

حياكم

HAYAKUM* BRIEF

EXPO 2020 WORLD MAJLIS

“Connecting Education and Opportunity
in the 4th Industrial Revolution”



**Bureau
International
des Expositions**

*The people of the UAE use the word “Hayakum” to welcome and invite our guests to join. It is also a parting greeting to welcome them back.

WORLD EXPOS AND GLOBAL CONVERSATIONS

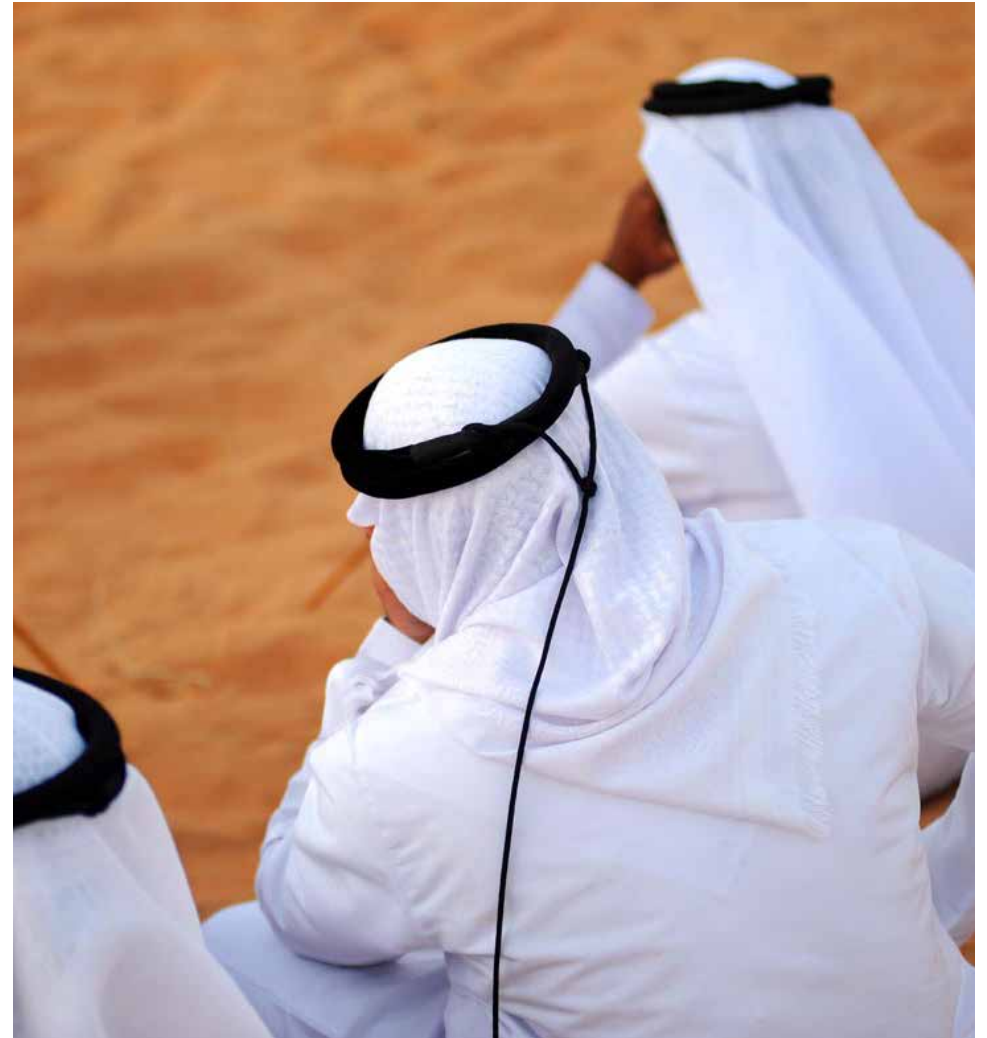
Since the first Great Exhibition held in London in 1851, World Expos have connected people and provided special spaces to spark dialogue amongst those who are curious about the future. With its mix of art and science, imagination and analysis, machines and ideas, nations and people, the Expo is a special place for convening inquisitive minds interested to ask questions about the future and, in so doing, learn more about each other. Expos have always been a mirror of their times.

MAJLIS VISION

Inspired by the ethos of World Expos, we aim to start a global conversation through the World Majlis. A series of respectful yet incisive dialogues that can become a source of high quality, accessible, thought provoking and balanced opinion that addresses the concerns of our global society.

MAJLIS APPROACH

The Majlis seeks to bring together different people and original perspectives on topics of global relevance that can benefit from connected thinking. It is designed to inspire a positive outlook on the future.



“CONNECTING EDUCATION AND OPPORTUNITY IN THE 4TH INDUSTRIAL REVOLUTION”

In our changing world shaped by the 4th industrial revolution, what is the link between education and opportunity? We live in a world of change where technology and digital transformation will soon impact us all. The 4th industrial revolution, which promises to further automate services and intellectual activities, is challenging how we learn, work and live.

The traditional path from books to jobs, from degrees to careers that brought us into the 4th industrial revolution may not be the one that can sustain it and ensure that people can shape their future successfully and inclusively.

With different waves of technological development we have seen major changes in our societies and economies. The transitions between manual labour to machines, the advent of large-scale assembly-line manufacturing and, later, the shift from mechanical to digital production and distribution have transformed jobs, educational systems and policies.

Today, however, many fear that the scale and speed of the changes taking place will impact society beyond current expectations and would require us to rethink how we live and what we value. Others consider that some of the shifts underway may benefit just some and that a technological and opportunity divide could potentially increase inequality within society and between nations.

Understanding the connection between education and opportunity is probably one of the most interesting, complex and inspiring challenges we are faced with today. It is even more challenging as the views and expectations on education and opportunity vary significantly. They tend to often focus more on what we may lose than on the possibilities the future has in store:

Schools should focus on equipping children for jobs that do not exist

– But has it not always been so?

Pervasive connectivity and information can open up infinite possibilities

– But who gets left behind?

We need to shift the learning focus from rigid subjects and qualifications to the ability to innovate and connect ideas

– But then how do we assess capability?

Millions of jobs will be lost in the next 20 years to technology and automation

– But how many will be created and how do we monitor the balance?

We are at the tipping point of exponential change

– But is it not the case that key technologies take decades before they come to fruition and disrupt at a large scale?

In the World Majlis we will explore how we can connect education and opportunity in the 4th industrial revolution from three angles:

■ What type of knowledge and skills will connect people to new opportunities in different contexts?

■ How are technology and sustainability together affecting the future of education and jobs?

■ How do we enable talent, skills and knowledge to flexibly move around the world?

The world today is very different from the past. However, it is worth looking at history, and ask:

- How have technology changes impacted the world of work, driven new innovations and enabled new education and skills to come to the fore?
- Is everything we are experiencing completely new?
- Can we look at the future in an optimistic way?

LAUNDRY WORKERS TO CAREERS

A collision of technologies, indoor plumbing, electricity and the affordable automatic washing machine put an end to the drudgery of hand-washing, freeing up low-skilled workers so they could spend less time in the laundry and more time caring for other people in the community. In 1901 in England and Wales, 200,000 people out of a population 32.5 million were engaged in washing clothes. By 2011, while the population had grown to 56.1 million, a mere 35,000 people worked in the sector. Meantime the number of nursing auxiliaries and assistants has risen exponentially, 909% over the last two decades. As laundries became more automated, hospitals have been able to reallocate human resources. Many workers have been moved from dull, manual labour in the laundry to more impactful roles as nurses and other healthcare professionals.

SCHOOLS AND INDUSTRY

The education system we know today is largely the product of the industrial age. In the 19th century schools became a replacement for fieldwork, factory work or domestic activities. The school curriculum and organisation became a mirror of the structured nature of the adult professional world.

LAMPLIGHTERS TO ELECTRICIANS

Amidst the rivalry between Edison and Westinghouse during the invention of a practical lightbulb in the late 19th century, much debate focused on the different options of alternating versus direct current. At the same time, many were concerned that, whatever the system, as the technology spread across the key US cities there would be a dramatic



impact on jobs. Many people predicted the end of employments for the thousands of lamplighters. In reality, as the adoption of electric light spread rapidly, many were retrained and became electricians, helping to wire the new infrastructure. Moreover, as more applications for electricity were invented, the demand for electricians to install and repair these provided a steady stream of work for reskilled labour.

Today, we can see the 4th industrial revolution starting to reframe future roles.

SURGEONS AS SUPERVISORS

The use of automation and robotics has already transformed surgery. Technologies such as sensors, embedded intelligence, augmented reality and 3D visualization are improving diagnosis, navigation and speed of operations and helping to drive a shift towards minimally invasive techniques. Robots such as the Da Vinci system, which is controlled by a surgeon from a console, are now showing impressive outcomes. Looking ahead the role of surgeons is likely to evolve as robotics increasingly allows them to supervise operations – monitoring machines doing key procedures. The shift is seen as analogous to the change in the airline industry where autopilot technology has steadily evolved. Although planes can now take off, fly and land all by themselves, we want to have a human in charge and in the cockpit. Equally, in hospitals, for the next decade at least, we will have surgeons in the theatre, but with a different role.

FROM PHDS TO MICRO DEGREES

Educational materials of the highest standards are increasingly available on many digital platforms and many employers require skills that are different from the ones certified by educational institutions. A growing number of universities are also exploring how, alongside traditional degrees, there is the possibility to create opportunities for continuous learning, skill training and retraining, through “MicroMasters” degrees. We might even see the role of students and employees, trainer and trainee shifting and merging through a process of life-long retraining, with education viewed as a service on demand. In parallel, while a new technology such as blockchain might be seen as a threat displacing numerous professions, it will become a critical enabler to certify credentials, validate skills and facilitate the connections between employers and job seekers.

NATURE AND MACHINES

A recent study on the Amazon published in the Proceedings of the National Academy of Science by a group of scientists led by Carlos Nobre, argues the significant reduction in deforestation opens new paradigms of sustainable economic development, particularly if coupled with the tools of the 4th industrial revolution. Linking the Amazon biological assets such as biodiversity, natural processes, materials, ecosystems and molecules with technologies such as artificial intelligence, robotics, genomics, and 3D printing can generate significant innovations in products and services. A greater understanding of the knowledge of indigenous and traditional communities about biomolecules and the forms and processes of ecosystems can lead to new opportunities in many areas including health, pharmaceutical, carbon capture, construction, textiles as well as governance.

MORE CREATIVES

As machines undertake more repetitive and knowledge intensive tasks, the value of human creativity increases. People that design and develop products, services and user experiences will be in increasing demand. Just as the Internet opened up new online business models and created millions of new opportunities globally, so some believe that a confluence of open innovation, collaboration and wider platform integration will drive the creative economy forward. Together, many now regard these industries not only as a vital part of the new knowledge economy but also as capable of revitalising depressed areas and building cultural heritage. While many other sectors are suffering, creative individuals are blending culture and technology to generate jobs and build organisations based on social values and inclusion.



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UPTAKE AND THE
WAY FORWARD

Our conversation in the World Majlis on 20th November 2017 will build on these and other examples of change and look ahead to the opportunities and challenges in the next decade.

We hope that the ideas that emerge will spawn new avenues of thought and will inform the conversations in future Majlis in the UAE and in other parts of the world.



THANK YOU

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