

# Innovation in the MENA Region

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“Innovation is critically important in contemporary economies. A key driver of the improvement in consumers’ living standards is the growth and success of firms, and the wealth of nations. Investment in research and development (R&D) is essential for firms and nations to produce innovations and compete for the future” (Tellis et al. 2008). Innovation contributes to a strong economy through job creation, income generation and long-term economic growth (Hausman & Johnston, 2014). As a result, acquiring the capacity to innovate now lies in the core of policies and strategies of both developed and developing countries (Bizri, 2017). Innovation is increasingly focused on developing economies, supporting competitiveness and economic growth (Terzic, 2017), and enabling them to catch-up with and grow in a global economy (Naude et al. 2011).

The Middle East and North Africa (MENA) region is experiencing huge economic and political transformations under the pressure of the 2011 Arab Spring uprisings.<sup>1</sup> But, there is a potential for greater and better growth, and for new opportunities among youth to transform their communities. The revolutions in the Arab world have sparked “a flow of entrepreneurial energy and an increased sense of empowerment among the youth, translating into an array of social entrepreneurial ventures tackling cultural activities, health, agriculture, water and sanitation, and women’s empowerment” (Jamali and Lanteri, 2015).

In addition, the MENA region benefits from its geographical location, with access to large markets in Europe and Asia, young societies with improving levels of education,<sup>2</sup> and the high-speed transformation into knowledge economies in certain countries, like the United Arab Emirates (UAE Ministry of Economy, 2018), Qatar (Faghieh and Sarfaraz, 2014), and Israel (Rosenberg, 2018). A recent report by the World Bank confirmed that MENA countries have the potential to leapfrog into the digital economy, thanks to, for example, a cohort of well-educated young people with the ability to adapt quickly to new digital and mobile technologies (World Bank, 2018).

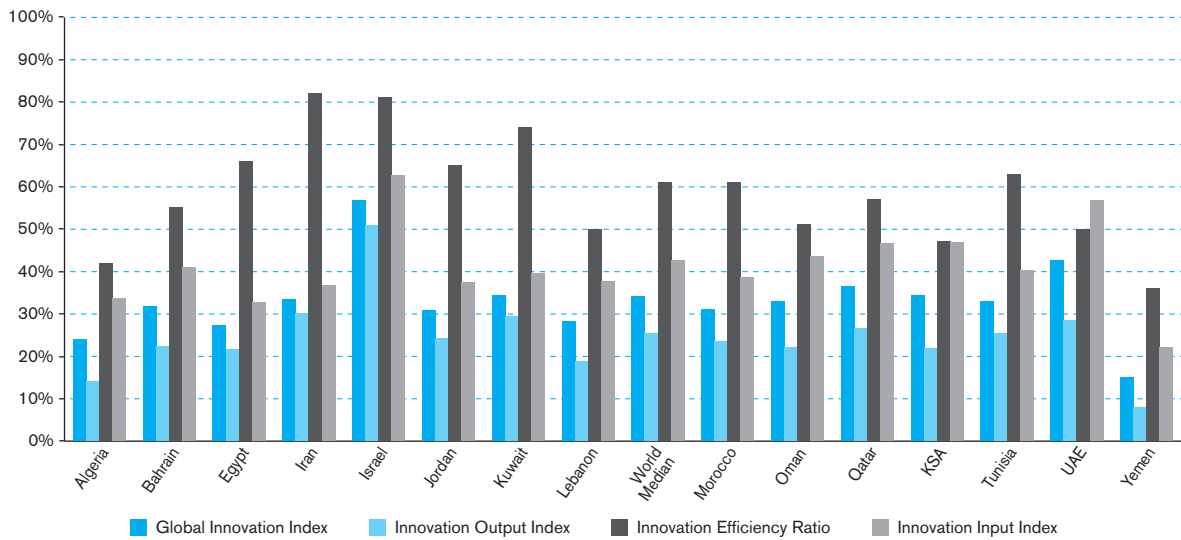
## The Global Innovation Index: MENA Countries’ Scores and Ranking

The Global Innovation Index (GII) is an annual ranking of countries around the world based on their characteristics and performance in innovation (Dutta et al. 2018). It is one of the most comprehensive surveys for drawing international comparisons in innovation landscapes, and is developed by Cornell University, the European Institute of Business Administration and the World Intellectual Property Organization (WIPO). GI 2018 includes detail metrics for 126 countries (around 91% of the world’s population). It includes four main measures: the overall GI, the Input and Output Sub-Indices, and the Innovation Efficiency Ratio. However, the overall GI is the average of the Input and Output Sub-Indices (Dutta et al. 2018). In the overall GI Index, MENA countries lag behind North America, Europe, South East Asia, and East

<sup>1</sup> OECD. “The OECD and The Middle East & North Africa.” [www.oecd.org/mena/](http://www.oecd.org/mena/).

<sup>2</sup> Ibid.

CHART 25 Innovation Index for MENA Region Based on GII 2018



Source: Data from the Global Innovation Index 2018

Asia and Oceania. Moreover, many of the Arab countries have displayed downward trends in the GII since 2011. Chart 25 below provides a list for 15 MENA countries for which GII, innovation input and output, and the innovation efficiency ratio indices were available in the GII 2018 Report. Regarding the GII index, we find that Israel and the Gulf countries (United Arab Emirates (UAE), Qatar, Kuwait and Saudi Arabia (KSA)) fall above the median value for the entire world economies. Only one Arab country (UAE) ranks within the first 50 countries worldwide in the GII 2018, while two countries (UAE and Qatar) were in the GII 2017, and three countries (UAE, Qatar, and KSA) in the GII 2016. This shows a decrease in innovation performance in the Arab countries, mainly for the oil economies in the Gulf region. Iran leads the MENA countries as regards the innovation efficiency ratio, followed by Israel, Kuwait, Egypt and Jordan. This reflects these countries' efficient exploitation of innovation inputs. However, the United Arab Emirates (UAE) and Saudi Arabia (KSA) lead the MENA countries as regards innovation input, but they perform lower than other MENA countries regarding innovation efficiency, which reflects low innovation output capabilities.

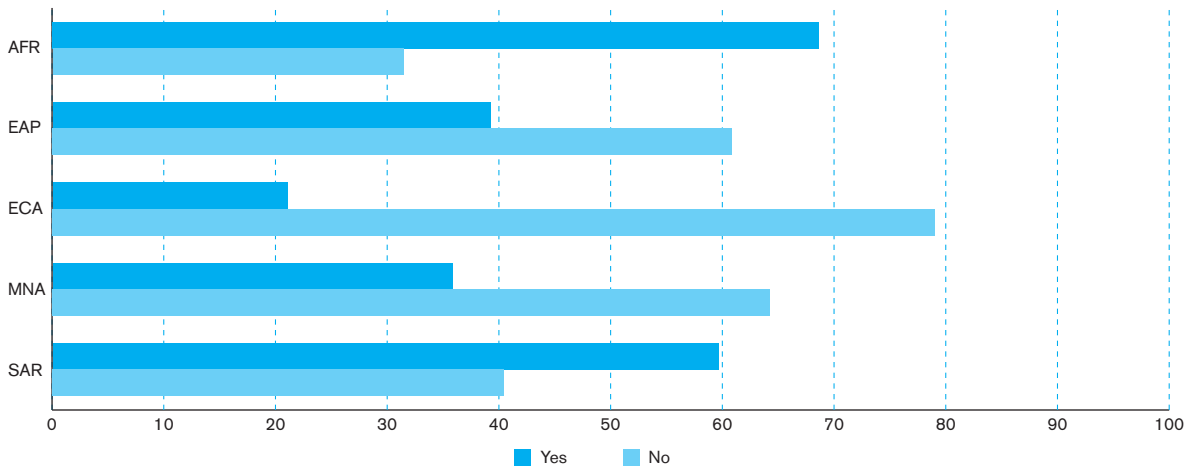
**In the overall GII Index, MENA countries lag behind North America, Europe, South East Asia, and East Asia and Oceania. Moreover, many of the Arab countries have displayed downward trends in the GII since 2011**

Charts 26 & 27 below show low to medium innovation performance for the Middle East and North Africa (MNA) region at firm level. For example, only 35.8% of firms introduced process innovation in 2013, in comparison with 66.6% in Africa (AFR), 59.6% in South Asia (SAR) and 39.2% in East Asia and Pacific (EAP) (developing countries only). As regards product innovation, MNA lies in the middle, somewhere between the fastest growing region in Africa and South Asia<sup>3</sup> and the slowest growing countries of Europe and Central Asia (ECA)<sup>4</sup> (only developing countries). With only ECA lagging behind, the MENA region has one of the lowest R&D expenditures (See chart 28). Only 15.2% of firms in the MENA region spend on

<sup>3</sup> South Asia holds on to its top spot as the world's fastest growing region, with growth set to step up to 7.0 percent in 2019, then 7.1 percent in 2020 and 2021.

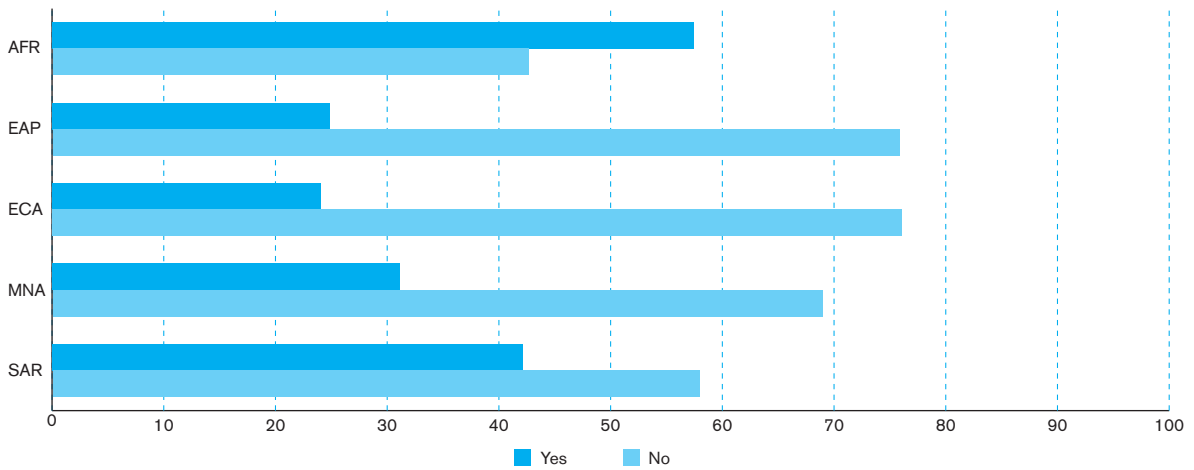
<sup>4</sup> Economic growth in Europe and Central Asia slowed to 3.1% in 2018, and is projected to decline to 2.1% in 2019, amid slowing global growth and uncertain prospects.

CHART 26 Percentage of Firms' Process Innovation by Region in 2013



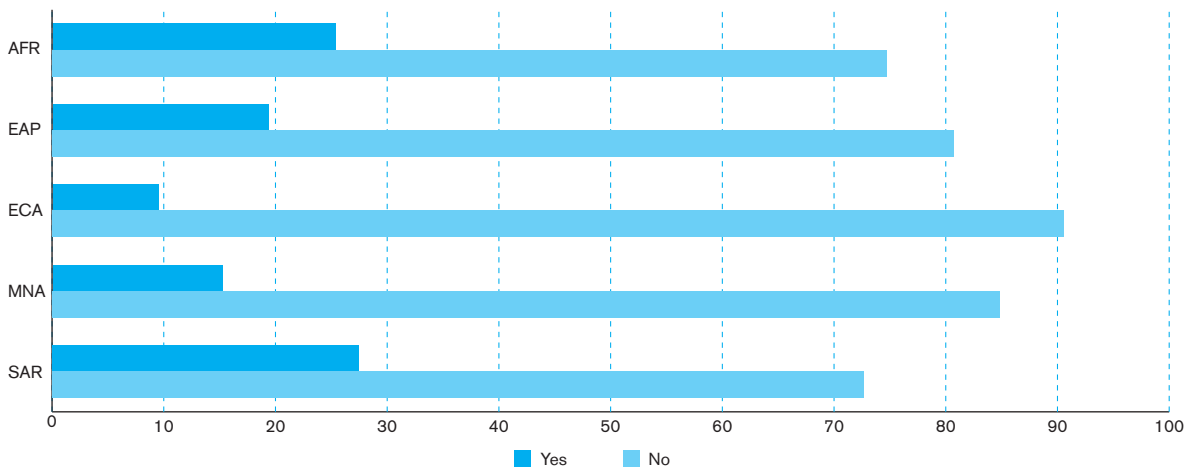
Source: Data from the latest Enterprise Survey, World Bank Group database.

CHART 27 Percentage of Firms' Product Innovations by Region in 2013



Source: Data from the latest Enterprise Survey, World Bank Group database.

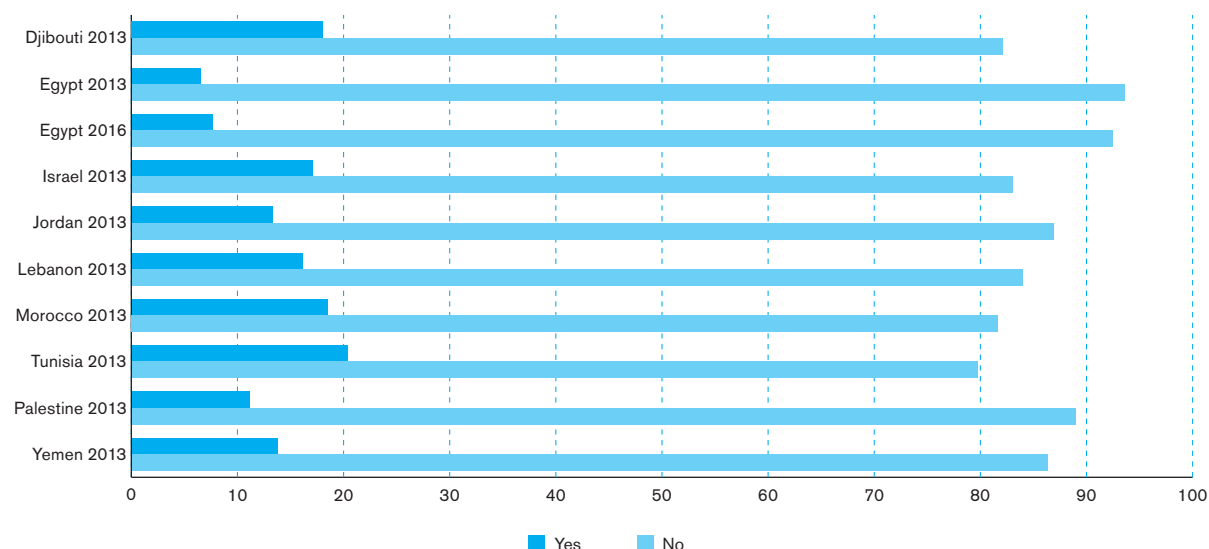
CHART 28 Percentage of Firms' Expenditure Spent on R&amp;D by Region in 2013



Source: Data from the latest Enterprise Survey, World Bank Group database.

CHART 29

Percentage of Establishments that Spend on R&amp;D in the MENA Region



Source: Data from the latest Enterprise Survey, World Bank Group database

R&D in comparison with 27.4% in SAR and 25.3% in Africa.

Firms in MENA countries have different R&D expenditure, with better performance in North African countries like Tunisia (20.3% of firms spend on R&D) and Morocco (18.4%). Chart 29 below indicates that Egypt and Palestine had the lowest R&D expenditure in 2013 - 6.5% and 11.1% respectively. This might be explained by Israel's occupation of the Palestinian territories, which weakens investment and the business sector in Palestine.

### The Challenges for Developing Innovation in the Middle East

There is a big concern in many of the MENA countries about the weaknesses of innovation mainly due to the quality of their innovation systems, the absence of sound policy instruments, the lack of appropriate economic structures, the poor education systems and growing unemployment among youth graduates (the gap between the education system and labour market needs) (World Bank, 2018; ESCWA, 2017). The improvements to human capital have not translated into fast economic growth. Meanwhile, MENA governments fail to encourage and, in some cases, actively discourage innovation (World Bank, 2018). Job creation in the MENA region is harmed by the

failure of many countries to adopt new technologies. Here are the most important challenges for developing innovation in the MENA region:

*Little support from the government for innovation, science, and technology*

Government is the cornerstone in any innovation plan. It plays a key role in spending on R&D and knowledge creation, promotion of innovation and technological progress, creating the legal framework for protecting innovation, designing policy programmes to support innovation, driving and adopting emerging technologies, and paving the way to a knowledge-based economy. The governments in the MENA region are being asked to adopt a more proactive role in promoting R&D and technological innovation; adjust to fast-changing global trends in a techno-economic system driven by digitalization and the ICT revolution; establish market-driven competition; and allocate more resources to knowledge generation and the transition to a knowledge-based economy.

*Weak institutional framework*

The GII 2018 report shows that the institutional framework in the MENA region is one of the main obstacles to innovation. With the exception of UAE and Qatar, most of the MENA countries are situated

at the bottom of the GII 2018 report indices (e.g. Egypt, Yemen, Syria and Iran). This might be explained by the deterioration of the political environment and high political instability following the Arab Spring in 2011. Also, the regulatory environment and its quality is still very weak, and many of the MENA countries still lack a regulatory framework for intellectual property rights and innovation. Many of the resource-rich Arab countries (Qatar, KSA, Oman and Kuwait) still exhibit relative shortcomings in market sophistication, business sophistication and the difficulty of resolving insolvency. For example, governments in the MENA region are focused on the protection of incumbents in the telecommunications and banking sector, however, the excessive and outdated regulations impede the accessibility of new actors to the market (World Bank, 2018).

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### *Low investment in knowledge-intensive services and knowledge creation*

Based on the GII 2018, except for Israel and UAE, most of the MENA countries are far below the global trends as regards employment in knowledge-intensive services and gross domestic expenditure on research and development (GERD) by businesses. This reflects the weak capacity of firms in the MENA region to absorb knowledge and new technologies.

### *Fragmentation in the innovation system*

Innovation systems in most of the MENA countries are criticized as being disorganized, disjointed and fragmented, i.e. too many players, too much competition coupled with weak coordination, replication of

ideas, weak connections between the private sector, public sector, and academia, etc. The GII 2018 reveals weak university–industry collaboration for innovation and weak linkages between research and knowledge production and businesses, which negatively affects the core of the innovation process in the MENA region. UNCTAD has noted a low performance of national innovation systems in many of the Arab MENA countries (Gonzalez-Sanz, 2015).

### *Innovation inputs not translated into innovation output*

However, many of the rich MENA countries like Qatar, KSA, UAE and Iran operate with a view to innovation input (investment in human capital, ICT infrastructure, etc.) and are situated above the global average and trends, but have weak performance in many of the indicators of innovation output, like knowledge creation, patents, scientific and technical publications, knowledge diffusion and creative outputs.

## Individual Initiatives for Innovation in the MENA Region

In the last 10 years, and in order to cope with global growth in innovation and technology, many of the MENA countries have developed individual initiatives or policies to promote innovation and the knowledge economy.

### *Egypt*

Since 2011, Egypt has entered a new path of socio-economic development, which upgraded the role of youth in social development. A new approach is, therefore, necessary to create new policies that will enable innovation to support the creation of shared social and economic values. In order to create an enabling environment for scientific research, innovation and technology, Egypt's Ministry of Higher Education and Scientific Research developed in 2015 the National Strategy for Science, Technology and Innovation 2015-2030.<sup>5</sup> The main vision here was to create an innovation system which establishes links

<sup>5</sup> See MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC RESEARCH. "National strategy for science, technology and innovation 2015-2030." [www.bu.edu.eg/portal/uploads/NewsPDF/Scientific\\_Research\\_Innovation\\_5\\_01112015.pdf](http://www.bu.edu.eg/portal/uploads/NewsPDF/Scientific_Research_Innovation_5_01112015.pdf) (in Arabic).

between the education system, R&D and economic sectors in order to translate research outcomes into new innovations.

### *Morocco*

Following regional (MENA region) and global trends, in the late 1990s, Morocco has introduced its National Innovation System (NIS). The main objective was to achieve economic development driven by innovation and scientific research (Hamidi and Benabdeljalil, 2013). The main actors of the NIS are (Hamidi and Benabdeljalil, 2013): (1) the Permanent Inter-ministerial Committee for Scientific Research and Technological Development (PICSRTD), which consists of 24 diverse government officials chaired by the Prime Minister), (2) the Ministry of Higher Education, Scientific Research and Professional Training (MHESRPT), (3) the Ministry of Commerce, Industry and New Technologies (MCINT), (4) the Hassan II Academy of Science and Technology (HII-AST), (5) the National Center for Scientific and Technical Research (NCSTR), and (6) universities, research centres and technical centres.

A series of debates with experts, the business community and civil society has been organized by the High Commission for Planning in Morocco in order to raise the Morocco 2030 Prospective.<sup>6</sup> Also, the Ministry of Trade, Industry and New Technologies launched the Morocco Innovation Initiative in 2009, which aims to spread the culture of innovation and entrepreneurship, increase the competitiveness of the Moroccan economy, and drive R&D at Moroccan universities (ESCWA, 2017).

### *Tunisia*

Policy makers in Tunisia recognized early on the role of science, technology and innovation. A comprehensive framework has therefore been developed over the past three decades to support innovation, develop specific programmes that link science, R&D and economic development, and create a new culture of entrepreneurship (Chaabouni and Bouzaiane,

2018). From an institutional perspective, Tunisia has launched several institutions to support the national policy for innovation and scientific research, like the Secretary of State for Scientific Research and Technology (SERST) in 1991, the Higher Council for Scientific Research and Technology in 1992, the Grant for Investments in R&D (PIRD) in 1995, and the “National Programme for Technology Parks” and the “National Research and Innovation Programme” in 2003 (Chaabouni, 2008).

### *Jordan*

As part of Jordan’s efforts to promote an innovation-based economy, in 2013 the Higher Council for Science and Technology prepared the National Innovation Strategy 2013-2017 with the support of the World Bank and the Korean Development Institute<sup>7</sup>. The main objectives are to disseminate the culture of innovation and R&D, enhance specialized human resources and generate a business environment. The National Innovation Strategy was followed by the National Information and Communications Technology Strategy 2013-2017.<sup>8</sup>

### *Palestine*

Due to the massive socioeconomic burden of Israeli occupation, innovation is yet to figure strongly in economic and development strategies in Palestine. The innovation system in Palestine is criticized as being disorganized, disjointed and fragmented, i.e. too many players, too much competition coupled with weak coordination, replication of ideas, weak connections between the private sector, public sector, and academia (Morrar, 2019). However, in the last decades, Palestinians have invested heavily in human capital through education and career professionalism, which has contributed to knowledge creation, technological development and the promotion of innovation. Following the creation of the Palestinian National Authority in 1994, some of the research institutions assumed a governmental status, which enhanced public awareness regarding the funda-

<sup>6</sup> See HAUT COMMISARIAT AU PLAN. “Maroc 2030.” [www.hcp.ma/downloads/Maroc-2030\\_t11885.html](http://www.hcp.ma/downloads/Maroc-2030_t11885.html).

<sup>7</sup> See <http://inform.gov.jo/Portals/0/National%20Innovation%20Strategy%2012-2013%20with%20NCI.compressed.pdf>.

<sup>8</sup> See <http://inform.gov.jo/Portals/0/Report%20PDFs/6.%20Infrastructure%20&%20Utilities/ii.%20ICT/2013-2017%20National%20ICT%20Strategy.pdf>.

mental role of science and technology in the development of the Palestinian economy:

- Palestine Academy for Science and Technology (PALST)  
This is an autonomous, public, not-for-profit organization established in 1997 and reconfirmed in 2004 by Presidential decree.<sup>9</sup>
- The Higher Council for Innovation & Excellence (HCIE).<sup>10</sup>  
The PNA recently established this Council, which is supposed to regulate innovation in the Palestinian territory and provide technical and financial support for creative and innovative ideas. Its activity has so far been mainly limited to advocacy.
- The Scientific Research Council  
In 2013, the Ministry of Higher Education established the scientific research council chaired by the Education Minister, who is joined by scientific research deans from four Palestinian universities and five members from the private sector and NGOs.<sup>11</sup>

### *Saudi Arabia*

In 2002, the Saudi Council of Ministries launched the National Policy for Science, Technology and Innovation with the ambitious goal of generating a knowledge-based economy in the country. In 2016, Saudi Arabia launched “Vision 2030,” which aims to build a non-oil economy, which is competitive and dynamic. Innovation, entrepreneurship and advanced technologies are at the core of Vision 2030.

### **Conclusion**

This work assesses the current status of innovation in the MENA region using data from the GII 2018 and the World Bank Enterprise Survey. It also discusses the individual initiatives of a group of MENA countries and the main challenges which hamper the role of innovation in socioeconomic development.

<sup>9</sup> <http://palast.ps/en> Palestine Academy for Science and Technology.

<sup>10</sup> Higher Council for Innovation and Excellence [www.hcie.ps/](http://www.hcie.ps/).

<sup>11</sup> Ministry of Higher Education of Palestine. “Scientific Research Council.” [www.mohe.pna.ps/Councils-and-Commissions/Scientific-Research-Council](http://www.mohe.pna.ps/Councils-and-Commissions/Scientific-Research-Council).

Many of the MENA countries have launched their own initiatives to promote science, technology and innovation, but they still lag behind North America, Europe, South East Asia and East Asia and Oceania in many of the innovation pillars. The innovation performance trend for the MENA region shows a decrease in innovation performance, which is clear from the shrinking number of MENA countries listed in the first 50 countries worldwide in the GII 2018. Innovation systems in many of the MENA regions suffer from many challenges like low government support for innovation, science and technology, weak institutional frameworks, weak investment in knowledge-intensive services and knowledge creation, and the fragmentation of innovation systems. There is a need to formulate innovation policies for MENA countries that are built on a common vision for the whole region, and which address legal, economic and social issues based on individual and regional perspectives. Furthermore, it is important to take into account global knowledge and technology when developing innovation policies.

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