وزارة التربية والتعليم
Ministry of Education

Statement by

His Excellency Dr. Majed bin Ali Al Noaimi
Minister of Education - Kingdom of Bahrain

Government Leaders Day

MENA Innovation 2018

“Teaching in the internet age means we must teach tomorrow’s skills today”

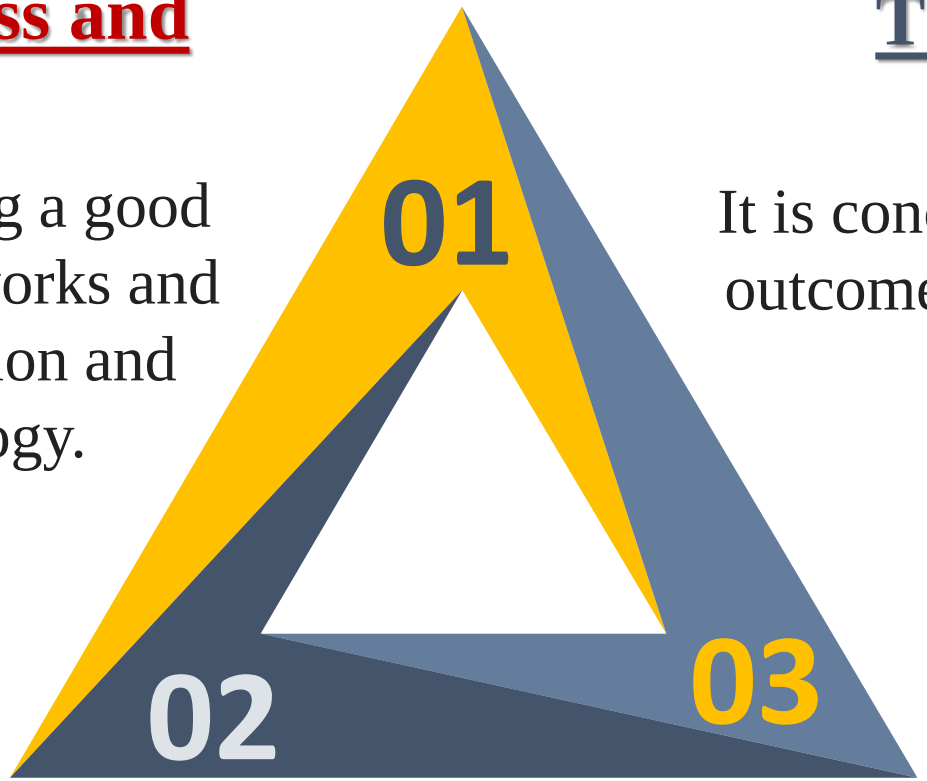
Jennifer Fleming

Professor and chair in the Department of Journalism & Public Relations at California State University,

Stages of ICT development

First stage: Readiness and Preparedness

It is concerned with providing a good infrastructure, including networks and facilities to access information and communication technology.



Third Stage: Impact Measurement

It is concerned with the results and outcomes of the effective usage of ICTs

Second Stage: Intensity of Use

It is concerned with the level and intensity of information and communication technology usage among the community

The Role of stakeholders in building quality infrastructure to invest in ICT

Governments

- Developing and implementing comprehensive, and sustainable national e-strategies through dialogue with the private sector and civil society (Vision 2030, Education Strategies).

Private Sector

- Developing and disseminating information and communication technologies (ICTs), either their content or applications

Civil Society

- Implementing government and private initiatives related to ICT for development purposes.

International & Regional Institutions

- Integrating the use of ICTs in the development process and providing the necessary resources for building the Information Society.

Impact of investment in ICT on the sustainable development of education

Reducing barriers to access education services through investment in information technology

Contributes to sustaining the teaching and learning process

Studies and Predictions on the Impact of ICT on Jobs

«While 1 in 7 jobs may be lost due to automation, a further 32% of jobs will change significantly.

How can we prepare for this?»

The Organization for Economic Co-operation and Development (OECD) March 2018

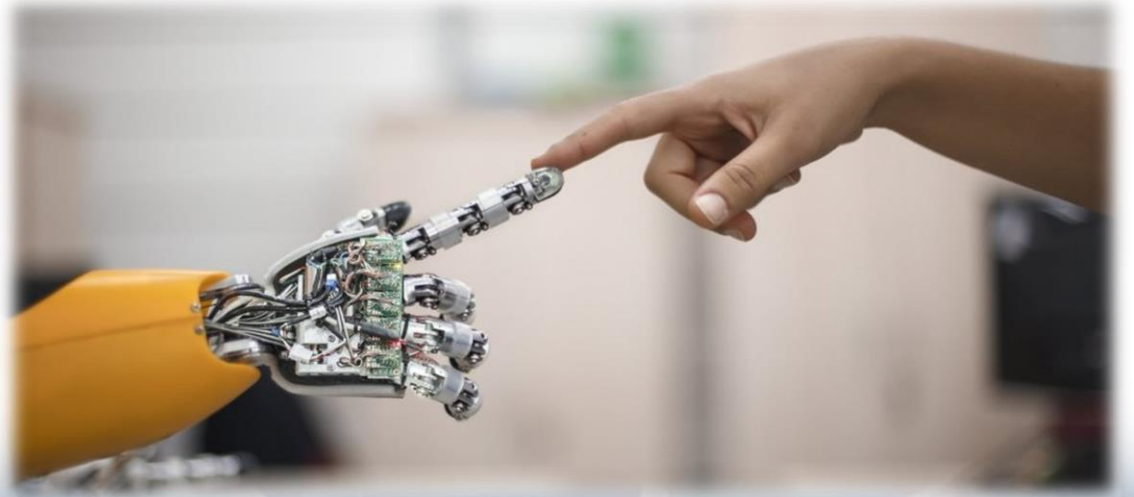
Studies and Predictions on the Impact of ICT on Jobs

- **More than 5.1 million jobs will be lost as a result of labour market changes over the period 2015 to 2020.**
- **Digital skills are critical for jobs and social inclusion in a connected world.**
- **Among the most important ways to enable students to acquire the innovate skills required for the jobs of the digital economy is strengthening institutional capacities and teachers' digital competencies.**

"Skills for a connected world", UNESCO, March 2018

Studies and Predictions on the Impact of ICT on Jobs

According to an Oxford University analysis, almost half of all jobs will be taken over by robots in the next 25 years.



Studies and Predictions on the Impact of ICT on Jobs

On a global scale, the adaptation of currently demonstrated automation technologies could affect 50% of the world economy, or 1.2 billion employees and $14.6 trillion in wages.

Even while technologies replace some jobs, they are creating new jobs.

McKinsey Global Institute, 2017

Studies and Predictions on the Impact of ICT on Jobs

MCKINSEY GLOBAL INSTITUTE
McKinsey&Company

A 2011 study by McKinsey's Paris office found that the Internet had..

created 1.2 million others

destroyed 500,000 jobs

2.4 jobs created

for every job destroyed

McKinsey Global Institute, 2017

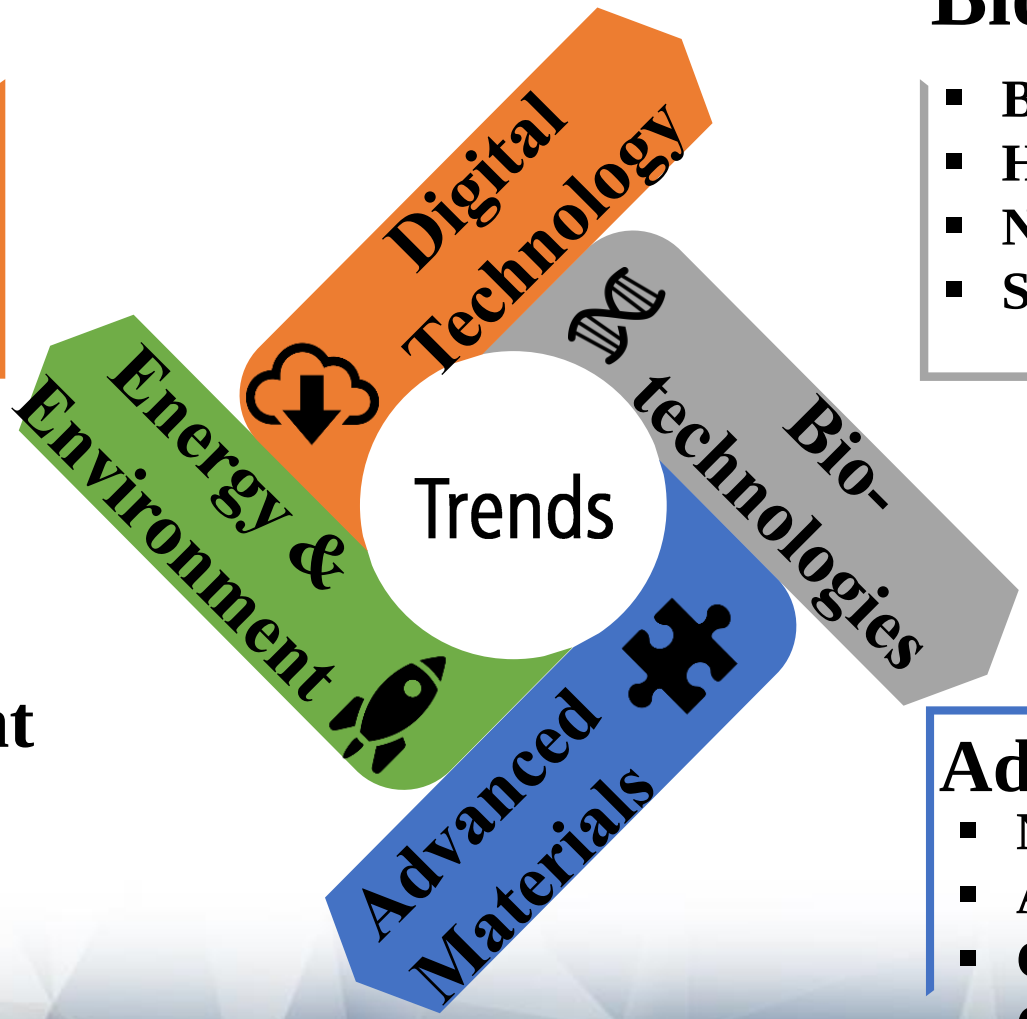
Impact of ICT Employment over the upcoming decades

Digital Technology

- Blockchain
- Artificial Intelligence (AI)
- Internet of Things(IoT)
- Big Data Analytics

Biotechnologies

- Bioinformatics
- Health Monitoring Technology
- Neurotechnologies
- Synthetic Biology



Energy & Environment

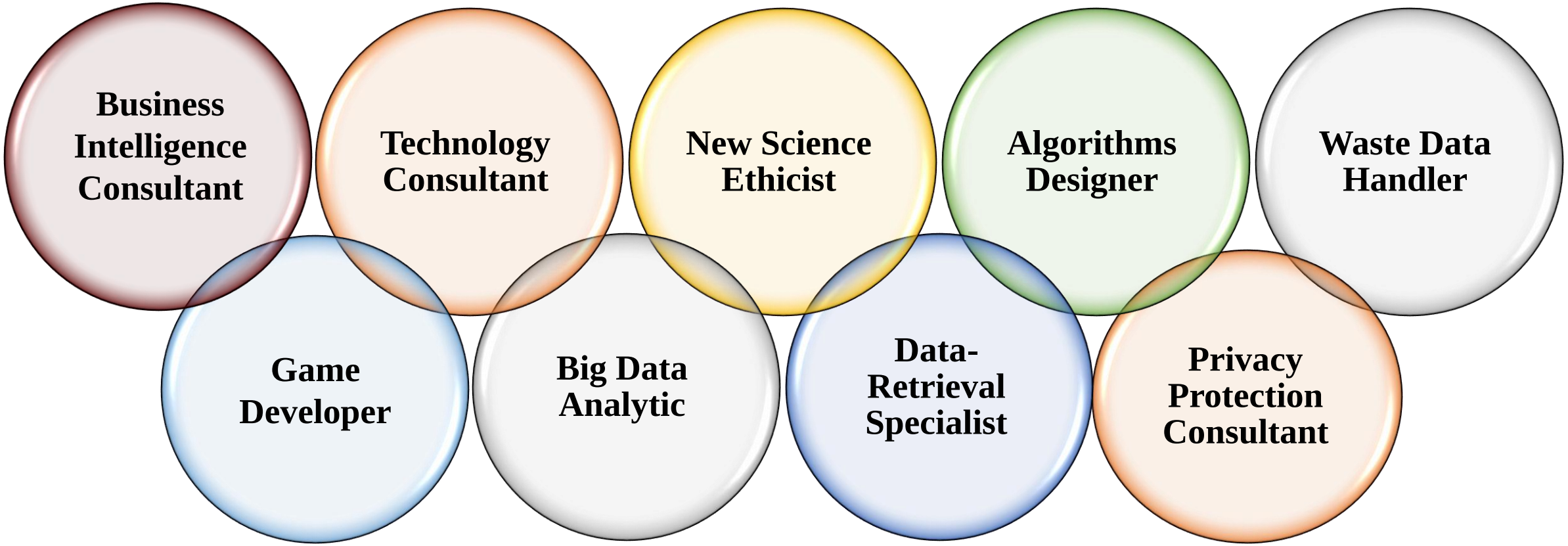
- Micro & Nano Satellites
- Advanced Energy Storage Technologies
- Biofuels

Advanced Materials

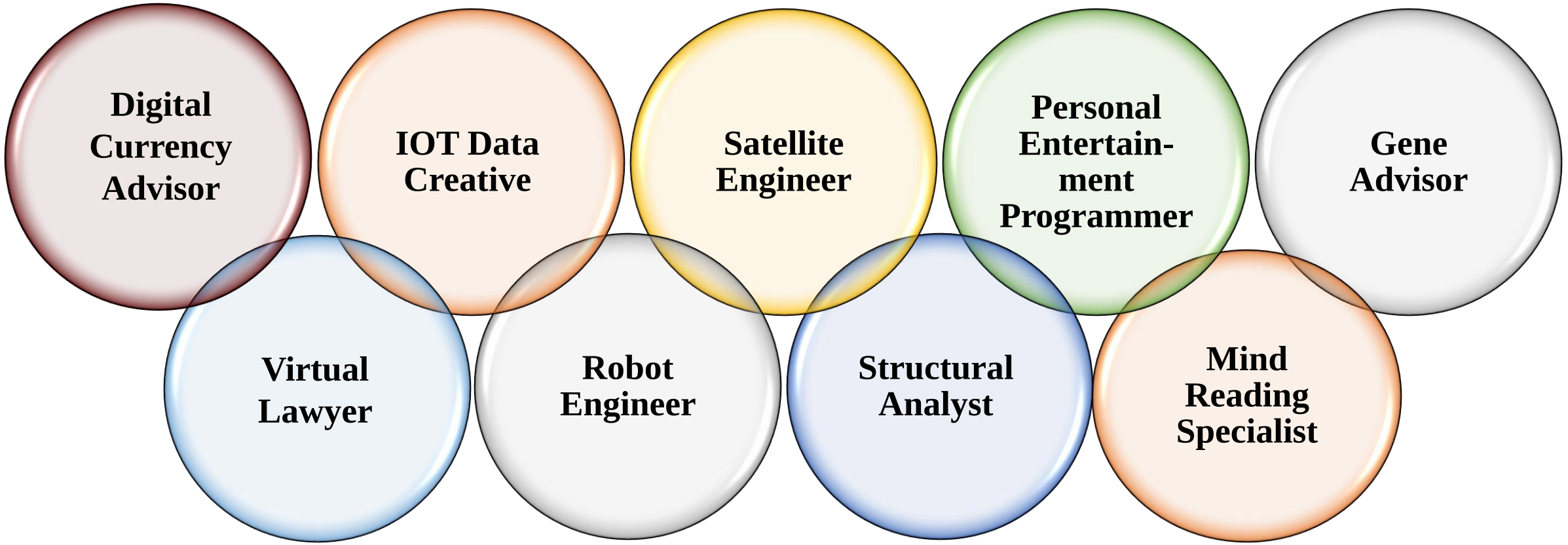
- Nanomaterials
- Additive Manufacturing
- Carbon Nanotubes & Graphene

Source: OECD 2016

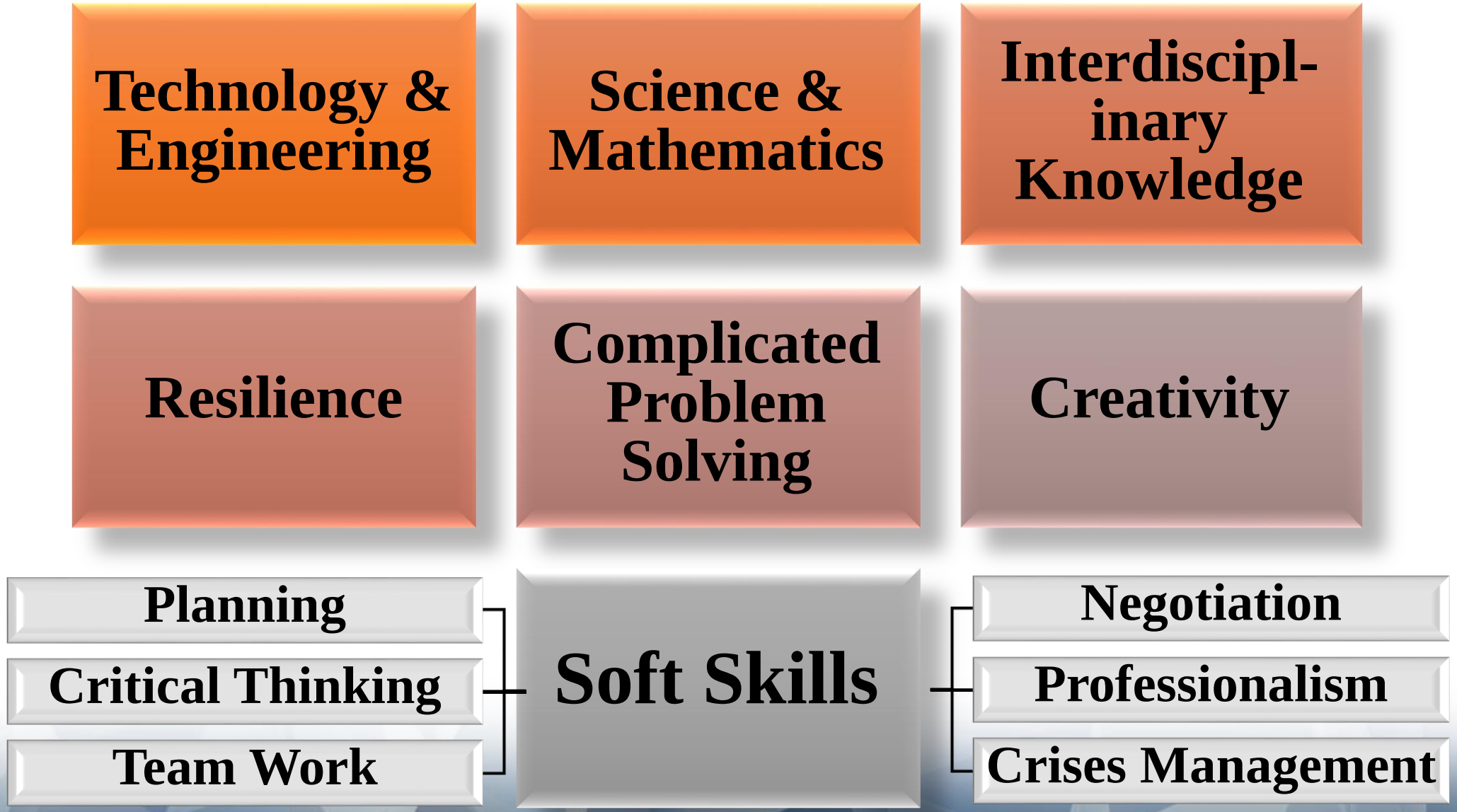
The Impact of Technology on Jobs in the Near- and Long-term Future



The Impact of Technology on Jobs in the Near- and Long-term Future



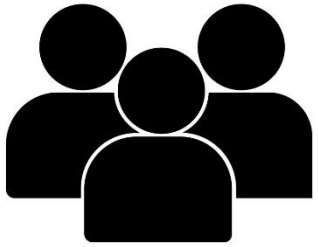
Skills and Knowledge need more focus in the upcoming years



Education System in the Digital Era

1. **Enabling students to acquire the new skills through adopting innovative ways of teaching the academic subjects.**
2. **Delivering Education in an applied and relevant way that is aligned with the requirements of our age.**
3. **Education system based on enhanced collaboration between the government, civil society, and private sector**

Triangle of Effective Integration of ICT in Education



Work culture, ICT Skills, Learning Society, Values

Communication, Networks, Fiber-Optic Cabling, Satellite, Transport, Logistics

Smart Schools, E-gov, E-Content, OER

ICT in the Kingdom of Bahrain

Experiences and Indicators

Ranking of the Kingdom of Bahrain in ICT international reports & indicators

UN Telecommunication Infrastructure Index (TII)

The percentage of Mobile cellular telephone subscriptions 210.4%

Mobile broadband services 157.3%

The percentage of Internet use 98%

United Nations E-Government Report - 19th July 2018

Global Ranking of Bahrain in ICT international reports and indicators

The World Telecommunication/ICT Indicators Symposium (WTIS) 2017

1 **Arab**

31 **International**

International Telecommunication Union's report-November 2017

Ranking of the Kingdom of Bahrain in ICT international reports & indicators

Technological Readiness

Arab
2 /22

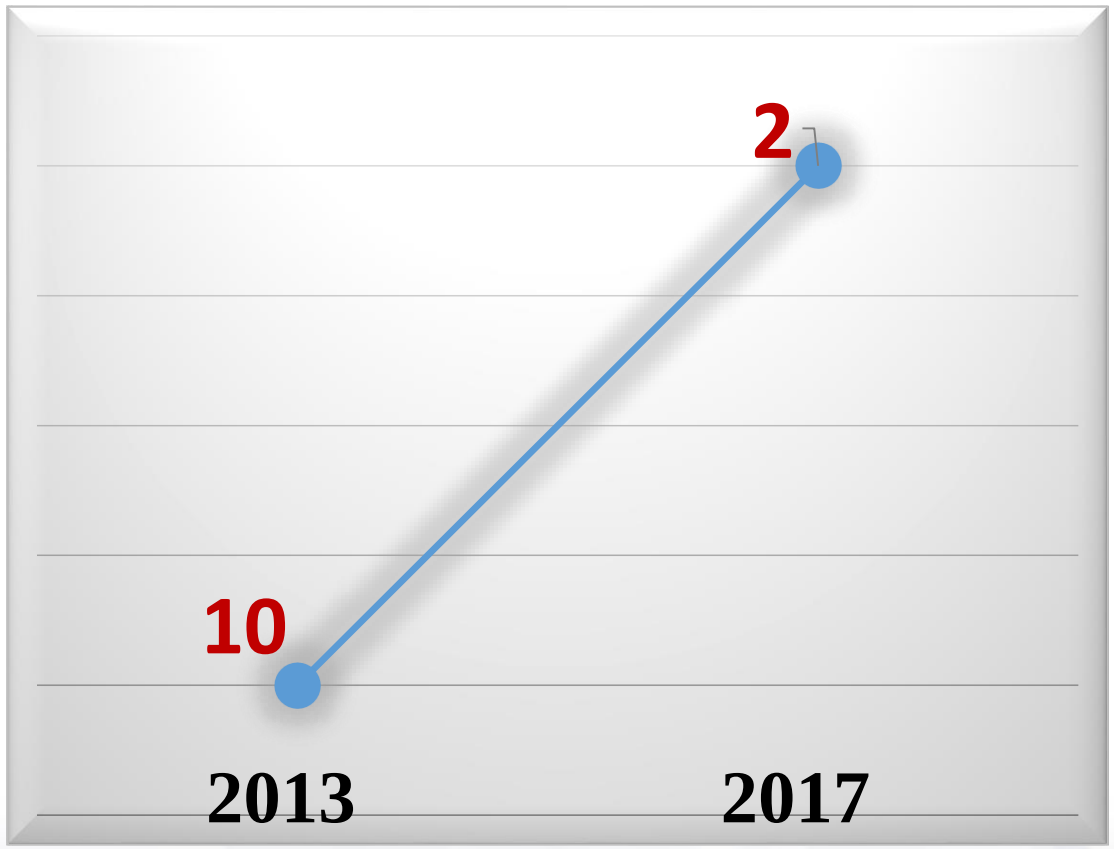
Global
31 /138

22 /148	Gov’t procurement of advanced technology products
34 /148	Availability of latest technologies
36 /148	FDI and technology transfer
34 /148	Firm-level technology absorption

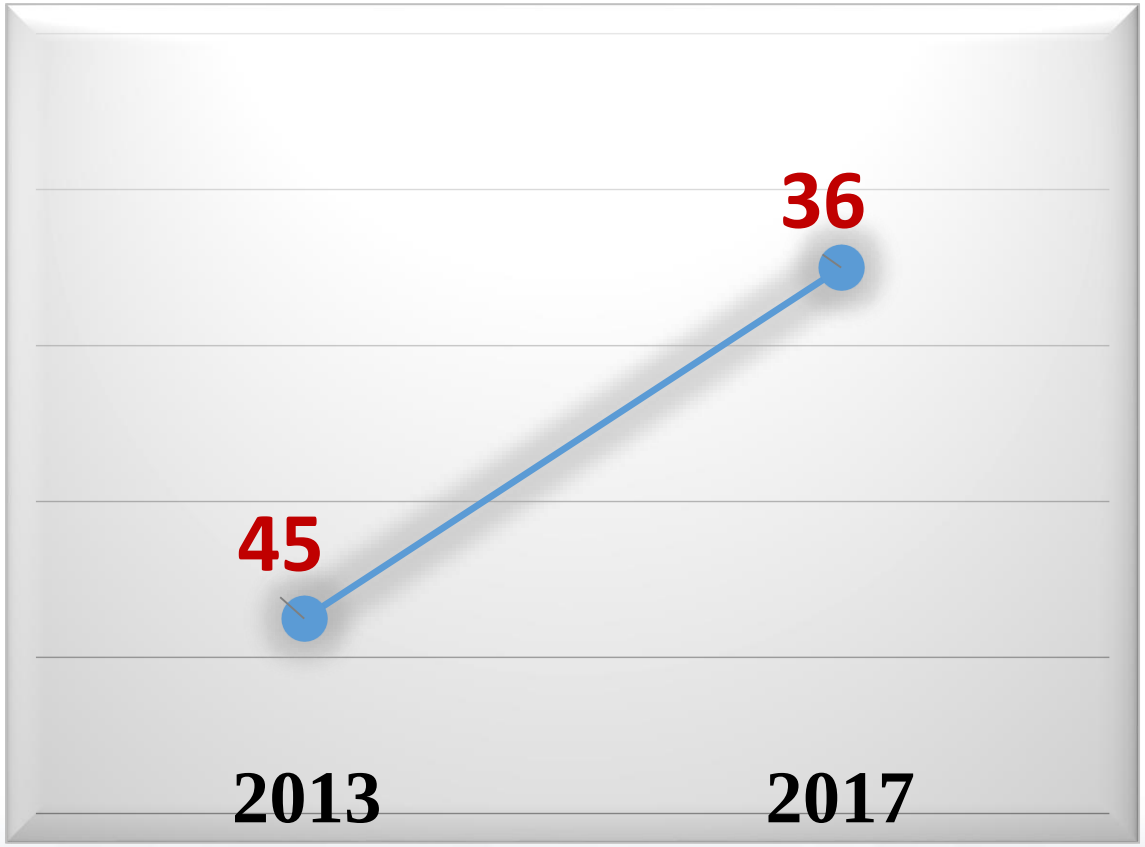
Global Competitiveness Report 2017-2018

Ranking of the Kingdom of Bahrain in ICT international reports & indicators

Percentage of Individuals using Internet



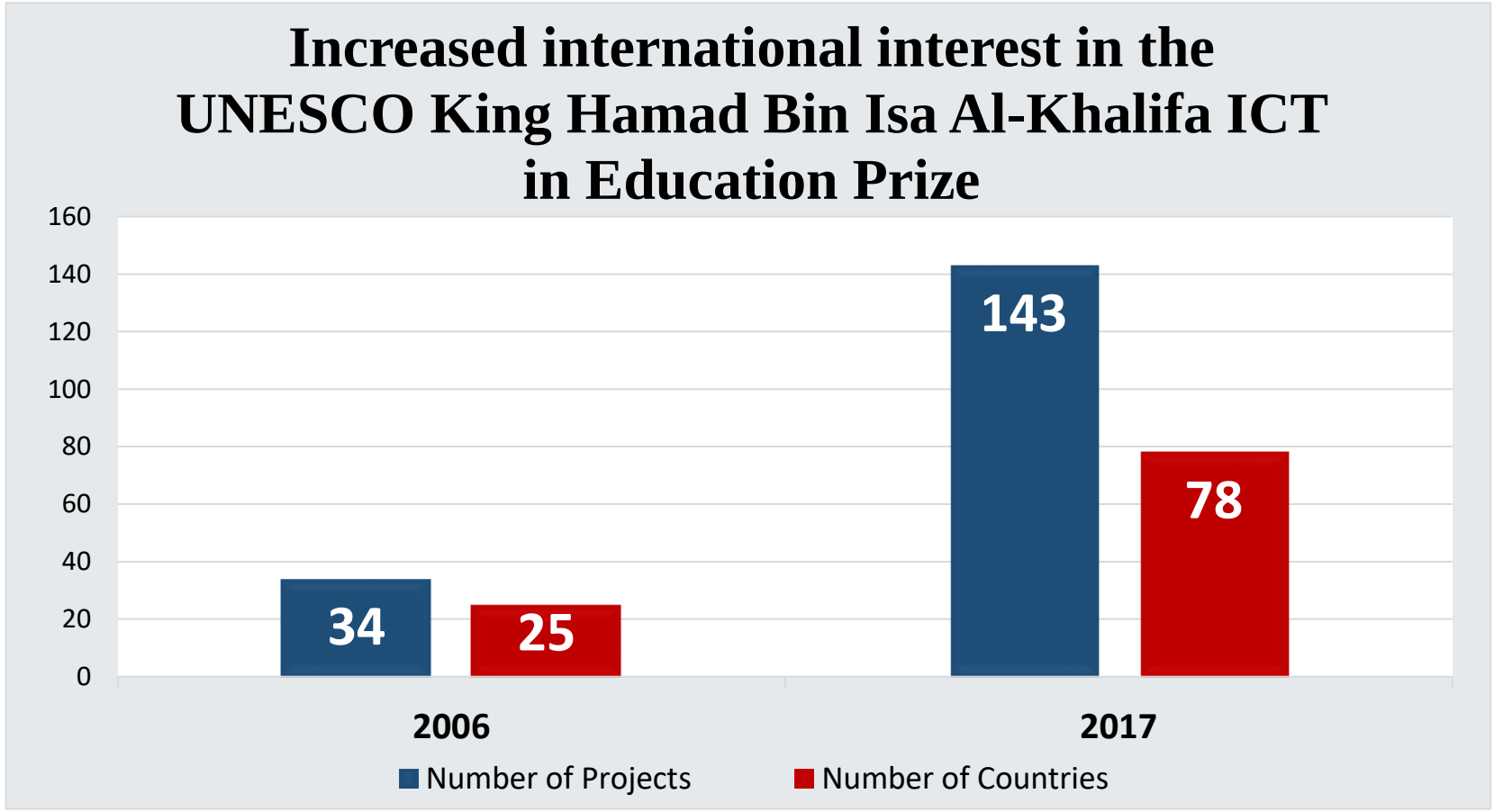
Internet Access in Schools



Global Competitiveness Report 2017-2018

Bahrain Experience in Digital transformation in Education

The UNESCO King Hamad Bin Isa Al-khalifa Prize for the Use of Information and Communication Technologies in Education



The number of projects submitted to compete for the prize has reached (700) projects in 2017, (143) of which reached the final stage.

Some Programs of the Digital Empowerment in Education

Virtual Laboratories

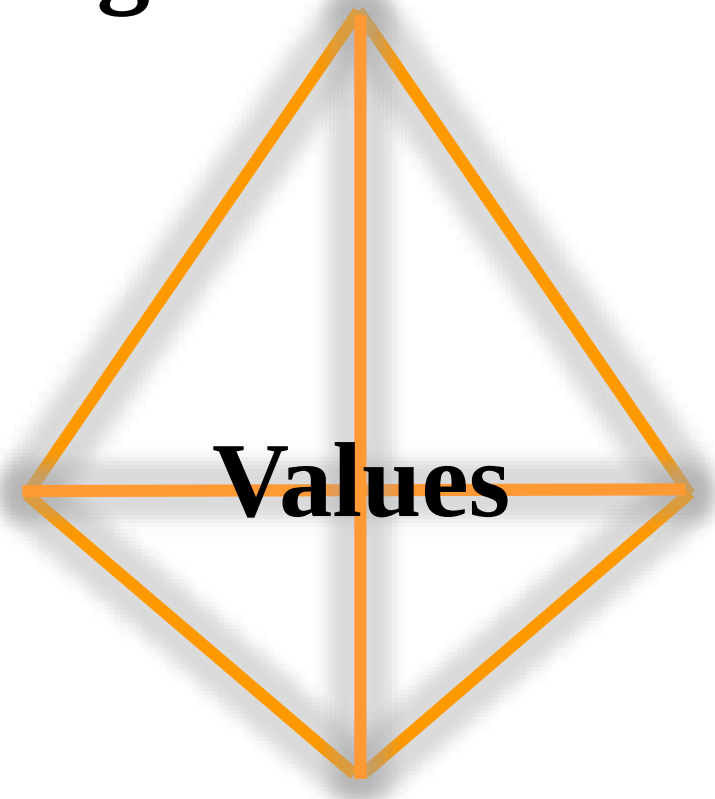
Conducting science experiments (chemistry, physics, biology) and mathematics through virtual laboratory software, which are digital tools that provide an interactive environment for experiments to simulate the real experiment. It has been activated for students and teachers in all primary, intermediate and secondary levels.

Technical Guidance

Developing the skills of teachers in integrating ICT in teaching and learning in the light of educational theories and international standards through building the capacities of educational supervision specialists and the senior teachers to provide guidance and support to teachers. ISTE standards and indicators were adopted for this program.

Inspirational Education Model

Designing Solutions Training



Intelligence **Values** **Technology**

Imagination

The role of the teachers in of ICT employment

“The good preparation of teachers has a significant impact on the learning experience of students, and can increase the return of a classroom for life to 250 thousand dollars”.

Raj Chetty

Professor of Economics at Harvard University

Important Questions

Important Questions

What are the characteristics of an education system that is capable of graduating qualified students for future jobs?

What will the curriculum, classroom, evaluation systems, teacher training programs ... be like?

How can we maintain the balance between knowledge and new skills needed in light of the tremendous technological acceleration?

How can ICT be invested in the sustainability of education services?

What role can modern technology play in addressing educational waste and achieving education efficiency?

“We need technology in every classroom and in every student and teacher's hand, because it is the pen and paper of our time, and it is the lens through which we experience much of our world.”

The educator, author, and public speaker
David Warlick