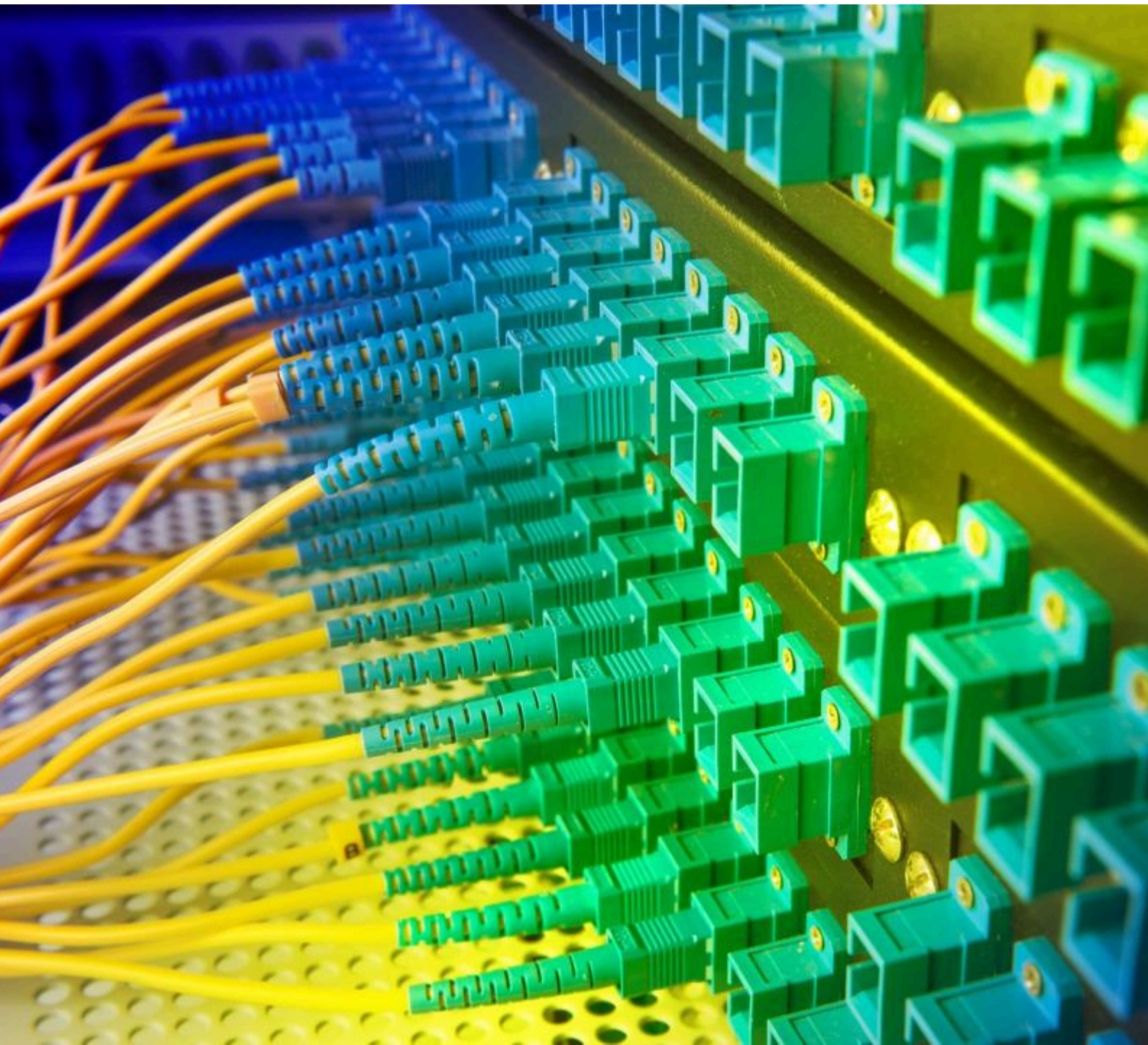
BMI
a FitchSolutions Company

Q3 2024
www.fitchsolutions.com/bmi

Egypt

Information Technology Report

Includes 5-year forecasts to 2028



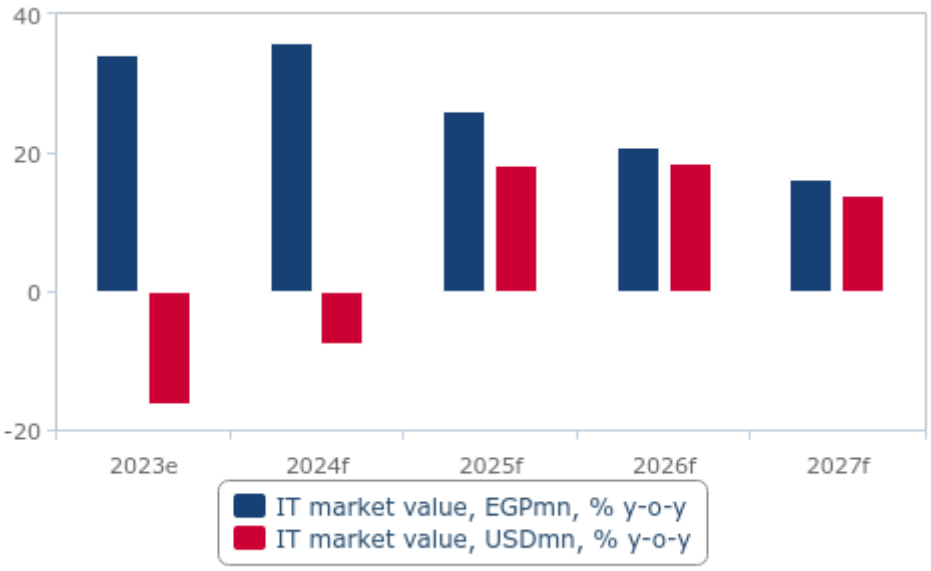
Contents

Key View

Key View: *The short-term outlook for the IT market in Egypt continues to be negatively impacted by economic headwinds in an environment of elevated inflation and local currency depreciation that will weigh on performance in US dollar terms. The outlook is for IT market growth trends to pick up from 2025 as economic conditions become more supportive, which will allow vendors to tap into the opportunities that exist because of Egypt's low level of digital intensity. The market is primed for medium-term development because of foundational investments that have flowed into submarine cables, domestic data networks, data centres and cloud regions since 2020. There could also be a positive impact from generative AI later in the forecast period by lower digital project costs and accelerating digital transformation. Downside risks include economic sensitivity to global headwinds and the potential for negative spillover created by the Israel-Hamas war.*

Macroeconomic Headwinds To Continue In 2024

Egypt - IT Market Forecast



e/f = estimate/forecast. Source: BMI

Latest Updates And Industry Developments

- In 2022, Egyptian IT market growth remained strong in local currency terms, at 16.0% y-o-y. However, due to depreciation, the growth rate in US dollar terms posted a sharp decline of 5.3% compared to growth of 20.5% in 2021. IT market local currency growth was elevated again in 2023 by inflation, at 34.1%, but the market contracted by 16.4% in US dollar terms because of the impact of depreciation.
- In April 2024 Huawei became the first hyperscale public cloud platform to launch locally hosted services in Egypt, enabling it to offer services that meet data sovereignty and regulatory requirements in Egypt. The launch of the Huawei Cloud platform in Egypt is a collaboration with telecoms operator Orange, and offers infrastructure as a service (IaaS), platform as a service (PaaS) and software as a service (SaaS) solutions to local customers. Also in April 2024, Egypt launched the government cloud computing data centre, which will be a central data hub for ministry data in Egypt and work in partnership with the New Capital Data Center.
- In March 2021, Samsung Electronics signed a deal with the Ministry of Communications and Information Technology (MCIT) to invest some USD30mn to create a table production line at its complex in Beni Suef and employ 500 trained workers. In March 2022, Egypt's Minister of Education stated that from September 2022 all tablets distributed in the schools system will be

produced from the factory in Egypt. Samsung and the government noted that the factory will also produce for export to African and Middle East markets.

- In February 2022, the Ministry of Communications and Information Technology launched its 2022-2026 digital strategy. The plan put a strong emphasis on human capital development, with the training budget for FY2021/22 set at EGP1.1bn and the target of 215,000 technical trainees working in the outsourcing sector by 2026. The strategy was developed by the Information Technology Industry Development Agency, and in addition to skills training, has targets for ecosystem development and international promotion of Egypt as an outsourcing location.
- Gulf companies have been key investors in the data centre industry, and in December 2023 the UAE's Ministry of Investment and Egypt's Ministry of Communications and Information Technology (MCIT) signed a memorandum of understanding for up to 1GW of data centre investments in Egypt. In 2023, Gulf Data Hub partnered with Elsewedy Data Centres to commit USD2.1bn over five to seven years to build three data centre campuses in the country that aims to be the largest complex in Africa. In May 2023, UAE vendor Khazna Data Centers announced plans to invest USD250mn through a venture with Egyptian company Benya Group to build a data centre in Cairo. This follows investment announcements from Egyptian telecoms companies. In January 2020, Orange Egypt was contracted to operate a data centre at the New Administrative Capital.

SWOT

Information Technology SWOT

Strengths

- One of the largest markets in the Middle East and Africa region.
- Relatively low levels of IT adoption among both enterprises and households.
- Supportive demographics.
- Proactive government policy designed to develop the ICT sector, particularly as a destination for export-oriented outsourcing and software development services.

Weaknesses

- The highly price-sensitive market puts pressure on vendor margins and leads to a preference for local low-cost solutions.
- Network infrastructure deficit, which will stop development of emerging technology ecosystems including cloud computing and Internet of Things smart services.
- Despite progress, software piracy remains an issue due to the lack of effective enforcement.

Opportunities

- Relatively low levels of IT integration into economic activity in the private and public sector indicates medium-term potential for sustained growth as operations are modernised.
- Potential for substantially higher levels of digitisation in local government as well as small and medium-sized enterprises (SME) in order to converge with developed markets.
- Technology trends, such as e-commerce and mobile payments/banking, will drive IT investments higher in key verticals such as retail and wholesale trade, and financial services.
- Advances in generative artificial intelligence (AI) could boost productivity and alleviate a developer skills bottleneck for the software and IT services industry, raising the prospect of faster innovation and replacement/refinement of ageing custom software deployed in legacy industries.

Threats

- Global economic headwinds, which could come from the Russia-Ukraine war, and financial market volatility during monetary tightening cycles.
- Discontent about political repression and high youth unemployment could negatively affect sentiment and disrupt markets.
- Lack of access to leading-edge graphics processing unit hardware and cloud platforms could see the market fall behind more advanced economies in the deployment of generative AI and advanced automation solutions.
- Generative AI could overtake demand for labour-intensive outsourcing activities.

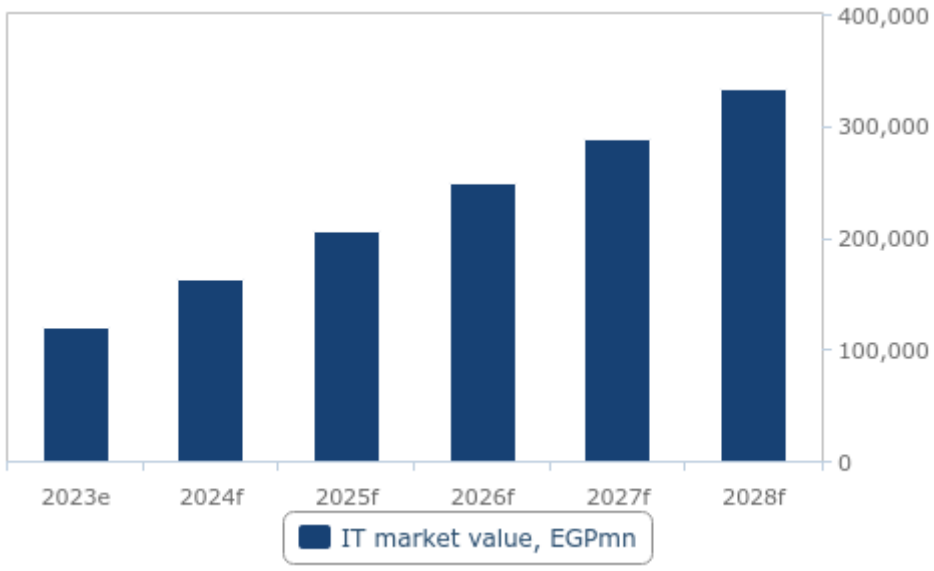
Industry Forecast

Key View: *The IT market in Egypt can grow significantly larger as rates of digital intensity increase towards levels seen in developed and emerging economies, but in the short term economic headwinds and security risks will dampen momentum. There are positive trends for the medium term because of investment in foundational digital infrastructure, such as data centres, submarine cable connectivity and domestic data networks, as well as supply-side policy that will promote human capital development and public sector procurement.*

2024 Outlook

- The IT market in Egypt is forecast to record local currency growth rate of 36.0% in 2024. However, this will equate to a US dollar decline of 7.4%, with the market reaching a value of EGP162.9bn (USD3.6bn).
- Economic conditions will be challenging again in 2024 because of inflationary pressures and currency depreciation that weighs on purchasing power and import affordability, holding down sentiment in the household and private sectors. The Israel-Hamas war added to uncertainty through the security situation and by affecting gas imports to Egypt, which will affect investment and import intensive projects.
- The computer hardware market will be negatively affected by the purchasing power trend in 2024 that weighs on import affordability, which is a powerful trend in a price-sensitive frontier market. There will be a stronger trend for enterprise infrastructure hardware demand because of server and storage demand linked to investments in the data centre industry. Investments in digital infrastructure will be a foundation for the growth of software and IT services demand in the public and private sector, though this trend could be interrupted if the Israel-Hamas war broadens into a regional conflict. The New Administrative Capital (NAC) will continue to be an opportunity as government functions are relocated.

Industry Trends - IT Market
(2023-2028)

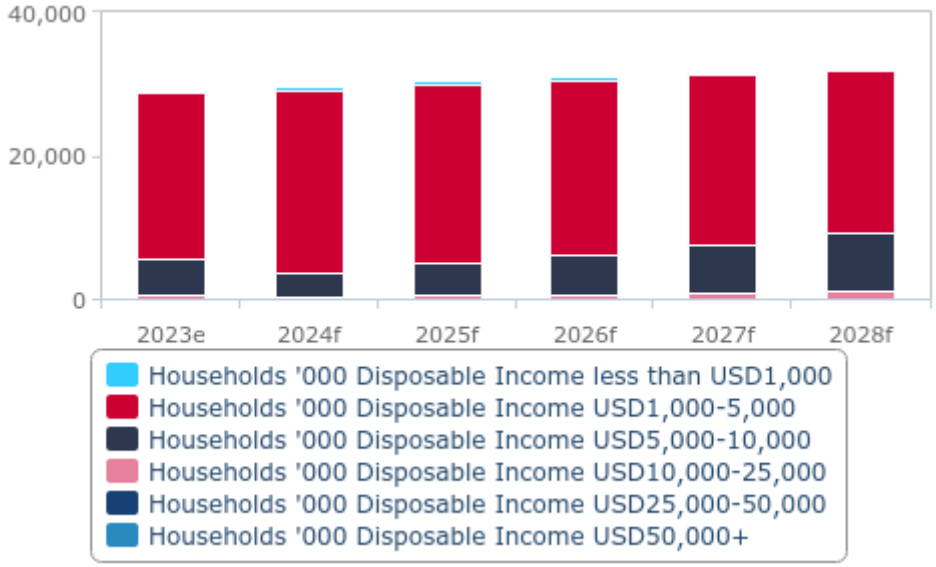


e/f = estimate/forecast. Source: BMI

Market Drivers

- There is considerable growth potential in Egypt's IT market over the long term, but to achieve this potential the economic environment will need to become more supportive. As the market is a late developer, there is potential for rapid adoption of IT solutions that have been trialled and refined in developed economies, as well as brought down the cost curve. The large size of Egypt's population, positive demographics and its strategic geographic position add to long-term potential.
- The core scenario is that the economic environment will become more supportive from 2025 as inflation moderates and the currency stabilises against the US dollar, which will enable faster rates of real GDP and purchasing power growth. This will increase import affordability, with GDP per capita forecast to be 26% higher in US dollar terms in 2028 than in 2023. There are also strong positive demographic trends, though Egypt will continue to be a low-income and price-sensitive market in 2028. Frontier market status means there are economic risks as the outlook is sensitive to global events, as well as political and security risks that could undermine stability.
- Rising incomes and demographics should benefit personal computer (PC) vendors as the retail market deepens. Tablet procurement for the education system adds to the volume outlook, with a total of 4.2mn tablets scheduled to be procured from Samsung in the 2021-2026 period. Windows and Chromebook partners will innovate on the back of advances in Intel chips, and Qualcomm's entry into the market, with the aim of replicating the performance gains achieved by Apple with its move to M-series chips. Innovation in system-on-a-chip design in the Windows ecosystem will be important for public and corporate PC sales where it is the leading platform. Spatial computing is an area of innovation, spearheaded by Apple's Vision Pro augmented reality (AR) headset to launch in 2024, but due to high price points this will be not have mass market in frontier markets.
- Semiconductor supply shortages were a bottleneck during the pandemic, especially for automotive and industrial applications. The core scenario is that this will not repeat over the medium-term because of investment in foundry capacity globally and the role the pandemic had in compounding panic overordering and reduced back-end capacity. There are, however, some fields in which there are supply shortages in the short-to-medium term, such as Nvidia's most advanced graphics processing units (GPUs) for artificial intelligence (AI) and high-performance computing. Leading edge GPU supply will be constrained until additional advanced chip-on-wafer-substrate packaging capacity becomes operational, with the bottleneck to ease over the course of 2025-2027.

Purchasing Power And Demographic Trends
(2023-2028)



e/f = estimate/forecast. Source: BMI

- Investment in digital infrastructure will be required to support the development of Egypt's IT market over the medium-term. The cloud computing market in Egypt is in the first phase of development and none of the hyperscale public cloud companies had committed to invest in a locally-hosted region by the end of 2023. There was, however, a stronger trend for data centre investment during 2020-2023 that will create the foundation for a strong colocation market. In 2023, Gulf Data Hub partnered with Elsewedy Data Centres to commit USD2.1bn over five to seven years to build three data centre campuses in the country that aims to be the largest complex in Africa. In May 2023, UAE vendor Khazna Data Centers announced plans to invest USD250mn through a venture with Egyptian company Benya Group to build a data centre in Cairo. This follows investment announcements from Egyptian telecoms companies. In January 2020, Orange Egypt was contracted to operate a data centre at the NAC.
- A related investment trend is in submarine cable connections and domestic data networks, due to Egypt's strategic position for submarine cable networks as a pinch point for cables between the Mediterranean Sea and Indian Ocean. In 2022, through a partnership with AMS-IX, Telecom Egypt began hosting Egypt's first international internet exchange at its Regional Data Hub, a Tier-III facility that was constructed in 2021, and will connect to 18 submarine cables by 2025.
- There is large scale IT procurement around the development of the NAC between Cairo and Suez, for which total investment has been reported to be as high as USD45bn. It will house central government functions and be home to more than 5mn people. The transfer of government functions began in December 2021 and will generate a continuous flow of demand for software and IT services over the medium term. For instance, Orange Egypt completed the first phase of its USD135mn NAC data centre in 2022, and it will operate a cloud platform for the NAC under a five-year contract term.
- There is a long runway for growth in software, infrastructure and platform services in Egypt - and with low levels of legacy IT deployments many IT functions will be able to bypass the on-premises era and go straight to the cloud. A key bottleneck will be skill availability to implement and manage cloud services, as well as regulations that ensure local buyers have access to innovative and low-cost services from technological leaders, an area that has seen improvement since Egypt's first Data Protection Law was published in 2020.

Verticals

- The first wave of AI adoption will most strongly impact digitally intensive verticals such as ICT and financial services. There will also be function specific impacts on sales, marketing, customer relations and support - but in these functions the steepness of the adoption curve will vary from market to market depending on labour costs relative to AI services. The growth of the outsourcing industry in Egypt for IT and business process outsourcing is a positive trend, but this could be threatened by AI depending on the pace of innovation and the ability of technology company to move services down the cost curve.
- A frontier economy like Egypt will experience slower AI integration than advanced high-wage economies over the medium-term, but AI services can still have an important positive impact on the IT market and positive second order impacts for the wider economy. Software developer and software integration services productivity will be boosted by the automation of workflow, including code generation, refactoring, bug detection and error testing. This will increase industry capacity and ease bottlenecks around skilled labour, as well as potentially leading to lower costs for software and software projects. This could accelerate digital project flow in a price-sensitive frontier market like Egypt, leading to a faster trajectory for digitisation across a range of sectors.
- The ICT sector will contribute to IT market growth over the medium term, supported by government policies to promote the sector. In February 2022, the Ministry of Communications and Information Technology launched its 2022-2026 digital strategy, with human capital development goals and a training budget of EGP1.1bn for FY2021/22 and the target of 215,000 technical trainees working in the outsourcing sector by 2026. Longer-term sector policy is coordinated under the ICT 2030 strategy, which includes investment programmes, training initiatives, public service digital modernisation (government services, education and healthcare) and infrastructure upgrades. Key targets of the ICT 2030 strategy are increased supply of skilled workers, development of electronics design and manufacturing capacity as well as the creation of technology parks in Egypt to facilitate sector clustering effects.

Enterprise Trends - GVA By Vertical (Egypt 2022-2027)

Indicator	2022	2023e	2024f	2025f	2026f	2027f
Agriculture nominal GVA, % total GVA	11.51	10.96	10.42	10.14	10.07	10.13
Mining nominal GVA, % total GVA	7.58	7.09	6.65	6.47	6.43	6.47
Manufacturing nominal GVA, % total GVA	16.80	16.34	15.61	15.37	15.41	15.62
Construction nominal GVA, % total GVA	7.63	7.65	7.64	7.31	7.25	7.42
Finance nominal GVA, % total GVA	4.08	3.86	3.66	3.54	3.46	3.40
Real estate nominal GVA, % total GVA	10.93	11.18	11.34	11.47	11.51	11.49
Other services nominal GVA, % total GVA	3.26	3.64	4.00	4.15	4.05	3.78
Utilities nominal GVA, % total GVA	2.39	2.61	2.80	2.92	2.96	2.93
Trade, accommodation & food service nominal GVA, % total GVA	16.31	16.87	17.63	17.88	17.90	17.74
Transport & communications nominal GVA, % total GVA	7.98	7.93	7.80	7.80	7.84	7.90
Public administration, education and human health nominal GVA, % total GVA	11.53	11.87	12.44	12.96	13.12	13.11

e/f = BMI estimate/forecast. Source: National Statistics Office, BMI

- Financial services have a bright outlook due to the technological intensity of activities in banking and insurance, as well as the fact they will benefit from economic development. We expect spending growth across the region in areas such as mobile payments, banking platforms and applications, cyber security, back-office systems, cloud computing and blockchain. A specific opportunity will be in the provision of mobile-based services, such as payments, credit and account management, due to the fact that Egypt is already a mobile-focused economy rather than PC. The use of credit has traditionally been lower in Egypt than in most of Middle East and North Africa, with only around 10% of the population having a credit card. Nevertheless, the number of cards is growing by 40% annually, according to Santander Bank.
- In the logistics and transport industry, the growth of e-commerce will continue to drive IT investments by retailers, wholesalers and logistics companies, especially in relation to asset tracking sensors, software and platforms. The use of ICT has become a key enabler to achieving quicker and more efficient transport and logistics systems.
- Oil and gas is traditionally a relatively low-IT spending vertical, but the combination of strong growth in Egypt, where the start up of several large domestic gas field developments is expected over the medium term, as well as the increased utilisation of advanced automation technologies create a positive outlook. The advanced automation trend will extend the reach of AI decision systems into the physical world via integration with robotics, drones, sensors, edge computing, 5G ,satellite communications, virtual reality (VR) and AR devices.

IT Industry - Historical Data And Forecasts (Egypt 2022-2027)

Indicator	2022e	2023e	2024f	2025f	2026f	2027f
IT market value, EGPmn	89,286.8	119,712.0	162,865.2	205,524.2	248,571.8	289,076.2
IT market value, % of GDP	1.1	1.2	1.2	1.3	1.3	1.4
Computer hardware sales, EGPmn	14,072.4	17,469.6	21,675.2	25,672.9	28,938.1	32,441.9
Personal computer sales, EGPmn	8,359.2	10,434.4	12,981.4	15,376.5	17,357.0	19,424.2
Software sales, EGPmn	14,090.8	19,315.0	27,048.7	35,325.6	43,644.8	52,131.1
Services sales, EGPmn	61,123.6	82,927.4	114,141.3	144,525.7	175,988.9	204,503.1

f = forecast. Source: BMI

Market Overview

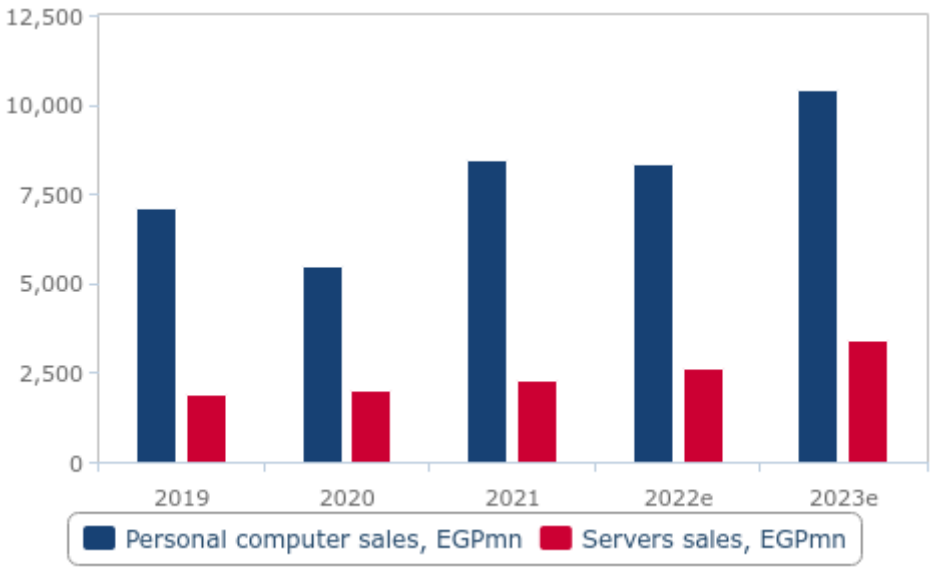
Recent Developments

- Growth trends in Egypt's IT market in 2022 and 2023 were shaped by economic headwinds, with high inflation and local currency depreciation leading to fast growth rates in local currency terms but annual declines in US dollar terms. The IT market grew by 16.0% and 34.1% in local currency terms in 2022 and 2023, equal to annual declines of 5.3% and 16.1% in US dollar terms.
- Underlying the impact of economic factors on headline growth rates, the market continued to develop though investment in the data centre ecosystem, public sector investments in digitisation, the education system and the New Administrative Capital (NAC).

Hardware

The computer hardware market grew in local currency terms in 2023, up by 24.1%, but was down sharply by 22.6% in US dollar terms, because of the impact of inflation and local currency depreciation that reduced purchasing power and generated uncertainty which meant purchases were deferred. This followed another year of weak performance due to economic headwinds in 2022 when there was fall in value of 17.1% y-o-y in US dollar terms, equal to growth of 1.5% in local currency terms. The decline was not as steep in 2022 as for mobile phones because the industry was not additionally facing non-tariff barriers, and there was support from public procurement of tablets for the education system.

IT Hardware Trends
(2019-2023)

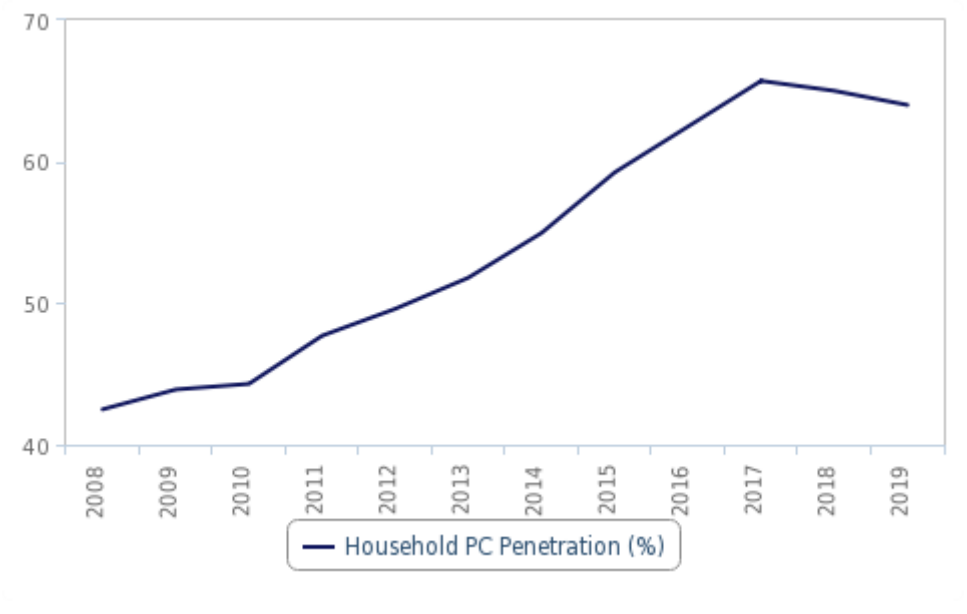


e/f = estimate/forecast. Source: BMI

PCs

- There was volatility in Egypt's personal computer (PC) market during 2020-2023 because of the pandemic and economic trends. There were supply shortages early in the pandemic when scarce global supply was prioritised to lucrative high-income markets. The PC market then accelerated as economic conditions improved and the government accelerated its modernisation of the education system, including the rollout of more online learning materials and tablet procurement. The utilisation of distance learning generated some PC demand, but this effect was less powerful than in markets with higher levels of purchasing power and PC affordability, as well as countries where lockdown was protracted and/or stricter.
- Prior to the pandemic, the level of computer ownership by households in Egypt had reached a plateau. The Central Agency for Public Mobilization and Statistics announced that in 2019/2020 households with a computer was 73.9%, compared to a figure of 55.8% in rural areas. These figures are high relative to most other markets of comparable income levels, in part reflecting the role of educational procurement initiatives in increasing access to computers in Egypt. Unusually for a frontier market, the proportion of adults aged 15-74 using a computer in Egypt was higher in 2019/2020 than smartphones. Meanwhile, in the private sector computer usage was widespread at 84% of all firms in 2019/2020.
- In 2020, the government reached an agreement with Samsung for the company to assemble educational tablets in Egypt. A total of 4.2mn tablets will be procured from Samsung by the government during 2021-2026. In Q1 2021, it was reported that the factory would have annual production capacity of 1mn units and the specification of devices produced would be updated every two years. From September 2022, all tablets distributed in the schools system were produced from the factory in Egypt.

Egypt Household PC Penetration
2008-2019

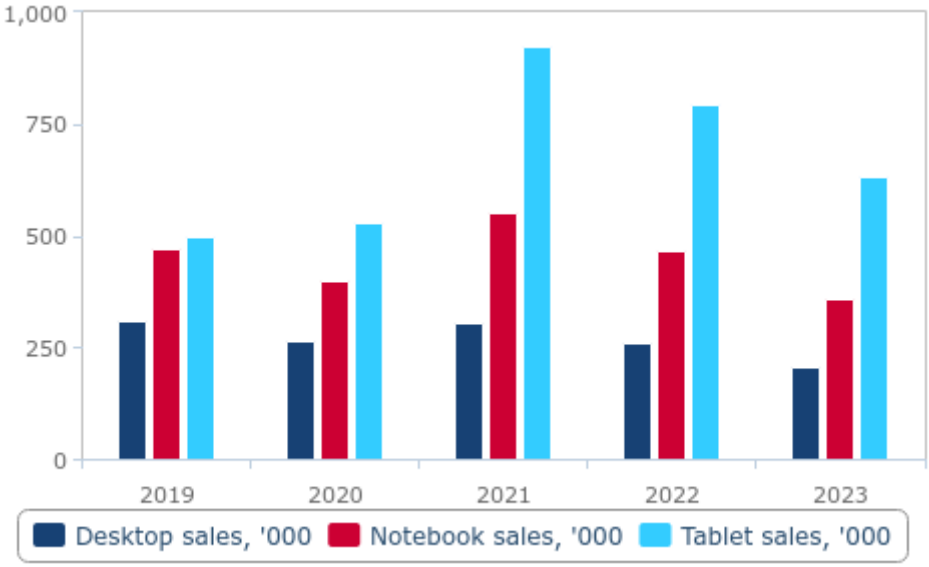


Source: Ministry of Communications and Information Technology, BMI

- The strongest unit growth in the PC market was for Android tablets because of the central role in procurement for the education system, but these were high volume and low-margin sales. Meanwhile, in the enterprise and retail markets, it is still Windows partner vendors that account for a large majority of the installed base and sales, and premium-oriented Apple has a low share of desktop and notebook sales because its range of Mac devices are not affordable for the majority of households. The two leading players in Egypt's PC market are Hewlett-Packard (HP) and Lenovo, ahead of Dell.
- There was also competition from some regional brands, for instance value-focused InnJoo, which has headquarters in Dubai, and another low-end vendor in US brand I-Life Digital (Zed) that manufactures in China and has a strong presence in the Middle East

and South Asia. There is also supply from local assembly and refurbished PC service providers; for instance, Sary (developed by Raya), Centra Technologies, state-owned Banha Electronics and International Electronics.

PC Volume Trends
(2019-2023)



e/f = estimate/forecast. Source: BMI

Printer, Copier And Multifunctional Peripherals

- Underneath volatility caused by economic performance, there was a headwind because of online modes of communication and collaboration. Printer and copier demand is on a permanently lower trajectory because of Egypt being a mobile-first frontier market in which the primary device for most consumers is the smartphone.
- At the product level, the strongest demand was for multifunctional printer/copier/fax machines, rather than single function devices. A modest upside was delivered by the increased informatisation of the public and private sectors that accompanied economic development.

Servers And Storage

- The enterprise infrastructure category includes server and storage solutions, mainframes and other enterprise-focused hardware. Demand is less sensitive to economic headwinds than the PC market, because it is driven by private and public sector investments with longer time horizons.
- The market for data centre-related hardware, such as server and storage solutions, has a positive underlying trajectory because of investment flowing into data centre capacity expansion strategies. This was in part driven by the growth of the data centre industry, as colocation hosting capacity investments boomed as part of preparations for the expected adoption of cloud services and the boom in online content consumption. The ongoing process of digitisation in the private and public sector meant that private data centres are still a key part of the market for enterprise IT infrastructure solutions. In July 2021, Faisal Islamic Bank of Egypt received delivery of a prefabricated data centre, which the vendor DCG Data Center Group claimed to be the first such development in Egypt.
- However, the local market for server and storage solutions was still low-value in per capita terms, reflected by the small and underdeveloped market for servers and storage equipment. The low level of business sophistication and limited budgets meant

a historically small in-house enterprise infrastructure market. There were also differences within the enterprise infrastructure product mix, with strong server and storage solution demand, but with use cases for mainframes being cannibalised by cloud infrastructure.

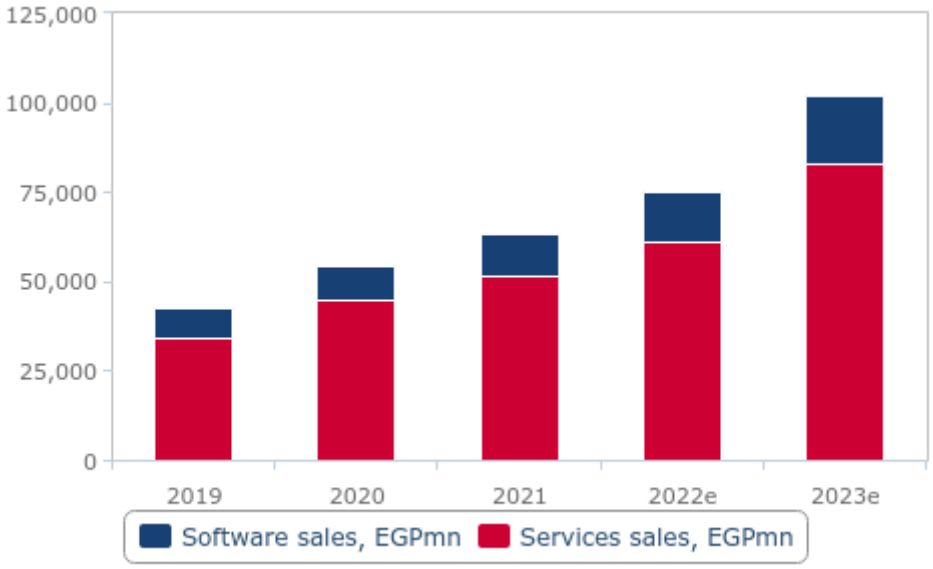
Software And IT Services

Economic headwinds also negatively impacted Egypt's software and IT services market in 2022 and 2023, but performance was stronger than for computer hardware because of more resilient demand conditions for digital solutions in the private and public sector. There were also specific drivers of market growth, such as the development of the NAC that is a source of large IT projects, the Digital Egypt platform for digitised public services that is part of Egypt Vision 2030 and the 2022-2026 digital strategy. These opportunities were also positives for investment in the data centre and cloud market as IT companies positioned themselves for long-term opportunities, even in the face of economic headwinds and uncertainty. The software and IT services market grew strongly in local currency terms in 2022 and 2023 because of inflation, at 19.2% and then 35.9%, but performance was weaker in US dollar terms due to depreciation, with annual contractions of 2.6% and 15.2% respectively in 2022 and 2023.

Software

- Depreciation was a headwind for the packaged software market in 2022 and 2023 by reducing the local currency affordability of imports, which are generally priced in US dollar terms. This raised the price sensitivity of local buyers in a market that was already low-value and in which low labour costs meant incentives for software investment were relatively weak. Another long-term problem is that of piracy, with state capacity for enforcement lacking.
- Accelerated digitisation in the private and public sector caused by the pandemic created a stronger underlying dynamic for software demand. Restrictions on economic and social activity attracted firms to transition because the scalability, flexibility and ease of management of cloud applications.
- Given that Egypt is a frontier market, large firms and central government are the core clients for international software vendors. The small and medium-sized enterprise (SME) market is low-value and the piracy rate is high. The highest value verticals for software vendors are financial services, telecoms, retail and the public sector.
- Global leaders Oracle, SAP and Microsoft are all present in the Egyptian software market, and Oracle has a strong position with the financial services industry. Elsewhere, Software AG is a leader in business process management, and EMC, HPE, International Business Machines (IBM), Veritas and Netapp are prominent players in the backup and data storage and management space.

Software & IT Services Market
(2019-2023)



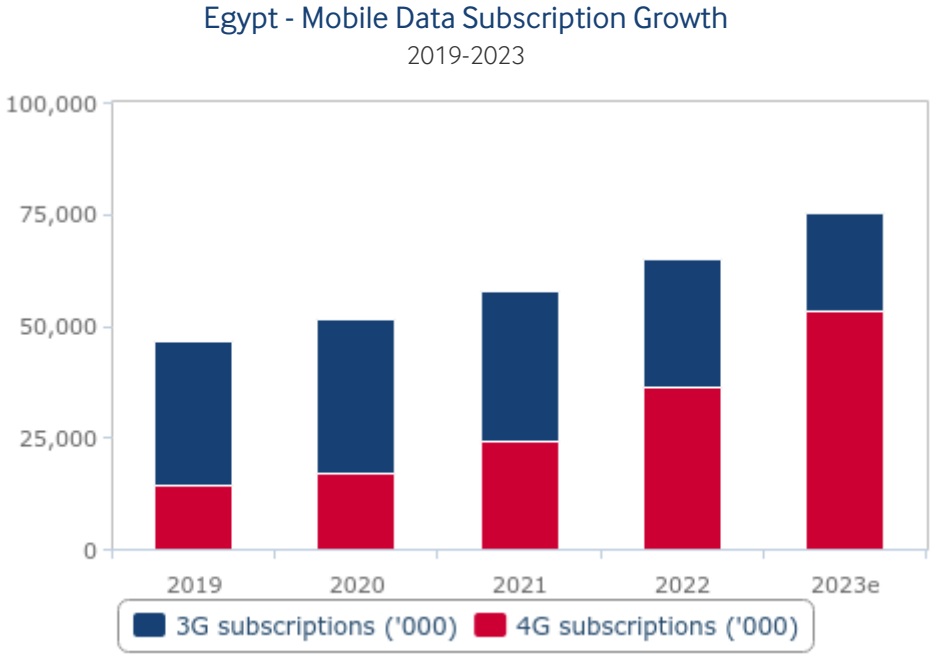
e = estimate. Source: BMI

Consulting, Maintenance And Systems Integration

- The modernisation of the public sector is a key driver of Egypt's IT services market, both through investments in the digitisation of operational processes and in the development of e-government services as part of the Digital Egypt strategy. Digitisation of the private sector was another ongoing process that was positive for IT services demand as an increased share of firms used IT solutions such as email, data exchange, e-commerce/logistics, online payments/banking and video conferencing. In 2022, the government launched the Digital Egypt platform for more than 165 digital government services, while the number of government building connected to optical fibre networks passed 20,000. The 2022-2026 digital strategy was launched in February 2022, which targets 215,000 technical trainees to fill roles in the outsourcing industry.
- There are also specific opportunities around the yet to be officially named NAC, located between Cairo and Suez. There is investment in extensive digital surveillance systems, smart systems for water and waste management as well as integration of e-government into public services. The estimated total budget for the megaproject is USD58bn, with government offices and ministries transferred from July 2023, and a targeted population of 6.0mn.
- The core of the IT services market is based on implementation services for hardware and software solutions, and as the review period progressed there was a greater emphasis on technologies such as cloud and the Internet of Things (IoT), though these trends are in the early stages of development in Egypt. Mobile was a much greater consideration for firms and the government when designing customer facing systems and products because of the important role of smartphone in the daily life of many Egyptians. In terms of verticals, the public sector is a key buyer for advanced solutions, alongside larger firms in higher value verticals such as financial services, manufacturing, ICT and retail where liberalisation and privatisation were important trends.
- The IT services market features a wide range of vendors, but with Egypt's position as an outsourcing hub, a large share of this activity is geared toward export rather than domestic demand. Leading companies include IBM, and systems integrators Raya IT, Giza Systems and Intercom.

Data Processing And Hosting

- Egypt's data hosting and processing market is low-value in per capita terms, though an increasing share of data was being hosted locally because of capacity expansion investments by telecoms operators and colocation companies. The market is growing rapidly because of the strong momentum for digitisation in the public and private sectors, growing consumer demand for online content and the migration to cloud services.
- Egypt's strategic geographic position has attracted investment. In 2022, through a partnership with AMS-IX, Telecom Egypt (TE) began hosting Egypt's first international internet exchange at its Regional Data Hub, a Tier-III facility that was constructed in 2021, and will connect to 18 submarine cables by 2025. The Regional Data Hub was the largest colocation centre in the country when it opened in H1 2021, a tier III facility located west of Cairo.
- This Regional Data Hub is part of TE's EGP17bn investment announced in 2019 featuring plans for four or five new data centres. TE already had six data centres in Cairo and Alexandria, and the investments are in line with its 2018 target of achieving 25% of group revenues from data centres in a five-year timeframe. Meanwhile, in March 2021, it announced plans for the Hybrid African Ring Path submarine cable system that will run around the whole continent, as well as link to gateways in France, Italy and Portugal.
- Gulf companies have been key investors in the data centre industry, and in December 2023 the UAE's Ministry of Investment and Egypt's Ministry of Communications and Information Technology (MCIT) signed an memorandum of understanding (MoU) for up to 1GW of data centre investments in Egypt. In February 2023, Gulf Data Hub (GDH) announced a major investment in Egypt that will total USD2.1bn over the coming five to seven years. GDH has partnered for the venture with Elsewedy Data Centers to build three data centre campuses in Egypt, with each facility to be built to Tier III certification standards. GDH expects total capacity to reach 300MW and be the largest data center complex in Africa. GDH has previously announced smaller data centre facilities to be constructed in Egypt, and has operational and under construction data centres in the UAE, Saudi Arabia, Bahrain, Qatar, Kuwait, Oman, Morocco and Jordan.
- Another company with regional data centre ambitions that include Egypt is Kuwait-based logistics firm Agility. In March 2023, it announced plans for data centre campuses in Saudi Arabia, Kuwait, Egypt (Cairo) and Ghana that will have a total capacity of 160MW. The facility in Cairo will have initial capacity of 25MW, with potential to expand to 45MW. Egypt is expected to play an important role in regional data centre infrastructure because of its position as a bottleneck for global submarine cable networks between Asia and the Mediterranean, and the increase in intra-Middle East cables, such as the first direct connection between Egypt and Saudi Arabia being built by TE and Mobily.
- Most data centre facilities in Egypt are concentrated in and around Cairo, but there is an emerging opportunity in the construction of telecommunication and data centre infrastructure for Egypt's NAC. For instance, as part of the project, TE partnered with Microsoft and Liquid Intelligent Solutions, with the latter committing in December 2018 to invest USD350mn in network infrastructure and USD50mn in data centres in Egypt. Meanwhile, in September 2021 Africa Data Centres said that Egypt was one of the locations it planned to build data centres as part of a USD500mn investments.
- In January 2020, telecoms operator Orange Egypt announced it would construct a data centre - developed in partnership with Huawei - and Orange will then provide managed services and operate a cloud platform in New Cairo for the Administrative Capital for Urban Development, a state-backed company. The five-year contract term was reported locally as having a value of USD135mn. The centre will provide the IT infrastructure for cloud, artificial intelligence and IoT solutions in the new administrative capital outside of Cairo that will host 100,000 employees after the first three years. Orange also already has a data centre operating in Cairo.
- Telecoms operators are large players in the market, where TE claims to have the largest facility in the country offering enterprise IT infrastructure services, while Etisalat also has a data centre in Cairo. The competitive landscape also features specialist providers GPX Global Systems, Raya Data Center, CityNet, ECC Solutions and Link Datacenter.



e = estimate. Source: Operator results, BMI

Cloud Computing

- The cloud computing market is in the first phase of development. It has low levels of adoption and spending per capita, as well as an underdeveloped cloud ecosystem that did not feature locally hosted regions by any of the hyperscale public cloud platforms in 2023 or a deep colocation competitive landscape with data centre operators providing direct connections into global public cloud compute networks. This situation will change in 2024, with Mainland Chinese vendor Huawei expected to launch a cloud region in Egypt in H1 2024. Details of where the region will be hosted have not been announced. In 2019 Huawei signed an MoU with TE to use the latter's data centre facility for services to individuals and SMEs, but not for government services. In March 2020, Orange Egypt inaugurated a new data centre for Orange Business Cloud in Alexandria, in cooperation with Huawei.
- Several factors contribute to the underdeveloped status of the cloud ecosystem, including the relatively high cost of solutions, in part due to the quality of domestic broadband and international connectivity infrastructure. Although Egypt has access to global submarine cable networks as a transit point between Europe and Asia, the high fees charged by TE create an unfavourable cost profile for potential cloud users. The market has also been held back by a general lack of awareness of the potential benefits of cloud migration among enterprise decision makers as well as shortages of skilled local labour for implementing and maintaining cloud projects.
- Albeit from a low base, there was strong growth in cloud spending in Egypt in percentage terms during since 2020. Digitisation and e-commerce trends were accelerated by the pandemic, which triggered investments and forced the private and public sector to adapt their operational models. The urgency of the crisis meant that public cloud infrastructure and applications were the only viable option because of their scalability, flexibility and the ease of management and maintenance versus the on-premises model.
- This supplemented the existing use case for cloud services that was built around cost savings of cloud subscriptions versus the on-premises licensing and maintenance model, especially the lower upfront cost. Another factor was the operational flexibility, for instance the centralisation of maintenance functions with cloud solutions providers, creating the ability to launch new products and services for customers, speed up innovation and create new links with clients.
- The public sector is a driver of cloud market development, with the key policy being the Digital Egypt strategy to digitise public processes and documentation, as well as the broader digital transformation of public administration as part of the relocation to New Cairo. In January 2020, Orange Egypt was selected by the Administrative Capital for Urban Development to build and operate the new city's data centre and cloud computing platform.

- The lack of direct local infrastructure presence from hyperscale public cloud platforms left a gap in the market for cloud services infrastructure that offers local data sovereignty and low latency. Targeting this opportunity, in October 2022, CloudSigma and Whitech partnered to offer infrastructure and platform services from Cairo, offering customers public, hybrid and virtual private cloud options running on HPE hardware and services.
- The hyper-scale cloud provider with the longest-standing presence in Egypt's cloud market is IBM. It developed its position via investments and public sector partnerships. IBM also works with private sector partners in Egypt, most notably platinum partner Intercom. IBM's rivals in Egypt are the global cloud leaders such as Amazon Web Services (AWS), Microsoft, Google and Salesforce, which are present in Egypt via partnership delivery models.
- AWS is available in Egypt through commercial and government reseller and managed service provider Cloudnexa, and Information Dynamics works as a local consulting partner. WeboCloud is a local consultancy and migration partner that works with Google, Salesforce and CRM solutions provider Zoho.
- Microsoft Azure managed services and Dynamics or SAP on Azure partners in Egypt include Accenture, Mirabeau, Dimension Data, HPE and Wharfedale Technologies. Microsoft had a notable success in Egypt in 2017 with the migration of the public broadcaster Egyptian Radio and Television Union to an Azure infrastructure as a service (IaaS) solution. In October 2018, Link Datacenter became the first provider in Egypt to offer Azure Stack Cloud Services through its facilities, increasing the supply of hybrid cloud solutions that will allow verticals with sensitive data requirements, such as financial services or the public sector, to have localised applications and data hosting, but with benefits of public cloud services for other parts of their IT systems. In February 2019, Microsoft announced a collaboration with Telecom Egypt for a point of presence in Egypt that would provide lower latency connectivity and enhance performance and reliability.

Industry Trends And Developments

Key View: *During 2022-2024 there was significant investment into data centres, domestic networks and submarine connectivity. This investment in digital infrastructure was a foundation for the launch of the first hyperscale cloud platform in Egypt in 2024 by Huawei, as well as another important development when the government launched its cloud computing data centre for public ministries. Other areas of the industry with strong growth momentum are ICT electronics assembly and IT services outsourcing. Samsung opened a tablet production line at its campus in Beni Suef in 2022 to meet demand from the local education system, and the government is targeting electronics export growth.*

IT Trade

Hardware

- Egypt's IT hardware deficit narrowed in US dollar terms 2022, with the decline occurring in the computer hardware segment. Economic headwinds in the form of currency depreciation and inflation reduced purchasing power, raised price sensitivity and reduced demand for imports from households. This dynamic affected consumer ready device imports, as well as those assembled locally with imported parts and components.
- The computer hardware device segment trade deficit had reached an all-time high in US dollar terms in 2021 due to demand for notebooks during the Covid-19 pandemic, and more importantly, the large-scale procurement of tablets for the education system produced by Samsung Electronics in Vietnam. In addition to economic headwinds, the contribution of tablet procurement declined in 2022 after Samsung committed to the development of local tablet assembly operations in March 2021.
- The value of electronics component imports increased in US dollar terms in 2022. This was driven by import growth for integrated circuits, but this was still a low value trade flow in 2022 in relative and absolute terms.

Egypt IT Hardware Trade, USDmn (2018-2022)

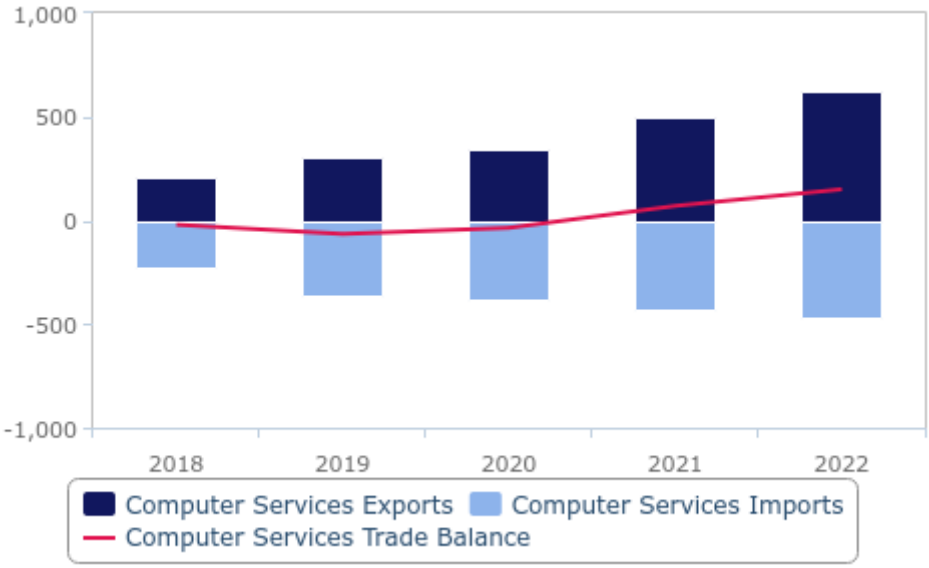
	2018	2019	2020	2021	2022
Trade Balance (USDmn)					
Computer Hardware	-458	-516	-401	-618	-435
Computer Parts	-37	-20	-18	-24	-30
Electronic Components	-633	-338	-112	-186	-271
IT Hardware Total	-1,128	-874	-532	-828	-736
Exports (USDmn)					
Computer Hardware	0	0	8	14	12
Computer Parts	0	1	1	0	1
Electronic Components	8	18	17	19	20
IT Hardware Total	8	18	25	33	33
IT Total As % Of National Goods Exports	*0.0*	*0.1*	*0.1*	*0.1*	*0.1*
Imports (USDmn)					
Computer Hardware	458	516	409	632	447
Computer Parts	37	21	19	25	31
Electronic Components	641	356	130	205	291
IT Hardware Total	1,136	893	558	861	769
IT Total As % Of National Goods Imports	*1.4*	*1.2*	*0.9*	*1.2*	*1.0*

Source: Intracen, BMI

ICT Services

- Computer services import and export value recorded sustained growth throughout the 2018-2022 period, with a growing surplus for computer services trade in 2021 and 2022. For ICT services that includes telecommunications services, Egypt recorded a surplus throughout the review period.
- Egypt also boasts ICT-adjacent services trade flows stemming from the country's large outsourcing industry that includes IT operations, as well as call centre and back office services. The data for ICT services trade excludes licences for software, a category in which Egypt is expected to have a deficit. However, we note that the size of software licence trade will be capped by the high incidence of piracy.

Egypt Computer Services Trade (USDmn)
2018-2022



Source: Intracen

Industry Analysis

- In terms of ICT industry policy, the government has prioritised digitisation of public services and building out the digital infrastructure for taking public services online, which has been a source of opportunity for the local IT industry. The Ministry of Communications and Information Technology reported in 2022 that the combined ICT and electronics manufacturing industry accounted for 5% of Egyptian GDP, compared to 3.5% in 2018. It reported that the ICT sector had the highest growth rate of any sector, achieving digital exports of USD4.9bn.
- Sector policy is coordinated under the ICT 2030 strategy, which includes investment programmes, training initiatives, and public service digital modernisation (government services, education and healthcare) and infrastructure upgrades. Key targets of the ICT 2030 strategy are increased supply of skilled workers, development of electronics design and manufacturing capacity, and the creation of technology parks in Egypt to facilitate sector clustering effects. The government aims to train 100,000 workers in fields such as web design, data analysis and digital marketing.
- In terms of public sector digital investments, most of the high-profile investments are related to the development of the New Administrative Capital (NAC) outside of Cairo, which has required industry investment in telecoms and data centre infrastructure to serve public agencies. Additionally, the Knowledge City within the NAC, costing an estimated EGP12bn, houses research and training centres for technical skills, data design and software development. We also note a broader investment trend for public modernisation that has created opportunities for the ICT sector through the Digital Egypt Project that will connect 32,000 government building across the county to fibre networks.

IT Hardware

- The government opted to procure tablets for the education system from South Korean vendor Samsung, with the devices for the first rounds of procurement produced in Vietnam. A total of 4.2mn tablets will be procured from Samsung by the government during 2021-2026.
- In March 2021, Samsung signed a deal with the ICT ministry to invest USD30mn to create a table production line at its complex in Beni Suef and employ 500 trained workers. In March 2022 Egypt's Minister of Education stated that from September 2022 all tablets distributed in the schools system will be produced from the factory in Egypt. Samsung and the government have stated

that the factory will also produce for export to African and Middle East markets. In February 2024 Samsung officials met with the Egyptian Prime Minister to discuss possible investments, though no details were reported.

- Prior to Samsung's investment, the computer hardware industry in Egypt has been small-scale and informal, with some desktop assembly taking place at single store operations where the main revenue stream is for repair services. Some Egyptian companies such as Centra, Metra and Prosylab assemble desktops locally.

Software And IT Services

- The software and services industry in Egypt recorded strong growth during the review period based on demand for local integration of IT solutions, and Egypt's emerging position as an outsourcing centre. Domestically derived demand has been boosted by public sector initiatives such as the NAC and the rollout of e-government services, as well as technological upgrade in the private sector.
- The development of the outsourcing industry is a strategic objective of the government. In February 2022, the Ministry of Communications and Information Technology (MCIT) launched the digital strategy for 2022-2026. The plan put a strong emphasis on human capital development, with the training budged for FY2021/22 set at EGP1.1bn and the target of 215,000 technical trainees working in the outsourcing sector by 2026. The strategy was developed by the Information Technology Industry Development Agency, and in addition to skills training, has targets for ecosystem development and international promotion of Egypt as an outsourcing location.
- A key investment trend as been capital flowing into the data centre industry, which was related to Egypt's domestic development and its strategic position for submarine cable networks as a pinch point for cables between the Mediterranean sea and Indian Ocean. In March 2021, state-owned Telecom Egypt (TE) announced plans for the Hybrid African Ring Path submarine cable system that will run around the whole continent, as well as link to gateways in France, Italy and Portugal. In June 2024 TE and submarine cable company SubCom announced the completion of two landing stations in Egypt, which will connect to the India-Europe-Xpress subsea system that is expected to go live in 2025.
- TE is the most important player in the industry because of its telecoms network and investment in data centres. Telecom Egypt already had six data centres in Cairo and Alexandria and then in 2019 it announced a EGP17bn investment in four or five new data centres. In 2021 it opened the first phase of the Regional Data Hub (RDH), a tier-III facility connecting to its 10 cable landing stations, with submarine cable connections set to reach 18 by 2025. The RDH was the largest colocation facility in the country at launch. In 2022, through a partnership with AMS-IX, the RDH began hosting Egypt's first international internet exchange, an open access platform for content delivery networks, application providers, cloud companies and telecoms operators.
- Another telecoms operator, Orange Egypt, is an important infrastructure provider for the New Administrative Capital. In January 2020 it announced plans to develop a data centre in partnership with Huawei that will serve the NAC with an initial five-year contract for Orange to provide IT infrastructure for cloud, artificial intelligence (AI) and Internet of Things (IoT) solutions. In April 2024, Egypt launched the government cloud computing data centre, which will be a central data hub for ministry data in Egypt and work in partnership with the New Capital Data Center.
- The upgrade to core infrastructure and international connectivity, as well as the strong momentum and long growth runway for digital solutions in Egypt's private and public sector have attracted investment in colocation facilities by foreign investors. In December 2023 the UAE's Ministry of Investment and Egypt's MCIT signed a memorandum of understanding for up to 1GW of data centre investments in Egypt. In 2023, Gulf Data Hub partnered with Elsewedy Data Centres to commit USD2.1bn over five to seven years to build three data centre campuses in the country that aims to be the largest complex in Africa.
- Kuwaiti logistics firm Agility announced in March 2023 that Egypt was part of its regional investment plan for colocation facilities totaling 160MW, with the Egypt project targeting capacity of 25-45MW. Meanwhile, in May 2023 UAE vendor Khazna Data Centers announced plans to invest USD250mn through a venture with Egyptian company Benya Group to build a data centre in the Maadi Technology Park in Cairo with initial capacity of 25MW that could rise to 50MW within three years. Khazna was created in 2021 through the merger of the data centre businesses of Etisalat and Group 42.
- In April 2024 Huawei became the first hyperscale public cloud platform to launch locally hosted services in Egypt, enabling it to offer services that meet data sovereignty and regulatory requirements in Egypt. The launch of the Huawei Cloud platform in Egypt is a collaboration with telecoms operator Orange, and offers infrastructure as a service (IaaS), platform as a service (PaaS)

and software as a service (SaaS) solutions to local customers. Huawei and Orange had previously collaborated with Orange on the Orange Business Cloud service that launched in Egypt in 2020.

- The outsourcing industry in Egypt began with lower value outsourcing activities such as call centre and back office processing. This leveraged Egypt's competitive advantages of a favourable time zone and the language skills of the local population, access to telecoms infrastructure, a youthful population and lower staff turnover than in the leading outsourcing centres globally. It also has cost advantages, with free float of the currency in late 2016 boosting competitiveness as skilled labour costs declined in global terms. The 2022-2026 strategy targets the development of higher value activities in the IT industry rather than call centre, such as data analysis, embedded software development, integrated circuit (IC) design and AI. The strategy aims to double export revenues for 'digitally enabled offshoring activities' and add 215,000 new jobs in the sector.
- Leading global IT companies have facilities in Egypt, such as Dell Technologies has a Center of Excellence near Cairo, International Business Machines (IBM) has a marketing services center in Cairo that launched in 2019 and was in addition to the Cairo Technology Development Center, Client Innovation Center, Digital Center, Global Process Services Center and two Global Competency Centers for hardware and software respectively. Other IT services companies with delivery centres in Egypt or agreements to invest in 2022 include ATOS, Capgemini and DXC Technology.
- A number of other blue-chip multinationals have also outsourced call centres in Egypt. These include General Motors, Unilever, Procter & Gamble, HSBC, Pepsico, Nestlé, Axxcelera, Mobinil Contact Services and Teleperformance.

Competitive Landscape

Egypt IT Companies

IBM Egypt

- Present in Egypt since 1954, International Business Machines (IBM) operations have only been scaled up considerably since 2000 due to outsourcing. The company has multiple delivery and development centres in the country, including the Cairo Technology Development Center that supports IBM business units and clients globally, especially software consulting services for IBM software in the Middle East; the IBM Client Innovation Center, which was its first Global Delivery Center in the region and provides consulting, application development, maintenance, software testing and embedded software development services globally; Cairo Digital Center that is focused on new solutions and markets in the region such as cloud, software services and Watson; the Global Competence Center that provides remote technical support for Europe and Middle East and Africa (MEA), initially for System X servers and then other hardware and software after System X server line was sold to Lenovo; the Global Competency Center founded in 2011 that provides remote technical support for software clients in North America, Europe and the MEA; and the Global Process Services Center that provides finance, human resources (HR) and mobile outsourcing client support.
- In June 2019, IBM Egypt opened an Innovation and Industry Client Center and a Market Services Center in Cairo that will serve the local market, and act as strategic hubs for the wider region. IBM also moved its Egypt headquarters to the Smart Village in Cairo. Later in June 2019, IBM and the Ministry of Education announced the launch of the first P-TECH education model in Egypt, which was designed and launched by IBM in 2011 as a model for increasing workforce readiness for jobs in the technology sector, and it had been adopted in 14 countries by 2019.
- IBM has several business relationships with telecoms incumbent Telecom Egypt (TE). In February 2021, TE contracted IBM for its hybrid cloud strategy, with IBM Global Services designing, building, maintaining and providing managed services for Telecom Egypt's new data centre that will connect to the global submarine cables landing in Egypt, and be a platform for cloud services provision in the region. In March 2023 TE contracted IBM Cloud Pak for Watson AIOps, a suite of automation solutions for TE's operations support systems on its mobile, fixed and backbone networks.
- In June 2022, IBM won a consulting deal with the Egyptian government to work on the digital reform of the country's tax system using IBM and SAP technology, with modernisation aiming to expand the tax base by reaching the informal economy and making it easier for citizens to deal with the tax authorities. In July 2022, IBM won a deal with the Export Development Bank in Egypt for a digital banking platform based on Red Hat and IBM cloud technology that will reduce bank transfer times. In September 2022, IBM was selected as the technology partner for the UN Climate Change Conference being hosted by the Egyptian government.

Telecom Egypt

- TE is the national operator that is majority owned by the Ministry of Communications and Information Technology (MCIT). In addition to the core business of telecoms services, TE has been expanding its presence in the colocation market, and plays a strategic role in the IT market through its backbone network and cable landing stations. In 2018 TE set the goal of reaching 25% of group revenue from data centre services, and announced an investment strategy totaling EGP17bn to build four or five new data centres, adding to its existing footprint of six data centres in Cairo and Alexandria. In March 2021, it announced plans for the Hybrid African Ring Path submarine cable system that will run around the whole continent, as well as link to gateways in France, Italy and Portugal. In June 2022, Saudi Arabian telecoms company Mobily signed a memorandum of understanding with Telecom Egypt to build a submarine cable connecting the two countries.
- In 2021, TE opened the first phase of the Regional Data Hub (RDH), a tier-III facility connecting to its 10 cable landing stations, with submarine cable connections set to reach 18 by 2025. The RDH was the largest colocation facility in the country at launch. In 2022, through a partnership with AMS-IX, the RDH began hosting Egypt's first international internet exchange, an open access platform for content delivery networks, application providers, cloud companies and telecoms operators.

Orange

- Orange Business Services, a subsidiary of France Telecom, provides communication, IT and managed services to enterprise customers. Beginning operations in 2005, by 2020 it employed more than 1,400 people that work on the provision of IT implementation and fault management services in more than 20 languages. It selected Egypt for its outsourcing location because of geographic and time zone compatibility with Europe, its core market in terms of client location.
- In January 2020, telecoms operator Orange Egypt announced it would construct a data centre and operate a cloud platform in New Cairo for the Administrative Capital for Urban Development, a state-backed company. The five-year contract term was reported locally as having a value of USD135mn. The centre will provide the IT infrastructure for cloud, artificial intelligence (AI) and Internet of Things (IoT) solutions in the New Administrative Capital (NAC) outside of Cairo that will host 100,000 employees after the first three years. In February 2021, Orange Business Services announced its plans to build the data centre at the NAC, and planned cloud services, which began in H1 2021 with services for the government and smart services for the private sector. In March 2020, Orange Egypt inaugurated a new data centre for Orange Business Cloud in Alexandria, in cooperation with Huawei.

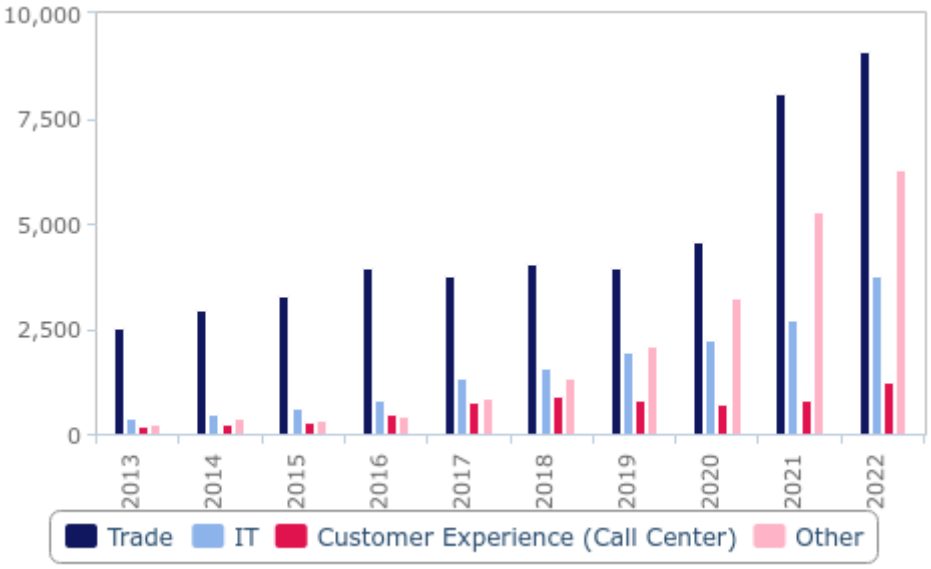
Gulf Data Hub

- Headquartered in the United Arab Emirates, Gulf Data Hub (GDH) has since 2014 been expanding in the Middle East and North Africa (MENA), offering a carrier and cloud vendor neutral data centre services. In 2023, it had five operational data centres with combined capacity of 46MW - and a project pipeline of 15 data centres.
- In February 2023, GDH announced a major investment in Egypt that will total USD2.1bn over five-to-seven years. GDH has partnered with Elsewedy Data Centers to build three data centre campuses in Egypt, with each facility to be built to Tier III certification standards and initial combined capacity of 192MW. GDH expects total capacity to reach 300MW and be the largest data center complex in Africa.

Raya Holdings

- Raya Holdings is an Egyptian conglomerate with a wide range of operations, including consumer electronics distribution and retail, contact centre services, data centre outsourcing, systems integration, international software services, smart buildings and non-banking financial services (e-payments, microfinance, installment services). By 2023 it had a workforce of more than 15,000 - and had invested more than EGP2.6bn across its operations.
- The largest revenue contributor is the Trade division, which includes distribution, retail and maintenance operations. Raya is the largest electronics distributor in Egypt and RayaShop.com is the largest e-commerce website. In 2023, Raya Trade had a dealer network of 8,500 and 100 retail outlets - as well as 16 branded retail outlets and 50 Raya stores - with 60 after sales service centres. In addition to Raya stores, it also operates stores for Samsung, with the South Korea-based vendor accounting for 45% of Raya's total retail sales. Other brands it works with include Microsoft, Lenovo, Sony, Dell, LG, Oppo, vivo and Xiaomi, as well more than 120 franchises and mini-franchises for Etisalat.
- Information Technology, Contact Centre and non-bank financial services are the next largest divisions by revenue. Raya's IT product range includes ATM supply, infrastructure, business solutions and outsourced services - and it is the leading systems integration company in Egypt - as well as having branch offices in Saudi Arabia, the Gulf Cooperation Council states and East Africa. Integration services accounted for 84% of IT division revenue in FY2022. Raya also operates a data centre business that provides co-location, managed hosting, cloud computing and disaster recovery services.
- Non-bank financial services including fintech, e-payment and microfinance are provided under the AMAN brand, with the service recording strong growth in FY22 when net revenue increased EGP1.9bn, up from EGP1.5bn the previous year. AMAN launch the AMAN SuperAPP in 2022 for customers to make and manage transactions, follow orders and provide financial services such as savings and insurance - and by the end of 2022 the app had more than 550,000 users.

Raya Revenue Breakdown (EGPmn)
2013-2022



Source: Raya, BMI

Samsung Electronics Egypt

- In addition to local marketing and sales activities, Samsung Electronics Egypt is one of South Korean company's two production facilities in the MEA region. Samsung has also invested in a local retail network that has 50 stores, including agents, also establishing the largest mobile spare parts warehouse in Egypt. By 2020, Samsung was the fifth largest exporter in Egypt, and the largest in the electronics industry (according to the General Organisation for Export and Import Control) with around 2,000 workers employed .
- In 2012, Samsung established its factory in Beni Suef at a cost of EGP1.7bn (USD280mn), before investing a further USD35mn in August 2014 as part of the second phase of its expansion plan. Egypt and South Africa are its MEA production hubs that utilise economies of scale and tax incentives. Production of TV sets, monitors and personal computers (PC) began at Beni Suef in 2013, with output of 500,000 units. By 2018, the complex had reached full capacity of 6mn devices annually, following a USD270mn investment. Around 15% of production destined for the domestic market and the remainder exported to 60 markets, mostly in the Middle East and North Africa (MENA). In May 2020, Samsung Egypt announced planned investments for the next five years totaling USD84mn, including the the USD23mn opening of a computer screen production line in 2020.
- In March 2022, Egypt's minister of education stated that from September 2022 all tablets distributed in the schools system will be produced from the factory in Egypt. Samsung and the government have stated that the factory will also produce for export to African and Middle East markets. Samsung invested EGP470mn (USD30mn) at its complex in Beni Suef, with the production lines to employ 500 workers and have capacity of 1mn tablets annually. The five-year tender for education tablets will see specifications updated every two years. As part of the tender, Samsung also provides technical support and maintenance from 45 service centres across Egypt. Samsung previously supplied the tablets from its manufacturing facilities in Vietnam as part of the tender for 0.7mn tablets annually for high-school age students, worth EGP2.4bn.
- In June 2023 the government announced that Samsung Electronics was preparing to build a new mobile handset manufacturing facility at its electronics campus in Beni Suef, and in August the government issued the required licence. Samsung begun producing handsets on existing production lines in 2022, but the creation of new production lines for mobile phones will create more than 750 direct and indirect jobs in Egypt, with production expected to begin in H2 2024. The government stated that it expects the investment to serve the domestic market and generate exports to regional markets.

Giza Systems

- Founded in 1974, Giza Systems employed 1,000 IT professionals in 2023 offering systems integration services across the region, with offices in Egypt, Saudi Arabia, the UAE, Qatar, Kenya, Tanzania, Uganda and Nigeria as well as the US. In 2022, Saudi Telecom Company purchased a 44.7% stake in Giza Systems from B Investments Holding through one of its subsidiaries.
- Giza Systems provides technology solutions for asset-intensive industries, offering systems integration, managed services and IT consultancy to clients in the telecoms, oil and gas, utilities, hospitality and real-estate verticals that are in more than 40 countries. In July 2019, Giza Systems won a USD30mn smart water meter project in Saudi Arabia, which is part of the broader Saudi Vision 2030 agenda. Giza will supply and install meters in the north and northwest regions of the country. In August 2022, Giza Systems won a tender to provide smart transportation and traffic management systems in the NAC.

Intercom Enterprises

- Intercom Enterprises is an Egyptian systems integrator that provides services both in the domestic market and the MEA region. It has 200 employees and offers a wide range of hardware and software technology, platform and business solutions to the financial services, public sector, telecoms, oil and gas and defence verticals. It has strategic partnerships with a range of leading global technology companies including Cisco, IBM, VMware, SAP, Symantec, Xerox and Fortinet.

ECC Solutions

- Founded in 2001, ECC is an Egyptian data centre services provider of a range of integrated data outsourcing, hosting, professional services and application management, while also acting as a Cisco, Microsoft, Oracle and IBM partner. Its data centre was built with an investment of USD25mn and houses Hewlett-Packard technology. It has major clients in Egypt, including: the hosting of core banking application and email services for Banque Du Caire, core banking application and back-end application for Egypt Commercial Bank, hosting the MasterCard and Visa Switch for Euronet, and e-government portals.

International Electrical Products

- International Electrical Products (IEP) was founded in 1996 and is based in 6th of October City, a satellite town outside Cairo. IEP is an electronics product manufacturer that is part of Bahgat Group, an Egyptian conglomerate with interests in real estate, hotels and entertainment, appliance manufacture, healthcare services and nano technology. Founded in 1998, IEP subsidiary, Egy Audio, is one of the largest speaker manufacturers in Egypt. Egy Audio produces speakers for TVs, cars, stereos, telephones and toys, with production capacity of 2mn speakers a year. Key customers include General Motors, Nissan, Hyundai, Geely and Suzuki.
- IEP manufactures a range of consumer electronics devices, including televisions and audio equipment, as well as printed circuit boards for the local and international markets. It produces devices for the domestic market under the company's Goldi and New brands, as well as manufacturing for other brands, including Philips, Grunding, Profilo and PEKO. It also provides after-sales services for products at five Goldi service centres across Egypt, as well as operating a network of 70 authorised service centres.
- Baghat Group also founded systems integrator NileSoft in 1997, which provides ICT solutions, including consulting, systems integration, software development and training in Egypt, Europe and the Middle East.

Egabi Solutions

- Egabi is a technology services and solution provider that was originally founded as Banking Systems Development in 1999 and rebranded as Egabi in 2006. The rebranding occurred as fresh investment came in and it led to management reorienting the company for regional expansion. Egabi has since expanded and increased export services to more than 65% of turnover with key markets including Saudi Arabia, Sudan, Algeria, the UAE, Jordan, Tanzania, Palestine and Kenya. Egabi has a range of partnerships and alliances including global vendors such as Oracle, Microsoft, Infosys, EMC and Red Hat.
- Egabi works in a number of areas as a technology services and solutions provider including development services for Microsoft

DotNet and Oracle suites of enterprise software including e-business, business intelligence and content management. It also provides implementation services in enterprise performance management, data warehousing and business intelligence, enterprise resource planning, operational banking solutions and customer relationship management. Other services include software infrastructure, business process management, outsourcing and software testing services.

- Outside its core activities, Egabi has three other subsidiaries. Egabi ELAF provides technology projects across Egypt, the Levant and Africa - working with the public sector, telecoms operators and other areas of the private sector. Egabi FSI provides a suite of financial software solutions, including mobile payment solutions, microfinance services and customer support services. Egabi Gulf is headquartered in the UAE and covers its operations in the UAE, Kuwait, Qatar, Bahrain and Oman.

ITWorx

- ITWorx is an Egyptian software professional services vendor with more than 850 employees globally in 2019. It was founded in Cairo in 1994, which remains its headquarters even as it expanded to other offices in Egypt, in addition to the US, Canada, UK, Switzerland, Kuwait, Saudi Arabia, the UAE and Qatar. According to a study by Endeavor Insights, there are 48 spin-off tech companies that came from ITWorx. In 2017 ITWorx entered a partnership with Ingram Micro Global for the latter to be an official worldwide distributor of ITWorx Hub, the Office 365 digital workplace. ITWorx Hub extends the functionality of Microsoft's cloud office software suite to integrate with other corporate applications.
- Its largest source of customers are the public sector, financial services firms, life sciences, educational institutions, retail, telecoms operators and media companies in North America, Europe and the Middle East. Its largest repeat customers include United Technologies, Microsoft, Vodafone and Mellon Bank. Services provided include the development of e-commerce portals, business intelligence, customer relations management, correspondence tracking systems, enterprise application integration and application development outsourcing. ITWorx has benefited from demand for portals to better connect employees, customers and business partners. It has worked in partnership with leading global IT vendors including Microsoft, IBM, Oracle, Informatica and Intel.

Retailers

Electronics

Hypermarkets and department stores in Egypt offer streamlined ranges of consumer electronics brown and white goods. The country's largest specialist consumer electronics retail chain is B.Tech, a home-grown retailer with a genuine nationwide presence. In January 2022, Saudi Arabia-based retailer United Electronics announced that it is looking to grow its market share in Egypt to 10% over the next five years.

Selected Electronics Retailers

Company	Parent/Ownership	Sub-Sector	Employees	Stores
Appliance	Appliance Egypt	Electronics	500-1,000	9
B.Tech	B.Tech	Electronics	4,200	89
Radio Shack	Delta RS	Electronics	2,000	65
Elaraby	Elaraby Group	Electronics	na	12

na = not available. Source: Company information, BMI

E-commerce And Online Marketplaces

E-commerce still accounts for a small fraction of Egypt's total retail sales. Low bank account and credit card ownership rates, poor computer literacy and insufficient internet penetration rates were among the key factors inhibiting e-commerce growth in the country during the past five years. In 2021 regulation from the Egyptian Tax Authority became stricter, enforcing the charging of VAT for all e-commerce transactions of goods that would be subject to VAT if sold offline. All restaurants and businesses with more than EGP500,000 in annual revenues have to charge and remit the 14% VAT on online delivery services.

In September 2021, the country's leading e-commerce platform Souq.com, was re-branded to Amazon.eg, after Amazon acquired Souq.com in 2017. Amazon announced that it will serve the Egyptian market through more than 15 delivery stations across the country and investments of USD63.5mn (EGP1.0bn). Part of the investment plan included the opening of a new warehouse, which covers 28,000sq m, in 10th of Ramadan City in August 2021.

Selected Online Retailers

Company	Parent/Ownership	Sub-Sector
Jumia	Africa Internet Group	Online, clothing and homeware
Amazon.eg	Amazon.com	Online, clothing and homeware
noon.com	Web Technology Company	Online, clothing and footwear

Source: Company information, BMI

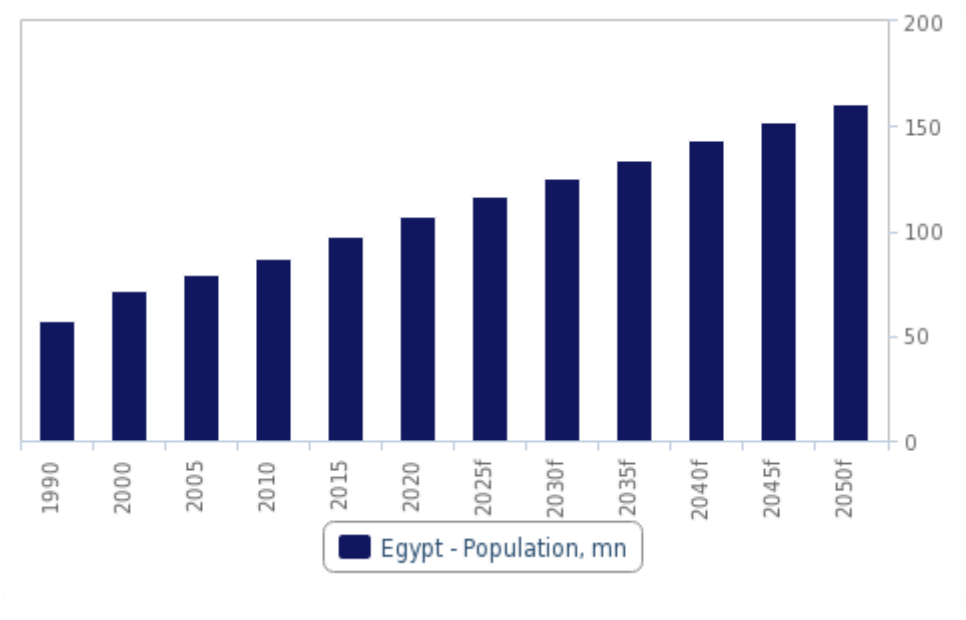
Egypt Demographic Outlook

Demographic analysis is a key pillar of our macroeconomic and industry forecasting model. The total population and demographic profile of a market are key variables in consumer demand and are essential to understanding issues ranging from future population trends to productivity growth and government spending requirements.

The accompanying charts detail the population pyramid for 2022, the change in the structure of the population between 2022 and 2045 and the total population between 1990 and 2045. The tables show indicators from all of these charts, in addition to key metrics such as population ratios, the urban/rural split and life expectancy.

Population

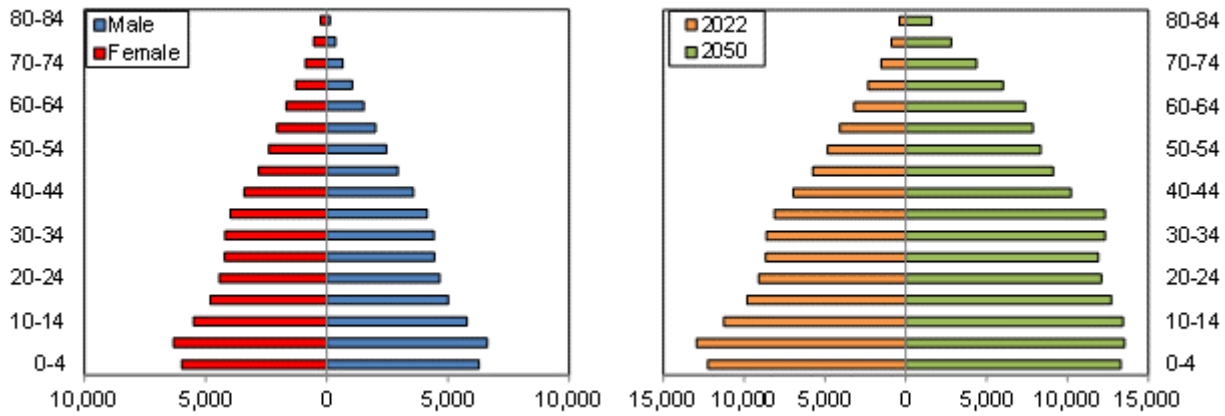
Egypt - Population, mn (1990-2050)



f = BMI forecast. Source: World Bank, UN, BMI

Population Pyramid

Egypt - 2022 Male vs Female Population, '000 (LHC) & 2022 vs 2050 Population, '000 (RHC)



Source: World Bank, UN, BMI

Population Headline Indicators (Egypt 1990-2025)

Indicator	1990	2000	2005	2010	2015	2020	2025f
Population, total, '000	57,214.6	71,371.4	79,075.3	87,252.4	97,723.8	107,465.1	116,275.5
Population, % y-o-y		2.09	2.00	2.05	2.23	1.75	1.56
Population, total, male, '000	28,850.6	36,137.3	40,071.8	44,175.7	49,472.6	54,357.4	58,764.9
Population, total, female, '000	28,364.1	35,234.1	39,003.5	43,076.7	48,251.2	53,107.7	57,510.6

f = BMI forecast. Source: World Bank, UN, BMI

Key Population Ratios (Egypt 1990-2025)

Indicator	1990	2000	2005	2010	2015	2020	2025f
Active population, total, '000	31,251.7	41,746.6	48,413.7	54,599.3	60,743.3	66,715.5	73,093.5
Active population, % of total population	54.6	58.5	61.2	62.6	62.2	62.1	62.9
Dependent population, total, '000	25,963.0	29,624.8	30,661.6	32,653.1	36,980.5	40,749.6	43,181.9
Dependent ratio, % of total working age	83.1	71.0	63.3	59.8	60.9	61.1	59.1
Youth population, total, '000	23,541.0	26,430.3	27,241.6	29,039.1	32,715.9	35,689.4	37,180.8
Youth population, % of total working age	75.3	63.3	56.3	53.2	53.9	53.5	50.9
Pensionable population, '000	2,421.9	3,194.5	3,420.1	3,614.0	4,264.6	5,060.2	6,001.1
Pensionable population, % of total working age	7.7	7.7	7.1	6.6	7.0	7.6	8.2

f = BMI forecast. Source: World Bank, UN, BMI

Urban/Rural Population And Life Expectancy (Egypt 1990-2025)

Indicator	1990	2000	2005	2010	2015	2020	2025f
Urban population, '000	24,875.8	30,544.8	34,023.7	37,535.1	41,811.1	45,976.8	50,514.7
Urban population, % of total	43.5	42.8	43.0	43.0	42.8	42.8	43.4
Rural population, '000	32,338.9	40,826.6	45,051.6	49,717.3	55,912.7	61,488.3	65,760.8
Rural population, % of total	56.5	57.2	57.0	57.0	57.2	57.2	56.6
Life expectancy at birth, male, years	62.2	65.9	66.4	67.1	68.0	68.7	69.9
Life expectancy at birth, female, years	66.0	70.1	71.2	72.3	73.1	73.4	74.9
Life expectancy at birth, average, years	64.1	68.0	68.8	69.7	70.5	71.0	72.4

f = BMI forecast. Source: World Bank, UN, BMI

Population By Age Group, % (Egypt 1990-2025)

Indicator	1990	2000	2005	2010	2015	2020	2025f
Population, 0-4 yrs, total, '000	8,855.1	8,995.9	9,578.7	10,580.8	12,635.0	12,548.7	12,075.0
Population, 5-9 yrs, total, '000	7,902.3	8,735.9	8,944.0	9,532.7	10,555.7	12,598.0	12,520.1
Population, 10-14 yrs, total, '000	6,783.7	8,698.5	8,718.8	8,925.5	9,525.2	10,542.6	12,585.7
Population, 15-19 yrs, total, '000	5,719.0	7,841.3	8,680.2	8,682.8	8,922.0	9,498.9	10,519.9
Population, 20-24 yrs, total, '000	5,083.0	6,706.5	7,832.3	8,620.1	8,703.0	8,873.5	9,458.3
Population, 25-29 yrs, total, '000	4,478.6	5,622.1	6,694.8	7,760.1	8,644.0	8,642.6	8,823.9
Population, 30-34 yrs, total, '000	3,806.8	4,972.6	5,601.9	6,622.1	7,766.4	8,581.6	8,589.9
Population, 35-39 yrs, total, '000	3,141.0	4,360.5	4,938.4	5,530.7	6,603.0	7,699.7	8,518.7
Population, 40-44 yrs, total, '000	2,651.3	3,681.1	4,306.5	4,859.8	5,486.8	6,523.9	7,618.5
Population, 45-49 yrs, total, '000	1,829.7	3,005.3	3,608.5	4,211.1	4,787.5	5,392.3	6,418.0
Population, 50-54 yrs, total, '000	1,646.3	2,481.6	2,891.5	3,465.8	4,073.5	4,636.8	5,223.8
Population, 55-59 yrs, total, '000	1,590.1	1,656.6	2,338.9	2,715.5	3,276.1	3,861.5	4,393.6
Population, 60-64 yrs, total, '000	1,306.1	1,419.0	1,520.6	2,131.2	2,481.0	3,004.7	3,529.0
Population, 65-69 yrs, total, '000	996.1	1,270.1	1,240.1	1,325.3	1,849.8	2,154.7	2,587.6
Population, 70-74 yrs, total, '000	695.1	922.4	1,035.8	1,005.2	1,079.1	1,493.1	1,714.8
Population, 75-79 yrs, total, '000	422.0	574.3	654.4	734.4	712.7	771.1	1,038.8
Population, 80-84 yrs, total, '000	210.8	288.8	331.8	373.7	424.9	412.7	441.7
Population, 85-89 yrs, total, '000	77.1	108.1	123.4	138.2	156.4	181.2	166.7
Population, 90-94 yrs, total, '000	18.4	26.8	30.0	32.6	36.6	41.8	45.2
Population, 95-99 yrs, total, '000	2.4	3.8	4.3	4.3	4.8	5.3	5.9
Population, 100+ yrs, total, '000	0.1	0.2	0.3	0.3	0.3	0.3	0.4

f = BMI forecast. Source: World Bank, UN,BMI

Population By Age Group, % (Egypt 1990-2025)

Indicator	1990	2000	2005	2010	2015	2020	2025f
Population, 0-4 yrs, % total	15.48	12.60	12.11	12.13	12.93	11.68	10.38
Population, 5-9 yrs, % total	13.81	12.24	11.31	10.93	10.80	11.72	10.77
Population, 10-14 yrs, % total	11.86	12.19	11.03	10.23	9.75	9.81	10.82
Population, 15-19 yrs, % total	10.00	10.99	10.98	9.95	9.13	8.84	9.05
Population, 20-24 yrs, % total	8.88	9.40	9.90	9.88	8.91	8.26	8.13
Population, 25-29 yrs, % total	7.83	7.88	8.47	8.89	8.85	8.04	7.59
Population, 30-34 yrs, % total	6.65	6.97	7.08	7.59	7.95	7.99	7.39
Population, 35-39 yrs, % total	5.49	6.11	6.25	6.34	6.76	7.16	7.33
Population, 40-44 yrs, % total	4.63	5.16	5.45	5.57	5.61	6.07	6.55
Population, 45-49 yrs, % total	3.20	4.21	4.56	4.83	4.90	5.02	5.52
Population, 50-54 yrs, % total	2.88	3.48	3.66	3.97	4.17	4.31	4.49
Population, 55-59 yrs, % total	2.78	2.32	2.96	3.11	3.35	3.59	3.78
Population, 60-64 yrs, % total	2.28	1.99	1.92	2.44	2.54	2.80	3.04
Population, 65-69 yrs, % total	1.74	1.78	1.57	1.52	1.89	2.01	2.23
Population, 70-74 yrs, % total	1.21	1.29	1.31	1.15	1.10	1.39	1.47
Population, 75-79 yrs, % total	0.74	0.80	0.83	0.84	0.73	0.72	0.89
Population, 80-84 yrs, % total	0.37	0.40	0.42	0.43	0.43	0.38	0.38
Population, 85-89 yrs, % total	0.13	0.15	0.16	0.16	0.16	0.17	0.14
Population, 90-94 yrs, % total	0.03	0.04	0.04	0.04	0.04	0.04	0.04
Population, 95-99 yrs, % total	0.00	0.01	0.01	0.00	0.00	0.00	0.01
Population, 100+ yrs, % total	0.00	0.00	0.00	0.00	0.00	0.00	0.00

f = BMI forecast. Source: World Bank, UN, BMI

Information Technology Methodology

Connected Thinking

BMI employs a unique methodology known as 'Connected Thinking'. This means that our analysis captures the inter-relatedness of the global economy, and takes into account all of the relevant political, macroeconomic, financial market and industry factors that underpin a forecast and view. We then integrate them so as to explain how they interact and affect each other. Our Connected Thinking approach provides our customers with unique and valuable insight on all relevant macroeconomic, political and industry risk factors that will impact their operations and revenue-generating potential in the industry/industries within which they operate.

We use a transparent forecasting model as a base for our industry forecasts, but rely heavily on our analysts' expert judgement to ensure our forecasts capture all of the insights we derive using our unique Connected Thinking approach. We believe analyst expertise and judgement are the best ways to provide the most accurate, up-to-date and comprehensive insight to our customers.

Information Technology Methodology

A number of criteria drive our forecasts for each Information Technology (IT) variable.

IT forecasting is complicated due to the fragmented nature of the market, with little transparency of vendor data and low apparent agreement between many sets of figures in terms of market definition, base and methodology. In addition, forecasts are affected by consideration of a variety of internal and external political and economic factors.

Within best-practice techniques of time-series modelling, our quarterly updated forecasts are improved substantially by intimate knowledge of the prevailing features of each local market.

30 North Colonnade, Canary Wharf, London, E14 5GN, UK

Tel: +44 (0)20 7248 0468

Fax: +44 (0)20 7248 0467

Web: www.fitchsolutions.com/bmi

ISSN: 1750-5038

Copy Deadline: June 2024