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Malaysia's unique story

Industry 4.0 has paved the way for a sharing economy

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THE lifestyle of the ordinary consumer has changed thanks to the disruptive nature of technological change on businesses, which have enabled the average Malaysian to make informed decisions, from the clothes they wear and the food they eat to what they ride to work.

The Fourth Industrial Revolution, or Industry 4.0, has paved the way for a sharing economy as the digital ecosystem takes shape through Big Data Analytics, Virtual Reality, 3D Printing, Drones and Internet of Things (IoT).

How adaptive and agile when faced with technological change is the clarion call to all economies, including developing economies.

In Malaysia, the digital economy has already contributed some 17 per cent of the gross domestic product (GDP) in 2014 — an indication that the nation is ready for a data-driven economy.

Just like national initiatives adopted elsewhere, Malaysia's ecosystem-government has a non-exhaustive menu of activities, which include the pilot of IoT, national empowerment in certification and training, building analytic capabilities, preparing companies towards Industry 4.0 and the National Transformation 2050.

It has been a long journey for Malaysia as it transitioned from a labour-driven economy to a knowledge-driven society, and already key industry players in the electrical and electronic, machinery and equipment, medical devices and automotive parts, and accessories are playing a significant role.

The Industry 4.0 pillars and environment are interrelated, from autonomous robots, simulation, system integration, IoT, cybersecurity, cloud computing, additive manufacturing, augmented reality to big data.

In other words, it is the smart way forward in IoT, Internet of Data, Internet of Services or Internet of People.

Digital Malaysia has begun to show impact in the aspirational goals of the national digital economy, but there remain key challenges which need to be ad-

ressed.

In the inaugural Digital Competitiveness Ranking report from the Swiss business school IMD World Competitiveness Centre, Malaysia has been recognised as among the top two dozen countries in the world which have earned high marks for its digital profile. Malaysia exhibited five factors of strength, chalking up scores for the top 10.

In terms of knowledge, which covers aspects such as strengths in talent, training and education, and scientific concentration, Malaysia ranked second in terms of the science graduates produced. While the quality of science graduates was lauded, there were also inherent weaknesses identified by the report and they pointed to factors such as the net flow of international students, the regulatory framework when it comes to starting a business and the Internet bandwidth speed.

The report noted that while business agility has improved in terms of future readiness, Malaysia needed to improve in terms of sub-factors such as adaptive attitudes, especially where it involves IT retailing and IT integration, where it involves e-government.

Although the factors breakdown in the report pointed to the top strengths and weaknesses, the data captured for the analysis was based on partial hard data and the rest was from perception responses.

In short, ongoing programmes by the various government agencies and public-private partnerships which have unlocked digital opportunities are probably not tracked in time for the report.

The National Transformation 2050 roadmap will help Malaysians face advancements in technology, especially in the use of cyber-physical systems. For Malaysia, its digital profile has been built from decades of planning and the latest digital competitiveness ranking showed it stood the test well, based on the know-how, technology and the country's preparedness to exploit digital transformation.

At the start of this decade, Malaysia made known to the world that it will build an ecosystem that promotes information and communications technology (ICT) in all aspects of the economy to create

communities connected globally and interacting in real time.

IoT is already adopted in public healthcare just as 3D printing is now popularly used in the pharmaceutical industry.

Just as espoused by the 11th Malaysia Plan, the blueprint that will push Malaysia towards realising Vision 2020, several innovative approaches will be the enablers to achieve the ICT goals. Past achievements, which have ensured 83 per cent of services available online in the public sector, are now being complemented by the government's "Inclusive Digital Government Spearheading citizen centric service delivery".

Citizen-centric, data-centric, reliability and assurance, ICT compliance, green technology, digital innovation and open source software, are the basic principles which will guide the implementation. Challenges remain as sophisticated needs increase due to the high expectations from the younger generation as well as change in technology, culture and demography.

Malaysia Digital Economy Corporation (formerly Multimedia Development Corporation) recognises the digital economy as the third wave of IT transformation with even more innovation, productivity gains and economic growth than before.

By 2020, the size of the digital economy is estimated to be at US\$90 trillion and Malaysia and our enterprises — both large, and small and medium-sized — have the opportunity to leapfrog ahead over other countries. But, they would need to change their business models and proactively evolve to stay relevant as Industry 4.0 is all about changing traditional value chains.

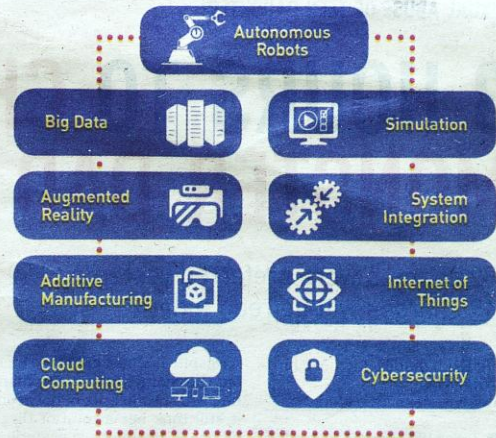
To compete successfully, companies not only need to align themselves towards the same direction by adopting automation, robotics and other smart technologies, but also close the skills gap by retaining their workforce and tapping the pool of digital talent.

The International Trade and Industry Ministry is spearheading the formulation of a national policy on Industry 4.0.

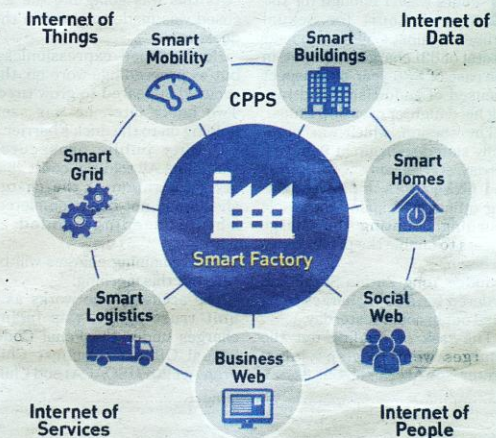
Some major challenges have been identified. For instance, currently there is no clear overarching policy or coordination in terms of Industry 4.0 initiatives. There are also infrastructure and ecosystem gaps that adversely affect adoption of Industry 4.0 initiatives. Substantial capital expenditure may be needed as initial investments in Industry 4.0 while the existing incen-

THE INDUSTRY 4.0 PILLARS AND ENVIRONMENT

Components are interrelated



Source: BCG



Source: Deloitte

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tives and funding are broad-based. In terms of human capital and talent, mismatch in skill sets remains a key challenge.

A high-level task force has been established in the International Trade and Industry Ministry, with members from relevant ministries and agencies, to coordinate the overall formulation of a national policy for Industry 4.0 in Malaysia.

Five Technical Working Groups has been established under the Task Force led by related lead ministries based on five elements, namely infrastructure and ecosystem (Communications and Multimedia Ministry), funding and incentive (Finance Ministry), talent and human capital development (Higher Education and Human Resources Ministries), technology and standards (Science, Technology and Innovation Ministry), and SME development (SME Corp). The national policy is targeted to be completed by end of this year.

Several outreach and awareness programmes on Industry 4.0 have been undertaken by the International Trade and Industry Ministry at the national level, including dedicated ones for industry, government officials and SMEs in May and July 2017. Regional-level seminars will also be conducted in the near future.

The Malaysian Investment Development Authority is also undertaking a study on "Future of Manufacturing Industry 3+2", which will be in input into national policy. The study is expected to be completed in third quarter of this year.

The recently rolled-out Malaysia Productivity Blueprint has also called for the strengthening the readiness of enterprises to adopt and exploit technology and digital advantage (like IR 4.0) as one of its strategic thrusts. The Digital Free Trade Zone, once completed, will position Malaysia among the leading countries in the global e-commerce market.