Developments and trends of the IT industry in the Gulf Cooperation Council (GCC) Countries

Mohammed Benmoussa *

MQEMADD Laboratory, Ziane Achour University of Djelfa Algeria

m.benmoussa@univ-djelfa.dz

Received: 03/02/2023 Accepted: 18/02/2023 Published: 07/06/2023

Abstract:

Economic diversification has become an urgent issue in the Arab Gulf states. Most GCC countries want to create high-tech knowledge economies, but that requires skills and research centers that are still not widely available. The GCC may be able to build a competitive technology ecosystem by importing talent from other Arab and Asian countries. GCC countries in the Middle East are turning to IT spending as governments, large organizations, and small and medium enterprises (SMEs), as well as start-ups across all industries in the region, have recognized the need to shift towards investing in the IT industry sector

Keywords: Developments; Trends; IT industry; Gulf Cooperation Council.

Jel Classification Codes: L86; O1.

* Corresponding author.

1. Introduction:

The technology industry is developing rapidly every day, presenting innovations and revolutionary projects that permanently paint pictures of the future. There are scientists, engineers, and brilliant minds everywhere seeking to build the next piece of future technology that will change our lives.

In the twenty-first century, technology may be an integral part of the field of work, so it is considered critical as it works to (a) make work more efficient; technology allows the workplace to be more efficient and productive, which in turn can make life easier, as many tedious tasks are simplified. (b) Ensure computational accuracy: The work environment must have correct numbers, which is what technology guarantees you, as it guarantees spreadsheets with computational accuracy. (c) It makes a person a good competitor; technology can push any entity in the business forward, and programmed digital marketing helps promote any activity, which helps target the right customers. (d) Communicate more effectively; Technology allows us to communicate well and effectively, as it is possible to send an instant message to any party easily.

Throughout history, the Gulf GCC countries have always imported more technology than they created. However, the new economic models these countries aspire to require a radical reshaping of state-market relations to encourage entrepreneurship and highly specialized entrepreneurship in very costly fields.

Through this article, we will try to answer the following question:

What are the most important features of the trends and developments of the information technology industry in the countries of the Gulf Cooperation Council (UAE, Oman, Qatar, Saudi Arabia, Bahrain, and Kuwait)?

2. IT industry:

The term technology sector has been broadened many times to include businesses that a more specific category may better serve. The technology sector was initially anchored in semiconductors, computing hardware, and communications equipment. In addition, growth also includes jobs. According to the U.S. Bureau of Labor Statistics, computer and information technology jobs will grow 13% between 2020 and 2030. The addition of software companies expanded the perceived tech sector to include anything based on coding. Soon, more room had to be made for internet companies, which flooded during the Internet boom. Some of these internet companies were media and content companies that used code as the medium. Still, others were off launching rich features that grew to be e-commerce, social media, the sharing economy, and even cloud-based computing. The technology sector now includes such a diverse set of companies that the subsectors are far more useful than the overall one. Unsurprisingly, there is no universal agreement—some pundits want a whole new sector for each innovation—but the big buckets include semiconductors, software, networking and Internet,

and hardware (Technology Sector: Definition, 4 Major Sectors, Investing in Tech, 2022).

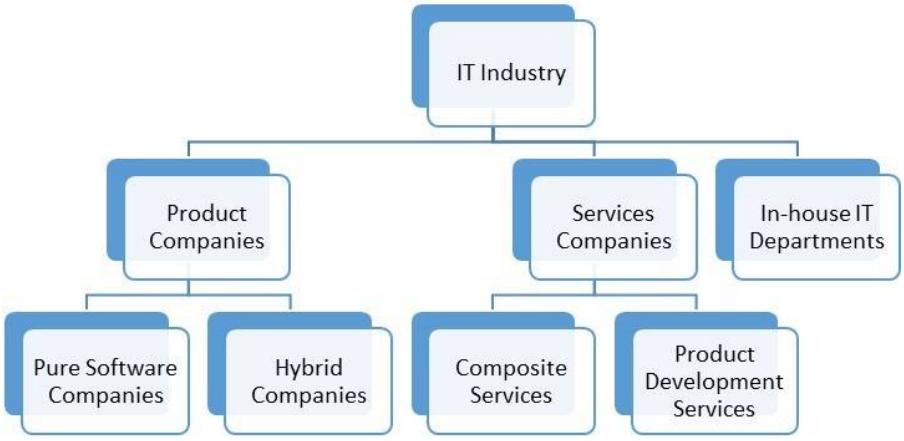
From there, all the subsectors can be further broken down. For example, hardware breaks into wearables, peripherals, laptops, desktops, etc. People may argue that it doesn't make sense to call a cloud computing company a software company, but the arbitrary separations are a bit more manageable than the massive label of "tech sector" for every company

The IT industry is a broad, sweeping term that covers many information technology-oriented organizations. If you think about it, no organization (corporate, government, or non-profit) can survive without IT. Therefore, when we speak about the IT industry, we include all organizations or departments within organizations which develop, maintain or operate Information Technology systems (The Information Technology Industry, n.d.).

Broadly, we can come up with the following segments for IT organizations. Many organizations will be in multiple segments: (The Information Technology Industry, n.d.)

- Product Companies: These companies work on products meant to serve a specific use for a customer. There could be pure software product companies (e.g., Adobe Systems or Computer Associates) or hybrid product companies which have both software and hardware – often bundled together but sometimes sold independently too (e.g., Google, Microsoft, Apple, etc.). Also included in this classification are the hundreds of thousands of small start-up companies looking to make their idea the next big idea.
- Services Organizations: These organizations provide IT services to their customers. Some specialize in providing services only to product companies. In contrast, others provide a wide range of services, from network maintenance, business process outsourcing, system support, and bespoke application development.
- In-house IT Departments: The IT function of some of the largest organizations may be bigger than many standalone IT companies. This function typically functions like a cost center that provides IT services for the core business. For example, the IRCTC, which serves the Indian railways, builds and supports some of the most complex systems in the world.

Figure (1): Segments of IT organizations



Source: (The Information Technology Industry, n.d.)

3. IT Industry Trends and Developments in UAE

The UAE is not home to a large IT industry, largely because of a lack of competitiveness for tradeable products and solutions. This means the only local production operations are where a local presence is required, such as IT services. However, it is a significant regional re-export hub for IT hardware products. With the pandemic shocks subsiding from H221, we note that recovering demand across the Gulf Cooperation Council will drive the UAE's re-export prospects (United Arab Emirates Information Technology Report - Q4 2022, 2022).

3.1. IT Hardware Trade

The UAE has traditionally been the main hub for re-exporting IT hardware produced in East Asia out across the markets of the Middle East. The embargo against Qatar in 2017 also distorted some of the trade data and may account for a percentage of the volatility seen over the H217-H118 trade statistics. Most recent trade data also suggest that the UAE continued to solidify its status as a premier retail hub across the Middle East and North Africa (MENA) region, with a high number of foreign regional visitors flocking to purchase the latest tech devices at extremely competitive prices to take back to their home markets. The steady widening of the IT trade deficit over 2016-2017 suggests that demand for servers, specialist PCs, and enterprise requirements related to the new service sector verticals has been trending upwards. The IT trade balance narrowed over 2018-2020 as the consumer market matured. Still, the underlying trend was driven by a surge in server imports, specialist IT equipment for the enterprise sector, and commercial demand related to economic diversification. The Covid-19 shocks weighed on certain categories in 2020, resulting in a greater deficit narrowing. We highlight that server import surged from USD448mn in 2016 to over USD1.35bn in 2018 and USD1.25bn in 2020 as major cloud vendors and big data firms expanded their presence across the UAE. Notebook imports were also steadily trending upwards, jumping from USD1.4bn in 2016 to over USD4bn in 2017 and USD3.2bn in both 2018 and

2019 alike. Notebook imports again surged in 2020 to over USD 4.1 bn as Gulf Cooperation Council's wider enterprise investments into work-from-home drive demand (United Arab Emirates Information Technology Report - Q4 2022, 2022).

Table (1): UAE - IT Hardware Trade, USDmn (2016-2020)

	2016	2017	2018	2019	2020
Trade Balance (USDmn)					
IT Hardware	-1,563	-3,567	-1,875.1	-1,429.1	-1,353
Computer Parts	-33	-177	73.3	65.9	134
Electronic Components	-372	-633	-530	-487.2	-288
Total	-1,968	-4,378	-2,331.5	-1,850.3	-1,507
Exports (USDmn)					
IT Hardware	1,105	3,961	4,854	4,952	5,951
Computer Parts	273	511	452	444.3	523
Electronic Components	118	573	598	584.1	539
Total	1,496	5,046	5,904	5,98	7,013
As % Of National Exports	*0.5*	*1.6*	*2.0*	*1.9*	*2.1*
Imports (USDmn)					
IT Hardware	2,668	7,529	6,729.3	6,381	7,304
Computer Parts	306	688	378.6	378	389
Electronic Components	490	1,207	1,128	1,071	827
Total	3,464	9,423	8,235.8	7,830	8,520
As % Of National imports	*1.3*	*3.5*	*3.1*	*2.9*	*3.5*

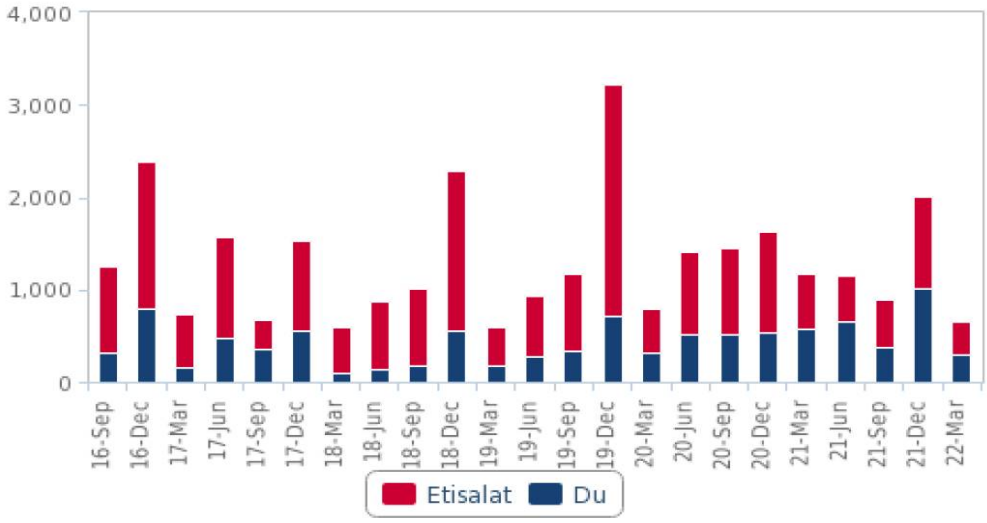
Source: (United Arab Emirates Information Technology Report - Q4 2022, 2022)

3.2. Telecommunications Sector Investments to Drive ICT Services

The UAE benefits from a tech-savvy population with a strong disposable income base and a desire for the latest IT-related gadgets. To this end, the mobile network operators in the country have been actively investing in developing their commercial 5G platforms. Both Etisalat and du announced in 2019 that they would significantly increase their capital expenditure levels for 2019-2021 to commercialize 5G services (United Arab Emirates Information Technology Report - Q4 2022, 2022).

Figure (2): Mobile Operator Investments to Support Tech Adoption

UAE -Mobile Operator CapEx, AEDmn (2016-2022)



Source: (United Arab Emirates Information Technology Report - Q4 2022, 2022)

Etisalat has been working with both Huawei and Ericsson to develop its 5G service, and the operator outlined an ambitious strategy to deploy over 600 active 5G base stations by 2020/2021. Competitor du had also worked with Huawei and Nokia to have over 700 base stations by the end of 2019, with more coming online over 2020-2021. With 5G mobile handsets having debuted in H219, we expect the UAE market to be at the forefront of the latest tech trends in the MENA region, given the robust consumer and enterprise demand levels and investment potential. Telecommunications' related spending was largely unaffected by the Covid-19 pandemic as consumer data usage trends surged owing to social distancing and business closures (United Arab Emirates Information Technology Report - Q4 2022, 2022).

4. IT Industry Trends and Developments in Oman

The government continues to champion e-governance and IT-related digitization across the various ministries. The IT market is evolving from a hardware focus to more specialized software and services requirements. IT hardware import levels greatly boosted over 2017-2020 as robust demand from the enterprise and public sector aligned with Vision 2040 resulted in new purchases. The outlook will remain supported over the coming years due to ICT demand linked to the country's strong infrastructure investments and service sector economic vertical expansion (Oman Information Technology Report 2022, 2022).

4.1. IT Hardware Trade

Oman's IT market relies on importing finished computer hardware devices ready for customers. Like the rest of the Gulf States, it does not have any significant quantity of domestic IT hardware manufacturing or assembly operations. The absence of significant domestic operations determines the composition of trade flows weighted towards finished devices compared to major production centers with only a low value of computer

parts imports that serve as inputs for the domestic repair industry. The market is primarily served by products made in China and Vietnam re-exported from the UAE, where most vendors and logistics firms operate their regional distribution hubs. The IT hardware trade deficit widened considerably over 2016-2020 as an enterprise, and public sector requirements grew robustly. We also note that there was steady growth in parts and components as the domestic assembly of desktops increased. IT trade deficit was recorded at USD769mn in 2020, up from USD572mn in 2019 and below the 2016-2018 average of USD200mn. Server and enterprise requirements were the greatest drivers behind the import surge over 2019-2020. The import of servers also grew from USD41mn in 2016 to over USD93mn in 2019 and USD65mn in 2020, driven by strong data center investments. The most recent trade trends suggest that the economic diversification efforts related to the Vision 2040 agenda continue to drive IT hardware demand. While the consumer and household sector is largely saturated and driven by replacement sales, the commercial requirements keep driving fresh impetus. The surge in electronics components imports over the review period suggests that semiconductors usage has been growing heavily, a trend reflective of stronger domestic assembly of IT hardware (Oman Information Technology Report 2022, 2022).

Table (2): Oman IT Hardware Trade, USDmn (2016-2020)

Trade Balance (USDmn):					
	2016	**2017**	**2018**	**2019**	**2020**
IT Hardware	-119	-153	-197	-329	-365
Computer Parts	-36	-22	-21	-84	-171
Electronic Components	-13	-12	-17	-159	-233
Total	-168	-187	-235	-572	-769
Exports (USDmn):					
	2016	**2017**	**2018**	**2019**	**2020**
IT Hardware	0	26	38	1	3
Computer Parts	0	2	2	0	0
Electronic	1	3	6	1	1
Components					
Total	1	31	46	2	3
As % Of National Exports	0.0	0.1	0.1	0.0	0.0
Imports (USDmn):					
	2016	**2017**	**2018**	**2019**	**2020**
IT Hardware	119	179	235	330	368
Computer Parts	36	23	23	84	171
Electronic Components	14	15	23	160	234
Total	170	218	281	574	773
As % Of National imports	0.7	0.8	1.1	1.8	2.7

Source: (Oman Information Technology Report 2022, 2022)

4.2. Economic Diversification and Technological Opportunities over Medium Term

Oman faced significant pressures, much like the rest of the GCC countries, in 2014 due to the global oil price collapse. Similar to its peers, the country undertook an extensive economic diversification agenda. The 9th Five Year Development Plan (2016-2020) was specifically pivoted around developing new revenue streams and diversifying the national economy from heavy reliance upon hydrocarbons. Manufacturing, tourism, logistics, mining, and fisheries have been specifically earmarked as pillars of the new strategy. We highlight that the strong investments in tourism, construction, infrastructure, and capital development will provide opportunities for enterprise-level devices pending across all categories. Oman will outperform the Middle East and North Africa region in infrastructure growth, as freight, logistics, and non-residential building construction will dominate the agenda until 2026. Strong deficit spending and public-private partnerships in line with the long-term Vision 2040 will support many investments in the nation's bid to diversify its economic verticals. The four Special Economic Zones in Duqm, Sohar, Salalah, and Al-Mazunah will provide steady opportunities for IT equipment, AV, and communication devices. We highlight that these zones have merged as significant industrial and commercial activity clusters and will continue to be instrumental in attracting private investment inflows, supporting our positive growth outlook for enterprise-level device spending. The tourism sector in the country is poised for robust growth and has been the beneficiary of heavy government and private sector spending. As part of Vision 2040, the government has stated that it will encourage public-private tourism sector investments of up to USD50bn over the long term. Several major international and regional hotel chains and construction companies have outlined numerous hotel and integrated tourism complex (ITC) projects across the nation to meet the growing demand. Our projections indicate that the number of hotels in the country will jump from around 380 in 2019 to well over 440 by the end of end-2026. We note that enterprise and commercial demand for IT solutions will be bolstered by the modern hotels and ITCs slated to open over the next five years. The 2020 outlook was negatively revised due to the Covid-19 pandemic as the construction and infrastructure pipeline faced financing challenges, postponements, and delays (Oman Information Technology Report 2022, 2022).

5. IT Industry Trends and Developments in Qatar

5.1. IT Trade

The bulk of IT hardware trade flows in Qatar are for computer hardware (finished devices such as PCs, printers, monitors, and servers). The absence of local industry means finished devices serve the market, and the import value of components and parts is low because they are only required for the repair industry. This also means Qatar has virtually no exports of IT hardware, while imports are relatively high as a share of national goods trade flows, at over 1.6%. The IT hardware trade deficit increased steadily over 2017-2021 as the Qatari economy expanded and modernized. The data show that Qatar's consumer electronics market was less affected

by the lower oil price than other Gulf Cooperation Council (GCC) markets, as the IT hardware deficit reached a high of USD 642mn in 2015 before trending lower as one-off investments were completed. The trade data for the 2017-2021 period show a decline in imports of computer hardware, coinciding with a low in the oil price, as well as weaker demand for mobile PC form factors (notebooks and tablets) as the boom cooled with saturation and a negative impact from smartphone cannibalization of low-end PC use cases.

Furthermore, the Saudi-driven blockade of Qatar further exacerbated the trade volumes in that year. The Qatari IT trade balance again widened to USD489mn at the end of 2019, the highest since 2016, due to strong government and private sector investments and greater demand for servers, PCs, and hardware. However, based on Intracen sources, we calculate the trade balance declining by 10.6% in 2020 to USD437mn as the Covid-19 shocks weighed on certain hardware categories such as printers, servers, and peripheral hardware. However, above-trend growth resulted in a nearly 20.5% widening of the trade deficit in 2021 on the back of soaring IT hardware demand in H221 linked to post-Covid recovery. At the product level, there was an uptick in server imports, a trend related to increased investment in data centers in Qatar, including by telecom operators. However, mobile PCs (notebooks and tablets) remain the largest component of IT hardware imports prospects (Qatar Information Technology Report - Q4 2022, 2022).

Table (3): QATAR IT Hardware Trade, USDmn (2017-2021)

Trade Balance (USDmn):					
	2017	**2018**	**2019**	**2020**	**2021**
IT Hardware	-389.9	-427.8	-430.6	-369	-307.9
Computer Parts	-19.2	-18.9	-29.2	-24.7	-19
Electronic Components	-26.7	-27.9	-28.9	-42.9	-199.2
Total	-435.8	-474.7	-488.8	-436.6	-526.1
Exports (USDmn):					
	2017	**2018**	**2019**	**2020**	**2021**
IT Hardware	5	7	16	10	2
Computer Parts	0	0	0	0	2
Trade Balance (USDmn):					
Electronic Components	1	0	0	1	4
Total	5	8	17	11	9
As % Of National Exports	0.0	0.0	0.0	0.0	0.0
Imports (USDmn):					
	2017	**2018**	**2019**	**2020**	**2021**
IT Hardware	395	435	447	379	310
Computer Parts	19	19	29	25	21
Electronic Components	27	28	29	44	203
Total	441	482	505	448	535
As % Of National imports	1.5	1.5	1.7	1.7	2.1

Source: prospects (Qatar Information Technology Report - Q4 2022, 2022).

5.2. Economic Diversification and Investments

Since the initial collapse of global oil prices in 2014, Qatar has taken active steps toward diversifying its economy away from heavy hydrocarbon reliance by investing in developing new service-oriented economic verticals. We highlight that the Qatar National Vision 2030 is based on four pillars, and the first one, the most crucial, is economic development. Numerous large-scale social infrastructure projects are underway in preparation for the FIFA 2022 World Cup, supported by significant investment in expanding the country's road and rail network. The government has also committed to improving greater health and education services and is keen to develop the tourism market, creating a wide range of opportunities in the construction sector. Investor confidence levels remain high, and public spending capacity is expansive, making this one of the most attractive markets in the region. Qatar has one of the most dynamic MENA region hotel pipelines, with massive multibillion-dollar projects ready to come online over the 2022-2026 period, especially in time for the FIFA 2022 World Cup. These developments align with the Vision 2030 plan, and tourism has been specifically earmarked as a crucial sector in the government's economic diversification bid. As a result, we expect retail sales outlet malls (targeted towards tourists) and tourism-related accommodations and non-accommodations venues to steadily increase to Q422 and beyond. These factors will continue to support the uptake of PCs, computer hardware, and AV devices at many hotels, tourist attractions, and outlet malls. They will all require modernized ICT-related furnishing. Negative trends impacting the market will include the completion of the FIFA 2022-related infrastructure and hotel pipeline and the cooling down of the construction industry by 2022/2023. The Covid-19 shocks present a severe short-term challenge to the massive infrastructure and government investment profile. The funding pressures faced by the government and private sector will potentially delay project completion deadlines as hotels, retail spaces, and other outlets are postponed prospects (Qatar Information Technology Report - Q4 2022, 2022).

6. IT Industry Trends and Developments in Saudi Arabia

Imports of IT hardware recovered steadily over the 2017-2019 period, driven by recovering oil prices, steady investments into new service sector verticals, and the ongoing headline Vision 2030 economic diversification agenda. There is no large-scale IT hardware industry in Saudi Arabia. Still, the software and services industry has seen healthy growth in the last few years as the government has worked towards reorientating from hydrocarbons. IT trade was supported in 2020 due to pandemic-related work-from-home investments, and sales were strong in 2021. Over the coming years, we expect the Vision 2030 agenda to drive investments into artificial intelligence, big data, new service verticals, and the budding entertainment industry as headline fundamentals improve (Saudi Arabia Information Technology Report - Q4 2022, 2022).

6.1. IT Trade

Saudi Arabia has always run a deficit in the IT hardware trade. The market is served almost exclusively via imported computer hardware devices because there are no large-scale manufacturing operations, meaning a low value of the component and parts imports. There was a widening trade deficit for computer hardware devices over 2017-2021. The trade deficit grew from USD1.7bn in 2017 to USD2.7bn in 2020 and USD2.8bn in 2021. IT hardware imports were supported by notebooks and servers. Government and enterprise spending and strong Capex were behind healthy market trade growth. The robust growth in electronic components and computer parts over 2017-2021 highlights that local PC assembly operations continue to trend upwards.

Similarly, over the same period, server imports jumped from USD271mn in 2017 to over USD601mn in 2021 as investments into data centers and cloud technology surged. Most computer devices imported to Saudi Arabia come from Mainland China, at more than half of all imports throughout 2017-2021. A notable trend was the rapid growth in imports from Vietnam. However, the trend for IT hardware was much less pronounced than the wider consumer electronics industry, where Vietnam has become a major global production center for smartphones. Meanwhile, there was little change in the structure of exports, which continued to be low value in absolute terms and as a share of total Saudi goods exports, and what export flow existed was attributable to the intra-Gulf Cooperation Council (GCC) re-export flows rather than the production of local industry (Saudi Arabia Information Technology Report - Q4 2022, 2022).

Table (4): Saudi Arabia IT Hardware Trade, USDmn (2017-2021)

	2017	2018	2019	2020	2021
Trade Balance (USDmn):					
IT Hardware	-1,514	-1,690	-2,130	-2,215	-2,320
Computer Parts	-77	-95	-135	-162	-224
Electronic Components	-75	-141	-286	-278	-223
Total	-1,666	-1,926	-2,551	-2,655	-2,767
Exports (USDmn):					
IT Hardware	41	34	0	0	0
Computer Parts	12	15	0	0	0
Electronic Components	39	17	3	3	2
Total	92	66	3	4	2
As % Of National Exports	0	0	0	0	0
Imports (USDmn):					
IT Hardware	1,555	1,724	2,130	2,215	2,320
Computer Parts	89	111	135	162	224
Electronic Components	115	158	289	281	225
Total	1,758	1,993	2,553	2,658	2,769
As % Of National imports	*1.4*	*1.5*	*1.8*	*2.0*	*1.8*

Source: (Saudi Arabia Information Technology Report - Q4 2022, 2022).

6.2. Telecommunications Investments Support ICT Momentum

The Saudi telecommunications market has a high degree of competition, and the major carriers are aggressively investing in developing and expanding new high-speed mobile data technologies. The major carriers acquired additional mobile spectrum in 2018 to expand their high-speed mobile data coverage under the 700MHz, 800MHz, and 1.8GHz airwaves. Complementing these new licenses are robust plans to invest in the future of the kingdom's ICT market. In Q420, the Governor of the Communications and Information Technology Commission noted that another 10GHz of airwaves would be made available for mobile operators over the next five years as part of the wider LTE-A and 5G expansion, a major government priority. The dominant national carrier, Saudi Telecom Company (STC), has been exceptionally active in expanding its portfolio of mobile data services and has been generous in its capital expenditures to ensure the broadest coverage for the latest, cutting-edge mobile technologies. The STC signed several high-profile agreements in 2018, including developing its commercial 5G platform in partnership with Huawei and Cisco. Furthermore, the company contracted Ericsson to expand its existing LTE-A to under-served parts of the country (Saudi Arabia Information Technology Report - Q4 2022, 2022).

7. Industry Trends and Developments in Bahrain

Bahrain has a small IT industry focused on IT services as consumers and enterprise customers requested, but there is no IT manufacturing in the country. This is large because the country is small and has uncompetitive manufacturing and assembly due to high labor costs and weak comparative advantages. The market continues to be served by imports from Asia, but IT hardware re-exports have been trending downwards over the past few years as the UAE has solidified its status as a major MENA re-export hub. Over the 2018-2021 period, major cloud providers continued to invest heavily in the country's cloud infrastructure, driven by the government's inviting Cloud-First Policy implemented in 2017(Bahrain Information Technology Report 2022, 2022).

Bahrain's IT hardware market is served through imports, most of which come from East Asia, with Mainland China as the largest source of devices, followed by Vietnam and South Korea. Like most of the Middle East, Bahrain has generally run a deficit for IT hardware goods, but there was significant year-on-year volatility over the 2012-2020 review period. An underlying driver was widening the deficit as demand for computer hardware increased and as Bahraini incomes rose and ownership of PCs and peripherals increased substantially. Bahrain's trade surplus in 2015 was largely owing to strong volumes of re-exports, a status that it lost over 2016-2020 to the UAE. According to the latest trade data, the deficit in all categories grew considerably over the 2016-2018 period as domestic requirements of IT hardware, especially servers and storage grew exponentially. That being said, the trade balance shrunk by 37%in 2019, a fact we attribute to the slowdown in the surging service imports seen in 2018. Bahrain's IT deficit widened to USD281mn by YE18, up from USD60mn in 2016, as server

imports in 2018 were posted at a record USD172mn, up from just USD31mn in 2015. Server imports trended downwards over 2019-2020 as the major investments materialized by 2019. Datacenter investments in Bahrain over the 2015-2020 period were robust as Batelco, VIVA Bahrain, and AWS all bolstered their domestic footprint with strong Capex. The trade deficit came in at USD139.7mn in 2020, a narrowing of 21% on the back of Covid-19 shocks when all product categories were hit. That said, there was some support from notebooks. Bahrain shows a similar pattern to the region by breaking down trade flows by segments and product categories. The value of components and parts remains small as a share of the total, reflecting a near-total absence of local assembly. These goods are only required for local repair services (Bahrain Information Technology Report 2022, 2022).

Table (5): Bahrain IT Hardware Trade, USDmn (2015-2020)

	2015	2016	2017	2018	2019	2020
Trade Balance:						
IT hardware	138	-49	-111	-260	-164	-133.4
Computer parts	4	-6	-8	-8	-7	-4.1
Electronic components	8	-5	-12	-14	-6	-2.2
Total	149	-60	-131	-281	-177	-139.7
Exports:						
IT hardware	350	123	42	26	38	56.9
Computer parts	12	3	2	1	3	7.1
Electronic components	16	7	3	1	5	7.1
Total	378	132	46	28	46	71.1
As % of national exports	*2.8*	*1.3*	*0.4*	*0.2*	*0.3*	*0.6*
Imports:						
IT hardware	211	172	153	286	202	190.27
Computer parts	9	9	10	9	10	11.21
Electronic components	9	12	15	15	11	9.28
Total	229	192	177	309	223	210.75
As % of national imports	*1.4*	*1.3*	*1*	*1.5*	*1.2*	*1.36*

Source: (Bahrain Information Technology Report 2022, 2022).

8. IT Industry Trends and Developments in Kuwait

Kuwait's IT hardware market is served through the import of finished devices from East Asia, though frequently re-exported from the UAE. This reflects the absence of local large-scale computer hardware manufacturing or assembly operations. Imports accounted for a much higher share of national goods trade flows than exports, which were never more than 0.1% of the national total over 2013-2020. Imported computer parts serve as inputs for the local computer hardware repair industry, while component demand applies to several

activities, including computer hardware, autos, and industrial applications. The trade deficit for IT hardware products narrowed substantially in 2016, reflecting both the challenging economic conditions due to lower oil prices and the saturation of the largest product categories (PCs, servers, and printers). There had already been a plateau in the IT hardware trade deficit over 2013-2015 due to approaching PC market saturation, resulting in weaker notebook demand and, more recently, the same for tablets. The decline in 2016 was the fastest-ever contraction in computer hardware imports to Kuwait. The slowdown due to saturation was exacerbated by deterioration in economic sentiment and the squeeze on tablet and low-end notebook demand from smartphones. Trade data suggest that imports for all categories surged once again in 2017 when the economic conditions improved and there was an unlocking of pent-up demand from recent years. This trend again reversed over 2018-2019 as total IT imports declined by 13.5% to a value of USD444mn in 2018 before suffering a 5.6% decline to USD419mn in 2019 as the market matured. This softness was primarily attributed to saturation in virtually all categories of the IT hardware market. The most recent trade data from 2020 highlights that the IT trade balance widened by an above-trend 26.4% y-o-y to USD 522.0mn. A detailed breakdown of IT hardware segment by segment reveals that imports in most categories, such as servers, printers, and desktops, were down, but there was a massive surge in notebook imports, up by 57% y-o-y. Total notebook imports in 2020 came in at USD283.0mn, up from USD181.0mn in 2019. Notebook imports are the sole reason for the major boost in IT spending in 2020. The modest uptick in computer parts and components in 2020 also suggests that repairs and servicing of notebooks remained in steady demand during the lockdown phase when service sector employers invested heavily into remote working and work-from-home solutions as the pandemic resulted in lockdowns in Kuwait (Kuwait Information Technology Report - Q4 2022, 2022).

Table (6): Kuwait IT Hardware Trade, USDmn (2013-2020)

	2013	2014	2015	2016	2017	2018	2019	2020
IT hardware	-505	-530	-521	-392	-432	-381	-366	-471
Computer parts	-28	-25	-22	-17	-15	-20	-23	-27
Electronic components	-26	-26	-37	-20	-29	-29	-24	-25
Total	-559	-580	-580	-430	-476	-430	-413	-522
Exports (USDmn)								
	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
IT hardware	11	5	4	4	13	11	5	4
Computer parts	5	5	5	5	24	1	1	2
Electronic components	0	0	2	1	1	2	0	0
Total	16	11	11	11	38	14	6	6
As % of national imports	0	0	0	0	0.1	0	0	0
Imports (USDmn)								
	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
IT hardware	516	535	525	397	445	392	45	474
Computer parts	34	30	27	23	39	21	24	28
Electronic components	26	26	39	21	30	31	351	25
Total	576	591	591	441	514	444	419	528
As % of national imports	2	1.9	1.9	1.4	1.5	1.2	1	1.9

Source: (Kuwait Information Technology Report - Q4 2022, 2022).

9. Conclusion

The repercussions of technological change on all sectors are constantly increasing so that no business model or region can be immune from its impact, including the Gulf Cooperation Council countries. For these countries to succeed, officials should consider the information technology industry as one of the most important sectors that have imposed themselves in the present era.

The industry of information technology, communications, and related industries is developing significantly in the GCC countries due to the tremendous progress the world is witnessing in its various fields. The information technology industry has become one of the basic industries that represent a major catalyst for technological progress for many industries and other fields, especially the economic fields related to trading,

industry, and investment. These industries are also characterized as labor-intensive industries that rely primarily on human minds and, therefore, can provide many job opportunities. In addition to that, they achieve high incomes for the working groups in them.

The GCC countries have become dependent on technology as a means of depositing foreign investment and a source of job creation and economic growth in local markets. Efforts to diversify away from the oil and gas markets increasingly emphasize activating the nascent private sector activity in the GCC countries.

10. List of references:

1. United Arab Emirates Information Technology Report - Q4 2022. (2022). London: Fitch Solutions Group Limited.
2. Oman Information Technology Report 2022. (2022). London: Fitch Solutions Group Limited.
3. Qatar Information Technology Report - Q4 2022. (2022). London: Fitch Solutions Group Limited.
4. Saudi Arabia Information Technology Report - Q4 2022. (2022). London: Fitch Solutions Group Limited.
5. Bahrain Information Technology Report 2022. (2022). London: Fitch Solutions Group Limited.
6. Kuwait Information Technology Report - Q4 2022. (2022). London: Fitch Solutions Group Limited.
7. The Information Technology Industry. (n.d.). PMSoft. Retrieved October 11, 2022, from https://pmsoft.com/the-information-technology-industry/
8. Technology Sector: Definition, 4 Major Sectors, Investing in Tech. (2022, January 2). Investopedia. Retrieved October 11, 2022, from https://www.investopedia.com/terms/t/technology_sector.asp