 2018-1523 of December 5, 2018. Contract caps are stable for 2019 and 2020 compared to previous caps (12.32 euro cents/month for analog and 18.57 euro cents/month for digital). The cap for call origination collected at the Operator Connection Point associated with the contracts is 0.6584 euros/minute in 2019 and will be 0.6958 euros/minute in 2020.

Fixed-line voice call termination

Following its decision no. 2017-1453 of December 2017, Arcep removed the rate caps for the 2018-2020 period. Rates must be based on costs.

Orange interconnection with Free and Free Mobile

The dispute was settled on April 12, 2018 with Orange winning five of the seven primarily technical points related to VoIP interconnection to the Free networks.

Universal telephony service

The order published on November 27, 2017 designates Orange as the provider of the universal service fixed telephony component for the "connection" and "telephone service" services for a period of three years, during which time the end of PSTN accesses will be effective. This designation incorporates new quality of service monitoring indicators.

Moreover, by its decision no. 2018-0401 of April 24, 2018, Arcep set the rules used for the calculation of the net cost of the universal service and operator contributions for 2016.

Following the opening of a penalty procedure (L. 36.11 of the French Postal and Electronic Communications Code) by Arcep in June 2018, Orange was given notice in October 2018 regarding its compliance with universal service quality of service obligations. Arcep set intermediate obligations for the months of November and December 2018 and for each quarter of 2019.

Quality of service of wholesale offers for the mass and corporate markets

Following the opening of a penalty procedure (Article L. 36.11 of the French Postal and Electronic Communications Code) by Arcep in September 2018, Orange was given notice in December 2018 by which Arcep required Orange to comply, starting in the first quarter of 2019, with indicators relating to production and after-sales service processes for all of the following offers:

- mass market: unbundling, offers activated without a guarantee for reinstatement time (DSL access);
- corporate market: LPT, copper access (DSLE, C2E, CELAN), Optical access (CE2O, C2E, CELAN).

1.7.1.3 Spain

1.7.1.3.1 Legal and regulatory framework

The 2009 *Telecom Package* was implemented into Spanish law by Royal Decree no. 726/2011 on universal service provision in May 2011 and Royal Decree no. 13/2012 of March 31, 2012.

The telecommunications sector is also covered by law no. 15/2007 of July 3, 2007 relating to the implementation of competition rules.

The National Commission for Markets and Competition (CNMC), established by law no. 3/2013 of June 4, 2013, brings together regulatory authorities from different economic sectors, including telecommunications, and the antitrust authority.

Since November 4, 2016, the Ministry for Energy, Tourism and the Digital Agenda (MINETAD) has been responsible for managing authorizations, spectrum allocations, telephone numbering, universal service cost approvals, quality of service, and disputes between consumers and non-dominant operators.

1.7.1.3.2 Regulation of mobile telephony

Mobile voice call termination rates

As part of its fourth round of mobile termination market analysis (Market 2/2014), the CNMC adopted decision no. 002/17/m2-2014 on January 18, 2018, which gradually reduces mobile call termination rates from 1.09 euro cent/minute to 0.64 euro cent/minute in January 2020. These prices apply only to traffic coming from the European Economic Area.

The caps decided on are:

(in euro cents/minute)	through 01/30/2018	01/31/2018-12/31/2018	01/01/2019-12/31/2019	As of 01/01/2020
MNO, Full MVNO	1.09	0.70	0.67	0.64

Spectrum

In May 2018, the MINETAD launched the 200 MHz auction procedure for the 3.6-3.8 GHz frequency band: the auction ended on July 26, 2018. Orange acquired a block of 60 MHz for 20 years for 132 million euros.

→ Summary of national frequencies allocated to Orange and their expiration year

	800 MHz	900 MHz	1,800 MHz	2.1 GHz	2.6 GHz	3.5 GHz
	10 MHz duplex (2031)	10 MHz duplex (2030)	20 MHz duplex (2030)	15 MHz duplex + 5 MHz (2020)	20 MHz duplex (2030)	20 MHz duplex (2030) 60 MHz (2038)

Internal source.

Mobile coverage

All operators holding 4G frequencies in the 800 MHz band must provide speeds of at least 30 Mbit/s by January 1, 2020. This obligation will benefit 90% of the population in municipalities with fewer than 5,000 residents. The regulator also proposed including an obligation to share infrastructure under non-discriminatory conditions and at reasonable prices.

Fourth round of market analysis of the mobile call termination market (market 2/2014)

The CNMC, by its decision 002/17/m2-2014 dated January 18, 2018, set caps for traffic from the European Economic Area corresponding to its long-run incremental cost model for an efficient generic operator in line with the European recommendation. It also introduced new rules on transparency: the notification to the CNMC of all interconnection agreements concluded between operators, including for companies within the same group, as well as the notification of mobile termination agreements outside the European Economic Area when rates differ from those applied in Spain.

5G plan (3.5 GHz and 700 MHz bands)

The Ministry for the Economy approved the road map for the "second dividend" on July 2, 2018. Following the release of the 700 MHz band for electronic communications, the migration of the 700 MHz band TNT to the 470-694 MHz band will end in March 2020, three months before the deadline set by the European Union at June 30, 2020.

1.7.1.3.3 Regulation of fixed-line telephony, broadband and very high-speed broadband Internet

Wholesale broadband access market: third round of 3a and 3b/2014 and 4/2014 market analysis

The CNMC adopted its third round of the analysis of markets 3a and 3b/2014 and 4/2014 on February 25, 2016, by which it decided:

- for market 3a:
  - to retain the copper network unbundling obligations introduced in the previous 2009 market analysis and to retain access to Telefónica civil engineering infrastructure,
  - to not impose *ex ante* asymmetrical obligations on Telefónica for the fiber network in 66 cities considered effectively competitive, representing 35% of the Spanish population, given that a Virtual Unbundled Local Access (VULA) offer must be made available for the rest of Spain;
- for market 3b:
  - to progressively lift the *ex ante* regulatory obligations in that part of Spain deemed competitive, and covering 58% of the existing broadband lines; and in the rest of Spain deemed non-competitive, to maintain an access obligation to Telefónica's network, with the NEBA-copper offer, without limitation on bandwidth, and charged on a cost basis,
  - in the area declared competitive for new-generation networks (NGA), corresponding to 66 municipalities (approximately one-third of the population), to lift the obligation to provide a fiber bitstream offer (known as the NEBA offer) from September 2016,

- in the zone declared non-competitive for NGAs, but deemed competitive for copper (approximately one-third of the population), to impose a NEBA Fiber offer at rates meeting the economic replicability test until March 2018,
- in the remaining area declared non-competitive, including for copper, to impose a NEBA Fiber offer at rates that satisfy the economic replicability test with no time limit;

- and for market 4:
  - to retain, throughout Spain, the NEBA-business offer obligation, charged based on cost for copper and meeting the economic replicability test for fiber.

Revision of the NEBA reference offers (bitstream)

On March 19, 2018, the CNMC approved the “replicability test” (ERT) for Telefónica’s offers, which enables the setting of the wholesale price of fiber. The monthly fee for the local NEBA offering (local activated offer) and for access to NEBA fiber (activated offer) were set at 17.57 euros by Telefónica. The regulator confirmed with the ERT test that the wholesale prices for Telefónica’s NEBA-local and NEBA-fiber fiber optic offerings enable alternative operators to reproduce the main fiber optic products offered by the incumbent operator.

1.7.1.4 Poland

1.7.1.4.1 Legal and regulatory framework

Orange’s businesses are governed by the law of July 16, 2004 on telecommunications, transposing the 2002 European *Telecom Package* concerning electronic communications into Polish law, and by the law of February 16, 2007 concerning competition and consumer protection. The law of December 2012, transposing EU directives issued in 2009, came into force on January 21, 2013. The law of May 7, 2010, on developing telecommunication networks and services, provides access to telecommunications and other technical infrastructures funded by public funds.

The Ministry of Digitization, created in November 2015, is responsible for telecommunications.

The Office of Electronic Communications (UKE) is responsible, in particular, for telecommunications regulation and frequency management, as well as certain functions related to broadcasting services.

The Office of Competition and Consumer Protection (UOKiK) is responsible for the application of competition law, merger control and consumer protection.

Digital Poland

On September 11, 2018, the Ministry for Digital Affairs launched a public consultation on updating the national very high-speed broadband plan. The result of the consultation will be published in 2019.

1.7.1.4.2 Regulation of mobile telephony

Mobile call termination rates

Since July 1, 2013, the symmetric mobile voice call terminations of all operators cost 0.0429 zloty/minute, (1.00 euro cent/minute on December 31, 2018). In accordance with the recommendations of the European Commission, this rate is based on pure long-term incremental costs. It can only be changed based on the evolution of the differential costs of a efficient operator.

Spectrum

→ Summary of frequencies allocated to Orange and their expiration year

800 MHz	900 MHz	1,800 MHz	2.1 GHz	2.6 GHz
10 MHz duplex (2030)	7 MHz duplex (2029)	10 MHz duplex (2027)	15 MHz duplex +5 MHz (2022)	15 MHz duplex (2030)

Internal source.

Following the political agreement between the Council and the European Parliament reached in the presence of the Commission on December 14, 2016, the 700 MHz spectrum band should be dedicated to mobile networks in all member states from 2020. UKE has initiated a coordination process with neighboring countries.

Infrastructure sharing

The network sharing agreement between Orange and T-Mobile Polska, from 2011, was extended to LTE in December 2016. On May 22, 2018, Orange and T-Mobile decided to put an end to frequency spectrum sharing in the 900 MHz and 1,800 MHz bands.

Application of Roaming Like at Home regulation

In order to handle a massive increase in the volume of traffic in certain customer categories, Orange submitted an exemption request file to the regulator UKE at the end of 2017, as authorized by the regulation, to bill its roaming customers a surcharge. By the decision of April 16, 2018, the regulator authorized the exemption for one year. Orange decided to implement the surcharges on voice and data for its prepaid services, starting on June 18. However, the surcharge was not applied to customers with a contract. The authorized surcharges are:

- outgoing call: 0.0407 zloty/minute;
- incoming call: 0.0163 zloty/minute;
- SMS: 0.0081 zloty;
- MMS/1MB: 0.0060 zloty.

5G

As part of the “5G for Poland” project, the Ministry of Digitalization, UKE and mobile operators have concluded a multilateral agreement to assess the availability of spectrum in the main frequency bands (700 MHz, 3.4-3.8 GHz and 2.6 GHz).

Parliament adopted amendments to the Telecommunications Act allowing operators to use these frequency bands free of charge for the testing of new technologies or for the reallocation of frequencies. Twenty cities were selected for 5G tests. Orange is currently testing in three cities (Krakow, Gliwice and Warsaw).

1.7.1.4.3 Regulation of fixed-line telephony, broadband and very high-speed broadband Internet

The ex-ante regulation of Orange's fixed services, for the areas defined as non-competitive, relates solely to wholesale offers.

Deregulation of markets 1 and 3/2003

On June 26, 2018, the European Union approved the decisions to deregulate markets 1 & 3/2003 (access to the public telephone network at a fixed location for residential and non-residential customers). The deregulation decision provides for a transition period of two years corresponding to the maximum duration of the contracts agreed by the operators and their private customers.

Analysis of the wholesale broadband access market (market 5/2007)

On October 7, 2014, the UKE made a decision on the wholesale broadband access market (third market analysis cycle) which excludes 76 municipalities in Poland from ex-ante regulation. The portion of the decision providing for a deregulated area was canceled by the Warsaw Court of Appeal for procedural defects on February 14, 2018. Orange nevertheless offers its wholesale services on a commercial basis in these deregulated areas.

Everywhere else, Orange's obligations are maintained (on access, non-discrimination, transparency, accounting separation and cost-based pricing). Another market analysis is planned for 2019 and a first consultation was initiated by the UKE on January 11, 2019.

Analysis of the wholesale fixed broadband access market (market 4/2007)

In its June 2, 2014 decisions as part of the second round of market analysis on copper and fiber, the UKE maintained Orange's obligations in Poland (access, non-discrimination, transparency, accounting separation and cost-based pricing). Another market analysis is planned for 2019 and a first consultation was initiated by the UKE on January 11, 2019.

Reference offer for fixed-line markets

The reference offer applies to all wholesale fixed services: call origination and termination, wholesale line rental, partial and full unbundling and bitstream access.

On September 4, 2018, the European Commission accepted, without comment, the changes made to the Orange reference offer intended to lower subscription fees for the fixed-access wholesale service and eliminate number portability fees.

Fixed-line call termination rates

On May 30, 2018, the UKE launched a public consultation on the reduction of fixed-line call termination rates for 75 operators. According to the proposed drafts, the rate applicable to Orange would be reduced from 0.013 zloty/minute (average effective rate) to 0.0032 zloty/minute. Based on the results of the public consultations and of discussions with the European Union, the UKE renewed the public consultation on December 19, 2018.

1.7.1.5 Other EU countries where the Orange group operates

1.7.1.5.1 Belgium

Mobile voice call terminations

In its decision of May 26, 2017, the Belgian Institute for Postal Services and Telecommunications (BIPT) set the Orange mobile call termination rate at 0.99 euro cent/minute based on the long-term incremental cost model of an efficient generic operator.

Spectrum

→ Summary of frequencies allocated to Orange and their expiration year

	800 MHz	900 MHz	1,800 MHz	2.1 GHz	2.6 GHz
	10 MHz duplex (2033)	12 MHz duplex (2021)	25 MHz duplex (2021)	15 MHz duplex + 5 MHz (2021)	20 MHz duplex (2027)

Internal source.

Renewal of the frequency allocations and reservation of frequencies for a fourth operator

The federal government approved the draft royal decrees for the 700 MHz, 1,500 MHz and 3,600 MHz bands on July 26, 2018. The exact procedure for allocating the bands will be set by future royal decrees. The ministry announced its intention to reserve frequencies for a fourth mobile network operator. The BIPT published a report on the impact of such a change on the mobile telephony market on June 26, 2018. The Council of Ministers approved the royal decrees for licenses at the end of July to prepare for the auctioning of the spectrum in the second half of 2019. In September 2018, the BIPT published a consultation on the 1,400 MHz frequency schedule and the auction process. Given the political changes which occurred at the end of 2018, the date on which the government will finalize the auction framework is uncertain. In addition, the BIPT published the "national road map" for the 700 MHz band on October 25, 2018 in application of the European regulation of 2017 on the use of the 470-790 MHz frequency band in the European Union.

Cable wholesale broadband markets

A consultation on the review of the markets was initiated by the Conference of Regulators of the electronic communications sector in July 2017. The review concluded that there were different wholesale markets for central access (copper/fiber versus cable) and for television (IP-TV versus cable). On May 25, 2018, the European Commission commented on the draft decisions for the wholesale broadband markets (markets 3a and 3b/2014) and on the wholesale television distribution market. The European Commission did not block the proposal to define two central access wholesale markets for the copper and fiber optic networks and for coaxial cable, despite its comments on the measure. In light of this, the final decision of the Conference of Regulators of the electronic communications sector was approved on June 29, 2018.

In the meantime, Telenet submitted an appeal of the European Commission's observation letter on the market analysis to the Court of Justice of the European Communities (CJEC). In parallel, the cable operators (Telenet, Brutélé and Nethys) submitted appeals of the decisions regarding the market analysis to the National Court of Appeal. The schedule of proceedings has not yet been set.

1.7.1.5.2 Romania

Mobile voice call terminations

The mobile call termination rate has been 0.96 euro cent/minute since April 1, 2014. Following a public consultation closed on July 2017, the regulatory authority (Ancom) decided to maintain the 2014 rates. However, after an in-depth inquiry by the European Commission, the Ancom decided to lower fixed-line call termination rates to 0.84 euro cent/minute as of May 1, 2018.

Spectrum

→ Summary of frequencies allocated to Orange and their expiration year

	800 MHz	900 MHz	1,800 MHz	2.1 GHz	2.6 GHz	3.4 GHz-3.8 GHz
	10 MHz duplex (2029)	10 MHz duplex (2029)	20 MHz duplex (2029)	15 MHz duplex +5 MHz (2020)	20 MHz duplex (2029)	25 MHz duplex +10 MHz duplex +45 MHz (2025)

Internal source.

On May 22, 2018, the Ancom announced that the auction for the 5G spectrum (including the 700 MHz band) would be delayed until the end of 2019.

Orange won additional frequencies on August 14, 2018 at a private auction organized by 2K Telecom for the allocation of 2x10 MHz blocks in the 3.5 GHz band, valid until 2025, for 3.35 million euros.

In December 2018, the Romanian government approved measures impacting several industries, including telecommunications, via extraordinary order 114/2018. The order includes:

- for new licenses: a reserve price of 2% or 4% of industry revenue depending on the frequency, multiplied by the number of years of validity of the frequency;
- for license renewals: a regulatory fee of 4% of industry revenue multiplied by the remaining number of years of validity of the frequency.

In addition, the same order provides for an increase in the contribution of telecommunication operators to the cost of Ancom operations of up to 3% of revenue, and a fine of up to 10% of revenue in the event that infrastructure is deployed without the required authorization.

Wholesale broadband markets

In the context of its second round of analysis of the 3a and 3b markets, completed in November 2015, Ancom considered the retail broadband market to be effectively competitive and that, as a consequence, no obligation should be imposed on the two wholesale markets.

1.7.1.5.3 Slovakia

Mobile voice call terminations

On July 29, 2013, the regulatory authority RU issued a decision on the call termination rates of the three mobile operators, and capped them at 1.226 euro cent/minute.

As part of its fourth round of market analysis, the RU submitted its draft decision setting mobile termination rates at 0.749 euro cent/minute for all operators to the European Commission on November 18, 2016. On December 15, 2016, the European Commission had not commented on the market analysis.

After review of its cost model, the RU submitted a new draft decision to the European Commission on September 30, 2017. The draft decision introduced an asymmetry of terminations in favor of the fourth operator, Swan. It set rates applicable from January 1, 2018 for mobile terminations at 0.825 euro cent/minute for operators, except for Swan, whose rate would be 0.608 eurocent/minute. The regulator also proposed an unprecedented increase in the formula for calculating termination rates based on the size of the business. Following an in-depth investigation (phase 2) by the European Commission, backed up by an unfavorable opinion issued by BEREC on the tariff asymmetry potentially benefiting Swan, the Slovakian regulator had to amend its draft decision.

Spectrum

→ Summary of frequencies allocated to Orange and their expiration year

	800 MHz	900 MHz	1,800 MHz	2.1 GHz	2.6 GHz	3.4 GHz-3.8 GHz
	10 MHz duplex (2028)	10 MHz duplex (2021)	15 MHz duplex (2021) +5 MHz duplex (2026)	20 MHz duplex +5 MHz (2026)	30 MHz duplex (2028)	-

Internal source.

Wholesale broadband and very high-speed fixed broadband markets

The Slovakian regulator completed its third round of analysis of the 3a, 3b and 4/2014 markets and published its decisions on markets 3a and 3b on January 19, 2018, and on market 4 on November 7, 2016. The regulator eased regulation:

- in market 3a, by excluding unbundling of the local sub-loop, while maintaining unbundling in the local copper loop, and by limiting the regulatory obligations of NGA offers to the economic replicability test and to a technical equivalence of inputs;
- in market 3b, by imposing a replicability test of 2P offers and multicast IPTV wholesale access offers, instead of regulated prices;
- in market 4, by eliminating the sector-based regulatory obligations, because of the competitive nature of the market.

The RU published rate caps for access to fixed physical infrastructure (civil engineering) on October 17, 2018. Maximum monthly fees are as follows: access to ducts (0.257 euro/month/meter), HDPE tube (0.128 euro/month/meter) and micro-tube (0.116 euro/month/meter). This is a significant decrease in the access rates for the infrastructure.

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1.7.1.6 Non-EU countries where the Orange group operates

The table below shows the type of licenses held by Orange and their expiration dates as of December 31, 2018 in each country of the Africa and Middle East region in which it is present:

Renewal of licenses in the MEA region

	Expiration date of the current license	License Type
Botswana	April 2022	2G – 3G
Botswana	August 2025	4G
Burkina Faso	April 2020	2G
Burkina Faso	September 2022	3G
Cameroon	January 2030	2G – 3G – 4G
Côte d'Ivoire	April 2032	Global (1)
Egypt	October 2031	2G-3G-4G & Fixed virtual license
Guinea-Bissau	April 2025	2G-3G-4G
Guinea	January 2022	2G and 3G
Jordan	May 2019	2G – 3G
Jordan	September 2030	4G
Jordan	May 2024	Fixed
Liberia	July 2030	Global (2G – 3G – 4G)
Madagascar	April 2025	2G – 3G – 4G
Mali	July 2032	Global (2G – 3G – 4G)
Morocco	August 2024	2G
Morocco	December 2031	3G
Morocco	April 2035	4G
Morocco	April 2036	Fixed
Mauritius	November 2021	2G – 3G – 4G
Mauritius	November 2025	Fixed
Niger	December 2022	2G – 3G
Central African Republic	May 2027	Global (1) (2G – 3G)
Democratic Republic of the Congo	October 2031	2G – 3G
Democratic Republic of the Congo	May 2038	4G
Senegal	August 2034	Global (1) (2G-3G-4G and fixed)
Sierra Leone	July 2031	2G – 3G
Tunisia	July 2024	Global (1) (excluding 4G)
Tunisia	March 2031	4G

Source: data from national regulators.

(1) Global: refers to the type of license that allows an operator to offer both fixed-line and mobile services through all of the available technologies (depending on the country, the Global license does not include 4G technology).

1.7.2 Regulation of banking activities

In the context of an increasing number of regulations, several significant reforms of the banking and finance sector impact Orange Bank's business:

- MiFID II: In May 2014, the European Union adopted a new framework for the financial instruments markets known as MiFID II (in the form of a MiFID directive and a MiFIR regulation). This framework was transposed into French law, notably by Government orders of June 23, 2106 and June 22, 2017 and came into effect on January 3, 2018. The goal of these regulations is to improve the security, transparency and operation of financial markets and to strengthen protection for investors. The regulations notably provide for an improvement in the information given to customers about the suitability of financial products in the light of their knowledge, experience, financial situation and investment goals and about the costs and fees of the services provided and the financial instruments contracted. The regulations also increase the obligations related to the reporting of transactions involving financial instruments to the supervisory authorities;
- AML/CFT: decree no. 2018-284 of April 18, 2018 which supplemented order 2016-1635, and came into effect on December 1, 2016, transposed into French law the fourth European directive EU 2015/847 of May 20, 2015 on the prevention of the use of the financial system for the purpose of money laundering or terrorist financing. It strengthened the anti-money laundering framework and requires banking institutions to determine the risk profile of each customer and to assign a suitable monitoring profile;
- AIFM: delegated regulation no. 2018/1618 of July 12, 2018 amending directive no. 2011/61/EU AIFM of July 1, 2011 creating a harmonized framework for the managers of alternative investment funds and intended to improve the protection of assets and information to investors and to standardize the responsibility of depositaries and sub-custodians;
- CRS: driven by the G5, then the G20, as part of its efforts to combat international tax evasion, the "Common Reporting Standard" on the automatic exchange of tax information was published by the OECD on July 21, 2014 and implemented in the European Union via directive no. 2014/107/EU of December 9, 2014. In France, the CRS regulation came into effect on January 1, 2016 with over 100 countries committed to information exchange. More than 50 countries (including France) started exchanging information on the basis of the CRS in September 2017. The French system was supplemented by decree no. 2018-569 of July 3, 2018, which has been applicable since November 1, 2018;
- Sapin II Law: the law on transparency, combating corruption and economic modernization of December 10, 2016 also includes measures intended to protect savers and investors, notably by providing a framework for requests to substitute credit insurance in mortgages and providing for the option of waiving payment protection insurance within a period of 14 days;
- directive no. 2016/97 of January 20, 2016 on insurance distribution, transposed into French law by Government order 2018-361 of May 16, 2018 and by the decree of June 1, 2018 is intended to increase consumer protection and harmonize regulations, notably by creating a standard information document, by improving the prevention of conflicts of interest, by imposing product governance rules, by requiring distributors to take ongoing training and by defining the scope of their advisory obligation;
- dematerialization: the order of October 4, 2017, effective April 1, 2018, on the dematerialization of contractual relations in the financial sector is intended to promote the use of virtual communication media while ensuring a sufficient level of protection to consumers. It enables customers, in certain cases, to request paper media and that documents provided in the customer space be made available for a sufficiently long period of time;
- PSD2: as part of the creation of the single payment services market in Europe, directive (EU) no. 2015/2366 of November 25, 2015 (PSD2, transposed into national law on August 9, 2017) adapted existing rules to new payment services and strengthened payment security rules. It notably imposes requirements with respect to strong customer identification and protection of their personal security data.

2 Risk factors and activity management framework

2.1 Risk factors

In addition to the information contained in this Registration Document, investors should carefully consider the risks outlined below before deciding whether to invest. The Company's view at the date of this Registration Document is that these risks could have a material negative impact (i) on the business, financial position, profits, reputation or outlook of Orange SA and/or its subsidiaries, as well as (ii) on Orange's stakeholders. In addition, other risks and uncertainties, as yet unidentified or, as of the date of this Registration Document, not currently considered to be material by Orange, could have similar negative impacts. Investors could lose all or part of their investment if these risks materialize.

The risks are presented in this section under four categories:

- for Orange:
  - operational risks relating to Orange's business activities (see Section 2.1.1),
  - risks of a legal nature (see Section 2.1.2),
  - financial risks (see Section 2.1.3);
- and for Orange and its stakeholders: the main "non-financial" risks relating to the corporate, social and environmental consequences of Orange's activities, and to the impacts of these activities in terms of respect for human rights, anti-corruption measures and tax avoidance (see Section 2.1.4).

These categories are not presented in order of importance. However, within each category, risk factors are presented in decreasing order of importance, as determined by the Company at the date of filing this Registration Document. Orange may change its view of their relative importance at any time, particularly if new external or internal facts come to light.

Several other sections of this Registration Document also discuss risks in some detail:

- for risks relating to global risks in the telecommunications services sector, Orange's overall strategy and its business model, see Section 1.2;
- for risks relating to regulations and regulatory pressure, see Section 1.7 *Regulation of activities* and Note 16 *Litigation* to the consolidated financial statements (Section 3.3);
- for risks relating to litigation involving the Group, see also Note 9 *Taxes* and Note 16 *Litigation to the consolidated financial statements*, as well as Section 3.2 *Recent events and outlook, where applicable*;
- for risks relating to the Group's corporate, social and environmental responsibility, see Chapter 4;
- for financial risks, see:
  - Notes 7, 8 and 10 to the consolidated financial statements for asset impairments,
  - Note 11.8 to the consolidated financial statements for derivatives,
  - Note 12 for the management of interest rate risk, currency risk, liquidity risk, covenants, credit risk and counterparty risk, and equity market risk. The policies for managing interest rate, foreign exchange and liquidity risks are set by the Treasury and Financing Committee. See Section 5.2.2.3 *Executive Committee and Group governance committees*;
- for the insurance plan, see Section 2.2.3.3 *Insurance*;
- more generally, risk management policies throughout the Orange group are discussed in Section 2.2 *Activity and risk management framework*, which is an integral part of the Management Report.

2.1.1 Operational risks

Operational risks mainly include risks related to the telecommunications sector, and risks related to Orange's strategy and business. Risks with potentially substantial employee, environmental and social consequences are presented in Section 2.1.4.

A significant portion of Orange's revenues is generated in mature markets, where intense competition between operators puts pressure on prices and operators' capacity to provide customers convergent offers.

The main markets on which Orange operates are mature, and even saturated. Under these conditions, Orange faces extremely intense competition, which primarily impacts prices, as well as the ability to propose convergent offers (very high-speed fixed and mobile broadband) and even more data. Orange is therefore making substantial investments in innovation, stepping up the deployment of its broadband and very high-speed access networks, continuing to implement a policy of moving towards a multi-services operator model and reducing its fixed costs.

Should Orange fail to implement its strategy in response to this competitive environment, it may lose a portion of its market share and see its margins reduced.

For further information about competition, see Section 1.4 *Operating activities*.

Orange has made commitments to the French authorities that it will step up network deployment and maintain service quality, which could be constrained by resource availability or changes in regulatory positions.

Orange has made commitments to public authorities and local authorities in France that it will both step up the deployment of fixed and mobile broadband and very high-speed networks in the regions and maintain the service quality of its networks. These commitments could be constrained by the availability of Orange and its subcontractors' human, industrial and financial resources, alongside the Group's objective of reaching its peak CAPEX in 2018. If this situation were to arise, Orange's profits and image could be affected by it.

Orange is exposed to the risk of an interruption to its networks and services following cyber-attacks, human errors or malicious acts, and network saturation.

Damage or interruptions to the service provided to customers may occur following cyber-attacks (on networks and IT systems), outages (hardware or software), human errors or sabotage of critical hardware or software, failure of a critical supplier, or insufficient network capacity to meet the growing usage needs, or during the implementation of new applications or software.

Among these risks of interruption, telecommunications operators are particularly exposed to malicious actions and cyber-attacks because of the vital nature of telecommunications in the functioning of the economy. Despite the steps taken by Orange to protect its network, the high frequency of such attacks increases the risk of an interruption to its services.

As a result of the rationalization of the network based on the implementation of all-IP technologies, the increase in the size of the service platforms and the relocation of equipment into fewer buildings, such service interruptions may in the future affect a greater number of customers and more than one country simultaneously.

Although difficult to quantify, the impact of such events could seriously damage Orange's reputation, trigger its liability and result in a reduction of traffic and its revenue, affecting its profits and outlook. If they were to occur on a nationwide or multinational scale, they might also create a crisis potentially affecting the security of the countries concerned.

The development of mobile financial services exposes Orange to risks inherent to this sector.

In line with its *Essentials2020* plan, Orange has developed mobile financial services, in both banking and payment and money transfer services. This development exposes Orange to risks inherent to this sector, such as money laundering, terrorist financing and non-compliance with economic sanction programs, as well as particularly sensitive and common risks in the financial services sectors such as fraud, cyber-attacks or service interruptions.

Furthermore, Group entities having the status of regulated institutions could face a risk of non-compliance with applicable banking or financial regulations, in particular if the strengthened compliance and internal control system in place was to be found insufficient.

If these risks materialized, they could have a material effect on the Group's financial position, completion of its strategy and image.

Orange's large geographic footprint and the growing scope of its activities increases its exposure to geopolitical, macroeconomic and regulatory risks.

Orange's growth partly depends on its activities in emerging markets. Political instability or changes in the economic, regulatory, tax or social landscape in these geographical areas may call into question the outlook on profitability expected when investment decisions were made and affect the Group's financial position and results.

International economic sanctions imposed on certain countries could also have an impact on the value or permanence of the investments made in these countries or the future of the Group's business dealings.

High concentration among Orange's critical suppliers creates a risk for the Group's business.

Orange's critical suppliers, in particular in the network infrastructure, IT systems and mobile handset sectors, operate in highly concentrated markets. This concentration poses a risk to the Group's business, in the event that one of these suppliers defaults or decides to change its business practices, regardless of the causes, including the introduction of international economic sanctions against these critical suppliers or their country of origin. Orange's business, profits and reputation could be affected as a result.

Orange's technical infrastructure is vulnerable to damage caused by intentional or accidental damage, or natural disasters whose increasing frequency is caused by global warming.

A natural disaster, intentional damage in the course of wars, terrorist acts, social unrest, or other accidental events such as fires, may cause significant damage to Orange's installations, potentially giving rise to service interruptions and generating high repair costs. The frequency and intensity of weather events related to climate change (floods, storms, heat waves) seem to be increasing, which could aggravate accidents and increase related damage. In the longer term, rising sea levels could affect sites and facilities near the coast. More generally, the damage caused by major disasters may have consequences resulting in substantial costs remaining to be supported by Orange beyond the amounts covered by insurance, thereby impacting its financial position and outlook.

The rapid growth in uses and the development of networks and technologies allow global players in the Internet sector to establish a direct link with Orange's customers.

The growth in network usage for value-added services has resulted in the emergence of powerful players, Over-The-Top (OTT) service providers and Internet giants. Competition with these players extends to individual access services offered by technological advances and the multiplicity of connected devices. This development could potentially marginalize the position of operators such as Orange, for which the direct relationship with customers adds value. Losing part or all of this direct relationship to other players could affect Orange's revenues, margins, financial position and outlook.

Orange is exposed to risks of disclosure or inappropriate modification of data in its possession belonging to stakeholders other than an individual (natural person) [(1)], in particular as a result of cyber-attacks.

Orange's activities expose it to risks of loss, disclosure, unauthorized communication to third parties or inappropriate modification of data stored on its infrastructures or carried by its networks, belonging to third parties other than individuals, such as business customers or government authorities, suppliers or partners, or any other third party or economic player.

These risks may materialize (i) from the implementation of new services or applications, (ii) from the development of new activities in the field of connected devices, (iii) from malicious acts (such as cyber-attacks) particularly aimed at data in Orange's possession, or (iv) possible negligence or errors within Orange or the Group's outsourcing partners.

Should these risks materialize, the Group's liability may be invoked and its reputation considerably affected, which would have a significant impact on its future earnings.

Orange's strategy of diversification to find new sources of growth may fail to bring the expected returns and Orange may be undermined by a business model or a disruptive innovation to which it is unable to adapt.

Orange's strategy is to diversify its business with a particular focus on mobile financial services (including *Mobile Banking*), connected objects and cybersecurity. Although building on the Group's strengths (digital expertise, distribution power, capacity for innovation and brand image),

(1) See Section 2.1.4 *Non-financial risks* for personal data.

the development of these new businesses requires substantial resources, without any guarantee that the corresponding services will gain sufficient traction to generate a return on these investments.

In addition, the development of innovations and of divergent business models to which Orange may fail to adapt sufficiently quickly could cause it to lose market share and undermine its profitability and future results.

The brand policy combined with a strategy of geographic expansion and diversification into new businesses represents an image risk for the Orange brand.

Orange has chosen growth drivers that are not necessarily in its traditional core business (such as *Mobile Banking*, cyber security), or even carrying out its business as a telecommunications operator in emerging markets where the political and economic context may be volatile. Although the Group pays close attention to preserving the value of the Orange brand, which constitutes a major asset, operational implementation risks could adversely affect the Company's image, in particular in the mature mobile telephony sector. In the event of significant damage to the Orange brand, the Group's financial position and outlook may be affected.

The scope of Orange's business and the interconnection of the networks mean that Orange is exposed to a variety of acts of technical fraud, specific to the telecommunications or mobile financial services sector.

Orange faces risks of different types of fraud relating to its telecommunications or mobile financial services, which may affect it directly, or affect its customers. In a context of increasingly complex technologies, network virtualization and the faster implementation of new services or applications, types of fraud that are more difficult to detect or control may also appear, encouraged by the development of mass data processing, which increases the scope for possible attacks, particularly cyber-attacks. Should a serious case of fraud occur, Orange's revenues, margins, quality of service and reputation could be affected.

2.1.2 Legal risks

Orange operates in highly regulated markets and its business activities and results could be materially affected by legislative or regulatory changes, including those with extraterritorial scope, or by changes in government policy.

In most countries in which it operates, Orange has little flexibility to manage its business activities as it must comply with various regulatory obligations governing the provision of its products and services, primarily relating to obtaining and renewing telecommunication licenses, as well as to oversight by authorities seeking to maintain effective competition in the electronic communications markets. Furthermore, Orange faces regulatory constraints in some countries as a result of its historically dominant position in the fixed telecommunications market.

Orange's business activities and profits may be materially adversely affected by legislative or regulatory changes, sometimes of an extraterritorial nature, or by changes to government policy, and in particular by decisions taken by regulatory or competition authorities in connection with:

- amendment or renewal on unfavorable conditions, or even withdrawal, of fixed-line or mobile operator licenses;
- conditions governing network access (primarily those in connection with roaming or infrastructure sharing);
- service rates;
- the introduction of new taxes or increases to existing taxes for telecommunications companies;
- consumerism legislation;
- merger policy;
- regulations affecting operators of competing sectors, such as cable;
- regulations governing data security;
- regulation of banking and financial activities and any similar regulations requiring compliance such as laws and rules on economic sanctions.

Such decisions could materially affect the Group's revenue and results.

For further information on risks related to regulations, see Section 1.7 *Regulation of activities*.

Orange is continually involved in disputes, in particular with regulatory authorities, competitors or government agencies, the outcome of which could have a material adverse effect on its results or financial position.

Orange believes that, on a general basis and in all countries in which it is present, it complies with all the specific regulations in force, as well as the conditions governing its operator licenses. However, the Company is not able to predict the decisions of oversight and legal authorities who are regularly asked to rule on such issues. Should Orange be ordered by the relevant authorities in a country in which it operates, to pay damages or a fine or suspend certain of its activities, due to non-compliance with an applicable regulation, the Group's financial position and results could be adversely affected.

In addition, Orange – particularly in France and Poland – is frequently involved in legal proceedings with its competitors and with the regulatory authorities due to its dominant position in certain markets, and the complaints filed against Orange may be substantial. In the past, the Group has been fined several tens of millions of euros and even several hundreds of millions of euros for concerted practices or for abuse of a dominant position. Finally, the Group may be the object of substantial commercial lawsuits with potentially very significant penalties. The outcome of lawsuits is inherently unpredictable.

In the case of proceedings involving European Competition Authorities, the maximum fine provided for by law is 10% of the consolidated revenue of the company at fault (or the Group to which it belongs, as the case may be).

The main proceedings involving Orange are detailed in Note 9 *Taxes* and Note 16 *Litigation* to the consolidated financial statements. Developments in or the results of some or all of the ongoing proceedings could have a material adverse effect on Orange's results or financial position.

2.1.3 Financial risks

Liquidity risk

Orange's results and outlook could be affected if the terms of access to capital markets become difficult.

The tightening of prudential rules for the financial sector resulting from the "Basel III" and "Solvency II" regulations which seek to strengthen the banks and insurance companies' equity, will compel companies to increase the share of their financing from the bond markets.

Orange finances itself mainly through the bond markets. An unfavorable development in the macroeconomic context could restrict or make significantly more expensive Orange's access to its usual sources of financing through an increase in market rates and/or the margins applied to its borrowings.

Any inability to access the financial markets and/or obtain financing on reasonable terms could have a material adverse effect on Orange. The Group could, in particular, be required to allocate a significant portion of its available cash to service or pay off debt, to the detriment of investment or shareholders' remuneration. In all cases, Orange's results, cash flows and, more generally, financial position and flexibility may be adversely affected.

See Note 12.3 *Liquidity risk management* to the consolidated financial statements, which sets out, in particular, different financing sources available to Orange, the maturity of its debt and changes to its credit rating, as well as Note 12.4 *Financial ratios*, which contains information on the limited commitments of the Orange group in relation to financial ratios and in the event of default or material adverse change.

Risk of asset impairment

Changes affecting the economic, political or regulatory environment may result in asset impairment, particularly of goodwill.

At December 31, 2018, the gross value of goodwill recognized by Orange following completed acquisitions and disposals was 32.9 billion euros, not including the goodwill of associates and joint ventures.

The book values of long-term assets, including goodwill and fixed assets, are sensitive to any change in the business environment that is different from the assumptions used. Orange recognizes assets as impaired if events or circumstances occur that involve material adverse changes of a permanent nature affecting the economic environment or the assumptions and targets used at the time of the acquisition.

Over the past five years, Orange recognized significant impairment losses in respect of its interests in Poland, Congo (DRC), Cameroon and Egypt. At December 31, 2018, the cumulative amount of goodwill impairment was 5.8 billion euros, not including the goodwill impairment of associates and joint ventures.

New events or adverse circumstances could conduct Orange to review the present value of its assets and to recognize further substantial impairment that could have an adverse effect on its results.

In addition, in the case of disposals or listings on a stock exchange, the value of certain subsidiaries could be affected by changes in the stock and debt markets.

For further information on goodwill and recoverable amounts (particularly key assumptions and sensitivity), see Note 7 *Impairment and Goodwill* and Note 8.2 *Impairment of fixed assets* to the consolidated financial statements and Section 3.1.2.2 *From Group adjusted EBITDA to operating income*.

Market risks

Interest rate risk

Orange's business activities could be affected by interest rate fluctuations.

In the normal course of its business, Orange obtains most of its funding from capital markets (particularly the bond market) and a small part from bank loans.

Since most of its current debt is at a fixed rate, Orange has limited exposure to increases in market interest rates. The Group remains exposed to a sustained ongoing increase in interest rates for future financing.

To limit exposure to interest rate fluctuations, Orange from time to time makes use of financial instruments (derivatives) but cannot guarantee that these transactions will completely limit its exposure or that suitable financial instruments will be available at reasonable prices. In the event that Orange cannot use financial instruments or if its financial instrument strategy proves ineffective, cash flows and earnings may be adversely affected.

In addition, the costs of hedging against interest rate fluctuations could, generally, increase in line with market liquidity, banks' positions, and, more broadly, the macroeconomic situation (or how it is perceived by investors).

The management of interest rate risk and an analysis of the sensitivity of the Group's position to changes in interest rates are set out in Note 12.1 *Interest rate risk management* to the consolidated financial statements.

Foreign exchange risk

Orange's results and cash position are exposed to exchange rate fluctuations.

In general, currency markets remained highly volatile in 2018, particularly in emerging countries, which has not curbed uncertainty over exchange rate trends.

The main currencies in which Orange is exposed to a major foreign exchange risk are the Polish zloty, the Egyptian pound, the US dollar and the British pound sterling. Intra-period variations in the average exchange rate of a particular currency could significantly affect the revenue and expenses denominated in that currency, which would significantly affect Orange's results, as happened, for example, with the near 50% devaluation of the Egyptian pound in November 2016. In addition to the main currencies, Orange operates in other monetary zones, in particular in Africa & Middle East. Depreciation of the currencies in this region would have an adverse effect on the Group's consolidated revenue and earnings. Based on 2018 data, the theoretical impact of a 10% rise against the euro in the main currencies in which the Group's subsidiaries operate would reduce consolidated revenue by 858 million euros (-2.07%) and reported EBITDA by 258 million euros (-2.15%).

When preparing the Group's consolidated financial statements, the assets and liabilities of foreign subsidiaries are translated into euros at the fiscal year closing rate. This translation could have a negative impact on the consolidated balance sheet, assets and liabilities and equity, for potentially significant amounts, as well as on net income in the event of disposal of these subsidiaries.

The management of foreign exchange risk and an analysis of the sensitivity of the Group's position to changes in foreign exchange rates are set out in Note 12.2 *Foreign exchange risk management* to the consolidated financial statements.

Orange manages the foreign exchange risk on commercial transactions (stemming from operations) and financial transactions (stemming from financial debt) in the manner set out in Note 12.2 *Foreign exchange risk management* to the consolidated financial statements.

Notably, Orange makes use of derivatives to hedge its exposure to foreign exchange risk but cannot guarantee that suitable hedging instruments will be available at reasonable prices.

To the extent that Orange has not used hedging instruments to hedge part of this risk, its cash flows and results could be affected.

See Note 11.8 *Derivatives* to the consolidated financial statements.

Credit-rating risks

A change in the outlook for Orange's credit rating could increase its borrowing costs and in certain circumstances Orange's access to the capital it needs could be limited.

Orange's credit rating from rating agencies is partly based on factors over which it has no control, namely conditions affecting the telecommunications industry in general or conditions affecting certain countries or regions in which it operates. It may be changed at any time by the rating agencies, in particular as a result of changing economic conditions, a downturn in the Group's results or performance or changes to its investor base. A prolonged multi-notch downgrade in Orange's rating would have a material adverse effect on its results and financial position.

Credit risk and/or counterparty risk on financial transactions

The insolvency or deterioration in the financial position of a bank or other institution with which Orange has a financial agreement may have a material adverse effect on Orange's financial position.

In the normal course of its business, Orange uses derivatives to manage exchange rate and interest rate risks, with financial institutions as counterparties. Cash collateral is lodged with all bank counterparties with which the derivatives are contracted. Nevertheless, a residual credit risk may remain if one or more of these counterparties default on their commitments.

Moreover, Orange may in future have difficulties using its 6 billion euro undrawn syndicated credit facility, whose maturity date is 2023, if several of the banks with which the Company has agreements were to face liquidity problems or could no longer meet their obligations.

Finally, the investment of its available cash exposes Orange to counterparty risk if the financial institutions where it has invested should go bankrupt. See Note 12.5 *Credit risk and counterparty risk management* to the consolidated financial statements.

The international banking system is such that financial institutions are interdependent. As a result, the collapse of a single institution (or even rumors regarding the financial position of one of them) may increase the risk for the other institutions, which would increase exposure to counterparty risk for Orange.

For customer-related credit and counterparty risk, see Note 4.3 *Trade receivables* and Note 12.5 *Credit risk and counterparty risk management* to the consolidated financial statements.

2.1.4 Non-financial risks

The various non-financial risks, included in the scope of Orange's Consolidated Non-Financial Statement (CNFS) have been identified and assessed, and are managed using the same methodology used for operational risks related to its business, legal risks and financial risks.

As part of the CNFS, Orange presents the material employee-related, environmental and social risks to which its business may give rise, whether to itself or its stakeholders, as well as corruption risks and matters relating to combating tax avoidance and to business ethics. These risks are assessed in line with the Group's materiality matrix.

Combating tax avoidance, food waste and food insecurity, respect for animal well-being and responsible food practices, were all taken into account as part of Orange's non-financial risk assessment. However, they were not considered likely to give rise to risks to the Group's operations or reputation.

Following cyber-attacks especially, Orange is exposed to risks of disclosure or inappropriate modification of personal data, in particular customer data. These risks have increased due to its diversification into mobile financial services.

With regard to the risk of breaching human rights and fundamental freedoms, Orange's business activities expose it to risks of loss, disclosure, unauthorized communication to third parties or inappropriate modification of the personal data of its customers, employees or the general public which are stored on its infrastructures or carried by its networks. This includes their bank details in particular, which are, moreover, the basis of Orange's mobile financial services business.

These risks may notably materialize from (i) the implementation of new services or applications, (ii) the development of new activities in the field of connected devices or mobile services, (iii) malicious acts (such as cyber-attacks) particularly targeting personal data (iv) possible negligence or errors within Orange or the Group's outsourcing partners or (v) government requests without any respect for legal or regulatory formalities (see below for more information on this last point).

Orange may be held liable in various countries under laws that are being increasingly tightened (such as the General Data Protection Regulation (EU) 2016/679 of 27 April 2016, or GDPR) and that strengthen individual rights and obligations on data processors such as operators and providers of financial services.

Should these risks materialize, owners of the disclosed or modified data may incur considerable losses, the Group's liability may be invoked and its reputation and image substantially affected.

Orange is exposed to risks of corruption, or behavior by individuals or groups that does not comply with its business ethics, or even fraudulent behavior.

Through its activities,as well as those of its suppliers, subcontractors and partners, all throughout the world, and despite its efforts to reinforce its anti-corruption policy, Orange may be exposed to or implicated in matters relating to corrupt practices, or may fall victim to behavior that is fraudulent or does not comply with the international conventions to which it is a signatory, to its Code of Ethics, or to its Supplier Code of Conduct, by persons or businesses with which direct or indirect ties may be established. Furthermore, specific difficulties or risks relating to non-compliance with applicable anti-corruption laws and regulations may arise, particularly if the strengthened internal control system currently in place proves insufficient. These behaviors may target Orange directly, its customers, its business relations or its employees.

In any event, the Group's liability may be invoked, and Orange's revenues, margins, quality of service and reputation could be affected.

In the future, Orange may find it difficult to obtain and retain the skills needed for its business due to numerous employee departures and changes in its activities.

The high number of retirements and employees working part-time at the end of their careers in France as well as the new skills required in relation to the development of new technologies and the Group's development priorities in high-demand segments of the employment market, may affect Orange's capacity to continue its business activities efficiently and successfully implement its strategy. Should these risks materialize, Orange's profits and outlook may be affected and some of the human risks described below may increase.

Orange faces a variety of internal and external human risks relating to health and safety.

Orange's promise to be a people-oriented and digital employer, inscribed in the *Essentials2020* strategic plan, could be affected by various human factors related to personal safety, psycho-social risks, and to increased tensions and social unrest in certain countries or areas. Should these risks materialize, their consequences may be a source of physical or psychological incapacity for individuals. These risks could also slow the roll-out of the Group's strategy and have a material impact on the Group's image, operations and results.

Exposure to electromagnetic fields of telecommunications equipment, as well as the excessive or inappropriate use of telecommunication services and equipment may be potentially harmful to people's health.

Following concerns raised in many countries regarding the possible health risks linked to exposure to electromagnetic fields from telecommunications equipment, public authorities have in general approved binding regulations and health authorities have issued various usage precautions.

The perception of a risk by the public could lead to a decrease in the number of customers and in their usage, lower consumption per customer, an increase in lawsuits, particularly against the installation of mobile antennas, difficulties in opening new sites, thus jeopardizing the deployment of 5G networks, and the tightening of regulations, with, as a consequence, a reduction in coverage areas, deterioration of service quality and an increase in network roll-out costs.

Consensus exists among health experts and health authorities, including the World Health Organization (WHO), that, so far, no health risks from exposure to electromagnetic fields below the limits recommended by the specialist international commission (ICNIRP) have been identified. Nevertheless, further scientific studies must be conducted on certain frequencies used for 5G (millimeter waves). Orange cannot predict the findings of future scientific research or future studies by international organization and scientific committees called upon to examine these issues. If an adverse health effect should one day be scientifically established, this would have a significant impact on Orange's business, its brand image and the income and financial position of the Group. Beyond potential impacts on Orange, this could significantly curb the development of the digital society.

Similarly, the widespread availability of connected digital equipment may give rise to excessive use, which could have negative physical (disrupted circadian rhythm, eye strain, issues relating to a sedentary lifestyle, etc.) and mental (behavioral addiction) consequences for users, particularly young adults and children. It also increases the risk of exposure to inappropriate content, cyber bullying and misinformation, as well as the risk of information overload.

Should this widespread availability be perceived as a risk for the most vulnerable populations, it may also result for Orange in a decrease in the use of its services and damage to its reputation. Socially, the perception of this risk may result in mistrust of digital tools and may curb innovation.

The scope of Orange's business activities, its numerous locations around the world, and its business dealings with a variety of partners may expose the Group to a risk of breaching human rights and fundamental freedoms.

Through its activities, as well as those of its suppliers and subcontractors all throughout the world, Orange may be exposed to breaches of human rights and fundamental freedoms (such as forced labor, infringement of the rights of children, non-decent or discriminatory working conditions, obstruction of freedoms of association or expression, or invasion of privacy), involving third parties with whom a direct or indirect link may be established.

Should these risks materialize, they may have for Orange or for offenders with whom an established business relationship exists, a significant impact on their image and reputation, and may result in their liability being invoked.

In addition, Orange may be required, in the countries where it operates, to comply with injunctions from local authorities that do not comply with the formal legal or regulatory requirements. These injunctions may involve suspending (totally, partially, or in a certain region) the operation of certain networks operated by Orange, or intercepting communications, or disclosing personal data to third parties. Complying with such injunctions may therefore undermine freedom of expression or fundamental freedoms.

Should Orange fail to ensure compliance with applicable legislation or regulations, these injunctions may significantly impact the image or reputation of Orange or the countries concerned. For civil society or the targets of these requests, they may also involve breaching freedom of expression and respect for privacy.

The nature of its services and the development of new technologies may jeopardize the commitments made by Orange with regard to reducing its environmental impacts.

Due to the nature of its services and its social reach, Orange must offer new solutions to reduce the environmental impact of its customers, while limiting its own sources of environmental pollution and implementing the principles of the circular economy, particularly with regard to waste management. Orange has committed to reducing its CO_2 emissions per customer by 50% by 2020, based on its 2006 emissions figures. Should its environmental action plans prove insufficient, particularly during the technological transition period for the fixed network and the introduction of mobile 5G, Orange may not be in a position to uphold its commitment, which would adversely impact its image. Should Orange's contribution to combating climate change fall short of its commitments, systemic environmental risks may increase, and may have consequences for Orange's infrastructures (see Section 2.1.1 *Orange's technical infrastructure is vulnerable to damage caused by intentional or accidental damage, or natural disasters whose increasing frequency is caused by global warming*).

2.2 Activity and Risk management framework

The risk management and internal control system consists of an organizational structure, procedures and control systems implemented by Senior Management and all employees under the responsibility of the Board of Directors. It is designed to provide reasonable assurance that operating targets are met, that current laws and regulations are complied with, and that the financial and non-financial information is reliable.

In particular, it has been set up to meet our obligations under the American *Sarbanes-Oxley* Act, the Financial Security Act of July 17, 2003 and order no. 2008-1278 of December 8, 2008 transposing directive no. 2006/43/EC of May 17, 2006 on statutory audits), order of March 17, 2016 transposing directive 2014/56/EU, and Law No. 2016-1691 of December 9, 2016 on transparency, combating corruption and the modernization of the economy, the so-called "Sapin II" Law, the Law no. 2017-399 of March 27, 2017 on the duty of care of parent companies and main contractor companies, which requires the implementation of a vigilance plan, and directive no. 2014/95/EU of October 22, 2014, known as the Barnier directive, which was transposed into French law by decree no. 2017-1265 of August 9, 2017, implementing order no. 2017-1180 of July 19, 2017 on the publication of non-financial information and information on diversity by certain large companies and business groups.

This system is rolled out across all of the Group's entities, with a focus on continuous improvement. As part of the Group's policies, it engages players in the second line of control. The Group's departments in charge of security, data protection, compliance, human resources, procurement and insurance are involved in this system, supporting the operational departments. It is led by both the Group's Audit, Control and Risk Management Department, and the Group's Corporate Social Responsibility Department.

Furthermore, the Group's General Inspection Department investigates any Group entity, exclusively at the request of the Chairman, to whom it reports directly. It is informed about the work of General Control and Internal Audit and may request their input. The Group's Inspector General sits on the Risks Committee, the Ethics Committee and the Investment Committee.

In accordance with the provisions of directives 2006/43/EC and 2014/56/EU, the Audit Committee of the Board of Directors is tasked with ensuring efficiency of the internal control and financial risk management systems, in addition to reviewing exposure to social and environmental risks, in accordance with the latest amendments to the revised Afep-Medef Code of June 2018.

2.2.1 Group Audit, Control and Risk Management

The Group Audit, Control and Risk Management Department (DACRG) reports to the *Delegate* Chief Executive Officer in charge of Finance, Performance and Europe. It gathers within a single body the following functions: Internal Audit, Risk Management, General Control, Credit Management, Internal Control, Fraud, and Revenue Assurance.

Its role is to define, deploy, manage and assess the Group's risk management and activities' control system on behalf of Senior Management with a view to providing integrated assurance that offers the best balance between risks and opportunities, which truly addresses operational needs and concerns, by building on a team of experts and co-designing innovative approaches, in cooperation with the other teams responsible for Group risk management, while preserving audit independence.

At the heart of the Group's challenges and strategy, the DACRG provides this integrated assurance by supporting changes in the Group's activities. To this end, its role is to preserve revenue (collection, invoicing, payments, customer credit risk), control fraud (prevention, detection and management), support the Group Compliance Department, and strengthen governance, while offering solutions to improve risk management and thus create value through improvement initiatives.

Internal control's continuous improvement process can, for example, be seen in:

- updates of the fraud prevention processes for which updated modules are distributed on a regular basis;
- risk management training for Directors and Chief Executive Officers of subsidiaries;
- the focusing of audit work on the Group's main risks;
- and by publishing the policies and practices defined and identified in the Orange Internal Control Book (see section on Internal Control below), which may be supported by a self-assessment process covering the main activities, in order to enable entities to compare themselves against the levels of control and practices expected by the Group.

The DACRG coordinates internal control reviews involving Executive Committee members, with the internal control functions of the organization's divisions. They are designed to provide assurance that the internal control system is effective, namely that the main risks have been identified and the appropriate steps taken to limit their potential impact. Internal control reviews are part of the integrated assurance between operational functions and functions in charge of risk management.

The ACR (Audit, Control, and Risk) community, which includes all persons involved in these functions within the Group, has a charter signed by the Chairman and CEO defining the framework of the missions steered by the DACRG. The integrated assurance process (synergies among the local and central Audit, Control, and Risk functions, and with operational departments) is thus strengthened to meet the Company's targets. Within the context of the *Essentials2020* strategic plan, the ACR community and DACRG have grown stronger so as to drive international business growth as well as diversification, particularly into mobile financial services.

The DACRG's activities are in line with best practices promoted by the Institut français de l'Audit et du Contrôle Interne (IFACI) and the *Association pour le Management des Risques et des Assurances de l'Entreprise* (AMRAE).

ISO 9001 Quality Certification for DACRG

In July 2018, the DACRG's ISO 9001 certification (2015 version) was renewed by AFAQ/AFNOR. This quality approach contributes to the improvement and simplification of all processes in order to adopt best practices that meet the requirements of our stakeholders. It is in line with the DACRG's goal to become a "trusted business partner" by providing integrated assurance. DACRG's management team sets quality targets and assesses its results against these targets.

Group Internal Audit

Group Internal Audit has around 70 qualified auditors working as a shared service for all Group entities. They are for the most part located in France. Group Internal Audit comprises teams dedicated to the IT system, the networks and financial services. It cooperates with the local audit teams, in accordance with their governance rules: sharing of audit plans, follow-up of recommendations, joint audits, methodological exchanges. This mainly involves operator subsidiaries that are not 100% controlled (in Europe in particular Orange Polska and Orange Belgium, and in Africa in particular the Sonatel Group).

Group Internal Audit and Orange Polska's Internal Audit are certified on an annual basis by IFACI Certification, based on the professional guidelines for internal audits (RPAI in French). Issues may be referred directly to Group Internal Audit by the Chairman of the Audit Committee or by the Chairman and CEO. The Director of Group Audit is authorized to directly inform the Executive Committee and the Audit Committee.

Each year, the audit plan is endorsed by the Risk Committee and approved by the Audit Committee. An annual report, with the main results and findings, is also presented to the Risk Committee and then the Audit Committee.

The joint operation with Deutsche Telekom (Buyin) is subject to audits conducted jointly by the Orange group's and Deutsche Telekom's Internal Audit Departments.

By means of its audit assignments, Internal Audit helps the Group to maintain an appropriate management control system by assessing its effectiveness and efficiency and by formulating remarks and recommendations for its ongoing improvement. The recommendations arising from internal audit assignments are systematically monitored and lead in particular to action plans that are drawn up and implemented by the Group's divisions and subsidiaries. These assignments include, among others, checks performed at the request of the Group's Internal Control Department as part of the systematic assessment of internal financial control, particularly tests of the operating effectiveness of the internal control system and cyclical audits performed on the internal control system of smaller subsidiaries. Internal Audit also contributes to the approach of risk identification, assessment and processing through the results of its audit assignments and its recommendations.

Risk Management

The Group's Risk Management department defines the Group's risk management strategy and deploys its approach in this field, as part of the integrated approach promoted by the ACR charter:

- it leads the risk identification and assessment processes on behalf of the Group Executive Committee's Risk Committee (see Section 5.2.2.3 *Executive Committee and Group governance committees*);
- it monitors the corresponding action plans by calling on the network of risk managers at entities and subsidiaries;
- it provides support to all Group entities in the preparation of all kinds of risk mapping activities, in particular in cooperation with the Group's Corporate Social Responsibility Department for extra-financial risks;
- it plans for risks associated with the strategic plan, including those relating to new growth activities, in cooperation with the Group's Strategy Department.

Each risk is defined as a potential event, the consequences of which, should these risks materialize, would prevent Orange or one of its entities from carrying out its assignments, fulfilling its commitments or achieving its objectives, and could affect Orange's employees, assets, profits and financial position, the environment, or the Group or entity's reputation. The various sources of risk identification are a combination of the views of Directors and Officers of the operating entities. The cause analysis complements and refines the description of the event and influences the risk probability level. The context analysis makes it possible to characterize the risk in each particular situation, to fine-tune its causes and consequences, and to assess the probability and impacts of the risk in a way that is suited to the area of the organization where the risk is identified. Their inclusion in risk mapping reflects the principle of the prevalence in impact analysis (consequence-related) or the probability analysis (cause-related).

The Group's management teams identify and assess, at least once a year, the risks falling within their remit. Risk mapping also includes a description of action plans designed to address these risks by strengthening internal control. This forms the cornerstone on which the control systems are built.

The list of significant events, the changes to risk mapping and the monitoring of action plans are scrutinized during internal control reviews of each Department.

At Group level, risks are monitored by the Group Executive Committee's Risk Committee. The overall risk Management Report is reviewed at least once a year by this Risk Committee and presented to the Directors at a joint meeting of the Board of Directors' committees, during which major risks are discussed in the presence of the directors concerned. This approach includes a review of all of the risks described in Section 2.1 *Risk factors* in this document.

General Control

General Control involves, at the request of Executive Committee members or their respective management committees, or following a report from the ethics whistleblowing mechanism, investigations on matters involving employees that may run counter to the Group's interests. These matters may involve instances of fraud, conflicts of interest, damage to Group assets, behavioral problems and in general any acts by employees that conflict with Group rules. In this respect, General Control works in a complementary manner to the various departments within the DACRG as well as to Group General Inspection. General Control is represented in France by investigation units and at Group level for international cases by general controllers. Certain countries like Poland, Spain, Romania and Senegal established dedicated internal units that work closely with General Control.

Credit Management

The Group's Credit Management Department is charged with minimizing the financial risks associated with the credit granted to our customers. Its purpose is to have a consolidated vision of the credit risks with our clients and partners (quarterly credit committee) and to implement tools that allow these risks to be managed. In order to do this, it depends on local teams or contacts and on the processes in place in each operational entity.

It disseminates the culture of credit management within the Group and facilitates the sharing and circulation of information.

Internal control

Group Internal Control draws up and implements the Internal Control strategy within the Group. To this end, it defines a methodology, a process and the necessary tools for its application. It rolls them out annually, particularly as regards:

- the updating and distribution of a set of policies and practices defined by the Group with the relevant Group functions and domains, *Orange IC Book*;
- the internal control self-assessment program, on the bases of the *Orange IC Book* among others; the aim is to identify the main improvements required to the internal control system and to implement corrective actions. Where necessary, internal audits allow to make sure of the self-assessment findings and the relevance of the action plans;
- *Sarbanes-Oxley* certification for financial internal control.

Group Internal Control coordinates the local internal control functions and the persons in charge of the control environment domains, giving them support and advice to ensure the quality and the control of their system. The role of the local internal control functions is to assist the operating managers of their entities, in order to help them structure and maintain an efficient internal control system, which meets both their own and the Group's requirements. Within their own entity, they apply the risk and activity management directives issued by the Group, and ensure the smooth running of the system at their own level.

Group Internal Control agrees to an annual action and evaluation program for each of these scopes (areas, divisions, and entities), which is rolled out locally. It supports the departments with internal control assignments designed to provide reasonable assurance that activities are properly controlled in a number of areas (e.g. compliance with laws and regulations, governance, operational or decision-making processes, integration of new entities, etc.).

Among its recurring actions, it provides monitoring for governance committee heads (see Section 5.2.2.3 *Group Executive Committee and governance committees*) and coordinates the organization of internal control reviews involving Executive Committee members, with the support of the DACRG, the Group Security Department, and Group Compliance.

Working with the Mobile Finance Division, the internal control departments at the other divisions and entities, and Internal Audit and the Compliance Department, the Group Internal Control Department has ensured that the Internal Control system is appropriate for controlling activities and meeting our regulatory obligations (against money laundering and terrorist financing, banking obligations).

The internal control evaluation is presented to the Group Risks Committee and then to the Audit Committee.

Fraud and Revenue Assurance

Revenue recognition in the telecommunications industry is based on data capture, involving various components of network access – managing and collecting uses –, recovery via the IT systems – supporting the customer bases and recovery of individual items –, and recording via the accounting and financial systems – supporting the production of financial statements. The complexity of this technical and commercial architecture has led Orange, through its Fraud and Revenue Assurance Department, to develop its own revenue protection strategy; this is underpinned by a methodology ensuring the correct measurement, substance, comprehensiveness and valuation of the individual elements underpinning our customer invoicing, through a risk-oriented overview of the entire process chain.

Group Fraud and Revenue Assurance (GFRA) also defines the Group's strategy and approach to fraud prevention and detection, as well as to the assurance of revenue. To support the deployment of this strategy, GFRA works very closely with their Internal Control and Risk Management colleagues, along with other corporate and local entity teams.

Orange has adopted an approach based on anticipation and risk analysis to manage fraud. GFRA constantly monitors existing and emerging risks of fraud, as well as any new fraud-related legislation. This enables Orange to adapt its anti-fraud strategy accordingly. GFRA maintains the Group's fraud risk map, which covers all anticipated risks in this domain (including, for example, fraud in the financial statements, technical (cyber) fraud, identity theft and social engineering fraud, missing trader VAT carousels, and combating terrorist financing and money laundering).

Orange has preventative controls in place to reduce the probability of frauds which may constitute a major risk.

Since prevention cannot be 100% effective, the Group has also defined a control framework designed to detect instances of fraud. Any cases or suspicions identified through these controls are investigated and are processed in compliance with the law and our ethical standards.

Orange believes that in order to manage fraud risk and to assure revenue, the cost of fraud and revenue leakage must be managed at a local level and consolidated at Group level, allowing major incidents to be analyzed and treated, and any emerging trends identified. With regard to the production of Group financial information, the approach defined by GFRA includes such applicable risks as frauds committed by management or fraud within the financial statements.

Detecting fraud is the responsibility of management, which is assisted by GFRA and local fraud detection specialists in the Group entities.

A Group whistleblowing mechanism is in place, as provided for under the *Sarbanes-Oxley* Act, the so-called "Sapin II" Law of December 9, 2016 and the French Law of March 27, 2017 relating to the duty of care of parent companies and contracting companies. This system is presented in Section 2.2.4.1.2.

When internal fraud is strongly suspected, investigations are generally entrusted to specialized services, in particular to General Control. Investigation services are responsible for establishing the existence of facts. In the event of internal fraud, Company management determines the penalties. For all cases detected (internal or external fraud), the civil, criminal, or legal consequences are considered after the recommendations of the Company's Legal Department.

Fraud cases are analyzed by GFRA in order to assess control measures and therefore better prevent and detect similar fraud cases, in an effort to ensure continuous improvement.

A summary report on fraud prevention and detection is reviewed at least once a year by the Group Risks Committee and presented at a joint meeting to the Board of Directors' committees.

2.2.2 Group Corporate Social Responsibility

The Orange Group's Corporate Social Responsibility (CSR) activities are coordinated by a dedicated team, reporting to the Senior Executive Vice-President, Corporate Social Responsibility, Diversity, Partnerships and Inclusiveness. She regularly reports to Orange's Executive Committee and Board of Directors, through the work of the Governance and Social and Environmental Responsibility Committee (GCSER), on the Group's actions and guidelines in the areas of corporate, social and environmental responsibility (including climate change). Some of the main items presented to the GCSER include the CSR strategy and road map, the Group's vigilance plan and its progress report, and the Consolidated Non Financial Statement (CNFS). Orange will be strengthening its governance in terms of sustainable performance, by creating a Committee led by members of the Group's Executive Committee.

The CSR Department is itself organized by business areas (Responsible Marketing, Corporate & Social Issues, Environment) and cross-functional departments (Communication, Transformation & Operations). It relies on a network of CSR managers, coordinated by the Group CSR team, who contribute to the operational deployment of this approach.

Based on constructive listening to the Group's stakeholders, and an internal culture that promotes innovation, the commitment as corporate citizen gives the same meaning to all the activities: making the most of digital technology to drive progress for all. An integral part of the Group's strategy, the CSR policy mobilizes its subsidiaries around three drivers of sustainable performance: building the confidence of customers, supporting local economic and social development in each territory and managing environmental balance.

Orange implements the principles of inclusion, materiality and responsiveness as defined in the AA1000 APS (2008), the international reference for Corporate Social Responsibility that focuses on taking stakeholders' requirements into account. The Group also takes into account the principles defined by the ISO 26000 standard on Corporate Social Responsibility, as well as the guidelines set out by the Global Reporting Initiative (GRI) standard, and aligns its publications with the recommendations of the TCFD (Task Force on Climate-related Financial Disclosures).

To ensure the reliability of indicators and manage the proper implementation of the Group's commitments in its various business units, Orange has carried out an external verification of its CSR policy and achievements by one of its Statutory Auditors for several years, in order to obtain a reasonable assurance report on selected CSR information (see Section 4.7 *Report by one of the Statutory Auditors*).

2.2.3 Specific financial internal control procedures

The specific internal financial control procedures relate to the preparation and treatment of accounting and financial information, and the work on internal control carried out pursuant to section 404 of the *Sarbanes-Oxley* Act. In addition, an insurance policy translates certain operational risks into financial commitments.

2.2.3.1 Specific internal control procedures pertaining to the preparation and processing of accounting and financial information

The Group Accounting Department and Group Management Control Department, which also report to the Chief Executive Officer Finance, Performance and Europe, play a decisive role in the internal control system.

The Group Accounting and Group Controlling Departments have the following key duties:

- producing the Group's consolidated financial statements and the statutory financial statements for Orange SA and certain French subsidiaries within time frames that meet financial market requirements and legal obligations while guaranteeing that the statements provide a true and fair view of the Company in compliance with the accounting policies adopted by the Group;
- preparing the management reports on the statutory and consolidated financial statements and producing the necessary documentation for financial communication of results and the summary of management reporting for the Executive Committee;
- managing the monthly and quarterly reporting cycle allowing management to measure the Group's performance on a regular basis;
- designing and implementing Group methods, procedures and standards frames for Accounting and Management Controlling;
- identifying and carrying out the necessary changes to the Group's accounting and financial information systems.

Within these departments, the internal control of accounting and financial information is organized around the following elements:

- the Disclosure Committee (see Section 5.2.2.3);
- the Group Accounting and Controlling function;
- unified accounting and management reporting; and
- Group-wide accounting standards and methods.

Unified accounting and management reporting

All of the Group's entities participate in the Group's management and monitoring cycle, which is composed of three basic components:

- the forecasting process (plan, budget, and periodic internal provisions);
- the process for producing statutory accounts and the Group's consolidated financial statements; and
- the management reporting process.

The forecasting process (plan, budget, and periodic internal provisions)

The Group budgeting process requires regular updates of internal projections and management's involvement. It is worked out by country and division, business unit, and Group subsidiary.

The budget must reflect the Group's ambitions at each level of the organization. It includes a yearly goal based on year one of the multi-year plan and forecasts that are updated in May, including an updated second-half goal, and in October-November to better evaluate target figures for year-end.

The budget dossier is composed of:

- packages of financial data, along with comments summarizing, in particular, major actions;
- capital expenditure by project;
- an analysis of risks and opportunities.

As part of the budget process, the divisions establish and analyze the performance indicators. The budget is established on a monthly basis so to be used as a reference for the Group's monthly reporting.

Moreover, the Group draws up a multi-year plan with the main Group entities, setting out the medium-term financial trajectories for the Group and its main entities.

Process of preparing the companies' statutory financial statements and the Group's consolidated financial statements

The financial statements of Orange are prepared in accordance with the following principles:

- performing a pre-closing of accounts at the end of May and the end of November;
- anticipating the use of estimates and the treatment of complex accounting operations;
- and formalizing closing processes and schedules.

As such, documenting the processes leading to the production of financial information up to the filling of consolidation packages constitutes a common framework for all contributors, thus strengthening internal control within the accounting and management controlling function.

Instructions from the Consolidation department specifying the process and agreed timeline for each closing are circulated within the Group, and then broken down by subsidiary.

Consolidation packages are created monthly by each entity of the Group, according to IFRS accounting policies, and entered in the Group's consolidation and reporting tool.

The Group's principles, when they are compatible with the local rules applicable to the statutory financial statements, prevail, in order to limit subsequent restatements. However, in the event that principles inconsistent with those of the Group are applied in an entity's statutory financial statements and have a significant impact on measuring earnings and assets, the entity restates those items for consistency.

Identification, regular measurement, and reconciliation of accounting methods between statutory financial statements and Group standards are the responsibility of each entity.

The identification and assessment of unrecognized contractual commitments are covered by a specific report drawn up annually by the Legal and Finance Departments, working in close collaboration. The main contractual and regulatory commitments made by the Group, likely to have a material impact on its financial position, are made known the Claims and Commitments Committee (see Section 5.2.2.3 *Executive Committee and Group governance committees*).

Management reporting process

The reporting process is a major element in the control and financial information process. It is a major tool for monitoring, controlling, and for the Group's General Management. The reconciliation of accounting and forecast data, along with the monthly review at each level of the Group contributes to the quality and accuracy of the information produced. This method, established by the Controlling and Accounting Departments, is repeated in all entities of the Group and at each level of the organization (business unit, division and Group).

The definition of Group report contents and media that are used to track the achievement of Group objectives is established on a regular and consistent basis. The financial data in reporting come primarily from the Group consolidation and reporting tool, and the reporting formats are standardized. The reports are validated by the country financial controllers.

This reporting allows to track the Group's management and performance indicators, and is articulated around the following:

- a monthly performance chart aiming to provide the Chairman and CEO and the Executive Committee with the key operating indicators for the Group and the major events and alerts for the month;
- monthly reports broken down by published segment, line of business, and country; these include financial and operating indicators.

Business reviews at the Executive Committee level are organized by country under the authority of the *Delegate* CEO in charge of Finance, Performance and Europe. Their purpose is to pilot the activity and review the updated end-of-year forecast. These monthly reviews are attended by the Group Finance Department with the country's Manager and finance function. The Chairman and CEO participates in the quarterly reviews. These reviews are based on a formalized report structure. Gathering of information for these reports is organized for each country according to the Group's reporting instructions.

Group-wide accounting standards and methods

In order to draw up projected and actual consolidated statements, the Group has opted for the unification principle which implies:

- homogeneity of the reference system, the accounting methods and consolidation rules;
- the standardization of reporting formats;
- and the use of a common consolidation and reporting application within the Group.

Within the Group's Accounting Department, the Department of Accounting Principles is responsible for defining and disseminating the Group's accounting policies under IFRS standards. It also keeps an eye on norms evolution and formalizes on a systematic and structured basis the IFRS Group accounting policies through the

Group's accounting manual, closing instructions, and information or training meetings.

This system is completed by the existence of accounting principles correspondents in the countries and divisions. It identifies accounting problems encountered locally, disseminates the Group's accounting policies in divisions, countries, entities and accounts departments and ensures that the training needs of personnel with responsibility for the efficient application of the Group's accounting policies are met.

ISO 9001 Quality Certification for the Accounting Department

Since 2001, Orange SA has obtained the ISO 9001 v2000 standard certification in the area of ISO Management for accounting services in France, issued by AFAQ/AFNOR. Since 2007, all of the departments in the Group Accounting Department based in France have received ISO 9001 v2000 certification. It was decided that, starting from 2010, the process for the ISO 9001 v2008 and V2015 standard awarded by AFNOR would be renewed for new three-year certification cycles.

This approach allows for each accounting process, to look for ways of improving, simplifying, and adopting best practices, so that the financial statements can be produced in a timely manner and so that they meet satisfactorily the regulatory quality standards.

The management of the accounting function annually clarifies quality targets, namely: improving the performance and services provided, building its partners' trust, and increasing the professional standards of all involved.

2.2.3.2 Summary of works on Internal Control implemented under Section 404 of the *Sarbanes-Oxley* Act

Because it is listed on the New York Stock Exchange, Orange is subject to the US *Sarbanes-Oxley* Act.

In accordance with the provisions of Article 404 of this Act, the Chairman and CEO and the *Delegate* CEO in charge of Finance, Performance and Europe must prepare a report in which they make a statement about the effectiveness of internal controls in the production of the Group's financial statements, prepared in accordance with IFRS standards and presented in the Annual Report (*Form 20-F*) that is filed with the Securities and Exchange Commission (SEC) in the United States. The Statutory Auditors make their own internal control evaluation. The Management and Statutory Auditors Reports appear annually in the Annual Report on *Form 20-F*.

To better meet the requirements of Article 404 of the Act, Orange, under the Group's Internal Control Department, implements a permanent program to reinforce the internal control culture across the entire Group.

By applying standards issued by the SEC, Orange is targeting its internal financial control system on significant risk areas, enabling it to be more relevant and more effective and to limit the Group's assessments to the controls covering these risk areas.

Where the reliability of its financial information is concerned, Orange relies on an internal control organization based on the internationally recognized framework of the 2013 Committee of Sponsoring Organizations (COSO) of the Treadway Commission. Orange classifies the five component parts of the COSO under two headings:

- control environment (governance committees, overall policies and procedures); and
- operational control (flows and processes).

The annual work program, which covers the control environment and the operational control, is made up of the following main actions, based on the risks that have been identified:

- identification of consolidation scope: Group Governance Committees, as well as areas relevant to the control environment and consolidated entities, whose scope is in line with the audit of the financial statements;
- scoping: identification by entity of the areas relevant to the control environment as well as flows and information systems supporting these flows;
- documentation on the internal control system implemented and the assessment of its effectiveness.

The Group has excluded from the scope of its assessment of internal control over financial reporting the operations and related assets of the following entities acquired in 2018: Business & Decision group, Basefarm group, Enovacom group and Republica de Comunicaciones Moviles. These entities are included in the 2018 consolidated financial statements of the Group and constitute 0.4% of the total revenue and 0.2% of the total assets.

Financial internal control's assessment work takes into account the internal audit work and risk management analyses, as well as work on fraud (prevention, detection, and investigations).

Furthermore, the Statutory Auditors carry out an independent evaluation of the financial internal control system.

The evaluation for the 2018 fiscal year did not reveal any material weakness. The Chairman and Chief Executive Officer and the *Delegate* Chief Executive Officer in charge of Finance, Performance and Europe therefore noted the operational effectiveness of the internal control system relating to the preparation of the financial statements.

2.2.3.3 Insurance

As part of its insurance policy, Orange has negotiated an insurance plan with the insurance and reinsurance market to cover its main risks. It is based on programs that are regularly reviewed as part of calls for tenders organized to select brokers and insurers.

This insurance plan is designed to optimize the terms of transfer, based on the quality of coverage offered and its cost. In addition to this objective, there is also a security objective, which takes the form of a contractual, required level of solvency for participants, which is essential to their continued participation in the subscribed insurance program.

This insurance plan reflects the nature of the Orange Group's risks, and is adapted to the capacities offered by the markets to international companies of comparable size operating in similar business sectors. The suitability of the Group's existing programs in meeting its needs is confirmed by the publication of regular studies and benchmarks.

This policy has also made it possible to expand the scope of insurance coverage to nearly all of the Group's subsidiaries (>90% of revenues. Subsidiaries have been gradually integrated into the insurance umbrella taking into account the regulatory changes affecting the regional locations of our assets and activities.

In addition, the insurance policy in place includes a risk management strategy designed to identify any Group vulnerabilities and implement preventive actions in line with the development of the Group's business, sites and environment. It organizes regular visits to Orange's main sites in France and abroad, in partnership with the engineering of our insurers and brokers, which reinforces this strategy.

The transformation of a primarily telecoms business into a multi-services operator generates new risks, requiring it to constantly adapt financing in line with the nature of the business activities, as well as constant revaluation. Our insurers and service providers are informed of these developments through periodic discussions.

Furthermore, the Group Insurance Division works with the relevant Group entities, providing expertise and support for contractual loss prevention techniques written into agreements with customers and suppliers.

The main insurance policies that make up the current plan are designed to protect against the following risks:

- risks of damage to property and substantial financial losses and technology risks;
- third-party and customer civil liability risks incurred during the management of the Company and the performance of its activities;
- risks associated with the Company's vehicle fleets.

The risk of damage to the telephone poles and open-wire lines of the overhead fixed-line network due to natural disasters remain self-insured. The resulting financial expenses are monitored in consultation with the Group's in-house experts and the relevant broker. Regarding these expenses, the Group does not consider the case has been made for an alternative financial structuring of these risks, and the traditional markets (insurance and reinsurance) do not offer an adequate risk transfer solution.

Specific policies are negotiated and set up, including:

- assistance for employees on business trips or who are expatriated;
- work site insurance (real-estate or construction projects);
- new activities (financial activities, banking).

The total cost of insurance cover provided by the Orange group program in 2018 amounted to approximately 0.04% of revenue for the fiscal year.

Moreover, through its self-brokerage insurance firm, the Group contributes to the design of programs to enrich the products and services offered to customers.

The Group Insurance Division's management process, which involves various outside parties (consultants and brokers) at different stages, encompasses internal controls including the control environment, governance and ethics. Some of these areas have been assessed by the Group's internal and external auditors to verify their compliance with internal control procedures.

2.2.4 Framework for controlling non-financial risks

The specific internal control procedures presented below, together with the policies and measures in place, help reduce the risks identified by the Group in the Consolidated Non-Financial Statement (CNFS) and the vigilance plan. They are presented under five overarching themes:

- the impact of our activities in terms of respect of human rights and fundamental freedoms;
- the employment-related consequences of the business;
- the social consequences of our activities;
- the environmental impacts of our activities;
- the management framework for suppliers and subcontractors.

2.2.4.1 Impacts of our activities in terms of respect of human rights and fundamental freedoms

The framework for controlling breaches of human rights and fundamental freedoms aims to prevent non-financial risks relating to:

- the inappropriate disclosure or modification, by Orange or its business contacts, of the personal data of customers or other third parties, notably during cyber-attacks;
- exposure to risks of corruption, or behavior by individuals or groups that does not comply with its business ethics, or even fraudulent behavior;
- the violation of human rights and fundamental freedoms by Orange or its business relations.

2.2.4.1.1 Protecting Personal Data

The protection of personal data benefits from the general framework for data protection implemented by Orange; moreover, Orange undertakes to ensure that personal data is processed securely and in a confidential manner for previously identified and proportionate purposes, including when activities are carried out by subcontractors.

Data protection is subject to a Security Policy that is regularly updated according to the level of threat and changes in the environment, with the aim of continuously improving security by managing and assessing risks (notably cyber risks), specifically to mitigate the impact of incidents or even crises.

The governance of the Group's overall security is under the responsibility of the Senior Executive Vice-President, Strategy and Cyber Security. It is implemented by the Group Security Department under his authority.

International standards, such as ISO 27001 for information security and ISO 27005 for risk analysis, guide the actions and the Group has several certifications to reinforce the protection of Orange's assets and those of its customers.

The technical and organizational mechanisms derived from the Global Security Policy are formalized in the Group Security Standard, which focuses on the essential security requirements designed to be applied throughout the Group.

Seminars (physical security, information security, crisis management and business continuity) are organized on an annual basis with the European and African countries. Review meetings are organized on an annual basis between the Group Security Director and members of the Executive Committee.

Several security monitoring centers also constantly monitor the differences between security policies and alerts that may be triggered in the event of suspect activities. These alerts are analyzed and remediation procedures are monitored according to the level of criticality.

In addition to the rules defined by the Group Security Standard, Orange has defined:

- a Crisis Management Policy;
- a Group Security Policy for personal data which takes into account changes in the European regulatory framework;
- a response procedure for personal data security events/incidents;
- a Personal Data Security Guide;
- Orange's Sensitive Data Security Guide which presents the basic rules and safety actions to be complied with in order to identify sensitive data and secure it completely, throughout its life time.

All these documents are sent by the Group Security Director to the community of security managers in the entities as well as to the Group's Executive Vice-Presidents.

In parallel with the Group's Security Policy, the entry into force of the European General Data Protection Regulation (GDPR) from May 25, 2018, enabled the deployment of an appropriate compliance approach specifically in the Group's European entities, that takes into account a risk-based approach as promoted by this new regulatory framework.

Alongside the Group's Security Policy, this approach contributes to creating the conditions to mitigate the risks in relation to personal data processed by Orange. Beyond the entities immediately and directly concerned by this new European regulation, entities outside of the European Union have benefited from awareness-raising on this subject, even where there are no regulations in this area. It is possible that the regulatory environment may change in several countries.

A Group-level structure and governance arrangements have, therefore, been put in place to deal with data protection risks in the entities. The European regulation has made the office of Data Protection Officer key in organizations, basing it on existing practices such as the role of *Correspondant Informatique et Libertés* (CIL) (data protection correspondent) in France since 2006. In this context, Orange had appointed a Data Protection Correspondent in France in 2006. When the European regulation was published in 2016, the Group's Executive Committee appointed a Group Data Protection Officer (DPO) before it became a legal requirement. In 2017 and 2018, a network of Data Protection Delegates was formed in the entities so as to provide guidance on the significant changes in the new European regulation, which affect numerous Group entities in Europe, and in certain cases outside of the European Union.

These delegates contribute, including from the time that new offerings are being designed, to the implementation or adaptation of the framework for processing personal data, notably in terms of transparency and systems for managing risk assessments, or even impact analysis. The selected approach calls for continuous, operational and educational improvement, in order to disseminate the data protection culture to employees.

Like the security area, raising the awareness of all employees about the risks and the acquisition of best practices by everyone were carried out with support from the Security Department and by data protection training. Throughout 2018, the Group and entities' communication departments also explained the data protection issue using a variety of media. An employee data protection charter was disseminated in the countries and remains accessible via the Company's intranet.

At the crossroads between the requirements of the Group's Security Policy and the compliance approach, Orange has also implemented procedures to trigger suitable measures if security violations that may impact personal data are identified.

The implementation of regulation mechanisms by control authorities in Europe is gradual and still on-going, which may lead to changes in the approach.

2.2.4.1.2 Breach of ethical rules (fraud, corruption, tax avoidance, breaches of business ethics)

Risk of breach of ethical rules

The Group's Ethics Committee leads the ethics approach: it comprises six members of the Executive Committee, the Group's Inspector General and the Chief Compliance Officer. Some subsidiaries also have their own Ethics Committees.

The Group's ethics approach is based on the Code of Ethics, whose principles and behaviors guide the Group's conduct and that of its employees. This code is available to all employees on Orange's intranet and also on orange.com: https://www.orange.com/en/Group/Governance/ Governance-documentation.

The Group's Anti-corruption Policy updated in 2017 and approved by the Group's Ethics Committee is available to all employees on Orange's intranet and on orange.com: https://www.orange.com/en/Group/Governance/Governance-documentation.

This policy is sponsored at the highest level of the Group and, in particular, affirms the principle of zero tolerance for corruption. This principle is regularly renewed by the members of the Group's Executive Committee. In October 2018, Orange's new Executive Committee confirmed and signed this commitment.

In October 2018, the Ethics Committee validated the improved and updated "Guiding principles for the anti-corruption policy". Their aim is to complement the anti-corruption policy in order to make it applicable to operational circumstances and situations. These principles may be modified if necessary to meet any stricter local requirements and laws. This update notably includes a wider variety of prohibited behaviors in order to meet the requirements of the "Sapin II" law and the formalization of the "procedure to identify, prevent and manage conflicts of interest."

The Group's whistleblowing mechanism has been broadened to cover areas relating to the law on the *Duty of vigilance*. Its scope has now been extended to cover "infractions or fraud in the areas of accounting, internal control and audit, or in terms of corruption and influence peddling, or conduct or situations that may lead to serious breaches of human rights and fundamental freedoms, health and safety of people and the environment."

Keeping risks under control hinges on a six-stage approach: management commitment, governance, risk analysis, policies and procedures, awareness-raising and training, audits. The main components of this approach, led by the Group's Chairman and Chief Executive Officer and the entire Group Executive Committee, aim to identify and analyze risks, roll out action plans to limit their impact on operations, make available a set of relevant and effective controls, and inform, train and share best practices.

The ethics approach is implemented by the network of Ethics Advisers appointed by the members of the Executive Committee. Their task is to deploy and maintain the policies and procedures in their subsidiaries and entities, including:

- risk analysis;
- the implementation by the countries or business lines of the Group's Code of Ethics;
- the Group's whistleblowing mechanism and local mechanisms when they exist;
- the principles for managing conflicts of interest;
- ethics training or awareness-raising via videos or e-learning modules;
- an annual event, the Ethics & Compliance Day, in the Group and entities.

An anti-corruption compliance program was introduced in 2012; it has been continually strengthened since then in order to better meet the new challenges. Due to the international nature and diversification of its business, the Group must incorporate a certain number of local and international regulatory and legislative constraints, which have an extraterritorial scope, and in particular the "Sapin II" legislation promulgated in France in December 2016.

The Group compliance team reports to the Group Chief Compliance Officer, who reports in turn to the Secretary General of Orange. This team is in charge of designing, rolling out, coordinating and controlling Group-wide compliance programs. The corruption prevention program is rolled out by the network of CCOs (Chief Compliance Officers) and COs (Compliance Officers) and covers various aspects:

- governance with the Group Ethics Committee which regularly reviews the program's implementation and the Group Risks Committee which holds a meeting dedicated to compliance risk at least once a year that is attended by the Lead Director;
- analysis of corruption risks, at Group, subsidiary and relevant entity levels, to improve the targeting of the actions that need to be implemented;
- the Group's anti-corruption policy and any local variations;
- a "fraud and compliance" due diligence methodology for customers, partners and intermediaries, which is being progressively rolled out across the Group;
- the "gifts and invitations" policy which manages benefits received or offered; dedicated apps are being phased in to ensure tracing of reports and managerial approvals of any thresholds exceeded;
- the Group's whistleblowing mechanism in place since the early 2000s; it provides protection for whistleblower employees against any sanctions or discriminatory measures as well as the confidentiality of the information communicated, notably the whistleblower's identity;
- the procedure to prevent and manage conflicts of interest;
- training and awareness-raising tools on the prevention of corruption (e-learning and classroom) which are made available to employees;
- monitoring of the anti-corruption program with a self-assessment questionnaire, compliance reviews, accounting controls and a program of audits.

New tools have been designed and communicated to support the CCO/CO in the deployment of the anti-corruption compliance program, and help with risk identification, third party assessment and the declaration of offered or received benefits.

New training materials have been made available to the CCO/CO: an e-learning module adapted from a UN module and two educational summary booklets on corruption prevention at Orange.

Adherence to economic sanction programs

Being a global group in a constantly changing environment requires keeping up to date with economic sanction programs and numerous and changing embargoes. Therefore, since 2013, the Group has strengthened its knowledge and its risk management in this field and has issued a Group policy and a legal and compliance guide on international economic sanctions, and implemented a due diligence procedure involving its customers, partners and intermediaries in order to safeguard its business and international development as much as possible.

Tax policy

Tax evasion has not been identified as being likely to give rise to risks to the Group's operations or reputation.

The Group's approach on tax is based on three fundamental principles:

- compliance with the law in each country;
- compliance with the OECD "Transfer Pricing Guidelines for Multinational Entreprises and Tax Administrations" principles;
- regular assessment of practices and comparison with existing solutions on the market to ensure their relevance.

Orange in no way seeks to evade paying taxes and duties, notably through complex and opaque structures. Orange publishes the list of countries in which the Group has interests in its Registration Document.

The Group Tax Director, directly reporting to the *Delegate* Chief Executive Officer, Finance, Performance and Europe, has a specialist team. The Group has implemented a code of ethics on tax matters, which applies to all the Group's tax experts and covers all tax operations. The code of ethics on tax matters stipulates that "Orange group's tax experts may propose the most favorable tax options to Orange group, knowing that their proposals must be prepared on the basis of a professional, honest, objective and law respecting analysis."

Every year, the tax process is subject to a review under the *Sarbanes-Oxley* Act (see Section 2.2.3.2 *Summary of works on Internal Control implemented under Section 404 of the Sarbanes-Oxley Act*). This control process covers Orange SA and its main subsidiaries. Both the work conducted by Orange and the independent assessment by the Statutory Auditors have reached a satisfactory conclusion for the 2018 financial year.

Orange publishes information on tax paid in its consolidated statement of cash flows (see Section 3.3.1) and communicates the detail by country in its Annual Report on Tax Transparency, available on the site orange.com/Group/non-financial Reporting heading.

2.2.4.1.3 Breaches of human rights and fundamental freedoms

The potential or actual breaches of human rights and fundamental freedoms that Orange may have caused are taken into account as part of Orange's 2018 vigilance plan.

Orange's policy of compliance and promotion of human rights is shown by a number of commitments:

- Orange was one of the first companies to sign up to the United Nations Global Compact in 2000. Respecting the fundamental principles set out in the Universal Declaration of Human Rights and by the International Labor Organization explicitly features in the Group's Code of Ethics. Orange thus asserts its commitment to respecting and promoting fundamental human rights in its activities and sphere of influence, in particular in supporting and promoting freedom of expression and respect for privacy worldwide. The Group also confirms its commitment to ensuring that these rights are respected by each of its employees and managers, both internally (employee relations) and in its relationships with its customers, suppliers and subcontractors;
- in 2006, Orange signed a global agreement on fundamental social rights with the Global Union Alliance (UNI). Orange's management, the UNI global union and its French trade union members, and Orange's representative in the Global Union meet twice per year to review current international operations and major development and acquisition projects;

- in 2017, Orange published its first report on respect for human rights, prepared according to a reporting framework in line with the United Nations' Guiding Principles on corporations and human rights (orange.com/Group/non-financial Reporting heading), as well as its first declaration on the non-use of modern slavery (orange.com/Group/non-financial Reporting heading).

Since 2012, as part of its annual survey of human rights or EIDH (measurement of the difference between the commitments made by States (human rights in principle) and the possibility of these rights being enjoyed in practice in the countries (human rights in practice)), Orange has asked Verisk Maplecroft, a specialist external firm using a methodology based on the UN and OECD standards, to carry out a customized assessment of the risks incurred in terms of compliance with human rights in each country where Orange operates, in to assess and target its actions. This multi-criteria analysis notably includes the risks of corruption, breaches of democracy and freedom of expression, the degree of digital inclusion, discrimination, etc.

Orange is strongly committed to promoting freedom of expression and respect for privacy in the ICT sector, in particular within the Global Network Initiative (GNI), a multi-stakeholder platform, including Internet operators, NGOs, universities and socially responsible investors. Orange and its peers meet regularly as part of this body to exchange best practices relating to government requests in the telecommunications sector. More specifically, they deal with potential conflicts between the commitment and duty of sovereign governments and the responsibility of telecommunications companies with respect to human rights (network interruptions, illegal Internet content, etc.). Pooling each operators' resources enables a complete analysis of the legal and regulatory framework country by country. It also facilitates dialogue with governments and international institutions (United Nations, European Commission, Council of Europe) in order to make recommendations on local policies and laws to ensure respect for freedom of expression and privacy worldwide.

The GNI principles updated in 2017 provide a common framework at Group level for the preparation of policies and procedures relating to freedom of expression and respect of privacy in the ICT sector. Each year, Orange report, on its web site, the ways in which the Group applies these principles.

To deal with the proliferation of demands from governments that could infringe freedom of expression or fundamental freedoms, Orange has implemented a procedure, under the responsibility of the Group Secretary General and Group Corporate Social Responsibility Department, to ensure that each request complies with the legal or regulatory formalities required and analyzed by the GNI. Thus, Orange ensures that an official request in writing has been received by the manager of the relevant entities, and that it has been subject to an internal report to the Group.

Backed by its membership in the EDH (*Entreprises pour les Droits de l'Homme*) association, an organization grouping together 16 of the largest French companies, Orange has deployed e-learning training which is available in 90% of the countries in which the Group operates to disseminate its main principles among its employees.

2.2.4.2 Employment-related consequences of our activities

The framework for controlling non-financial risks related to the employment-related consequences of the business concerns:

- the difficulty for Orange to obtain and retain the skills needed for its business;
- the prevention of internal and external human risks relating to health and safety;
- the preservation and protection of human rights and fundamental freedoms in relation to its employees or those of its outsourcing chain.

2.2.4.2.1 Ensuring the necessary skills for business activities

To guarantee that the Group obtains and retains the skills needed for its business, Orange aims to be a "digital and people-oriented employer":

- by using its innovation culture and digital expertise to serve its teams;
- by rethinking working methods and by developing autonomy;
- by promoting cooperation and mutual support in a quality working environment;
- by allowing each person to play a role in their own development.

Employment and key skills

To adapt to the increasingly rapid change in its business activities and guarantee the skills required for its development, in February 2017, Orange signed an agreement on the recognition of skills and qualifications with the trade unions; the Group is therefore changing its Employment and Skills policy in a profound manner by identifying key expertise and skills and managing them in strategically.

A new "business lines and skills" framework, planned for 2020 at Group level, has been initially deployed for the Orange SA scope. The employee assessment interview process that ended at the start of 2019 enables every individual to be positioned in a business line within the new framework and an initial skills mapping to be carried out. The comparison with forecasts of business skill requirements enables future gaps to be identified, and depending on their nature, the best solution for overcoming them to be agreed: transformation of existing skills via Orange Academy, external recruitment, outsourcing, etc.

Skills development

Orange offers all of its employees a tailored learning experience, that is flexible and adapted to the person's context and needs, notably thanks to Orange Learning. This tool currently being deployed within the Group is a tailored learning space which enables every individual to access their development plan easily, as well as training via a single catalog: continuously accessible digital content, multi-modal training combining digital and attendance-based learning, learning and sharing communities, etc.

Compensation

Compensation policy is a fundamental component of management, designed to meet the Orange group's strategic objectives and be consistent with other HR policies (recruitment, career development, training and working conditions). Its particular aim is to recognize the individual and group contributions to customer satisfaction and to sharing value in all of the countries. It encourages the balance between economic performance and social quality. It aims to attract the new skills that the Group needs.

The cost of the compensation policy must be funded by each business unit taking into account anticipated growth in revenue, and the policy's foreseeable consequences on reported EBITDA.

2.2.4.2.2 Employee health and safety

Group occupational health and safety policy

Orange's commitment on occupational health and safety is led by its Chairman and Chief Executive Officer: on January 21, 2017, in a third policy communication on health, safety and quality of life at work, Orange reaffirmed its enduring commitment in these areas. Protecting its employees' occupational health and safety and improving their quality of life at work contributes fully to Orange's aim to be a leading employer in its sector.

This policy is based on the global health and safety agreement, signed in November 2014, and the laws and regulations in force in each country. This agreement commits our partners and subcontractors. To continue with this action, the Group has created a vigilance plan for 2018, pursuant to the Law of March 27, 2017 (see Section 4.6 *Duty of vigilance*).

Orange group's global health and safety agreement (2014)

In line with the Group's health and safety agreement, and as part of the vigilance plan, different measures have been deployed to continuously improve the quality of life at work for the Group's employees:

- the definition of a common Group basis for occupational health and safety;
- the implementation of an occupational health and safety management system in all Group companies in a continuous improvement approach;
- a participative approach for all players including social dialogue in the area of occupational health and safety;
- non-discrimination in terms of health for employees and specific vigilance for population groups made vulnerable for health reasons;
- the promotion of all initiatives encouraging participation in health protection programs appropriate to the context and local practices;
- specific discussion of healthcare costs coverage in the African region;
- the need for specific vigilance to ensure that Orange's service providers have their own health and safety policy. Subcontractor accident rates are closely monitored, in particular by the health and safety officers and OH&S experts, with follow-up assessments and the preparation of action plans.

These actions are supported and monitored by the Risk Prevention and Occupational Quality of Life Department internationally and presented annually to the Worldwide Works Council.

Social dialogue on occupational health and safety

Social dialogue on occupational health and safety takes place within the legal or employee representative bodies and takes the form of agreements signed with social partners.

In France, there are 250 Health and Safety and Working Conditions Committees (CHSCT) that regularly hold discussions with employee representative bodies such as the CNSHSCT (National Health and Safety and Working Conditions Committee) and the CNPS (National Stress Prevention Committee). Numerous agreements promote the deployment of the Group's quality of life at work policy and the active prevention of risks to employee health and safety:

- the teleworking agreement, amended in 2017, makes teleworking part of an overall economic, social and environmental approach, with expected benefits in terms of well-being at work and travel time savings;
- the agreement on the assessment and adaptation of workloads (2016) sets a methodological framework and common references for specifically understanding the problems of workloads related to changes in the workforce and skills;
- the digital transformation support agreement (2016) notably enables the implementation of individual digital use reports;
- the agreement on the assessment and prevention of psychosocial risks (2010) notably endorsed the creation of a National Stress Prevention Committee;
- the agreement on workplace gender equality and work-life balance (2018) offers a framework to facilitate the best balance between professional and private life for each employee, whilst enabling them to overcome major life events.

Internationally, each subsidiary now has a Health and Safety and Working Conditions Committee or a Health and Safety Committee. In the Africa and Middle East region, specific training programs for Health and Safety Committee members have been deployed since the signature of the global health and safety Agreement.

Orange group's occupational health and safety management system (OHSMS)

The OHSMS is based on either the Group's OHSMS guidelines or a recognized national or international (OHSAS 18001) standard, to be chosen by the entity or subsidiary. Its deployment enables a shift towards a real culture of managing occupational health and safety within the Group.

Training for managers and information sessions for pilot partners (member of the Management and OH&S expert) are regularly held in France. This same approach is currently being developed in the rest of the Group.

Audits are periodically conducted throughout the Group, according to a schedule that depends on the framework selected.

People involved in prevention

The OH&S experts and officers support management by providing advice and local expertise with respect to the prevention of occupational risks.

In France, the network of over 200 experts, whose approach is based on methodological support and skills development, continues to put their activities on a more professional footing.

Internationally, the OH&S officers receive support from the Risk Prevention and Occupational Quality of Life Department via regular contacts and an annual seminar.

This international network is also supported on a monthly basis by a telephone conference focusing on one of the five main topics of "Quality of Life at Work by Orange":

- occupational health and risk prevention;
- the workplace environment;
- work;
- management;
- improving individual well-being.

The organization of occupational health services depends on the legislation in each country.

2.2.4.2.3 Social dialogue

Orange group promotes a structured, nourished and meaningful social dialogue. It has discussions with its employees, the trade union organizations and associations of elected employees. With a focus on increased transparency and collaboration, Orange has set up employee representative institutions for all scopes. Each of these institutions has its own powers which improve the social dialogue.

Orange recognizes the right for its employees to have freedom of association, representation and membership of a trade union in accordance with the principles set by the ILO convention no. 87 of 1948 on freedom of association and the right to organize. Employees are free to become members of their choice of trade union or not to do so.

Worldwide Works Council

The Worldwide Works Council is a social dialogue body created by an agreement signed in June 2010. It enables all the Group's employees worldwide to be represented, and to exchange information with employee representatives on transnational economic, financial and social issues.

Its tasks are as follows:

- promote the communication of Group issues to employee representatives;
- improve the Group's social dialogue on a world level;
- be part of the Corporate Social Responsibility (CSR) development strategy.

This Council does not replace existing national representation bodies nor the European Works Council. It complements the agreement signed in 2006 with the Global Union Alliance (UNI) on respect for fundamental rights. It meets at least once a year on the initiative of its Chairperson who is the Group's Chairman and CEO or his representative and each time that exceptional circumstances require it, with management agreement.

European Works Council

The European Works Council is a social dialogue body at the European level for economic, financial and social issues. It was created by an agreement signed on April 14, 2004.

Its tasks are as follows:

- develop social dialogue at a European level;
- create a forum for discussion and dialogue on broad economic, financial and social issues at an overall European level that go beyond the borders of any single country (industrial and innovation strategy, major investment policies, employment, etc.);
- complement the national social dialogue bodies, without aiming to replace or supervise them.

The European Works Council meets at least three times per year, and each time that exceptional circumstances require it. Its members regularly receive information on life in the Group and telephone conferences are organized when warranted by events.

Other national social dialogue bodies

The France Works Council is responsible for ensuring communication and dialogue with the employee representatives from the Group's different entities in France. This Council meets at least four times a year. It receives information on the Group's business, financial position, change in employment and structure.

There are also different national social dialogue bodies that enable employee representatives to be heard. In regions where representative bodies are not legally required, the Group promotes the creation of employee forums in order to establish formalized dialogue.

2.2.4.2.4 Promoting diversity and equal opportunities

Within the Group Human Resources Department, the diversity policy has resulted in the Group's "Diversity Note" published in December 2012 in which Orange commits to promoting diversity, gender equality, equal opportunities and the combating all types of discrimination.

Gender equality in the workplace

Orange's policy in the area of gender equality in the workplace is led by the Professional Equality Strategy Committee, created in 2011. It notably comprises members of the Executive Committee and is active across Group with four areas of focus:

- equal pay: a pay gap assessment methodology for all countries was deployed by the Group in 2018;
- access for women to positions of responsibility: the Group has set itself the target of 35% of women on executive management bodies; this target is made tangible through the talent management policy, and also mentoring and development programs. It is driven internally and externally by identified employee networks, which contribute on an operational basis to the Group's diversity policy (diversity networks);
- diversity in all Group business lines, particularly technical business lines: this is achieved by several upstream actions to attract girls into the technical occupations (shadowing program), by the recruitment and vocational retraining of women as part of specific mechanisms (technician training for women, engineer training for women), and by increasing recruiter awareness of gender equality in the workplace;
- work-life balance: this balance is driven by HR policies with numerous measures and agreements on teleworking, flextime, parenthood measures and support for employees who are carers.

In 2015, on behalf of the Group, the Chairman and CEO signed the United Nations' Women Empowerment Principles, confirming Orange commitment on a global level.

The Group has also committed to the effective assessment of its diversity and gender equality policy through GEEIS (*Gender Equality European and International Standard*) certification and by listening to its stakeholders on diversity by means of a global system.

For the French scope, this is also reflected in:

- the signature of the Charter of 15 commitments for work-life balance by the Chairman and CEO and the members of the Group's Executive Committee in 2013, and the signature in 2008 of the Parenthood Charter;
- the fifth agreement on workplace gender equality and work-life balance 2018-2020 which was signed in January 2018 by all the trade unions. It includes new measures such as the broadening of the vacation day donation scheme and the setting up of a support platform to help with the administrative procedures for arranging care for employee family members;
- awareness-raising in workplace equality via an online training program leading to a "workplace equality visa".

2.2.4.3 Social consequences of our activities

The framework for controlling non-financial risks related to the social responsibility consequences of the business covers:

- protection against the potentially harmful effect on people's health of exposure to electromagnetic fields from telecommunications equipment;
- the excessive or inappropriate use of telecommunication services and equipment.

2.2.4.3.1 Protecting customers' health and safety

One of Orange's priorities is to develop safe, responsible, and creative digital practices. For this reason, Orange carefully monitors expert opinions on the issue of digital uses and health, and aims to relay their opinions and advice to parents, young people and families in general.

With regard to children, Orange's commitment is supported by the "Better Internet for Kids" (BIK) program which aims to give parents and educators the power to act and offer their children the best of digital. More generally, this commitment is supported by the "Marketing of Meaning" program which aims to incorporate responsibility principles in products and services from the design phase.

Orange's policy is therefore to:

- raise employee awareness of the issues of responsible marketing, define "guidelines" for product managers, and support them in their projects (for example, no marketing offers for the under-nines age group, no young children in Orange's advertising);
- develop marketing offers in response to family concerns;
- implement awareness-raising initiatives that guide parents, educators and children in the safe use of digital technology, in cooperation with childhood and parenthood experts and associations;
- support the development of digital practices that promote creativity, entrepreneurial spirit and education.

This policy and its monitoring are carried out by the countries' CSR and Marketing teams, in coordination with the Group's CSR Radio waves and Health Committee.

2.2.4.3.2 Concerns about radio waves

Mobile telephony technologies may increase exposure to electromagnetic waves of the general population (via new fixed emitters) and users (via new mobile equipment or by creating new behaviors). Emissions of electromagnetic waves are controlled by the limits recommended by the World Health Organization (WHO). As of now, there is no proven effect on health below these recommended limits. However, until we have the confirmation of additional studies under way, specifically on children and long-term use, certain health authorities, as a precaution, are drafting recommendations to limit exposure to radio waves from mobile phones.

Orange implemented a Group policy on radio waves and health in 2007, in which it commits to:

- provide transparent and identical information to all of its stakeholders;
- ensure that the international recommendations of the ICNIRP (International Commission on Non-Ionising Radiation Protection) and WHO for mobiles and antennas are applied, including in the countries of Orange's scope which do not have national regulations;
- provide health authorities' recommendations on the use of mobile phones to limit exposure to radio waves;
- contribute to scientific research and standardization efforts;
- raise awareness of employees working near or on antennas to the safety regulations issued by the European Directive 2013/35/UE of June 26, 2013 and its 2016-1074 Decree of August 3, 2016, even in countries not subject to the Directive.

Compliance with this policy and these commitments is ensured at Group level by the Radio Waves and Health Committee, comprising a legal expert, a public affairs expert, a doctor, a technical expert and two CSR experts, who meet each week to analyze health and regulatory monitoring, coordinate actions at the Group's operational level and draft "Group positions". These positions are communicated to the Group's Executive Committee as required.

2.2.4.4 Environmental impacts of our activities

Orange adopts a proactive approach to managing risks and impact to help protect the environment against an explosion of digital usage.

2.2.4.4.1 Orange's environmental commitment

Orange renewed its commitment to the climate in December 2017 by confirming that it had signed the French Business Climate Pledge during the One Planet Summit, which was launched to implement solutions and innovations aimed at developing a low-carbon society by 2050.

As a member of the ITU and in line with the Science Based Targets Initiative (SBTi), Orange helped prepare a sectoral methodology to measure the contribution of ICTs with respect to the objective of maintaining the rise in temperatures below 2 degrees compared with the pre-industrial era, which was set during the COP21 (L. 1450 and Related Supplement). A sectoral guide for applying this methodology should be completed in 2019. In this context, Orange committed in June 2018 to formally setting its Science Based Targets before June 2020.

Orange has set itself the target of reducing its CO_2 emissions per customer use by 50% (compared to 2006) by 2020. An annually updated environmental roadmap sets out formal action plans in order to meet the objective of significant savings, while responding to the explosion in traffic and uses.

Orange has also committed to promoting the integration of circular economy principles within its organization and processes: Orange's aim is to limit the impact of its business and its customers' activities on resources and raw materials by optimizing its processes.

Orange is a member of the Ellen MacArthur Foundation's CE 100 program. This program brings together 100 pioneering companies in the circular economy worldwide, and aims to share best practice and develop innovative collaborative projects.

2.2.4.4.2 Environmental monitoring framework

The Board of Directors monitors the risks and opportunities related to the environment, and notably climate change, via the work by the Governance and Social and Environmental Responsibility Committee (GCSER) and the Group Circular Economy Steering Committee.

Monitoring of Orange's environmental commitments takes place at the Group Executive Committee level based on quarterly reporting, by the Executive Vice-President CSR, Diversity, Partnerships and Solidarity, for environmental policy, and by the Deputy Chief Executive Officer – Chief Technology and Global Innovation Officer – for the part of the *GREEN ITN2020* energy consumption saving program related to IT & networks.

Group circular economy steering committee

The Group has set up this internal steering committee for the Circular Economy to define and monitor the actions to be deployed within its businesses, with the appointment of project leaders and a deployment plan for 2017-2020. Under the responsibility of the Group CSR Department, it comprises decision-makers in the Group's main business lines: Purchasing, Supply Chain, Marketing, Networks, Technocenter etc.

The plan covers several areas:

- eco-design;
- limiting the Group's consumption of critical, non-renewable resources;
- optimizing waste management;
- the possibility of giving network equipment and consumer handsets a second life.

Monitoring committee for alignment with the TCFD's recommendations

To respond to the recommendations of the TCFD (Task Force on Climate-related Financial Disclosures) published on June 29, 2017, Orange initially carried out an analysis of the existing reporting arrangements in order to identify its strengths and areas for improvement. Since this work was completed during the first half of 2018, Orange decided to set up a specific monitoring committee, steered by the Group CSR Department with support from the consulting firm, Carbone 4. This committee aims to improve the collection and reporting of information on climate change and identify the projects that need to be implemented to best meet the TCFD's recommendations.

A cross-reference table describing Orange's responses to the TCFD recommendations is available in Section 4.4.2.3 *Alignment with the TCFD's recommendations*.

Players involved in environmental awareness-raising and training

The Group Environment Department regularly holds discussions with a network of national and business area contacts comprising around 90 people; each year, it organizes a seminar to discuss best practice and launch new projects.

Internal communications conducts regular awareness-raising initiatives with all the Group's employees when key events such as the United Nations Climate Change Conference and environment days are taking place.

Initiatives for awareness raising and discussion thus encourage each employee to include the objectives of responsible growth in their daily activities. Dedicated training courses are delivered regularly.

Since 2018, in France, an electrical energy consumption management indicator has been included in the calculation of the incentive element of Orange SA's employee compensation, thus giving more visibility to this subject.

Environmental Management System

In order to achieve its targets for reducing environmental impacts and risks the Group has been progressively rolling out ISO 14001 compliant Environmental Management Systems (EMS) in its main countries of operation. The ISO 14001 standard describes how companies should organize themselves to manage the environmental impact of their activities. The 2015 version of this standard includes new requirements, which the Group is gradually incorporating, particularly through stakeholder dialogue and by taking into account complete life cycle impacts.

2.2.4.4.3 Management of environmental compliance risks

Facilities classified for the protection of the environment

The Orange group uses certain facilities, products and substances that may present environmental risks (even minor), some of which are subject to specific regulations. This is the case for facilities classified for the protection of the environment (ICPE) in France.

These facilities are the subject of ongoing in-depth analyses by the Orange group and have led to the adoption of action plans and preventive maintenance programs, in addition to periodic inspections as required under French regulations. The rollout of the Environmental Management System and ISO 14001 certification audits also ensures compliance with related regulations and audits.

In order to prevent health-related risks (legionellosis) and reduce water consumption, a program to replace cooling towers with dry cooler systems has been ongoing in France since 2006. The increase in the number of water cooling towers in France is due to the restructuration of technical sites.

Indicators	2018	2017	2016
Number of sites including Classified Facilities (ICPE A, D, DC and E) in France	249	262	269
Number of water cooling towers in France	31	29	27

Hazardous substances

Some facilities use regulated products or substances. These are chlorofluorocarbon (also named CFC gases) or other refrigerants (more specifically HCFCs or HFCs) contained in air-conditioning installations – see above.

Orange complies with the European REACH Regulation (Registration – Evaluation – Authorization and Restriction of Chemicals) and has undertaken to inform its customers of the presence of hazardous substances as defined by regulations.

Orange also respects the European Directive RoHS II, by which the Group must comply with the obligations of the producer or those of the distributor to limit the use of certain hazardous substances in electric and electronic equipment. As a contract provision, the Group requests that suppliers apply the European RoHS II directive to all products that are subject to it, including outside of Europe.

Provisions for environmental risk

The Orange group believes that its activities as a telecommunications operator do not pose a serious direct threat to the environment. The Group's activities do not entail production processes with a severe impact on scarce or non-renewable resources, natural resources (water, air) or to biodiversity and, generally, do not pose lethal risks. This is why no provision for environmental risk has been made in the Group's accounts.

However, a provision is recognized to cover the Group's obligation to dismantle technical equipment and restore technical sites.

The provision is set on the basis of:

- dismantling costs (on a per-unit basis for telephone poles, terminals and public phones, and per site for cell phone antennae) borne by the Group to meet its environmental obligations;
- annual scheduled asset returns and departures from sites.

In the Group's financial statements for the year ended December 31, 2018, the provision totaled 776 million euros, of which 430 million euros for Orange SA. It consists predominantly of the cost of restoring sites of mobile telephony antennae to their former state, reprocessing of telephone poles, managing electrical and electronic waste, and dismantling public phones.

2.2.4.5 Management framework for suppliers and subcontractors

Orange's responsible purchasing principles

Orange has for several years implemented a responsible purchasing policy which embeds CSR in its supplier relationships and improves control of social, societal and environmental risks. Its Group-wide CSR action plan aims to promote the adoption of CSR commitments by purchasing stakeholders and their application in the related business processes, and to guarantee the Group's compliance with the law on the duty of vigilance. All of these principles have also been adopted by BuyIn, the joint venture between Orange and Deutsche Telekom, which covers the Group's main purchasing domains.

This policy was updated in 2018 (available on the site orange.com/Group/non-financial Reporting) and is based on the following priorities:

- developing balanced relationships with suppliers based on trust, respect and sustainable commercial relationships;
- contributing to economic performance by creating value and by ensuring products and services are available at the lowest possible cost;
- managing CSR risks and opportunities related to purchasing and the supply chain;
- providing the Group and its customers with the benefit of the know-how of innovative and high-performance suppliers.

It is based on the systematic incorporation of a CSR clause in the Group's framework agreements as well as into exclusively local contracts, reinforced by the integration of the Code of Conduct into the appendices to these contracts. The Code of Conduct describes in particular the ethical, social and environmental commitments expected by the Group. Orange thus requires that its partners, suppliers and their sub-contractors i) respect all national, European and international rules with respect to ethical and responsible behavior. This includes, without limitation, standards relating to human rights, respect for the environment, sustainable development, occupational health and safety conditions for the employees, corruption and child protection; ii) adopt and apply ethical standards and the Group's commitments and to continue to grow in these domains. Orange supports its suppliers throughout the pre-contractual and contractual relationship to ensure the effective implementation of the Code of Conduct.

Supplier assessment

The Group evaluates its suppliers on a documentary basis, either by means of a questionnaire developed by Orange or via a company specialized in sustainable sourcing (EcoVadis, which offers a self-evaluation form according to ISO 26000 on supplier CSR commitments). Orange has besides been evaluated as a supplier by this body. This year it achieved gold member status yet again.

The Group has set up a monitoring and alert system for purchasing and procurement risks related to suppliers deemed strategic to the organization and whose default could have major consequences on the Group's operations.

Orange also contributes to the development of its standards through the Joint Audit Cooperation (JAC), which is an association of telecommunications operators (16 to date), grouped together to audit, evaluate and develop the implementation of CSR principles by the global suppliers of the ICT segment.

It deploys a coordinated program of on-site CSR audits founded on verification, evaluation, and development of a common methodology: audits to assess suppliers' compliance with social and environmental accountability standards (SA 8000, ISO 14001, etc.) and, if necessary, to implement corrective action plans.

3 Financial Report

3.1 Analysis of the Group's financial position and earnings

This section contains forward-looking statements about Orange. These forward-looking statements are subject to numerous risks and uncertainties that could cause actual results to differ materially from the results anticipated in the forward-looking statements. The most significant risks are detailed in Section 2.1 *Risk factors*.

The following comments are based on the consolidated annual financial statements prepared in accordance with IFRS (International Financial Reporting Standards, see Note 2 to the consolidated annual financial statements). The Group has decided to apply IFRS 15 "Revenue from Contracts with Customers" retroactively as from January 1, 2018, restating the published comparative periods of 2016 and 2017. In addition, the Group has applied IFRS 9 "Financial Instruments" since January 1, 2018, without restating the 2016 and 2017 comparative periods, as permitted by the standard (see Note 2.3 to the consolidated annual financial statements).

Adjusted EBITDA, reported EBITDA, CAPEX, the "Adjusted EBITDA – CAPEX" indicator, net financial debt, the ratio of net financial debt to adjusted EBITDA of telecoms activities, and data on a comparable basis are financial indicators not defined by IFRS. For further information on the calculation of these indicators and the reasons why the Orange group uses them and considers them useful for readers, see Section 3.1.5 *Financial indicators not defined by IFRS* and Section 7.2.1 *Financial glossary*.

Data on a historical basis corresponds to data for past periods as published in the consolidated annual financial statements for the current period. The transition from data on a historical basis to data on a comparable basis for the 2017 and 2016 fiscal years is set out in Section 3.1.5.1 *Data on a comparable basis*.

The new organization of Orange Group's Executive Committee implemented with effect from May 2, 2018 (see Section 1.3 *Significant events*) has led the Group to review how its segment information is presented, without changing the definition of its operating segments. The segment information now makes a distinction between Spain and the other European countries (see the beginning of Section 1.3 *Analysis by operating segment* and Note 1.7 to the consolidated annual financial statements). Historical data, comparable basis data and customer bases for fiscal years 2017 and 2016 have been restated to reflect this change. Unless otherwise specified, segment information presented in the following sections is understood to be prior to elimination of inter-segment transactions.

The changes presented in the following sections are calculated based on data in thousands of euros, although displayed in millions of euros.

3.1.1 Overview

3.1.1.1 Financial data and workforce information

Operating data

(at December 31, in millions of euros)	2018	2017 data on a comparable basis [1]	2017 data on a historical basis	% change data on a comparable basis [1]	% change data on a historical basis	2016 data on a historical basis
Revenue [2]	**41,381**	**40,837**	**40,859**	**1.3%**	**1.3%**	**40,708**
Adjusted EBITDA [1]	**13,005**	**12,660**	**12,680**	**2.7%**	**2.6%**	**12,564**
Telecoms activities	13,151	12,721	12,741	3.4%	3.2%	12,576
Adjusted EBITDA/Revenue of telecoms activities	*31.8%*	*31.2%*	*31.2%*			*30.9%*
Orange Bank activities	(147)	(62)	(62)	(136.3)%	(136.3)%	(12)
Reported EBITDA [1]	**11,977**	**11,849**	**11,863**	**1.1%**	**1.0%**	**11,601**
Telecoms activities	12,124	11,910	11,924	1.8%	1.7%	11,613
Orange Bank activities	(148)	(62)	(62)	(138.4)%	(138.4)%	(12)
Operating income	**4,829**		**4,778**		**1.1%**	**3,917**
Telecoms activities	4,997		4,870		2.6%	3,832
Orange Bank activities	(169)		(93)		(80.9)%	85
CAPEX [1]	**7,442**	**7,191**	**7,209**	**3.5%**	**3.2%**	**6,971**
Telecoms activities	7,406	7,131	7,148	3.9%	3.6%	6,956
CAPEX/Revenue of telecoms activities	*17.9%*	*17.5%*	*17.5%*			*17.1%*
Orange Bank activities	36	60	61	(40.4)%	(40.4)%	15
Adjusted EBITDA – CAPEX [1]	**5,563**	**5,469**	**5,471**	**1.7%**	**1.7%**	**5,593**
Telecoms activities	5,745	5,590	5,593	2.8%	2.7%	5,620
Orange Bank activities	(183)	(122)	(123)	(49.2)%	(49.2)%	(27)
Telecommunications licenses	200	314	318	(36.3)%	(36.9)%	1,521
Investments financed through finance leases	136	44	43	209.6%	209.4%	91
Average number of employees (full-time equivalents) [3]	135,943	139,476	138,038	(2.5)%	(1.5)%	141,257
Number of employees (active employees at end of period) [3]	150,711	154,534	151,556	(2.5)%	(0.6)%	155,202

(1) See Section 3.1.5 *Financial indicators not defined by IFRS* and Section 7.2.1 *Financial glossary*.
(2) Revenue of telecoms activities. The Net Banking Income (NBI) of Orange Bank is recognized in other operating income (see Note 4.2 to the consolidated annual financial statements).
(3) See Section 7.2.1 *Financial glossary*.

Net income

(at December 31, in millions of euros)	2018	2017 data on a historical basis	2016 data on a historical basis
Operating income	**4,829**	**4,778**	**3,917**
Finance costs, net	(1,362)	(1,715)	(2,097)
Income tax	(1,309)	(1,052)	(951)
Consolidated net income of continuing operations	**2,158**	**2,011**	**869**
Net income after tax of discontinued operations (EE)	-	29	2,253
Consolidated net income	**2,158**	**2,040**	**3,122**
Net income attributable to owners of the parent company	1,954	1,843	2,813
Non-controlling interests	204	197	309

Net financial debt

(at December 31, in millions of euros)	2018	2017 data on a historical basis	2016 data on a historical basis
Net financial debt (1)	**25,441**	**23,843**	**24,444**

(1) See Section 3 1.5 *Financial indicators not defined by IFRS*, Section 7.2.1 *Financial glossary*, and Note 11.3 to the consolidated annual financial statements. Net financial debt as defined and used by Orange does not include Orange Bank activities, for which this concept is not relevant.

For further information on the risks relating to the Orange group's financial debt, see Section 2.1.3 *Financial risks*.

3.1.1.2 Summary of 2018 results

The annual results confirm that all the targets announced for fiscal year 2018 were achieved. Despite strong competition, Group revenue, adjusted EBITDA and the "Adjusted EBITDA – CAPEX" indicator all increased.

Revenue totaled 41,381 million euros in 2018, up 1.3% on both a historical basis and a comparable basis compared with 2017. Higher revenue in Africa & Middle East (up 5.1% on a comparable basis), driven by the increase in data services and mobile financial services, contributed almost half of the Group's growth in 2018. On a comparable basis, revenue growth in Spain (up 2.2%), Europe (up 1.7%) and France (up 0.9%) is due to convergence.

Sales activity is still dynamic due to the strategy focused on convergence and very high-speed fixed and mobile broadband, which allowed the Group to continue to grow its customer base in an environment that remains highly competitive. Year-on-year convergent offers (10.9 million customers at December 31, 2018) increased by 5.5% and SIM cards associated with convergent offers grew by 8.0%, enabling Orange to confirm its position as the leading convergent operator in Europe. At December 31, 2018, very high-speed fixed broadband, with 6.3 million customers, grew by 33.2% and 4G mobile had 56 million customers, up 21.7% year-on-year. The total mobile customer base grew by 0.6% year-on-year. Finally, 248,000 customers had subscribed to the Orange Bank offer at December 31, 2018.

Adjusted EBITDA totaled 13,005 million euros in 2018, up 2.6% on a historical basis and 2.7% on a comparable basis compared with 2017. Adjusted EBITDA of telecoms activities (13,151 million euros) grew by 3.4% year-on-year on a comparable basis, driven by solid business performance and the continuation of the *Explore2020* operational efficiency program, which exceeded its target to deliver 3.5 billion in gross savings over the period 2015-2018. The ratio of adjusted EBITDA to revenue of telecoms activities was 31.8% in 2018, up 0.6 points on both a historical and comparable basis relative to 2017.

Reported EBITDA amounted to 11,977 million euros in 2018, up 1.0%, or 114 million euros, compared with 2017 on a historical basis. This was mainly due to the increase in adjusted EBITDA and the lower net expense on significant litigation. However, this increase is partially dampened by the charge recognized for the French "Part-Time for Seniors" plans (TPS, relating to agreements on the employment of older workers in France), which was extended in December 2018 for three years (see Section 3.1.1.3 *Significant events*).

Operating income amounted to 4,829 million euros in 2018, an increase of 51 million euros (1.1%) compared with 2017 on a historical basis. The increase is largely explained by the growth in reported EBITDA and the reduction in impairment losses on goodwill and fixed assets, partially offset by higher depreciation and amortization, mainly due to the additional investments made in recent years.

Consolidated net income totaled 2,158 million euros in 2018, compared with 2,040 million euros in 2017, an increase of 118 million euros. This mainly stems from the improvement in net finance costs (essentially due to changes in the effects of the investment in BT Group) and the increase in operating income, partially offset by higher income tax expense.

CAPEX stood at 7,442 million euros in 2018, up 3.2% on a historical basis and 3.5% on a comparable basis, compared with 2017. The ratio of CAPEX to revenue of telecoms activities was 17.9% in 2018, up 0.4 points on both a historical and a comparable basis compared with 2017. This level of capital expenditure is in line with the annual target of 7.4 billion euros in 2018 and reflects the Group's continuing efforts to roll out very high-speed fixed and mobile broadband networks. At December 31, 2018, the Group thus had 32.5 million households worldwide with very high-speed broadband connectivity, up 22.4% year-on-year.

Net financial debt amounted to 25,441 million euros at December 31, 2018, a rise of 1,598 million euros from December 31, 2017. The ratio of net financial debt to adjusted EBITDA of telecoms activities stood at 1.93 at December 31, 2018, in line with the Group's medium-term target of around 2.

3.1.1.3 Significant events

The Group's main significant events are described in Section 1.3 *Significant events*.

3.1.2 Analysis of the Group's results and capital expenditures

3.1.2.1 From Group revenue to adjusted EBITDA

This section presents the transition from Group revenue to adjusted EBITDA, by type of expense, after presentation adjustments, as presented in Section 3.1.5.2 *Adjusted EBITDA and reported EBITDA* and in Note 1 to the consolidated annual financial statements.

(at December 31, in millions of euros)	2018	2017 data on a comparable basis [1]	2017 data on a historical basis	% change data on a comparable basis [1]	% change data on a historical basis	2016 data on a historical basis
Revenue	**41,381**	**40,837**	**40,859**	**1.3%**	**1.3%**	**40,708**
External purchases [2]	(18,563)	(18,319)	(18,381)	1.3%	1.0%	(18,186)
Other operating income and expenses [2] [3]	264	250	253	4.8%	4.7%	275
Labor expenses [2] [3]	(8,268)	(8,264)	(8,200)	0.1%	0.8%	(8,340)
Operating taxes and levies [2] [3]	(1,809)	(1,844)	(1,851)	(2.0)%	(2.3)%	(1,893)
Adjusted EBITDA	**13,005**	**12,660**	**12,680**	**2.7%**	**2.6%**	**12,564**

(1) See Section 3.1.5.1 *Data on a comparable basis*.
(2) See Section 7.2.1 *Financial glossary*.
(3) Adjusted data (see Section 3.1.5 *Financial indicators not defined by IFRS* and Note 1 to the consolidated annual financial statements).

3.1.2.1.1 Revenue

3.1.2.1.1.1 Change in revenue

Revenue by segment [2] (at December 31, in millions of euros)	2018	2017 data on a comparable basis [1]	2017 data on a historical basis	% change data on a comparable basis [1]	% change data on a historical basis	2016 data on a historical basis
France	18,211	18,048	18,046	0.9%	0.9%	17,896
Spain	5,349	5,232	5,231	2.2%	2.3%	4,909
Europe	5,687	5,593	5,578	1.7%	2.0%	5,482
Africa & Middle East	5,190	4,940	5,030	5.1%	3.2%	5,245
Enterprise	7,292	7,308	7,251	(0.2)%	0.6%	7,346
International Carriers & Shared Services	1,534	1,633	1,651	(6.1)%	(7.1)%	1,812
Eliminations	(1,882)	(1,917)	(1,928)			(1,982)
Group total	41,381	40,837	40,859	1.3%	1.3%	40,708

(1) See Section 3.1.5.1 *Data on a comparable basis*.
(2) Revenues of telecoms activities (see Notes 1.1 and 4.1 to the consolidated annual financial statements). The Net Banking Income (NBI) of Orange Bank is recognized in other operating income (see Note 4.2 to the consolidated annual financial statements).

Revenue per offering [2] (at December 31, in millions of euros)	2018	2017 data on a comparable basis [1]	2017 data on a historical basis	% change data on a comparable basis [1]	% change data on a historical basis	2016 data on a historical basis
Convergent services	7,068	6,427	6,427	10.0%	10.0%	5,646
Mobile only services	10,272	10,140	10,202	1.3%	0.7%	10,614
Fixed only services	9,604	9,927	9,994	(3.2)%	(3.9)%	10,353
IT & integration services	2,349	2,191	2,077	7.2%	13.1%	2,050
Carrier services	7,931	8,050	8,065	(1.5)%	(1.7)%	8,103
Equipment sales	3,245	3,191	3,185	1.7%	1.9%	3,020
Other revenue	912	911	909	0.2%	0.3%	922
Group total	41,381	40,837	40,859	1.3%	1.3%	40,708

(1) See Section 3.1.5.1 *Data on a comparable basis*.
(2) Revenues of telecoms activities (see Notes 1.1 and 4.1 to the consolidated annual financial statements). The Net Banking Income (NBI) of Orange Bank is recognized in other operating income (see Note 4.2 to the consolidated annual financial statements).

→ 2018 vs 2017

In 2018, the revenue of the Orange group totaled 41,381 million euros, an increase of 1.3% on a historical basis and of 1.3% on a comparable basis compared with 2017.

On a **historical basis**, the 1.3% increase in Group revenue between 2017 and 2018, an increase of 522 million euros, includes:

- the negative impact of foreign exchange fluctuations totaling 189 million euros, chiefly attributable to changes in the value of the US dollar (for 84 million euros), the Egyptian pound (for 27 million euros), the Jordanian dinar (for 18 million euros) and the Argentine peso (for 10 million euros) against the euro;
- which is more than offset:
  - by the positive impact of changes in the scope of consolidation and other changes, which amounted to 167 million euros and mainly include the effects of the takeover of Business & Decision on 5 June 2018, and the acquisitions of Basefarm Holding on 14 August 2018 and Enovacom on 21 February 2018,
  - and by the organic change on a comparable basis, representing a 544 million euro increase in revenue.

On a **comparable basis**, the 1.3% or 544 million euro increase in Group revenue between 2017 and 2018 was attributable primarily to:

- the 250 million euro increase in revenue in Africa & Middle East countries (a 5.1% increase), due to the growth recorded in 13 of the 17 countries consolidated, driven by strong performances from the Sonatel subgroup (mainly in Guinea, Senegal and Mali), Egypt and the Ivory Coast subgroup (mainly Burkina Faso), Morocco and the Democratic Republic of the Congo (DRC). The increase in mobile only services reflects the momentum in data services and Orange Money (see Section 3.1.1.3 *Significant events*), partially offset by the decline in carrier services – particularly international carrier services – and incoming mobile traffic;
- the 163 million euro increase in revenue in France (an increase of 0.9%). This change was mainly due to (i) the favorable effect of including digital reading offers (see Section 3.1.1.3 *Significant events*), (ii) the growth of convergent services, driven by both the increase in customer base and the rise in 12-month convergent ARPO (see Section 7.2.1 *Financial glossary*), and (iii) to a lesser extent, the increase in mobile equipment sales, (iv) partially offset by the downward trend in fixed only narrowband services (traditional telephony), the contraction in mobile only services (mainly linked to the migration of contract offers to convergent offers and the structural decline in prepaid offers), and the decrease in carrier services (the growth in FTTH only partially offsetting the anticipated fall in revenue from national roaming and unbundling);
- the 117 million euro increase in revenue in Spain (a 2.2% increase), against a background of strong competition for entry into the mobile and fixed broadband markets. This change was mainly due to (i) the development of convergent services, which benefited from the increase in 12-month convergent ARPO (driven by the increase in access to very high-speed broadband and content offers) and growth in the customer base, and (ii) the increase in carrier services (the decline in incoming mobile traffic being more than offset by the growth in very high-speed broadband, other fixed revenues and the increase in national roaming);
- and the 94 million euro increase in revenue in Europe (a rise of 1.7%), mainly due to:
  - (i) strong growth in convergent services in Poland, Belgium and Romania, and to a lesser extent, (ii) the increase in sales of mobile equipment in Romania, and (iii) the growth of mobile carrier services (national roaming, incoming mobile traffic) and IT & integration services in Poland,
  - partially offset by (i) the contraction in fixed only services (structural decline in traditional telephony) and equipment sales in Poland, (ii) the downturn in mobile only services in Poland and Romania, linked to the migration to convergent offers, and (iii) the decrease in services to mobile virtual network operators (MVNOs) in Belgium.

These positive items were partially offset by:

- the 99 million euro fall in revenue from services to International carriers & Shared services (a 6.1% reduction), primarily due to more muted international carrier business (decline in the voice market for Africa and the Maghreb);
- and, to a lesser extent, the 16 million euro fall in revenue from services to Enterprises. Between the two periods, the contraction in fixed only services (voice and data services) and in mobile equipment sales are almost entirely offset by growth in IT & integration services.

→ 2017 vs 2016

In 2017, the revenue of the Orange group totaled 40,859 million euros, an increase of 0.4% on a historical basis and of 1.2% on a comparable basis compared with 2016.

On a **historical basis**, the 0.4% increase in Group revenue between 2016 and 2017, an increase of 151 million euros, includes:

- the negative impact of foreign exchange fluctuations, in the amount of 485 million euros, chiefly attributable to the change in the value of the Egyptian pound against the euro, resulting in an adverse impact of 517 million euros;
- which is more than offset:
  - by the favorable impact of changes in the scope of consolidation and other changes, which stood at 160 million euros and essentially included the effects of the acquisition of entities in Africa in 2016 (Airtel in Burkina Faso and Sierra Leone, Oasis (Tigo) in the Congo (DRC), and Cellcom Telecommunications in Liberia), for 186 million euros,
  - and by the organic change on a comparable basis, representing a 476 million euro increase in revenue.

On a **comparable basis**, the 1.2% or 476 million euro increase in Group revenue between 2016 and 2017 was attributable primarily to:

- the 322 million euro increase in revenue in Spain (up 6.6%). This change is mainly due to (i) strong growth in revenue from convergent services, driven by content offers and the development of very high-speed broadband access, (ii) growth in revenue from carrier services (national and visitor roaming), and (iii) to a lesser extent, the increase in revenue from fixed only services and equipment sales;
- the 150 million euro increase in revenue in France (an increase of 0.8%). This performance is largely due to (i) growth in revenue from convergent services and fixed carrier services, the positive effect of

including digital reading offers since early October 2017, and higher mobile equipment sales, (ii) partially offset by the downward trend in revenue from fixed narrowband services (traditional telephony) only, and the contraction in revenue from mobile only services. Between the two periods, the effect of the end of additional roaming charges in EU countries on June 15, 2017 is almost neutral on France's revenue, since the increase in visitor roaming makes up for the fall in customer roaming;

- the 149 million euro increase in revenue in Africa & Middle East countries (a 3.0% increase), driven by strong performances by the Sonatel subgroup (mainly in Mali and Guinea) and the Ivory Coast subgroup (mainly in Burkina Faso and Ivory Coast), as well as in Morocco;
- the 24 million euro increase in revenue in Europe (an increase of 0.4%). This performance is mainly due to (i) the increase in revenue from convergent services, mainly in Poland and Belgium, and to a lesser extent, the rise in equipment sales in Romania and higher revenue from mobile carrier services in Poland and Romania, (ii) partially offset by the fall in revenue from mobile only services in almost all European countries, and the decline in revenue from fixed only services in Poland (traditional telephony).

These positive items were partially offset by:

- the 155 million euro or 8.6% decline in revenue from services to International Carriers & Shared Services, primarily due to the downturn in fixed services to international carriers;
- the 65 million euro or 0.9% decline in Enterprise service revenue, due essentially to (i) the contraction in revenue from fixed only services (data and voice services), (ii) which was only partially offset by improved revenue from IT & integration services and from mobile equipment and services.

3.1.2.1.1.2 Change in the number of customers

Customers (2) (3) (at December 31, in thousands, at the end of the period)	2018	2017 data on a comparable basis (1)	2017 data on a historical basis	% change data on a comparable basis (1)	% change data on a historical basis	2016 data on a historical basis
Number of convergent customers	**10,890**	**10,319**	**10,319**	**5.5%**	**5.5%**	**9,285**
Number of mobile services customers (3)	**203,618**	**202,479**	**202,329**	**0.6%**	**0.6%**	**190,588**
o/w: Customers with convergent offers	18,671	17,292	17,292	8.0%	8.0%	15,120
Customers with mobile only offers	184,947	185,187	185,037	(0.1)%	(0.0)%	175,469
o/w: Contract customers	70,840	74,214	74,115	(4.5)%	(4.4)%	69,134
Prepaid customers	132,778	128,265	128,214	3.5%	3.6%	121,455
Number of fixed broadband service customers	**20,145**	**19,386**	**19,386**	**3.9%**	**3.9%**	**18,514**
o/w: Customers with very high-speed broadband access	6,345	4,762	4,762	33.2%	33.2%	3,306
o/w: Customers with convergent offers	10,890	10,319	10,319	5.5%	5.5%	9,285
Customers with fixed only offers	9,256	9,067	9,067	2.1%	2.1%	9,229
Number of fixed telephony customers	**40,199**	**41,706**	**41,706**	**(3.6)%**	**(3.6)%**	**42,650**
Group total (2) (3) (4)	263,962	263,573	263,423	0.1%	0.2%	251,777

(1) See Section 3.1.5.1 *Data on a comparable basis*.
(2) Since January 1st, 2018, the customer bases correspond solely to customers of the fully consolidated entities. The customers of associates and joint ventures (previously recognized in proportion to the Group's interest in these entities) are no longer taken into account. As a consequence, data for previous periods have been adjusted. This adjustment affects Tunisia, Mauritius, Iraq and Equatorial Guinea.
(3) Since January 1st, 2018, the recognition of the customer bases for mobile services in all countries is aligned with the Group's definitions (and no longer with local definitions). As a consequence, data for previous periods have been adjusted. This adjustment affects Morocco, Ivory Coast, Jordan and Cameroon. Excluding customers of Mobile Virtual Network Operators (MVNOs).
(4) Number of mobile services, fixed broadband and narrowband services and fixed telephony customers.

3.1.2.1.2 Adjusted EBITDA

(at December 31, in millions of euros)	2018	2017 data on a comparable basis [1]	2017 data on a historical basis	% change data on a comparable basis [1]	% change data on a historical basis	2016 data on a historical basis
Adjusted EBITDA	**13,005**	**12,660**	**12,680**	**2.7%**	**2.6%**	**12,564**
Telecoms activities	13,151	12,721	12,741	3.4%	3.2%	12,576
Adjusted EBITDA/Revenue of telecoms activities	*31.8%*	*31.2%*	*31.2%*			*30.9%*
Orange Bank activities	(147)	(62)	(62)	(136.3)%	(136.3)%	(12)

(1) See Section 3.1.5.1 *Data on a comparable basis*.

→ 2018 vs 2017

In 2018, Orange group adjusted EBITDA amounted to 13,005 million euros (breaking down into 13,151 million euros for the telecoms activities and a loss of 147 million euros for the Orange Bank activities), up 2.6% on a historical basis and 2.7% on a comparable basis compared with 2017. The ratio of adjusted EBITDA of telecoms activities to revenue was 31.8% in 2018, up 0,6 percentage points on a historical basis and 0,6 percentage points on a comparable basis compared with 2017.

Between 2017 and 2018, adjusted EBITDA received a 111 million euro boost from the inclusion of digital reading offers (see Section 3.1.1.3 *Significant events*), with a positive impact of 158 million euros in 2018 compared with 47 million euros in 2017.

On a **historical basis**, the 2.6% or 325 million euro rise in Group adjusted EBITDA between 2017 and 2018 reflected:

- the negative effect of foreign exchange fluctuations, which amounted to 28 million euros, mainly due to the performance of the U.S. dollar against the euro;
- which was more than offset by (i) the favorable impact of changes in the scope of consolidation and other changes, for 8 million euros, and (ii) organic growth on a comparable basis, for an increase of 345 million euros in adjusted EBITDA.

On a **comparable basis**, the 2.7% increase in the Group's adjusted EBITDA between 2017 and 2018 resulted mainly from:

- the growth in revenue of 1.3%, or 544 million euros, boosted by the inclusion of digital reading offers (see Section 3.1.1.3 *Significant events*);
- the 3.2% or 162 million euro reduction in service fees and inter-operator costs (see Section 7.2.1 *Financial glossary*), resulting (i) mainly from the reduction in interconnection fees for services to international carriers (linked to the downturn in traffic), and also from the fall in interconnection fees in Spain (especially with the reduction in national mobile termination rates in February 2018) and (ii) to a lesser extent, the reduction in enterprise service network fees, partially offset by growth linked to the development of cable offers in Belgium; and
- the fall of 2.0%, or 35 million euros in adjusted operating taxes and levies (see Section 7.2.1 *Financial glossary*), mainly in Africa & Middle East countries due to reversals of provisions following the expiration of tax risks in 2018;
- and the increase of 4.8%, or 14 million euros, in adjusted other operating income and expenses (see Section 7.2.1 *Financial glossary*), mainly due to (i) higher gains on disposal of fixed assets, largely for shared services, in Spain and Poland (taking into account the disposals made in 2018 as part of the streamlining of the real estate portfolio), and to a lesser extent, (ii) the improvement in the operational exchange rate, (iii) partially offset by the decrease in net banking income (due to the costs of acquiring new Orange Bank customers), and the increase in impairment losses and losses on trade receivables.

These positive items were partially offset by:

- the growth of 5.4%, or 163 million euros, in other external purchases (see Section 7.2.1 *Financial glossary*), particularly in France (purchases for resale related to the operation of networks managed by local authorities), in Africa & Middle East countries (real estate fees linked to network development and overheads), in Poland (reflecting trends in energy sales) and for enterprise services;
- the 1.8% or 127 million euro increase in commercial expenses and content costs (see Section 7.2.1 *Financial glossary*), primarily due to (i) the increase in soccer rights in Spain in line with the commercial momentum, (ii) agreements, extensions and renewals of partnerships in the area of content in 2017 and 2018 (see Section 3.1.1.3 *Significant events*), allowing offer enhancement, essentially in Europe and France, and (iii) the rise in commercial expenses, chiefly in the Africa & Middle East countries (linked for the most part to the business growth of Orange Money) and in Romania (in line with the increase in mobile equipment sales);
- the 3.8% or 116 million euro increase in other network expenses and IT expenses (see Section 7.2.1 *Financial glossary*), mainly in Africa & Middle East countries (primarily due to network development, particularly the development of 4G sites).

With an increase of 0.1%, or 4 million euros, adjusted labor expenses (see Section 7.2.1 *Financial glossary*) are broadly stable. Between the two periods, the effect of the 2.5% fall in the average number of full-time equivalent employees (see Section 7.2.1 *Financial glossary*), representing a decrease of 3,533 full-time equivalent employees (mainly in France and Poland), offsets in particular (i) the effect of wage policies in France and elsewhere, and (ii) the increase in share-based compensation (mainly due to the recognition in 2018 of expenses relating to the "Orange Vision 2020" free share award plans and "*Long Term Incentive Plan (LTIP) 2018-2020*") (see Section 3.1.1.3 *Significant events*).

→ 2017 vs 2016

In 2017, Orange group adjusted EBITDA amounted to 12,680 million euros (breaking down into 12,741 million euros for the telecoms activities and a loss of 62 million euros for the Orange Bank activities), up 0.9% on a historical basis and 2.1% on a comparable basis compared with 2016. The ratio of adjusted EBITDA to revenue of telecoms activities was 31.2% in 2017, up 0.3 points on both a historical and comparable basis compared with 2016.

On a **historical basis**, the 0.9% or 116 million euro rise in Group adjusted EBITDA between 2016 and 2017 reflected:

- the negative impact of foreign exchange fluctuations, which stood at 156 million euros, chiefly attributable to the change in the value of the Egyptian pound against the euro, resulting in an adverse impact of 165 million euros;
- which was more than offset by (i) the favorable impact of changes in the scope of consolidation and other changes, for 11 million euros, and (ii) organic growth on a comparable basis, for an increase of 261 million euros in adjusted EBITDA.

On a **comparable basis**, the 2.1% or 261 million euro rise in Group adjusted EBITDA between 2016 and 2017 reflected:

- the 1.2% or 476 million euro increase in revenue;
- the 1.7% or 140 million euro decline in adjusted labor expenses, resulting primarily from (i) the 2.7% reduction in the average number of employees (full-time equivalents), representing a reduction of 3,794 full-time equivalent employees, mainly in France and Poland, and (ii) the counter-effect of the recognition in 2016 of the *Orange Ambition 2016* employee shareholding plans;
- and the 2.8% or 147 million euro reduction in service fees and inter-operator costs, with the negative effect of the end of additional roaming charges in EU countries on June 15, 2017 more than offset by (i) the decline in traffic on international carrier services (related to the downturn in activity) and enterprise services (essentially due to the slowdown in satellite broadcasting services), and (ii) the drop in interconnection fees in Africa & Middle East countries (linked to the change in call termination rates and voice usage).

These positive items were partially offset by:

- the 5.2% or 349 million euro increase in commercial expenses and content costs, primarily due to (i) new agreements, extensions and renewals of partnerships in the area of content, allowing offer enhancement, particularly in France, (ii) the increase in soccer rights in Spain, in line with the commercial momentum, and (iii) the increase in commercial expenses, chiefly in Africa & Middle East countries (linked to business growth for Orange Money and data services), and for enterprise services (due to a major mobile equipment sales contract in the second half of 2017);
- the 24.1% or 79 million euro reduction in adjusted other operating income and expenses, due to the decline in adjusted other operating income, mainly caused by the fall in proceeds from the disposal of fixed assets, tax credits and subsidies, and late-payment interest on trade receivables;
- and the growth of 1.7% or 51 million euros in other network expenses and IT expenses, mainly in Africa & Middle East countries (notably due to the extension of the mobile network, particularly the deployment of 4G sites) and for enterprise services (in line with growth in integration and information technology services).

3

3.1.2.2 From Group adjusted EBITDA to operating income

This section presents the transition from Group adjusted EBITDA to operating income, by type of expense (see Section 3.1.5.2 *Adjusted EBITDA and reported EBITDA* and Note 1 to the consolidated annual financial statements).

(at December 31, in millions of euros)	2018	2017 data on a comparable basis (1)	2017 data on a historical basis	% change data on a comparable basis (1)	% change data on a historical basis	2016 data on a historical basis
Adjusted EBITDA	**13,005**	**12,660**	**12,680**	**2.7%**	**2.6%**	**12,564**
Significant litigations	(33)	(271)	(271)			10
Specific labor expenses	(812)	(374)	(374)			(525)
Investments and businesses portfolio review	17	-	(5)			59
Restructuring and integration costs	(200)	(166)	(167)			(499)
Other specific items	-	-	-			(8)
Reported EBITDA	**11,977**	**11,849**	**11,863**	**1.1%**	**1.0%**	**11,601**
Depreciation and amortization	(7,047)		(6,846)			(6,728)
Effects resulting from business combinations	-		(27)			97
Reclassification of translation adjustment from liquidated entities	1		(8)			14
Impairment of goodwill	(56)		(20)			(814)
Impairment of fixed assets	(49)		(190)			(207)
Share of profits (losses) of associates and joint ventures	3		6			(46)
Operating income	**4,829**		**4,778**		**1.1%**	**3,917**

(1) See Section 3.1.5.1 *Data on a comparable basis*.

3.1.2.2.1 Reported EBITDA

In 2018, Orange group reported EBITDA amounted to 11,977 million euros, up 1.0% or 114 million euros compared with 2017 on a historical basis. In 2017, Orange group reported EBITDA amounted to 11,863 million euros, up 2.3% or 262 million euros compared with 2016 on a historical basis.

On a **historical basis**, the transition from adjusted EBITDA to reported EBITDA for the Group resulted from:

- in 2018, in the total negative amount of 1,028 million euros:
  - a net expense of 33 million euros on significant litigation, corresponding to the reassessment of risk on various disputes,
  - 812 million euros in specific labor expenses, breaking down into 773 million euros for the French "Part-Time for Seniors" plans (TPS, relating to the agreements on the employment of senior workers in France) (see Notes 1.7 and 6 to the consolidated annual financial statements) and 39 million euros in related premiums, The charge recorded in 2018 is mainly from extending the 2015 French "Part-Time for Seniors" plan (TPS) for another three years (see Section 3.1.1.3 *Significant events*),
  - net income of 17 million euros relating to the review of the investments and business portfolio,
  - and 200 million euros in restructuring and integration costs (see Note 5.3 to the consolidated annual financial statements) relating primarily to employee departure plans and the streamlining of the real estate portfolio;
- in 2017, in the total negative amount of 817 million euros on a historical basis:
  - a net expense of 271 million euros on significant litigation, corresponding to the reassessment of risk on various disputes,
  - 374 million euros in specific labor expenses, largely breaking down into 310 million euros for the French "Part-Time for Seniors" plans (TPS, relating to agreements on the employment of senior workers in France) (see Notes 1.7 and 6 to the consolidated annual financial statements) and 85 million euros in related premiums,
  - a net expense of 5 million euros relating to the review of the investments and business portfolio,
  - and 167 million euros in restructuring and integration costs (see Note 5.3 to the consolidated annual financial statements) relating primarily to employee departure plans (essentially in Poland) and the streamlining of the real estate portfolio;
- and in 2016, for a total negative amount of 963 million euros on a historical basis:
  - net income on significant litigations of 10 million euros,
  - 525 million euros in specific labor expenses, breaking down into 432 million euros for the French "Part-Time for Seniors" plans (TPS, relating to the agreements on the employment of senior workers in France) (see Notes 1.7 and 6 to the consolidated annual financial statements) and 93 million euros in related premiums,
  - net income of 59 million euros relating to the review of the investments and business portfolio, mainly comprising a 49 million euro gain on the disposal of Fime (Enterprise services, see Note 1.7 to the consolidated annual financial statements),
  - restructuring and integration costs of 499 million euros (see Note 5.3 to the consolidated annual financial statements), primarily relating to (i) the distribution networks, mainly in France, with the end of M6 Mobile and the cost of terminating agreements with certain indirect distributors, (ii) employee redundancy plans, primarily in Spain, (iii) the optimization of real estate, and (iv) the cost of integrating Jazztel's business activities in Spain,
  - and 8 million euros in transaction costs relating to the unsuccessful negotiations with Bouygues Telecom.

3.1.2.2.2 Operating income

(at December 31, in millions of euros)	2018	2017 data on a historical basis	2016 data on a historical basis
Operating income	**4,829**	**4,778**	**3,917**
Telecoms activities	4,997	4,870	3,832
Orange Bank activities	(169)	(93)	85

→ 2018 vs 2017

In 2018, Orange group operating income amounted to 4,829 million euros (breaking down into 4,997 million euros for the telecoms activities and a loss of 169 million euros for the Orange Bank activities), compared with 4,778 million euros in 2017 on a historical basis, an increase of 1.1% or 51 million euros. On a **historical basis**, the increase was largely attributable to:

- the 114 million euro increase in reported EBITDA;
- a reduction of 105 million euros in impairment losses on goodwill and fixed assets (see Notes 7 and 8.2 to the consolidated annual financial statements), relating to the recognition of:
  - 105 million euros in impairment in 2018, primarily for Jordan for 56 million euros and Niger for 43 million euros. In Jordan, the goodwill impairment mainly reflects the effects of an uncertain political and economic climate and of a strong competitive pressure on fixed and mobile data markets. In Niger, the telecommunications market continues to lose value in a still-difficult business climate. The company is experiencing an economic and financial situation that has led it, by precaution, to recognize impairment of fixed assets to cover Orange's exposure according to the best current estimate,
  - of a 210 million euro impairment loss in 2017, primarily for the DRC for 120 million euros, Niger for 52 million euros, and Luxembourg for 19 million euros (see *2017 vs 2016* below);
- and, to a lesser extent, the counter-effect of the recognition of a loss of 27 million euros in 2017 due to the Groupama Bank (now Orange Bank) takeover in 2016 (see Note 3.2 to the consolidated annual financial statements);
- partially offset by the 201 million euro increase in depreciation and amortization (see Note 8.1 to the consolidated annual financial

statements), mostly in France and Spain, due primarily to (i) increased capital expenditure in recent years, particularly in relation to the very high-speed broadband network rollout (fiber and 4G), (ii) accelerated depreciation resulting from the scheduled shutdown of a platform in France, and (iii) the increase in depreciation relating to leased handsets, *Livebox*, and equipment installed on customer premises.

→ 2017 vs 2016

In 2017, Orange group operating income amounted to 4,778 million euros (breaking down into 4,870 million euros for the telecoms activities and a loss of 93 million euros for the Orange Bank activities), compared with 3,917 million euros in 2016 on a historical basis, an increase of 22.0% or 861 million euros. On a **historical basis**, the increase was largely attributable to:

- a reduction of 811 million euros in impairment losses on goodwill and fixed assets (see Notes 7 and 8.2 to the consolidated annual financial statements), relating to the recognition of:
  - 210 million euros in impairment in 2017, primarily for the Congo (DRC) for 120 million euros, Niger for 52 million euros, and Luxembourg for 19 million euros. In the DRC, the impairment loss reflected a still-uncertain political and economic context, a clear decline in purchasing power, with its effects on consumption of telecommunications products and services, and continued regulatory pressure. In Niger, the impairment loss signaled an uncertain political and economic context and the effects of strong tax and regulatory pressure. In Luxembourg, the impairment loss was an indication of strong competitive pressure,
  - an impairment loss of 1,021 million euros in 2016, chiefly attributable to Poland for 494 million euros, Egypt for 232 million euros, the DRC for 109 million euros, Cameroon for 90 million euros, Romania for 55 million euros, and Niger for 26 million euros. In Poland, the impairment loss mainly reflects a decline in competitiveness in the ADSL market, a deterioration in revenue assumptions in the mobile market, and an increase in the post-tax discount rate due to the downgrading of the country's sovereign rating by the rating agencies. In Egypt, the impairment loss reflects the financial terms of the 4G license awarded in 2016, the sharp depreciation of the Egyptian pound and increased political and economic uncertainty. In the DRC, the impairment loss reflects the political and economic uncertainty, a decline in purchasing power with a knock-on effect on the consumption of telecommunications products and services, and an increased regulatory burden (particularly connected with the implementation of customer identification). In Cameroon, the impairment loss reflects a decline in voice revenue following the rise in messaging services and in VoIP of Over-The-Top (OTT) providers, and heightened competition in the mobile market. In Romania, following the adoption of IFRS 15 with effect from 1 January 2016 (see Note 2.3.2 to the consolidated annual financial statements), the Group reassessed the net carrying amount of the cash-generating unit (CGU) and recorded a goodwill impairment loss of 55 million euros;
- the 262 million euro increase in reported EBITDA;
- and the 52 million euro improvement in the share of profits (losses) of associates and joint ventures (see Note 10 to the consolidated annual financial statements), which represents a 6 million euro gain in 2017 compared with a 46 million euro loss in 2016;
- partially offset by:
  - the effects of the Groupama Banque takeover (now Orange Bank), with the recognition of a loss of 27 million euros in 2017 compared to a profit of 97 million euros in 2016 (see Note 3.2 to the consolidated annual financial statements),
  - and the 118 million euro increase in depreciation and amortization (see Note 8.1 to the consolidated annual financial statements). This increase was largely attributable to (i) increased investment in recent years, particularly in respect of very high-speed broadband network rollout (4G and FTTH) in Europe, particularly in France and Spain, (ii) the increase in the accelerated depreciation of certain fixed assets in France, and (iii) the increased depreciation of leased handsets, *Livebox*, and equipment installed on customer premises, particularly in France and Spain, (iv) partially offset by the positive effect on depreciation and amortization of the devaluation of the Egyptian pound against the euro at the end of 2016.

3.1.2.3 From Group operating income to net income

(at December 31, in millions of euros)	2018	2017 data on a historical basis	2016 data on a historical basis
Operating income	**4,829**	**4,778**	**3,917**
Cost of gross financial debt	(1,341)	(1,274)	(1,407)
Gains (losses) on assets contributing to net financial debt	9	11	23
Foreign exchange gains (losses)	(4)	(63)	(149)
Other net financial expenses	25	(17)	(31)
Effects resulting from BT stake	(51)	(372)	(533)
Finance costs, net	**(1,362)**	**(1,715)**	**(2,097)**
Income tax	(1,309)	(1,052)	(951)
Consolidated net income of continuing operations	**2,158**	**2,011**	**869**
Net income after tax of discontinued operations (EE)	-	29	2,253
Consolidated net income	**2,158**	**2,040**	**3,122**
Net income attributable to owners of the parent company	1,954	1,843	2,813
Non-controlling interests	204	197	309

→ 2018 vs 2017

The consolidated net income of the Orange group totaled 2,158 million euros in 2018, compared with 2,040 million euros in 2017, an increase of 118 million euros. This increase was chiefly attributable to:

- the 353 million euro improvement in net finance costs (see Note 11.2 to the consolidated annual financial statements), most of which came from the change in effects relating to the 321 million euro investment in BT Group, with the recognition of a 51 million euro expense in 2018, compared with a 372 million euro expense in 2017 (see Note 11.7 to the consolidated annual financial statements); and
- the 51 million euros rise in operating income;
- partially offset by the 257 million euro increase in income tax (see Note 9.2 to the consolidated annual financial statements):
  - the counter-effect in France in 2017 of (i) tax income of 304 million euros relating to the dispute over the 3% dividend tax, (i) partially offset by the additional income tax expense of 78 million euros due to the exceptional surtax applicable to fiscal year 2017,
  - and the recognition in Spain of a deferred tax expense of 86 million euros in 2018 to reflect the negative effect of strong competitive pressure on the recoverable amount of the deferred tax assets recognized.

Non-controlling interests amounted to 204 million euros in 2018, compared with 197 million euros in 2017 (see Note 13.6 to the consolidated annual financial statements). After taking into account non-controlling interests, the net income attributable to owners of the parent company totaled 1,954 million euros in 2018, compared with 1,843 million euros in 2017, constituting a rise of 111 million euros.

→ 2017 vs 2016

The consolidated net income of the Orange group totaled 2,040 million euros in 2017, compared with 3,122 million euros in 2016, a decrease of 1,082 million euros. This decline was chiefly attributable to:

- the counter-effect of the recognition in 2016 of a positive result of 2,253 million euros representing the net income of discontinued operations, namely EE, (see Note 3.2 to the consolidated annual financial statements), corresponding to (i) the gain on disposal of 2,080 million euros on EE, and (ii) dividends received from EE in January 2016 (prior to disposal) in the amount of 173 million euros;
- and the 101 million euro increase in corporate income tax (see Note 9.2 to the consolidated annual financial statements), which was mainly due to the counter-effect of the recognition, in 2016, of a 256 million euro deferred tax expense relating to Spain. This charge reflected the reduction in deferred tax assets on the balance sheet due to an adverse change to the rules governing the use of tax loss carryforwards in Spain in 2016;
- partially offset by:
  - the 861 million euro rise in operating income,
  - and by the 382 million euro improvement in net finance costs (see Note 11.2 to the consolidated annual financial statements), which is chiefly attributable to (i) effects relating to the investment in BT Group (see Note 11.7 to the consolidated annual financial statements), with the recognition of a 372 million euro expense in 2017, versus 533 million euros in 2016 (impairment of shares partially offset by the effect of the hedging of foreign exchange risk and dividends), (ii) improvement in the cost of gross financial debt, due mainly to the reduction in interest on bond debt after hedging effects, and (iii) improved financial foreign exchange income.

Non-controlling interests amounted to 197 million euros in 2017, compared with 309 million euros in 2016 (see Note 13.6 to the consolidated annual financial statements). After taking into account non-controlling interests, net income attributable to owners of the parent company totaled 1,843 million euros in 2017, compared with 2,813 million euros in 2016, for a drop of 970 million euros.

3.1.2.4 From Group net income to comprehensive net income

The transition from consolidated net income to consolidated comprehensive income is described in the consolidated statement of comprehensive income in the consolidated annual financial statements.

3.1.2.5 Group capital expenditures

Investments in property, plant and equipment and intangible assets [2] (at December 31, in millions of euros)	2018	2017 data on a comparable basis [1]	2017 data on a historical basis	% change data on a comparable basis [1]	% change data on a historical basis	2016 data on a historical basis
CAPEX	7,442	7,191	7,209	3.5%	3.2%	6,971
Telecommunications licenses	200	314	318	(36.3)%	(36.9)%	1,521
Investments financed through finance leases	136	44	43	209.6%	209.4%	91
Group total	**7,778**	**7,549**	**7,570**	**3.0%**	**2.7%**	**8,583**

(1) See Section 3.1.5.1 *Data on a comparable basis*.
(2) See Notes 1.3 and 8 to the consolidated annual financial statements.

Between 2017 and 2018, the increase in the Group's investments in property, plant and equipment and intangible assets was due to the higher CAPEX and, to a lesser extent, to the increase in investments financed through finance leases, partially offset by the fall in acquisitions of telecommunication licenses. Between 2016 and 2017, the decline in the Group's investments in property, plant and equipment and intangible assets was largely attributable to the counter-effect of major telecommunication license acquisitions (mainly 4G) recorded in 2016.

Financial investments (see Section 7.2.1 *Financial glossary*) are described in Section 3.1.4 *Cash flow, equity and financial debt*.

3.1.2.5.1 Capital expenditure

3.1.2.5.1.1 CAPEX

(at December 31, in millions of euros)	2018	2017 data on a comparable basis [1]	2017 data on a historical basis	% change data on a comparable basis [1]	% change data on a historical basis	2016 data on a historical basis
CAPEX	**7,442**	**7,191**	**7,209**	**3.5%**	**3.2%**	**6,971**
Telecoms activities	7,406	7,131	7,148	3.9%	3.6%	6,956
CAPEX/Revenue of telecoms activities	*17.9%*	*17.5%*	*17.5%*			*17.1%*
Orange Bank activities	36	60	61	(40.4)%	(40.4)%	15

(1) See Section 3.1.5.1 *Data on a comparable basis*.

→ 2018 vs 2017

In 2018, the CAPEX of the Orange group amounted to 7,442 million euros (including 7,406 million euros for telecoms activities and 36 million euros for Orange Bank activities), up 3.2% on a historical basis and 3.5% on a comparable basis compared with 2017. The ratio of CAPEX to revenue of telecoms activities was 17.9% in 2018, up 0.4 points on both a historical and a comparable basis compared with 2017.

On a **historical basis**, the 3.2% or 233 million euro rise in Group CAPEX between 2017 and 2018 reflected:

- the negative effect of foreign exchange fluctuations for 26 million euros;
- which was more than offset by (i) the positive impact of changes in the scope of consolidation and other changes, for 8 million euros, and (ii) organic growth on a comparable basis, or an increase of 251 million euros in CAPEX.

On a **comparable basis**, the 3.5% or 251 million euro increase in Group CAPEX between 2017 and 2018 was attributable mainly to:

- higher capital expenditure on very high-speed fixed broadband networks (fiber, see Section 3.1.1.3 *Significant events*), mainly in France and, to a lesser extent, Africa & Middle East countries (notably Jordan, Morocco and Senegal) and in Poland. In 2018, Group capital expenditure benefited from co-financing from other operators, mostly in France and Spain. At 31 December 2018, 32.5 million households had connectivity to very high-speed broadband (an increase of 22.4% year-on-year), including 13.8 million in Spain, 11.8 million in France, 3.4 million in Poland, and 2.3 million in Romania (following the mutual network sharing agreement with Telekom Romania);
- higher capital expenditure on very high-speed broadband mobile networks (4G, see Section 3.1.1.3 *Significant events*), mainly in France and, to a lesser extent, Africa & Middle East countries (notably Mali, Morocco and Senegal) and in Poland. At December 31, 2018, 4G coverage rates reached 98.6% of the population in France, 96.9% in Spain, 99.8% in Poland, 99.7% in Belgium, 97.4% in Luxembourg, 96.9% in Romania, 94.0% in Slovakia, and 98.0% in Moldova. In Africa & Middle East, 12 countries (excluding associates and joint ventures) had 4G coverage at the end of December 2018;
- and, to a lesser extent, (i) the increase in investments in IT and customer service platforms, mainly relating to transformation projects in Spain, shared services, and the redesign of information systems in Africa & Middle East countries, and (ii) additional investments in network real estate, stores and other assets, mostly in Africa & Middle East countries and for shared services (linked to the adaptation and modernization of the real estate portfolio);
- partially offset by (i) the fall in investments in 2G/3G mobile networks after significant capital expenditure in this area in recent years, notably in Africa & Middle East countries, and (ii) declining investment in leased terminals, *Livebox* and equipment installed on customer premises, due in particular to the optimization of *Livebox* costs in France and reduced customer project requirements for enterprise services.

→ 2017 vs 2016

In 2017, the CAPEX of the Orange group amounted to 7,209 million euros (including 7,148 million euros for telecoms activities and 61 million euros for Orange Bank activities), up 3.4% on a historical basis and on a comparable basis compared with 2016. The ratio of CAPEX to revenue of telecoms activities was 17.5% in 2017, up 0.4 percentage points on a historical basis and 0.3 percentage points on a comparable basis compared with 2016.

On a **historical basis**, the 3.4% or 238 million euro rise in Group CAPEX between 2016 and 2017 reflected:

- (i) the positive impact of changes in the scope of consolidation and other changes, which totaled 23 million euros and mainly included the effect of the acquisition of Airtel in Burkina Faso for 14 million euros on June 22, 2016, (ii) partially offset by the negative impact of foreign exchange fluctuations in the amount of 20 million euros, chiefly attributable to changes in the value of the Egyptian pound against the euro, resulting in an adverse impact of 27 million euros;
- and the organic change on a comparable basis, representing a 235 million euro increase in CAPEX.

On a **comparable basis**, the 3.4% or 235 million euro increase in Group CAPEX between 2016 and 2017 was attributable mainly to:

- increased investment in very high-speed broadband mobile networks (4G), mainly in Africa & Middle East countries (accelerated rollouts, 4G coverage in 11 countries at the end of December 2017, excluding associates and joint ventures), as well as in France and Spain (network quality improvement in public spaces, tourist destinations and transit networks);
- growing investment in very high-speed fixed broadband networks (vDSL and FTTH), principally in France, Poland, Belgium, and countries in Africa & Middle East;
- and, to a lesser extent, by Orange Bank's investments in IT, in conjunction with the commercial launch of the Orange Bank offer at the end of 2017;
- partially offset by lower investment in network real estate, stores, and sundry other.

3.1.2.5.1.2 Telecommunications licenses

In 2018, acquisitions of telecommunication licenses (see Note 8.3 to the consolidated annual financial statements) totaled 200 million euros and mainly involved (i) Spain for 149 million euros (with the acquisition of a 5G license for 142 million euros), (ii) the DRC for 21 million euros (acquisition of a 4G license), and Senegal for 21 million euros (first tranche of the acquisition of additional 4G frequency blocks).

In 2017, acquisitions of telecommunication licenses amounted to 318 million euros on a **historical basis** and mainly involved (i) Mali for 152 million euros (acquisition of a universal license renewing existing licenses and including a 4G license), (ii) Senegal for 76 million euros (second tranche of the acquisition of a universal license renewing existing licenses and including a 4G license), and (iii) Jordan for 49 million euros (acquisition of additional 3G frequency blocks).

In 2016, acquisitions of telecommunication licenses amounted to 1,521 million euros on a **historical basis** and mainly involved (i) Poland for 719 million euros (acquisition of two 5 MHz frequency blocks in the 800 MHz band and three 5 MHz frequency blocks in the 2,600 MHz band), (ii) Egypt for 377 million euros (acquisition of two 10 MHz frequency blocks in the 1,800 MHz and 2,100 MHz bands, and one fixed virtual network operator license), (iii) Ivory Coast for 146 million euros (primarily the renewal of licenses with a universal license including 4G), (iv) Jordan for 142 million euros (renewal of 2G/2G frequency blocks), and (v) Senegal for 76 million euros (first tranche of the acquisition of a universal license renewing existing licenses and including a 4G license).

3.1.2.5.2 Investment commitments

Investment commitments are set out in Note 14 to the consolidated annual financial statements.

3.1.2.5.3 Investment projects

As part of the *Essentials2020* strategic plan, the Group will pursue its strategy of differentiation by the quality of its networks and its customer experience. This strategy is based on targeted investments that reinforce the superiority of its networks and provide enhanced services. In addition, the Group will rely on Lean CAPEX, its new investment optimization program, with the goal of gradually reducing unit costs by 15%. This will yield one billion euros in gross savings by 2020, which will be partially reinvested, in line with the Group's objectives, to enable Orange to accelerate its transformation. Group-wide, investments will fall slightly after the peak recorded in 2018.

Investment will accelerate in **FTTx fixed networks** (fiber optic and other very high-speed broadband technology) which provide very high-speed broadband Internet access.in 2019. This will mainly concern France and Spain, enabling the Group to remain the market leader in very high-speed fixed broadband networks. In France, Orange is confirming its central role in the rollout of very high-speed broadband, with responsibility for 80% of the rollout in areas currently awaiting FTTH investment. It is also pursuing its goal of giving 20 million households and businesses connectivity by the end of 2021 in very densely and moderately densely populated areas. In Spain, Orange will maintain a robust level of very high-speed broadband rollout, notably by maximizing infrastructure sharing agreements to optimize costs. Orange has set itself the target of connecting nearly 16 million households to very high-speed broadband by the end of 2020 (covering almost 60% of Spanish households). In Poland, Orange is continuing an ambitious investment plan to support its convergence strategy, taking advantage of EU subsidies. Orange plans to step up fiber connections with the aim of giving more than 5 million households connectivity by the end of 2020. In Romania, 2019 will see the rollout of fiber to supplement existing coverage under the infrastructure sharing agreement with Telekom Romania. In Slovakia, the fiber optic network will continue to be rolled out in 2019. In Belgium, the convergence strategy will continue to be rolled out through TV and Internet offers developed on the cable network. In Moldova, rollout of the very high-speed fixed broadband network will continue, extending the existing coverage to support the convergence strategy.

Investments in **4G mobile networks** will be pursued in 2019. The aim is to exceed 96% coverage of the population in all European countries in which Orange operates. In France, Orange will pursue its premium mobile operator strategy by maintaining a sufficient rollout rate to cover 99% of the population by the end of 2019. It will also increase its network in rural areas to meet the regulatory commitments imposed by the French telecoms regulator Arcep, on behalf of the government, as part of the *New Deal* agreement (see Section 3.1.1.3 *Significant events*). In Spain, Orange will continue its 4G network rollout with investments focusing increasingly on improving the customer experience. In Poland, investments in 2019 and beyond will focus on improving domestic coverage. In Romania and Slovakia, the Group will continue to invest in order to improve population coverage rates. Orange will also continue its 4G network rollout in Africa & Middle East countries.

In addition, against a backdrop of strong growth in mobile Internet traffic, the Group is actively preparing for the arrival of **5G technology**. In 2019, the rollout of 5G will take place on existing 4G sites with *Massive MIMO* smart antenna technology (which boosts signal quality for the user while reducing spurious background emissions). 5G will be set up in 17 European cities in 2019 ahead of its launch in 2020, once enough 5G smartphones are available (see Section 3.1.1.3 *Significant events*).

Lastly, as part of Orange's goal to excel in customer relations, 883 Smart Stores were open at the end of 2018 in 16 countries worldwide. The Group's ambition is to open more than 1,400 Smart Stores in France, Spain, Europe and Africa & Middle East countries by the end of 2020.

3.1.3 Analysis by operating segment

Changes in the presentation of segment information

The new organization of Orange Group's Executive Committee implemented with effect from May 2, 2018 (see Section 3.1.1.3 *Significant events*) has led the Group to review how its segment information is presented, without changing the definition of its operating segments (see Note 1.7 to the consolidated annual financial statements).

Decisions regarding the allocation of resources and the assessment of the performance of the various components of Orange are taken by the Chairman and Chief Executive Officer (the chief operating decision-maker) at operating segment level, which are primarily organized on a geographic basis. Thus, the operating segments are:

- France (excluding Enterprise);
- Spain;
- Poland, Belgium, Luxembourg, and each of the Central European countries (Moldova, Romania, and Slovakia). The Europe aggregate encompasses the operating segments in that area;
- the Sonatel subgroup (comprising the entities in Senegal, Mali, Guinea, Guinea-Bissau, and Sierra Leone), the Ivory Coast subgroup (combining the entities in the Ivory Coast, Burkina Faso, and Liberia), and each of the other countries in Africa & Middle East (mainly Botswana, Cameroon, the Central African Republic (CAR), the Democratic Republic of the Congo (DRC), Egypt, Jordan, Madagascar, Morocco, and Niger). The Africa & Middle East aggregate shown includes the operating segments in that area;
- Enterprise services, which covers communication solutions and services for businesses in France and worldwide;
- International Carriers & Shared Services ("IC & SS"), which encompasses (i) the rollout of the international and long-distance network, installation and maintenance of submarine cables, and sales and services to international carriers, and (ii) shared services including support and cross-divisional functions spanning the entire Group (information systems, research and development and other activities common to the Group), Content operations, and the Orange brand;
- and Orange Bank.

Historical data, comparable basis data and customer bases for fiscal years 2017 and 2016 have been restated to reflect this change.

For more details on segment information, see Note 1 to the consolidated annual financial statements.

Operating data by segment

The table below shows the key operating data (financial data and workforce) for the Orange group by segment for (i) FY 2018, (ii) FY 2017 on a comparable basis (compared with 2018) and on a historical basis, and (iii) 2016 on a comparable basis (compared with 2017) and on a historical basis.

For the year ended December 31 (in millions of euros)	France	Spain	Europe	Africa & Middle East
2018				
Revenue	18,211	5,349	5,687	5,190
Adjusted EBITDA	7,076	1,700	1,508	1,667
Reported EBITDA	6,348	1,660	1,502	1,655
Operating income	3,198	555	339	659
CAPEX	3,656	1,120	953	1,008
Telecommunications licenses	(1)	149	10	42
Average number of employees	56,102	6,695	21,823	14,956
2017 – Data on a comparable basis [1]				
Revenue	18,048	5,232	5,593	4,940
Adjusted EBITDA	6,879	1,568	1,460	1,585
Reported EBITDA	6,446	1,564	1,422	1,565
CAPEX	3,451	1,115	899	999
Telecommunications licenses	11	10	-	293
Average number of employees	59,680	6,569	22,706	15,210
2017 – Data on a historical basis				
Revenue	18,046	5,231	5,578	5,030
Adjusted EBITDA	6,878	1,567	1,456	1,612
Reported EBITDA	6,444	1,563	1,417	1,591
Operating income	3,368	555	240	522
CAPEX	3,451	1,115	897	1,021
Telecommunications licenses	11	10	-	297
Average number of employees	59,622	6,565	22,636	15,210
2016 – Data on a comparable basis [1]				
Revenue	17,896	4,909	5,554	4,881
Adjusted EBITDA	6,730	1,353	1,578	1,506
Reported EBITDA	6,129	1,226	1,562	1,471
CAPEX	3,431	1,086	886	954
Telecommunications licenses	-	51	747	685
Average number of employees	63,094	6,399	23,255	15,783
2016 – Data on a historical basis				
Revenue	17,896	4,909	5,482	5,245
Adjusted EBITDA	6,729	1,351	1,558	1,658
Reported EBITDA	6,128	1,224	1,543	1,638
Operating income	3,304	278	(169)	68
CAPEX	3,421	1,086	874	962
Telecommunications licenses	-	51	728	742
Average number of employees	63,094	6,401	23,255	15,368

(1) See Section 3.1.5.1 *Data on a comparable basis*.

	Enterprise	International Carriers & Shared Services	Telecoms activities eliminations	Telecoms activities total	Orange Bank	Group eliminations	Group total
	7,292	1,534	(1,879)	41,384	-	(3)	41,381
	1,245	(45)	-	13,151	(147)	1	13,005
	1,153	(194)	-	12,124	(148)	1	11,977
	765	(519)	-	4,997	(169)	1	4,829
	353	316	-	7,406	36	-	7,442
	-	-	-	200	-	-	200
	22,963	12,621	-	135,160	783	-	135,943
	7,308	1,633	(1,916)	40,838	-	(1)	40,837
	1,306	(77)	-	12,721	(62)	1	12,660
	1,258	(345)	-	11,910	(62)	1	11,849
	385	282	-	7,131	60	-	7,191
	-	-	-	314	-	-	314
	22,163	12,485	-	138,813	663	-	139,476
	7,251	1,651	(1,926)	40,861	-	(2)	40,859
	1,306	(78)	-	12,741	(62)	1	12,680
	1,258	(349)	-	11,924	(62)	1	11,863
	889	(704)	-	4,870	(93)	1	4,778
	382	282	-	7,148	61	-	7,209
	-	-	-	318	-	-	318
	20,807	12,535	-	137,375	663	-	138,038
	7,316	1,806	(1,979)	40,383	-	-	40,383
	1,330	(43)	-	12,454	(35)	-	12,419
	1,239	(193)	-	11,434	(35)	-	11,399
	335	267	-	6,959	15	-	6,974
	-	-	-	1,483	-	-	1,483
	20,125	12,670	-	141,326	506	-	141,832
	7,346	1,812	(1,982)	40,708	-	-	40,708
	1,336	(56)	-	12,576	(12)	-	12,564
	1,292	(212)	-	11,613	(12)	-	11,601
	916	(565)	-	3,832	85	-	3,917
	336	277	-	6,956	15	-	6,971
	-	-	-	1,521	-	-	1,521
	20,316	12,680	-	141,114	143	-	141,257

3

3.1.3.1 France

France (at December 31, in millions of euros)	2018	2017 data on a comparable basis [1]	2017 data on a historical basis	% change data on a comparable basis [1]	% change data on a historical basis	2016 data on a historical basis
Revenue	18,211	18,048	18,046	0.9%	0.9%	17,896
Adjusted EBITDA	7,076	6,879	6,878	2.9%	2.9%	6,729
Adjusted EBITDA/Revenue	*38.9%*	*38.1%*	*38.1%*			*37.6%*
Reported EBITDA	6,348	6,446	6,444	(1.5)%	(1.5)%	6,128
Operating income	3,198		3,368		(5.0)%	3,304
CAPEX	3,656	3,451	3,451	6.0%	6.0%	3,421
CAPEX/Revenue	*20.1%*	*19.1%*	*19.1%*			*19.1%*
Telecommunications licenses	(1)	11	11	NA	NA	-
Average number of employees	56,102	59,680	59,622	(6.0)%	(5.9)%	63,094

(1) See Section 3.1.5.1 *Data on a comparable basis*.

3.1.3.1.1 Revenue – France

France (at December 31, in millions of euros)	2018	2017 data on a comparable basis [1]	2017 data on a historical basis	% change data on a comparable basis [1]	% change data on a historical basis	2016 data on a historical basis
Revenue	**18,211**	**18,048**	**18,046**	**0.9%**	**0.9%**	**17,896**
Retail services [2]	10,974	10,798	10,798	1.6%	1.6%	10,777
Convergent services	4,458	4,045	4,045	10.2%	10.2%	3,598
Mobile only services	2,348	2,409	2,409	(2.6)%	(2.6)%	2,612
Fixed only services	4,168	4,344	4,344	(4.1)%	(4.1)%	4,567
– Fixed only broadband services	2,565	2,535	2,535	1.2%	1.2%	2,493
– Fixed only narrowband services	1,603	1,809	1,809	(11.4)%	(11.4)%	2,074
Carrier services	5,342	5,390	5,388	(0.9)%	(0.8)%	5,294
Equipment sales	1,410	1,386	1,386	1.7%	1.7%	1,340
Other revenue	485	474	474	2.5%	2.5%	485

(1) See Section 3.1.5.1 *Data on a comparable basis*.
(2) See Section 7.2.1 *Financial glossary*.

→ 2018 vs 2017

On a **historical basis**, the 165 million euro increase in revenue in France between 2017 and 2018 stemmed from (i) the positive impact of changes in the scope of consolidation and other changes amounting to 2 million euros, and (ii) organic change on a comparable basis representing a 163 million euro increase in revenue.

On a **comparable basis**, the 163 million euro increase in revenue in France between 2017 and 2018 was mainly attributable to (i) the positive effect of including digital reading offers (see Section 3.1.1.3 *Significant events*), (ii) convergent services revenue growth, (iii) the development of fiber, particularly as part of the rollout and operation of networks managed by local authorities, and (iv) to a lesser extent, by the increase in equipment sales, (v) partially offset by the downward trend in fixed only narrowband services (traditional telephony), the anticipated fall in revenue from national roaming and the fall in regulated prices for unbundling.

France's mobile and fixed customer bases withstood the highly competitive environment between 2017 and 2018, both on a historical and comparable basis:

- the total mobile customer base contracted by only 0.4% year-on-year, with 21.7 million customers at December 31, 2018. Contract customers rose 2.1% year-on-year. This growth reflects both (i) the growth in premium offers, with Open convergent offers (which reached 9.3 million customers at December 31, 2018), and (ii) the growth in entry-level offers, with the development of *SIM-only* offers, including Sosh digital offers (which totaled 3.8 million customers at December 31, 2018). In addition, there were 15.0 million 4G customers at December 31, 2018, an increase of 9.9% year-on-year;
- the total fixed broadband customer base stood at 11.5 million customers at December 31, 2018, up 2.1% year-on-year (232,000 new customers). This growth was driven essentially by (i) the development of fiber optic offers, which increased by 29.7% (i.e. 593,000 new customers), for a total of 2.6 million customers at December 31, 2018, and (ii) the momentum of convergent offers, which grew by 2.6% and had 6.1 million customers at December 31, 2018. In addition, 7.0 million customers subscribed to IPTV and satellite TV offers at December 31, 2018, up 2.7%.

On a **comparable basis**, the 413 million euro increase in revenue from convergent services between the two periods was mainly attributable to:

- the 2.6% year-on-year increase in the convergent customer base, with 6.1 million customers at December 31, 2018. This growth in volume, although negatively impacted by the discontinuation of "Sosh+Livebox" convergent offers, is driven by the success of Open offers. It is also boosted by the rise in the number of mobile phones per household, with 9.7 million convergent mobile customers at December 31, 2018 (up 5.5% year-on-year), or 1.6 mobile phones per convergent customer. Convergent customers represented 59.5% of the retail fixed broadband customer base at December 31, 2018;
- and the growth in value. In this respect, 12-month convergent ARPO (see Section 7.2.1 *Financial glossary*) increased by 3.2% between December 31, 2017 and December 31, 2018, mainly due to the positive effect of including digital reading offers.

On a comparable basis, the 61 million euro decline in revenue from mobile only services was mainly due to (i) the 4.7% reduction in the mobile only customer base (because of the migration from contract offers to convergent offers) and the structural decline in the prepaid customer base, (ii) partially offset by the 1.7% growth in 12-month mobile only ARPO (see Section 7.2.1 *Financial glossary*).

On a comparable basis, revenue from fixed only services fell by 176 million euros between the two periods, due to the downward trend in traditional telephony (down by 11,4% or 207 million euros) and customer migration to convergent offers. Revenue from fixed only broadband services were up 1.2% year-on-year, driven by the 2.1% growth in 12-month fixed only broadband ARPO (see Section 7.2.1 *Financial glossary*) and the 1.5% year-on-year increase in the fixed only broadband customer base.

On a comparable basis, the 48 million euro decrease in revenue from carrier services between the two periods was mainly due to:

- (i) the structural decline in national roaming revenue, and (ii) the decline in revenue from wholesale ADSL access, caused by lower unbundling rates and accelerated migration of customers to very high-speed broadband networks, especially FTTH. The number of copper telephone lines sold to other operators totaled 13.1 million at December 31, 2018, a decline of 4.6% year-on-year;
- partially offset by the growth in revenue from the construction, operation and sale of fiber optic networks.

On a comparable basis, the 24 million euro increase in revenue from equipment sales between the two periods was largely due to higher mobile equipment sales.

→ 2017 vs 2016

On both a **historical** and a **comparable basis**, the 150 million euro (0.8%) increase in revenue in France between 2016 and 2017 is attributable chiefly to (i) growth in revenue from convergent services and fixed carrier services, the favorable impact of including digital reading offers since the beginning of October 2017, and the higher equipment sales, (ii) partially offset by the downward trend in revenue from fixed only narrowband services (traditional telephony), and the contraction in revenue from mobile only services. Between the two periods, the effect of the end of additional roaming charges in EU countries on June 15, 2017 is almost neutral on France's revenue, the increase in visitor roaming making up almost entirely for the fall in customer roaming.

Despite intense competition, France's mobile and fixed customer bases grew between 2016 and 2017, both on a historical and comparable basis:

- the total mobile customer base stood at 21.8 million customers at December 31, 2017, up 0.6% year-on-year. Contract customers rose 4.0% year-on-year. This growth reflects both (i) the growth in premium offers, with Open convergent offers (which reached 8.7 million customers at December 31, 2017), and (ii) the growth in entry-level offers, with the development of *SIM-only* offers, including Sosh digital offers (which totaled 3.6 million customers at December 31, 2017). In addition, there were 13.6 million 4G customers at December 31, 2017, an increase of 20.8% year-on-year;
- the total fixed broadband customer base stood at 11.2 million customers at December 31, 2017, up 3.1% year-on-year (339,000 new customers). This growth was driven essentially by (i) the development of fiber optic offers, which rose by 37.6% (i.e. 546,000 new customers), with a total of 2.0 million customers at December 31, 2017, and (ii) the momentum of convergent offers, which grew by 8.5% and had 6.0 million customers at December 31, 2017, representing 59.3% of the retail fixed broadband customer base at that date. In addition, 6.9 million customers subscribed to IPTV and satellite TV offers at December 31, 2017, up 3.8%.

On both a **historical** and a **comparable basis**, revenue from convergent services rose 447 million euros (12.4%) year-on-year. This growth reflects both:

- the 8.5% increase in the convergent customer base (466,000 new customers year-on-year), driven by the momentum of Open premium offers. At December 31, 2017, the number of SIM cards in convergent offers had risen 11.7% year-on-year;
- and the 1.3% increase in convergent ARPO over 12 months, which benefited, particularly in the fourth quarter, from the positive effect of the inclusion of digital reading offers since early October 2017.

On both a historical and a comparable basis, the 203 million euro decline (i.e. a fall of 7.7%) in revenue for mobile only services was mainly due to:

- the 6.3% contraction in the mobile only customer base, mainly due to the migration of customers to more attractive convergent offers and a 16.7% year-on-year decrease in prepaid offers;
- and a 1.8% year-on-year reduction in mobile only ARPO, despite the favorable change in the customer mix as the decline in the number of contract customers was less than for prepaid offers.

On both a historical basis and a comparable basis, the decrease of 223 million euros (or 4.9%) in revenue from fixed only services is due to (i) the fall of 265 million euros (or 12.8%) in fixed only narrowband services, on account of the downward trend in fixed telephony revenue, (ii) partially offset by the 42 million euro (or 1.7%) growth in fixed only broadband services.

The growth in revenue from fixed only broadband services between the two periods arose from:

- the 3.7% increase in fixed only broadband ARPO over 12 months, supported by (i) the growing proportion of fiber offers with higher added value, and (ii) to a lesser extent, the favorable impact due to the inclusion of digital reading offers since early October 2017;
- partially offset by the 2.4% contraction in the fixed only broadband customer base year-on-year (a loss of 127,000 customers), mainly due to the migration of customers to more attractive convergent offers.

On both a historical and a comparable basis, the 94 million increase (i.e. 1.8%) in revenue for carrier services was mainly due to:

- (i) the increase in revenue related to the sale of wholesale ADSL access, supported by the increase in unbundling tariffs, and (ii) higher revenue from fiber optic infrastructure building and from sharing these networks. The number of copper lines sold to other carriers totaled 13.7 million at December 31, 2017, a decline of 1.9% year-on-year. This decline was partially offset by the growth in the number of FTTH outlets sold to other operators;
- and increased revenue from visitor roaming and network sharing;
- partially offset by the anticipated fall in revenue from the national roaming agreement.

3

3.1.3.1.2 Adjusted EBITDA – France

→ 2018 vs 2017

On a **historical basis**, the 198 million euro increase in adjusted EBITDA in France between 2017 and 2018 reflects (i) the negative impact of changes in the scope of consolidation and other changes for 1 million euros, and (ii) is more than offset by the organic change on a comparable basis, i.e. a 197 million euro increase in adjusted EBITDA.

Between 2017 and 2018, adjusted EBITDA received a 111 million euro boost from the inclusion of digital reading offers (see Section 3.1.1.3 *Significant events*), with a positive impact of 158 million euros in 2018 compared with 47 million euros in 2017.

On a **comparable basis**, the 197 million euro increase in adjusted EBITDA in France between 2017 and 2018 was mainly attributable to:

- (i) 163 million euros in revenue growth, (ii) the fall in labor expenses, resulting primarily from the lower average number of employees (full-time equivalents) thanks to the ongoing transformation plans, and (iii) to a lesser extent, the decrease in other operating expenses and the reduction in commercial expenses and content costs;
- partially offset by (i) the increase in other external purchases, largely due to purchases for resale related to the operation of networks managed by local authorities, and (ii) the reduction in other operating income.

→ 2017 vs 2016

On a **historical basis**, the 149 million euro increase in adjusted EBITDA in France between 2016 and 2017 was attributable to (i) the 1 million euro favorable impact of changes in the scope of consolidation and other changes, and (ii) organic change on a comparable basis, i.e. a 148 million euro increase in adjusted EBITDA.

On a **comparable basis**, the 148 million euro increase in adjusted EBITDA in France between 2016 and 2017 was mainly attributable to:

- lower labor expenses, resulting primarily from (i) the lower average number of employees (full-time equivalents) permitted by the acceleration of transformation plans, with a decline in interactions in stores and in customer relations, and growth in digital actions, and (ii) to a lesser extent, the counter-effect of the recognition of the *Orange Ambition 2016* Employee shareholding plan in 2016;
- and the 150 million euro growth in revenue;
- partially offset by (i) the increased cost of content, due primarily to new agreements, partnership extensions and renewals in the area of content, allowing offer enhancement, and (ii) the reduction in other operating income and expenses.

3.1.3.1.3 Operating income – France

→ 2018 vs 2017

On a **historical basis**, the 170 million euro decrease in operating income in France between 2017 and 2018 was largely attributable to:

- (i) the 307 million euro increase in specific labor expenses, primarily for the "Part-Time for Seniors" (TPS) plan (relating to agreements on the employment of older workers in France) and related bonuses, particularly with the three-year extension of the plan in December 2018 (see Section 3.1.1.3 *Significant events*), (ii) the 102 million euro increase in restructuring and integration costs, and (iii) the 75 million euro increase in depreciation and amortization, mainly linked to the increase in investments made in recent years (including the rollout of fiber);
- partially offset by (i) the 198 million euro increase in adjusted EBITDA, and (ii) the counter-effect of the recognition in 2017 of a 115 million euro charge for significant litigation.

→ 2017 vs 2016

On a **historical basis**, the 64 million euro increase in operating income in France between 2016 and 2017 was largely attributable to:

- (i) the counter-effect of the recognition in 2016 of 166 million euros in restructuring and integration costs, chiefly for streamlining the distribution networks (see Section 3.1.2.2.1 *Reported EBITDA*), (ii) the 128 million euro reduction in specific labor expenses, mainly for French "Part-Time for Seniors" plans (TPS) and related bonuses, and (iii) the 149 million euro increase in adjusted EBITDA;
- partially offset by:
  - the 250 million euro increase in depreciation and amortization, largely attributable to (i) increased investment in recent years for the rollout of very high-speed fixed and mobile broadband networks (4G and FTTH), (ii) accelerated depreciation of certain fixed assets, and (iii) the depreciation of leased handsets, *Livebox*, and equipment installed at customer premises,
  - and by the recognition of a 115 million euro expense for significant litigation.

3.1.3.1.4 CAPEX – France

→ 2018 vs 2017

On both a **historical** and a **comparable basis**, the 205 million euro increase in CAPEX in France between 2017 and 2018 was largely attributable to increased investment in very high-speed fixed and mobile broadband networks (fiber, which is co-financed by other operators, and 4G – see Section 3.1.1.3 *Significant events*). At December 31, 2018, France thus had 11.8 million households with very high-speed broadband connectivity, up 29.8% year-on-year. In addition, the 4G network covered 98.6% of the population in France at 31 December 2018, a rise of 2.7 percentage points year-on-year.

→ 2017 vs 2016

On a **historical basis**, the 30 million euro increase in CAPEX in France between 2016 and 2017 was attributable to (i) the positive effect of changes in the scope of consolidation and other changes, for 10 million euros, and (ii) organic change on a comparable basis, i.e. a 20 million euro increase in CAPEX.

On a **comparable basis**, the 20 million euro increase in CAPEX in France between 2016 and 2017 was mainly attributable to the increased investment in very high-speed fixed and mobile broadband networks (4G and fiber).

3.1.3.1.5 Acquisitions of telecommunication licenses – France

In 2018 and in 2016, no telecommunications license acquisition was recognized in France. In 2017, acquisitions of telecommunication licenses amounted to 11 million euros.

3.1.3.1.6 Additional information – France

France (at December 31, in thousands, at the end of the period)	2018	2017 data on a comparable basis [1]	2017 data on a historical basis	% change data on a comparable basis [1]	% change data on a historical basis	2016 data on a historical basis
Convergent services						
Number of convergent customers	6,132	5,978	5,978	2.6%	2.6%	5,512
Convergent ARPO over 12 months (in euros) [3]	64.8	62.8	62.8	3.2%	3.2%	61.9
Mobile services						
Number of mobile services customers [2]	21,725	21,803	21,803	(0.4)%	(0.4)%	21,677
o/w: Customers with convergent offers	9,746	9,237	9,237	5.5%	5.5%	8,267
Customers with mobile only offers	11,979	12,566	12,566	(4.7)%	(4.7)%	13,410
o/w: Contract customers	19,234	18,847	18,847	2.1%	2.1%	18,130
Prepaid customers	2,491	2,956	2,956	(15.7)%	(15.7)%	3,547
Mobile only ARPO over 12 months (in euros) [3]	17.2	16.9	16.9	1.7%	1.7%	17.2
Fixed-line services						
Number of fixed broadband service customers	11,460	11,228	11,228	2.1%	2.1%	10,889
o/w: Customers with very high-speed broadband access	2,592	1,999	1,999	29.7%	29.7%	1,452
o/w: Customers with convergent offers	6,132	5,978	5,978	2.6%	2.6%	5,512
Customers with fixed only offers	5,328	5,250	5,250	1.5%	1.5%	5,377
Fixed only broadband ARPO over 12 months (in euros) [3]	38.7	38.0	38.0	2.1%	2.1%	36.6
Number of fixed telephone lines	28,619	29,580	29,580	(3.3)%	(3.3)%	30,103
o/w: Retail [4]	15,480	15,804	15,804	(2.0)%	(2.0)%	16,038
o/w: Conventional fixed telephone lines (PSTN)	5,515	6,345	6,345	(13.1)%	(13.1)%	7,173
Operator	13,102	13,736	13,736	(4.6)%	(4.6)%	14,008

(1) See Section 3.1.5.1 *Data on a comparable basis*.
(2) Excluding customers of Mobile Virtual Network Operators (MVNOs).
(3) See Section 7.2.1 *Financial glossary*.
(4) This figure includes (i) standard analog lines (excluding fully unbundled lines) and Numeris (ISDN) channels, each Numeris channel being recognized as a line, (ii) lines without narrowband (naked ADSL) telephone contracts sold directly by Orange to its retail customers, (iii) fiber optic (FTTH), and (iv) fixed 4G and other accesses.

3.1.3.2 Spain

Spain (at December 31, in millions of euros)	2018	2017 data on a comparable basis [1]	2017 data on a historical basis	% change data on a comparable basis [1]	% change data on a historical basis	2016 data on a historical basis
Revenue	5,349	5,232	5,231	2.2%	2.3%	4,909
Adjusted EBITDA	1,700	1,568	1,567	8.4%	8.5%	1,351
Adjusted EBITDA/Revenue	*31.8%*	*30.0%*	*30.0%*			*27.5%*
Reported EBITDA	1,660	1,564	1,563	6.1%	6.2%	1,224
Operating income	555		555		0.1%	278
CAPEX	1,120	1,115	1,115	0.4%	0.5%	1,086
CAPEX/Revenue	*20.9%*	*21.3%*	*21.3%*			*22.1%*
Telecommunications licenses	149	10	10	ns	ns	51
Average number of employees	6,695	6,569	6,565	1.9%	2.0%	6,401

(1) See Section 3.1.5.1 *Data on a comparable basis*.

3.1.3.2.1 Revenue – Spain

Spain (at December 31, in millions of euros)	2018	2017 data on a comparable basis [1]	2017 data on a historical basis	% change data on a comparable basis [1]	% change data on a historical basis	2016 data on a historical basis
Revenue	**5,349**	**5,232**	**5,231**	**2.2%**	**2.3%**	**4,909**
Retail services	3,855	3,810	3,808	1.2%	1.2%	3,590
Convergent services	2,143	2,078	2,078	3.1%	3.1%	1,855
Mobile only services	1,215	1,231	1,229	(1.3)%	(1.1)%	1,260
Fixed only services	496	501	501	(1.0)%	(1.0)%	475
Carrier services	810	753	754	7.5%	7.4%	676
Equipment sales	684	669	669	2.3%	2.3%	643

(1) See Section 3.1.5.1 *Data on a comparable basis*.

→ 2018 vs 2017

On a **historical basis**, the 118 million euro increase in revenue in Spain between 2017 and 2018 is attributable to (i) the positive impact of changes in the scope of consolidation and other changes, amounting to 1 million euros, and (ii) organic change on a comparable basis, representing a 117 million euro increase in revenue.

On a **comparable basis**, the 117 million euro increase in revenue in Spain between 2017 and 2018 is largely attributable to (i) the growth in revenue from convergent services, (ii) the growth in revenue from fixed carrier services, and (iii) to a lesser extent, the increase in revenue from equipment sales.

On a comparable basis, Spain's mobile and fixed customer bases have withstood strong competition:

- the total mobile customer base stood at 16.2 million customers at December 31, 2018, up 1.8% from December 31, 2017. Offers with contracts totaled 13.5 million customers at December 31, 2018, up 2.3% year-on-year, whereas prepaid offers (amounting to 2.7 million customers at December 31, 2018) recorded a 5.7% decline over the same period. The number of 4G customers reached 9.8 million at December 31, 2018, an increase of 4.7% year-on-year;
- the total fixed broadband customer base totaled 4.1 million customers at December 31, 2018. The very high-speed fixed broadband customer base grew significantly, up 27.6% year-on-year to stand at 2.9 million customers at December 31, 2018. At December 31, 2018, digital television offers also grew by 14.5% year-on-year. This was driven by content offers – particularly enhanced TV offers with soccer and optional premium offers – and led to a TV penetration rate of more than 17%.

On a **comparable basis**, the 65 million euro increase in revenue from convergent services between the two periods mainly resulted from (i) the continued expansion of convergent offers and (ii) the simultaneous growth of the corresponding customer base, which reached 3.1 million customers at December 31, 2018, an increase of 1.1% year-on-year. In parallel, 12-month convergent ARPO rose by 1.3% year-on-year. Convergence offers now represent 84.7% of the retail fixed broadband customer base at December 31, 2018.

On a comparable basis, the 16 million euro decrease in revenue from mobile only services between the two periods was essentially caused by the fall in revenue from prepaid offers, due to the 5.7% contraction year-on-year in the number of prepaid customers. However, mobile only ARPO grew by 0.8% for the 12 months to December 31, 2018, while the mobile only customer base grew by 0.4% year-on-year.

On a comparable basis, revenue from fixed only services saw a 5 million euro decrease between December 31, 2017 and December 31, 2018. The decline in revenue from fixed only broadband and narrowband services (down 6.6% year-on-year) was partially offset by the 30.4% growth in revenue from enterprise solutions and fixed networks. Furthermore, fixed only broadband ARPO over 12 months was up 2.3% year-on-year.

On a comparable basis, the 56 million euro increase in revenue from carrier services between the two periods was driven by (i) the development of very high-speed broadband access and national roaming, (ii) partially offset by the decline in incoming mobile traffic (impact of the cuts in call termination rates since February 2018).

On a comparable basis, revenue from equipment sales rose by 15 million euros between the two periods due to the improvement in IoT commercial activity (smart security).

→ 2017 vs 2016

On both a **historical** and a **comparable basis**, the 322 million euro increase (i.e. 6.6%) in Spain's revenue between 2016 and 2017 is mainly due to (i) strong growth in revenue from convergent services, driven by content offers and the development of very high-speed broadband access, (ii) growth in revenue from carrier services (national and visitor roaming), and (iii) to a lesser extent, the increase in revenue from fixed only services and equipment sales.

On a comparable basis, Spain's mobile and fixed customer bases grew between 2016 and 2017:

- the total mobile customer base stood at 15.9 million customers at December 31, 2017, up 1.1% year-on-year. Contract customers (excluding M2M) rose 1.8% year-on-year. In addition, there were 9.3 million 4G customers at December 31, 2017, an increase of 18.2% year-on-year;
- the total fixed broadband customer base stood at 4.2 million customers at December 31, 2017, up 0.5% year-on-year (20,000 new customers). This growth was driven essentially by (i) the expansion of the very high-speed fixed broadband customer base, which increased by 40.4% (i.e. 650,000 new customers) to total 2.3 million customers at December 31, 2017, and (ii) the momentum of convergent offers, which grew by 1.9% to 3.1 million customers at December 31, 2017, equivalent to 83.1% of the retail fixed broadband customer base at that date. In addition, 626,000 customers subscribed to IPTV and satellite TV offers at December 31, 2017, up 23.4%.

On a **comparable basis**, revenue from convergent services rose 223 million euros (12.0%) year-on-year. This growth reflects both:

- the 6.5% increase in convergent ARPO over 12 months, benefiting in particular from ongoing enhancement of offers;
- and the 1.9% growth in the convergent customer base (i.e. 57,000 new customers year-on-year), linked to (i) the momentum of very high-speed broadband access, and (ii) the development of content offers such as soccer championship broadcasts. At December 31, 2017, the number of SIM cards in convergent offers had risen 3.9% year-on-year.

On a comparable basis, the 31 million euro decline (i.e. a fall of 2.5%) in revenue for mobile only services was mainly due to:

- the 0.5% contraction in the mobile only customer base, mainly due to the migration of customers to more attractive convergent offers and a 11.7% year-on-year decrease in prepaid offers;
- partially offset by the 1.2% increase year-on-year in mobile only ARPO, boosted by ongoing offer enhancement.

On a comparable basis, the 26 million euro increase (i.e. 5.4%) in revenue for fixed only services was mainly due to:

- the 3.8% growth in revenue from fixed only broadband services between the two periods. The 3.3% decrease in the fixed only broadband customer base (due in particular to the migration of customers to more attractive convergent offers) is more than offset by the 3.1% rise in fixed only broadband ARPO over 12 months;
- and by the growth in revenue from enterprise solutions and fixed networks.

On a comparable basis, the increase of 78 million euros (11.6%) in revenue from carrier services is mainly due to the growth in mobile services provided to other carriers, with (i) the increase in national roaming, and (ii) the increase in visitor roaming, impacted by the end of additional roaming charges in EU countries on June 15, 2017.

On a comparable basis, the increase of 26 million euros (i.e. 4.0%) in revenue from equipment sales was driven by the growth in mobile equipment sales.

3.1.3.2.2 Adjusted EBITDA – Spain

→ 2018 vs 2017

On a **historical basis**, the 133 million euro increase in adjusted EBITDA in Spain between 2017 and 2018 can be attributed to (i) the positive impact of changes in the scope of consolidation and other changes of 1 million euros, and (ii) organic growth on a comparable basis amounting to an increase of 132 million euros in adjusted EBITDA.

On a **comparable basis**, the 132 million euro increase in adjusted EBITDA in Spain between 2017 and 2018 mainly resulted from (i) the 117 million euro increase in revenue, (ii) the increase in other operating income, mainly due to fixed asset disposals recognized in 2018, and (iii) the decline in service fees and inter-operator costs (with a fall in national mobile termination rates in February 2018), (iv) partly offset by the increase in content costs, primarily due to soccer rights and offer enhancement, in line with the commercial momentum.

→ 2017 vs 2016

On a **historical basis**, the 216 million euro increase in adjusted EBITDA in Spain between 2016 and 2017 can be attributed to (i) the positive impact of changes in the scope of consolidation and other changes of 2 million euros, and (ii) organic growth on a comparable basis amounting to an increase of 214 million euros in adjusted EBITDA.

On a **comparable basis**, the 214 million euro increase in adjusted EBITDA in Spain between 2016 and 2017 is mainly due to growth in revenue of 322 million euros, partially offset by (i) the increase in commercial expenses and content costs, primarily as a result of the increase in soccer-related rights, and (ii) the increase in network expenses related to business development.

3.1.3.2.3 Operating income – Spain

→ 2018 vs 2017

On a **historical basis**, the stability of Spain's operating income between 2017 and 2018 mainly stems from the 133 million euro increase in adjusted EBITDA, largely offset by (i) the 97 million euro increase in depreciation and amortization, essentially owing to increased investment in recent years as part of the deployment of very high-speed broadband networks (4G and fiber) and the increased depreciation of leased handsets, *Livebox*, and equipment installed on customer premises, and (ii) the recognition, in the first half of 2018, of a 31 million euro charge relating to significant litigation.

→ 2017 vs 2016

On a **historical basis**, the 277 million euro increase in operating income in Spain between 2016 and 2017 was primarily due to (i) the 216 million euro increase in adjusted EBITDA, and (ii) the counter-effect of the recognition in 2016 of 127 million euros in restructuring and integration costs, largely due to employee departure plans and the cost of integrating Jazztel (see Section 3.1.2.2.1 *Reported EBITDA*), (iii) partially offset by the 62 million euro increase in depreciation and amortization, chiefly attributable to increased investment in recent years for the very high-speed fixed and mobile broadband networks (FTTH and 4G).

3.1.3.2.4 CAPEX – Spain

→ 2018 vs 2017

On both a **historical** and a **comparable basis**, the 5 million euro increase in CAPEX in Spain between 2017 and 2018 was largely attributable to increased investment in information systems and service platforms, offset by co-financing received from other carriers in very high-speed broadband networks (see Section 3.1.1.3 *Significant events*).

→ 2017 vs 2016

On both a **historical** and a **comparable basis**, the 29 million euro increase in CAPEX in Spain between 2016 and 2017 was chiefly as a result of increased investment in very high-speed mobile networks (4G).

3.1.3.2.5 Acquisitions of telecommunication licenses – Spain

In 2018, acquisitions of telecommunication licenses in Spain amounted to 149 million euros and mainly corresponded to the acquisition of a 5G license (see Note 8.3 to the consolidated annual financial statements). Acquisitions of telecommunication licenses in Spain amounted (i) in 2017, to 10 million euros, and (ii) in 2016, to 51 million euros for the acquisition of 4G frequency blocks in the 2,600 MHz and 3,500 MHz bands.

3.1.3.2.6 Additional information – Spain

Spain (at December 31, in thousands, at the end of the period)	2018	2017 data on a comparable basis [1]	2017 data on a historical basis	% change data on a comparable basis [1]	% change data on a historical basis	2016 data on a historical basis
Convergent services						
Number of convergent customers	3,116	3,082	3,082	1.1%	1.1%	3,024
Convergent ARPO over 12-month (in euros) [3]	58.2	57.4	57.4	1.3%	1.3%	53.9
Mobile services						
Number of mobile services customers [2]	16,186	16,043	15,893	0.9%	1.8%	15,727
o/w: Customers with convergent offers	5,881	5,776	5,776	1.8%	1.8%	5,557
Customers with mobile only offers	10,305	10,267	10,117	0.4%	1.9%	10,170
o/w: Contract customers	13,477	13,169	13,069	2.3%	3.1%	12,531
Prepaid customers	2,709	2,874	2,823	(5.7)%	(4.1)%	3,196
Mobile only ARPO over 12 months (in euros) [3]	12.4	12.3	12.3	0.8%	0.8%	12.2
Fixed-line services						
Number of fixed broadband service customers	4,155	4,152	4,152	0.1%	0.1%	4,132
o/w: Customers with very high-speed broadband access	2,883	2,260	2,260	27.6%	27.6%	1,610
o/w: Customers with convergent offers	3,116	3,082	3,082	1.1%	1.1%	3,024
Customers with fixed only offers	1,039	1,071	1,071	(3.0)%	(3.0)%	1,107
Fixed only broadband ARPO over 12 months (in euros) [3]	31.5	30.8	30.8	2.3%	2.3%	29.9

(1) See Section 3.1.5.1 *Data on a comparable basis*.
(2) Excluding customers of Mobile Virtual Network Operators (MVNOs).
(3) See Section 7.2.1 *Financial glossary*.

3.1.3.3 Europe

Europe (at December 31, in millions of euros)	2018	2017 data on a comparable basis [1]	2017 data on a historical basis	% change data on a comparable basis [1]	% change data on a historical basis	2016 data on a historical basis
Revenue	5,687	5,593	5,578	1.7%	2.0%	5,482
Adjusted EBITDA	1,508	1,460	1,456	3.3%	3.6%	1,558
Adjusted EBITDA/Revenue	*26.5%*	*26.1%*	*26.1%*			*28.4%*
Reported EBITDA	1,502	1,422	1,417	5.6%	6.0%	1,543
Operating income	339		240		41.2%	(169)
CAPEX	953	899	897	6.1%	6.2%	874
CAPEX/Revenue	*16.8%*	*16.1%*	*16.1%*			*15.9%*
Telecommunications licenses	10	-	-	ns	ns	728
Average number of employees	21,823	22,706	22,636	(3.9)%	(3.6)%	23,255

(1) See Section 3.1.5.1 *Data on a comparable basis*.

3.1.3.3.1 Revenue – Europe

Europe (at December 31, in millions of euros)	2018	2017 data on a comparable basis [(1)]	2017 data on a historical basis	% change data on a comparable basis [(1)]	% change data on a historical basis	2016 data on a historical basis
Revenue	**5,687**	**5,593**	**5,578**	**1.7%**	**2.0%**	**5,482**
Retail services	3,516	3,442	3,445	2.1%	2.1%	3,435
Convergent services	467	304	305	53.5%	53.4%	193
Mobile only services	2,194	2,252	2,254	(2.6)%	(2.7)%	2,332
Fixed only services	697	757	757	(7.9)%	(7.9)%	803
IT & integration services	158	129	129	22.2%	22.1%	107
Carrier services	1,150	1,133	1,133	1.4%	1.5%	1,079
Equipment sales	868	847	840	2.4%	3.3%	789
Other revenue	153	171	160	(9.4)%	(3.5)%	179

(1) See Section 3.1.5.1 *Data on a comparable basis*.

Europe (at December 31, in millions of euros)	2018	2017 data on a comparable basis [(1)]	2017 data on a historical basis	% change data on a comparable basis [(1)]	% change data on a historical basis	2016 data on a historical basis
Revenue	5,687	5,593	5,578	1.7%	2.0%	5,482
Poland	2,605	2,593	2,590	0.5%	0.6%	2,585
Belgium & Luxembourg	1,280	1,252	1,245	2.3%	2.8%	1,248
Central European countries [(2)]	1,813	1,756	1,750	3.2%	3.6%	1,652
Eliminations	(11)	(8)	(7)	29.3%	29.3%	(3)

(1) See Section 3.1.5.1 *Data on a comparable basis*.
(2) Central European countries: entities in Moldova, Romania and Slovakia.

→ 2018 vs 2017

On a **historical basis**, the 109 million euro increase in revenue in Europe between 2017 and 2018 stems from (i) foreign exchange gains of 4 million euros, (ii) the favorable impact of changes in the scope of consolidation and other changes for 11 million euros, and (iii) organic change on a comparable basis, representing a 94 million increase in revenue.

On a **comparable basis**, the 94 million euro increase in revenue from Europe between 2017 and 2018 was mainly due to (i) the growth in Convergent services (Poland, Belgium and Romania), and to a lesser extent (ii) the increase in Integration and IT services, (iii) the growth in Equipment Sales, and (iv) the growth in Carrier services (mainly in Poland), (iv) partially offset by the decline in Mobile only services and Fixed only services (mainly in Poland) and the decrease in Other revenue.

On a comparable basis, the change in mobile and fixed customer bases in Europe between 2017 and 2018 mainly reflects the good progress in mobile and fixed customer bases in Poland, Belgium and Luxembourg:

- the total mobile customer base was 33.8 million customers at December 31, 2018, up 1.6% year-on-year, in line with the increase in the mobile customer bases in Belgium and Poland. The growth in contract offers (up 3.3% year-on-year) is driven by the growth in convergent offers, particularly with the *Love* offers in Poland and Belgium. The number of 4G customers reached 14.8 million at December 31, 2018, up 22.3% year-on-year;
- the fixed broadband customer base reached 3.3 million at December 31, 2018, up 10.5% year-on-year, due to the strong growth in the very high-speed broadband customer base in all European countries. This increase was mainly driven by (i) the development of very high-speed broadband offers, particularly cable offers in Belgium, and (ii) by convergent offers that continue to grow with 382,000 new customers in one year, mainly in Poland and Romania. Moreover, 1.8 million customers had subscribed to IPTV and satellite TV offers at December 31, 2018, up 17.9% year-on-year.

On a **comparable basis**, the 163 million euro increase in Convergent services revenue mainly resulted from the migration of customers to convergent offers in most European countries. The convergent customer base grew by 30.3% year-on-year (mainly in Poland, Belgium and Romania) and stood at 1.6 million customers at December 31, 2018. Convergent customers now make up 50.3% of the consumer fixed broadband customer base at December 31, 2018, up 7.6 points year-on-year.

On a comparable basis, the 58 million euro deterioration in Mobile only services revenue between the two periods notably reflects the 0.7% fall in the mobile only customer base, which is mainly due to the migration of customers towards convergent offers in almost all countries, and especially in Poland.

On a comparable basis, the 60 million euros decrease in Fixed only services revenue (stemming for the most part from Poland) between the two periods mainly resulted from (i) by the downward trend in fixed-line telephony revenue in Poland and (ii) customer migration towards convergent offers, which was very marked in Poland.

On a comparable basis, the 29 million euro increase in IT and integration services between the two periods was largely related to the enterprise market in Poland.

On a comparable basis, the 17 million euro increase in revenue for Carrier services between the two periods was largely related to (i) the growth in national roaming (Poland, Slovakia), the growth in visitor roaming (Belgium, Romania) and the increase in incoming mobile traffic in Poland, (ii) partially offset by the decline in virtual mobile network operators (MVNO) in Belgium.

On a comparable basis, the 21 million euro increase in Equipment sales between the two periods stems from the growth in mobile equipment sales, particularly in Romania, due to the increase in smartphone penetration.

On a comparable basis, the 18 million euro decrease in Other revenue between the two periods mainly stems from the decline in other revenues in Belgium, and to a lesser extent, in Poland despite the development of energy offers.

→ 2017 vs 2016

On a **historical basis**, the 96 million euro increase in revenue in Europe between 2016 and 2017 stemmed from (i) foreign exchange gains of 72 million euros, due notably to exposure to the zloty compared to the euro, and (ii) organic change on a comparable basis representing a 24 million euro increase in revenue.

On a **comparable basis**, the 24 million euro increase (i.e. 0.4%) in revenue in Europe between 2016 and 2017 was mainly due to:

- (i) the increase in revenues for Convergent services, mainly in Poland and Belgium, and to a lesser extent, (ii) by the increase in Equipment sales in Romania, and (iii) by the increase in mobile Carrier services in Poland and Romania;
- partially offset by (i) the decrease in revenue in Mobile only services in almost all European countries, and (ii) the decline in revenue in Fixed only services in Poland.

Between the two periods, the impact of the end of additional roaming charges in European Union countries on June 15, 2017 has a slightly unfavorable impact on Europe revenue, as the fall in customer roaming is only partially offset by the increase in visitor roaming.

On a comparable basis, the change in mobile and fixed customer bases in Europe between 2016 and 2017 mainly reflects the change in customer bases in Poland:

- as at December 31, 2017, the total mobile customer base was 33.2 million customers, down 4.8% year-on-year, mainly in Poland and Romania. Contract customers (excluding M2M) rose 2.4% year-on-year. In addition, there were 12.1 million 4G customers at December 31, 2017, an increase of 34.9% year-on-year;
- the total fixed broadband customer base reached 3.0 million customers at December 31, 2017, up 19.1% year-on-year (i.e. 474,000 new customers), mainly in Poland, Romania and Belgium. This growth was driven essentially by (i) the development of the fixed very high-speed broadband customer base, which doubled in one year, totalling 488,000 customers at December 31, 2017 and (ii) the positive momentum in *Love* convergent offers which grew by 68.2% with 1.3 million customers at December 31, 2017. 1.5 million customers had subscribed to IPTV and satellite TV offers at December 31, 2017, up 15.9% year-on-year.

On a **comparable basis**, the 107 million euro (54.3%) increase in Convergent services revenue between the two periods mainly resulted from the appetite and migration of customers to convergent offers in most European countries. The convergent customer base grew by 68.2% year-on-year (mainly in Poland, Romania and Belgium) and stood at 1.3 million customers at December 31, 2017. Convergent customers now make up 42.7% of the consumer fixed broadband customer base at December 31, 2017, up 12.4 points year-on-year.

On a comparable basis, the 101 million euro (4.3%) deterioration in Mobile only services revenue year-on-year mainly reflects the 8.0% fall in the mobile only customer base, which is mainly due to (i) the migration of customers towards convergent offers in almost all countries, and especially in Poland, and (ii) the strong decline in prepaid offers, due notably to the customer identification obligation in Poland and Belgium.

On a comparable basis, the 63 million euros (7.7%) decrease in Fixed only services revenue (stemming for the most part from Poland) between the two periods mainly resulted from (i) by the downward trend in fixed-line telephony revenue in Poland and (ii) customer migration towards convergent offers, which was very marked in Poland.

On a comparable basis, the 20 million euro (18.0%) increase in IT and integration services between the two periods was largely related to the positive momentum in the enterprise services market in Poland.

On a comparable basis, the 40 million euro (3.7%) increase in Carrier services revenue between the two periods resulted primarily from the increased in mobile services to other carriers in Poland, Romania and to a lesser extent, Slovakia. The growth in visitor roaming (due to the impact of the end of additional roaming charges in European Union countries on June 15, 2017) and the increase in incoming mobile traffic notably offset the decrease in virtual mobile network operators (MVNO) in Belgium.

On a comparable basis, the 41 million euro (5.1%) increase in Equipment sales between the two periods stems from the growth in mobile equipment sales in Romania, and to a lesser extent in Slovakia, Belgium and Moldova, partially offset by the decrease in equipment sales in Poland.

3.1.3.3.2 Adjusted EBITDA – Europe

→ 2018 vs 2017

On a **historical basis**, the 52 million euro increase in adjusted EBITDA in Europe between the 2017 and 2018 was attributable to (i) foreign exchange gains of 2 million euros, (ii) the favorable effect of changes in the scope of consolidation and other changes in the amount of 2 million euros, and (ii) organic change on a comparable basis, i.e. a 48 million euro increase in adjusted EBITDA.

On a **comparable basis**, the 48 million euro increase in adjusted EBITDA for Europe between 2017 and 2018 can essentially be attributed to:

- (i) the 94 million euro increase in revenue, (ii) gains on the disposal of fixed assets, mainly in Poland, as part of the optimization of the real estate portfolio, (iii) the reduction in commercial expenses, mainly in Poland and (iv) the decrease in labor expenses, mainly in Poland;
- Partially offset by (i) the increase in content costs, (ii) the increase in network charges, corresponding mainly to the increase in network access connection charges in Belgium, in line with the increase in the customer base for cable offers in the country, and (iii) expenses related to the development of energy sales in Poland.

→ 2017 vs 2016

On a **historical basis**, the 102 million euro decrease in adjusted EBITDA in Europe between the 2016 and 2017 includes (i) foreign exchange gains of 20 million euros, (ii) organic change on a comparable basis, i.e. a 122 million euro decrease in adjusted EBITDA.

On a **comparable basis**, the 122 million euro decrease in adjusted EBITDA for Europe between 2016 and 2017 can essentially be attributed to:

- (i) the increase in interconnection costs, mainly resulting from the end of additional roaming charges in European Union countries on June 15, 2017 which notably generated a very strong increase in traffic volumes from customers towards other European countries, (ii) the increase in labor expenses in Poland and Romania, and (iii) the increase in network charges, in line with the development of cable offers in Belgium;
- partially offset by the 24 million euro increase in revenue.

3.1.3.3.3 Operating income – Europe

→ 2018 vs 2017

On a **historical basis**, the 99 million euros improvement in operating income in Europe between 2017 and 2018 was mainly attributable to (i) the 52 million euro increase in adjusted EBITDA, (ii) the 33 million euro decrease in restructuring and integration costs and (iii) the counter-effect of the recognition, in 2017, of 19 million euros in impairment of goodwill relating to Luxembourg (see below *2017 vs 2016*).

→ 2017 vs 2016

On a **historical basis**, the 409 million euro increase in operating income in Europe between 2016 and 2017 was largely attributable to:

- a reduction of 530 million euros in impairment of goodwill (see Note 7 to the consolidated annual financial statements), relating to the recognition of:
  - in 2017, impairment of 19 million euros relating to Luxembourg, mainly reflecting strong competitive pressure,
  - in 2016, impairment of 549 million euros, relating to (i) Poland for 494 million euros and (ii) Romania for 55 million euros. In Poland, this impairment loss mainly reflects a decline in competitiveness in the ADSL market, a deterioration in revenue assumptions in the mobile market, and an increase in the post-tax discount rate due to the downgrading of the country's sovereign rating by the rating agencies. In Romania, following the adoption of IFRS 15 with effect from 1 January 2016 (see Note 2.3.2 to the consolidated annual financial statements), the Group reassessed the net carrying amount of the cash-generating unit (CGU) and recorded a goodwill impairment loss of 55 million euros;
- partially offset by (i) the 102 million euro decrease in adjusted EBITDA and (ii) the 24 million euro increase in restructuring and integration costs, mainly due to departure plans for employees in Poland in 2017 (see section 3.1.2.2.1 *Reported EBITDA*).

3.1.3.3.4 CAPEX – Europe

→ 2018 vs 2017

On a **historical basis**, the 56 million euro increase in CAPEX in Europe between 2017 and 2018 stemmed from (i) foreign exchange gains of 1 million euros, (ii) the favorable impact of changes in the scope of consolidation and other changes amounting to 1 million euros, and (iii) organic change on a comparable basis representing a 54 million euro increase in CAPEX.

On a **comparable basis**, the 54 million euro increase in CAPEX in Europe between 2017 and 2018 resulted in particular from ongoing investment in mobile and fixed very high-speed broadband networks (4G and FTTH, see Section 3.1.1.3 *Significant events*), particularly in Poland.

→ 2017 vs 2016

On a **historical basis**, the 23 million euro increase in CAPEX in Europe between the 2016 and 2017 was attributable to (i) foreign exchange gains in the amount of 12 million euros, and (ii) organic change on a comparable basis, i.e. an 11 million euro increase in CAPEX.

On a **comparable basis**, the 11 million euro increase in CAPEX in Europe between 2016 and 2017 was mainly due to (i) ongoing investment in mobile and fixed very high-speed broadband networks (FTTH) particularly in Poland and Slovakia, and the acceleration in investments due to the development of convergent offers by cable in Belgium (customer IT and equipment), (ii) partially offset by the decline in investments in mobile networks after the significant deployments carried out in 2016.

3.1.3.3.5 Acquisitions of telecommunication licenses – Europe

In 2018, acquisitions of telecommunication licenses in Europe amounted to 10 million euros, and mainly concerned Poland. In 2017, no telecommunication license acquisition was recognized in Europe.

In 2016, acquisitions of telecommunication licenses in Europe amounted to 728 million euros on a **historical basis** and concerned (i) Poland for 719 million euros, with the acquisition of two 5 MHz frequency blocks in the 800 MHz band and three 5 MHz frequency blocks in the 2,600 MHz band, allocated to the very high-speed mobile broadband (4G) network and (ii) Romania for 9 million euros.

3.1.3.3.6 Additional information – Europe

Europe (at December 31, in thousands, at the end of the period)	2018	2017 data on a comparable basis (1)	2017 data on a historical basis	% change data on a comparable basis (1)	% change data on a historical basis	2016 data on a historical basis
Convergent services						
Number of convergent customers	1,642	1,259	1,259	30.3%	30.3%	749
o/w: Poland	1,236	1,035	1,035	19.4%	19.4%	666
Belgium & Luxembourg	167	97	97	71.2%	71.2%	31
Central European countries (4)	239	127	127	87.9%	87.9%	52
Convergent ARPO over 12 months (3)						
Poland (in zlotys)	102.0	105.9	105.9	(3.6)%	(3.6)%	120.4
Belgium (in euros)	74.7	72.2	72.2	3.4%	3.4%	50.1
Mobile services						
Number of mobile services customers (2)	33,750	33,211	33,211	1.6%	1.6%	34,901
o/w: Customers with convergent offers	3,045	2,279	2,279	33.6%	33.6%	1,297
Customers with mobile only offers	30,705	30,931	30,931	(0.7)%	(0.7)%	33,605
o/w: Contract customers	22,219	21,502	21,502	3.3%	3.3%	20,679
Prepaid customers	11,531	11,709	11,709	(1.5)%	(1.5)%	14,222
o/w: Poland	14,805	14,424	14,424	2.6%	2.6%	15,799
Belgium & Luxembourg	4,342	4,038	4,038	7.5%	7.5%	3,956
Central European countries (4)	14,603	14,749	14,749	(1.0)%	(1.0)%	15,146
Mobile only ARPO over 12 months (3)						
Poland (in zlotys)	21.6	22.9	22.9	(5.6)%	(5.6)%	22.4
Belgium (in euros)	18.3	18.1	18.1	0.9%	0.9%	17.6
Fixed-line services						
Number of fixed broadband service customers	3,261	2,951	2,951	10.5%	10.5%	2,477
o/w: Customers with very high-speed broadband access	784	488	488	60.8%	60.8%	243
o/w: Customers with convergent offers	1,642	1,259	1,259	30.3%	30.3%	749
Customers with fixed only offers	1,619	1,692	1,692	(4.3)%	(4.3)%	1,729
Fixed only broadband ARPO over 12 months (3)						
Poland (in zlotys)	56.6	57.6	57.6	(1.8)%	(1.8)%	60.3
Number of fixed telephone lines	4,043	4,442	4,442	(9.0)%	(9.0)%	4,853
o/w: Poland	3,920	4,306	4,306	(9.0)%	(9.0)%	4,695
Belgium & Luxembourg	124	136	136	(9.2)%	(9.2)%	159
Central European countries (4)	-	-	-	-	-	-

(1) See Section 3.1.5.1 *Data on a comparable basis*.
(2) Excluding customers of Mobile Virtual Network Operators (MVNOs).
(3) See Section 7.2.1 *Financial glossary*.
(4) Central European countries: entities in Moldova, Romania and Slovakia.

3.1.3.4 Africa & Middle East

Africa & Middle East (at December 31, in millions of euros)	2018	2017 data on a comparable basis (1)	2017 data on a historical basis	% change data on a comparable basis (1)	% change data on a historical basis	2016 data on a historical basis
Revenue	5,190	4,940	5,030	5.1%	3.2%	5,245
Adjusted EBITDA	1,667	1,585	1,612	5.2%	3.4%	1,658
Adjusted EBITDA/Revenue	*32.1%*	*32.1%*	*32.1%*			*31.6%*
Reported EBITDA	1,655	1,565	1,591	5.7%	4.0%	1,638
Operating income	659		522		26.2%	68
CAPEX	1,008	999	1,021	0.9%	(1.3)%	962
CAPEX/Revenue	*19.4%*	*20.2%*	*20.3%*			*18.3%*
Telecommunications licenses	42	293	297	(85.5)%	(85.7)%	742
Average number of employees	14,956	15,210	15,210	(1.7)%	(1.7)%	15,368

(1) See Section 3.1.5.1 *Data on a comparable basis*.

Africa & Middle East continue to suffer political or economic instability and sometimes tax or regulatory pressures that could affect the business and results of Group subsidiaries and holdings, and may continue to affect them in the future. In some cases, these situations have led the Group to book impairments on its assets (see Notes 7, 8.2 and 10 to the consolidated annual financial statements). For further information on these risks factors, see Section 2.1 *Risk factors*.

3.1.3.4.1 Revenue – Africa & Middle East

Africa & Middle East (at December 31, in millions of euros)	2018	2017 data on a comparable basis [1]	2017 data on a historical basis	% change data on a comparable basis [1]	% change data on a historical basis	2016 data on a historical basis
Revenue	**5,190**	**4,940**	**5,030**	**5.1%**	**3.2%**	**5,245**
Retail services	4,265	3,966	4,038	7.5%	5.6%	4,130
Mobile only services	3,809	3,538	3,600	7.6%	5.8%	3,686
Fixed only services	435	422	431	3.1%	0.8%	437
IT & integration services	21	6	7	238.2%	217.0%	7
Carrier services	811	878	894	(7.6)%	(9.2)%	1,026
Equipment sales	85	65	66	31.0%	27.7%	81
Other revenue	29	31	32	(5.5)%	(7.9)%	8

(1) See Section 3.1.5.1 *Data on a comparable basis*.

Africa & Middle East (at December 31, in millions of euros)	2018	2017 data on a comparable basis [1]	2017 data on a historical basis	% change data on a comparable basis [1]	% change data on a historical basis	2016 data on a historical basis
Revenue	**5,190**	**4,940**	**5,030**	**5.1%**	**3.2%**	**5,245**
Sonatel Sub-group [2]	1,674	1,582	1,597	5.8%	4.9%	1,489
Ivory Cost sub-group [3]	1,132	1,093	1,096	3.5%	3.3%	945
Egypt	660	606	633	9.0%	4.4%	1,135
Morocco	562	529	535	6.2%	5.0%	509
Jordan	387	398	416	(2.7)%	(7.0)%	439
Cameroon	297	281	281	5.6%	5.6%	278
Congo (DRC)	257	228	239	12.3%	7.3%	215
Other countries [4]	283	272	283	4.0%	0.0%	283
Eliminations	(62)	(49)	(50)	24.9%	24.9%	(48)

(1) See Section 3.1.5.1 *Data on a comparable basis*.
(2) Sonatel Sub-group: entities in Senegal, Mali, Guinea, Guinea-Bissau and Sierra Leone.
(3) Ivory Coast sub-group: entities in Ivory Coast, Burkina Faso and Liberia.
(4) Other countries: mainly Botswana, Central African Republic (CAR), Madagascar and Niger.

→ 2018 vs 2017

On a **historical basis**, the 160 million euros revenue increase in Africa & Middle East between 2017 and 2018 included (i) foreign exchange losses of 90 million euros, mainly due to fluctuations in the Egyptian pound, the Moroccan dirham, the Jordanian dinar and, to a lesser extent, the Guinean franc against the euro, (ii) more than offset by the organic change on a comparable basis, representing a 250 million euro increase in revenue.

On a **comparable basis**, the 250 million euros revenue increase in Africa & Middle East countries between the 2017 and 2018 was mainly due to the increase in revenue generated by (i) the Sonatel sub-group for 92 million euros (primarily driven by Guinea, Senegal and Mali), (ii) Egypt for 54 million euros, (iii) the Ivory Coast sub-group (primarily driven by Burkina Faso) for 39 million euros, (iv) Morocco for 33 million euros and (v) Congo (DRC) for 29 million euros.

On a comparable basis, revenue growth of 271 million euros in Mobile only services reflects the commercial momentum of data services and Orange Money, and the almost stability of outgoing voice services, due notably to the development of abundance offers. Revenue for Orange Money services amounted to 334 million euros at December 31, 2018, up 39.8% year-on-year in line with the 25.3% increase in the Orange Money active customer base (15.1 million customers at December 31, 2018). The total customer base of Orange Money stood at 39.2 million customers at December 31, 2018. The mobile only customer base totaled 120.6 million customers at December 31, 2018, down 0.7% compared to December 31, 2017. Between the two periods, the growth in the mobile only customer base in Africa and Middle East countries (excluding Egypt) was more than offset by the decline in the mobile only customer base in Egypt, resulting from the change in regulations in the country (related notably to the impact of the change in the indirect distribution regulatory framework).

On a comparable basis, the 13 million euros increase in revenue for Fixed only services between the two periods, was mainly due to revenue growth posted by fixed only broadband services in Morocco, offsetting the decrease in voice usage, for the Ivory Coast sub-group and Jordan in particular.

On a comparable basis, the 67 million euros reduction in revenue from Carrier services between the two periods principally reflected the reduction in services to international carriers and incoming mobile traffic, particularly for the Sonatel sub-group.

→ 2017 vs 2016

On a **historical basis**, the 215 million euro decrease in revenue in Africa & Middle East between 2016 and 2017 was attributable to:

- the negative effect of foreign exchange fluctuations in the amount of 550 million euros, primarily due to the performance of the Egyptian pound against the euro;
- partially offset by (i) the positive effect of changes in the scope of consolidation and other changes, which accounted for 186 million euros related to the impact of entities acquired in Africa in 2016 (Airtel in Burkina Faso and Sierra Leone, Oasis (Tigo) in the Democratic Republic of the Congo, and Cellcom Telecommunication in Liberia), and (ii) organic growth on a comparable basis for an increase of 149 million euros in revenue.

On a **comparable basis**, the 149 million euro (3.0%) increase in revenue in Africa & Middle East between 2016 and 2017 was mainly a result of (i) the 91 million euro growth in revenue from the Sonatel sub-group (driven mainly by Mali and Guinea), (ii) the 44 million euro increase in revenue from the Ivory Coast sub-group (driven by Burkina Faso and Ivory Coast), and (iii) the 31 million euro gain in revenue in Morocco, (iv) partially offset by the 18 million euro decline in revenue in the Congo (DRC) in light notably of the country's worsening economic environment.

On a comparable basis, the 225 million euro (6.7%) increase in revenue for Mobile only services between the two periods is mainly driven by the momentum in data services and Orange Money. The mobile only customer base in Africa & Middle East stood at 121.4 million customers at December 31, 2017, up 10.5% (i.e. 11.5 Million new customers) from December 31, 2016, driven by contract and prepaid offers. This increase was the result of more vigorous sales and the counter-effect of the 2016 fiscal year, which had brought stricter customer identity check requirements for prepaid offers in a number of countries. 4G services, available in 11 countries (excluding associates and joint ventures), counted 11.1 million customers at December 31, 2017.

On a comparable basis, the 16 million euro increase (3.9%) in revenue for Fixed only services between the two periods, reflects the growth in fixed only broadband services and fixed enterprise networks, partially offset by the decline in fixed only narrowband services. The total fixed only broadband customer base totaled 797,000 customers at December 31, 2017, up 5.8% year-on-year.

On a comparable basis, the 107 million euros (10.7%) reduction in revenue from Carrier services between the two periods is principally the result of the decline in fixed services to international carriers.

3.1.3.4.2 Adjusted EBITDA – Africa & Middle East

→ 2018 vs 2017

On a **historical basis**, the 55 million euro increase in adjusted EBITDA in Africa & Middle East between 2017 and 2018 included (i) foreign exchange losses of 24 million euros and the unfavorable impact of changes in the scope of consolidation and other changes for 3 million euros, (ii) more than offset by organic change on a comparable basis, representing a 82 million euro increase in adjusted EBITDA.

On a **comparable basis**, the 82 million euro increase in adjusted EBITDA in Africa & Middle East between 2017 and 2018 was largely attributable to:

- (i) 250 million euros in revenue growth, (ii) the fall in service fees and inter-operator costs, and (iii) the reduction in operating taxes and levies due to reversals on provisions for the extinction of tax risks in 2018;
- partially offset (i) by the growth in other network expenses and IT expenses (primarily due to the increase in work taking place on mobile sites, particularly the deployment of 4G sites) (ii) the increase in commercial expenses (related in particular to the growth of Orange Money), (iii) increased labor expenses, and (iv) the growth of other external purchases (property expenses due to the development of the network and overheads).

→ 2017 vs 2016

On a **historical basis**, the 46 million euro decline in adjusted EBITDA in Africa & Middle East between 2016 and 2017 was attributable to:

- the negative effect of foreign exchange fluctuations in the amount of 187 million euros, primarily due to the performance of the Egyptian pound against the euro;
- partially offset by (i) the favorable impact of changes in the scope of consolidation and other changes for 35 million euros, corresponding to the impact of entities acquired in Africa in 2016 (Airtel in Burkina Faso and Sierra Leone, Oasis (Tigo) in the Democratic Republic of the Congo, and Cellcom Telecommunication in Liberia), and (ii) organic growth on a comparable basis for an increase of 106 million euros in adjusted EBITDA.

On a **comparable basis**, the 106 million euro increase in adjusted EBITDA in Africa & Middle East between 2016 and 2017 was largely attributable to:

- (i) 149 million euros in revenue growth, (ii) the drop in service fees and inter-operator costs (in connection with changes in call termination rates and voice usage), and (iii) the reduction in other operating expenses benefiting from the counter-effect of the 2016 recognition of the negative operational exchange rate effect of the Egyptian pound's depreciation;
- partially offset by (i) growth in commercial expenses (mainly related to business growth, specifically of Orange Money and data services), (ii) the increase in operating taxes and levies, and (iii) the increase in other network expenses and IT expenses (mostly linked to expanding the mobile network, particularly the rollout of 4G sites).

3.1.3.4.3 Operating income – Africa & Middle East

→ 2018 vs 2017

On a **historical basis**, the 137 million euro increase in operating income in Africa & Middle East between 2017 and 2018 was largely attributable to:

- a reduction of 79 million euros in impairment losses on goodwill and fixed assets (see Notes 7 and 8.2 to the consolidated annual financial statements), relating to the recognition of:
  - in 2018, (i) impairment loss for 56 million euros on Jordan, and (ii) impairment loss on fixed assets for 43 million euros on Niger. In Jordan, the goodwill impairment mainly reflects the effects of an uncertain political and economic climate and of a strong competitive pressure on fixed and mobile data markets. In Niger, the telecommunications market continues to lose value in a still-difficult business climate. The company is experiencing an economic and financial situation that has led it, by precaution, to recognize impairment of fixed assets to cover Orange's exposure according to the best current estimate,
  - in 2017, 181 million euros in impairment, mainly for Congo (DRC) for 120 million euros and Niger for 52 million euros (see below *2017 vs 2016*);
- and the 55 million euro increase in adjusted EBITDA.

→ 2017 vs 2016

On a **historical basis**, the 454 million euro increase in operating income in Africa & Middle East between 2016 and 2017 was largely attributable to:

- a reduction of 288 million euros in impairment losses on goodwill and fixed assets (see Notes 7 and 8.2 to the consolidated annual financial statements), relating to the recognition of:
  - 181 million euros in impairment in 2017, primarily for the Democratic Republic of the Congo for 120 million euros and Niger for 52 million euros. In the Democratic Republic of the Congo (DRC), the impairment reflects a still uncertain political and economic context; a clear decline in purchasing power, with its effects on consumption of telecommunications products and services; and steady regulatory pressure. In Niger, the impairment speaks of an uncertain political and economic context and the effects of strong tax and regulatory pressure,
  - an impairment loss of 469 million euros in 2016, chiefly attributable to Egypt for 232 million euros, Congo (DRC) for 109 million euros, Cameroon for 90 million euros, and Niger for 26 million euros. In Egypt, the impairment loss reflects the financial terms of the 4G license awarded in 2016, the sharp depreciation of the Egyptian pound and increased political and economic uncertainty. In the DRC, the impairment loss reflects the political and economic uncertainty, a decline in purchasing power with a knock-on effect on the consumption of telecommunications products and services, and an increased regulatory burden (particularly connected with the implementation of customer identification). In Cameroon, the impairment loss reflects a decline in voice revenue following the rise in messaging services and in VoIP of Over-The-Top (OTT) providers, and heightened competition in the mobile market;

- the 154 million euro decrease in depreciation and amortization, mainly due to the positive effect of the devaluation of the Egyptian pound against the euro at end-2016;
- and the 59 million euro improvement in the share of profits (losses) of associates and joint ventures, partially offset by the 46 million euro decline in adjusted EBITDA.

3.1.3.4.4 CAPEX – Africa & Middle East

→ 2018 vs 2017

On a **historical basis**, the 13 million euro decrease in CAPEX in Africa & Middle East countries between 2017 and 2018 reflects (i) foreign exchange losses of 22 million euros, (ii) in part offset by organic change on a comparable basis, i.e. an increase of 9 million euros in CAPEX.

On a **comparable basis**, the 9 million euro increase in CAPEX for Africa & Middle East countries between 2017 and 2018 was mainly attributable to (i) the continuing investment in very high-speed mobile and fixed broadband networks (4G and FTTH, see Section 3.1.1.3 *Significant events*) with, in particular, 12 countries with 4G coverage (excluding associates and joint ventures) at December 31, 2018, (ii) partially offset by the reduction in other investments (particularly 2G/3G mobile access networks after significant capital expenditure in this area over the last few years).

→ 2017 vs 2016

On a **historical basis**, the 59 million euro increase in CAPEX in Africa & Middle East between 2016 and 2017 was attributable to:

- the favorable impact of changes in the scope of consolidation and other changes, which represented 25 million euros and essentially corresponded to the impact of entities acquired in Africa in 2016 (Airtel in Burkina Faso and Sierra Leone, Oasis (Tigo) in the Democratic Republic of the Congo, and Cellcom Telecommunication in Liberia), which was more than offset by the negative effect of foreign exchange fluctuations for 33 million euros;
- and organic change on a comparable basis, representing a 67 million euro increase in CAPEX.

On a **comparable basis**, the 67 million euro increase in CAPEX for Africa & Middle East between 2016 and 2017 was mainly due to (i) growth in investments in very high-speed broadband mobile networks (4G), with 4G rolled out in 11 countries (excluding associates and joint ventures) at December 31, 2017 and (ii) to a lesser extent, the rollout of fiber optic and network modernization in the entities acquired in 2016.

3.1.3.4.5 Acquisitions of telecommunication licenses – Africa & Middle East

In 2018, acquisitions of telecommunication licenses in Africa & Middle East amounted to 42 million euros and mainly involved (i) Congo (DRC) for 21 million euros (acquisition of a 4G license) and (ii) Senegal for 21 million euros (first tranche of the acquisition of an additional 4G frequency blocks).

In 2017, acquisitions of telecommunication licenses in Africa & Middle East amounted to 297 million euros on a **historical basis** and mainly involved (i) Mali for 152 million euros (acquisition of a universal license ensuring the renewal of existing licenses and including a 4G license), (ii) Senegal for 76 million euros (second tranche of the acquisition of a universal license ensuring the renewal of existing licenses and including a 4G license), and (iii) Jordan for 49 million euros (additional 3G frequency blocks).

In 2016, acquisitions of telecommunication licenses in Africa & Middle East totaled 742 million euros on a **historical basis**, and mainly included (i) Egypt for 377 million euros (acquisition of two 10 MHz frequency blocks in the 1,800 MHz and 2,100 MHz bands and a fixed virtual network operator license), (ii) Ivory Coast for 146 million euros (mainly the renewal of licenses with a universal license including 4G), (iii) Jordan for 142 million euros (renewal of 2G/2G frequency blocks), and (iv) Senegal for 76 million euros (first tranche of the acquisition of a universal license ensuring the renewal of existing licenses and including a 4G license).

3.1.3.4.6 Additional information – Africa & Middle East

Africa & Middle East [2] [3] (at December 31, in thousands, at the end of the period)	2018	2017 data on a comparable basis [1]	2017 data on a historical basis	% change data on a comparable basis [1]	% change data on a historical basis	2016 data on a historical basis
Mobile services						
Number of mobile services customers [3]	120,574	121,449	121,449	(0.7)%	(0.7)%	109,927
o/w: Contract customers	4,527	10,723	10,723	(57.8)%	(57.8)%	9,437
Prepaid customers	116,047	110,726	110,726	4.8%	4.8%	100,490
o/w: Sonatel Sub-group [4]	29,184	29,706	29,706	(1.8)%	(1.8)%	27,318
Ivory Coast sub-group [5]	23,257	21,785	21,785	6.8%	6.8%	18,863
Egypt	29,475	34,117	34,117	(13.6)%	(13.6)%	33,883
Morocco	12,805	12,744	12,744	0.5%	0.5%	9,837
Jordan	2,102	2,199	2,199	(4.4)%	(4.4)%	2,439
Cameroon	6,940	6,653	6,653	4.3%	4.3%	5,519
Congo (DRC)	10,602	9,059	9,059	17.0%	17.0%	7,262
Other countries [6]	6,209	5,186	5,186	19.7%	19.7%	4,806
Fixed-line services						
Number of fixed broadband service customers	1,020	797	797	27.9%	27.9%	754
Number of fixed telephone lines	959	955	955	0.3%	0.3%	960

(1) See Section 3.1.5.1 *Data on a comparable basis*.
(2) Since January 1, 2018, the customer bases correspond solely to customers of the fully consolidated entities. The customers of associates and joint ventures (previously recognized in proportion to the Group's interest in these entities) are no longer taken into account. As a consequence, data for previous periods have been adjusted. This adjustment affects Tunisia, Mauritius, Iraq and Equatorial Guinea.
(3) Since January 1, 2018, the recognition of the customer bases for mobile services in all countries is aligned with the Group's definitions (and no longer with local definitions). As a consequence, data for previous periods have been adjusted. This adjustment affects Morocco, Ivory Coast, Jordan and Cameroon. Excluding customers of Mobile Virtual Network Operators (MVNOs).
(4) Sonatel Sub-group: entities in Senegal, Mali, Guinea, Guinea-Bissau and Sierra Leone.
(5) Ivory Coast sub-group: entities in Ivory Coast, Burkina Faso and Liberia.
(6) Other countries: mainly Botswana, Central African Republic (CAR), Madagascar and Niger.

3.1.3.5 Enterprise

Enterprise (at December 31, in millions of euros)	2018	2017 data on a comparable basis [1]	2017 data on a historical basis	% change data on a comparable basis [1]	% change data on a historical basis	2016 data on a historical basis
Revenue	7,292	7,308	7,251	(0.2)%	0.6%	7,346
Adjusted EBITDA	1,245	1,306	1,306	(4.7)%	(4.6)%	1,336
Adjusted EBITDA/Revenue	*17.1%*	*17.9%*	*18.0%*			*18.2%*
Reported EBITDA	1,153	1,258	1,258	(8.4)%	(8.4)%	1,292
Operating income	765		889		(13.9)%	916
CAPEX	353	385	382	(8.3)%	(7.6)%	336
CAPEX/Revenue	*4.8%*	*5.3%*	*5.3%*			*4.6%*
Average number of employees	22,963	22,163	20,807	3.6%	10.4%	20,316

(1) See Section 3.1.5.1 *Data on a comparable basis*.

3.1.3.5.1 Revenue – Enterprise

Enterprise (at December 31, in millions of euros)	2018	2017 data on a comparable basis (1)	2017 data on a historical basis	% change data on a comparable basis (1)	% change data on a historical basis	2016 data on a historical basis
Revenue	**7,292**	**7,308**	**7,251**	**(0.2)%**	**0.6%**	**7,346**
Fixed only services	3,997	4,095	4,152	(2.4)%	(3.7)%	4,304
Voice services (2)	1,385	1,443	1,452	(4.1)%	(4.6)%	1,515
Data services (3)	2,612	2,652	2,700	(1.5)%	(3.3)%	2,789
IT & integration services	2,312	2,206	2,092	4.8%	10.5%	2,067
Services and mobile equipment (4)	983	1,007	1,007	(2.3)%	(2.3)%	975
Mobile only services	743	751	751	(1.1)%	(1.1)%	775
Carrier services	35	32	32	12.3%	12.3%	32
Equipment sales	205	224	224	(8.4)%	(8.4)%	168

(1) See Section 3.1.5.1 *Data on a comparable basis*.
(2) Voice services include (i) legacy voice offerings (PSTN access), (ii) Voice over Internet Protocol (VoIP) products, (iii) audio conference services, and (iv) incoming traffic for call centers.
(3) Data services include (i) legacy data solutions still offered by Orange Business Services (Frame Relay, Transrel, leased lines, narrowband), (ii) services having reached a certain maturity such as IP-VPN, and broadband infrastructure products such as satellite or fiber optic access, (iii) satellite TV broadcast services and (iv) Business Everywhere roaming offers.
(4) Services and mobile equipment include (i) Mobile only services, carrier services, corresponding to incoming enterprise mobile traffic invoiced to other carriers, and (ii) mobile equipment sales invoiced to enterprises.

→ 2018 vs 2017

On a **historical basis**, the 41 million euro increase in Enterprise revenue between 2017 and 2018 was due to:

- the positive impact of changes in the scope of consolidation and other changes for 151 million euros, due mainly to the acquisitions of Business & Decision, Basefarm and Enovacom (see Section 3.1.1.3 *Significant events*);
- more than offset by (i) the unfavorable effect of foreign exchange fluctuations for 94 million euros, mainly on account of the change in the value of the US dollar against the euro, and (ii) the organic change on a comparable basis, or a 16 million euro decrease in revenue.

On a **comparable basis**, the 16 million euro decrease in Enterprise revenue between 2017 and 2018 was attributable primarily to:

- (i) the 98 million euro decrease in revenue of Fixed only services, of which 58 million euros for Voice services and 40 million euros for Data services, and (ii) to a lesser extent, to the 24 million euro decrease in revenue of Services and mobile equipment;
- mostly offset by the 106 million euro improvement to revenue of IT & Integration services.

On a comparable basis, the 58 million reduction in Voice services revenue (see *definition above in table footer*) between the two periods reflected the downward trend in voice services, particularly conventional fixed telephony (down by 6.4% year-on-year) and, to a lesser extent, the decline in audio conference services.

On a comparable basis, the 40 million euros reduction in revenue from Data services (see *definition above in table footer*) between the two periods is principally the result of the 25 million euro decline in satellite broadcasting services, and the natural decline in conventional services.

On a comparable basis, the 106 million euro increase in IT and integration services revenue between the two periods was mainly due the growth of Cloud services (up 10.1% year-on-year) and security services (up 12.3% year-on-year), together with the signing of new contracts in 2018.

On a comparable basis, the 24 million euro decrease in revenue of Services and mobile equipment (see *definition above in table footer*) between the two periods results from (i) the 19 million euro decrease in mobile equipment sales, mainly due to the counter-effect of a significant contract during the second half of 2017 and (ii) the 8 million euro decrease in the revenue of Mobile only services.

→ 2017 vs 2016

On a **historical basis**, the 95 million euro decrease in Enterprise revenue between 2016 and 2017 was due to (i) the adverse impact of changes in the scope of consolidation and other changes for 25 million euros mainly due to the disposal of Fime, (ii) the negative impact of foreign exchange fluctuations for 5 million euros and (iii) organic change on a comparable basis, namely a 65 million euros decrease in revenue.

On a **comparable basis**, the 65 million euro (0.9%) decrease of Enterprise revenue between 2016 and 2017 was attributable to (i) the 150 million euros decline in revenue from Fixed only services, of which 85 million euros were in relation to Data services and 65 million euros in relation to Voice services, (ii) partially offset by the 54 million euros improvement in IT and integration services revenue and by the 31 million euro growth in Services and mobile equipment.

On a comparable basis, this 65 million euro (4.3%) decline in revenue of Voice services between the two periods reflects primarily (i) the downward trend in conventional fixed telephony, and (i) to a lesser extent, the decline in audio conference services and incoming traffic for call centers, (iii) partially offset by growth in VoIP services.

On a comparable basis, the 85 million euro (3.0%) decrease in revenue from Data services between the two periods mainly results from the slowing in satellite broadcast services and the natural decline in conventional network services.

On a comparable basis, the 54 million euro (2.6%) increase in revenue of IT and integration services between the two periods was mainly due the growth of Cloud services (up 21% year-on-year) and cyber security services (up 19% year-on-year).

On a comparable basis, this growth of 31 million euros (3.2%) in Services and mobile equipment revenue, between the two periods reflects the rise in mobile equipment sales, due to a major contract in the second half of 2017, partially offset by the decline in mobile only services due to the negative effect of the end of additional *roaming* charges in the European Union countries.

3.1.3.5.2 Adjusted EBITDA – Enterprise

→ 2018 vs 2017

On a **historical basis**, the 61 million euros decrease in Enterprise adjusted EBITDA between 2017 and 2018 was due to (i) the adverse effect of foreign exchange fluctuations, i.e. 10 million euros, completely offset by the favorable impact of changes in the scope of consolidation and other changes for 10 million euros and (ii) the organic change on a comparable basis, i.e. a decline of 61 million euros in adjusted EBITDA.

On a **comparable basis**, the 61 million euros reduction in Enterprise adjusted EBITDA between 2017 and 2018 was mainly accounted for by (i) increased labor expenses, principally related to the growth in the average number of employees (full-time equivalents), (ii) the decrease in other operating income and expenses and (iii) the 16 million euro decrease in revenue, (iv) partially offset by lower service fees and inter-operator costs.

→ 2017 vs 2016

On a **historical basis**, the 30 million euro decrease in adjusted EBITDA for Enterprise between 2016 and 2017 reflects (i) the adverse impact of changes in the scope of consolidation and other changes amounting to 4 million euros, (ii) the negative effect of foreign exchange fluctuations for 2 million euros, and organic change on a comparable basis, being a decrease of 24 million euros in adjusted EBITDA.

On a **comparable basis**, the 24 million euro decrease in adjusted EBITDA for Enterprises between 2016 and 2017 can essentially be attributed to:

- (i) the 65 million euro decline in revenue, (ii) the increase in commercial expenses (handset purchases and other products sold), due to a major mobile equipment sales contract in the second half of 2017, and (iii) higher IT expenses, in connection with the expansion of IT & integration services;
- partially offset by (i) the decline in service fees and inter-operator costs, mostly because of the slowdown in satellite broadcasting services, and (ii) the decrease in other operating expenses.

3.1.3.5.3 Operating income – Enterprise

→ 2018 vs 2017

On a **historical basis**, the decrease of 124 million euros in Enterprise operating income between 2017 and 2018 is mainly explained (i) by the 61 million euro decrease in adjusted EBITDA, (ii) the 53 million euros increase in specific labor expenses, essentially relating to the French "Part-Time for Seniors" plan (TPS, procedures in relation to agreements on the employment of seniors in France) and related bonuses, notably the renewal in December 2018 of these provisions for three years (see Section 3.1.1.3 *Significant events*) and (iii) the 16 million euro increase in depreciation and amortization.

→ 2017 vs 2016

On a **historical basis**, the 27 million euro decrease in operating income for Enterprise between the two periods is mainly attributable to (i) the counter-effect of recording net income of 47 million euros for the review of the investments and business portfolio in 2016, mainly related to the disposal of Fime for 49 million euros, and (ii) the 30 million euro decrease in adjusted EBITDA, (iii) partially offset by the 41 million euro decrease in restructuring and integration costs.

3.1.3.5.4 CAPEX – Enterprise

→ 2018 vs 2017

On a **historical basis**, the 29 million euros decrease in Enterprise CAPEX between 2017 and 2018 reflected (i) the 5 million euros adverse impact of foreign exchange fluctuations, more than offset by the favorable impact of changes in the scope of consolidation and other changes for 8 million euros and (ii) the organic change on a comparable basis, namely a 32 million euros reduction in CAPEX.

On a **comparable basis**, the 32 million euro decrease in Enterprise CAPEX between 2017 and 2018 is due to lower customer project requirements and the optimization of investments related to the network and IT system.

→ 2017 vs 2016

On a **historical basis**, the 46 million euro increase in Enterprise CAPEX between the two periods reflected (i) the positive effect of foreign exchange fluctuations, representing 1 million euros, more than offset by the adverse impact of changes in the scope of consolidation and other changes, totaling 2 million euros, and (ii) organic change on a comparable basis, representing a 47 million euro increase in CAPEX.

On a **comparable basis**, the 47 million euro increase in Enterprise CAPEX between 2016 and 2017 was mainly attributable to the accelerated transformation of the IT system, and network virtualization.

3.1.3.5.5 Additional information – Enterprise

Enterprise (at December 31, in thousands, at the end of the period)	2018	2017 data on a comparable basis (1)	2017 data on a historical basis	% change data on a comparable basis (1)	% change data on a historical basis	2016 data on a historical basis
Mobile services						
Number of mobile services customers in France (2)	11,383	9,974	9,974	14.1%	14.1%	8,357
Fixed-line services						
Number of fixed telephone lines in France (3)	2,424	2,576	2,576	(5.9)%	(5.9)%	2,793
Number of IP-VPN accesses worldwide (4)	357	352	352	1.4%	1.4%	351
o/w: Number of IP-VPN accesses in France (4)	299	295	295	1.5%	1.5%	295

(1) See Section 3.1.5.1 *Data on a comparable basis*.
(2) Contract customers. Excluding customers of Mobile Virtual Network Operators (MVNOs).
(3) This figure includes standard analog lines (excluding fully unbundled lines) and Numeris (ISDN) channels, each Numeris channel being booked as a line.
(4) Access of customers outside the Orange group, not including operators market.

3.1.3.6 International Carriers & Shared Services

International Carriers & Shared Services (at December 31, in millions of euros)	2018	2017 data on a comparable basis (1)	2017 data on a historical basis	% change data on a comparable basis (1)	% change data on a historical basis	2016 data on a historical basis
Revenue	1,534	1,633	1,651	(6.1)%	(7.1)%	1,812
Adjusted EBITDA	(45)	(77)	(78)	39.7%	40.6%	(56)
Adjusted EBITDA/Revenue	*(3.0)%*	*(4.7)%*	*(4.8)%*			*(3.1)%*
Reported EBITDA	(194)	(345)	(349)	44.0%	44.7%	(212)
Operating income	(519)		(704)		26.2%	(565)
CAPEX	316	282	282	11.9%	11.9%	277
CAPEX/Revenue	*20.5%*	*17.2%*	*17.1%*			*15.3%*
Average number of employees	12,621	12,485	12,535	1.1%	0.7%	12,680

(1) See Section 3.1.5.1 *Data on a comparable basis*.

3.1.3.6.1 Revenue – International Carriers & Shared Services

International Carriers & Shared Services (at December 31, in millions of euros)	2018	2017 data on a comparable basis (1)	2017 data on a historical basis	% change data on a comparable basis (1)	% change data on a historical basis	2016 data on a historical basis
Revenue	**1,534**	**1,633**	**1,651**	**(6.1)%**	**(7.1)%**	**1,812**
Carrier services	1,150	1,268	1,275	(9.3)%	(9.8)%	1,431
Other revenue	384	365	376	5.1%	2.3%	381

(1) See Section 3.1.5.1 *Data on a comparable basis*.

→ 2018 vs 2017

On a **historical basis**, the 117 million euro decrease in International Carriers & Shared Services revenue between 2017 and 2018 can be attributed to (i) the adverse effect of foreign exchange fluctuations for 13 million euros, (ii) the negative impact of changes in the scope of consolidation and other changes representing 5 million euros, and (iii) organic change on a comparable basis, namely a 99 million euro decrease in revenue.

On a **comparable basis**, the 99 million euro decrease in revenue of International Carriers & Shared Services between 2017 and 2018 was due to (i) the 118 million euro decline in the international Carrier services, with in particular the decline in the voice market to Africa and the Maghreb, (ii) partly offset by the 19 million euro growth of Other revenue.

→ 2017 vs 2016

On a **historical basis**, the 161 million euro decrease in International Carriers & Shared Services revenue between the two periods can be attributed to (i) the adverse effect of foreign exchange fluctuations for 4 million euros, (ii) the negative impact of changes in the scope of consolidation and other changes representing 2 million euros, and (iii) organic change on a comparable basis, namely an 155 million euro decrease in revenue.

On a **comparable basis**, the 155 million euro decline in revenue from International Carriers & Shared Services between 2016 and 2017 was largely attributable to the 147 million euro decline in the international Carrier services.

3.1.3.6.2 Adjusted EBITDA – International Carriers & Shared Services

→ 2018 vs 2017

On a **historical basis**, the 33 million euros growth in adjusted EBITDA of International Carriers & Shared Services between 2017 and 2018 can be attributed to (i) the positive effect of foreign exchange fluctuations for 3 million euros, partially offset by the unfavorable impact of changes in the scope of consolidation and other changes for 2 million euros, and (ii) the organic change on a comparable basis, namely a 32 million euros increase in adjusted EBITDA.

On a **comparable basis**, the 32 million euros decrease in adjusted EBITDA for International Carriers & Shared Services between 2017 and 2018 is mainly explained by (i) the fall in service fees and inter-operator costs resulting from the declined in the international carriers activity, and the increase in other operating income and expenses, mainly due to the disposal of fixed assets (as part of the real estate optimization), (ii) partly offset by the 99 million euro decrease in revenue and by the increase in labor expenses.

→ 2017 vs 2016

On a **historical basis**, the 22 million euro decrease in adjusted EBITDA of International Carriers & Shared Services between 2016 and 2017 includes (i) foreign exchange gains of 12million euros and the favorable impact of changes in the scope of consolidation and other changes of 1 million euros, (iii) more than offset by the organic change on a comparable basis, i.e. a 35 million euro decrease in adjusted EBITDA.

On a **comparable basis**, the 35 million euro decline in adjusted EBITDA for International Carriers & Shared Services between the two periods was mainly attributable to (i) the 155 million euro decline in revenue, (ii) lower brand development costs (mainly with the counter-effect of the recognition in 2016 of the costs of rebranding in Belgium, Egypt, and Morocco, and the costs of sponsoring the 2016 European Football Championship – euro 2016), and (iii) the decline in other operating income and expenses, in particular due to lower revenue from disposals of fixed assets, (iv) partially offset by the decline in service fees and inter-operator costs, resulting from the decline in services to international carriers.

3.1.3.6.3 Operating income – International Carriers & Shared Services

→ 2018 vs 2017

On a **historical basis**, the 185 million euro improvement in International Carriers & Shared Services operating income between 2017 and 2018 was mainly attributable to (i) the counter-effect of the recognition, in 2017, of an expense of 156 million euros for significant litigation, (ii) the 33 million euro increase in adjusted EBIDTA, (iii) the 23 million reduction in restructuring and integration costs, mainly resulting from the restoration of real estate and (iv) the positive 21 million euro effect of the securities and activities portfolio, (v) partially offset by the 76 million euro increase in specific labor expenses, mainly due to the French "Part-Time for Seniors" plan (TPS, procedures in relation to agreements on the employment of seniors in France) and associated bonuses, notably with the renewal in December 2018 of these provisions for three years (see Section 3.1.1.3 *Significant events*).

→ 2017 vs 2016

On a **historical basis**, the 139 million euro deterioration in International Carriers & Shared Services operating income between 2016 and 2017 was mainly attributable to:

- (i) the recognition, in 2017, of 156 million euros in expenses for significant litigation, and (ii) the 22 million euro drop in adjusted EBITDA;
- partially offset by (i) the 23 million euro reduction in restructuring and integration costs, chiefly for restructuring the real estate portfolio, and (ii) the 20 million euro cut in specific labor expenses, mainly for TPS (French Part-Time for Seniors) plans and related bonuses.

3.1.3.6.4 CAPEX – International Carriers & Shared Services

→ 2018 vs 2017

On both a **historical** and a **comparable basis**, the 34 million euro increase in CAPEX for International Carriers & Shared Services between 2017 and 2018 was mainly due to (i) the increase in investments in real estate projects (in line with the adaptation and modernization of the real estate portfolio) and (ii) by the investments in submarine cables, with in particular the Kanawa cable that connects French Guyana, Martinique and Guadeloupe (see Section 1.3 *Significant events*).

→ 2017 vs 2016

On a **historical basis**, the 5 million euro increase in International Carriers & Shared Services CAPEX between the two periods includes (i) the adverse impact of changes in the scope of consolidation and other changes representing 10 million euros, and (ii) organic change on a comparable basis, i.e. a 15 million euro increase in CAPEX.

On a **comparable basis**, the 15 million euro increase in CAPEX for International Carriers & Shared Services between 2016 and 2017 was mainly due to the increase in investments in submarine cables, particularly the Kanawa cable.

3.1.3.7 Orange Bank

Orange launched its banking and digital solution, Orange Bank, in November 2017 in metropolitan France, before enriching its range with a personal loan offering distributed to Orange Bank's customers in March 2018. Since October 2018, these products are also marketed in the French overseas departments.

At December 31, 2018, 248,000 clients had subscribed to the Orange Bank offer (see Section 3.1.1.3 *Significant events*).

Orange Bank (at December 31, in millions of euros)	2018	2017 data on a comparable basis (1)	2017 data on a historical basis	% change data on a comparable basis (1)	% change data on a historical basis	2016 data on a historical basis
Net Banking Income (NBI) (2)	43	73	73	(41.1)%	(41.1)%	21
Cost of bank credit risk (3)	(7)	(6)	(6)	18.2%	18.2%	(2)
Operating income	(169)		(93)		(80.9)%	85
CAPEX	36	60	61	(40.4)%	(40.4)%	15
Average number of employees	783	663	663	18.0%	18.0%	143

(1) See Section 3.1.5.1 *Data on a comparable basis*.
(2) Net Banking Income (NBI) recognized as other operating income (see Notes 1.2 and 4.2 to the consolidated annual financial statements).
(3) Cost of bank credit risk recognized in other operating expenses (see Notes 1.2 and 5.2 to the consolidated annual financial statements).

3.1.3.7.1 Operating activities

Segment information for Orange Bank (operating income, investments in property, plant and equipment and intangible assets) is presented in Notes 1.2 and 1.3 to the consolidated annual financial statements.

→ 2018 vs 2017

On a **historical basis**, the 76 million euro deterioration in Orange Bank's operating income between 2017 and 2018 was mainly attributable to:

- the decrease in Net Banking Income (NBI, see Note 1.2 to the consolidated annual financial statements), due mainly (i) to the costs of acquiring new customers related to the increase in the volume of accounts produced during the fiscal year and (ii) the decrease in NBI from cash transactions;
- and the increase in operating expenses, resulting from the recent launch of the Orange Bank offering (IT maintenance and development, hiring, depreciation and amortization of the new investments, etc.);
- partially offset by the counter-effect of the recognition of a loss of 27 million euros in 2017 due to the Groupama Bank (now Orange Bank) takeover in 2016 (see Note 3.2 to the consolidated annual financial statements).

On a **historical basis**, the 25 million euros decrease in Orange Bank CAPEX between 2017 and 2018 reflects the 1 million euros adverse impact of changes in the scope of consolidation and other changes and by the organic change on a comparable basis, namely a 24 million euros reduction in CAPEX.

On a **comparable basis**, the decrease of 24 million euros in Orange Bank CAPEX between 2017 and 2018 resulted mainly from lower investments in 2018, as fiscal year 2017 had concentrated most of the investments dedicated to the launch of the new bank offering.

→ 2017 vs 2016

Fiscal year 2017 featured the preparation of the new banking and digital solution, Orange Bank, which is available in metropolitan France since November 2, 2017.

On a **historical basis**, the operating income of Orange Bank was negative 93 million euros in 2017, compared to a positive 85 million euros in 2016, chiefly attributable to (i) integration of banking activities over twelve months in 2017 compared to three months in 2016, (ii) costs incurred (essentially external purchases and labor expenses) in preparing the launch of the Orange Bank offer, and (iii) effects of the takeover of Groupama Banque (since renamed Orange Bank), with the recognition of a loss of 27 million euros in 2017, compared to a profit of 97 million euros in 2016 (see Note 3.2 to the consolidated annual financial statements).

On both a **historical** and a **comparable basis**, the 46 million euro increase in Orange Bank's CAPEX between 2016 and 2017 was primarily due to increased investment in IT, in connection with the launch of the Orange Bank offer in the second half of 2017.

3.1.3.7.2 Assets, liabilities and cash flows

The segment information pertaining to Orange Bank (operating income, investments in property, plant and equipment and intangible assets, assets, liabilities and cash flows) are presented in Note 1 to the consolidated annual financial statements, and Orange Bank's activities (financial assets and liabilities, management of market risks connected with the activities, and unrecognized contractual commitments) are described in Note 15 to the consolidated annual financial statements.

Outstanding loans and receivables to customers at December 31, 2018 came to 2.0 billion euros compared to 2.1 billion euros at January 1, 2018 (after integration of the effects of the IFRS 9 application). Retail loans made up 86.7% of that total. 45.5% were consumer loans (see Note 15.1.1 to the consolidated annual financial statements).

Outstanding payables to customers (deposits and savings) at December 31, 2018 came to 3.4 billion euros, down 7.8% year-on-year. This was composed mainly of retail deposits, which were down primarily in response to the end of sales of Elancio financial products. Institutional investors' deposits made up less than half of the total (see Note 15.1.2 to the consolidated annual financial statements).

For further information on the risks relating to the Orange Bank activities, see Section 2.1.3 *Financial risks*.

3.1.4 Cash flow, equity and financial debt

To ensure the transparency of the financial statements and separate out the performances of the telecoms activities and the Orange Bank activities, the analysis and financial commentary are split to reflect these two scopes of operation. Accordingly, Sections 3.1.4.1 *Liquidity and cash flows of telecoms activities* and 3.1.4.2. Financial debt and liquidity position of telecoms activities deal with the telecom activities, and Section 3.1.3.7 *Orange Bank covers the Orange Bank activities*.

3.1.4.1 Liquidity and cash flows of telecoms activities

Cash flows for the telecoms activities are presented in Note 1.6 to the consolidated annual financial statements.

Simplified statement of cash flows of telecoms activities (1) (at December 31, in millions of euros)	2018	2017 data on a historical basis	2016 data on a historical basis
Net cash provided by operating activities	9,672	9,902	8,961
Net cash used in investing activities	(8,426)	(7,962)	(5,057)
o/w: Acquisitions and proceeds from disposal of property, plant and equipment and intangible assets (2)	*(7,655)*	*(7,311)*	*(8,306)*
o/w: Proceeds from the disposal of EE securities (3)	-	*50*	*4,481*
Net cash used in financing activities	(1,499)	(2,834)	(2,004)
Cash change in cash and cash equivalents	**(253)**	**(894)**	**1,900**
Cash and cash equivalents – opening balance	5,333	6,267	4,469
Cash change in cash and cash equivalents	(253)	(894)	1,900
Non-cash change in cash and cash equivalents	1	(40)	(102)
Cash and cash equivalents – closing balance	**5,081**	**5,333**	**6,267**

(1) See Note 1.6 to the consolidated annual financial statements.
(2) Net of change in the fixed asset payables.
(3) In 2016, this was the cash portion (Proceeds of the transaction, less costs, see Note 3.2 to the consolidated annual financial statements).

3.1.4.1.1 Net cash provided by operating activities (telecoms activities)

Net cash provided by telecoms activities was 9,672 million euros in 2018, versus 9,902 million euros in 2017 and 8,961 million euros in 2016.

In 2018, Orange pursued its policy of actively managing its working capital requirement. The effects on the change in working capital requirement (i) of the sale of receivables in Spain, and (ii) the extended payment terms on certain suppliers of goods and services and fixed assets, are described in Notes 4.3 and 5.6, respectively, to the consolidated annual financial statements.

→ 2018 vs 2017

Change in net cash provided by telecoms activities – 2018 vs 2017 (at December 31, in millions of euros)	
Net cash provided by operating activities in 2017	**9,902**
Increase (decrease) in reported EBITDA	200
Change in working capital requirement (1)	(281)
Decrease (increase) in operating taxes and levies paid	155
Decrease (increase) in interest paid and interest rate effects on derivatives, net (net of dividends received)	65
Decrease (increase) in income tax paid	(344)
Other (2)	(25)
Net cash provided by operating activities in 2018	**9,672**

(1) See Section 7.2.1 *Financial glossary*.
(2) Of which the change in the elimination of non-monetary effects included in the calculation of reported EBITDA.

Between 2017 and 2018, the 230 million euro decrease in net cash generated by telecoms activities was largely attributable to:

- a €344 million in income tax expense paid, mainly in France, primarily due to (i) counter-effects of the 3% tax on dividends in 2017, and particularly the repayment of €304 million by the French tax authorities in 2017 in relation to the dispute regarding this tax (see Note 9.2 to the consolidated financial statements), and (ii) the increase in down payments during the year due to the exhaustion of tax loss carryforwards in 2018, and (iii) partly offset by the counter-effect of the implementation of the exceptional surtax applicable to 2017 (see Note 9.2 to the consolidated annual financial statements);
- the €281 million change in working capital, largely resulting from (i) a less pronounced increase in trade payables on other goods and services in 2018 than in 2017, and (ii) a larger increase in gross inventories in 2018 than in 2017;
- partly offset by (i) a €200 million increase in reported EBITDA, and (ii) by the €155 million decrease in operating taxes and levies paid.

→ 2017 vs 2016

Change in net cash provided by telecoms activities – 2017 vs 2016

(at December 31, in millions of euros)

Net cash provided by operating activities in 2016	**8,961**
Increase (decrease) in reported EBITDA	311
Change in working capital requirement	390
Fine from the French Competition Authority in the Enterprise market [1]	*350*
Others	*40*
Decrease (increase) in operating taxes and levies paid	(35)
Decrease (increase) in interest paid and interest rate effects on derivatives, net (net of dividends received)	(164)
Decrease (increase) in income tax paid	322
Other [2]	117
Net cash provided by operating activities in 2017	**9,902**

(1) See *Consolidated statement of cash flows* and Notes 5.7 and 16.1 to the consolidated annual financial statements. A 350 million euro deterioration in the working capital requirement in 2016, due to payment of the fine.

(2) Of which the change in the elimination of non-monetary effects included in the calculation of reported EBITDA.

Between 2016 and 2017, the 941 million euro increase in net cash from investing activities of telecoms activities was largely attributable to:

- the change in working capital requirement for 390 million euro, resulting in large part from the counter-effect in 2016 of payment of the 350 million euro fine from the French Competition Authority for anti-competitive practices in the Enterprise market (see *Consolidated statement of cash flows*, Notes 5.7 and 16.1 to the consolidated annual financial statements);
- the 311 million euro increase in reported EBITDA;
- and the 322 million euro cut in corporate income tax paid, mainly due to the refund of 304 million euros by the French tax authorities in 2017 for the dispute over the 3% tax on dividends (see Note 9.2 to the consolidated annual financial statements);
- partially offset by the 164 million euro increase in net interest paid and interest rate effects on derivatives, net (net of dividends received), primarily due to the counter-effect of the receipt of 173 million euros in dividends paid by EE in 2016 (see *Consolidated statement of cash flows*).

3.1.4.1.2 Net cash used in investing activities (telecoms activities)

The net cash used in investing activities of telecoms activities amounted to a negative 8,426 million euros in 2018 as against a negative 7,962 million euros in 2017, and a negative 5,057 million euros in 2016.

→ 2018 vs 2017

Between 2017 and 2018, the 464 million euro increase in net cash used in investing activities of telecoms activities was largely attributable to:

- impacts of proceeds from the disposal of BT securities for 380 million euros, with proceeds of 53 million euros in 2018, compared to 433 million euros in 2017 (amount net of costs, see Note 11.7 to the consolidated annual financial statements);
- the recognition of the 346 million euro escrow amount in 2018 relating to the Digicel dispute (see Notes 11.7 and 16.1 to the consolidated annual financial statements);
- the 344 million euro increase in acquisitions and proceeds from disposal of property, plant and equipment and intangible assets (net of changes in the fixed asset payables), mainly in France, in line with the growth in CAPEX between the two periods (see Section 3.1.2.5 *Group capital expenditures*);
- and the acquisition of Basefarm in 2018 for 230 million euros (see Section 3.1.1.3 *Significant events*);
- partly offset by the counter-effect on the 1,074 million euro increase of investments at fair value (excluding cash equivalents) in 2017.

→ 2017 vs 2016

Between 2016 and 2017, the 2,905 million euro increase in net cash used in investing activities of telecoms activities was largely attributable to:

- (i) the counter-effect of the recognition in 2016 of the cash portion of the proceeds from the disposal of EE securities for 4,481 million euros (proceeds from the transaction less costs), and (ii) the change in equity investments and other financial assets (with an increase of 1,082 million euros in 2017 compared to an increase of 65 million euros in 2016);
- partially offset by:
  - the counter-effect of acquisitions of investment securities (net of cash acquired) made in Africa in 2016, for a total of 1,120 million euros (Airtel in Burkina Faso and in Sierra Leone, Oasis (Tigo) in the Democratic Republic of the Congo, and Cellcom Telecommunications in Liberia, see Note 3.2 to the consolidated annual financial statements),
  - the 995 million euro decrease in acquisitions and proceeds from disposal of property, plant and equipment and intangible assets (net of the change in fixed asset payables), primarily due to the acquisition of far fewer telecommunications licenses in 2017 than in 2016 (primarily 4G licenses in Poland and in Egypt in 2016, and the partial payment due on the 700 MHz license acquired in France in 2015, payment for which is staggered from 2016 to 2018, see Section 3.1.2.5 *Group capital expenditures*),
  - and the proceeds from the disposal of BT securities sold in 2017 for 433 million euros net of fees (see Note 11.7 to the consolidated annual financial statements).

3.1.4.1.2.1 Acquisitions and proceeds from disposal of property, plant and equipment and intangible assets

Acquisitions and proceeds from disposal of property, plant and equipment and intangible assets (at December 31, in millions of euros, net of change in the fixed asset payables)	2018	2017 data on a historical basis	2016 data on a historical basis
Purchases of property, plant and equipment and intangible assets [(1)]	**(7,606)**	**(7,466)**	**(8,477)**
CAPEX	(7,406)	(7,148)	(6,956)
Telecommunications licenses	(200)	(318)	(1,521)
Increase (decrease) in fixed asset payables [(2)]	**(241)**	**8**	**26**
Proceeds from sales of property, plant and equipment and intangible assets	**192**	**147**	**145**
Telecoms activities total	(7,655)	(7,311)	(8,306)

(1) Investments financed through finance leases have no effect on cash flows when acquired (see Section 3.1.2.5 *Group capital expenditures* and Notes 1.3 and 8.4 to the consolidated annual financial statements).
(2) Including investing donations received in advance.

3.1.4.1.2.2 Acquisitions and proceeds from sales of investment securities

Acquisitions and proceeds from sales of investment securities [(1)] (at December 31, in millions of euros, nets of cash acquired or transferred)	2018	2017 data on a historical basis	2016 data on a historical basis
Acquisitions of investment securities (net of cash acquired)	**(380)**	**(84)**	**(1,274)**
Acquisition of 100% of Basefarm [(2)]	(230)	-	-
Acquisition of 88.2% in Business & Decision [(2)]	(36)	-	-
Acquisition of 100% of Enovacom [(2)]	(29)	-	-
Acquisition of 100% of Airtel in Burkina Faso	21	(10)	(515)
Acquisition of 100% of Airtel in Sierra Leone	19	-	(305)
Acquisition of 100% of Oasis (Tigo) in the Democratic Republic of the Congo (DRC)	-	-	(178)
Acquisition of 100% of Cellcom Telecommunication in Liberia	(3)	-	(122)
Other acquisitions	(122)	(74)	(154)
Proceeds from sales of investment securities (net of cash transferred)	**110**	**515**	**4,588**
Proceeds from the disposal of BT securities [(3)]	53	433	-
Proceeds from the disposal of EE securities [(4)]	-	50	4.481
Proceeds from the sale of 10% of Dailymotion	-	26	-
Other proceeds from sales	57	6	107
Telecoms activities total	(270)	431	3,314

(1) See Note 3.2 to the consolidated annual financial statements.
(2) See Section 3.1.1.3 *Significant events*.
(3) See Note 11.7 to the consolidated annual financial statements.
(4) In 2016, this was the cash portion (Proceeds of the transaction, less costs, see Note 3.2 to the consolidated annual financial statements).

3.1.4.1.2.3 Other changes in securities and other financial assets

Decrease (increase) in securities and other financial assets (at December 31, in millions of euros)	2018	2017 data on a historical basis	2016 data on a historical basis
Investments at fair value, excluding cash equivalents	(31)	(1,074)	(345)
Others	(470)	(8)	280
Telecoms activities total	(501)	(1,082)	(65)

3.1.4.1.3 Net cash used in financing activities (telecoms activities)

The net cash used in financing activities of telecoms activities was a negative 1,499 million euros in 2018, versus a negative 2,834 million euros in 2017 and a negative 2,004 million euros in 2016.

Net cash used in financing activities (at December 31, in millions of euros)	2018	2017 data on a historical basis	2016 data on a historical basis
Change in medium and long-term debt [1]	**1,119**	**(278)**	**744**
Medium and long-term debt issuances	5,214	2,450	3,411
Medium and long-term debt redemptions and repayments	(4,095)	(2,728)	(2,667)
Increase (decrease) of bank overdrafts and short-term borrowings [1]	**(251)**	**964**	**90**
Net change in *cash collateral* deposits [1]	**203**	**(1,138)**	**(888)**
Exchange rate effects on derivatives, net	**7**	**(66)**	**201**
Coupon on subordinated notes [2] [3]	**(280)**	**(282)**	**(291)**
Proceeds (purchases) from treasury shares [2]	**(98)**	**(4)**	**2**
Purchases of treasury shares – Orange Vision 2020 free share award plan	(101)	-	-
Other disposal (purchases) from treasury shares	3	(4)	2
Capital increase (decrease) [2]	**(87)**	**(66)**	**9**
Capital increase (decrease) of owners of the parent company [4]	-	-	113
Capital increase (decrease) of non-controlling interests	(87)	(66)	(104)
Changes in ownership interests with no gain or loss of control in subsidiaries	**(6)**	**1**	**(16)**
Dividends paid [2]	**(2,106)**	**(1,965)**	**(1,855)**
Dividends paid to owners of the parent company [3]	(1,860)	(1,729)	(1,596)
Dividends paid to non-controlling interests	(246)	(236)	(259)
Telecoms activities total	(1,499)	(2,834)	(2,004)

(1) See Note 11 to the consolidated annual financial statements.
(2) See Note 13 to the consolidated annual financial statements.
(3) See Section 3.1.4.3 *Equity*.
(4) Capital increase in 2016 for the Employee shareholding plan *Orange Ambition 2016*.

→ 2018 vs 2017

Between 2017 and 2018, the 1,335 million euro decrease in net cash related to the financing of telecoms activities was largely attributable to:

- the 2,764 million euro increase in medium and long-term debt issuance (see Notes 11.5 and 11.6 to the consolidated annual financial statements);
- and the net change in cash collateral (with an increase of 203 million euros in 2018 compared with a decrease of 1,138 million euros in 2017), reflecting the change in the fair value of derivatives used mainly for hedging bond loans denominated in the Group's currencies (with an improvement in 2018 compared with a deterioration in 2017), see Note 12.5 to the consolidated annual financial statements);
- partly offset (i) by the 1,367 million increase in medium- and long-term loan repayments, and (ii) changes in bank overdrafts and short-term borrowings (with a decrease of 251 million in 2018 compared to an increase of 964 million in 2017).

→ 2017 vs 2016

Between 2016 and 2017, the 830 million euro increase in net cash related to the financing of telecoms activities was largely attributable to:

- (i) the 961 million euro decline in additions to medium- and long-term debt (see Notes 11.5 and 11.6 to the consolidated annual financial statements), and (ii) to a lesser extent, the change in the exchange rate effects on derivatives, net and the net change in cash collateral deposits (see Note 12.5 to the consolidated annual financial statements);
- partially offset by the 874 million euro increase in bank overdrafts and short-term borrowings.

3.1.4.2 Financial debt and liquidity position of telecoms activities

For further information on the risks relating to the Orange group's financial debt, see Section 2.1.3 *Financial risks*.

3.1.4.2.1 Net financial debt

Net financial debt (see Note 11.3 to the consolidated annual financial statements) and the ratio of net financial debt to adjusted EBITDA of telecoms activities are financial indicators not defined by IFRS. For further information on the calculation of these indicators and the reasons why the Orange Group uses them, see Section 3.1.5 *Financial indicators not defined by IFRS* and Section 7.2.1 *Financial glossary*. Net financial debt as defined and used by Orange does not include Orange Bank activities, for which this concept is not relevant.

(as at December 31)	2018	2017 data on a historical basis	2016 data on a historical basis
Net financial debt [1] [2]	25,441	23,843	24,444
Ratio of Net financial debt/Adjusted EBITDA of telecoms activities [1]	1.93	1.87	1.94

(1) See Section 3 1.5 *Financial indicators not defined by IFRS*.
(2) In millions of euros.

→ 2018 vs 2017

Between December 31, 2017 and December 31, 2018, net financial debt rose 1,598 million euros.

Change in net financial debt – 2018 vs 2017
(at December 31, in millions of euros)

Net financial debt at December 31, 2017	**23,843**
Adjusted EBITDA of telecoms activities	(13,151)
CAPEX of telecoms activities	7,406
Telecommunication licenses paid	422
Decrease (increase) of CAPEX suppliers (1)	19
Increase (decrease) in working capital requirement (2)	199
Interest paid and interest rate effects on derivatives, net (net of dividends received)	1,208
Income tax paid	928
Other operating items (3)	954
Acquisitions and proceeds from sales of investment securities (net of cash acquired or transferred) and changes in ownership interests with no gain or loss of control in subsidiaries	276
Coupon on subordinated notes (4)	280
Dividends paid to owners of the parent company (4)	1,860
Dividends paid to non-controlling interests	246
Other financial items	951
Provision for the Digicel litigation (5)	*346*
Purchases of treasury shares – Orange Vision 2020 free share award plan (6)	*101*
Orange Bank capital increase subscribed by the Group (7)	*101*
Other (8)	*403*
Net financial debt at December 31, 2018	**25,441**

(1) Including investing donations received in advance.
(2) See Section 7.2.1 *Financial glossary*.
(3) Primarily (i) the disbursements relating to restructuring and integration costs, and (ii) elimination of non-monetary effects included in adjusted EBITDA.
(4) See Section 3.1.4.3 Equity and Note 13 to the consolidated annual financial statements.
(5) See Notes 11.7 and 16.1 to the consolidated annual financial statements.
(6) See Section 3.1.1.3 *Significant events* and Note 6.3 to the consolidated annual financial statements.
(7) See Note 1.6 to the consolidated annual financial statements.
(8) Mainly the effect of changes in the scope of consolidation, primarily corresponding to acquisitions of Basefarm and Business & Decision in 2018 (see Section 3.1.1.3 *Significant events*).

→ 2017 vs 2016

Between December 31, 2016 and December 31, 2017, net financial debt fell 601 million euros.

Change in net financial debt – 2017 vs 2016
(at December 31, in millions of euros)

Net financial debt at December 31, 2016	**24,444**
Adjusted EBITDA of telecoms activities	(12,741)
CAPEX of telecoms activities	7,148
Telecommunication licenses paid	617
Decrease (increase) of CAPEX suppliers (1)	(307)
Increase (decrease) in working capital requirement	(82)
Interest paid and interest rate effects on derivatives, net (net of dividends received)	1,273
Income tax paid	584
Other operating items (2)	917
Acquisitions and proceeds from sales of investment securities (net of cash acquired or transferred) and changes in ownership interests with no gain or loss of control in subsidiaries	(432)
Proceeds from the disposal of BT securities (3)	*(433)*
Others	*1*
Coupon on subordinated notes (4)	282
Dividends paid to owners of the parent company (4)	1,729
Dividends paid to non-controlling interests	236
Other financial items (5)	175
Net financial debt at December 31, 2017	**23,843**

(1) Including investing donations received in advance.
(2) Primarily (i) the disbursements relating to restructuring and integration costs, and (ii) elimination of non-monetary effects included in adjusted EBITDA.
(3) Net of fees (see Note 3.2 to the consolidated annual financial statements).
(4) See Section 3.1.4.3 *Equity* and Note 13 to the consolidated annual financial statements.
(5) Primarily the impact of economic hedges of the Group's exposure to sterling.

3.1.4.2.2 Management of financial debt and liquidity position

The assets, liabilities and net finance costs excluding the Orange Bank activities along with the information on market risks and the fair value of financial assets and liabilities excluding the Orange Bank activities are respectively described in Notes 11 and 12 to the consolidated annual financial statements.

At December 31, 2018, the cash and cash equivalents of telecoms activities stood at 5,081 million euros, and the liquidity position of telecoms activities was 13,964 million euros. At December 31, 2018, the liquidity position of telecoms activities exceeded the repayment obligations of its gross financial debt in 2019 (see Note 12.3 to the consolidated annual financial statements).

3.1.4.2.3 Exposure to market risks and financial Instruments

The management of interest rate risk, foreign exchange risk, liquidity risk, credit risk and counterparty risk, financial covenants and equity market risk, is described in Note 12 to the consolidated annual financial statements.

For further information on risks relating to financial markets, see Section 2.1.3 *Financial risks*.

3.1.4.2.4 Orange's credit ratings

Orange's credit rating is an additional performance indicator used to assess the Group's financial policy and risk management policy and, in particular, its solvency and liquidity risk, and is not a substitute for an analysis carried out by investors. Rating agencies revise the ratings they assign on a regular basis. Any change in the rating could produce an impact on the cost of future financing or restrict access to liquidity.

In addition, a change in Orange's credit rating will, for certain outstanding financing, affect the compensation paid to investors via a Step-up clause (Step-up: a clause that triggers an increase in interest payments in the event of a downgrading of Orange's long-term credit rating by the rating agencies, according to contractually defined rules – this clause may also stipulate a downward revision of the coupon interest rate in the event of an improvement in the rating, as long as the interest rate does not drop below the initial interest rate on the loan – see Note 12.3 to the consolidated annual financial statements).

On June 27, 2018, the rating agency Japan Credit Rating upgraded Orange's long-term debt rating from A- to A and correlatively revised the outlook on Orange's long term debt from Positive to Stable.

Orange's credit rating at December 31, 2018 was as follows:

Orange's debt ratings (at December 31, 2018)	**Standard & Poor's**	**Moody's**	**Fitch Ratings**	**Japan Credit Rating**
Long-term debt	BBB+	Baa1	BBB+	A
Outlook	Stable	Stable	Stable	Stable
Short-term debt	A2	P2	F2	Not applicable

For further information on risks related to the financial markets and a history of the Company's credit ratings, see Section 2.1.3 *Financial risks*.

3.1.4.3 Equity

At December 31, 2018, the French State held 22.95% of the capital of Orange SA and 29.47% of the voting rights, directly or jointly with Bpifrance Participations (see Note 13 to the consolidated annual financial statements).

The payment of dividends by Orange took place as follows (see Note 13.3 to the consolidated annual financial statements):

- in 2018, payment of (i) the balance of the dividend of 0.40 euros per share in respect of the 2017 fiscal year, and (ii) the interim dividend of 0.30 euros per share in respect of the 2018 fiscal year;
- in 2017, payment of (i) the balance of the dividend of 0.40 euros per share in respect of the 2016 fiscal year, and (ii) the interim dividend of 0.25 euros per share in respect of the 2017 fiscal year;
- and in 2016, payment of (i) the balance of the dividend of 0.40 euros per share in respect of the 2015 fiscal year, and (ii) the interim dividend of 0.20 euros per share in respect of the 2016 fiscal year.

Additionally, Orange has not exercised its right to defer the coupon related to the deeply subordinated notes since their issuance and, accordingly, it paid the noteholders 280 million euros, in 2018, 282 million euros in 2017, and 291 million euros in 2016 (see Note 13.4 to the consolidated annual financial statements).

Capital management is described in Note 12.7 to the consolidated annual financial statements. Changes in equity are described in the *Consolidated statement of changes in shareholders' equity in the consolidated annual financial* statements, as well as in Note 13 to the consolidated annual financial statements.

3.1.5 Financial indicators not defined by IFRS

In this document, other than the financial indicators reported in accordance with the IFRS (International Financial Reporting Standards), Orange publishes financial indicators that are not defined by IFRS. As described below, these figures are presented as additional information and are not meant to be substitutes for or to be confused with financial indicators as defined by IFRS.

3.1.5.1 Data on a comparable basis

In order to allow investors to track the annual changes in the Group's operations, data on a comparable basis are presented for the previous period. The transition from data on a historical basis to data on a comparable basis consists of keeping the results for the year ended and restating the previous year in order to present financial data with comparable methods, scope of consolidation and exchange rates over comparable periods. Orange provides the details of the impact of changes in method, scope of consolidation and exchange rates on its key operating indicators in order to isolate the intrinsic business impact. The method used is to apply to the data of the corresponding period of the preceding year the methods and the scope of consolidation for the period ended, as well as the average exchange rates used for the *Consolidated income statement* for the period ended.

Orange's management believes that the presentation of these indicators on a comparable basis is pertinent, as these are indicators used internally by the Group for monitoring its operating activities. Changes in data on a comparable basis better reflect organic business changes.

Data on a comparable basis are not financial indicators defined by IFRS and may not be comparable to similarly titled indicators used by other companies. It is provided as additional information only and should not be considered as a substitute for an analysis of the Group's historical data for the past year or previous periods.

3.1.5.1.1 Data on a comparable basis for 2017

The data on a comparable basis for 2017 is comparable in terms of method, scope and exchange rates to the data on a historical basis for 2018.

3.1.5.1.1.1 2017 fiscal year – Group

The following table presents, for the Orange group, the transition from data on a historical basis to data on a comparable basis for the 2017 fiscal year for the key operating data.

2017 fiscal year/Group (at December 31, 2017, in millions of euros)	Revenue	Adjusted EBITDA	Reported EBITDA	CAPEX	Average number of employees
Data on a historical basis	**40,859**	**12,680**	**11,863**	**7,209**	**138,038**
Foreign exchange fluctuations [(1)]	**(189)**	**(28)**	**(27)**	**(26)**	**-**
US dollar (USD)	(84)	(28)	(27)	(6)	-
Egyptian pound (EGP)	(27)	(8)	(8)	(9)	-
Jordanian dinar (JOD)	(18)	(6)	(6)	(3)	-
Argentine Peso (ARS)	(10)	-	1	-	-
Russian ruble (RUB)	(9)	-	-	(1)	-
Guinean franc (GNF)	(8)	(3)	(3)	(1)	-
Malagasy Ariary (MGA)	(7)	(1)	(1)	(1)	-
Others	(26)	18	17	(5)	-
Changes in the scope of consolidation and other changes	**167**	**8**	**13**	**8**	**1,438**
Acquisition of Business & Decision	109	4	3	1	1.080
Acquisition of Basefarm Holding	30	6	6	6	143
Acquisition of Enovacom	13	(2)	(2)	1	134
Others	15	-	6	-	81
Data on a comparable basis	**40,837**	**12,660**	**11,849**	**7,191**	**139,476**

(1) Foreign exchange fluctuations between the average exchange rates for the 2017 fiscal year and average rates for the 2018 fiscal year.

The changes included in the transition from data on a historical basis to data on a comparable basis for the 2017 fiscal year primarily include:

- the changes in the scope of consolidation (see Section 3.1.1.3 *Significant events* and Note 3.2 to the consolidated annual financial statements), with mainly:
  - the takeover of Business & Decision (Enterprise) on June 5, 2018, taking effect from July 1, 2018, on a comparable basis,
  - the acquisition of Basefarm Holding (Enterprise) on August 14, 2018, taking effect from October 1, 2018, on a comparable basis,
  - the acquisition of Enovacom (Enterprise) on February 21, 2018, taking effect from March 1, 2018, on a comparable basis;
- and the foreign exchange fluctuations between the average exchange rates for the 2017 fiscal year and for the 2018 fiscal year.

3.1.5.1.1.2 2017 fiscal year – Segments

The following table presents, for each segment of the Orange group, the transition from data on a historical basis to data on a comparable basis for the 2017 fiscal year for the key operating data.

2017 fiscal year – Segments (at December 31, 2017, in millions of euros)	Revenue	Adjusted EBITDA	Reported EBITDA	CAPEX	Average number of employees
France					
Data on a historical basis	18,046	6,878	6,444	3,451	59,622
Foreign exchange fluctuations (1)	-	-	-	-	-
Changes in the scope of consolidation and other changes (2)	2	1	2	-	58
Data on a comparable basis	18,048	6,879	6,446	3,451	59,680
Spain					
Data on a historical basis	5,231	1,567	1,563	1,115	6,565
Foreign exchange fluctuations (1)	-	-	-	-	-
Changes in the scope of consolidation and other changes (2)	1	1	1	-	4
Data on a comparable basis	5,232	1,568	1,564	1,115	6,569
Europe					
Data on a historical basis	5,578	1,456	1,417	897	22,636
Foreign exchange fluctuations (1)	4	2	2	1	-
Changes in the scope of consolidation and other changes (2)	11	2	3	1	70
Data on a comparable basis	5,593	1,460	1,422	899	22,706
Africa & Middle East					
Data on a historical basis	5,030	1,612	1,591	1,021	15,210
Foreign exchange fluctuations (1)	(90)	(24)	(23)	(22)	-
Changes in the scope of consolidation and other changes (2)	-	(3)	(3)	-	-
Data on a comparable basis	4,940	1.585	1,565	999	15,210
Enterprise					
Data on a historical basis	7,251	1,306	1,258	382	20,807
Foreign exchange fluctuations (1)	(94)	(10)	(10)	(5)	-
Changes in the scope of consolidation and other changes (2)	151	10	10	8	1,356
Acquisition of Business & Decision	109	4	3	1	1,080
Acquisition of Basefarm	30	6	6	6	143
Acquisition of Enovacom	13	(2)	(2)	1	134
Other changes (2)	(1)	2	3	-	(1)
Data on a comparable basis	7,308	1,306	1,258	385	22,163
International Carriers & Shared Services					
Data on a historical basis	1,651	(78)	(349)	282	12,535
Foreign exchange fluctuations (1)	(13)	3	4	-	-
Changes in the scope of consolidation and other changes (2)	(5)	(2)	-	-	(50)
Data on a comparable basis	1,633	(77)	(345)	282	12,485
Orange Bank					
Data on a historical basis	-	(62)	(62)	61	663
Foreign exchange fluctuations (1)	-	-	-	-	-
Changes in the scope of consolidation and other changes (2)	-	-	-	(1)	-
Data on a comparable basis	-	(62)	(62)	60	663

(1) Foreign exchange fluctuations between the average exchange rates for the 2017 fiscal year and average rates for the 2018 fiscal year.
(2) Including the effect of internal reorganizations between segments which have no effect at Group level.

3.1.5.1.2 Data on a comparable basis for 2016

The data on a comparable basis for 2016 is comparable in terms of method, scope and exchange rates to the data on a historical basis for 2017.

3.1.5.1.2.1 2016 Fiscal year – Group

The following table presents, for the Orange group, the transition from data on a historical basis to data on a comparable basis for the 2016 fiscal year for the key operating data.

2016 fiscal year/Group (at December 31, 2016, in millions of euros)	Revenue	Adjusted EBITDA	Reported EBITDA	CAPEX	Average number of employees
Data on a historical basis	**40,708**	**12,564**	**11,601**	**6,971**	**141,257**
Foreign exchange fluctuations [(1)]	**(485)**	**(156)**	**(155)**	**(20)**	**-**
Egyptian pound (EGP)	(517)	(165)	(164)	(27)	-
Polish zloty (PLN)	64	16	16	11	-
US dollar (USD)	(16)	(3)	(3)	(2)	-
Others	(16)	(4)	(4)	(2)	-
Changes in the scope of consolidation and other changes	**160**	**11**	**(47)**	**23**	**575**
Acquisition of Airtel in Burkina Faso	94	26	26	14	131
Acquisition of Oasis (Tigo) in the Democratic Republic of the Congo (DRC)	45	(6)	(6)	2	43
Acquisition of Airtel in Sierra Leone	32	9	9	5	156
Acquisition of Cellcom Telecommunications in Liberia	15	6	6	4	85
Disposal of Fime	(19)	(3)	(52)	(1)	(166)
Acquisition of Groupama Banque (renamed Orange Bank)	-	(23)	(23)	-	363
Others	(7)	2	(7)	(1)	(37)
Data on a comparable basis	**40,383**	**12,419**	**11,399**	**6,974**	**141,832**

(1) Foreign exchange fluctuations between the average exchange rates for the 2016 fiscal year and average rates for the 2017 fiscal year.

The changes included in the transition from data on a historical basis to data on a comparable basis for the 2016 fiscal year primarily include:

- the changes in the scope of consolidation (see Note 3.2 to the consolidated annual financial statements), with mainly:
  - the acquisition of Oasis (Tigo) in the Democratic Republic of the Congo (DRC, Africa & Middle East) on April 20, 2016, taking effect from January 1, 2016, in data on a comparable basis,
  - the acquisition of Airtel in Burkina Faso (Africa & Middle East) on June 22, 2016, taking effect from January 1, 2016, on a comparable basis,
  - the acquisition of Cellcom Telecommunications in Liberia (Africa & Middle East) on April 5, 2016, taking effect from January 1, 2016, on a comparable basis,
  - the acquisition of Airtel in Sierra Leone (Africa & Middle East) on July 19, 2016, taking effect from January 1, 2016, on a comparable basis,
  - the disposal of Fime (Enterprise) on May 31, 2016, taking effect from January 1, 2016, on a comparable basis,
  - and the acquisition of Groupama Banque (renamed Orange Bank) on October 4, 2016, taking effect from January 1, 2016, on a comparable basis;
- and the foreign exchange fluctuations between the average exchange rates for the 2016 fiscal year and for the 2017 fiscal year.

3.1.5.1.2.2 2016 Fiscal year – Segments

The following table presents, for each segment of the Orange group, the transition from data on a historical basis to data on a comparable basis for the 2016 fiscal year for the key operating data.

2016 fiscal year/Segments (at December 31, 2016, in millions of euros)	Revenue	Adjusted EBITDA	Reported EBITDA	CAPEX	Average number of employees
France					
Data on a historical basis	17,896	6,729	6,128	3,421	63,094
Foreign exchange fluctuations (1)	-	-	-	-	-
Changes in the scope of consolidation and other changes (2)	-	1	1	10	-
Data on a comparable basis	17,896	6,730	6,129	3,431	63,094
Spain					
Data on a historical basis	4,909	1,351	1,224	1,086	6,401
Foreign exchange fluctuations (1)	-	-	-	-	-
Changes in the scope of consolidation and other changes (2)	-	2	2	-	(2)
Data on a comparable basis	4,909	1,353	1,226	1,086	6,399
Europe					
Data on a historical basis	5,482	1,558	1,543	874	23,255
Foreign exchange fluctuations (1)	72	20	19	12	-
Changes in the scope of consolidation and other changes (2)	-	-	-	-	-
Data on a comparable basis	5,554	1,578	1,562	886	23,255
Africa & Middle East					
Data on a historical basis	5,245	1,658	1,638	962	15,368
Foreign exchange fluctuations (1)	(550)	(187)	(186)	(33)	-
Changes in the scope of consolidation and other changes (2)	186	35	19	25	415
Acquisition of Airtel in Burkina Faso	94	26	26	14	131
Acquisition of Oasis (Tigo) in the Democratic Republic of the Congo (DRC)	45	(6)	(6)	2	43
Acquisition of Airtel in Sierra Leone	32	9	9	5	156
Acquisition of Cellcom Telecommunications in Liberia	15	6	6	4	85
Other changes (2)	-	-	(16)	-	-
Data on a comparable basis	4,881	1,506	1,471	954	15,783
Enterprise					
Data on a historical basis	7,346	1,336	1,292	336	20,316
Foreign exchange fluctuations (1)	(5)	(2)	(2)	1	-
Changes in the scope of consolidation and other changes (2)	(25)	(4)	(51)	(2)	(191)
Disposal of Fime	(19)	(3)	(52)	(1)	(166)
Other changes (2)	(6)	(1)	1	(1)	(25)
Data on a comparable basis	7,316	1,330	1,239	335	20,125
International Carriers & Shared Services					
Data on a historical basis	1,812	(56)	(212)	277	12,680
Foreign exchange fluctuations (1)	(4)	12	12	-	-
Changes in the scope of consolidation and other changes (2)	(2)	1	7	(10)	(10)
Data on a comparable basis	1,806	(43)	(193)	267	12,670
Orange Bank					
Data on a historical basis	-	(12)	(12)	15	143
Foreign exchange fluctuations (1)	-	-	-	-	-
Changes in the scope of consolidation and other changes (2)	-	(23)	(23)	-	363
Acquisition of Groupama Banque (renamed Orange Bank)	-	(23)	(23)	-	363
Other changes (2)	-	-	-	-	-
Data on a comparable basis	-	(35)	(35)	15	506

(1) Foreign exchange fluctuations between the average exchange rates for the 2016 fiscal year and average rates for the 2017 fiscal year.
(2) Including the effect of internal reorganizations between segments which have no effect at Group level.

3.1.5.2 Adjusted EBITDA and reported EBITDA

Reported EBITDA is operating income before depreciation and amortization, before effects resulting from business combinations, before reclassification of translation adjustment from liquidated entities, before impairment of goodwill and fixed assets and before share of profits (losses) of associates and joint ventures.

Adjusted EBITDA is reported EBITDA adjusted for the effects of significant litigations, specific labor expenses, review of the investments and business portfolio, restructuring and integration costs and, where appropriate, other specific items that are systematically specified (see Note 1.7 to the consolidated annual financial statements).

The reconciliation between adjusted EBITDA, reported EBITDA and consolidated net income is shown below.

(at December 31, in millions of euros)	2018			2017			2016		
						data on a historical basis			data on a historical basis
	Adjusted data	Presentation adjust-ments [1]	Consolidated income statement	Adjusted data	Presentation adjust-ments [1]	Consolidated income statement	Adjusted data	Presentation adjust-ments [1]	Consolidated income statement
Revenue	**41,381**	**-**	**41,381**	**40,859**	**-**	**40,859**	**40,708**	**-**	**40,708**
External purchases	(18.563)	-	(18.563)	(18.381)	-	(18.381)	(18.186)	-	(18.186)
Other operating income	760	-	760	687	14	701	732	7	739
Other operating expense	(496)	(9)	(505)	(434)	(290)	(724)	(457)	(89)	(546)
Labor expenses	(8.268)	(806)	(9.074)	(8.200)	(374)	(8.574)	(8.340)	(526)	(8.866)
Operating taxes and levies	(1.809)	(31)	(1.840)	(1.851)	5	(1.846)	(1.893)	85	(1.808)
Gains (losses) on disposal	-	17	17	-	(5)	(5)	-	59	59
Restructuring and integration costs	-	(199)	(199)	-	(167)	(167)	-	(499)	(499)
Adjusted EBITDA	**13,005**	**(1.028)**	**-**	**12,680**	**(817)**	**-**	**12,564**	**(963)**	**-**
Significant litigations	(33)	33	-	(271)	271	-	10	(10)	-
Specific labor expenses	(812)	812	-	(374)	374	-	(525)	525	-
Investments and businesses portfolio review	17	(17)	-	(5)	5	-	59	(59)	-
Restructuring and integration costs	(200)	200	-	(167)	167	-	(499)	499	-
Other specific items	-	-	-	-	-	-	(8)	8	-
Reported EBITDA	**11,977**	**-**	**11,977**	**11,863**	**-**	**11,863**	**11,601**	**-**	**11,601**
Depreciation and amortization	-	-	(7.047)	-	-	(6.846)	-	-	(6.728)
Effects resulting from business combinations	-	-	-	-	-	(27)	-	-	97
Reclassification of translation adjustment from liquidated entities	-	-	1	-	-	(8)	-	-	14
Impairment of goodwill	-	-	(56)	-	-	(20)	-	-	(814)
Impairment of fixed assets	-	-	(49)	-	-	(190)	-	-	(207)
Share of profits (losses) of associates and joint ventures	-	-	3	-	-	6	-	-	(46)
Operating income	**-**	**-**	**4,829**	**-**	**-**	**4,778**	**-**	**-**	**3,917**
Finance costs, net	-	-	(1.362)	-	-	(1.715)	-	-	(2.097)
Income tax	-	-	(1.309)	-	-	(1.052)	-	-	(951)
Consolidated net income of continuing operations	**-**	**-**	**2,158**	**-**	**-**	**2.011**	**-**	**-**	**869**
Net income of discontinued operations	-	-	-	-	-	29	-	-	2.253
Consolidated net income	**-**	**-**	**2,158**	**-**	**-**	**2,040**	**-**	**-**	**3,122**
Net income attributable to owners of the parent company	-	-	1.954	-	-	1.843	-	-	2.813
Non-controlling interests	-	-	204	-	-	197	-	-	309

(1) The presentation adjustments allow re-assignment of specific line items identified in the segment information (see Note 1 to the consolidated annual financial statements) to the lines for operating income and expenses presented in the Consolidated income statement.

Orange's management considers that the presentation of adjusted EBITDA and reported EBITDA is pertinent because they are operating performance indicators used internally by the Group (i) to manage and assess its operating results and segment results, and (ii) to implement its investments and resource allocation strategy. Adjusted EBITDA and reported EBITDA, or similar management indicators used by Orange's competitors, are indicators that are often disclosed and widely used by analysts, investors and other players in the telecommunications industry.

Adjusted EBITDA and reported EBITDA are not financial indicators defined by IFRS and may not be comparable to similarly titled indicators used by other companies. They are provided as additional information only and should not be considered as a substitute for operating income or cash provided by operating activities.

3.1.5.3 CAPEX

Investments in property, plant and equipment and intangible assets excluding telecommunication licenses and investments financed through finance leases (hereinafter referred to as "CAPEX") represent the acquisitions of property, plant and equipment and intangible assets excluding telecommunication licenses and changes in fixed asset payables, as presented in the *Consolidated statement of cash flows* (investments financed through finance leases do not affect cash flows upon acquisition). The calculation below shows the transition from CAPEX to (i) acquisitions of property, plant and equipment and intangible assets, excluding changes in the fixed asset payables, as presented in the *Consolidated statement of cash flows*, and (ii) investments in property, plant and equipment and intangible assets as presented in Note 1.3 to the consolidated annual financial statements.

(at December 31, in millions of euros)	2018	2017 data on a historical basis	2016 data on a historical basis
CAPEX	7,442	7,209	6,971
Telecommunications licenses	200	318	1.521
Purchases of property, plant and equipment and intangible assets (1)	**7,642**	**7,527**	**8,492**
Investments financed through finance leases	136	43	91
Investments in property, plant and equipment and intangible assets	**7,778**	**7,570**	**8,583**

(1) Excluding change in the fixed asset payables.

CAPEX does not include investments financed through finance leases (no effect on cash flow upon acquisition) and investments in telecommunication licenses, the acquisition of these licenses not being part of the daily monitoring of operating investments.

Orange's management considers that presenting CAPEX is relevant because it is the indicator used internally by the Group in allocating resources, so as to measure the operating efficiency of the use of investments in each of its operating segments.

CAPEX is not a financial indicator defined by IFRS and may not be comparable to similarly-titled indicators used by other companies. It is provided as additional information only and should not be considered as a substitute for purchases of or investments in property, plant and equipment and intangible assets.

3.1.5.4 Adjusted EBITDA – CAPEX

"Adjusted EBITDA – CAPEX" corresponds to adjusted EBITDA (see Section 3.1.5.2 *Adjusted EBITDA and reported EBITDA*) less CAPEX (see Section 3.1.5.3 *CAPEX*).

Orange's management considers that the presentation of "Adjusted EBITDA – CAPEX" is pertinent because it is the operating performance indicator used internally by the Group to (i) manage and assess its operating results and segment results, and (ii) implement its investments and resource allocation strategy.

"Adjusted EBITDA – CAPEX" is not a financial indicator defined by IFRS and may not be comparable to similarly-titled indicators used by other companies. It is provided as additional information only and should not be considered as a substitute for analysis of net cash provided by operating activities and net cash allocated to the Group's investing activities.

3.1.5.5 Net financial debt

Net financial debt as defined and used by Orange does not include Orange Bank activities, for which this concept is not relevant. It consists of (a) financial liabilities excluding operating payables (translated into euros at the year-end closing rate) including derivative instruments (assets and liabilities), less (b) cash collateral paid, cash, cash equivalents and financial assets at fair value. Furthermore, financial instruments designated as cash flow hedges included in net financial debt are set up to hedge (among other) items that are not included in it, such as future cash flows. Effects of these hedges are carried in other comprehensive income. As a consequence, the portion of these components related to unmatured hedging instruments is added to gross financial debt to offset this temporary difference.

The breakdown of net financial debt is shown in Note 11.3 to the consolidated annual financial statements.

Net financial debt is an indicator of financial position used by the Group. Net financial debt is a frequently disclosed indicator. It is widely used by analysts, investors, rating agencies and most groups in all business sectors in Europe.

Net financial debt is not a financial indicator defined by IFRS and may not be comparable to similarly-titled indicators used by other companies. It is provided as additional information only and should not be considered as a substitute for an analysis of all the Group's assets and liabilities.

3.1.5.6 Ratio of net financial debt to adjusted EBITDA of telecoms activities

The ratio of net financial debt to adjusted EBITDA of telecoms activities is calculated as the ratio of the Group's net financial debt (see Section 3.1.5.5 *Net financial debt*) to the adjusted EBITDA of telecoms activities (see Section 3.1.5.2 *Adjusted EBITDA and reported EBITDA*) calculated over the previous 12 months. As the net financial debt (as defined and used by Orange) does not include the Orange Bank activities, for which this concept is not relevant, the net financial debt is divided by the adjusted EBITDA of telecoms activities. In addition, when changes in scope significantly affect the Group's net financial debt at the end of the period, the calculation of the ratio of net financial debt to adjusted EBITDA of telecoms activities is adjusted to take into account the adjusted EBITDA of those entities over the previous 12 months.

(at December 31, in millions of euros)	2018	2017 data on a historical basis	2016 data on a historical basis
Net financial debt (a)	25,441	23,843	24,444
Adjusted EBITDA of telecoms activities (b)	13,151	12,741	12,576
Ratio of Net financial debt/Adjusted EBITDA of telecoms activities (a/b)	**1.93**	**1.87**	**1.94**

The ratio of net financial debt to adjusted EBITDA of telecoms activities is used by Orange to measure the Group's ability to repay its debt, and more broadly to measure its financial strength. This ratio is commonly used by companies in the telecommunications sector.

3.1.6 Additional information

Unrecognized contractual commitments

Unrecognized contractual commitments are described in Notes 14 and 15.3 to the consolidated annual financial statements.

Application of IFRS 16 at January 1, 2019

The Group will apply IFRS 16 "Leases" as from January 1, 2019 using the simplified retrospective method, without restatement of comparative periods (see Note 2.4.2 to the consolidated annual financial statements). Whilst following current discussions under way at the IFRIC and IASB, the Group estimates the effect on the opening balance sheet between €5.5 billion and €6.5 billion euros resulting from the recognition of the lease obligation and the right of use associated with leases contracts. Furthermore, the Group will record deferred taxes during the initial recognition of the right of use and the lease obligation from the transition.

The effect on equity at January 1, 2019 should not be material.

New financial indicators in Q1 2019

As a result of the Group's application of IFRS 16 as from January 1, 2019, Orange must adapt its financial indicators not defined by IFRS. As from the first quarter of 2019, the following financial indicators will be used internally by the Group:

- **EBITDA after Leases** (known as "**EBITDAaL**") will correspond to consolidated net income of continuing operations before income tax, before financial income excluding interest on rental liabilities and liabilities related to the assets financed, before share of profits (losses) of associates and joint ventures, before impairment of goodwill and intangible and tangible assets, before reclassification of translation adjustment from liquidated entities, before effects resulting from business combinations, before depreciation and amortization of property, plant and equipment and intangible assets, before the effects of significant litigations, before specific labor expenses, before restructuring costs, before acquisition and integration costs, and before review of the portfolio of assets, securities and businesses;
- **economic CAPEX** will correspond to (i) investments in property, plant and equipment and intangible assets, excluding telecommunications licenses and financed assets, and (ii) less the selling prices of property, plant and equipment and intangible assets sold;
- the "**EBITDAaL – Economic CAPEX**" indicator will correspond to EBITDAaL (see *above*) less Economic CAPEX (see *above*);
- **net financial debt** will exclude lease liabilities falling within the scope of application of IFRS 16;
- the **ratio of net financial debt to EBITDAaL of telecoms activities** will be calculated on the basis of the Group's net financial debt (see *above*) compared to the EBITDAaL (see *above*) of telecoms activities, calculated over the last 12 months.

3.2 Recent events and Outlook

3.2.1 Recent events

None.

3.2.2 Outlook

Building on these strong results, the Orange group will mobilize its ability to adapt to meet new challenges and continue its growth trajectory.

The application of IFRS 16 "Leases" from January 1, 2019 (see Note 2.4.2 to the consolidated annual financial statements) has prompted the Group to review its financial indicators but does not change Orange's targets, which are in line with the information provided at the Investor Day held on December 7, 2017.

The financial indicators not defined by IFRS that will be used by the Group from the first quarter of 2019 are described in Section 3.1.6 *Additional information*. On this basis, the Group's outlook is as follows:

- EBITDAaL (EBITDA after Leases) growth in 2019 will be lower than that achieved in 2018, on a comparable basis. This can be explained by a market environment that remains very competitive, particularly in France and Spain, and by the end of the positive impact of ePresse and audiobooks offers;
- economic CAPEX in 2019 will be slightly down compared to 2018 on a comparable basis;
- the "EBITDAaL – Economic CAPEX " indicator in 2019 will be higher than in 2018, on a comparable basis;
- the target ratio of net financial debt to EBITDAaL of telecoms activities is maintained at around 2x in the medium term.

For further information on the outlook beyond 2018, see Section 1.2.2 *The Orange group strategy*.

These forward-looking statements are subject to numerous risks and uncertainties that could cause actual results to differ materially from the results anticipated in the forward-looking statements. The most significant risks are described in Section 2.1 *Risk factors*.

3