



World CleanUp Day

ARMOR employees clean up a beach in Pornic, on the Atlantic coast, during World CleanUp Day in September 2019.

In 2019, ARMOR decided to actively participate in Global Cleanup Week. Nearly 80 volunteers made their way to the Portmain beach in Pornic (France) to collect waste. Operation «Clean Beach» was an initiative among many others taking place at the various ARMOR entities around the world. The subsidiaries in Brazil and China also joined the movement. In total, 255 ARMOR employees participated in the week dedicated to cleaning up the planet, collecting some 1,800kg of waste.

Editorial





Being a signatory of the Global Compact means making a voluntary commitment to a system designed around the principles of human rights, employment rights, the environment and anticorruption. We all have a role to play in tackling the issues faced by society. Both as individuals and as organizations. The industry of the future must reconcile local and international activities, based on sustainable production of necessary, non-superficial goods.

Crisis periods frequently remind us of what is essential in life. Now more than ever, we are convinced that the company has been on the right path for many years. It is a strategy of local industry rooted within communities from which we develop international export objectives.

Regional solidarity forms an integral part of what we call socially-responsible innovation. Positive action is frequently born out of listening to others, out of the value placed on what binds people together within society and the shared raison d'être that lies at the core of our activities serving our fellow human beings and our planet.

The combination of innovation, new technologies and industrial know-how must remain profoundly embedded within a strategy of sustainable development. It is a virtuous circle placed at the very heart of our corporate project which brings us together around the fundamental values of humanism, innovation, commitment and customer focus.

Hubert de Boisredon Chairman and CEO, ARMOR

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WORLD TOUR OF CSR



Annabelle Guillet FRANCE



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CORPORATE SOCIAL RESPONSIBILITY

SCOPE OF THE REPORT

For the eleventh year in succession, ARMOR is a member of the UN Global Compact. Within the context of "Communication on Progress" (COP), the Group presents its progress and future targets within the context of the 10 principles of the Global Compact and the Sustainable Development Goals (SDGs). This Corporate Social Responsibility Report presents the 2019 results and covers all of the ARMOR Group's operational sites marked by the red marker (see world map below). Artech Polska, experiencing financial difficulties, and recently created subsidiaries (Kenya and New Dehli, India) have been excluded (marked in blue

on the map). Prepared in accordance with GRI standards (essential compliance option - see GRI Index in Appendix 4), the report concentrates on objectively presenting the Group's significant impacts and efforts, as far as competition-related confidentiality permits. It gradually integrates the consolidated indicators throughout the scope. A correlation table (Appendix I) presents the Group's commitments, key indicators and 2020 objectives broken down by challenge, in addition to the SDGs, culminating with the relevant Advanced principles and criteria of the Global Compact.

VIRTUOUS INTERNATIONAL GROWTH THROUGH CO-INDUSTRIALIZATION:

Co-industrialization consists of seeking growth in regions of the world undergoing rapid development while safeguarding production and employment in France. The ARMOR group's Thermal Transfer business produces semi-finished products at its site in La Chevrolière which are subsequently processed

and customized at industrial sites located around the globe. Subsidiaries offer greater flexibility to respond to the needs of local customers at the same time as minimizing the transportation of goods. By establishing this industrial model, ARMOR is targeting 2-stage production (local production and finishing in the vicinity of the customer) while safeguarding investment and jobs at its French sites.



ARMOR FRANCE
The Chevrolière site:
AICP, ASPF, ACES, AAC
Nantes sites:

Head Office, APS (Cordon Bleu) **The Sorinières site**: A3D

ARMOR TURKEY Istanbul site: AICP

ARMOR COLOMBIA
Medellin site: AICP

ARMOR CANADA
Mississauga site: AICP

ARMOR USA
Cincinnati site: AICP

ARMOR BRAZIL
Manaus site: AICP

ARMOR MEXICO
Querétaro site: AICP

ARMOR INDIA
Bangalore site: AICP

ARMOR INDUSTRY
Birdjid site: APS

ARMOR AFRICA
Johannesburg site: AICP

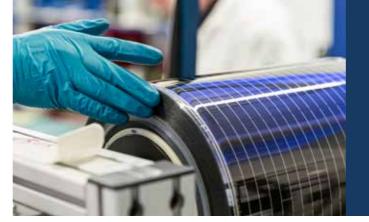
ARMOR CHINA
ZhuHai & Xiaolan sites: AICP

ARMOR ASIA
Singapore site: AICP

INDUSTRIAL SITES NOT
INCLUDED WITHIN THE SCOPE
OF THE REPORT

ARMOR GROUP

Research centers and logistics sites not included within the scope of the report The ARMOR group is a mid-market French company with nearly 2,000 employees worldwide. The company has been an expert in print technologies for nearly 100 years.



ARMOR solar power films

"Providing solar energy to a maximum number of people via ASCA® organic photovoltaic film".

The unique properties of this new photovoltaic technology free of rare metals open up exciting new possibilities in the sectors of construction, mobility, street furniture and connected objects. The development of this activity is central to the Group's CSR commitments to promote energy transition and reduce the use of fossil fuels.

ARMOR INDUSTRIAL CODING & PRINTING

"Protecting people and property through product traceability"

Thermal Transfer (TT) is a printing technology, ideal for industrial environments and used for marking variable information on labels and flexible packaging: barcodes, logos, text, expiry dates, etc. This information identifies products and ensures traceability. The global market leader, ARMOR is proficient throughout the chain, from ink design to the production and marketing of ribbon under the Inkanto brand.



ARMOR ADVANCED COATING

"Facilitating interaction between people and connected objects".

ARMOR is continuing to diversify its activities by launching a new product range: hi-tech coated films designed for applications within connected objects by offering tactile sensations for all types of interaction between people and machines.





TWO HISTORICAL ACTIVITIES

FIVE NEW TECHS

The fruit of ARMOR's diversification and investment strategy, the New Techs exploit the Group's expertise and know-how in ink formulation and coating on thin film.



ARMOR FILMS FOR BATTERIES

"Increasing the safety, performance and lifespan of lithium-ion batteries with En' Safe® current collectors".

ARMOR designs, manufactures and markets current collectors with a coating preventing corrosion and enhancing adhesion, while reducing internal electrical resistance. Because electric vehicles and sustainable mobility are to become part of the urban landscape, ARMOR is committed to improving the performances of the energy storage systems.



"Reducing the environmental footprint of printing by offering responsible consumables".

Independent of the printer manufacturers, APS offers alternative and turnkey printing solutions, ranging from consumables to managed printing and the collection of used cartridges, guaranteeing that they will be either reused or 100% recovered. The latest fruit of ARMOR's expertise, OWA Print Services offers bespoke print services for businesses, designed to make functional savings.



ARMOR INDUSTRIAL INKS

"Developing innovative inks for digital printing".

The guiding principles of development of A2I are based on Group fundamentals: innovation and environmental protection. All the inks are water based, free of any solvent, safe for consumers and therefore suitable for food packaging. These hi-tech inks have been designed for specific applications in multiple sectors: textiles, decoration, domestic hygiene and packaging.



130 M€

INVESTMENT THE

2018 – 2022 PERIOD

124 124 RESEARCHERS, ENGINEERS & TECHNICIANS



ARMOR 3D

"Formulating and producing bespoke materials for additive manufacturing".

Through its Kimya brand, A3D develops and co-develops bespoke materials with international industrial Groups and 3D printer manufacturers, creating parts with high added value. Additive manufacturing is notably used for producing parts in the aerospace, defense, and automotive sectors. A3D also offers a range of recycled and recyclable filaments under the OWA brand.

ARMOR GROUP

SHARED ECONOMIC VALUE

COMPANY (grants): €2m

BANKS (funding): €32m

SUBSIDIARIES (revenue from participation): €10m

CUSTOMERS (Turnover): €219m



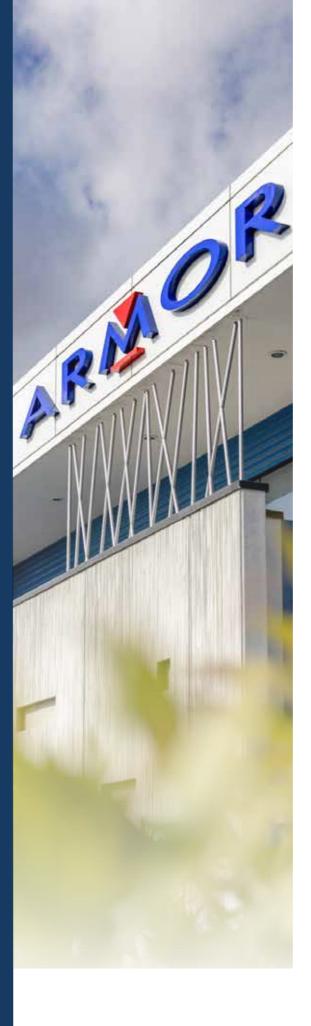
- 1 Employees: €51m
- Remuneration of capital contributors: €Om
- 3 Subsidiaries (funding): €9m
- 4 Suppliers (including raw materials: €68m)
- 5 Company (taxes): €4m
- 6 Banks: €15m

464

The number of internal investors worldwide (management team and employees).



Total value of employee shareholdings in the company mutual fund (FCPE).



ARMOR GROUP

THE 6 CHALLENGES OF SOCIALLY RESPONSIBLE INNOVATION



Governance and ethics



Employee development



Circular economy



Renewable energies



Responsible traceability



Territorial solidarity



ARMOR GROUP

A FEW HIGHLIGHTS AND AWARDS IN 2019

ARMOR AWARDED THE 2019 "FUTUR SHOWCASE" TROPHY.

ARMOR was awarded the "Future Showcase" trophy by the Alliance Industrie du Futur at the Global Industrie 2019 exhibition which took place in May 2019 in Lyon. This award recognizes innovative companies that have developed ground-breaking projects within their production processes, for a more modern and attractive industry.



MAY

ARMOR ASIA RECOGNISED FOR ITS CSR INITIATIVES.

ARMOR Asia receives the "Sustainability Gamechanger" award in Singapore. Awarded by a major sustainable development foundation in Asia, it is given in recognition of the ambitious strategy and day-to-day practices of the ARMOR subsidiary in relation to CSR.



SEPTEMBER

ARMOR PRINT SOLUTIONS RECEIVES THE MOROCCAN CSR CHALLENGE AWARD.

On 25 October 2019, ARMOR Print Solutions received the Moroccan CSR Challenge Award in the Responsible Consumption & Production category on behalf of the ARMOR Industries plant located near Casablanca. The CSR Challenge Awards recognize companies for their policies or good practices in the area of social and environmental responsibility.



NOVEMBER

MARCH

APRIL



ARMOR RECEIVES THE "RESPONSIBLE **SUPPLIER RELATIONS AND PURCHASING" LABEL**

Obtained by ARMOR in March 2019, this government-sponsored label requires effective implementation of the commitments contained in the Responsible Supplier Relations Charter and the recommendations contained in ISO 20400, the international standard for responsible purchasing.

JUNE



LAUNCH OF "CAP SÉCURITÉ 21"

An internal mobilization campaign designed to give fresh impetus to the safety approach adopted by ARMOR to ensure that it is firmly rooted within the corporate culture. Three main objectives: to eliminate all accidents by 2021, to prevent any risk of incidents relating to the major identified risks, to implement a dynamic and long-term safety culture at the La Chevrolière site.



INTERNATIONAL WORLD CLEANUP WEEK.

Taking place for the first time in 2019, World Cleanup Week organized by ARMOR was a resounding success. Mobilizing some 255 ARMOR employees worldwide, the campaign organized by the Group led to the collection of around 1,800kg of waste.

OCTOBER



EUROPEAN DISABILITY EMPLOYMENT WEEK.

During European Disability Employment Week between November 18 and 24, 2019, ARMOR held the "One Day, One Job" campaign. Seven volunteer employees hosted people with a disability in order demonstrate their job and everyday activities.



CORPORATE SOCIAL RESPONSIBILITY

GOVERNANCE & ETHICS

Adapting our organization in order to take decisions and act in accordance with the challenges of sustainable development, ethics and respect for our stakeholders' interests.

EMBEDDING SUSTAINABLE DEVELOPMENT AT THE HEART OF GOVERNANCE

Governance within ARMOR is defined at board (employees, customers, suppliers, shareholders, meetings (2 per year), discussion meetings with investors (6 per year), strategy meetings with partner managers (2 per year), general management meetings (8 per year) and executive committee. At the subsidiaries, a CSR management review is meetings (monthly).

Social responsibility within the Group is managed by a CSR Committee that meets three times a year, supported by a network of CSR Correspondents in France and at the subsidiaries.

The CSR Committee is chaired by the CEO and coordinated by the CSR Director. Its members are Group functional directors (HR, Finance, Legal, etc.) and the operational directors for all business results are made available via specific media, activities (Purchasing, Marketing, Production). Each member is both a Group ambassador and conduit communications channels. for the expectations of the company's stakeholders

local authorities, etc.). Depending on the agenda, other parties may also be invited to attend meetings.

carried out each year with the CSR correspondents, subsidiary management and the Group CSR Department. Due consideration is given to specific local aspects within the overall CSR strategy in the interests of optimization and to ensure that it is incorporated at all levels of governance.

The Group's requirements are expressed via an action plan and quantified targets. The consolidated such as the CSR Report and other dedicated

> **ACTIONS** N°6.7



Confirming its commitment, ARMOR Mexico has established a CSR Committee to manage and coordinate its voluntary social responsibility approach. The committee meets four times a year. It specifies the action plans, measures progress and has, for example, led to the creation of a labor relations barometer for personnel with corresponding improvement areas targeting well-being in the workplace.



HUMAN RIGHTS AND BUSINESS ETHICS

Because Humanism is one of the Group's fundamental values, its international expansion is taking place in compliance with human rights - a prerequisite for all new sites. It is accompanied by a certain number of precautionary measures and checks, followed by regular monitoring.

In addition to the implementation of supervisory systems and the application of local human rights regulations, compliance with the **8 fundamental conventions** of the ILO is a major issue for ARMOR:

- C105 et C29: abolition of forced labor
- C182 et C138: abolition of child labor
- C87 et C98 : freedom of association and the right of collective bargaining
- C100 : equal remuneration
- C111: non-discrimination

ACTIONS N°1, 2, 4, 5

The senior managers of the subsidiaries are requirements. accountable for effective implementation of the conventions, with the support of the Group Human As with the Code of Ethics and in compliance with Resources Department and Legal Department. An annual **monitoring process** allows us to remain vigilant. Since its implementation in 2010, no noncompliance has been reported.

In 2015, These principles are incorporated within the Group's Code of Ethics, which includes a whistleblowing system available to stakeholders managed by an ethics expert, namely the Head of Legal. Furthermore, each Group entity is formally assessed against these requirements every 4 years (see CSR Maturity Score, page 19).

compliance with the principles of personal data **protection**. The company has implemented a policy to ensure compliance with French data protection their profession. legislation and with the EU General Data Protection Policy (GDPR), which came into force in May 2018. A Data Protection Officer (DPO) is responsible for ensuring constant compliance and for responding to requests from data subjects.

The Code of Ethics reaffirms the Group's commitments vis-à-vis all stakeholders and notably promotes fair business practices. In compliance with the Sapin II law, the ARMOR anti-corruption code of conduct sets out the fundamental principles that Group undertakes to respect in order to combat all forms of corruption. After carrying out a risk assessment by country, department and business, this document has been made available in all the Group's languages and is fully compliant with local legislation. It has also been the subject of an awareness campaign delivered to all Group employees worldwide, duly adapted to local

French legislation, the Anti-Corruption Code of Conduct is supported by a whistle blowing system covering all Group entities. Designated as the Head of Ethics & Compliance, the Legal Director ensures that all alerts are processed in strict confidentiality. Internal checks are also carried out to ensure that practices comply with the Group's standards. The findings are published in an annual report.

Purchasers are also subject to a specific code of conduct covering the following main themes: equity & impartiality, confidentiality, compliance with mutual undertakings and integrity & exemplary ARMOR has always paid particular attention to conduct. They also receive anti-corruption training when they are recruited and regularly participate in CSR awareness sessions with specific focus on

> A signatory of the **Responsible Supplier Relations** Charter in 2011, ARMOR received official recognition from this body in 2015. The award recognizes French companies able to demonstrate sustainable and balanced relations with their suppliers and underlines ARMOR's voluntary commitment to responsible purchasing. The charter has since been enriched with the requirements of ISO 20400 (Responsible Purchasing) and ARMOR renewed its commitment in 2019.

> We have therefore reaffirmed our commitments to customers, suppliers, employees, public authorities and other partners that our relationships will be conducted in full compliance with human rights and business ethics.

DEPLOY RELIABLE AND STRUCTURAL MANAGEMENT SYSTEMS

It is ARMOR's objective to obtain certification for all its production sites against **ISO 9001 (Quality), ISO 45001 (Occupational Health & Safety) and ISO 14001 (Environment)**, ensuring consistent management systems are applied within all ARMOR entities. In 2019, the A3D division in France and the production units in Canada, Colombia and Turkey all obtained ISO 9001 certification. These subsidiaries and the ASPF division are targeting triple certification over the period 2020-2021. The transition from OHSAS 18001 and ISO 45001 will take place in stages up to 2021.

Additionally, an analysis of the positive and negative economic, social and environmental impacts of the main businesses (AICP and APS) has been carried out, and is available with full transparency in Appendix 6.

2020
100% OF SITES WITH OSE CERTIFICATION

2018 : 70%* ACTION N°9

*2018 result modified to incorporate the subsidiaries in Canada, Turkey and Colombia and the A3D and ASPF divisions.

SITES WITH QSE CERTIFICATION

2019:78%







RESPONSIVE TO STAKEHOLDERS

ACTIONS N°7, 11, 12

A coherent CSR strategy means ARMOR listening to the requirements of its stakeholders. This wide spectrum of points of view contributes to the definition of the Group strategy.

A process for identifying significant stakeholders was implemented in 2016. Based on three major criteria: contact frequency, the impact of the stakeholder on ARMOR and the influence of ARMOR over the stakeholder. Please find below a number of the Group's main stakeholders. In late 2019, the SD Committee conducted a social responsibility survey among a representative sample of the Group's stakeholders. The findings will be used to define the Group's strategic projects for 2020-2021:

STAKEHOLDERS MODE OF DIALOG		MAIN REQUIREMENTS
Shareholders Internal ARMOR investors and financial institutions	Board of DirectorsInvestor Dialogue Committee	 Creation of long-term value and economic sustainability Controlling reputational risk
Customers OEMs and distributors	 Customer satisfaction survey Trade fairs and public events Customer service/meetings ATC (ARMOR Technical Club) 	 Range of high-quality products guaranteeing user health & safety Product innovation Transparent information about product properties
Employees Personnel and unions	 Health and Safety Committee CSR approach (progress teams, discussion meetings) Meetings with personnel representatives Personnel satisfaction survey 	 Optimum Working conditions Occupational well-being Development of employability Possibility of career development Salary equity Equality of opportunity and non-discrimination
Suppliers & service providers	Supplier CSR questionnaireTeam meetingsOne-to-one meetingsBusiness Reviews	 Balanced and sustainable relationship Fulfilment of contractual commitments and compliance with payment deadlines Promotion of the CSR approach
Territory's stakeholders Neighbors, elected representatives, councils, local authorities, schools	One-to-one meetingsParticipation in collective events	 Compliance with regulations Control of industrial risks and disturbances related to production sites Involvement in local sustainable development projects Local employment and inclusion



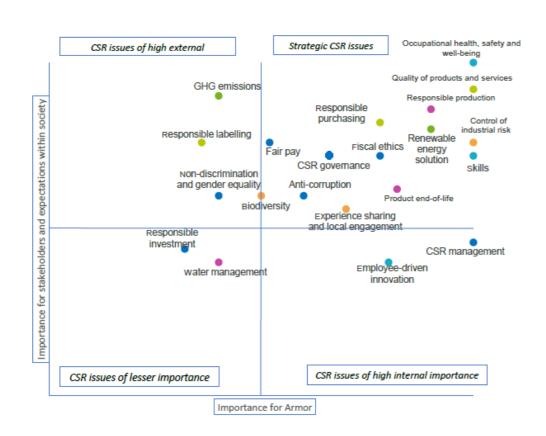
FROM MATERIALITY TO THE CSR ACTION PLAN

In 2012, it is the concept of materiality that defined the company's strategy and priority issues. The social issues are significant due to their importance for the Group (in terms of organization, projects, business activities, etc.) and for stakeholders (level of socially-responsible expectations, impact on the Group's long-term prospects, etc.).

Our 6 issues of socially-responsible innovation cover a multitude of relevant areas representing both risks and opportunities for the Group. They are plotted graphically in a materiality matrix that is regularly updated at CSR Committee. It is a tool that prioritizes issues to enable action to be planned at the Group level (see Appendix 2).

- Governance
- **Employee**
- Circular economy
- Renewable energies
- Responsible
- **Territorial** solidarity

*Responsible production: VOC emissions, waste management, QSE certification product impact and preservation of resources



CSR MATURITY SCORE: A TOOL FOR CONTINUOUS IMPROVEMENT

In order to measure the effect of the various CSR ARMOR France and each subsidiary assess their initiatives, every four years ARMOR conducts a level of progress in 7 areas: self-assessment of its CSR maturity. Incorporating some 300 questions, this assessment is based • Governance and CSR management on the main themes of ISO 26000, the main ILO • conventions, the 10 major principles of the Global • Compact, the requirements of SA 8000, the 26 • criteria of the Advanced level of the Global Compact • and good CSR practices.

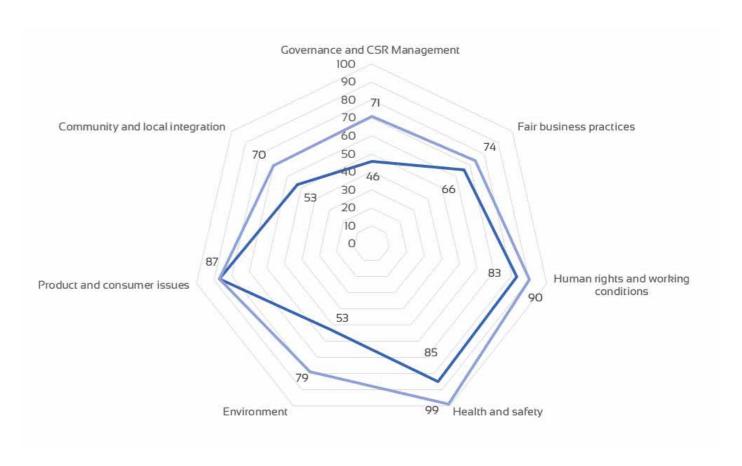
- Fair business practices
- Human rights and working conditions
- Health and safety
- The environment
- Product and consumer issues
- Community and local development

EVOLUTION IN THE CSR MATURITY SCORE BETWEEN 2016 AND 2020

(LIKE-FOR-LIKE BASIS: FRANCE, MOROCCO, UNITED STATES, MEXICO, BRAZIL, SINGAPORE, CHINA, INDIA AND SOUTH AFRICA)

2020:82% 2016:68%

OBJECTIVE **80%**



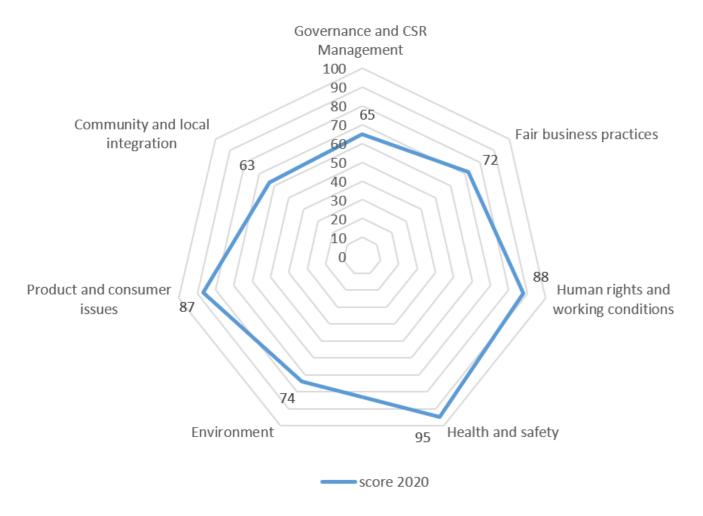
From 2016 to 2020, ARMOR's CSR maturity rose by 14 points from 68% to 82% (on a like-for-like basis: France, Morocco, United States, Mexico, Brazil, Singapore, China, India and South Africa). This progress is mainly a function of the implementation of management systems covering quality, safety and the environment at our newest subsidiaries: Mexico, India and South Africa. The other subsidiaries have consolidated their scores, notably by making progress in governance, the environment and regional integration.

CSR MATURITY SCORE

(WIDER SCOPE: FRANCE, MOROCCO, THE UNITED STATES, MEXICO, BRAZIL, SINGAPORE, CHINA, INDIA, SOUTH AFRICA, COLOMBIA, CANADA AND TURKEY)

2020:78%

OBJECTIVE **80%**



The score achieved is very close to the target, despite certain subsidiaries being incorporated only recently. The results have been reviewed and verified in detail with the CSR correspondents and site managers, and will be used to develop the next 4-year action plan.

2017-2020 ACTION PLAN PROGRESS AS AT END 2019













GOVERNANCE AND ETHICS

Ethics and Human Rights

Include the Code of Ethics within the welcome pack for new employees and distribute it to all employees

Group



Introduce anti-corruption procedures to be implemented by all subsidiaries

Group



3 Make medical monitoring details confidential

China



Document employment contracts

CSR issue

Morocco

Conduct social audits at sites located in high-risk countries vis-à-vis human rights in the workplace (ITUC

Morocco, India, China, Mexico and USA



CSR awareness

Hold employee awareness sessions covering sustainable development and the Group's CSR strategy

Organize a global ARMOR week focusing on a selected

Group



Establish employee CSR discussion groups

Group

Group

Management systems

Implement and obtain ISO9001, OHSAS18001/ ISO45001 and ISO14001 certification for management systems in the fields of Quality, Health & Safety and Environment

India, South Africa, Mexico, Canada, Colombia, Turkey, ASPF and A3D



Examine the impact of the WEEE Regulation on the APS

APS



Employee-driven innovation

Develop customer satisfaction France participative innovation programs

France



Client satisfaction

Develop new Group customer satisfaction measurement tools

Group



80% OVERALL PROGRESS



Immerse our products in the principles of sustainable use of resources and reduced environmental impact throughout their life cycle, from production to recycling.

LIMITING THE IMPACT ON **SENSITIVE RESOURCES**

ARMOR has placed the principles of the circular economy at the heart of APS's activities through a cartridge collection service and the production of remanufactured cartridges. The objective is to minimize the use of virgin raw materials in favor of material reutilization and upcycling.



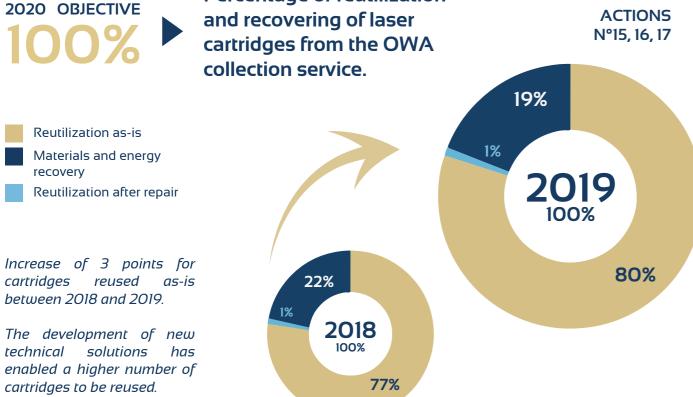
recovery

3,701 tons of resources preserved in 2019 (3,435t in 2018)

*Remanufactured cartridges re-introduced to the market and waste materials recycling.

The creation of the OWA brand is one of the most powerful illustrations of ARMOR's commitment to the circular economy. Since 2015, the Group has been marketing new remanufactured laser cartridges of high quality that are compatible with most of the major makes of printers. The principle goes further: for every OWA cartridge sold, ARMOR promises to recycle or disassemble in an ecological manner one equivalent used cartridge. All components are carefully sorted and reintroduced into the industrial circuit as secondary raw materials. In support of the approach, ARMOR decided to apply for QUALICERT certification for the entire OWA circular economy range (collection, sorting, recycling and remanufacturing), a first in the field.

Percentage of reutilization



been tailor made from recycled materials since 2016 ARMOR solar power films via its ASCA[©] brand to create the OWA offering by A3D. Reel dispensers are also designed using recycled plastics. The material comes from OWA used cartridges collected from customers via the dedicated service.

OWA 3D filaments: these recyclable filaments have At the same time, new Group businesses such as are pushing back the boundaries of raw materials utilization. Accordingly, **ASCA**[©] flexible photovoltaic film contains no rare earths or heavy metals. It is made of organic materials, facilitating recycling.

> **ACTIONS** N°14, 20



The Group is determined to progressively reduce the intensity of its footprint on non-renewable raw materials. With significant consumption of non-renewable resources, AICP is continuing its efforts to improve its production performance through continuous improvement, exploiting ecodesign and the lessons learned from the REC'PET program.

> **ACTIONS** N°13, 18, 19

REDUCING AND RECOVERING WASTE

at the sites designed to minimize the impact of production activities, one of ARMOR's main to landfill or incinerated, this waste is composed objectives is to reduce and recover waste, especially in terms of natural resources, by ensuring the efficient and responsible processing of residual waste.

In accordance with this goal, ARMOR has been implementing the internal REC'PET program and the REC'PET Partner program for end users over many years now. The initiatives provide solutions for

Within the context of environmental management recovering waste from PET films used at the heart of the Thermal Transfer business. Generally sent of highly specific plastics as the PET films are inked and are extremely thin (around 10µm), which reduces their ability to be recovered using established techniques. They are collected by a partner of ARMOR and subsequently converted into Solid Recovered Fuel (SRF). SRFs offer stable energy properties which are used to replace traditional fossil fuels (coal and oil).

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Waste sent to landfill



OBJECTIVE 2 0 2 0

The sudden cessation of Chinese waste imports has turned world markets upside down, leading to a surplus of material awaiting processing. The increase in the share of waste sent to landfill has therefore led to the bankruptcy of a number of service providers.

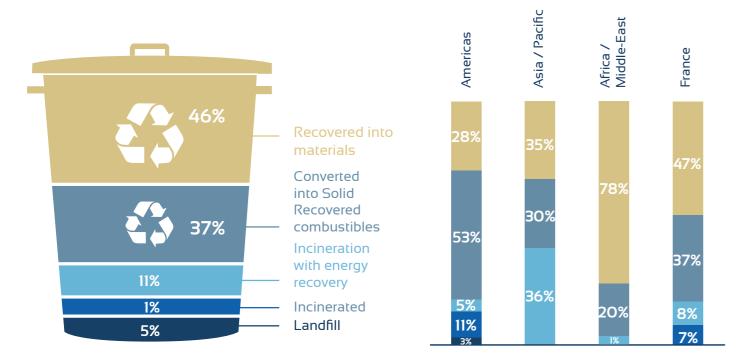
Recovered waste



OBJECTIVE 100%

Significant work seeking out waste recycling providers takes place at all subsidiaries and in France on an ongoing basis, leading to an increase in the volume of waste being recovered for materials. The 100% target is highly ambitious as things stand, given the lack of any recycling industry for certain types of waste, such as hazardous waste.

BREAKDOWN OF WASTE BY PROCESSING TYPE AND REGION







-7% i.e. **277** kg/t in 2019

Quantity
of waste
generated per
ton produced

Stable results (276kg/t in 2018) despite a non-negligible quantity of non-recurrent waste due to site moves in 2018 and 2019. Initiatives to reduce film loss and non-quality costs have borne fruit.

OBJECTIVE 2 0 2 0 -5%

Versus data 2016 : 298 kg/t

2017-2020 ACTION PLAN PROGRESS AS AT END 2019













% 25

25% or +

20 Conduct a life cycle analysis for ASCA® products France

50% or

75% or +

100% continuously

France

CIRCULAR ECONOMY Product range 100% Analyze the deployment of the REC'PET Partner **AICP** 13 programme (used TT roll collection service customers worldwide 14 Develop a range of recyclable 3D filaments (OWA 3D) A3D 15 Develop a service priced on a per page basis (OWA OPS) **APS** 16 Develop an OWA range for Inkjet cartridges **APS** 17 Maintain Qualicert certification **APS** Site waste Find suitable recycling channels for all significant waste and ensure traceability (including the REC'PET program) Group Deploy production waste reduction plans Group (e.g. Co-product By-product) Life cycle

100% OVERALL PROGRESS





RENEWABLE ENERGIES

Reduce our energy consumption and contribute to the deployment of renewable energy solutions to combat climate change.

> **ACTIONS** N°21, 22, 23, 24

INNOVATING FOR RENEWABLE ENERGIES

ARMOR has decided to focus its R&D investments on solutions able to meet the challenges faced by society. This strategy has enabled the Group to enter the photovoltaics market with an innovative product. Able to be fitted to all surfaces and to operate in all types of light, this technology provides access for all to an independent source of energy.

metals. Unlike traditional solar panels, one of the outstanding features of this photovoltaic film is its lightness: it weighs just 500g/m² (versus 10-15kg/m² for a traditional panel). ASCA® belongs to the third generation of flexible, thin and socalled «organic» photovoltaic cells.

estimated environmental payback (investment return based on carbon footprint between production and utilization) is just 3 months, compared to more than 18 months for the traditional solar panel. The final processing of the product is made easier thanks to its organic nature, free of rare and toxic components such as cadmium.

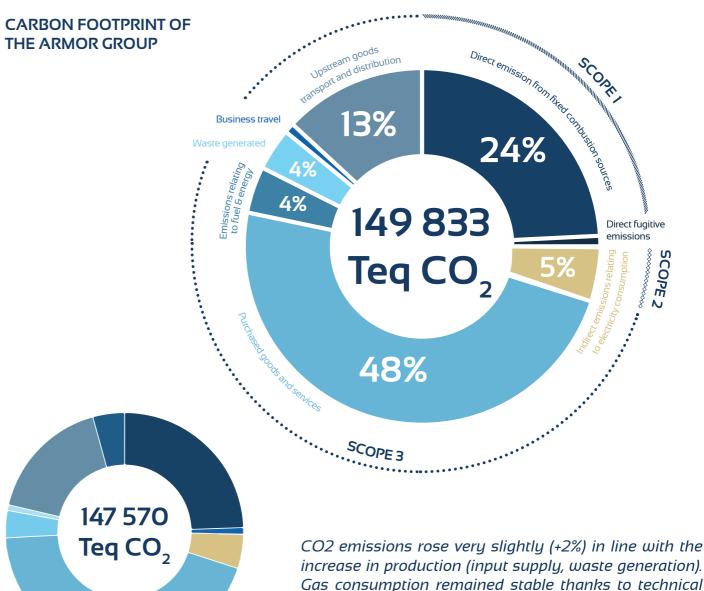
ASCA[®] is a low-carbon technology, free of rare The ASCA[®] film is **a new product** for which ARMOR is seeking to create tangible applications. Against this background, the business exploits partnerships and skills exchange programs in order to design the products of the future that are useful, innovative and environmentally friendly.



ACTIONS N°25, 26, 27, 28

HELPING TO MITIGATE CLIMATE CHANGE

ARMOR constantly strives to control the **impact of its activities** on the major issue of climate change. Accordingly, since 2008 and ahead of French legislation, the French operating sites of the ARMOR group have conducted analysis of the greenhouse gas (GHG) emissions associated with their activities. This assessment has been widened to the Group level (operational sites) and to all sources of direct and indirect emissions both upstream and downstream of production (scopes 1, 2 and 3) from 2016. A methodological guide details the scope and the calculation method (see Appendix 5).

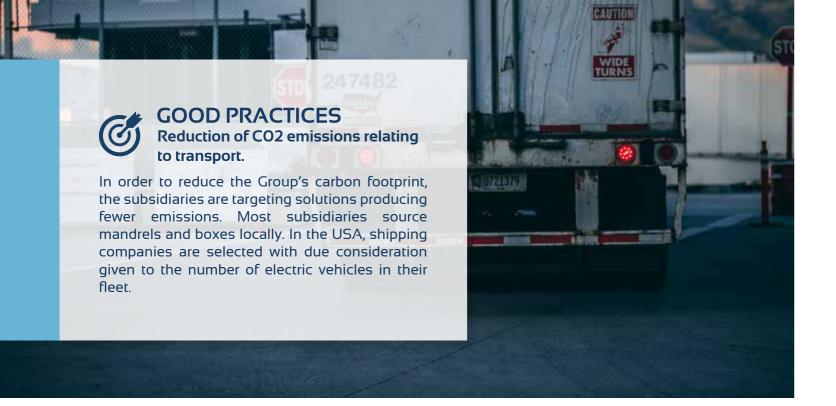


2018

optimization at the French production site.

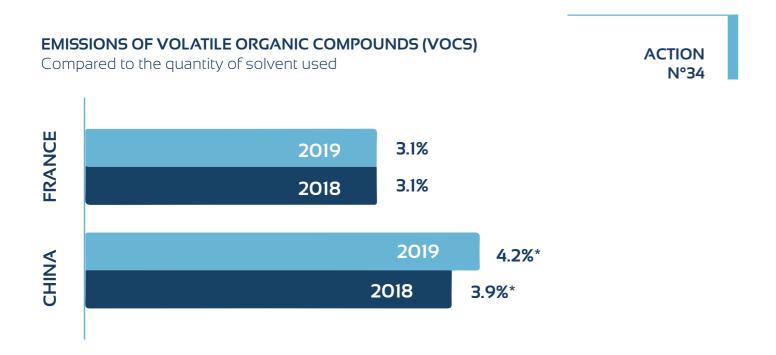
The impact of goods transport fell due to the very significant reduction in air freight. CO2 emissions stand

at 8.55 Teq CO2 per ton produced, -9.5% versus 2016.



In 2002, the site in La Chevrolière (France) invested in a regenerative thermal oxidizer (RTO) fitted with a **VOC emission treatment** and cogeneration system in addition to the use of natural gas. Since then, a new VOC emissions indicator is monitored under the site's operating permit, which was renewed in 2016, setting a maximum rate at 6%.

Although not subject to this target in regulatory terms, ARMOR China invested in a similar system which came on stream in April 2016, with the full benefits being visible from 2017.



Objective attained: stable results with emissions under control in France and China.



*Estimated figures

ACTIONS N°29, 30, 31, 32, 33, 34

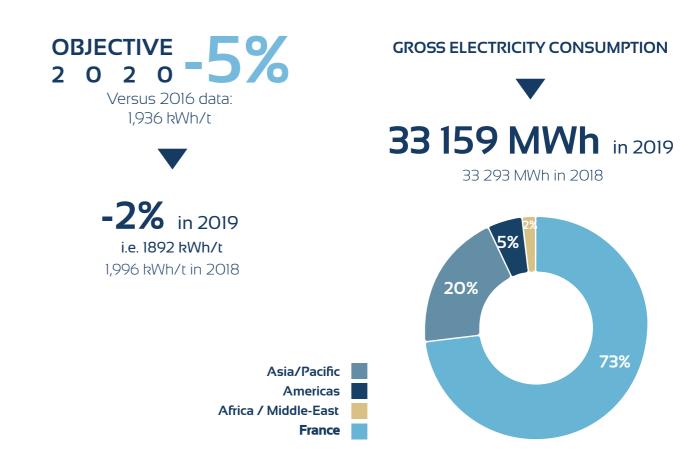
SAVING ENERGY AND FAVORING RENEWABLES

At ARMOR, the commitment to energy transition takes the form of reduced energy consumption:

- within the framework of environmental management (ISO 14001) WORLDWILD
- within the framework of energy management (ISO 50001) AT THE CHEVROLIÈRE SITE (FRANCE)
- using renewable energies as soon as possible worldwild

GROSS ELECTRICITY CONSUMPTION

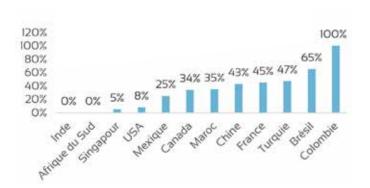
Per ton of production



Significant reduction over the previous year (1,996 kWh/t in 2018, i.e. -5%) and against target. Significant efforts have been made in France via intelligent lighting and optimization of high energy consumption machines. The subsidiaries in Brazil and South Africa also produced excellent results. Consumption only increased in China, due to the slitting unit moving to larger premises.

PERCENTAGE OF ENERGY FROM RENEWABLE SOURCES IN ARMOR SITE ELECTRICITY CONTRACTS

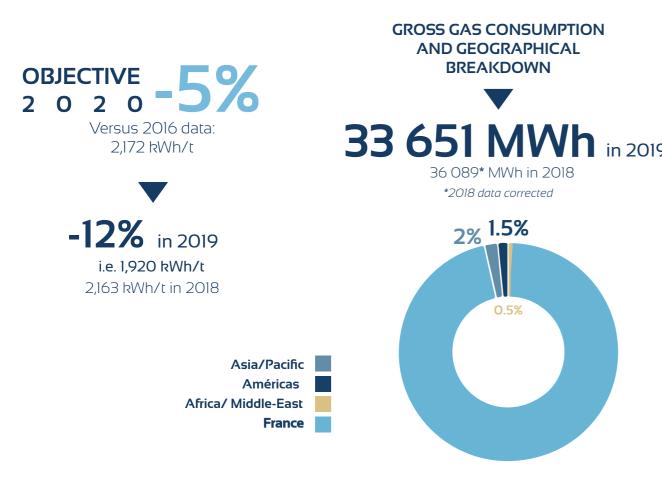
ACTIONS N°35, 36



OBJECTIVE 2 0 2 0 >10%



Most energy consumed is produced from hydroelectric sources. This applies to Colombia, Brazil and China. In the USA and Morocco, wind power provides a significant proportion of electricity consumed. In certain countries such as India and South Africa, access to renewables in energy contracts remains limited.



A sharp fall following optimization of utilities (RTO, boiler and insulation of the steam circuit) despite higher production at the French industrial site.

ARMOR CSR REPORT - 2019 - P.32

2017-2020 ACTION PLAN PROGRESS AS AT END 2019













)% 2

25% or +

75% o

100% continuously

	Renewable energies					
Product range						
21	Develop the marketing of ASCA® photovoltaic films	France				
22	Test ASCA® film application prototypes at ARMOR production sites.	France	100%			
23	evelop the marketing of En' Safe® current collectors	France	CC			
24	Establish links with fundamental research into organic batteries	France	100%			
	Carbon footprint					
25	Conduct a Group Carbon Assessment, Scope 3; work to reduce the carbon footprint	Group	100%			
26	Analyze the potential for optimizing the transportation of goods	Group				
27	Favor the development of alternative transport to private cars (eco-friendly and public transport, Mobility Plan.)	USA, France				
28	Support the use of electric vehicles among employees (e.g. on-site recharging points	France				
	Energy consumption					
29	Conduct energy audits at production sites and produce consumption reduction action plans	Group	100%			
30	Optimize the use of air conditioning on the shop floor and in offices	Group				
31	Systematic procurement of low-consumption equipment	Group				
32	Raise awareness about energy saving among all employees	Group				
33	Deploy an intelligent energy (Data Science)	France	100%			
34	Examine the feasibility of a new energy cogeneration system	France	100%			
	Use of renewable energy					
35	Analyze the potential for self-supply of renewable energy at production sites	Group				
36	Increase the proportion of renewable energy in electricity supply contracts	Group	CC			

88% OVERALL PROGRESS



CORPORATE SOCIAL RESPONSABILITY

RESPONSIBLE TRACEABILITY

Contribute to high-quality traceability, notably via secure and more environmentally friendly identification solutions supported by responsible purchasing.

DESIGNING MORE ECOLOGICAL PRODUCTS

ARMOR Industrial Coding & Printing (AICP) business is continuing its efforts to reduce the environmental footprint of its products by taking action on inked ribbons and the production process. R&D department efforts have already led to the launch of SolFree® products since 2008, a unique solvent-free coating process.

In addition to our TT solutions, consumables serving the traceability market, we are working to reduce the environmental impact of other Armor products and to publicize their properties to customers in order to guide their choices towards responsible consumption. Our objective is therefore to achieve further sales penetration by ranges with reduced impact.

PERCENTAGE OF PRODUCTS WITH REDUCED ENVIRONMENTAL IMPACT

Compared to standard product

28% in 2019

following are taken consideration: reduced impact Thermal Transfer rolls and current collectors, remanufactured laser cartridges, ASCA film and 3D filaments based on recycled materials.

EXERTING A RESPONSIBLE INFLUENCE TO GUIDE PRODUCT SELECTION AND APPLICATIONS







ACTIONS N°42, 43

ACTIONS

N°14, 21, 37

ARMOR observes an increasing trend for customers to base their decisions on ecological factors. Additional information on packaging and product data sheets helps customers to make their purchasing decisions. For example, ARMOR Print Solutions is gradually adding eco-labels to its laser cartridges (48% of the range at end-2019), using labels of repute such as NF, Nordic Ecolabel and Blue Angel.

Committing to traceability to promote responsible production also means combating counterfeiting. For many years now ARMOR has been operating a programme to combat 'clones', i.e. New but illegal ink cartridges that infringe on intellectual property, employees or the environment. To counter the proliferation of such goods, APS offered it services to ETIRA, the European Toner & Inkjet Remanufacturers Association, to develop an anti-clone guide which has since become the benchmark for this industry

IMPLEMENTING A TANGIBLE AND SHARED RESPONSIBLE PURCHASING POLICY

policy has been based on mutually beneficial **relationships** with suppliers. The signature of the Responsible Supplier Relations Charter in 2011 subsequently expanded to the label of the same name in 2015 and then ISO 20400 demonstrate that ARMOR has deployed **significant resources** in order to hold regular discussions with suppliers on the subject of CSR. The Responsible Purchasing Policy, the Code of Business Ethics, business reviews, regular Team It should be noted that this policy is based on Meetings and CSR assessments are just some robust partnerships with strategic suppliers in of the mechanisms employed by our buyers around the globe. Among these mechanisms,

For many years now, the ARMOR purchasing the CSR assessment questionnaire combined with the business review is a key method of appreciating suppliers' level of CSR maturity and continuous improvement with regard to social and environmental issues. ARMOR is aiming to assess all its strategic suppliers against CSR criteria by end-2010, seeking to attain an average CSR maturity score of over

order to safeguard sourcing.

ACTIONS N°38, 39, 40, 41 **SHARE OF STRATEGIC AVERAGE CSR SUPPLIERS ASSESSED MATURITY SCORE** 69 % in 2016 69 % in 2016 OBJECTIVE >60% France Africa / Middle-East **AVERAGE CSR MATURITY SCORE BY ZONE**

Asia / Pacific

Americas

ARMOR CSR REPORT - 2019 - P.34

65%

A new assessment campaign was launched in late 2019 accompanied by a complete overhaul of the process, with a review frequency of between 2 and 4 years. Awareness sessions have enabled Purchasing teams around the world to improve their proficiency in the available tools. The definitive results are scheduled to be obtained in 2020.





2017-2020 ACTION PLAN PROGRESS AS AT END 2019













0%

25% or +

50% or +

75% or +

0% continuously

	RESPONSIBLE TRACEABILITY						
	Product range						
37	Design Thermal Transfer products with reduced environmental impact	France	00				
	Responsible purchasing						
38	Assess all suppliers against CSR criteria and help them to construct action plans	Group					
39	Raise CSR awareness among suppliers						
40	Adapt supplier/service provider contracts to include CSR clauses and add agreements for the rapid correction of any non-conformities						
41	Analyze the impact of the implementation of ISO 20400 principles (responsible purchasing)		100%				
Labelling and anti-counterfeiting							
42	Develop ecolabels and LCA labels for Laser cartridges	APS	CO				
43	Participate in European working groups on anti-counterfeiting	APS	CO				

76% OVERALL PROGRESS



Promote the development of our employees and their skills, enhancing their well-being in the workplace, employability and the success of the Group.

CONSTRUCTING POSITIVE LABOR RELATIONS

Balanced labor relations are the prerequisite to in a spirit of transparency, respect and mutual the ability to discuss socio-economic dilemmas trust. In accordance with legislation, in France and to advance social responsibility within the forums exist for dialogue between management Group. Based on this conviction, ARMOR makes and personnel representative bodies via the for such dialogue via personnel representative representatives also attend board meetings in bodies appropriate to the local context, in order to a consultative capacity. share the company's strategy and performance

PERCENTAGE OF SITES WITH A HEALTH & SAFETY COMMITTEE

ACTION N°9



Recently created, the Armor subsidiary in Canada is a current exception. An HSC is scheduled to be established during 2020.

FAVORING HIGH-QUALITY EMPLOYMENT

Recently created, the Armor subsidiary in Canada is a current exception. An HSC is scheduled to be established during 2020. It is ARMOR's objective to contribute to employment in all the countries in which it operates. The Group strives to favor permanent jobs and to limit the use of temporary staff. In order to go the extra mile, ARMOR undertakes to offer all of its personnel worldwide a decent salary and to comply with fundamental human rights and the conventions of the ILO (see «Governance and ethics»).

> **HEADCOUNT WITHIN THE SCOPE OF THE REPORT**

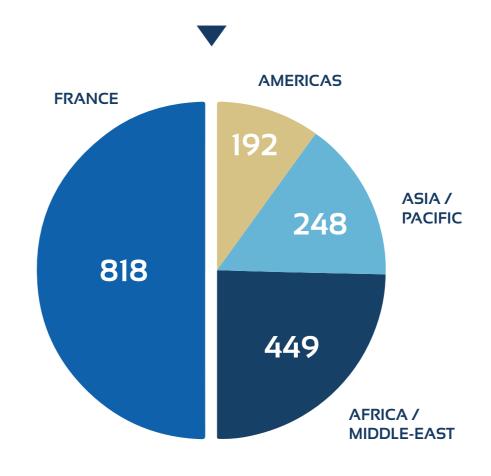
In full-time equivalents

N°4, 54

1707_{in 2019} 1631 in 2018

The higher headcount is a function of the wider scope of the report, now incorporating the subsidiaries in Canada, Colombia and Turkey.

ACTIONS

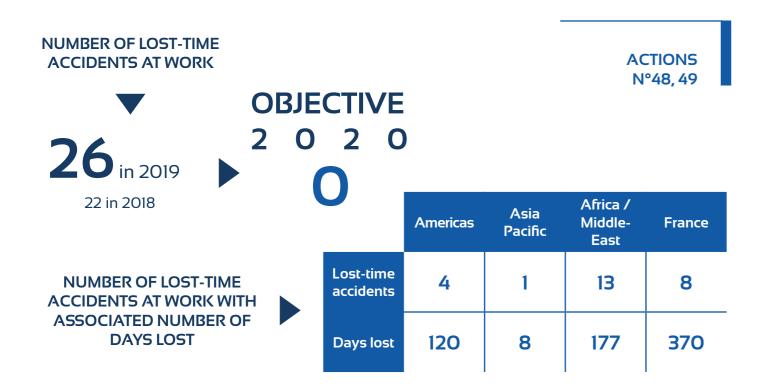


ARMOR CSR REPORT - 2019 - P.38 ARMOR CSR REPORT - 2019 - P.39

DEVELOPING A SAFE WORKING ENVIRONMENT

The health and safety of personnel is a priority that is notably illustrated via the implementation of protection and prevention measures, with the ambitious target of zero accidents. For example, the commitment is demonstrated by providing and promoting IPE (Individual Protection Equipment), by ergonomically adapting workstations and by providing protection against noise pollution, chemical hazards and exposure to heat or bad weather.

ARMOR therefore also committed to obtaining OHSAS 18001/ISO 45001 certification (occupational health and safety) at all its production sites (see certifications map on page 16).



An encouraging reduction in France. An increase in Morocco and the USA with 4 accidents of which 2 with lost time, followed by a lengthy period of absence at the US subsidiary. Acculturation to the issue of safety at all subsidiaries.

ACTIONS N°44, 46

ARMOR regularly holds awareness and prevention sessions. The Group makes every effort to involve all employees, at all levels, in the prevention and effective management of occupational risks. In France, this takes the form of individual safety coaching, the Safety Hours programme and safety enhancement working groups. In India and China, day-to-day targeted communication is designed to improve machine safety and ensure the systematic wearing of PPE. In Singapore, the Safety Committee conducts audits each month to monitor and improve signage, working conditions and the alert process.

PERCENTAGE OF PERSONNEL BENEFITING FROM A CONFIDENTIAL MEDICAL CHECK-UP

ACTIONS N°3, 45, 47



Recently created, the ARMOR subsidiary in Canada is a current exception. Medical check-ups are scheduled to be available during 2020.

ACTIONS N°53, 55, 56, 57

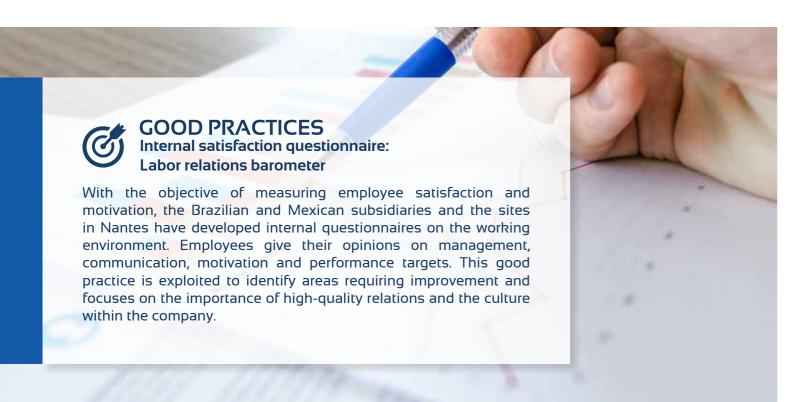
PROMOTING FULFILMENT AND WELL-BEING AT WORK

Global competition imposes demanding work schedules that sometimes spill over into employees' private lives. ARMOR therefore encourages initiatives designed to help employees improve their work-life balance. However, such concepts vary greatly worldwide. Site managers are responsible for complying with applicable local legislation, for listening to employee issues and for encouraging initiatives able to develop social links both within and outside the company.



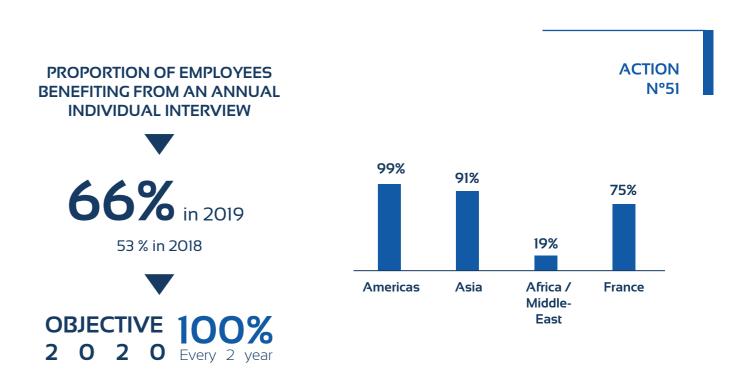






IDENTIFYING AND ENHANCING INTERNAL SKILLS

Skills management within the ARMOR Group is shaped by the current and future demands inherent to Group strategy, by the responsibility of enhancing individual employability and ensuring equality of treatment and professional development. Training requirements are notably established during the process of individual interview.



Good overall progress at the subsidiaries. Eight of them achieved their objective. France made improvements but must continue its efforts. Only applies to managers in Morocco.

ARMOR University was founded in France in 2011 with the objective of offering employees the opportunity to obtain official recognition of their professional expertise while developing their skill set. Courses leading to certificates are led by internal experts and validated by an external panel composed of representatives from the AFPA and DIRECCTE training agencies. The courses are officially recognized by the government.

The innovative nature of approach and the participatory dimension make ARMOR University a leading project from the social angle. Since its founding, the results have been highly positive with a **97% pass rate**, **255 individuals receiving certificates** i.e. over 83% of the operator population covered. Providing employees with training, supporting their development and gaining their ownership of the corporate project is a priority for ARMOR.

PERCENTAGE OF PERSONNEL RECEIVING TRAINING AND AVERAGE NUMBER OF TRAINING HOURS PER PERSON

	Americas	Asia Pacific	Africa / Middle-east	France
Percentage of personnel	97%	98%	15%	61%
Average number of hours	22	21	23	28

Investment in training has been maintained at most entities. The figure for the Africa & Middle East region, notably Morocco, is underestimated as internal training hours are not recorded.

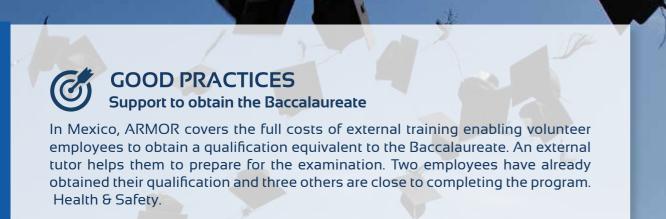
> **ACTIONS** N°50, 52

OBJECTIVE 2 0 > 16H > 26H in 2019

Of training per trained person per year

27H in 2018

The sharing of experiences and skills between ARMOR Group entities is a common practice. This may take the form of joint training sessions or immersive visits. The principle applies equally well to both support and production activities. Accordingly, employees at our subsidiaries may attend training courses held in France. This exchange program enables them to broaden their technical skills and find out about the new sales and marketing tools available to them.



2017-2020 ACTION PLAN PROGRESS AS AT END 2019















100% continuously

	EMPLOYEE DEVELOPMENT						
	Health & Safety						
44	Extend SAFECOM training throughout the Group to reach the target of zero accident	Group					
45	Carry out hearing tests for production employees	India	100%				
46	Organize a joint safety week for subsidiaries in the Americas	Mexico, USA, Brazil, Canada and Colombia	100%				
47	Offer vaccination to all employees during medical checks	Brazil, Mexico	100%				
	Working conditions						
48	Organize site moves to improve the working environment	India, South Africa, China and Colombia	100%				
49	Improve working conditions in the offices	France					
	Skills						
50	Develop the training plans in order to enhance employee skills levels	Group	CC				
51	Ensure that all employees receive individual interviews	Morocco					
52	Establish a good practices discussion group covering digital communication tools	France	100%				
	Employee well-being and sal	tisfaction					
53	Measure employee satisfaction (survey)	Group					
54	Analyze the various practices in different Group countries regarding the employment benefits Group						
55	Extend the BECOM training throughout the Group	Group	Epaugove ⁶				
56	Continue to develop relaxation/well-being/social spaces (nap rooms, showers, games, etc.)	Group					
57	Implement agreements with the QVT group working on quality of life at work France						

71% OVERALL PROGRESS

Develop links with wider society at our sites around the world, providing support to tackle local social issues.

COMBATING DISCRIMINATION AND PROMOTING DIVERSITY

Humanism, one of the values promoted at ARMOR, raises the issue of combating discrimination. At all its sites, the Group strives to understand the issues of employment and inequality affecting disadvantaged persons.

- In 2011, ARMOR France signed the Diversity
 Charter that calls on companies to guarantee
 that diversity is promoted and applied within
 their workforce. Furthermore, ARMOR's
 Code of Ethics, which is signed by all
 Group employees, also reaffirms ARMOR's
 objectives in terms of non-discrimination
 and respect for the individual.
- Up to 2014, ARMOR Asia (Singapore) was involved in the Yellow Ribbon programme for the re-integration of ex-offenders. The company even obtained the Yellow Ribbon Award in 2013.

In compliance with regulations, today the subsidiary strives to promote diversity and the prevention of all forms of discrimination in order to enhance social diversity among its workforce. Its action plan is composed of 3 pillars:

- Equality of opportunity: recruitment, integration, access to training, promotion and remuneration.
- Employability: acquisition of skills in line with developments, and/or support for optimizing the ability of persons facing difficulties to remain in employment.
- Access to employment among sensitive groups: young people, women, disabled persons, seniors, persons from sensitive urban areas, etc., in relation to the local issues of the country in question.

PROMOTING THE EMPLOYMENT OF DI-SABLED PERSONS

Because people with a disability are twice as likely on average to be unemployed, promoting their access to employment is both an economic and social issue. While exploiting the local support infrastructure wherever it exists, the ARMOR Group has also taken multiple initiatives in this field: helping people stay in employment, direct employment of disabled persons, development of outsourcing to the protected sector and adapted companies, raising awareness among employees and partners and other initiatives promoting the integration of disabled persons in the workplace. ARMOR France has increased its resources by appointing two diversity officers to coordinate action at the various sites and to develop synergies.

> ACTIONS N°63, 64

DISABILITY: NUMBER OF DIRECT EMPLOYEES



PROPORTION OF EMPLOYEES IN FRANCE WITH A DISABILITY Scope France

5.6 % in 2019



OBJECTIVE 2 0 2 0 6%

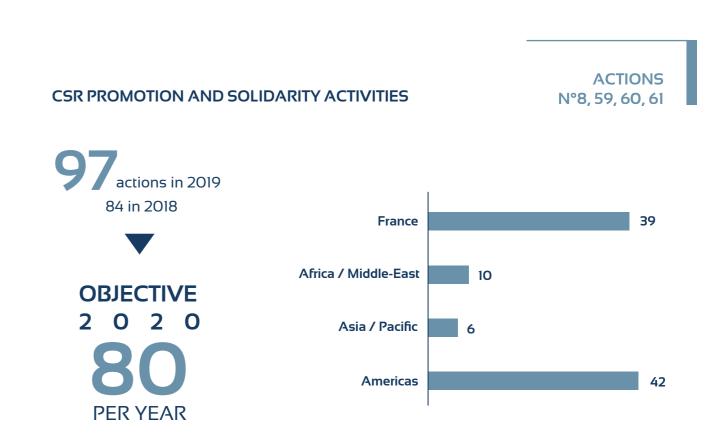
Although the regulatory target in France is 6%, the figure is satisfactory compared to the national average of 3.5%.

PROMOTING CSR AMONG STAKEHOLDERS

For ARMOR, exerting a **responsible influence** is all part of disseminating CSR in the areas where we operate, by sharing by practices to encourage the pooling and development of synergies.

Via the **CSR** assessments conducted with its suppliers, ARMOR raises awareness about sustainable development issues. CSR sessions are also held for employees.

Lastly, the Group is committed to carrying out **80** solidarity and CSR promotional initiatives each year. Solidarity initiatives are projects with a positive impact for the regions and stakeholders. Employees are regularly invited to take part in the initiatives. Regarding CSR promotional events, ARMOR disseminates its know-how in the area of **responsible manufacturing**, such as through open days at the site. It is also the Group's mission to inspire wider society.



WORKING WITH LOCAL PARTNERS

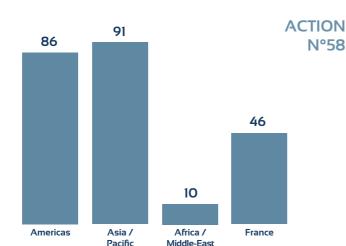
In order to reduce our environmental footprint and participate in local development, ARMOR's production sites are encouraged to select local suppliers for non-Group purchases in order to support local economic development, at the same time as minimizing the transportation of goods.

PROPORTION OF LOCAL **PROCUREMENT**

Purchases made at country level, excluding intra-Group

> 45% in 2019 53 % in 2018

OBJECTIVE 2 0 2 0



In France, PET imports have been necessary due to inadequate domestic sources. Low results in the Africa / Middle East Zone as raw materials are still difficult to find in Morocco. Notable positive developments at other subsidiaries.

ACTION

ACTING IN SUPPORT OF BIODIVERSITY

The Group's main French production site is located in a protected area in terms of biodiversity (the Lac de Grand Lieu is a Natura 2000 classified site). Today, ARMOR is seeking to share its approach and extend certain of its initiatives, such as the preservation of biodiversity, throughout the industrial zones within its operational territories. Each on its own scale, ARMOR's industrial sites all take action to control their environmental footprint and thereby promote the return of biodiversity.

The biodiversity approach of ARMOR France is underpinned by the 6 objectives of the French national strategy:

- To create the will to act in favor of biodiversity
- To preserve living things and their ability to evolve
- To invest in the common good: ecological capital
- To ensure sustainable and equitable use of biodiversity
- To ensure consistency between policies and the effectiveness of action
- To develop, share and enhance understanding





IMPLEMENTING A POLICY OF CORPORATE CITIZENSHIP IN KEEPING WITH THE GROUP'S IDENTITY AND VALUES

ACTION N°62

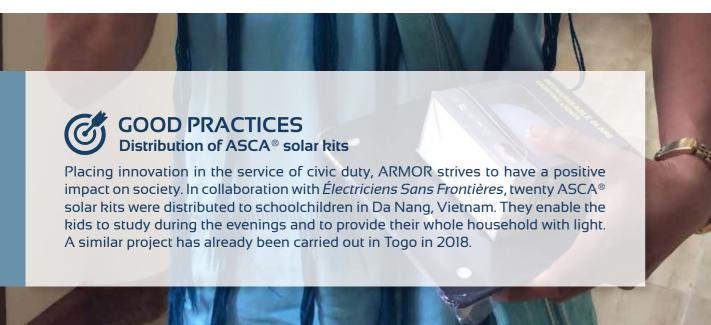
ARMOR's commitment to sustainable development has led to a consistent and ongoing program in keeping with the identity and values of the Group. Although the first initiatives were mainly implemented in the historic region around Nantes, the subsidiaries are now also participating in projects whose common objective is to cultivate social commitment among employees and generate socially-responsible initiatives.

«Combining economics and social utility is now proving itself to be the only viable model for companies to develop in the future.»

HUBERT DE BOISREDON, CHAIRMAN AND CEO, ARMOR









Falling within the scope of regional solidarity, ARMOR strongly encourages its personnel to take part in blood donations held every 6 months at company premises. Over 50 donors volunteered in France, some undoubtedly for the very first time.

2017-2020 ACTION PLAN PROGRESS AS AT END 2019











25% or + 50% or +

% or +

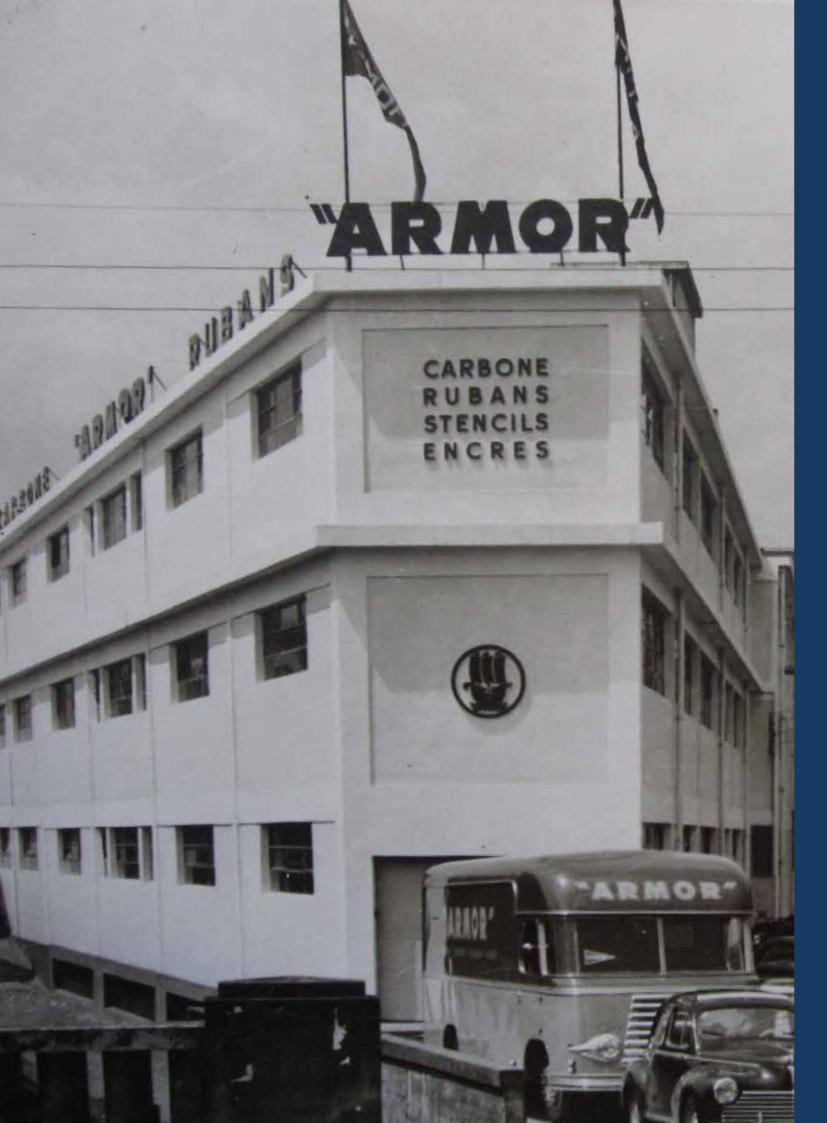
100% continuously

TERRITORIAL SOLIDARITY

	Local engagement					
58	Implement action to increase or maintain the proportion of procurement sourced locally	Group				
59	Deploy external activities promoting CSR	Group				
60	Participate in local company associations to share experiences and pool activities	Group				
61	Participate in the CSR quality label launched by the local companies' association	Morocco, Mexico				

61	Participate in the CSR quality label launched by the local companies' association	Morocco, Mexico	
	Contribution to local issu	ues	
62	Organize community action	Group	CC
63	Increase the employment of disabled persons	China, Morocco	100%
64	In collaboration with the medical department, assess which posts could be adapted for disabled persons	Mexico	100%
65	Conduct biodiversity campaigns in «sensitive»	France, Brazil	

89 % OVERALL PROGRESS



APPENDICES	P.53-7
 Appendix 1: Correlation table Appendix 2: 2017-2020 Action Plan Appendix 3: Networks of influence Appendix 4: GRI. Index Appendix 5: Greenhouse gas estimation methodology Appendix 6: Impacts of main activities 	. P.56-57 . P.58-59 . P.60-65 . P.66-74

APPENDIX 1

CORRELATION TABLE

Correlation between ARMOR's commitments, the Sustainable Development Goals, the principles of the Global Compact and the Advanced COP criteria.

*Sustainable Development Goals

COMMITMENTS	KEYINDICATORS	2020 OBJECTIVE	SDG*	PRINCIPLES OF THE GLOBAL COMPACT	ADVANCED CRITERIA
overnance & ethic					
Immerse sustainable development at the heart of governance Human right and business ethics Deploy reliable and structuring management systems Responsive to stakeholder requirements From materiality to the CSR action plan CSR maturity score: a tool for continuous improvement	 Percentage of sites with QSE certification (ISO 9001, ISO 14001, ISO 45001) CSR maturity score 	• 100% • 80%	16,17	 Promote and comply with international human rights law Contribute to the elimination of all types of forced and compulsory labor Contribute to the abolition of child labor Contribute to the elimination of all forms of discrimination in the workplace Act against corruption in all its forms, including extortion 	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21.
rcular economy					
Limit the impact on sensitive resources Reduce and recover waste	 Percentage of reutilization and recycling of laser cartridges from the OWA Percentage of waste sent to landfill Percentage of waste recovered Quantity of waste generated per ton produced versus 2016 	100%0%100%-5%	9,12		9, 10, 15
newable energies					
Innovate to promote renewable energies Participate in the mitigation of climate change Save energy and favor renewable energy	 Carbon footprint VOC emissions Electricity consumption per ton produced versus 2016 Percentage of renewables in the electricity contract Gas consumption per ton produced versus 2016 	<6%-5%>10%-5%	7,13	 environment Promote greater accountability in environmental matters 	9, 10, 15
esponsible traceability					
Design more ecological products Exerting a responsible influence to guide product selection and applications Implementing a tangible and shared responsible purchasing policy	 Percentage of products with reduced environmental impact Percentage of strategic suppliers assessed against CSR criteria (over 4 years) Average CSR maturity score of strategic suppliers assessed 	30%100%>60%	12	 Apply the precautionary approach to problems affecting the environment Take initiatives to promote greater accountability in 	2, 6, 8, 9, 11, 15
nployee development					
Construct positive labor relations Favor high quality employment Develop a safe working environment Promote fulfilment and well-being at work Identify and enhance internal skills	 Percentage of sites with a health & safety committee Number of lost-time accidents at work Percentage of personnel benefiting from a confidential medical check-up Proportion of employees benefiting from an annual individual interview Average number of hours of training per trainee 	 100% 0 100% 100% >16h 	3,4,8	 Respect freedom of association and the right of collective bargaining Contribute to the elimination of all types of forced and compulsory labor Contribute to the abolition of child labor Contribute to the elimination of all forms of discrimination in 	7, 15, 16 2 2
erritorial solidarity					
Combat discrimination and promote diversity Promote the employment of disabled persons Promote CSR among stakeholders Working with local partners Acting in support of biodiversity Implement a policy of corporate citizenship in keeping with the Group's identity and values	 Number of solidarity and CSR promotion initiatives per year Proportion of employees in France with a disability Proportion of local procurement 	80>6%70%	10, 11, 15, 17	Contribute to the elimination of all forms of discrimination	2, 4, 15, 16, 17, 18

ACTION PLAN

Duration of action: 4 YEARS Program for the plan launched in 2017:

2020

GOVERNANCE & ETHICS



ÉTHIQUE ET DROITS DE L'HOMME :

- 1. Include the Code of Ethics within the welcome pack for new employees and distribute it to all employees Group
- 2. Introduce anti-corruption procedures to be implemented by all subsidiaries Group
- 3. Make medical monitoring details confidential China
- **4.** Document employment contracts Morocco
- 5. Conduct social audits at sites located in high-risk countries vis-à-vis human rights in the workplace (ITUC index) Morocco, India, China Mexico, USA

CSR AWARENESS:

- 6. Hold employee awareness sessions covering sustainable development and the Group's CSR strategy Group
- 7. Establish employee CSR discussion groups Group
- 8. Organize a global ARMOR week focusing on a selected CSR issue Group

MANAGEMENT SYSTEMS:

- 9. Deploy and certify management systems for Quality, Health & Safety and Environment under the ISO9001,
- OHSAS18001 and ISO14001 standards India, South Africa, Mexico, Canada, Colombia, Turkey, ASPF, A3D
- 10. Examine the impact of the WEEE Regulation on the APS business APS

EMPLOYEE DRIVEN INNOVATION:

11. Develop employee-driven innovation programs • France

CLIENT SATISFACTION:

12. Develop new customer satisfaction measurement tools • Group

RENEWABLE ENERGIES



PRODUCT RANGE:

- 21. Develop the marketing of ASCA® photovoltaic films France
- 22. Test ASCA® film application prototypes at ARMOR production sites France
- 23. Develop the marketing of En' Safe® current collectors France
- 24. Establish links with fundamental research into organic batteries France

CARBON FOOTPRINT:

- 25. Conduct a Group Carbon Assessment, Scope 3; work to reduce the carbon footprint Group
- **26.** Analyze the potential for optimizing the transportation of goods Group
- 27. Favor the development of alternative transport to private cars (eco-friendly and public transport, Mobility Plan in France) • USA and France
- 28. Support the use of electric vehicles among employees (e.g. on-site recharging points) France

- 29. Conduct energy audits at production sites and produce consumption reduction action plan Group
- **30.** Optimize the use of air conditioning on the shop floor and in offices Group
- 31. Systematic procurement of low-consumption equipment Group
- 32. Raise awareness about energy saving among all employees Group
- 33. Deploy an intelligent energy system (Data Science study) France
- **34.** Examine the feasibility of a new energy cogeneration system France

USE OF RENEWABLE ENERGIES:

- 35. Analyze the potential for self-supply of renewable energy at production sites Group
- 36. Increase the proportion of renewable energy in electricity supply contracts Group

CIRCULAR ECONOMY



PRODUCT RANGE:

- 13. Analyze the deployment of the REC'PET Partner program (used Thermal transfer roll collection service) for customers worldwide • AICP
- 14. Develop a range of recyclable 3D filaments OWA 3D, A3D
- 15. Develop a service priced on a per page basis OWA OPS, APS
- 16. Develop an OWA range for Inkiet cartridges APS
- 17. Maintain Qualicert certification APS

SITE WASTE:

- 18. Find suitable recycling channels for all significant waste and ensure traceability (including the REC'PET program) • GROUP
- 19. Deploy production waste reduction plans (e.g. Co-product By-product) Group

LIFE CYCLE:

20. Conduct a life cycle analysis for ASCA® products • France

RESPONSIBLE TRACEABILITY



PRODUCT RANGE:

37. Design Thermal Transfer products with reduced environmental impact • France

RESPONSIBLE PURCHASING:

- **38.** Assess all suppliers against CSR criteria and help them to construct action • Group
- **39.** Raise CSR awareness among suppliers Group
- **40.** Adapt supplier/service provider contracts to include CSR clauses and add agreements for the rapid correction of any non-conformities • Group
- **41.** Analyze the impact of the implementation of ISO 20400 principles (responsible purchasing) • Group

LABELING AND FIGHT AGAINST COUNTERFEITING:

- 42. Develop ecolabels and LCA labels for Laser cartridges • APS
- 43. PParticipate in European working groups on anticounterfeiting • APS

TERRITORIAL SOLIDARITY



LOCAL INVOLVMENT:

- 58. Implement action to increase or maintain the proportion of procurement sourced locally • Group **59.** Deploy external activities promoting CSR • GROUP **60.** Participate in local company associations to share experiences and pool activities • Group
- **61.** Participate in the CSR quality label launched by the local companies' association • Morocco, Mexico

CONTRIBUTION TO LOCAL ISSUES:

- 62. Organize community action Group
- 63. Increase the employment of disabled persons CHINA, MOROCCO
- 64. In collaboration with the medical department, assess which posts could be adapted for disabled persons • Mexico
- 65. Conduct biodiversity campaigns in «sensitive" territories • France, Brazil

EMPLOYEE DEVELOPMENT



HEALTH & SECURITY:

- 44. Extend SAFECOM training throughout the Group to reach the target of zero • Group
- **45.** Carry out hearing tests for production employees • India
- **46.** Organize a joint safety week for subsidiaries in the Americas • Mexico, USA, Brazil, Canada, COLOMBIA
- **47.** Offer vaccination to all employees during medical checks • Mexico

WORKING CONDITIONS:

- **48.** Organize site moves to improve the working environment • India, South Africa China, Colombia
- **49.** Improve working conditions in the offices • France

SKILLS:

- **50.** Develop the training plans in order to enhance employee skills GROUP
- **51.** Ensure that all employees receive individual interviews • Morocco
- **52.** Establish a good practices discussion group covering digital communication tools • France

EMPLOYEE WELL-BEING & SATISFACTION:

- **53.** Measure employee satisfaction (survey) • Group
- **54.** Analyze the various practices in different Group countries regarding the employment benefits (social protection, pensions, etc.) offered in addition to state provision and produce action plans • Group
- **55.** Extend the BECOM training throughout the Group • Group
- **56.** Continue to develop relaxation/well-being/ social spaces (nap rooms, showers, games, etc.) • Group
- **57.** Implement agreements with the QVT group working on quality of life at work • France

APPENDIX 3

NETWORKS OF INFLUENCE













GLOBAL REPORTING INITIATIVE INDEX

ТНЕМЕ	GRI CRITERIA	LEVEL OF COVERAGE VERSUS GRI	PAGES 2020 REPORT	COMMENTS
GROUP				
Profile (name, head office, sites)	102-1;3;4	100 %	p. 6-7	
Share capital and legal form	102-5	100 %		Legal form: SASShare capital : €10,299,450
Activities, products, services & markets	102-2;6	75 %	p. 8-9	
Director's declaration, strategy & analysis	102-14	75 %	p. 3	
Main impacts (inc. significant indirect impacts), risks & opportunities	102-15	50 %	Appendix 6 p. 75	
Pertinent aspects and scopes identified	102-46;47	75 %	p. 11 et 18	
Size of the organization (headcount, revenue, etc.)	102-7;8	50 %	p. 6 et 39	 Favor high quality employment: Lacks breakdown by contract type and subcontracting not covered - information not available
Significant modifications to the organization ϑ its supply chain	102-10	75 %	p. 12-13	
External commitments and memberships	102-12;13	75 %	p. 15 / Appendix 3 p. 59	
GOVERNANCE				
Structure of governance, composition and diversity, chair	102-18;20;22;23	75 %	p.14	
Prevention of conflicts of interest	102-25	67 %		Confidentiality constraints
Detailed functioning of the board of directors (appointments process, delegation, assessment and compensation)	102-19;24;28;35;36;37	0 %		Information not available
Compensation ratio by country over time; internal and compared to the sector	102-38;39	0 %		Non-consolidated
Governance bodies' involvement in economic, environmental and social issues (responsibilities, reporting lines, roles, awareness CSR report approval);	102-20;26;27;32	75 %	p.14	The CSR Committee approves the CSR report
Notification of major concerns to governance bodies (nature, number) and resolution mechanisms	102-33;34	O %		Confidentiality constraints
Stakeholder involvement (list, selection criteria, mode of participation, consultation & major concerns)	102-21;40-44	50 %	p. 17 / p. 38	 Responsive to stakeholder requirements Construct positive labor relations
Identification & assessment frequency of impacts, risks & opportunities;	102-29;30;31	75 %	p.14 / 18	
Values, internal codes & advisory mechanisms, management of related issues	102-16;17	75 %	p. 15	 Protected whistleblowing system incorporated within the Code of Ethics and accessible both internally and externally
MANAGERIAL APPROACH				
Management issues, scope & involvement in pertinent CSR matters	103-1;2	50 %	p. 16 / 18 / Appendix 2 p. 57	 The CSR action plan A single QSE management system worldwide
CSR assessment of sites (inc. human rights and corruption)	103-3	100 %	p. 19-20	All sites are assessed against CSR criteria (questionnaire & indicators)
RESPONSIBLE PURCHASING, BUSINESS RELATIONSHIPS & INVESTMENTS				
Supplier assessment (especially new suppliers) against environmental and social criteria	308-1 ; 414-1	100 %	p. 35	Implementing a tangible and shared responsible purchasing policy
Supply chain, environmental & social impacts, measures implemented	102-9; 308-2; 414-2	O %		Confidentiality constraints
Suppliers where freedom of association and collective bargaining may be in danger or which pose a significant risk of child or forced labor	407-1 ; 408-1 ; 409-1	0 %		Confidentiality constraints
Prevention and reduction of impacts on health and safety in the workplace directly relating to business relationships; integration of CSR factors (inc. human rights) within investment contracts	403-7 ; 412-3	0 %		information not available

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GLOBAL REPORTING INITIATIVE INDEX

SOCIAL				
Human rights				
Diversity & non-discrimination	405-1	50 %	p.46	
Freedom of association & collective bargaining rights	407-1	67 %	p.15 / p.35 / p.38	
Elimination of forced labor and abolition of child labor	408-1	67 %	p.15 / 19-20 / p.35	
Training in human rights (inc. security guards)	410-1 ; 412-2	30 %	p.21	• Actions 6 and 7: Employee CSR training (inc. codes of ethics)
Operations human rights assessments 412-1	412-1	67 %	p.19-20	• Site CSR assessments
Rights of indigenous peoples	411-1	0 %		Deemed not to apply given the business activity
Labor Standards				
Policy	400		p.38	
Quality of employment: employment, recruitment & turnover	401-1	33 %	p.39	Favor high quality employment
Health & safety in the workplace (management system inc risk identification, health services, workers covered, employee dialogue bodies, training, workplace accidents & health initiatives)	403-1;2;3;6;4;8;9	67 %	p.40-42	
Staff employability and training (programs and hours)	404-1;2	67 %	p.43-44	Identify and enhance internal skills
Individual performance and career development reviews	404-3	100 %	p.43	
Social benefits, parental leave & job retention, notice period for reorganizations, gender balance, collective bargaining coverage, health & safety agreements and themes, occupational disease indicators	403-5;6;10 ; 402-1; 405-2	10 %	p.45	• Actions 53 and 54
ENVIRONMENT				
Policy	300		p.16 / p.22 / p.28 / p.33	
Materials (raw / recycled materials)	301-1;2	50 %	p.22	Circular economy - Resources preserved
Recovered products and packaging materials	301-3	20 %	p. 22-23	 Reutilization and recycling of laser cartridges from the OWA collections service
Waste by type and disposal method	306-2	100 %	p.23-26	Reduce and recover waste
Hazardous waste: transport	306-4	0 %		Transport of hazardous waste: no cross-border flows
Direct and indirect energy (consumption, current, initiatives & results); use of renewables	302-1;2;3	75 %	p.31-32	
Water: Interaction, impact management, sampling, consumption, waste	303-1;2;3;4;5;	0 %		N/A: judged to be insignificant
Water: Effluent, significant spillages, bodies of water affected	306-1;3;5	0 %		N/A: judged to be insignificant
GHG emissions (scopes 1, 2, 3), reduction of intensity & effort	305-1;2;3;4;5	100 %	p.29-30 / Appendix 5 p.66	
Emissions of pollutants (substances harmful to the ozone layer, Nox, Sox and others)	305-7	75 %	p.30	• Scope France & China: VOC emissions
Biodiversity - sensitive sites & zones	304-1	33 %	p.48	
Qualitative impacts on biodiversity (species, habitats,) of products & services	304-2;3;4	0 %		N/A: judged to be insignificant

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GLOBAL REPORTING INITIATIVE INDEX

SOCIETY				
Economic activities				
Direct economic value created and distributed, public aid received	201-1;4	50 %	p.10	Scope France
Risks and opportunities relating to climate change & financial implications	201-2	33 %	p.28	 Incorporated within the strategic theme: renewable energies Financial implications not available
Local practices: pay, pensions, hiring of executives	201-3;202-1;2	0 %		Information not available
Infrastructure & sponsorship - amounts, objectives & impacts	203-1	20 %	p.49	Implement a policy of corporate citizenship
Expenditure with local suppliers	204-1	67 %	p.48	Working with local partners
Indirect insignificant impacts	203-2	0 %		Information not available
Products responsibility				
Consumer health and safety	416-1	20 %	p.16	• Quality policy & certifications
Product information and labelling	417-1	75 %	p.34	 Exerting a responsible influence to guide product selection and applications
Responsible marketing & advertising campaigns	417-2:3	33 %		No prohibited or controversial productsGeneral greenwashing prevention principles
Customer data confidentiality 418-1	418-1	20 %	p.15	GDPR compliance
Company				
Policy	413		p.46	Local solidarity
Sites engaged with local communities	413-1	67 %	p.47 / p.49-50	
Corruption (risks & training)	205-1;2	75 %	p.15	 Buyer awareness; code of ethics deployed Lack of confirmed cases and measures implemented: confidential
Political donations	415-1	100 %		• None
INCIDENTS, INFRACTIONS, FINES & MEASURES IMPLEMENTED				
Incidents incorporating non-compliance with legislation or voluntary codes, compliance and grievances and fines incurred (concerning human rights, consumer health and safety, environment, labelling, marketing, customer data, corruption, competition) during the past 3 years	205-3;206-1;307-1;406- 1; 416-2; 417-2;3 ; 418-1 ; 419-1	0 %		Confidentiality constraints
THIS REPORT				
Period covered, frequency and scope (consolidation scope of financial reports)	102-45;50;51;52	100 %		 Date of last report: September 2019 Cycle: annual, aligned with the financial year (calendar year)
Contact person	102-53	100 %		Annabelle.Guillet@armor-group.fr
Changes versus previous reports and corrections	102-48;49	50 %		Notified for the indicators in question
Selected elements and methodology	102-46;47	50 %	Appendix 5 p.66	
Selected compliance framework, GRI index	102-54;55	100 %		Exhaustive in line with the «comply or explain» principle
Third-party validation	102-56	0 %		 Vertuel, the Armor group CSR consultant, critically reviews the report and produces this GRI table to verify the inclusion of all information

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APPENDIX 5

GREENHOUSE GAS EMISSION ESTIMATION METHODOLOGY

OBJECTIVE

The purpose of this guide is to present the methodology used to estimate greenhouse gas emissions at ARMOR group sites in scopes 1, 2 (direct) and 3 (indirect). For regulatory purposes, covering scope France (SIREN no. 857 800 692).

SCOPE

For the purposes of this study covering 2019 data, scopes 1, 2 and 3 have been applied. It is possible to extract results for scopes 1 and 2.

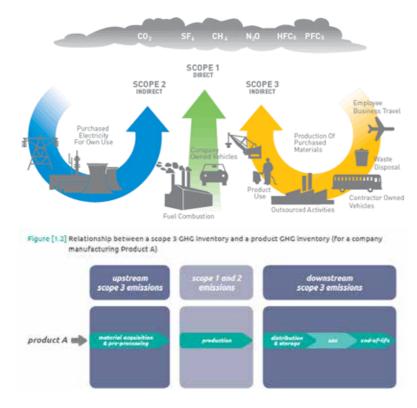
SCOPE DEFINITION

The GHG Protocol breaks down the operational scope of an organization's greenhouse gas emissions as follows:

Scope 1:Direct emissions relating to the combustion of fossil energy from resources owned or controlled by the company.

Scope 2: Direct emissions relating to the purchase or production of electricity.

Scope 3: All other indirect emissions, from the supply chain to the transportation of goods and people.



Since the summer of 2016, French regulations have referred to direct and indirect emissions rather than the «scopes» presented above.

PERIOD

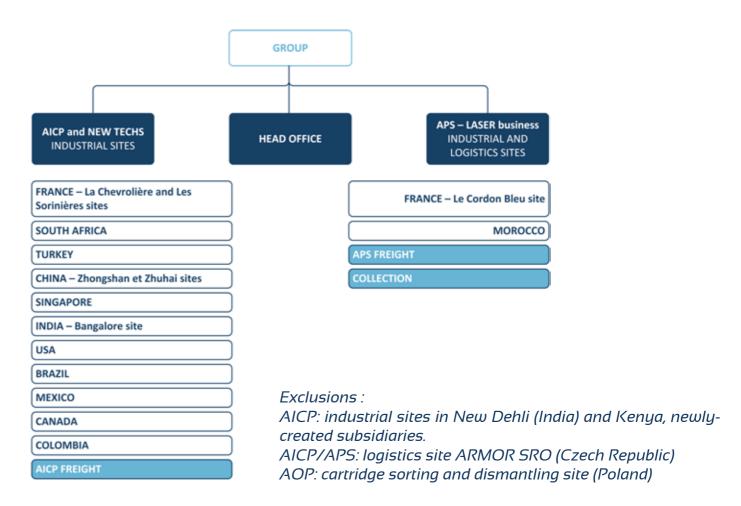
The available data is data from 01/01/2019 to 12/31/2019, a period of 12 months.

SCOPE EMPLOYED

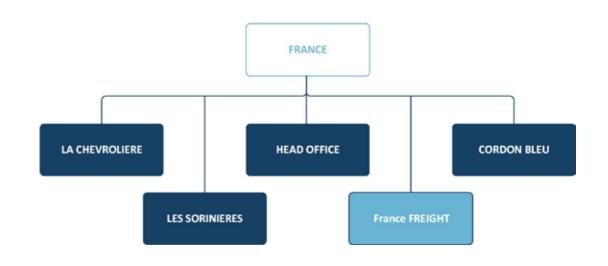
The quantification work covers:

- The sites and flows of the AICP business
- The sites and flows of the A3D business
- The sites and flows of the APS business (remanufactured LASER cartridges)
- Head office, shared by all businesses

The NewTech activities based at the La Chevrolière site are partially covered as their contribution cannot be distinguished from AICP for a certain number of categories.



For the regulatory declaration, the scope is as follows:



CALCULATION METHOD AND EMISSION FACTORS

All emissions are reported in tons of CO2 equivalent.

Unless stated otherwise in this methodology, the emissions factors are taken from the French national <u>CARBON DATABASE</u>.

The selected consolidation approach is OPERATIONAL CONTROL.

The result of the group's carbon footprint assessment is expressed using the GHG Protocol method. And the regulatory scope using BEGES.

GENERAL COMMENTS ON ITEM SELECTION

Scope of the assessment:

The table below sets out the scope of this assessment by specifying the included and excluded emission sources:

EMISSIONS INCLUDED				
GHG Protocol emission categories	BEGES emission categories	Name	Comments	Included / Excluded
1.1	1	Direct emission from fixed combustion sources	Data uncertainty: Gas bill: 0% solvents incinerated (SMP): 20%	Included
1.2	2	Direct emission from mobile combustion sources	Data uncertainty: Mileage reading: 0%	Included
1.3	3	Direct emissions relating to production processes, excluding combustion		Included
1.4	4	Direct fugitive emissions	Data uncertainty: SMP: 20%	Included
1.5	5	Soil and forest emissions	Not applicable	Excluded
2.1	6	Indirect emissions relating to electricity imported by the organization for its own use	Data uncertainty: Electricity bill 0%	Included
2.2	7	Indirect emissions relating to consumed energy imported via a network (steam, heat, cold and compressed air), excluding electricity.		Included
3.1	9	Purchased goods and services	Only 80% of purchasing database products, excluding services Data uncertainty: Purchasing data: 0%	Included

ÉMISSIONS PRISES EN COMPTE				
GHG Protocol emission categories	BEGES emission categories	Name	Comments	Included / Excluded
3.2	10	Fixed assets	According to the UIC sector guide, this category is insignificant	Excluded
3.3	8	Emissions relating to fuels and energy not included in scopes 1 and 2		Included
3.4	12	Incoming freight (upstream transport and distribution)	From rank 1 suppliers, 80% of purchasing database products Data uncertainty: ERP data: 20% Other sources: 40%	Included
3.5	11	Waste generated	Data uncertainty: Production data: 10%	Included
3.6	13	Business travel	Travel by plane, train and hire car excluding leased cars	Included
3.7	22	Commuting to and from work	Lack of data	Excluded
3.8	14	Assets rented upstream	Partially included	Included
3.9	17	Outgoing freight (downstream transport and distribution)	Up to rank 1 suppliers Data uncertainty: ERP data: 20% Other sources: 40%	Included
3.10		Transformation of sold products	According to the UIC guide, this category is not to be included due to the lack of a method	Excluded
3.11	18	Utilization of products sold	Lack of reliable data	Excluded
3.12	19	End-of-life of sold products	Lack of reliable data	Excluded
3.13	21	Assets rented downstream	According to the UIC sector guide, this category is insignificant	Excluded
3.14	20	Franchises	According to the UIC sector guide, this category is insignificant	Excluded
3.15	15	Investment	According to the UIC sector guide, this category is insignificant	Excluded
3.16	16	Visitor and customer transport	According to the UIC sector guide, this category is insignificant	Excluded
3.17	23	Other indirect emissions	According to the UIC sector guide, this category is insignificant	Excluded

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WITHIN SCOPE 1: FIXED COMBUSTION SOURCES

- Gas consumption: conversion into kWh NCV
 - * Data collected in kWh GCV: Multiplied by a factor of 0.9
 - * Data collected by volume: Multiplied by a variable factor according to country (between 9.65 and 9.75 per m3).

Thermal oxidation of solvents:

La Chevrolière site (France):

- * The tonnage of incinerated solvents has been calculated via the solvent management plan (SMP).
- * As there exists no average emission for solvents, it was decided to use the naphtha emission factor by default: considérer le facteur d'émission du naphta :

Products	Kg CO₂ per ton, ups	stream, combustion	Uncertainty	Data source
rioducts	Upstream	Combustion	Officertainty	
Naphtha, France	512	3285	5 %	Utility BC version 2011

Comments:

Contrary to the ISO 50001-certified energy management system, energy recovery relating to solvent oxidation is not taken into account.

Zhongshan site (China):

- The tonnage of incinerated solvents has been calculated using the method applied to the SMP in France
- As there exists no average emission for solvents, it was decided to use the same emission factor as for the French site by default:

WITHIN SCOPE 1: DIRECT EMISSIONS FROM MOBILE SOURCES

«Own» vehicles at sites are not taken into account here.

- Bottled gas consumption: These gases (butane/propane, LPG) are used to operate selfpropelled trucks.
- Fuels consumption (diesel, gasoline): this data has been obtained from individual vehicle mileages or fuel bills.

WITHIN SCOPE 1: DIRECT FUGITIVE EMISSIONS

These emissions are expressed in kg and broken down by type of gas.

WITHIN SCOPE 1: DIRECT GAS EMISSIONS

Direct VOC emissions into the atmosphere contribute to climate change although the literature is not definitive regarding the GWP associated with these direct emissions.

Account should be taken here of VOC emissions not captured for incineration. The sites in question are La Chevrolière (France) and Zhongshan (China).

The methodology used is based on a UIC publication from May 2015 proposing the use of a «carbon molar mass» rationale (extract provided below).

Method for converting VOCs into CO₂:

For organizations consuming solvents, the method consists of estimating total VOC emissions via measurement or a carbon material assessment at the smoke stack (note: this does not cover VOCs emanating from combustion) based on the measured concentration, the start of the period in question and the number of operating hours of the installation, subsequently converting the carbon emissions into CO_{τ}

Emissionssheet 1.4 of CO_2 (mass) = VOC concentration (mass/Nm3) x period start (Nm3/h) x number of operating hours during the year x 44/12

NOTE: The 44/12 ratio corresponds to the ratio of molar masses between CO₂ (44) and carbon (12).

Once estimated, the annual mass of VOC emissions is multiplied by 44/12 in order to be treated as «pure» CO_3 emitted into the atmosphere.

WITHIN SCOPE 3: FREIGHT EMISSIONS

The value of **tons*km** has been defined by multiplying distance and tonnage data, differentiating between transportation categories.

The freight impact is not allocated to each site but to each business (AICP and APS Laser). NewTechs freight is excluded.

INCOMING FREIGHT:

The rationale employed includes the freight from departure at the last supplier's premises. Then distances are determined from country to country using an average mileage.

Just like inputs, only 80% of raw materials are included in the calculation. Packaging items are therefore excluded.

Special case of empty cartridges collected by ARMOR The collection freight impact is included in the empty cartridge EF (see emissions relating to cartridge collection).

INTERNAL FREIGHT:

The specific nature of the ARMOR process generates numerous inter-site flows of materials. These flows are treated as internal freight (inter-site) without considering the question of ownership.

The distances have been accurately determined using site addresses and the mode of transport (notably the ports and maritime routes via which most goods transit).

Just like inputs, only 80% of raw materials are included in the calculation. Packaging items are therefore excluded.

OUTGOING FREIGHT:

The rationale employed includes the freight up to delivery to the first customer. For most exports, the distances are determined from country to country using an average mileage. For domestic deliveries:

- France, Singapore: an average domestic mileage is applied.
- Other sites: an average mileage by state/province or city is applied.

WITHIN SCOPE 3: EMISSIONS RELATING TO RAW MATERIAL PURCHASES

For emissions relating to raw material purchases, only the raw materials stated in the table below are taken into account. They have been selected as they account for 80% of the total. Packaging items (boxes, etc.) are therefore not taken into account. Nor are NewTech raw materials.

AICPRMs relating to coating

RM	EF reconciled with	EF utilization	
SOLVENT (exc. MEK)	TOLUENE	1,500 kg Eq CO2 /t kg (méthode IPCC 2013 100a)	
MEK	MEK	1,740 kg Eq CO2/kg t (méthode IPCC 2013 100a)	
WAXES	WAXES	2,060 kg Eq CO2/t (SIMAPRO: assumption source used for EE2012 or PELD)	
RESINS	Epoxy adhesive mix	6900 kg Eq CO2/t (carbon database)	
ADDITIVES	ADDITIVES	1 830 kg Eq CO2/t (source: SIMAPRO 2011)	
PIGMENTS	PIGMENTS	100 kg Eq CO2/t (source SIMAPRO 2011)	
PET FILM	PET	3270 kg Eq CO2/t (carbon database)	

APS LASER

RMs relating to remanufactured laser cartridges

RM	EF reconciled with	EF utilization	
EMPTY CARTRIDGES COLLECTED OR PURCHASED	See emissions relating	See emissions relating to cartridge collection	
TONER POWDER	Ink powder	LCA data 5,5500 kg eq CO2/kgt (LCA 2011)	

WITHIN SCOPE 3: EMISSIONS RELATING TO CARTRIDGE COLLECTION

Cartridge collection is an activity specific to APS.

As the collected cartridges have already been through multiple cycles prior to remanufacture, it would be a mistake to use the following emissions factor for the percentages of «new» materials of which the cartridge is composed.

Given that an LCA was already carried out in 2011, the methodology used should be applied here. The cited methodology is an advanced and appropriate adaptation of the formula recommended in the environmental labelling standard, namely BPX 30-323 of AFNOR.

The formula adapted for ARMOR is as follows:

Epart = (1/c Epart new + (1-1/c) Epart reused + 1/c Eend-of-life)

To be translated for a CO2 single-criteria approach for cartridges:

Remanufactured cartridge EF = (1/c new cartridge EF + (1-1/c) collected and cleaned cartridge EF + 1/c end-of-life cartridge EF)

- Where **C** = **number of cycles** = **2.56** as per the LCA (see calculation details in the methodology standard)
- And new cartridge EF / collected and cleaned cartridge EF / end-of-life cartridge EF

RM	EF reconciled with	EF utilization
EMPTY CARTRIDGES	Top 1 reman laser database: 79% PS, 5% PP, 16% alu, i.e. 4,436 kg Eq CO2/t («new materials»)	3,688 kg Eq CO2/t 30% uncertainty

This EF takes into account the impact of the materials and also the transport from the collection, cleaning and waste processing relating to sorting and dismantling.

It was decided to apply the same EF to purchased empty cartridges.

WITHIN SCOPE 3: EMISSIONS RELATING TO BUSINESS TRAVEL

For France: The CO2 emissions from business travel are provided directly by service providers:

- Travel preferences: Train and plane.
- Avis: car hire.

For other sites: Only the CO2 emissions from the number of journeys by plane have been taken into account, as explained in the table below:

Data name	Type of flight in the application	
Number of short-haul flights (domestic flight < 1,000km)	100-180 seats, 0-1000 km	
Number of medium-haul flights (between 1,000km and 4,000km)	100-180 seats, 2000-3000 km	
Number of long-haul flights (international flight > 4,000km)	> 250 seats, 7000-8000 km	

WITHIN SCOPE 3: EMISSIONS RELATING TO WASTE

Data on waste is not collected by type of waste but only by waste treatment; the various decisions applied to quantify the carbon emissions are summarized in the table below:

Data name	Type of processing in the application	Type of waste in the application	Type of recycling in the application
Tons of waste sent to landfill	Landfill	Average household waste	None
Tons of incinerated waste	Incinerated	Plastic	None
Tons of incinerated waste with energy recovery	Incinerated	Plastic	Not specified
Tonnes de déchets transformés en Combustibles Solides de Récupération	Incinerated	Plastic	Not specified
Tons of waste recove- red into materials	Recycled/reused	Cardboard	X

APPENDIX 6

IMPACTS OF MAIN ACTIVITIES



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ARMOR Print Solutions

Positive impact Negative impact





This report has been written in association with Vertuel, a Corporate Social Responsibility consulting firm.







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