



NEWSLETTER

The latest news from EU-GCC project



The Fourth Industrial Revolution

In this issue

How Industry 4.0 can help to face the epidemic

IoT in preparation for "New Normal"

Reimagining manufacturing operations

Real Value versus 6 Myths

IOT Forecast 2024 - MENA

IR4 in the GCC region visions

Nano-EH project
Women Innovators 2020

Editorial

In his book, *The Fourth Industrial Revolution*, Professor Klaus Schwab, founder and executive chairman of the World Economic Forum, describes the enormous potential for the technologies of the Fourth Industrial Revolution as well as the possible risks. He said, "The changes are so profound that, from the perspective of human history, there has never been a time of greater promise or potential peril. My concern, however, is that decision-makers are too often caught in traditional, linear (and non-disruptive) thinking or too absorbed by immediate concerns to think strategically about the forces of disruption and innovation shaping our future."

This edition of the newsletter focuses on the impacts of the Fourth Industrial Revolution in both the EU and GCC and the developments in policy-making being undertaken to address the profound changes in the ways we shall live and work in future.

Douglas Aintkenhead - EU GCC Dialogue on Economic Diversification Project 15th of August 2020



How Industry 4.0 can help to face the epidemic:



open calls, National and EU initiatives



Due to the CORONAVIRUS (COVID-19) EMERGENCY, the **IoT4Industry** consortium would like to share some relevant initiatives to **mitigate the socio-economic impact in the European Union** thanks to the introduction of the Industry 4.0 solutions. Technology is in fact proving to be a critical tool in the war against the unexpected: adopting smart health solutions, use of robotics for the delivery of goods and transportation of people, building automated and flexible production lines and supply chains, adopting online and remote capabilities for education, healthcare and meetings.

The Internet of Things will soon play a major role in the modernisation of healthcare and disaster prevention, public safety and security, supply chain, manufacturing and production

- **INDUSTRIAL CLUSTERS AGAINST THE VIRUS:** the European Cluster Collaboration Platform (ECCP) has created a webpage to support the efforts of industrial clusters to address the **challenges of the COVID-19 epidemic** in Europe and to facilitate the interaction of the industrial cluster community to allow fast and direct responses. Over 1100 offers from companies have already been presented to the European Commission via clusters with the support from the European Cluster Alliance.
- **EUROPEAN SUPPORTS FOR COMPANIES:** On March 19th 2020 the European Commission has adopted a *Temporary Framework for State Aid measures to support the economy during the current COVID-19 outbreak* that provides for five types of aid which can be granted by Member States. The Temporary Framework will be in place until the end of December 2020.
- **AI-ROBOTICS vs COVID-19:** The European Commission launches an initiative to collect ideas about deployable Artificial Intelligence (AI) and Robotics solutions as well as information on other initiatives that could help face the ongoing COVID-19 crisis. AI in fact is useful in several applications like **virtual healthcare assistant (chatbot)** to provide reliable information and clear guidelines, recommended protection measures, check and monitor symptoms, or **facial recognition and fever detector** (thermal cameras) for detecting people with fever that have been deployed in airports, hospitals, nursing homes, etc.
- **AMable CALLS FOR IDEAS (COVID-19):** The 3D printing (Additive Manufacturing) allows to produce specialized surgical instruments and medical devices quickly and cost-effectively like valves, masks and everything that may prove to be of primary importance in the fight against COVID-19. **AMable**, the consortium supported by the European Commission under the framework of I 4MS (H2020 framework program), published an **open Call for Solution Ideas** to fight COVID-19 adopting Additive Manufacturing.
- **CECIMO**, as the European association of the Machine Tool Industries and related Manufacturing Technologies, including **additive manufacturing**, has been invited by the European Commission to address its membership in **helping to produce equipment (valves or ventilators)**. CECIMO has decided to expand the call for action to all companies, urging everybody who has the possibility to do so, to assist the needs of hospitals all over Europe.

Source: <https://www.clustercollaboration.eu/profile-articles/how-industry-40-can-help-face-epidemic-open-calls-national-and>



IoT in preparation to the next level “the new normal”

Industrial companies expected 2020 to bring economic pressure from ongoing trade disputes. But none anticipated that the COVID-19 pandemic would throw the global economy, and their own operations, into an unprecedented crisis.

To navigate the current crisis and reach the next normal that will emerge after the pandemic abates, companies must embark on a journey with three horizons, each of which involves different questions:

Resolve. How can we ensure business continuity now?

Return and resilience. How can we return to business and increase our flexibility to thrive in the “new normal”?

Reimagination and reform. How can we improve our business over the long term, in a world changed by the pandemic, and emerge even stronger?

Industrial IoT (IIoT), a major element of Industry 4.0, can help companies as they proceed on this journey. It has demonstrated its value on many occasions over the past few years, but some skeptics still doubt its worth and elected not to make bold investments in this area. What’s more, few business leaders view IIoT as a critical improvement lever in times of crisis, especially if their organizations have not previously explored it.

The Industrial IoT is an important improvement lever during challenging times.

Theme	Lever	IIoT use-case example	Full potential
Resolve	Ensuring employee safety and security	Remote employee collaboration Workforce tracking Vision-based control systems Remote asset control	Safeguarding operations
	Improving liquidity	IIoT-enabled inventory management Waste reduction Maintenance-cycle increase	-10 to -35% inventory -20% waste -10 to -15% maintenance costs
	Lowering costs in short term	Digital performance management Remote assistance	20 to 40% labor productivity -10 to -40% service costs
Return and resilience	Connectivity and cybersecurity	Large-scale connectivity rollout Cybersecurity	Strategic enabler
	Mid-term cost improvement and flexibility	IIoT-enabled asset optimization Real-time procurement transparency	Up to five-percentage-point overall equipment effectiveness -2 to -5% spend
	Revenue stability	Next best action for sales and service Dynamic pricing optimization	Case dependent 5 to 8% revenue
Reimagination and reform	Increasing operational flexibility	Supply-chain integration across value chain In-line process optimization	Strategic enabler



Industry 4.0: Reimagining manufacturing operations after COVID-19

Even in parts of the world where COVID-19's initial effects have started to recede, serious dislocations appear likely to remain a fact of life for some time to come, with executives constantly facing new pressure.

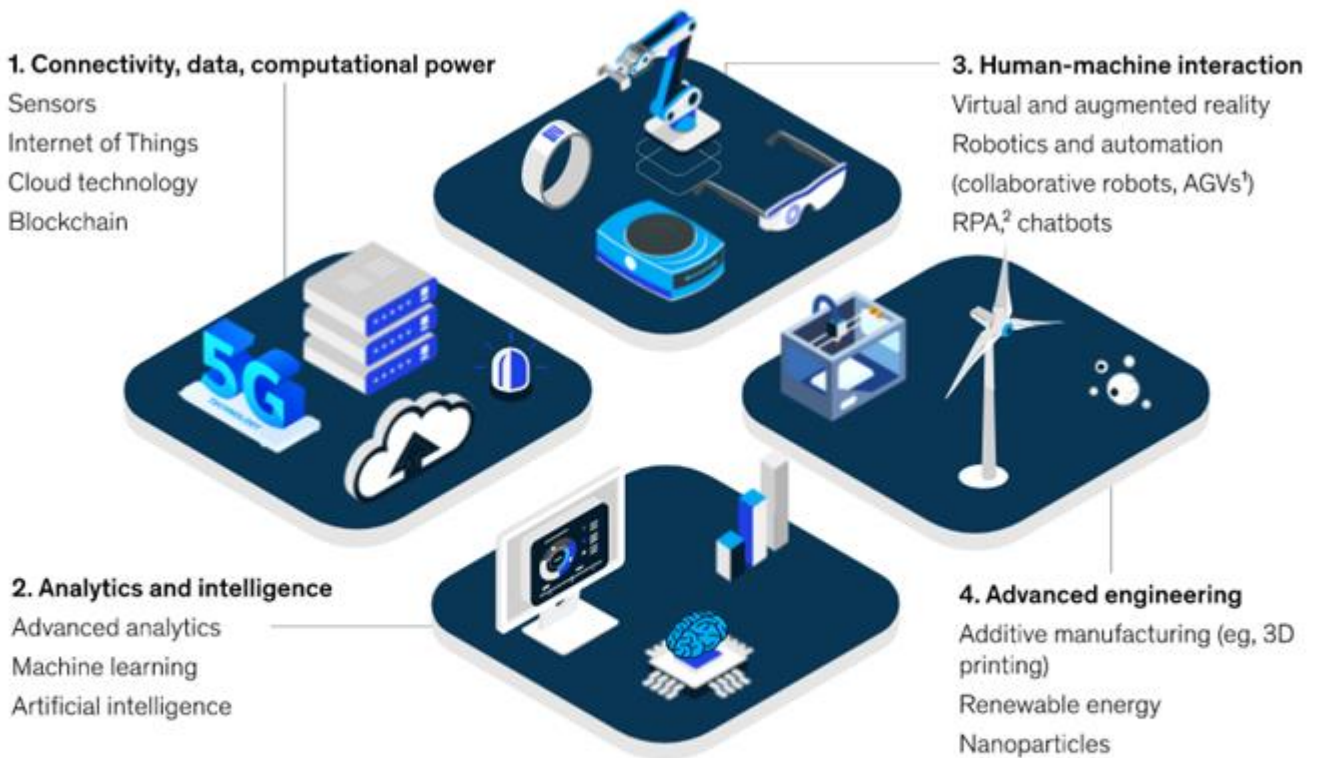
“Acceleration” is the watchword. Industry 4.0—which includes connectivity, advanced analytics, automation, and advanced-manufacturing technologies was gaining momentum before COVID-19, helping companies transform their operations in everything from production efficiency to product customization, with improvements in speed to market, service effectiveness, and new-business model creation.

Two-speed adoption of Industry 4.0 technologies

A recent McKinsey survey found that 93 percent plan to focus on resilience of their supply chain, and 90 percent plan to invest in talent for digitization.

However, the upswing in technology adoption could be asymmetric because of two opposing forces—the need to develop resilience and agility to deal with the crisis, against the constraints imposed by cash preservation. Three archetypes of adoption pathways appear likely to emerge.

Industry 4.0 is characterized by 4 foundational technologies applied along the value chain.



¹Autonomous guided vehicles
²Robotic process automation



Accelerated

- Adoption for quick-win solutions that help companies respond and adapt to the new norms—such as tracking employee health, enforcing safe distancing on the shop floor, and supporting remote collaboration. Digital work instructions, augmented reality–based operator assistance, and use-cases relying on simple, inexpensive retrofit automation may also become more widespread regardless of companies' existing technology infrastructure.

Differential

- Adoption rates are more likely for solutions such as digital twins and logistics automation. Companies that already have the critical capabilities, such as manufacturing-execution systems, IT/OT stacks, and data marts or data lakes, may speed ahead, while organizations lacking these prerequisites—particularly SMEs may delay implementation until they are able to build the foundations or find the required financial muscle to invest.

Deffered

- Adoption is more likely for solutions that require higher capital expenditure and have unclear or long-term payback periods. Examples include blockchain, nanotechnologies, and the most advanced automation systems.

The COVID-19 pandemic has presented humanitarian challenges on a global scale that require a new type of collaboration to address. As organizations begin to restart their operations in the next normal, they have an opportunity to reimagine a future with digitized, resilient operations. Early successes have shown that companies can start on their industry 4.0 journey in a small way and then scale quickly—if they commit to Industry 4.0 transformation in line with their business environment and their strategic objectives, and execute it using a triple transformation approach.

For more information: <https://www.mckinsey.com/business-functions/operations/our-insights/industry-40-reimagining-manufacturing-operations-after-covid-19#>

Industrial IoT generates real value—if businesses overcome six myths

A new commitment to industrial IoT, or IIoT, can give manufacturers a critical edge in reimagining their operations.

Digital transformation is at the very core of business today, yet many companies still struggle to execute on this imperative. Among the slow adopters are those companies struggling to implement the industrial internet of things (IIoT).

Effective digital transformations are business-backed and business-led. Digital transformation is about envisioning how technologies like IIoT can redefine value creations by accelerating and scaling existing operations, rethinking how customers are served, and even by reinventing business models. It's a complete reimagining of the way work is done. Above all, it is about a new way of competing.

So what's holding some companies back? Six myths about IIoT that are needlessly troubling business leaders

For more information: <https://www.mckinsey.com/business-functions/operations/our-insights/industrial-iiot-generates-real-value-if-businesses-overcome-six-myths>



Myth #1

IloT is only a high-tech dashboard

People fixate on the data-collection and predictive-maintenance aspects of IloT. Instead, digital transformation represent a wholesale rethinking of value creation: a way to increase it, improve it, and accelerate it. IloT helps companies acquire and analyze data, turn it into actionable insights to solve problems, and make decisions faster. When properly integrated, the data collected in real time can translate into important innovations and strategy.

IloT will displace workers

People fear that automation will eliminate jobs. But the new technologies used in digital transformation are also job generators. These new jobs, moreover, free a substantial portion of the workforce from repetitive and often unhealthy tasks and allow them to gain new capabilities. The big concern for companies adopting IloT is rather how to reskill their workforce to take advantage of the new technologies.

Myth #2

Myth #3

IloT requires greenfield sites

Some business leaders believe that older facilities are an impediment to digital transformation and that legacy equipment must be replaced. Certainly, new equipment will be needed. Most of IloT's value comes from improving brownfield sites: in connecting and optimizing existing infrastructure and augmenting it with select new machinery on an ongoing basis. By adding sensors, apps, and connectivity to existing equipment, companies can collect data and convert it into business insights that are put right at employees' fingertips.

To go digital requires 100% readiness

Being 100% ready is not only not necessary; it's impractical. What's more important is getting started right away, with the help of a digital transformation office. Agile methods of working facilitate rapid development and refinement and continuous improvement.

Leaders at a European conglomerate established a dedicated digital organization to advance digital transformation throughout the group's diverse businesses, which include automation, machine tools, and specialized manufacturing systems

Myth #4

Myth #5

Continuous improvement is costly with IloT

Based on the experiences of many businesses, it's often even more expensive to be disrupted and edged out of relevance.

The steady stream of big data, combined with the real-time insights that IloT fuels and more agile ways of thinking and working, embed continuous improvement into operations to create the next normal.

In contrast, any transformation that succeeds pays for itself—almost by definition. It's possible to achieve high impact with a minimal replacement of equipment by optimizing existing infrastructure.

IloT is not feasible in emerging economies

Some leaders in emerging economies worry that IloT is beyond the capabilities and infrastructure of organizations or regions, or both. It's possible that companies in developing regions are well positioned to succeed because they are far less encumbered with brownfield facilities and legacy systems.

Myth #6



ICT Market in the Middle East, Forecast to 2024

ICT Market in the Middle East, Forecast to 2024

This research service analyzes the ICT market in the Middle East. It provides key highlights for 2019 as well as an outlook of the future. Countries covered under the geographic scope of this research service are Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, and Syria. By industry, the market is segmented into telecommunications and media and information technology (IT). Major market drivers and restraints are discussed, along with important technology trends. Revenue is provided for the base year (2019) as well as the forecast period, which runs through to 2024.

The ICT market in the Middle East will witness steady growth over the forecast period, mainly driven by governments' digital transformation initiatives and enterprises' acceptance of disruptive technologies, such as Internet of Things (IoT) and Artificial Intelligence (AI). In addition, operators are focused on the development of an enterprise-centric or application-specific service portfolio to be able to monetize 5G network investments, which is expected to boost telecom service revenue in

the region. Some of the key technology trends in the telecommunication and media space include 5G, fiber network expansion, software-defined networks, and IoT network investments, whereas cloud computing and data centers, AI, cybersecurity, and conversational platforms are the important trends in the IT ecosystem. The study also provides insights into global Mega Trends, including edge computing, Industry 4.0, virtual reality, blockchain, industrial robots, 3D printing, and augmented reality (AR).

With the emphasis on reducing dependency on the oil industry, several Middle Eastern countries are formulating strategies to boost the contribution of the ICT market to the GDP. In this regard, governments and enterprises have embraced various disruptive technologies as part of their digital transformation initiatives. These factors, in turn, will drive market growth. Moreover, the proliferation of 5G services and their significance across several enterprise applications and industry verticals will promote market expansion over the forecast period.

Source : <https://www.prnewswire.com/news-releases/middle-east-ict-market-2020-2024-increasing-acceptance-of-disruptive-technologies-such-as-iot-and-ai-forecast-to-boost-market-growth-30111142.html>
https://www.researchandmarkets.com/reports/5023713/ict-market-in-the-middle-east-forecast-to-2024?utm_source=CI&utm_medium=PressRelease&utm_code=2vlmwp&utm_campaign=1424979+-+Middle+East+ICT+Market+2020-2024%3a+Increasing+Acceptance+of+Disruptive+Technologies%2c+Such+as+IoT+and+AI%2c+Forecast+to+Boost+Market+Growth&utm_ejec=cari18prd



Bahrain and the fourth industrial revolution

Following the regional trend, Bahrain has a strategic plan that lays out how it will diversify its economy away from oil. Launched in 2008, Vision 2030 relies on developing cutting-edge infrastructures to attract private investment and support entrepreneurship in sectors such as banking and financial services, real estate, tourism, logistics, and information and communication technologies.

The launch of the [Bahrain FinTech Bay](#) in 2018 was a significant step for Bahrain toward becoming a technology and innovation hub. It continues to develop its infrastructure to enable the developments using Fourth Industrial Revolution relevant technology while updating the corporate governance framework in an attempt to curtail investor uncertainty and exposure in the region. Bahrain differentiates itself from its larger neighbors by highlighting its well-trained population and low cost of living and running a business. This [report](#) shows that these factors, combined with an innovative regulatory environment, attract a more diversified pool of foreign investors, especially venture capital and other alternative financial investors in sectors such as information and technology or tourism. However, the recent emphasis on startups and technology brings challenges that could threaten the resilience of the new Bahraini economic model. First, most of the firms created have fewer than 10 employees, while Bahrain needs more medium sized companies to reach its economic goals. Second, the size of Bahrain's labor market will not be able to accommodate the increasing demand for highly skilled workers. Third, the transition to a digitalized economy and its new requirements can be costly for existing firms, especially the smaller ones, which are the majority. Moving forward, these challenges could be alleviated by: - Helping micro firms grow. - Removing the remaining obstacles in hiring foreign workers in sectors where the qualified local labor supply is weak. - Ensuring that wages in the private sector are competitive. - Educating smaller firms on existing services that can help them transition to the digitalization of the economy. Finally, Bahrain's ambition to become a technology, innovation, and talent hub could play a significant role in the region if the Gulf Cooperation Council (GCC) countries were to strengthen their economic coordination.

To illustrate its intentions and as example, early July 2020, Bahrain, unveiled the [Autonomous robot](#) targeting COVID-19 virus

Manufacturing, Transport and Logistics – Bahrain

Bahrain leads the way in the GCC in welcoming advanced technologies and digitisation across every sector of its economy. Its Manufacturing, Transport and Logistics businesses continually adopt the latest technology applications in assembly production lines, communication systems linking to their respective customer bases, and end-to-end factory to customer deliveries.

In line with these, Bahrain has embraced the onset of Industry 4.0. A key feature of Industry 4.0 is the introduction of the IoT, where any device or machine can communicate with other machines without human intervention. Bahrain has recognised the importance of such a trend, and is taking necessary steps to enable IoT in multiple sectors, through increased ICT investment, and by fostering a positive startup culture. Bahrain is aiming to become a regional hub for Industry 4.0 solutions. Thus the government is working to implement a selection of pilot projects in Bahrain. The purpose is to generate near-term benefits and showcase the opportunities to help accelerate investment..

Source: https://www.bahrainedb.com/EDB_AnnualReport_2017/?page=mal_in_focus_the_factories_of_the_future



Technology Plays Significant Role in Kuwait 2035 Vision

Through Kuwait 2035 vision, the government has introduced ambitious plans to transform the country's economy from oil-dependence into a leading regional financial, commercial and cultural hub. The seven pillars that it is based on are efficient government administration, diversified & sustainable economy, quality infrastructure, sustainable living environment, high quality healthcare, creative human capital and distinguished international status.

A key role in Kuwait 2035 Economic Diversification Vision will be played by ICT. Regulatory reforms are being put in place to help speed up the evolution towards a more knowledge-diversified economy. The Central Agency of Information Technology (CAIT) published a survey of National ICT indicators, based on nearly 30,000 interviews. The survey showed that Kuwait citizens are inclined to conduct transactions online, as the survey showed, 81% pay bills, 65% use internet banking, 66% booking travels, 64% buying products and 45% ordering groceries.

Technology is also one of the core focus areas of 2035 Kuwait Vision. Fibre optic networks, a key technology in the telecommunication sector, will play a fundamental role in the advancement of Kuwait 2035 Vision. Aimed at linking Kuwaiti residents and public with the private entities, the GCC country's Ministry of Communications is currently installing fibre optic networks spread in a three-phase programme. Director General of Kuwait's Central Agency for



Information Technology, Qusai Al-Shatti, told the country's state-held Kuna that fibre optics technology was an important tool to measure economic success, describing it as vital to the rise of internet of things (IoT) systems.

IoT is a key element of the New Kuwait 2035 vision, and Al-Shatti said fibre optics would be "the door to carry out such an ambitious plan," according to Kuna's report.

The Kuwaiti government has spent billions of dollars to date on projects that will help it achieve the goals of New Kuwait 2035, a seven-pillar programme that aims to secure the Arab country's future through economic sustainability. As part of the push for Vision 2035, as the programme is also dubbed, smart city-led contracts will have to be developed in the country's building sector, experts said at Construction Week's Leaders in Construction Kuwait 2018 summit last October.

Source: <https://www.marketresearchkuwait.com/insight/technology-plays-significant-role-in-kuwait-2035-vision>
<https://www.middleeastarchitect.com/41853-kuwait-reveals-tech-strategy-behind-its-2035-smart-city-vision>
<https://vigorevents.com/internet-of-things/>



A SMART STRATEGY – Oman

AI and the Internet of Things (IoT): both terms buzz around our speculative conversations on the next technological leap. Actual practitioners, meanwhile, are engaged in more than speculation. Enter Industry 4.0.

Pursuing an economic mix beyond petrochemicals, Oman is honing its exportable industrial base.

4.0 - An economic Imperative...

Sector data estimates the global value of the Industry 4.0 market to be USD214 billion by 2023 with broad-based economic ramifications. As flexible smart factories deliver customer-specific products, the advantages of which outweigh the traditional appeal of cheap labor alone.

...also for Oman

Oman harbors a vision of smart interconnected cities leveraging the commercial applications of Industry 4.0, namely AI, IoT, cloud computing, and robotics. For one, Oman's SMEs should in time become equipped to develop and market downstream services, a marked competitive advantage within the region, and arguably beyond. In April 2018, the Oman Convention and Exhibition Centre staged COMEX 2018, the leading IT, telecom, and technology exhibition and conference; a venue for the economic evaluation of potential smart cities integrating existing infrastructure.

The Challenges of 4.0

Realists acknowledge that there's no such thing as an economic panacea, and industry 4.0 is no exception. International management consultancy stalwart McKinsey & Company asserts that realistically, high-tech available today could shortly automate 30-50% of all work activities in Oman. In a classic case of the left hand giving and the right hand taking away, this spells potential discontinued wages amounting to USD16 trillion as AI and robotics, having replaced blue-collar workers, find their white-collar counterparts increasingly replaceable. Adoption of AI and machine learning spell disruptions across traditional modes of industrial activity, from manufacturing and finance to health and education, redefining production processes with customer-orientation. The sheer immediacy of the 4.0 economy promises a never-before-seen degree of transparency and instant appraisal, be it positive or negative, driving competition. Talking of driving, just consider for a moment the fact that an Uber driver, while rated by the passenger, is also rating the passenger. Extend this to the wider industrial matrix and you begin to see what Oman is taking on in terms of industrial accountability.

And as for leapfrogging...

Industry 4.0 is investment- and knowledge-intensive. The theory has it that producing complex goods and commodities embraces a "hit-the-ground-running and learning-by-doing" mindset faster than local conditions might have allowed. If systematic, a leapfrogging policy fostering expansion of sophisticated technology could stand Oman well in the smart economy era.



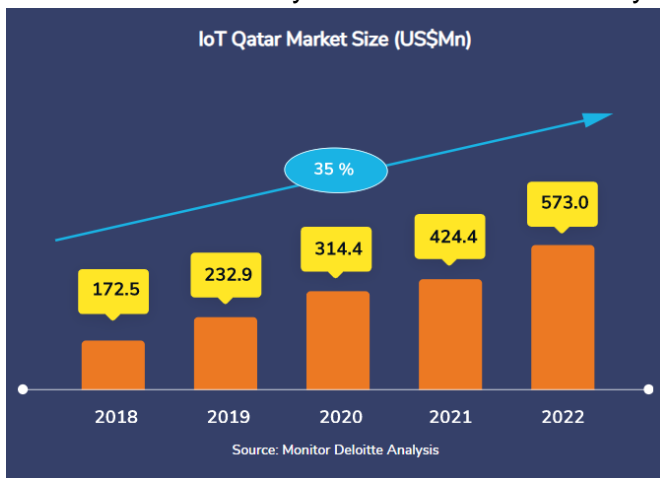
Oman Observer - Interactive showcase of 5G, IoT technologies at TRA



Qatar ICT STRATEGY

The continued and rapid evolution of ICT in Qatar requires policies and programs that encourage and facilitate growth through transparency and fairness. It also requires a state-of-the-art communications infrastructure that enables businesses and individuals to easily implement and utilize new technologies.

Part of the strategy adopted by the Ministry of Transport and Communications (MoTC) is guaranteeing the installation of a national, affordable, high-speed broadband network. Further to this, it plans to develop an innovative and entrepreneurial market and increase the quantity of content on the Internet, including Arabic, newly digitized and other local material. A major goal is to increase the literacy of all members of society.



Objectives

To drive MoTC in realizing its vision, the National ICT Plan includes four main spheres of action:

- Public Service Delivery
- Infrastructure and Environment
- Industry Development
- Literacy, Skills, and Inclusion

Growth, Transparency and Competition

MoTC has undertaken many initiatives to spur increased ICT adoption among businesses and make it easier for all companies to comply with government regulations and procurement processes through streamlined online services.

An effective market driver of ICT usage and adoption has been government. By creating a robust and transparent online system for

government operations and the public, MoTC has set a swift pace for ICT adoption across all sectors of society. i-Gov has improved access to information and made it more convenient for individuals and businesses to interact with government agencies.

e-Commerce Law

The [Electronic Commerce and Transactions Law](#) (e-Law) was enacted to encourage businesses and government entities to migrate more of their transactions online. The law makes online communications and financial transactions legally enforceable, establishing protocols for digital signatures, electronic documents, and authentication of payment. It is the first electronic commerce law in the Arab region to include consumer protection provisions.

Qatar Domain Names

The Internet Corporation for Assigned Names and Numbers (ICANN) approved MoTC's authority to assign domain names in 2010.

Another related development is the rollout of a new domain naming system in Arabic. It will be a valuable asset in distinguishing themselves in the ever-growing Internet realm.

In addition to i-Gov and Hukoomi, the ICT strategy includes a series of other online initiatives to promote an integral role of ICT in society:

[Digital Qatar](#): A blog for technology enthusiasts available in English and Arabic

[e-Learning](#): Portal offering 3,000 free online courses to government employees, ICT professionals and the unemployed in a variety of fields including business, information technology, human resources, and marketing.

e-Education: a joint venture with the Supreme Education Council to build on its efforts to empower educators with the required skills, knowledge, and resources to facilitate 21st-century learning.

For more information:

<https://portal.www.gov.qa/wps/portal/topics/Communications+and+IT/nationalictstrategy>

[TASMU Digital Valley](#)

<https://tdv.motc.gov.qa/Investment-Catalogue/Internet-of-Things>



Saudi Arabia ICT Sector Strategy 2023

With Vision 2030, the Kingdom of Saudi Arabia (KSA) has embarked on a bold national-level change management program by the rapid adoption of digital initiatives. driven The focus is on recalibrating the economic model, which will be based on innovation and driven by future technologies with new business models in place.

The KSA has a young demographic base, and digital transformation will help unlock the potential across various sectors by harnessing young talent.

Build a diverse digital economy with transformative solutions

A key goal for Vision 2030 is diversification from an economy based on natural resources to become a digitally enabled trade, innovation and investment hub through the use of digital technology. According to estimates, the fourth industrial revolution (4IR) has the potential to generate US\$266.6 billion by 2030. The only way to realize this opportunity will be through large-scale adoption of transformative digital solutions such as AI, 5G, robotics, cloud computing, the IoT, and augmented and virtual reality (AR/VR). One way of achieving this economic diversification, led by digital solutions, is through giga-projects, which are aimed at developing the tourism sector: the focus is on creating a state-of-the-art ecosystem to develop the entertainment infrastructure.

Focus on developing the information and communications technology (ICT) sector

ICT will contribute around 5% to the KSA's total GDP and 8% to non-oil GDP by 2022. The KSA is accelerating ICT applications across sectors such as banking, insurance, health care, automotive, power and utilities, and education to drive socioeconomic benefits. Non-traditional ICT segments such as innovation accelerators and third platform technologies will deliver a win-win outcome for businesses and the Government.

Digital Government

As part of Saudi Vision 2030, all government entities are mandated to provide their services to

citizens and stakeholders digitally, digitize their operations and go paper less.

Creation of National Digitization Unit to support government in its digital transformation journey all sectors including healthcare, education, commerce... Etc

Digital Economy

Giga Projects: NEOM, Redsea, Qidiya, Waad Alshamal, SPARK and all the new projects are all technology first projects and will be build leveraging the latest technologies

SMART Cities: Other than the new citites, Saudi Arabia aims to equip 5 existing cities with SMART infrastructure to be among the top 100 cities for worldwide

Private sector: due to decrease in government subsidization for oil and increase in labor fees Saudi private sector is doubling down on technology to optimize their operations

SMEs: the government is prioritizing as part of vision 2030 to increase that number to 35%+ via easier business requirements and many financing programs which present huge opportunity for IaaS and SaaS provider

For more information:

[https://www.ey.com/Publication/vwLUAssets/ey-unlocking-the-digital-economy-potential-of-the-kingdom-of-saudi-arabia/\\$File/ey-unlocking-the-digital-economy-potential-of-the-kingdom-of-saudi-arabia.pdf](https://www.ey.com/Publication/vwLUAssets/ey-unlocking-the-digital-economy-potential-of-the-kingdom-of-saudi-arabia/$File/ey-unlocking-the-digital-economy-potential-of-the-kingdom-of-saudi-arabia.pdf)

<https://investsaudi.sa/en/sectors-opportunities/information-technology/>

https://www.mcit.gov.sa/sites/default/files/ict_strategy_summary.pdf

<https://investsaudi.sa/en/sectors-opportunities/information-technology/>



The UAE Strategy for the Fourth Industrial Revolution

In September 2017, the UAE Government launched the [UAE Strategy for the Fourth Industrial Revolution](#) (4IR) (PDF, 25 MB) during the Government's Annual Meetings. The UAE Strategy for the Fourth Industrial Revolution aims to strengthen the UAE's position as a global hub for the Fourth Industrial Revolution and to increase its contribution to the national economy by means of advancing innovation and future technologies.

The strategy also outlines the path to achieve the future experience of government services by providing intelligent and interactive government services around the clock to achieve customer happiness and to position the UAE as a model for interactive cities using artificial intelligence to achieve sustainability.

The UAE Strategy for the Fourth Industrial Revolution focuses on a number of key fields; some of

them are innovative education, artificial intelligence, intelligent genomic medicine and robotic healthcare.

- Innovative education will provide a smart and enhanced learning experience to develop advanced technologies such as science, nanotechnology and artificial intelligence.
- The adoption of intelligent and personal genomic medicine will lead to personalised medical technologies, improved



Wam.ae

- health care levels and boost the UAE's position as a global centre for healthcare.
- The adoption of robotic healthcare and research in nanotechnology will facilitate the application of telemedicine and introduce cutting-edge medical solutions such as wearable and implantable technologies.

The 4IR also aims to:

- achieve future security of water and food supply by using bioengineering sciences and advanced renewable energy technologies
- enhance economic security by adopting digital economy and blockchain technologies in financial transactions and service
- optimise the utilisation of satellite data in planning future cities
- develop advanced defence industries by developing national industries in the field of robotics and autonomous vehicle technologies.

For more information: <https://u.ae/-/media/About-UAE/Strategies/UAE-4-IR-Strategy/En-UAE-4-IR-Strategy.ashx?la=en>

<http://wam.ae/en/details/1395302634934>

<https://u.ae/en/about-the-uae/strategies-initiatives-and-awards/federal-governments-strategies-and-plans/the-uae-strategy-for-the-fourth-industrial-revolution>



Pursuing the 4th Industrial Revolution with the NANO-EH project

The 4th Industrial Revolution builds on use of emerging technologies and their fusion in the sense of blending of physical and digital spheres. As the modern society grows, the new urges for efficient, sustainable and ecological materials has increased. The [NANO-EH](#) project will follow this trend and focus on possible improvement of energy harvesting materials.

NANO-EH wants to exploit smart nanomaterials that are non-toxic, lead- and rare earth-free materials, and will demonstrate their recyclability potential at module level. This can be especially useful in the context of communication technologies and further development of Internet of Things (IoT) for newer application such as personalised medicine of the future, smart farming and environmental monitoring.

Mircea Modreanu, Principal Investigator at Tyndall National Institute-University College Cork (Ireland) and Coordinator of the project, summarised the main challenges:

The significant broadening of the wireless communication spectrum in Europe makes the radio frequency energy scavenging a highly desirable way forward for clean powering of the next-generation IoT. To enable next-generation, self-powered wireless devices the key challenge is to capture energy supply from energy harvesting sources, integrating new devices for energy storage and taking into account the micro-power management unit requirements for the miniaturised system operation. The project starts in October 2020 and will run for 36 months.

For more information:

¹<https://ec.europa.eu/programmes/horizon2020/en/news/pursuing-4th-industrial-revolution-nano-eh-project>

¹<https://cordis.europa.eu/project/id/951761>

²https://ec.europa.eu/info/news/eu-prize-women-innovators-2020-21-entrepreneurs-are-through-final-2020-jul-10_en&pk_campaign=rt_d_news

EU Prize for Women Innovators 2020: 21 entrepreneurs are through to the final

Twenty-one of the most talented and inspiring women entrepreneurs in Europe and beyond are in the shortlist for the [EU Prize for Women Innovators 2020](#). The prize celebrates the outstanding achievements of female entrepreneurs running innovative companies and is funded by the EU's Horizon 2020 programme for research and innovation. Their innovations range from the optimisation of cancer treatments to generating clean electricity from ocean and sea waves.

Mariya Gabriel, Commissioner for Innovation, Research, Culture, Education and Youth, said:

“Today, we celebrate the work of outstanding women innovators and encourage the next generation of women and girls to follow in their footsteps. Gender biases and stereotypes continue to steer girls and women away from science and technology-related careers. These women clearly lead by example and show that you can follow your dreams no matter how big they are.”

Thirteen candidates are competing for three prizes of €100,000 each in the main category, while eight others are competing for the Rising Innovator title that recognises excellent female entrepreneurs under the age of 35 and comes with a €50,000 award.

The winners of the EU Prize for Women Innovators 2020 will be announced at the [European Research and Innovation Days](#) taking place on 22-24 September 2020.

For more information:

²https://ec.europa.eu/info/news/eu-prize-women-innovators-2020-21-entrepreneurs-are-through-final-2020-jul-10_en&pk_campaign=rt_d_news



Basic IIoT Concepts and Glossary of Terms

Industry 4.0 takes the emphasis on digital technology with the help of interconnectivity through the Internet of Things (IoT), access to real-time data, and the introduction of cyber-physical systems. There are hundreds of concepts and terms that relate to IIoT and Industry 4.0, but here are 12 foundational words and phrases to know :

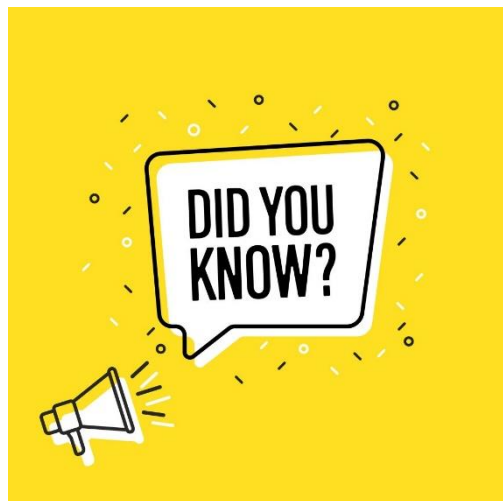
Enterprise Resource Planning (ERP): Business process management tools that can be used to manage information across an organization.

IoT: IoT stands for Internet of Things, a concept that refers to connections between physical objects like sensors or machines and the Internet.

IIoT: IIoT stands for the Industrial Internet of Things, a concept that refers to the connections between people, data, and machines as they relate to manufacturing.

Big Data: Big data refers to large sets of structured or unstructured data that can be compiled, stored, organized, and analyzed to reveal patterns, trends, associations, and opportunities.

Artificial Intelligence (AI): Artificial intelligence is a concept that refers to a computer's ability to



perform tasks and make decisions that would historically require some level of human intelligence.

M2M: This stands for machine-to-machine, and refers to the communication that happens between two separate machines through wireless or wired networks.

Digitization: Digitization refers to the process of collecting and converting different types of information into a digital format. **Smart factory:** A smart factory is one that invests in and leverages Industry 4.0 technology, solutions, and approaches.

Machine learning: Machine learning refers to the ability that computers have to learn and improve on their own through artificial intelligence—without being explicitly told or programmed to do so.

Cloud computing: Cloud computing refers to the practice of using interconnected remote servers hosted on the Internet to store, manage, and process information.

Real-time data processing: Real-time data processing refers to the abilities of computer systems and machines to continuously and automatically process data and provide real-time or near-time outputs and insights.

Ecosystem: An ecosystem, in terms of manufacturing, refers to the potential connectedness of your entire operation—inventory and planning, financials, customer relationships, supply chain management, and manufacturing execution.

Cyber-physical systems (CPS): Cyber-physical systems, also sometimes known as cyber manufacturing, refers to an Industry 4.0-enabled manufacturing environment that offers real-time data collection, analysis, and transparency across every aspect of a manufacturing operation.

Now that you have a better understanding of some of the core concepts related to Industry 4.0, you're ready to dig deeper into how smart manufacturing can revolutionize the way you run and grow your business.



Some significant events related to ICT in GCC region

- 5th IoT Middle East 2020. [Link](#)
- International 5G Summit. [Link](#)

The screenshot shows the IEEE 5G Summit website. At the top left is the IEEE 5G Summit logo. At the top right is a 'Home' link. The main heading is 'IEEE International 5G Summit'. Below this is a section titled 'Upcoming 5G Summits' with three boxes: 'Rabat, Morocco September 17, 2020', 'FREE Online! (Dresden) Sep. 29 - Oct. 1, 2020', and 'Dubai, UAE December 12, 2020'. Below that is a row of six boxes showing the number of summits per year: 6 in 2020, 18 in 2019, 14 in 2018, 19 in 2017, 8 in 2016, and 3 in 2015. The background features a colorful illustration of a smart city with various icons like a house, a car, and a person.

- Internet Of Things Conference & Expo in Kuwait

The screenshot shows the 'TOPICS' section of the IoT Conference & Expo 2017 Kuwait website. A red speech bubble contains the word 'TOPICS'. Below it are six circular icons representing different IoT-related concepts. The topics are listed in two columns, each preceded by a green checkmark icon:

- Moving Beyond the Technology
- Innovation, Evolution and Utility
- Connecting the Physical World
- Smart Cities – Where the Opportunities are
- IoT Security Landscape and Credible Defenses for New Challenges
- IoT, Artificial Intelligence and the Augmented Reality Workplace
- Demands and New Imperatives in the IoT Connectivity and Operating Landscape
- The Real Internet of Things: From “Things” to Business Outcomes - The Real Impact of IoT in Transforming Industries
- Empowering the Future Safely and Securely: Securing Assets in a Smart Value Chain
- Driving Towards the Edge – Enabling Next Gen IoT Capabilities

At the bottom left, there is a logo for 'IOT THE INTERNET OF THINGS CONFERENCE & EXPO 2017 KUWAIT'.



- Qatar Industry 4.0 Congress 2021. [link](#)
- Saudi youth is ready to taste IoT. [link](#)
- The 4th Saudi International Exhibition and Conference for Internet of Things. [Link](#)



- 13th International Smart City Expo 2021, Dubai. [Link](#)



HOME ABOUT AGENDA SPEAKERS DELEGATES PARTNERS CONTACT



For more information, the editorial team suggests the links below:

European Union

<https://www.consilium.europa.eu/en/press/press-releases/?Page=1>

<https://ec.europa.eu/trade/trade-policy-and-you/publications/news-archive/>

Gulf Wide

<http://www.gdnonline.com/>

<http://gulfbusiness.com/>

<https://www.arabianbusiness.com/gcc>

Bahrain

<http://www.newsofbahrain.com/>

<http://www.bna.bh/en/index.aspx>

KSA

<http://www.arabnews.com/>

<http://saudigazette.com.sa/>

<https://www.spa.gov.sa/?lang=en>

Kuwait

<http://www.arabtimesonline.com/news/>

<http://news.kuwaittimes.net/website/>

<https://www.kuna.net.kw/Default.aspx?language=en>

Oman

<https://timesofoman.com/>

<http://www.omanobserver.om/>

<https://www.muscatdaily.com/>

https://www.omannews.gov.om/ona_eng/#/home

UAE

<https://www.khaleejtimes.com/>

<https://gulfnnews.com/>

<https://www.thenational.ae/>

<http://wam.ae/en>

Qatar

<https://www.qatarday.com/news-category/local>

<https://www.qatarliving.com/news>

<https://www.gulf-times.com/>

<https://www.thepeninsulaqatar.com/>



EU-GCC Dialogue on Economic Diversification

A project funded by the European Union

As always, we welcome your feedback on the topics and sectors that interest you most and you would like to see covered in future editions of the newsletter.

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