

FLASHES

A MONTHLY MAGAZINE ON KNOWLEDGE AND DEVELOPMENT
BY THE MOHAMMED BIN RASHID AL MAKTOUM FOUNDATION

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KNOWLEDGE
INDEX



جائزة الشيخ محمد بن راشد آل مكتوم للمعرفة
SHEIKH MOHAMMED BIN RASHID AL MAKTOUM
KNOWLEDGE AWARD



The Knowledge Summit 2015

The way to Innovation

AED20





مبادرات محمد بن راشد آل مكتوم العالمية
Mohammed Bin Rashid
Al Maktoum Global Initiatives



مؤسسة محمد بن راشد آل مكتوم
MOHAMMED BIN RASHID
AL MAKTOUM FOUNDATION

جائزة الشيخ محمد بن راشد آل مكتوم للمعرفة

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Honoring International Achievements
in Knowledge and Innovation

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FOREWORD

Dear Readers,

As the UAE celebrates the 44th anniversary of its Union, our leadership is very much focused on taking the Nation forward on the path towards an innovative society. The UAE has been ranked first among the MENA countries in terms of performance in the 2014 Global Innovation Index, according to a report published by Cornell University, INSEAD and the World Intellectual Property Organisation.

Now the goal is much bigger with the determination to scale the global heights in terms of innovation by 2021. On the eve of the celebration of the Innovation Week, the UAE announced the launch of 100 initiatives worth Dh300 billion aiming for knowledge-based economy.

The thrust of the 100 initiatives policy by President His Highness Sheikh Khalifa Bin Zayed Al Nahyan, called the Higher Policy on Science, Technology and Innovation, is now focused on education, health, energy, transportation, space and water. This is a far-sighted policy in which future generations in the country are set on the path of a post-oil economy, independent from the vagaries of

energy markets and prices. His Highness Sheikh Mohammed Bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, said: "The higher policy that includes scientific initiatives, legislative recommendations and financial investment is a strategic decision that aims to steer the economy away from its dependence on oil."

Taking our cue from the great strides the UAE is making, it is our pleasure to announce, under the patronage of His Highness Sheikh Mohammed Bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai, the Knowledge Summit 2015, to be held between 7-9 December at the Grand Hyatt Hotel in Dubai. Designed around the theme "The Way to Innovation", the Knowledge Summit will focus on four key pillars: Education, Information Technology, Media and Film Industry as well as Scientific Research.

An exciting world of innovation awaits this young nation and its citizens..

HE Jamal Bin Huwareb
MD of the Mohammed Bin Rashid
Al Maktoum Foundation



مبادرات محمد بن راشد آل مكتوم العالمية
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Empowered lives.
Resilient nations.



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The Knowledge Summit 2015

The way to innovation

2015
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INDEX

The Knowledge Summit 2015 will witness the announcement of the "Arab Knowledge Index" results. Developed by MBRF in partnership with UNDP, this index will monitor the status of knowledge in the Arab world on an annual basis, based on number of sub-indices in the economic, social and knowledge levels. The Index will be offered as a practical tool to measure knowledge in the Arab world, and will provide accurate and practical information about the status of knowledge in the Arab communities to decision-makers, experts and researchers, to offer guidance in the formulation of development plans and policies. The Index will focus on several critical sectors: Education at its various levels, R&D and Innovation, Economy, and ICT.

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'OUR FLAG WILL CONTINUE TO FLY HIGH AS A SYMBOL OF PRIDE AND NATIONAL UNITY'

Flag Day on November 3 also coincides with the anniversary of President His Highness Sheikh Khalifa's accession

His Highness Sheikh Mohammed Bin Rashid Al Maktoum, Vice President and Prime Minister and Ruler of Dubai, hoisted the UAE National Flag

in the Dubai Creek Park on November 3, with the participation of 5,000 students from Dubai schools, representing more than 100 nationalities, in celebration of the UAE Flag Day.

Flag Day, which is celebrated on November 3, also coincides with the anniversary of President His Highness Sheikh Khalifa Bin Zayed Al Nahyan's accession to the Presidency of the country.

Speaking on the occasion, His Highness Sheikh Mohammed stressed the importance of the event in symbolising national values and fuelling the spirit of loyalty for the country.

"It reminds us of our duty towards our country and our commitment to the flag, to do what we can to keep it flying in pride and dignity, motivate us to further our work and diligence in the glory of our country, and always maintain its position among the ranks of the greatest countries," he said.

"I gave directions for our national flag to be raised today at the same time, and in doing so I wanted to emphasise the important fact that we are all one in the UAE, we confirm our belonging to one nation, work to achieve the one goal which is glory, and consolidate our loyalty to the leader of the march of development, President His Highness Sheikh Khalifa Bin Zayed Al Nahyan, promising Allah Almighty to forever keep our flag always flown high in pride of our country and the unity of its people."

He added, "We know that our union is a symbol of strength and unity, and it is our duty to keep it a towering beacon of our dignity among nations."

Addressing the children participating in the event, the Ruler of Dubai said, "You are the future and who will shape the future. Celebrating Flag Day is not only by using your hands but by using your mind's ideas and creativity."

In response to Sheikh Mohammed's call, all federal and local government entities raised the UAE Flag at the same time at 12 noon on November 3, to reaffirm allegiance to the UAE flag, which is a symbol of the country's unity and greatness and represents the aspirations for a better future for the people of the UAE. †



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Why innovation is on top of UAE's agenda

COLLABORATING WITH STANFORD UNIVERSITY

His Highness Sheikh Mohammed bin Rashid Al Maktoum launched a national programme to develop higher education programmes to help meet the country's human resource requirements and produce the specialised talent needed for the next phase of the UAE's development. At the launch event organised by the Ministry of Higher Education and Scientific Research in Dubai, HH Sheikh Mohammed said, "Our objective is to prepare the new generation for the future, for a new world that requires different skills. Developing the right educational curriculums and tools will support the UAE in maintaining its global competitiveness over the next decade. The coming generations will be required to develop the skills of innovation, analysis and entrepreneurship to keep pace with the rapid changes in technology. Public education is our next target for change."

Minister of Higher Education and Scientific Research Sheikh Hamdan bin Mubarak Al Nahyan also added that the new innovation and entrepreneurship curriculums represent a crucial step towards achieving the objectives of the National Innovation Strategy and UAE Vision 2021. He said UAE universities will start teaching these curriculums from January 2016.

The scope of the new programme includes the development of innovation and entrepreneurship curriculums, the training of university faculty to teach these curriculums, workshops to raise awareness among teachers and university

professors about the programme, symposiums and visits to Stanford University and Silicon Valley. The programme will also facilitate direct interactions between UAE university professors and Stanford University experts.

INVESTING IN THE FUTURE

In a separate development that highlights the UAE's commitment to innovation and education, President His Highness Sheikh Khalifa bin Zayed Al Nahyan has endorsed the UAE's Higher Policy for Science, Technology and Innovation, which includes 100 national initiatives in the educational sector, health, energy, transportation, space and water sectors with investment of over AED300 billion. It also includes targets to increase investment on research and development (R&D) in the UAE by threefold and increase the percentage of knowledge workers in the country to 40 per cent by 2021.

HH Sheikh Mohammed bin Rashid Al Maktoum attended the inauguration of the UAE Innovation Week 2015. UAE Innovation Week features the presentation of 900 development projects in the fields of education, healthcare, judicial services and human resources by CEOs of innovation in the government sector.

His Highness added that innovation in government is not an intellectual luxury, administrative improvement or propaganda but rather the essence of the government's role, development and evolution. It is the vital factor behind the transformation of a nation. †

Stanford University



UAE's 44 pioneers are our ambassadors

We have pioneers in every Emirati home in the UAE since early times, says Sheikh Rashid

It was indeed a proud moment for UAE's 44 pioneers cutting across generations and across all fields of endeavour to be honoured at a national event – UAE Pioneers Award 2015 – as part of the 44th National Day celebrations.

His Highness Sheikh Mohammed Bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, said he was proud of UAE nationals, and stated that the country would provide everything to enable them to achieve excellence and become leaders in all fields so that they become ambassadors for the UAE.

"We have today honoured 44 personalities who are UAE pioneers. They are our pride and honouring them is a thank-you message from the Emirati people for their devoted efforts. We have pioneers in every Emirati home in the UAE since early times. They are the individuals who we can count on to lead the UAE's effort to achieve top rankings in all fields and our ambassadors to the world," he said.

During the ceremony, Sheikh Mohammed honoured 44 distinguished Emirati personalities in various fields such as education, health, innovation, technology, sports, arts, culture, media and philanthropy as well as government and military sectors and distinguished initiatives.

Topping the list of those honoured was His Excellency Ahmed Khalifa Al Suwaidi, the UAE's

first Foreign Minister. Sheikh Mohammed said: "We honour Ahmed Al Suwaidi, the first foreign minister and the first to deliver the Union statement. We are proud of him for his efforts to build the UAE."

Sheikh Mohammed was speaking at the second edition of the ceremony. The event was held for the first time last year following Sheikh Mohammed's call to the public and his followers on social media networks to nominate 43 pioneers in the UAE in various fields to honour them during the UAE's 43rd National Day celebrations.



BOOK LAUNCH

On the sidelines of the ceremony, Sheikh Mohammed also launched the 'UAE Pioneers 2014' book, which is an encyclopedia featuring 43 Emirati leaders and pioneers in their respective fields

who were honoured by His Highness at the first edition of the UAE Pioneers initiative last year.

The launching was attended by a number of winners in 2014. During the event, the pioneers signed the book and shared their experiences with the audience.

The book, published in cooperation with Dar Kuttab Publishing House, which will serve as a reference guide for future generations, highlights the initiative as an innovative platform to celebrate the UAE's achievements and promote the culture of excellence among UAE citizens. It promotes the ideal of sacrifice for the country and leadership through the stories of the UAE Pioneers, showcasing the success and excellence achieved by each individual and their loyalty to the homeland.

ANNUAL INITIATIVE

The Organising Committee of UAE Pioneers initiative said the ceremony is an annual event to honour leading Emiratis in various fields. The committee said it received during the nomination period, which began earlier this month and lasted for 10 days, more than 2,600 entries through the website of the initiative. The committee reviewed the names with the concerned authorities for approval. †



Sheikh Mansour Bin Zayed Al Nahyan, Deputy Prime Minister and Minister of Presidential Affairs receives award on behalf of Shaikha Fatima bint Mubarak - Special Honour



Saqr Majed Al Marri - First Emirati Inventor



Dr. Hawa Al Mansouri - First Emirati to Invent a Catheter

Launching an innovation fund worth AED 2 billion

His Highness Sheikh Mohammed bin Rashid Al Maktoum has launched a Fund designed to provide financing solutions for innovators across various sectors within the UAE, and support them in transforming ideas and suggestions into innovation projects which will contribute to the country's national innovation strategy and to achieving the UAE Vision 2021.

The "Sheikh Mohammed bin Rashid Al Maktoum Fund to Finance Innovation" is a federal government initiative represented by the Ministry of Finance (MoF). The Fund has been established to enhance funding opportunities in areas of innovation, by providing reasonable funding to entrepreneurial innovators and guaranteeing access to the commercial loans required to finance their projects. The Fund will

also contribute to creating a supportive environment for innovation through the collaboration of various financial institutions and funding entities within the UAE, including commercial banks, investment funds, family businesses and other funding entities.

The conference, which was held as part of the Ministry's participation in 'UAE Innovation Week', included two sessions led by Dr. Andreas Klasen, Professor of Law and Economics at the University of Offenburg, Germany, and member of the International Advisory Board of the Executive Committee in Germany; on financing innovation and innovative financing, as well as the role of government entities in providing a suitable environment for innovation. Both sessions were attended by HE Younis Haji

Al Khoori, Undersecretary of MoF, and tunnelling technology expert Dr. Martin Herrenknecht, an award-winning entrepreneur and Founder and Chairman of the Board of Directors of Herrenknecht.

The sessions were also attended by Yann Ballet, Head of Project and Structured Finance at Airbus Group, one of the participants from the Shariah Compliant Fund, which was established in collaboration with the Islamic Development Bank (IDB) in the field of aircraft leasing and Mr. Craig Moore, Founder and CEO of Beehive, the UAE's first online marketplace for peer-to-peer financing, and previously the Founder and COO of IBM's data analysis and migration software company, Butterfly Software. The pilot phase will be launched during the first half of 2016. †



HH Sheikh Mohammed attends opening of Emirati Media Forum

Senior officials, editors-in-chief of local newspapers, academicians, writers and journalists were also present

His Highness Sheikh Mohammed Bin Rashid Al Maktoum, Vice President and Prime Minister and Ruler of Dubai, attended the opening of the third Emirati Media Forum held at the World Trade Centre.

Present at the opening were Sheikh Hamdan Bin Mohammed Bin Rashid Al Maktoum, Crown Prince of Dubai and Chairman of Dubai Executive Council, Sheikh Maktoum Bin Mohammed Bin Rashid Al Maktoum, Deputy Ruler of Dubai, Lt. General Sheikh Saif Bin Zayed Al Nahyan, Deputy Prime Minister and Minister of the Interior, Sheikh Ahmed Bin Mohammed Bin Rashid Al Maktoum, Chairman of Mohammed bin Rashid Al Maktoum Foundation, Mohammed Bin Abdullah Al Gargawi, Minister for Cabinet Affairs, and Dr. Sultan Bin Ahmed Sultan Al Jaber, Minister of State and Chairman of the Board of National Media Council (NMC).

Senior officials, editors-in-chief of local newspapers, academicians, writers and journalists were also present at the forum.

During his tour to the forum, Sheikh

Mohammed stopped at workshops, organised for the first time at the forum, and the media centre set up to provide full support to journalists covering the annual one-day event organised by Dubai Press Club. Sheikh Mohammed also visited the stand of DP World, the strategic partner of the forum.

He also launched the “Al3aen”, a new Arabic language news portal and newspaper based in Abu Dhabi which will provide coverage of the Arab Region and beyond, analyses of a variety of political, economic and sports topics.

Lt. General Sheikh Saif Bin Zayed Al Nahyan, Deputy Prime Minister and Minister of the Interior, who delivered the keynote of the forum, said positive citizenship requires positive media that champions the country in all circumstances based on credibility and responsible transparency.

He also demanded that all Emiratis have a sense of national and social responsibility when transmitting, carrying or sharing ideas through various media. Sheikh Saif expressed his pride in the UAE Armed Forces taking part in the Saudi-led Arab Coalition’s war in Yemen and said

they are making steady progress in defending the region and the right of its peoples to dignified life while protecting the achievements made by the UAE including openness, freedom of expression and media freedom.

The UAE deputy prime minister also hailed local media organisations for covering the funerals of the UAE Armed Forces’ martyred servicemen and showing their families’ high sense of national responsibility and belonging while the injured servicemen showed courage and patriotism.

Mona Ghanem Al Marri, director-general of Dubai Government Media Office and chair of Dubai Press Club, noted in her speech that the exceptional developments in the region have produced great challenges.

She also noted that the UAE declared its firm backing of victims of injustice and the Yemeni people’s defence of their country where Emiratis sacrificed their lives to defend what is just and right.

She underscored the importance of standardising local media discourse based on the forum’s focus on the need for a media agenda that is nationally responsible.

The forum, Al Marri noted, reflects solidarity between the leadership and people of the UAE.

She recalled that Sheikh Mohammed previously stressed the need for constructive media that helps people and boost growth and development. [f](#)

HRH Princess Haya receives Giglio d'Oro Award

Recognition by Florence-based Galileo 2000 Foundation for outstanding contributions in the humanitarian field

For her outstanding contributions in the humanitarian field, HRH Princess Haya Bint Al Hussein, Wife of Vice President and Prime Minister of the UAE and Ruler of Dubai HH Sheikh Mohammed Bin Rashid Al Maktoum, received early last month the prestigious 2015 Giglio d'Oro Award.

The award ceremony was held on November 7 in Florence, Italy. The Giglio d'Oro is awarded annually by the Italy-based Galileo 2000 Foundation to individuals who make significant contributions to peace, music and art.

In her acceptance speech, Princess Haya paid tribute to His Highness Sheikh Mohammed, "The recipient should have been my husband, His Highness Sheikh Mohammed – without his loving support and generosity, I would not have been able to do nearly so much.

I am deeply honoured by this recognition of my humanitarian work I do on behalf of His Highness Sheikh Mohammed and the United Nations. I will treasure this Award, not as a reminder of all that has been done, but as a reminder of all there is still to do."

Princess Haya has been widely recognised for her contributions to global humanitarian causes. In her role as a UN Messenger of Peace, she is dedicated to helping raise global awareness of the UN Millennium Development Goals (MDGs), including the eradication of extreme poverty and hunger. The chairwoman of the International Humanitarian City in Dubai, she is a former World Food Programme (WFP) Ambassador Against Hunger.

Dubai and the UAE, she said, are at the forefront of the global humanitarian effort. "Few people know this, but the UAE has moved into the number one position among the world's donors, giving 1.2 per cent of GNI every year to foreign aid in more than 100 countries – nearly \$5 billion from

a country of only 8 million people," she said in her speech.

MOHAMMED'S HUMANITARIAN INITIATIVES

Princess Haya further said that Sheikh Mohammed's recent humanitarian initiatives exemplify a creative and innovative approach to aid. She told the audience about His Highness Sheikh Mohammed's recently established Mohammed Bin Rashid Al Maktoum Global Initiatives, which will launch the largest and most comprehensive development programme in the Arab region.

Speaking about the global humanitarian effort, she said though

impressive progress has been made in the fight against poverty, hunger and disease, more needs to be done. "The question is not, what have we done well, but how can we do more as we race the hourglass of poverty, of hunger, of disease," she said.

Recognising the contributions of aid workers around the world, she said: "My personal list of heroes includes the aid workers in Medecins Sans Frontiers, the World Food Programme, the UN peacekeepers, the Red Cross and Red Crescent, to name a few. They often struggle against great odds with little reward and each and every one of them is deserving of our recognition, respect and support."

"The question is not, what have we done well, but how can we do more as we race the hourglass of poverty, of hunger, of disease."

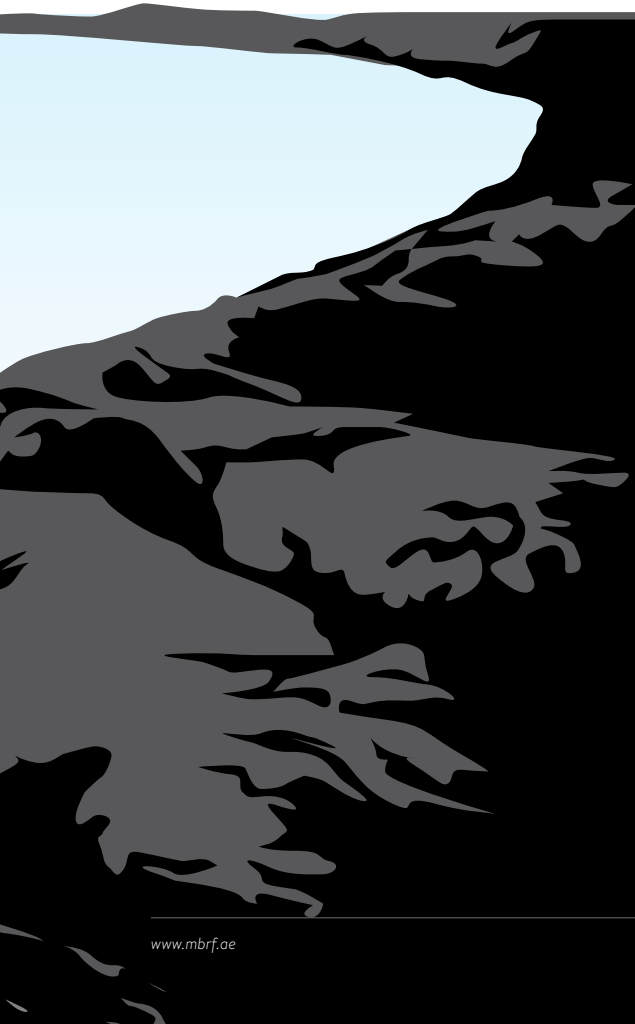


INNOVATING THE NATION:



UAE'S AMBITIOUS JOURNEY INTO THE FUTURE

The country is now determined to scale the global heights, says two top academics at Mohammed Bin Rashid School of Government



The UAE celebrated the Innovation Week last month [November 22-28], a week-long festival to incentivise innovation across government bodies, educational institutions and private sector entities in all the emirates.

Dr Ali Sebaa Al Marri, Executive President, Mohammed Bin Rashid School of Government (MBRSG), spoke at length to *Flashes* about the country's boundless ambitions for innovation.

"The UAE's innovation strategy, which was announced in October 2014, outlines a very ambitious agenda. It provides a road map for a sustained effort to turn the country into one of the best in the world in terms of creativity and innovation in all spheres of life. It asks government entities to reduce their spending by one per cent and to channel the savings into research and innovation projects. This stress on innovation is a part and parcel of the UAE Vision 2021, which envisages the UAE as a competitive and world-class knowledge economy," Dr Al Marri explains. >

> Pointing out that a knowledge economy is “where knowledge, not labour, or raw material or capital, is the key production resource,” Dr. Al Marri drew attention to a 2006 World Bank study that compared the wealth among nations. “The study demonstrated that the main differential between wealthy countries and poor countries was intangible capital. This form of capital – which includes knowledge, goodwill, and intellectual property assets – accounted for the lion’s share of wealth in the rich countries. It is important to understand this in order to properly make sense of the UAE’s current focus on innovation,” says Dr. Al Marri.

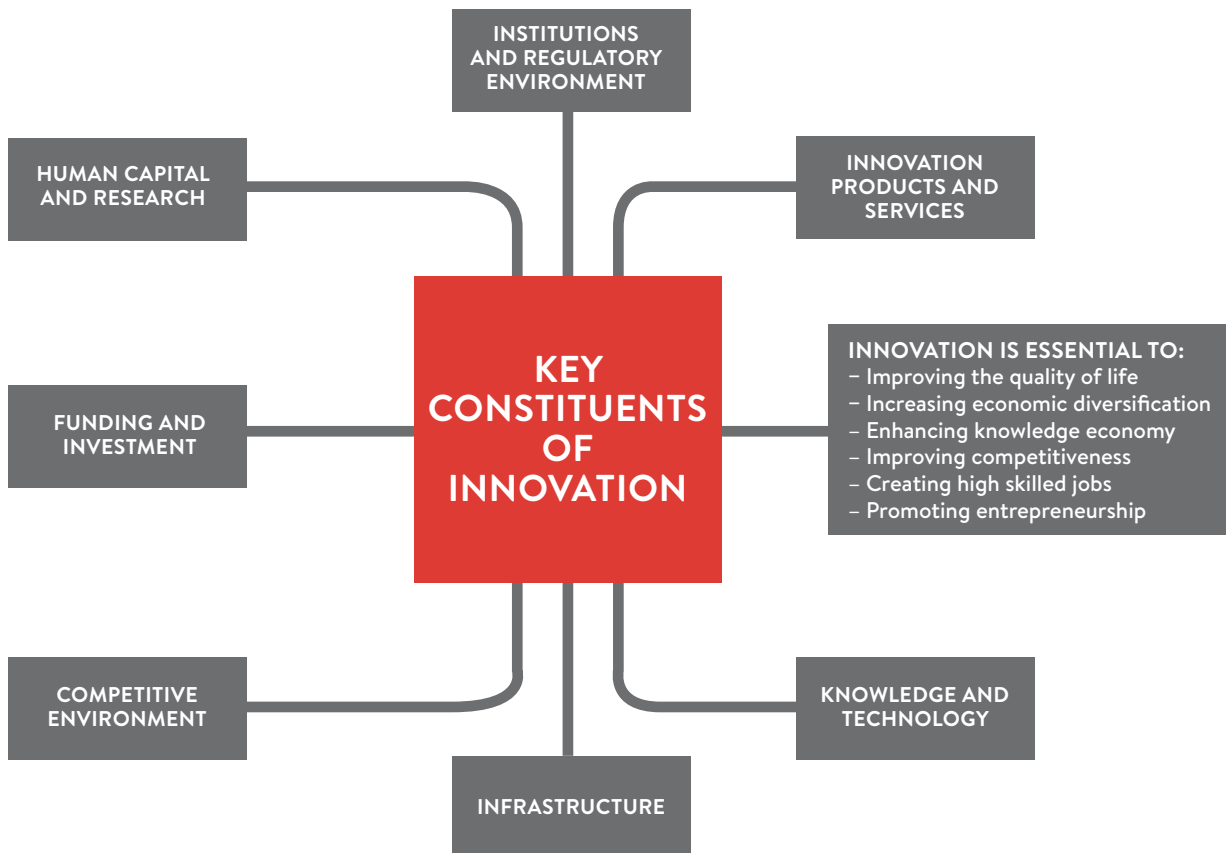
“The Innovation Strategy emphasises the centrality of innovation in seven crucial sectors: renewable energy, transport, education, health, technology, water and space. The first implementation phase includes 30 national initiatives that will be fully rolled out within three years. These initiatives include new legislation, innovation incubators, investment in specialised skills, private-sector incentives, international research partnerships, and an innovation drive

within government. These are currently in the first phase of implementation, with several government entities already having appointed chief executive officers for innovation as decreed by the Government. The UAE Government’s agreement with the prestigious Cambridge University, UK, to train 60 innovation officers assumes special significance in this context,” he adds.

BUILDING CAPACITIES

The Executive President of MBRSG explains that the Innovation Week held in the UAE was intended to build capacities and spread a culture of creativity.

“It also provides the opportunity to motivate government organisations to proactively seek newer and fresher perspectives and practices. A number of seminars and events preceded the celebration of the Innovation Week in order to prepare the ground for this momentous event. In February this year, we at MBRSG held a roundtable discussion on smart policies and government innovation in association with the Singapore-based Lee Kuan Yew School of Public Policy. Scholars from Singapore, Australia, Germany,



the UK and the US took part in the deliberations,” says Dr. Al Marri.

The UAE is already rated as one of the most pioneering nations in the Middle East. The 2014 Global Innovation Index, which is published by US-based Cornell University, the European business school INSEAD, and the World Intellectual Property Organisation, ranked the UAE as the leading innovator among Middle Eastern nations. The country is now determined to scale the global heights in terms of innovation within the next seven years.

DRIVING INNOVATION FOR SUSTAINABLE DEVELOPMENT

Experiences from the OECD countries suggest that innovation takes place on individual, institutional, sectoral and societal levels. To fulfil the promise of the innovation across all layers, steps are needed to overcome the barriers to innovation in each. The UAE enjoys two key advantages for developing an innovation culture on organisational, sectoral and societal levels: An enabling environment and an entrepreneurial leadership.

On the institutional and sectoral levels, it usually requires a major cultural shift in the public sector to innovate within existing restrictive processes, procedures and norms. This is one of the key barriers to innovation in the public sector, where adhering to strict norms and processes are cherished and rewarded by systems and management.

In contrast, doing things innovatively, which in most cases means overriding existing norms or procedures, is penalised by the system. Overcoming this barrier requires public sector leaders who are open to taking risk, and focusing on “doing the right thing”, rather than on “doing things right”. Seeing the big picture, and realising that enhancing outcomes is the strategic goal, rather than adhering to procedures and norms, is the essence of this cultural shift.

Luckily, the UAE enjoys an entrepreneurial leadership culture at the very top, which constantly trickles down and infuses this innovation-friendly culture in the public sector.

On a societal level, unleashing the full power of innovation in society requires empowering and engaging the public in finding solutions to fast emerging

developmental challenges. Today, this is made feasible at a national scale with the increased penetration of digital technologies, which revolutionised the ways the public interacts with government.

DIGITAL TECHNOLOGY ADOPTION

According to the World Economic Forum’s Global Competitiveness Report, the UAE enjoys the highest levels of digital technology adoption in the region, both by society and government. This is already providing an enabling environment for information, ideas and knowledge to flow between society and government, building a fertile ground for innovation to prosper.

The UAE Government Summit 2015 held early this year unveiled a host of measures to make innovation the central pillar of public life in the country. In addition to earmarking Dh4.1 billion for the project, the UAE government also announced a seven-point scheme to make innovation the central focus in the UAE’s educational institutions.

Robot laboratories in schools, complete curriculum overhauls to infuse innovation



Dr Ali Sebaa Al Marri,
Executive President,
Mohammed Bin Rashid
School of Government
(MBRSG)



➤ into their core objectives, and the setting up of 'innovation incubators' for university students are among the key initiatives.

'INNOVATOR OF THE FUTURE' INITIATIVE

Speaking to *Flashes*, Professor Raed Al Awamleh, the Dean of the Mohammed Bin Rashid School of Government (MBRSG), says the 'Innovator of the Future' initiative was a particularly fascinating feature of this project. He notes that "this initiative aims to spot talent among children aged 5-6 years, and develop it in rigorous training camps in order to nurture and mould those youngsters who show great promise. The rationale behind all these projects and initiatives is to encourage national skills, enhance quality research and build an indigenous workforce capable of leading into the future."

Drawing attention to the Bloomberg Innovation Index, Professor Al Awamleh explains that a focus on innovation was pivotal to the process of development today: "The index clearly illustrated that innovation succeeded when entrepreneurship and experimentation were pursued in tandem. The index rated countries according to six tangible activities that contributed to innovation – research and development, manufacturing, high tech companies, post-secondary education, research personnel and patents. Currently, South Korea holds the top position in the overall innovation rating, while South Korea, Japan, Germany, Finland, Sweden, UK, Denmark and

Singapore are leading in the six categories."

Professor Al Awamleh is confident that in terms of innovation, the UAE "is indeed on its way to join the best countries in the world in the near future".

The MBRSG Dean emphasises that "innovation was central to any country's overall development, as adherence to outdated modes of functioning would only hold a country back in human progress. The UAE had realised this long ago. That the country has travelled as far as it has is due to the prudent leadership's focus on new and creative ways of doing things instead of sticking to practices and modes of thinking that belonged to the past. When people say that the UAE is a perfect blend of tradition and modernity, it basically means that the country has been able to keep pace with the rest of the world without jettisoning the cultural and civilisational values that shaped the unique personality of the UAE citizen. This yearning for creative and innovative modes of doing things is actually something that is embedded in the nation's collective mind as it has been passed down over so many generations."

STRONG PROFESSIONAL CADRE

Professor Al Awamleh lays stress that the availability of a strong national cadre of professionals, capable of responding to future challenges with self-confidence and native originality, was of paramount importance. "For this to happen, innovation in all its



Professor Raed Al Awamleh, the Dean of the Mohammed Bin Rashid School of Government (MBRSG)

multiple forms must flourish. Three Harvard Business School scholars, Bryan C. Mezue, Clayton M. Christensen and Derek Van Bever, classified three forms of innovation – sustaining innovation, efficiency innovation and market-creating innovation. As a nation, there will be an increased focus in the coming years on the quality of human capital in the UAE. Imbued with the spirit and power of creativity and innovation, we have embarked on an ambitious and far-sighted mission to nurture our human resources.”

“We are confident that our human capital will prove equal to the task sooner rather than later and make the UAE the best performing country in the world in innovation,” predicts Professor Al Awamleh. ‡

SCHEDULE

What: UAE Innovation Week

Where: All across the UAE

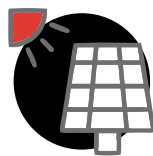
When: November 22-28

What is it: UAE Innovation Week is a nationwide celebration of innovation for everyone in the UAE in line with the directives of His Highness Sheikh Mohammed bin Rashid Al Maktoum, UAE Vice President and Prime Minister and Ruler of Dubai. It is one of the largest innovation initiatives in the world and a consolidated effort by government, the private sector and individuals to help create a widespread culture of innovation in the UAE and strengthen its position as a global hub for innovation.

What happened: Many activities took place across the UAE touching upon different themes such as exhibition showcases of innovative products and services, the launch of new national initiatives, hackathons and competitions, interactive programs such as labs and workshops, engaging talk sessions, fun evenings activities in public places, and much more.

UAE INNOVATION STRATEGY FRAMEWORK

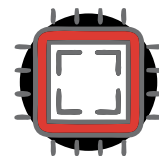
INNOVATION PRIORITY SECTORS



Renewable
Energy and
Clean Energy



Education



Technology



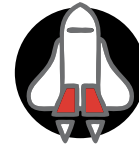
Transport



Health



Water



Space

INNOVATION CHAMPIONS



Innovative
Individuals



Innovative Companies
and Institutions



Innovative
Government

AN INNOVATION-ENABLING ENVIRONMENT



Innovation
Regulatory
Framework



Technology
Infrastructure



Enabling
Services



Investment

THE WEEK'S ACTIVITIES

Launch of National initiatives
and global partnerships

Labs, workshops and other
interactive programmes

Various activities for
all in public places

Hackathons and
competitions

Innovation Showcase –
Live demos across the UAE

Conferences, seminars
and talk sessions

THE REVOLUTIONARY CHAIN THAT TURNS FISH WASTE INTO BIOFUELS

*A pilot plant is being
constructed in Abu Dhabi to
attempt to address the UAE's
water, food and energy needs
and produce aviation bio fuel*



No matter how much the human race advances, we will always have some basic needs. Food, water and energy are the most crucial of these, as they are foundational for health, shelter and overall security.

Dr Alejandro Ríos G., the director of the Sustainable Bioenergy Research Consortium and a professor of practice at the Masdar Institute of Science and Technology, outlines below the research initiative.

Here in the UAE, the food-water-energy nexus is more tightly linked than perhaps any other place in the world. Water security is a serious and long-standing concern. The country is located in one of the world's most water-scarce regions, with no perennial surface water resources, a very high water evaporation rate and low groundwater recharge rate. This has necessitated reliance on costly and energy-intensive desalination technologies.

The most serious consequence of inadequate fresh water supply is food insecurity. With 80 per cent of the UAE's land being classified as desert, crop farming would be highly dependent on irrigation, which is a near impossibility. This results in a dependence on food imports. The Arab Forum for Environment and Development estimates that Arab countries imported 105.8 million tonnes of food in 2011 at a cost of Dh205 billion and the Gulf region alone is expected to spend more than Dh195 billion on food imports by 2020.

And while this country is one of the world's richest in terms of hydrocarbon resources, overreliance on this finite source of energy is not desirable. The aviation sector is dependent on the whims of the volatile global oil market. Though the price of crude has been decreasing of late, oil has been known to account for 40 per cent of an airline's total operating costs in years gone by.

CARBON-NEUTRAL GROWTH FOR AVIATION SECTOR

Additionally, the international air transport sector contributes approximately 2 per cent to global man-made carbon emissions. These two issues have contributed to the International Civil Aviation Organisation setting 2020 as its target year to achieve carbon-neutral growth for the sector, which makes it even more important to develop a sustainable and low carbon alternative fuel.

It is for these reasons that Masdar Institute of Science and Technology founded the Sustainable Bioenergy Research Consortium with Etihad Airways, Boeing and Honeywell. The SBRC is meant to help address some of the UAE's basic needs.

SBRC has grown, with Safran and GE and Abu Dhabi oil refining company Takreer joining later, and the consortium's efforts have evolved to target the UAE's long-term strategic needs too. Through its Seawater Energy and Agriculture System, the SBRC intends to address the UAE's water, >

GROWING SUSTAINABLE FUEL IN THE DESERT

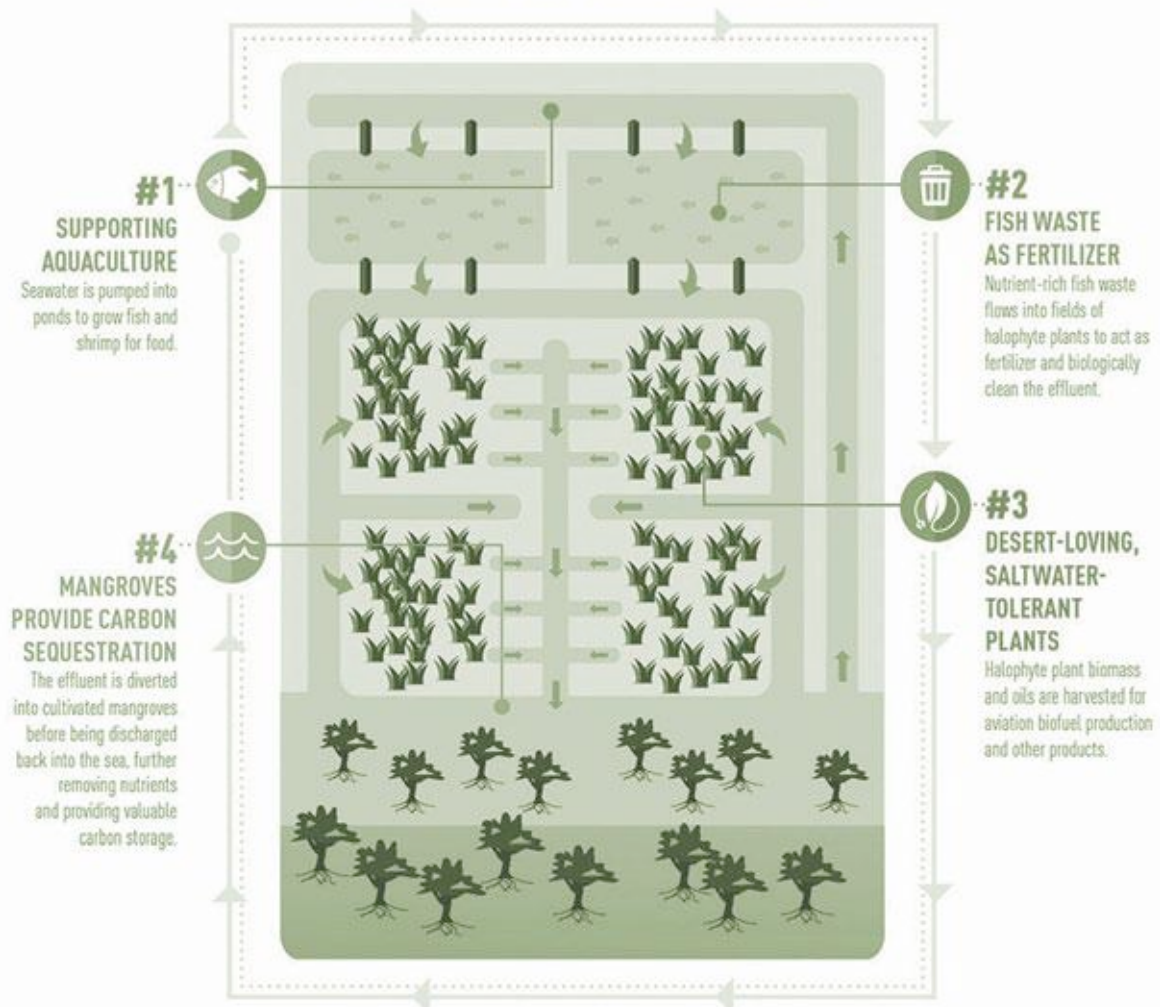


A NEW MODEL FOR BIOENERGY

The Sustainable Bioenergy Research Consortium was established by the Masdar Institute of Science and Technology to advance the aviation industry's commitment to producing a clean, sustainable alternative fuel supply.

HARMONIOUS FOOD AND FUEL PRODUCTION

THE INTEGRATED SEAWATER ENERGY AND AGRICULTURE SYSTEM





➤ food and energy needs in a way that is both sustainable and economical.

This is why the SBRC has started to construct the world's first bioenergy pilot project. It uses desert land to produce both bioenergy and food through seawater irrigation. This is a good way to preserve freshwater resources.

WATER-FOOD-ENERGY NEXUS

Located in Abu Dhabi, this project will see the construction of a closed-loop system that addresses all three points of the water-food-energy nexus. The system starts with aquaculture units that use seawater to raise shrimp and fish. The waste produced by the fish and shrimp serves as a fertiliser that promotes the growth of a halophyte plant species called *Salicornia*. This hardy plant thrives in deserts, doesn't require fertile soil and can be irrigated with seawater, to produce crops with enough oil and sugar content to be turned into biofuels and biochemicals. The remaining nutrients from the agriculture process are then diverted into mangrove forests, which eliminate nutrients and waste from the food production while also playing two other valuable roles – in the marine ecosystem, as nurseries for young fish and as carbon

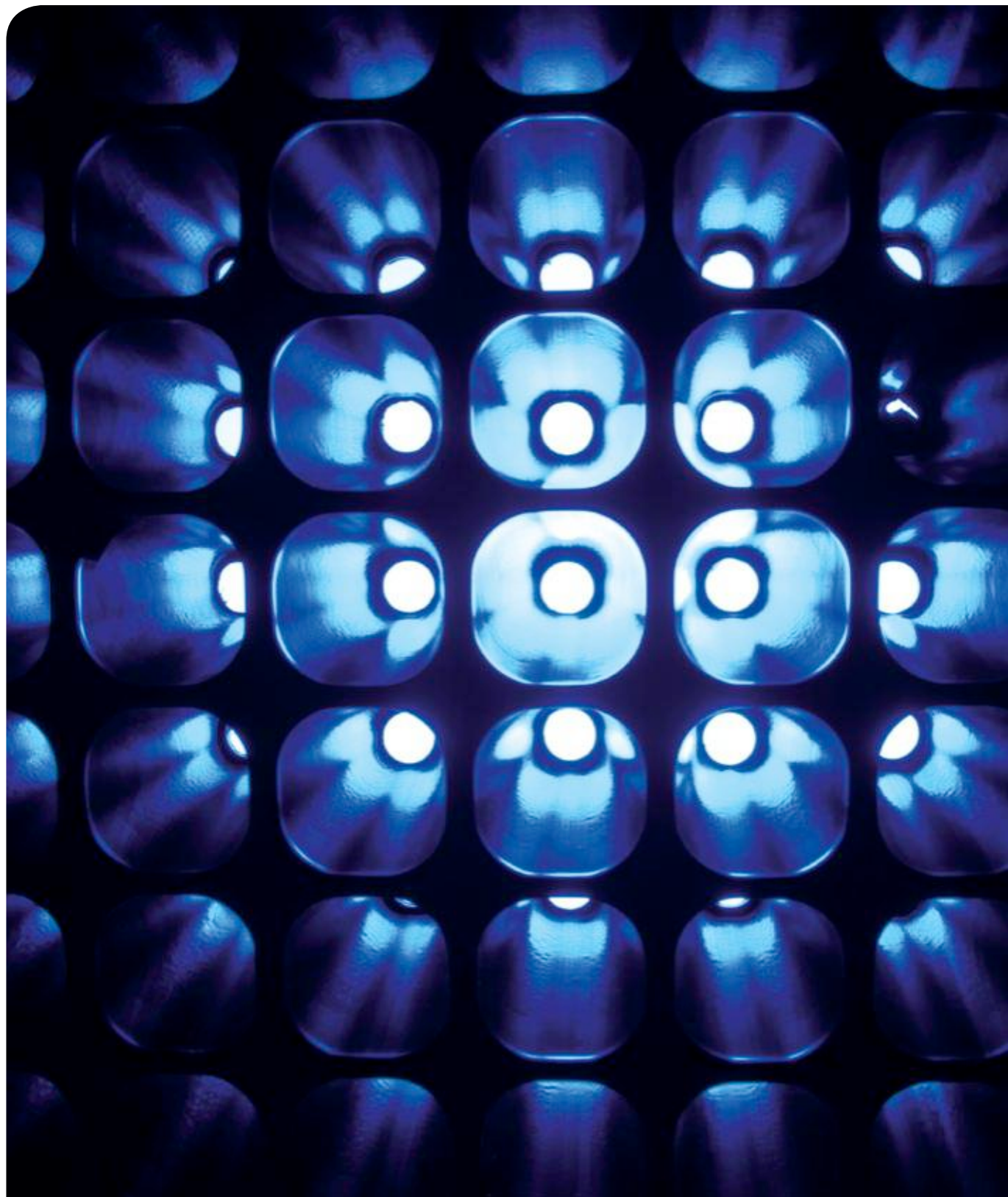


scrubbers from the atmosphere.

This integrated system thus intends to have five positive outcomes. It will provide sustainable food in the form of fish and shrimp; it will produce renewable energy in the form of bio jetfuels, bioethanol, biogas and green diesel from oil-rich native plants; it can produce valuable export products in the form of biochemicals; it will contribute to a healthier environment in the form of enriched mangroves; and it will do all of this without taking away from the country's limited stock of freshwater resources or farmland.

The project will address some of the UAE's concerns for food, energy and water security in a way that strengthens its economy and environment. 🌊

(L-R): Dr Alejandro Ríos G. , Director of the Sustainable Bioenergy Research Consortium and a professor of practice at the Masdar Institute of Science and Technology; Measuring the growth of the halophyte plant species called *Salicornia*.



IN A 'SMART CITY' ENVIRONMENT LIGHTING TAKES ON A DIFFERENT HUE

Erdem Soyol, General Manager GE Lighting, Middle East, Africa and Turkey (MEAT), speaks to Flashes about the benefits of leveraging Industrial Internet solutions with digital lighting

Can you tell us about GE's Intelligent Environments for smart cities?

GE has over 100 years of heritage in lighting and we are the pioneers in LED lighting, which is undoubtedly the newest trend and the future of lighting. With many countries working towards a greener future and focused on evolving as smart cities, GE is taking LED lighting to the next level by leveraging our Industrial Internet solutions.

GE's intelligent LEDs are a gateway to city-changing technology – with sensors, controls, wireless transmitters and microprocessors built within the LED system. Predix, GE's software platform for the Industrial Internet, collects and analyses data from these components, delivering optimised tools that respond to city challenges – from parking, to traffic, to emergency response, to optimised lighting conditions.

Today lighting means much more than illumination. We're in a world where we're connecting LEDs with state-of-the-art software to unleash a whole new potential for how we light our world.

In cities, that means roadway fixtures that can communicate available parking spaces, connect to emergency responders or warn of weather events, or ceiling fixtures in the grocery store that will ping you a coupon as you walk the cereal aisle and help retailers better understand customer shopping patterns.

Lighting is all around us – it is powerful real estate that we are converting into meaningful outcomes for our customers through the Industrial Internet.

GE's Intelligent Environments for Cities solution uses LED street lighting installations to connect, collect and analyse data being generated, harnessing the power of the Industrial Internet to help their cities run better while providing new services and conveniences for residents and visitors.

With Intelligent Environments, GE has taken an end-to-end solution approach to enable intelligent cities.

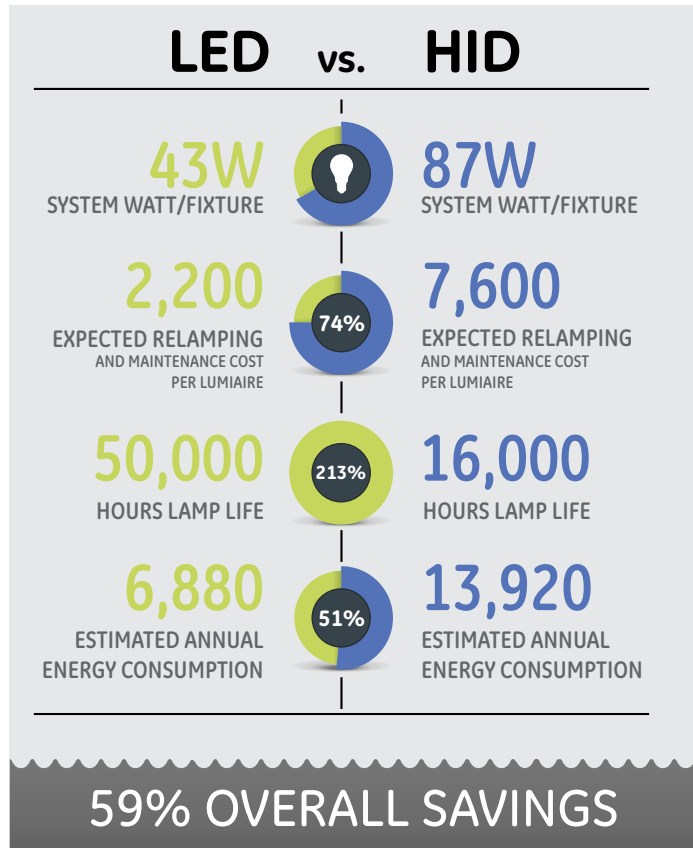
As of today, GE has invested \$1 billion to develop advanced intelligent solutions to all the industries where GE operates. We have created two connected platforms for roadway lighting: LightGrid, a wireless control system for outdoor lighting available today; and Intelligent Environments for Cities, a software-defined LED solution that enables intelligent cities by using a secure, scalable citywide network system that is still being piloted in the City of San Diego, California; and Jacksonville, Florida in the USA.

From unique analytics in the Intelligent Light Fixture to the Industrial Internet capabilities of Predix, we can offer a hardware and software platform that can grow with a city's needs. Our LightGrid, for example, is a wireless control system for outdoor lighting that self-commissions to the LightGrid network and provides accurate energy measurement per light pole, allowing municipalities to pay for the energy they actually use.

Light Grid system can bring about a revolution in the country and be part of the Government's ambition to conserve the electricity, streamline parking and surveillance in the city and highway. The several megawatts generated can be utilized for new industries and building planned for Expo 2020.

What is the end-to-end solution approach that you advocate to enable intelligent cities, and in your view how would it be a good fit to the Smart Dubai initiative?

GE's software-defined lighting solution for cities applications are expected to optimise city operations to improve revenue, save money and ➤



“Dubai Integrated Energy Strategy also aims to have 75 per cent of the street lights and 100 per cent of the main lights in parks and walkways replaced with LED by 2030.”

improve the lives of citizens. One of the key demand side management strategies is to promote outdoor lighting to eventually achieve 30 per cent reduction in energy use by 2030. This calls for using more efficient lighting fixtures, by retrofitting 75 per cent of existing lights with LED, for example; and implementing a switch-off programme, addressing 100 per cent of residential streets.

The outdoor lighting programme, as part of the strategy, aims at saving over 50 per cent of consumption through switch-off measures

and LED technology. Accordingly, the goal is to achieve 100 per cent switch-off programme for residential streets, public parks and walkways by 2030, as well as reduced time of operations for public parks to six hours.

Dubai Integrated Energy Strategy also aims to have 75 per cent of the street lights and 100 per cent of the main lights in parks and walkways replaced with LED by 2030. Our LED lighting solutions are thus a strong fit to Dubai's goals for sustainable development.

Furthermore, our LED Lighting solutions, paired up with our Intelligent Environment, would be a good fit to the Smart Dubai initiative. Our solution provides cities with data to help solve some of their largest infrastructure challenges, as it not only allows municipal authorities to control, programme and analyse every single fixture in town, it also provides them with intelligent insights.

Within smart cities, LED lighting will completely transform how citizens view the lights in their towns. Street lamps that once upon a time only served one sole purpose – to illuminate the roads – are now becoming much more efficient

Left: Erdem Soyal,
General Manager
GE Lighting,
Middle East, Africa
and Turkey (MEAT)

and smarter. LED lights already help save energy and money; however, the next step for them is to go beyond lighting. For example, the lamp posts can be used to increase broadband coverage in remote areas, and link up with a networked ecosystem of solar panels, batteries, weather sensors and smart meters to build a really clever, environmentally-friendly lighting system, par for the course of a smart city.

How can outdoor lighting help the UAE in its efforts to achieve 30 per cent reduction in energy use by 2030?

Smart lighting solutions for both Indoor and Outdoor applications offer a wide range of benefits. These solutions can help reduce energy consumption, resulting in cost savings at individual home level, and corresponding sustainability benefits at macro level. The benefits of interconnected lighting, however, will be even more powerful at the commercial level, and herald a profound transformation in cities as ecosystems.

The powerful combination of our software platforms with our LED solutions significantly lowers energy consumption anywhere. Light-Grid, for example, provides precise measurement of energy consumption and asset management, and our Evolve LED fixtures save up to 80 per cent in energy consumption compared to HID (High Intensity Discharge) light.

Countrywide, 100 MW can be made available by converting the existing 22K HID light points at highways.

Can you explain the Intelligent Environments solution, which allows municipal authorities to control, programme and analyse every single fixture in town, and also provides them with intelligent insights.

GE's Intelligent Environment for Cities solution is a technology platform still in development with pilots already agreed in San Diego, California; and Jacksonville, Florida, in the USA. The solution provides cities with data that can help them not only save money and energy but also solve major infrastructure problems.

We're talking here about modern LED lighting that can collect data from what's happening around it, such as traffic on the streets. This means it could act intelligently, provide light when and where it's needed, and dim to save power when it's not. But also, as part of a fully

interconnected infrastructure, this will be part of smart cities, where the streetlights talk to other individual machines.

Can you summarise the potential future solutions within the platform which may be relevant to the UAE?

The platform is still in development, at pilot stages in several cities in the USA; and the data from those pilots will help guide our full go-to-market strategy. As the platform progresses, interaction with citizens for parking, traffic, environment and security will be possible.

Traffic data can be used to help drivers to avoid busy roads, preventing them from becoming more congested.

These developments will be part of smart cities where the streetlights talk to other individual machines. It could tell local public transport providers to increase public transport in areas congested with pedestrians, helping to reduce crowds. Parking could also be made easier by sharing real time data of nearby empty parking spaces.

When used in a 'smart city' environment, this kind of infrastructure is capable of far more than just lighting, providing real safety benefits for citizens. With city populations set to sky rocket in the future it's important that residents feel safe. Services can be improved through linking surveillance with intelligent software solutions.

Adverse weather conditions cause costly travel delays and numerous accidents each year. Intelligent connected sensors within the lighting infrastructure can help reduce its impact. The use of new wireless sensor infrastructures is also offering advanced warnings of natural disasters. Examples of successful use of LED for safety purposes have been already implemented in cities such as Bauru in Brazil and La Garrotxa in Spain.

Environmentally speaking, lighting accounts for 19 per cent of the world's electricity consumption and emissions from lighting would be equal to 70 per cent of global emissions from passenger cars [Source: International Energy Agency, Light's Labour's Lost, Policies for Energy-efficient]. Efficient lighting solutions would help reduce emissions by half.

As the platform progresses, interaction with citizens for parking, traffic, environment and security will be possible. So in the future, we might expect that every available feature will allow citizens to interact with the system. ‡

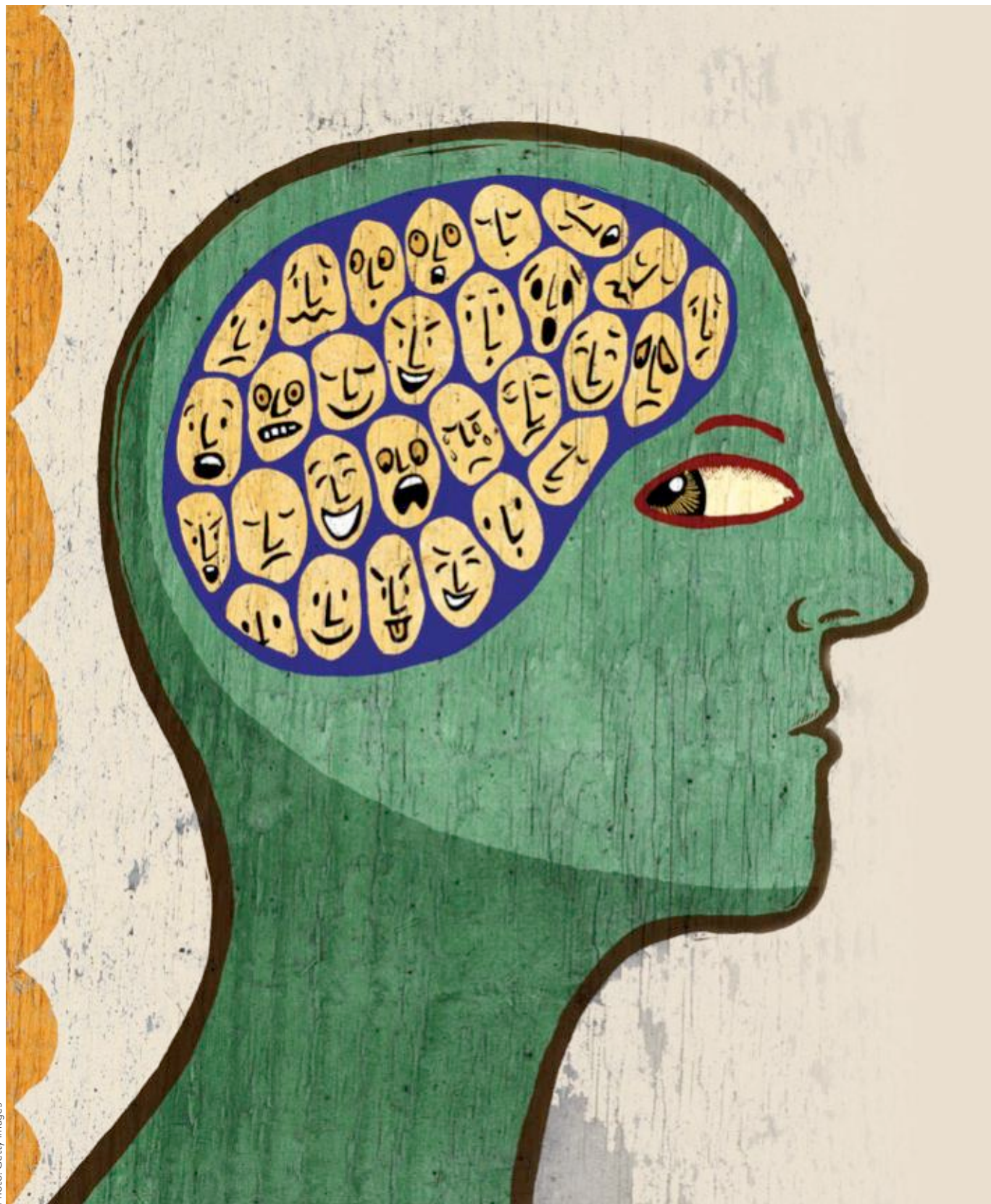


Photo: Getty Images

A crucial breakthrough in psychiatry

FDA approves new injectable drug to treat schizophrenia

In what is potentially great news for stakeholders in the mental health sphere, the US Food and Drug Administration (FDA) approved Aristada (aripiprazole lauroxil), an extended release injection to treat adults with schizophrenia, manufactured by Alkermes, Inc. of Waltham, Massachusetts.

Schizophrenia is a chronic, severe and disabling brain disorder. Typically, symptoms are first seen in adults younger than 30 years of age and include hearing voices, believing other people are reading their minds or controlling their thoughts, and being suspicious or withdrawn.

“Long-acting medications to treat schizophrenia can improve the lives of patients,” said Mitchell Mathis, M.D., director of the Division of Psychiatry Products in the FDA’s Center for Drug Evaluation and Research. “Having a variety of treatment options and dosage forms available for patients with mental illness is important so that a treatment plan can be tailored to meet the patient’s needs.”

The efficacy of Aristada was demonstrated in part by a 12-week clinical trial in 622 participants. In participants with acute schizophrenia who had been stabilised with oral aripiprazole, Aristada was found to maintain the treatment effect compared to a placebo. The drug is administered by a health care professional every four to six weeks.

Aristada and other atypical antipsychotic drugs used to treat schizophrenia have a Boxed Warning alerting health care professionals about an increased risk of death associated with the off-label use of these drugs to treat behavioral problems in older people with dementia-related psychosis. No drug in this class is approved to treat patients with dementia-related psychosis. Aristada must be dispensed with a patient Medication Guide that describes important information about the drug’s uses and risks.

The FDA approval of Aristada was based on a proven safety and efficacy profile, including data from a randomised, double-blind, placebo-controlled, phase 3 study in 623 patients with schizophrenia. Data from the trial showed that multiple dose strengths of Aristada met the primary endpoint with statistically significant and clinically meaningful reductions in Positive and Negative Syndrome Scale (PANSS) total scores at Week 12. Aristada also met the key secondary endpoint and demonstrated significant improvements in schizophrenia symptoms versus placebo. The most common adverse events in the study were insomnia, akathisia (the urge to move constantly) and headache. The results of the phase 3 study were published in June 2015 by *The Journal of Clinical Psychiatry*, a peer-reviewed medical journal.

According to the results of a recent survey of 600 psychiatrists and caregivers of people living with schizophrenia, nearly all (98 per cent) psychiatrists and the vast majority (81 per cent) of caregivers feel that ignoring early warning signs of schizophrenia delay both diagnosis and treatment of the disease. In the Early Intervention in Schizophrenia survey, conducted by Harris Poll on behalf of Alkermes, more than half (61 per cent) of caregivers indicated that not recognising the early warning signs of schizophrenia was a barrier to seeing a psychiatrist.

Survey respondents also indicated that, on average, it took nearly three years for individuals with schizophrenia to see a psychiatrist after early warning signs appeared.†



DATA SHOWS THAT MULTIPLE DOSE STRENGTHS OF ARISTADA MET THE PRIMARY ENDPOINT WITH STATISTICALLY SIGNIFICANT AND CLINICALLY MEANINGFUL REDUCTIONS IN POSITIVE AND NEGATIVE SYNDROME SCALE.





Saving our seas for tomorrow

Latest edition of WWF's Living Planet Report says mackerels, tunas among 17 other species under threat

OUR OCEANS IN CRISIS

Mackerels and tunas, among 17 other species, have suffered an alarming decline of 74 per cent between 1970 and 2010, latest research findings show. The most rapid decline is between 1976 and 1990, and there is currently no sign of overall recovery at a global level.

Pointing to the dangers ahead, the report says: "As ecosystems decline, meeting the basic needs of a growing human population will become an even greater challenge."

Other marine species that are threatened include sea cucumbers, sharks and rays, and marine turtles.

"Our ocean is in crisis," says Marco Lambertini, Director General, WWF International, in his foreword to the 2015 edition of WWF's *Living Planet Report*.

WWF is one of the world's largest and most experienced independent conservation organisations and its mission is to stop the degradation of the planet's natural environment and to build a future in which humans live

in harmony with nature, by conserving the world's biological diversity, ensuring that the use of renewable natural resources is sustainable, and promoting the reduction of pollution and wasteful consumption.

The marine Living Planet Index (LPI) presented in the report foretells an impending social and economic crisis, according to the WWF chief, and should set off alarm bells.

While human exploitation is identified as the major cause of the declines in marine species, habitat loss (reefs, seagrass and mangroves) and degradation are also major threats.

The trends shown in the report present a compelling case for action to restore our ocean to health.

WWF'S LIVING PLANET REPORT

WWF's *Living Planet Report*, released every two years, is a leading science-based analysis on the health of our planet and the impact of human activity upon it.

This year's special edition takes a deeper look into the 2014 findings, and their implications, for the marine realm.

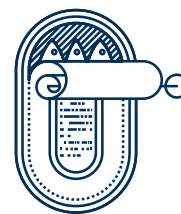
"When we look at the fish species most directly tied to human well-being – the fish that constitute up to 60 per cent of protein intake in coastal countries, supporting millions of small-scale fishers as well as a global multibillion-dollar industry – we see populations in a nosedive," says Lambertini.

As per the report, humanity is collectively mismanaging the ocean to the brink of collapse. "Considering the ocean's vital role in our economies and its essential contribution to food security – particularly for poor, coastal communities – that's simply unacceptable. Could the economic implications of the collapse of the ocean's ecosystems trigger the next global recession or undermine the progress we have made on eradicating poverty?"

The global community has prioritised a healthy ocean in the post-2015 sustainable development agenda. "These commitments must be backed by tangible investment in restoring and

sustainably managing marine resources. The pace of change in the ocean tells us there's no time to waste. These changes are happening in our lifetime. We can and we must correct course now," WWF International says.

Solutions suggested in the report include: smart fishing practices that eliminate by – catch, waste and overfishing; getting rid of harmful subsidies and unregulated fishing; protecting key habitats and a large enough portion of the ocean to enable the regeneration of its living resources while conserving iconic species and inspirational places; cutting CO2 emissions that threaten a potentially catastrophic acidification of the ocean. ♪



HUMAN EXPLOITATION IS IDENTIFIED AS THE MAJOR CAUSE OF THE DECLINES IN MARINE SPECIES



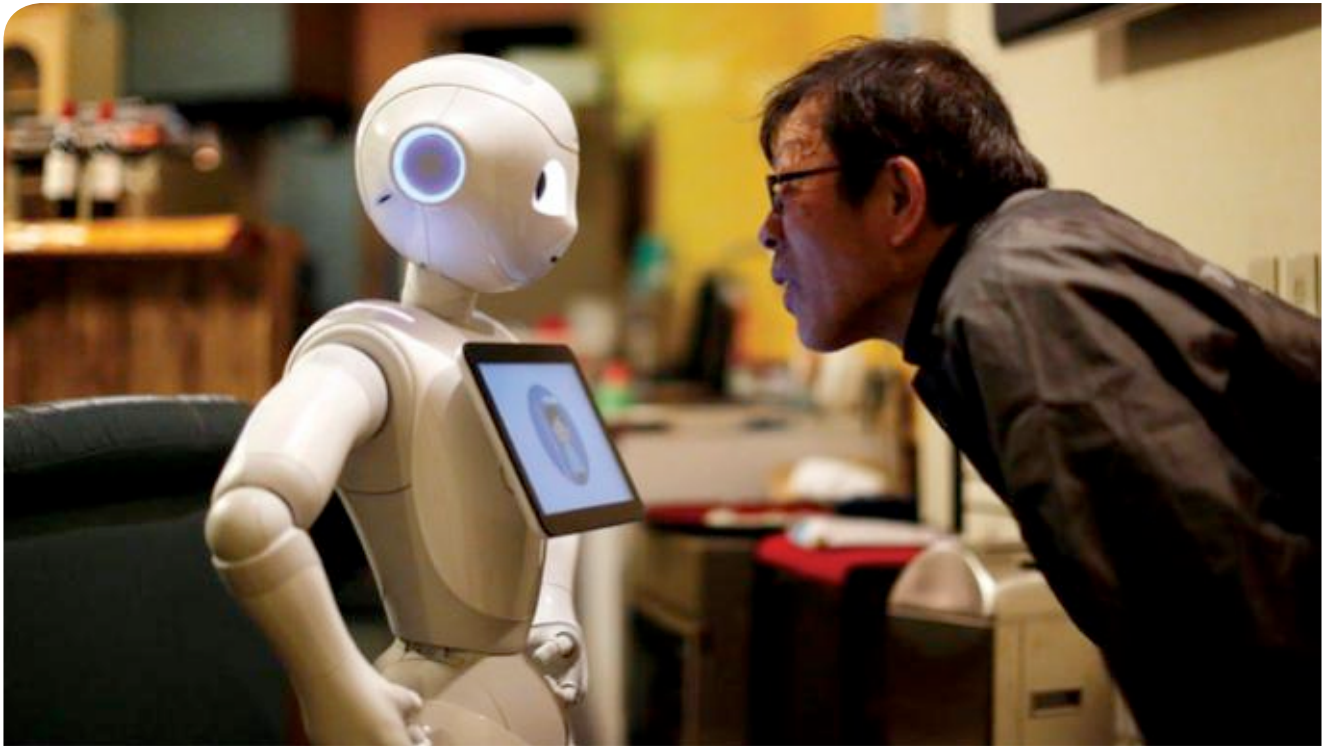
UAE MARINE CONSERVATION POLICY

The UAE on its part has been making concerted efforts over the last few years to protect fish stocks. The Ministry of Environment and Water has policies in place to ensure the sustainability of the fishing sector in the country, and enhance its contribution to national food security.

It has been recognised that over-fishing was the biggest threat to fisheries, as around the world 80 per cent of fish stocks are being heavily exploited, with declining numbers, and an inability to be replenished.

The UAE has also prohibited fishing by nets in fish breeding and reproduction areas, natural reserves, industrial marine and inland water areas such as: natural or industrial lakes, natural or deepened creeks, oil fields and establishments.

Abu Dhabi, for example, encourages the setting up of aquaculture farms that will ensure an abundant supply of five species of fish that are most in demand in the UAE and whose stocks have been dwindling due to overfishing – Hammour (orange-spotted grouper), Cobia, Qabit (goldlined seabream), Yellow Fin Tuna and Abalone. These five species have been identified for farmers in the initial stage of the aquaculture development plan being formulated by the Environment Agency-Abu Dhabi (EAD) in collaboration with other government bodies, farmers, non-government organisations (NGOs) and researchers.



A truly machine-loving nation

Japan's robotics revolution is here to stay

Japan's position as a robotic powerhouse may well remain undisputed in the years and decades to come. As of 2015, Japan is the second largest market for the robot sales in the world. The country employs over a quarter of a million industrial robot workers.

In the next 15 years, Japan estimates that number to jump to over one million and they expect revenue for robotics to be near \$70 billion by 2025. To put things in perspective, the global market for industrial robots in 2011 was \$8.497 billion, of which Japanese enterprises accounted for a share of 50.2 per cent.

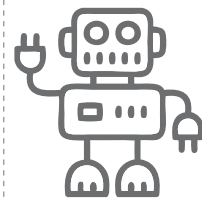
The global market, in a broad sense, including electronic packaging robots was about \$13.369 billion dollars, of which Japanese enterprises accounted for a share of 57.3 per cent.

However, while Japan has long used robots in manufacturing, interest in the sector is now turning to exploring the potential of robots in human interaction, including helping care for the elderly.

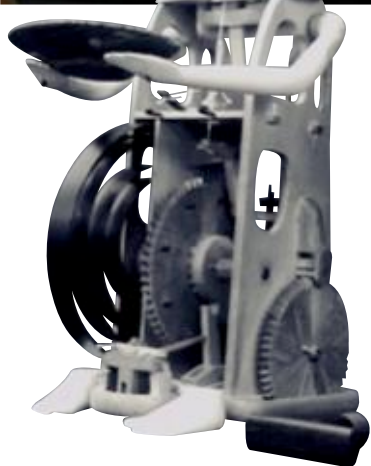
In most recent news, Japan has unveiled the first hotel almost totally 'manned' by robots, as the world leader in robotics technology leads advances in developing robots with a human touch. With a humanoid as the front desk receptionist and a porter that is an automated trolley taking luggage to the rooms, the newly opened Henn-na Hotel, or 'Weird Hotel', is run as part of Huis Ten Bosch theme park in Nagasaki. While insisting that the use of robots is not a gimmick, owner Hideo Sawada maintains that the use of robots is a serious attempt to use technology to save labour costs and achieve efficiency. A stay at the hotel starts at 9,000 yen (\$80). Most Japanese hotels can easily cost twice or three times that much.

Several Japanese firms are investing in 'non-human resources' amid calls by Prime Minister Shinzo Abe for the country to embark on a "robot revolution" to counter the country's shrinking workforce and boost growth.

The Japanese bank Mitsubishi UFJ



**SEVERAL
JAPANESE FIRMS
ARE INVESTING
IN 'NON-HUMAN
RESOURCES'**



Financial Group is now using robot tellers on a trial basis. Nao, a 58-centimetre-tall humanoid developed by the French company Aldebaran Robotics – a subsidiary of the Japanese telecoms and internet giant SoftBank – is equipped with a camera on his forehead, speaks 19 languages and is expected to be able to assist where humans cannot, such as providing 24-hour service and being multi-lingual.

Japan's evolving robot culture emphasises technologies that are no longer just meant to do things for humans, but to also do things to and with humans.

This dependence and intimacy of Japanese lifestyles on technology has earned the country a reputation as the most “machine-loving” nation in the world.

Some people trace this pre-occupation with robotics to Japanese multi-cultural history. Time and again it has been emphasised that the special affinity of the Japanese towards robotic technologies is related to a history of traditional crafts; such as *karakuri ningyo* (automata), animistic Shinto beliefs and Buddhist teachings concerning the interconnectedness of all animate and inanimate beings. †



Nuturing a new generation of teachers

Finland University develops educational research in Oman

The Ministry of Education of the Sultanate of Oman has approved the Finland University tender for academic support at the Specialised Centre for Professional Training of Teachers.

The project will be carried out by the University of Turku and, according to Finland University CEO Pasi Kaskinen, the 18-month contract is a significant opportunity.

The project focuses on the Specialised Centre for Professional Training of Teachers founded by the Ministry of Education in 2014. The mission of the Centre is to support the reform of basic education that is expected to strengthen the

competitiveness of Oman in the future.

The Centre has utilised international competence in developing its activities. Finland University had built contacts with Oman since the last year's EduTrac Oman fairs and the visit of the former Minister of Education Ms Krista Kiuru in late 2014. The delegation included a Finland University representative. "We succeeded in convincing our Minister to include Oman in her travel agenda, and this visit really turned the attention of Omani leaders to Finland University," says Pasi Kaskinen.

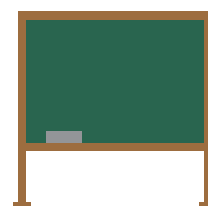
Finland University, with the University of Turku as the project provider, were entrusted with developing the evaluation of the effectiveness of operations and the initiation of research activities. The development of library, quality assurance and master's programme are led by the Institute of Education of the University College, London.

The project of the University of Turku consists of two parts. Firstly, they will help the Centre to develop effective research to support the evaluation of their operations and the effectiveness of their training. It is vital to find out how the teachers who have participated in the trainings are able to take the new practices to the class rooms. Secondly, they will support initiation of research activities.

So far, the Centre operations have been focused on continuing education, but the Ministry is now looking forward to widening the scope of activities to include scholarly research, the training manager Ari Koski from the University of Turku explains.

The project outline and the first tasks were agreed in an initial visit in the beginning of August in Oman. The execution of the project begins in September and lasts until February 2017. "The vast majority of the development work is carried out in Oman, but the Centre personnel also visits Turku to learn about the education and research in the field and the Finnish evaluation of education," says Koski.

In the University of Turku, the project is carried out by the Centre for Research on Lifelong Learning and Education CELE in the Faculty of Education and the Brahea Centre. 



IT IS VITAL TO FIND OUT HOW THE TEACHERS WHO HAVE PARTICIPATED IN THE TRAININGS ARE ABLE TO TAKE THE NEW PRACTICES TO THE CLASS ROOMS.





UAE MUST FOCUS ON VOCATIONAL EDUCATION, RESEARCH AND INNOVATION, AND MANUFACTURING SECTORS



An international expert on Innovation, Dr Jacques van der Meer, Department of Innovation and Competitiveness, European Investment Bank, in an interview with Flashes, spoke about Innovation in the UAE.

Dr Jacques van der Meer also heads a project to develop a MENA Innovation scoreboard, a joint effort by European Investment Bank and the Centre for Mediterranean Integration (CMI) to assist Arab countries in the development of a regional innovation scoreboard and strengthen the innovation ecosystem in the region.

Dr van der Meer commended the UAE, which has been ranked the best in Innovation among Middle East countries as per the 2014 Global Innovation Index. "The UAE's phenomenal growth has been enabled by construction, ICT and Financial Services," he says. >

European
Investment Bank



Dr Jacques van der Meer,
Department of Innovation
and Competitiveness,
European Investment Bank

➤ For the UAE to reach the next level among the global leaders in Innovation, he still sees room and a role to develop “excellence in vocational education, research and innovation, and manufacturing sectors. A knowledge economy should become truly rooted within the UAE and throughout the MENA region,” he says.

The UAE has set in motion a seven-year strategy to make the country the most innovative nation by 2021 and selected seven sectors to focus on – renewable energy, transportation, technology, education, health, water, and Space.

On the areas that need looking into, he says that we should not forget that making a country the most competitive and innovative starts at the kindergarten, on the education of the youth

that will “enter the labour market in 10 years’ time.”

He thinks that organising an annual UAE-wide Innovation Week is laudable, and this kind of celebration is becoming an international practice having seen these events in Europe and even in countries like Morocco or Egypt.

Dr van der Meer stresses that regional dialogue and cooperation to develop innovation policies is crucial to the MENA region. “I feel that the will is there, that this will is genuine, but that the execution, follow-up and the sustainability fail. This is not only due to regional, political issues. Also instable national politics, policies and weak governance structures play a role.”

On the progress on EIB and the Centre

“WE SHOULD NOT FORGET THAT MAKING A COUNTRY THE MOST COMPETITIVE AND INNOVATIVE STARTS AT THE KINDERGARTEN, ON THE EDUCATION OF THE YOUTH THAT WILL “ENTER THE LABOUR MARKET IN 10 YEARS’ TIME.”





for Mediterranean Integration (CMI)'s joint effort to assist Arab countries in the development of a regional innovation scoreboard and strengthen the innovation ecosystem in the region, he says: "I started the work on the MENA Innovation scoreboard, because in order to calibrate our lending policies to help Arab countries to create a true Knowledge Economy, we had few statistics on R&D, innovation and competitiveness. The initiative found a positive response from our partners – Islamic Educational, Scientific and Cultural Organisation (ISESCO), Arab League Educational, Cultural and Scientific Organisation (ALECSO) and the Economic and Social Commission for Western Asia (ESCWA) Technology Centre. From Europe, I could mobilise the expertise from the OECD, the people who worked on the Global Innovation Index and the European Innovation Scoreboard.

"At a meeting at the Royal Science Society in Amman, we all agreed on 25 indicators that measure the input, processes, output and impact of research, development and innovation in the 12 participating countries. These indicators were not only selected on relevance, but also on availability and replicability. Some indicators will require surveys; for example the R&D and innovation behaviour of the private sector is largely uncovered. Only the Egyptian Science, Technology and Innovation Observatory conducts innovation surveys in the business sector in line with the OECD-Oslo guidelines."

"The UAE is not part of the group yet, but hope that my visit there will change this and that we can welcome you soon." ↑

DR JACQUES VAN DER MEER will be an esteemed speaker at the Knowledge Summit 2015, where he will give a talk about knowledge economy indicators.

Dr van der Meer outlined the elements that the new scoreboard will include to adequately address the socio-political and economic realities of the region. "The three categories are structured as follows:

INPUT: Inputs capture the main drivers of innovation and are divided into 'Resources' and 'Enablers'. They cover nine indicators related to education level of the population, research staff and R&D-expenditures, but also foreign investment and the financial system.

PROCESS: This category assesses the efficacy of the innovation process by means of seven indicators that are divided into three subgroups such as the quality of education and private sector, policies that stimulate innovation processes, and the businesses' role in the innovation process.

OUTPUT: The third category captures the effects of the innovation activities. It consists of two subgroups, namely 'Impacts' which includes five indicators and 'Intellectual Assets' that comprises four indicators."



SUCCESS STORY OF A GRASSROOTS LEVEL START-UP

Employing creative tools, Go-Glocal inspires individuals to think globally and act locally

The Dubai-based social enterprise Go-Glocal, founded in 2010, is the first such Emirati venture to offer creative educational consultancy solutions and training to organisations, teams and individuals.

Go Glocal's vision is to inspire and motivate organisations and individuals to become 'Glocal' through thinking globally and acting locally through providing, training, high quality coaching, mentoring services and creative engagement development programmes with special emphasis on Emirati history, culture and values to enable Emirati people achieve full potential and prosperous ambitions.

The Go-Glocal training sessions are led by highly qualified Emirati trainers and freelance experts who are recognised for their vast experience in various fields.

Dr. Tarifa Al Zaabi, Emirati entrepreneur and founder of Go-Glocal, in an exclusive interview with *Flashes*, describes the journey so far and the plans for the future.

Tell us the impetus and the main

inspiration behind setting up Go-Glocal in 2010?

It was the passion to find a tool or a method that will be so powerful in engaging and inspiring learners, whether in a classroom or in a meeting. My understanding that different individuals have a unique learning style was the key factor to start thinking that each individual input matters and each one is an agent for creative ideas.

Go-Glocal – think globally and act locally – inspires individuals to do that through employing creative tools.

What was your educational and professional background at the time of launch?

I was in my second year of study towards my PhD in Education. I graduated with an EMBA from Sharjah University and Applied Business Administration from the Higher Colleges of Technology. During the period when I started my company I was a full-time researcher for my PhD and on

study leave. It was a beautiful journey of educational search and reflection which resulted into the establishment of Go- Glocal.

What were the supporting factors that enabled you to launch Go-Glocal – in terms of institutional, financial, administrative and marketing support?

The main enabler is the passion to do something different. The concept of training using LEGO was not known here. I was enchanted by the idea, especially after using it and learning how to do it.

The second enabler is family support. It is really amazing with all challenges that you could go through if you have your family believing in you to achieve this. Probably no one saw the future success, but they believed in my ability to go learn it and take a chance with it.

The third and last is the government support for Emiratis, in a sense when I started implementing the idea, I could approach Sheikh Mohammed Bin Rashid SME – the right institution to listen, reflect and support. Their advice on how to establish the business with an organised structure and proper licensing was a great support.

Describe the five-year journey so far in terms of impact you have made, the number of people you have been able to reach out to and the financial success achieved as a grassroots level start-up?

I would call the first year as exploratory, which I used to pilot the concept, spread awareness and measure the added value associated with learning and return on investment (ROI). During the second and third year, the concept flourished and training kicked off with different stakeholders, including children, youth, professionals and corporate training. During these two years, I managed to train 1,500 government employees and about 2,000 children. Government employee training sessions were associated with



innovation, creativity, strategic planning and team building. Go-Glocal targeted children and youth through camps and during school vacations. Interestingly, some schools were also keen to incorporate it in their academic lessons.

What are Go-Glocal's activities in creative, educational and management consultancy solutions and training?

There are two primary foci of LEGO-based training: one is Educational and the other one is Business/Management.

The first enhances learning which means participants can discuss, reflect and find solutions for issues supporting the curriculum. For example, children can build stories regarding the

Dr. Tarifa Al Zaabi, Emirati entrepreneur and founder of Go-Glocal





LEGO works as a tool for problem solving where professionals can discuss, re-engineer process, create and measure practices, services and their way forward in business.

environment which enhances their creativity while they are playing and discussing an educational subject, which also contributes to their values and practices. Topics for educational purpose could support the curriculum or could enhance soft skills and values. We also work with kids with special learning difficulties. It is such a great tool for inclusion.

As for professionals and corporate training, LEGO works as a tool for problem solving where professionals can discuss, re-engineer process, create and measure practices, services and their way forward in business. It also helps build teams, enhance team skills and support HR in the selection of suitable candidates.

Go-Glocal was the first to bring the concept of training using LEGO Serious Play methodology to the region. Please explain the methodology, advantages and positive outcomes of this approach?

The methodology is simple yet it is very creative and result-oriented. It depends heavily on the facilitator's skills and ability to support participants to engage, reflect and debate. The tool engages participants' senses through hands, mind and eyes connections. Through building and reflections the participants are able to best describe the scenarios and find connections and solutions. It's a blend of psychology and management which gives you better results. The tool focuses on the individuals so it facilitates for differentiated learning.

Can you explain the concept of 'Glocal' through thinking globally and acting locally? Please give an example?

'Glocal' is a blend of the words 'Globalisation' and 'Localisation'. The first time I heard the word was from Sheikh Nahyan Bin Mubarak Al Nahyan, currently UAE Minister of Culture, Youth and Community Development, in one of his speeches to educationalists encouraging them to keep in mind the importance of 'Glocalisation'. I was very much in tune with this word and kept thinking of it until the idea for the business was formed and I found out it exactly focuses on what I wanted to achieve through my company which is "Inspiring people to think Globally and Act Locally", through viewing and experiencing tasks and activities that will result in quality, efficiency and creativity. Using LEGO is one of the out-of-the box concepts in which people use colourful bricks to come up with innovative solutions.

Being an Emirati enterprise, what is the local flavour that you bring to the table in the bouquet of services that you provide to customers?

The beauty of Go-Glocal is the blend of localisation – 'Emiratisation' – and 'Globalisation'. Therefore, much of the internationally successful concept as LEGO Serious Play has been modified and customised for the UAE market and for Emiratis. For example, I use the LEGO to

further develop solutions for Youth Volunteering, Community Services, and team building as it is very necessary for such a multicultural market like Dubai.

What are your plans to go regional and offer these services in other GCC and Middle East countries?

In 2013, I started many workshops in Qatar, Jordan, Turkey and Egypt. I look forward to establish permanent offices there to conduct ongoing training sessions.

I am open to regional partnerships to expand the idea and make this unique training available for more people. Winning the award of 'Business Women of The Year' for 2015 made the concept more popular and successful, and I have received a number of proposals for regional collaboration which are under review at this stage.

In your opinion, what are the main gaps that need to be plugged in the educational and training curricula and the skills that need to be reinforced in the country, to make the young productive and work-oriented?

First of all is differentiated learning: the one-size-fits-all concept does not work in the field of training and learning. People are unique and all deserve to shine among the group. Also, interactivity and engagement is very important. Again, it would not happen in the absence of a tool that could still give results as well shed light on each person's skills.

How do you select your team of trainers and experts? Are they from within the UAE?

Based on their qualifications, skills and adaptability to new ideas. My team brings strength to the company in the different languages they speak. We offer LEGO training in Arabic, English, French, Japanese, Hindi and Turkish.

The UAE has announced a seven-year strategy to become the most innovative nation by 2021. Do you think any finetuning is needed to help achieve this goal in the education and training sector?

A huge part of the success Go-Glocal has achieved is because we are an Emirati Enterprise. The UAE



government and leadership are so passionate about innovative ideas which feeds into our company very well. During the Innovation Week itself we are involved in many workshops using LEGO Serious Play method. It's really great, because five years ago, introducing the concept itself was very difficult, and now it is in high demand!

Go-Glocal is working on launching new training tools that serve Innovation. It will be an added value for us and for the organisations interested in Innovation – to learn, practice and achieve.

Technology is playing an ever-increasing role in the economy as well as everyday lives? Do you think this has to be balanced by encouraging the arts and culture?

Technology is important as it is an enabler and a learning tool. However, a balance is required, the face to face interaction, engagement, debate and discussion needs to carry on with people in one room. The virtual realities are very much here, but at the same time nothing can replace human interaction.

LEGO training method, for example, brings the individual to the team, and the fun of it is in the convincing and the debating element that is inspired by people-centric innovative creation. A balance is very critical. ‡

Winning the award of 'Business Women of The Year' for 2015 made the concept more popular and successful.

FOUNDATION UPDATES AND INITIATIVES

'Knowledge Summit' seeks to build on last year's success

The Knowledge Summit, now expanded in scope, to be held in Dubai early this month, is set to attract the top international and regional figures in the field of knowledge.

In line with the great success of the first Knowledge Conference, organised last year by the Mohammed Bin Rashid Al Maktoum Foundation (MBRF) based on the guidance of His Highness Sheikh Mohammed Bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, MBRF has announced that the 'Knowledge Conference' will take on a bigger stature this year as the 'Knowledge Summit', under the directives of HH Sheikh Ahmed Bin Mohammed Bin Rashid Al Maktoum, chairman of MBRF. The Summit will be held at the Grand Hyatt Hotel in Dubai from December 7 to 9, 2015.

The range of luminaries, regional and global, who are participating in the second edition of the event this year is hugely impressive. As a result, it has been decided to extend the scope of the session and topics to be covered at the event. The co-founder of Apple,



Steve Wozniak and former British Prime Minister, Gordon Brown, are some of the stars descending onto the red carpet of this event.

At the event last year, HH Sheikh Mohammed had announced the Sheikh Mohammed Bin Rashid Al Maktoum Knowledge Award, an >

FORGING A NEW DAWN: THE ARAB KNOWLEDGE INDEX

Since the inception of the Arab Knowledge project, and throughout the preparation stages of all three reports, what has come to light often is that there is a significant lack of credible data and research that can feed the decision-making process in the areas of knowledge and development. There is therefore a crucial need for region-specific monitoring and evaluation tools that elucidate the Arab region's contexts, cultures and needs. Since this was not the currently available international tools, the Arab Knowledge index was founded. It is an index that

best reflects "knowledge from a development perspective" and at the same time takes into consideration the Arab region's specific context, needs and challenges.

The Arab Knowledge Index will focus on several critical sectors: Education at its various levels, Research, Innovation and Development, Economy, and ICT. The Index methodology was developed in consultation with top-level regional experts and academics, including consultations at the UNESCO, ALECSO, UN-ESCWA, Institute of International Education (IIE) and Regional Center of Quality and Excellence in Education (RCQE) in



Saudi Arabia. More specific details on the Index, methodology, indicators and sub-indicators, will be revealed during the Knowledge Summit.



(L-R): Winners: Sir Tim Berners-Lee, Jimmy Wales with HH Sheikh Ahmed bin Mohammed bin Rashid al Maktoum and MBRF's HE Jamal bin Huwaireb



“The Arab Knowledge Index is important to us as it helps in identifying better ways to enable human beings to access knowledge that truly matters for better opportunities to improve their lives.”

—MR. YAKUP BERIS, REGIONAL PROGRAMME COORDINATOR, REGIONAL HUB- BUREAU FOR ARAB STATES OF UNDP



The co-founder of Apple, Steve Wozniak



“The second edition of the Knowledge Summit will focus on innovation as the main theme of discussion in various sessions and workshops that will highlight the challenges to come up with innovative solutions aimed at the creation of sustainable development of communities.”

—H.E. JAMAL BIN HUWAIREB,
MANAGING DIRECTOR, MBRF

> annual international award to honour a global figure for his or her contributions in the dissemination of knowledge.

His Excellency Jamal Bin Huwaireb, Managing Director of MBRF, emphasised that the second edition of the Knowledge Summit will have innovation as its main theme. Various sessions and workshops will highlight the necessity to emerge with innovative solutions aimed at the creation of sustainable development of communities. The Knowledge Summit will focus on four key pillars: Education, Information Technology, Media and Film Industry, as well as Scientific Research.

Last year's Knowledge Conference kickstarted the Third Arab Knowledge Report, along with the announcement of the Arab Knowledge Index, an indicator that monitors the status of knowledge in the Arab world on an annual basis. †



Former British Prime Minister, Gordon Brown

THE EGALITARIAN POWER OF THE INTERNET: KNOWLEDGE 4 ALL

The Knowledge 4 All is an initiative seeking to establish a digital reference hub for all researchers, professionals, students, stakeholders and the general public in relation to the various data and publications on knowledge-related topics. The initiative is currently focused on Arabic and English resources involving the Arab region, in addition to theoretical and conceptual work about knowledge, namely from a development perspective, e.g. knowledge and development, knowledge localisation, youth and knowledge, youth formation, knowledge spheres, knowledge generation, knowledge dissemination across local, regional and international spheres, to mention a few sample areas of interest.

The Knowledge 4 All initiative has the advantage of drawing from the years-long expertise of the Arab Knowledge Project team, a partnership between UNDP and MBRF that was established in 2007. To date, the project has published three reports about knowledge in the Arab region, with work in progress for devising an eye-opening Arab Knowledge Index and pioneering a digital portal to enhance research and reference capacity in the region, Knowledge 4 all.

Knowledge plays a central role in the development of societies. By addressing the deficiency in date and publication about the knowledge world and its various satellites in the Middle East, the establishment of this hub will force a new dawn in the world of research vis-à-vis the Arab world. It will not only contribute to an enhanced generation, but also become a gate through which the world can process the region's knowledge and research capacities.

The Knowledge 4 All initiative is an open-source not-for profit project. This initiative also marks the hugely successful tie-up between the Mohammed Bin Rashid Al Maktoum Foundation and the United Nations Development Programme (UNDP).

When the stars shine down

In addition to a US\$ 1 million award, the Knowledge Summit will bring under one roof some of the brightest names on this planet from varied fields



(L-R): HE Dr. Labib Khadra, Jordanian Minister of Higher Education; HRH Princess Ghida Talal Chairperson, Board of Trustees, King Hussein Cancer Foundation; His Excellency Mr. Elias Bou Saab, Minister of Education and Higher Education of Lebanon; David Bennett, Chief Development Officer of the National Geographic Society.

His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, approved the logo for the Sheikh Mohammed Bin Rashid Al Maktoum Knowledge Award at the UAE Innovation Week. During the first edition of the Knowledge Summit last year, the US\$ 1 million award was

announced to raise awareness about the importance of dissemination, transfer and production of knowledge in sustainable development and prosperity of the people. In 2014, the US\$ 1 million award was shared between Sir Tim Berners-Lee, inventor of the World Wide Web, and Jimmy Wales, founder of Wikipedia, for their outstanding efforts

to build the largest platforms in the dissemination and transfer of knowledge which contributed to the promotion of knowledge in the modern era.

This year, more than 40 speakers including scientists, ministers and academic experts from oldest universities in the world will be attending the summit. HE Jamal bin Huwairib said that the list of speakers and guests reflects the Foundation's keenness to invite pioneers of science and knowledge who have a track record of research and academic achievements in areas related to the topics of the various sessions at the summit. In addition, thought and opinion leaders and knowledge influencers from regional and international levels have also been invited.

Mr. Gordon Brown, former

British Prime Minister, and Mr. Steve Wozniak, the co-founder of Apple Inc, are among the most prominent international speakers at the summit. In addition, the summit will also host some of the Arab pioneers of knowledge such as HE Dr. Labib Khadra, Jordanian Minister of Higher Education, and His Excellency Mr. Elias Bou Saab, Minister of Education and Higher Education of Lebanon. Also gracing the occasion will be HRH Princess Ghida Talal Chairperson, Board of Trustees, King Hussein Cancer Foundation. Luminaries from the media world will also be part of the impressive list of speakers, such as David Bennett, Chief Development Officer of the National Geographic Society. †



Above: First Knowledge Conference

10 UAE Talents Participate in the Training Workshop

MBRF concludes its participation in the Sharjah International Book Fair by launching the Children's Literature Writing Workshop

MAKING AUTHORS

The Mohammed Bin Rashid Al Maktoum Foundation (MBRF) had a stellar session at the Sharjah International Book Fair 2015 by launching the second stage of 'Dubai International Writing Program' (DIPW). The second stage includes a training workshop on children's literature, under the impressive tutelage of the globally-acclaimed Tunisian author and trainer Wafa Mezghani. The project seeks to empower 10 UAE national writers with enhanced writing skills in the field of children's literature.

The MBRF has already successfully concluded the first stage of 'Dubai International Writing Program' under the "Novel" and the "Writers Exchange" categories. Writers published their novels and books after finishing the training workshop under the supervision of Lebanese novelist Najwa Barakat. The participants mingled with the audience, thinkers, intellectuals and novelists, who had the pleasure to get signed copies of these first novels and books at the MBRF pavilion of the Sharjah International Book Fair.

The first phase of the "Novel" category led to publishing five novels: *"The Guardian of the Sun"* by Iman Al Yousif; *"After the Storm"* by Sami Al Khalifi; *"The Return of Mira"* by Aysa Al Ajel, *"Other Selves"* by Badria Al Shamsi, and *"Bad Blood"* by Noora Mohammed. The "Writers Exchange" category also led to publishing three books: *"A Sip from Japan Homeland"* by Talal Salim; *"Legend of the Japanese Theater"* by Muhsin Suliman; and *"The Road to Japan"* by Al Hanouf Mohammad.

Commenting on the second stage



HH Dr. Sheikh Sultan Bin Mohammed Al Qasimi, Ruler of Sharjah visits MBRF pavilion

of the 'Dubai International Writing Program' (the Children's Literature Writing Workshop), His Excellency Jamal Bin Huwareb, Managing Director of MBRF, said: "Launching the 'Dubai International Writing Program' came in line with the directives of His Highness Sheikh Ahmed bin Mohammed bin Rashid Al Maktoum Chairman of the MBRF. The 'Novel' and 'Writer Exchange' categories aim to building an emerging generation talented in writing through empowering and enhancing their literary potentials with the help of a group of experts and experienced authors from different fields in the Arab World."

NURTURING THE YOUNG

The Tunisian Wafa Mezghani hailed MBRF efforts to spread knowledge and enhance the writing abilities of emerging talents saying: "Investing in children means investing in the future,

the UAE and its institutions realised the importance of this and thus launched programs and initiatives that improve talents and potentials of the UAE and Arab children.

The Children's Literature Writing Workshop aims to foster creative writing to enrich Arab libraries with a canon that stimulates innovation, and suits the mentality and personality of the 21st-century child who is looking for creative ideas that equip him or her with advanced learning mechanisms in a smart indirect way, and to inspire their mind to analyse situations and reach conclusions.

The author Wafa Mezghani – the mentor of the Children's Literature Writing Workshop – specialises in children's literature in the Arab World; she is a teacher in the Tunisian University and a researcher in the children and women culture. Mezghani was also the Head of Research Department in Children Culture till 2013, and the



HE Jamal Bin Huwareb and Tunisian author Wafa Mezghani



HH Rashid bin Humaid Al Nuaimi visits MBRF Pavilion



Edinburgh's Lord Provost Donald Wilson visits MBRF Pavilion

Head of the International Board on Books for Young People- Tunisia (TUNiBBY), and she is jury member of many children's book competitions.

During Sharjah International Book Fair the MBRF also hosted special sessions to introduce books like *The Great Outdoor Gallery*, *The Muslims in Sicily*, *Encyclopedia of Arab Narrative* and Ahmed Bin Fares. In addition, it also showcased The Knowledge Chair and Challenging Stories initiatives, aside from highlighting its partnership with Goethe Institute. An impressive range of dignitaries attended the MBRF pavilion at the Sharjah Book Fair. These included His Highness Dr Sheikh Sultan Bin Mohammed Al Qasimi, Ruler of Sharjah; His Highness Sheikh Rashid bin Humaid Al Nuaimi, the chairman of Ajman Municipality and Planning Department; and Lord Provost Donald Wilson of Edinburgh. 📖



Panel discussion organised by MBRF & Goethe Institut

UNDP and MBRF boost tie-up with new Arab Knowledge Project

The United Nations Development Programme (UNDP) and Mohammed Bin Rashid Al Maktoum Foundation (MBRF) are currently developing the first Arab Knowledge Index, a summary measure that best reflects knowledge accumulation, production and consumption from a development perspective, taking into consideration the specific socio-cultural context, needs and challenges of the Arab region. When released, the index, along with the 'Knowledge 4 All' digital Portal that will be built around it, will have state-of-the-art tools for monitoring and advocating for knowledge-based development in the Arab region.

The partnership agreement launches a five-year second phase of the collaborative effort between UNDP and MBRF on the Arab Knowledge Project, a pioneering regional programme, which started in 2007. Focusing on knowledge as a cornerstone for development in the Arab region, the project was published over the course of eight years and three widely disseminated Arab Knowledge reports underscoring key opportunities



(R-L): His Excellency Jamal Bin Huwareb, MBRF Managing Director and Sima Bahous, the Director of the UNDP Regional Bureau for Arab States, signed on November 8 in the Jordanian capital Amman

and challenges to building effective knowledge-based societies in Arab countries.

The index and portal are the centerpieces of the new partnership agreement that Sima Bahous, the Director of the UNDP Regional Bureau for Arab States, and His Excellency Jamal Bin Huwareb, MBRF Managing Director, signed on November 8 in the Jordanian capital,

Amman, during the inauguration of UNDP's new regional hub there.

"This fruitful partnership is inspired by a shared vision of promoting knowledge for sustainable development in the Arab Region, which finds its roots in the first series of Arab Human development Reports," stressed Sima Bahous, UNDP Regional Director for Arab States. "The call that the series sounded for a knowledge revival in the Arab region resonated with the insightful vision of His Highness Sheikh Mohammed Bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, for the future of the Arab region, when he created his Endowment and Foundation to pursue, in a true act of intellectual leadership," she added.

"The agreement we are signing today with UNDP emphasises the depth of our joint partnership," said HE Bin Huwareb, who added that "our collaborative efforts will lead to the announcement of further projects and initiatives that will contribute to the development and renaissance of knowledge-embracing Arab societies."





مؤسسة محمد بن راشد آل مكتوم
MOHAMMED BIN RASHID
AL MAKTOUM FOUNDATION



Morocco workshop discusses ways to enhance Arabic skills



MBRF and the United Nations Development Programme (UNDP) concluded a workshop in Morocco, marking the fifth of a series of global workshops organised to discuss the outcomes of the third Arab Knowledge Report and the preparations for the second Knowledge Conference. Previous workshops were held in Jordan, the US, France and Britain.

More than 200 participants, including experts from the Arab knowledge sector, contributed to the discussions, which highlighted issues such as weak Arabic language skills among students as well as the need for

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local and regional initiatives to support the language. The workshop also voiced concerns over inadequate contribution of young people to research and development and innovation. Pointing to the lack of connection between scientific research and the needs of the community, the participants called for establishing comprehensive research databases to develop the region.

The workshop was led by Dr. Abdul Hanieen Belhaj, Dean of the Faculty of Education Sciences at the University of Mohammed V in Rabat, who emphasised the importance of Arab Knowledge Reports in assessing the status of knowledge in the Arab world. The reports contain effective solutions to help Arab

countries enhance the knowledge levels in their communities and support the journey towards sustainable development, Dr. Belhaj added.

The participants at the Morocco workshop stressed the need to continue issuing Arab Knowledge Reports, highlighting its importance as a major source of reference for researchers involved in the development of knowledge in the Arab region. The reports are highly valuable in view of the up-to-date data and realistic analysis in easy to understand format, they said.

His Excellency Jamal bin Huwaireb, Managing Director of MBRF, said the workshops on the third Arab Knowledge Report, organised in a number of Arab and

international cities, have met with great success and contributed effectively towards consolidating the efforts to develop the knowledge domain in the region.

HE Bin Huwaireb said the last of the series of workshops organised by MBRF and UNDP will be held in Egypt. The workshops have provided valuable information and recommendations on the reality of Arab knowledge to help create radical solutions to the challenges facing the knowledge industry and the dissemination of knowledge in the region. The workshops have also supported MBRF in its preparations for the second edition of the Knowledge Conference 2015 which will be held in Dubai in December, he said. ↑

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MoU to translate Paralympic Summer Games laws into Arabic

MBRF signed a Memorandum of Understanding (MoU) on November 5 with Dubai Club for the Disabled to launch an initiative to translate the Paralympic Summer Games laws into Arabic. The initiative will enhance the participation of athletes with disabilities in world championship events and support coaches in the Arab region.

The initiative aims to translate the laws of 22 international sports federations of the disabled into booklets and make the laws of Paralympic Summer Games available in Arabic language. The initiative will also strengthen the position of Arabic language in the international Paralympic Committee and its affiliated organisations, and also encourage more participation in Paralympic Summer Games from Arab communities.

Under the agreement, MBRF will translate the laws into booklets and uploaded them on the International Paralympic Committee website. The Foundation will also carry out the technical review, proofreading, design, art direction and printing of the booklets. †



(L-R): His Excellency Jamal Bin Huwareb, MBRF Managing Director with Thani Juma Berregad, Chairman of the Dubai Club

Singapore visit explores best innovation practices in education

A delegation of the Mohammed Bin Rashid Al Maktoum Foundation (MBRF) led by His Excellency Jamal Bin Huwareb, Managing Director of MBRF, visited the Republic of Singapore. The visit comes in line with the Foundation's plans to explore the best practices in the application of the concept of knowledge in education and discuss ways to invite experts and professionals in this field to participate in the 2015 Knowledge Summit in Dubai.

"This visit comes as part of our efforts to adopt education as a key topic in the 2015 Knowledge Summit sessions. There is no doubt that Singapore has leading experience in the field of innovation and strengthening the role of science in society; and is a good example of persistence, development and innovation in different fields of education process. Singaporean universities are also among the reputed universities in the world. Hence, we are keen to discuss ways to invite and engage a group of the top-notch Singaporean minds to share their experiences in the 2015 Knowledge Summit," said HE Bin Huwareb. †



(L-R): His Excellency Jamal Bin Huwareb, MBRF Managing Director with Professor Muhammad Faishal Ibrahim, Parliamentary Secretary in the Ministry of Education in Singapore

SNAPSHOTS FROM THE REGION

Recycling pharmaceutical waste in Lebanon

WHY PHARMA-WASTE IS TOXIC

There are several challenges that arise from increased waste generation, and waste disposal is one of them. Each kind of waste needs to be handled differently, such as food waste, e-waste etc. Pharmaceutical waste is one such category which can prove hazardous if not carefully disposed off. It can lead to pollution of the natural environment and also contaminate water supplies.

Pharmaceutical waste, at the moment, is disposed off with the help of incinerators or properly constructed and located landfills. Incineration involves burning the drugs at very high temperatures which release toxic fumes. Landfills are sites located away from water bodies and above the water table to dump garbage. Both these methods are not environment friendly and lead to long term pollution of the environment. Due to lack of environmentally sound management of hazardous waste, pharmaceutical distributors in Lebanon are forced to send the expired drugs back to the manufacturer's country, which is an

expensive and complicated affair.

These challenges triggered an idea to reuse these pills by embedding them in recycled plastic panel boards. The project was conceived by Cedar Environmental, an environmental and industrial engineering organisation led by Lebanese entrepreneur Ziad Abi-Chaker and was done in collaboration with a team of researchers led by Dr. Walid Saad from the Department of Chemical Engineering at the American University of Beirut (AUB).

WHAT CEDAR ENVIRONMENT DOES

Cedar Environmental is based in Bikfaya suburb, 25 km from Beirut and its mission is 100 per cent environmentally-safe treatment of municipal solid waste and is committed to promoting organic agriculture.

The uncontrolled incineration of pharmaceuticals in the cement kilns in his country made Abi-Chaker opt for this solution of embedding these pills in the eco-boards that his company was already developing. After feasibility testing of the solution from an



Ziad Abi-Chaker

industrial perspective, he approached Dr Saad and together they worked on trying to find out if this solution has any environmental risks of leaching.

Eco-boards are manufactured using an award winning technology which uses plastic bags and other plastic scraps like cups, CDs etc. Weighing up to 25 kilograms, they are used in construction as they are robust, waterproof and rust proof. Tests were carried out to determine the safety of embedding expired pharmaceutical pills during the manufacturing process of eco-boards in the plastic matrix, and whether the active drug ingredients in the pills would leach out. An additional aluminum barrier was introduced to the pills to ensure further safety from chemical leaching. These boards can be used in any application as long as it does not require them to be cut.

The team is now looking to go one step further by obtaining licenses from the Ministry of Health and Ministry of Environment to collect expired drugs from distributors. They hope this will lead to guidelines for proper disposal from distributors and households and ways to dispose off both solid and liquid waste. †



Jordan's first wind farm begins operation

WINDS OF CHANGE

The Tafila Wind Farm has begun operations in Jordan, becoming the first and largest utility-scale wind project in the Kingdom. The announcement was made after the successful connection of the wind farm to the national grid by the National Electric Power Company and the Jordan Wind Project Company (JWPC), the project's owner and operator.

Located in Tafila governorate, 180km southwest of Amman, Jordan's capital city, it was the first wind project to reach financial closure in November 2013, in the MENA region outside Morocco.

The Tafila Wind Farm, a \$290 million project is now operating at its full capacity of 117MW. The project will produce about 400 gigawatt-hours annually, which can provide sufficient

power to 150,000 Jordanians, accounting for 3 per cent of the total energy currently produced in Jordan. It will be connected to the Rashadieh Transformer Station affiliated with NEPCO (National Electric Power Company).

ERA OF CLEAN ENERGY

The electricity that the project generates from wind energy is renewable and clean, reducing the country's carbon dioxide emissions. It will displace 235,000 tons of CO₂ emissions per year. With wind speeds in Jordan as high as 7.5 metres per second and up to 11.5 metres per second in hilly areas, experts have often called for wind farms in the past and this has now become a reality.

The wind farm project consists of 38 wind turbines, each with a rated capacity of approximately 3MW. Each turbine is approximately 150 metres in

height, and weighs around 200 tonnes.

JWPC's partners include InfraMed Infrastructure Fund which has a 50 per cent share, UAE-based Masdar Power with 31 per cent share, and EP Global Energy of Cyprus with 19 per cent. The financing was arranged by the International Finance Corporation and the European Investment Bank, while participants in the lender syndicate included the Dutch Development Bank, Europe Arab Bank, and Opec Fund for International Development, with the Export Credit Agency of Denmark providing a guarantee for a portion of the loans.

JWPC awarded the full EPC (Engineering, Procurement, and Construction) contract to Vestas to install turbines for the project. According to Vestas, the project provided jobs to 200 people during construction and 100 are needed for its operation, for a period of around 20 years.

A comprehensive Environmental and Social Impact Assessment (ESIA) has been undertaken by the sponsors of the Tafila Wind Farm. The purpose of this ESIA was to identify environmental and social impacts at an early stage and where necessary, mitigate those impacts. It included a 34 day baseline study with avifauna assessment, together with an extensive bird monitoring system. Actions were taken to reduce bird collisions with the moving rotors and electrocution from high voltage transmission lines.

JWPC has implemented a grievance mechanism which enables external parties to address any complaints or grievances they may have and ensures that these are investigated and, if required, resolved with corrective measures in a timely manner. This aims at establishing better communication between stakeholders, authorities and local residents. The complaint can be issued using a grievance form and should be addressed to JWPC. ↗



CREATING AN INTELLIGENT ENVIRONMENT THROUGH LED LIGHTING

GE paints a potent combination of connected LEDs and devices with the world of big data, cloud computing and analytics





Since the invention of the incandescent light bulb in the 19th century, by Thomas Alva Edison, human lives have transformed immensely.



The 21st century has seen a lot of evolution and revolutions when it comes to lighting technology.

GE is creating the Intelligent Environments for cities, and believes that structured collaboration between the public and private sector is key for creating digital city infrastructures that are open, productive, highly valuable and environmentally and socially sustainable.

Researchers at GE has provided insights on how LED lighting in combination with intelligent devices and powerful software platforms can help with savings in energy and maintenance.

Since the invention of the incandescent light bulb in the 19th century, by Thomas Alva Edison, the founding father of GE, human lives have transformed immensely. The modern societies reached new levels of comfort with a huge increase in workspace productivity. Public safety and security were revolutionised and the experience of venturing outdoors at night was forever transformed. Today, we don't think twice when we flip on the light switch. Few of us are aware, however, that another more

silent revolution is taking place in the world of lighting: LEDs [Light-Emitting Diodes].

LEDs have taken electric lighting into the next realm, the digital age. The world of lamps and ballasts have become a universe of chips and drivers where analogue technology has become digital. LED lightings are highly adjustable, controllable and precise. Environments that were poorly lit can be literally transformed with sometimes, stunning effects. There are numerous benefits of this transformation which are namely and not limited to, enhanced visibility for motorists, enhanced colour and readability of signs, number plates and faces become easily recognisable especially when recorded on CCTV cameras that act as a deterrent for criminal activity.

Use of such lighting is also beneficial to generate energy, carbon and maintenance savings. In comparison to the traditional lighting, LEDs are not only more efficient, but also have a long life and require much less maintenance. After all, there are no lamps to replace in an LED fixture. Depending on the type of lighting being replaced, the savings that can be achieved

Above: Dubai at night.



Left: Torbay,
UK LED
streetlighting

while helping operators schedule and conduct maintenance in the most timely and cost effective manner. Similarly, the infrastructure and asset management can be optimised based on intelligence gained from the control systems.

Using new or existing LED infrastructure to increase broadband coverage in remote/off grid areas or to stabilise energy grids is also a very technically viable option. GE lighting's E+ Grid pilot test installation in Budapest shows the art of the possible. Solar PVs are linked to lithium ion batteries, an energy management system, the weather station, internet and an adaptive lighting system that dims up and down according to vehicle and pedestrian traffic.

Understanding how LEDs 'fit' within our value journey, we should consider three fundamental and simultaneous changes:

- » The merger of physical infrastructure and analytics based on large amounts of digital data obtained from sensors- what GE calls the industrial internet.
- » A shift from simply protecting and servicing equipment, to using the digital data based on analytics and software to achieve no unplanned equipment downtime and on time preventive maintenance
- » The connection of minds and machines, allowing humans to interact with and control their surroundings in exciting ways.

Whether off/on grid, LED infrastructure is well positioned to enable valuable outcomes for the cities and its citizens. At GE, the term 'Intelligent Environment' is used to refer to a potent combination of connected LEDs and devices with the world of big data, cloud computing and analytics. Creating an Intelligent Environment doesn't happen overnight. It involves investments in research – including pilot projects and ultimately an investment in new systems if required. Combined with service revenues generated from such systems, these kind of investments



by switching to LEDs are tremendous and are ranging from 40-70 per cent and beyond, especially if control systems are installed to optimise the installation.

Control systems, as the name suggests, are ideal to control the functioning of the LED systems. The LED fixture can be easily turned on/off, or dimmed up/down, as required as per usage patterns, generating additional savings and thereby prolonging its life through efficient use of the system. Beyond the efficiency and longevity of the fixture, control systems can also provide vital information on real time energy consumption

“LED lightings are highly adjustable, controllable and precise. Environments that were poorly lit can be literally transformed with sometimes, stunning effects. LEDs have taken electric lighting into the next realm, the digital age.”



➤ are highly attractive as the payback is immediate due to savings from energy-efficient LEDs.

With an installed base of technologies valued at over \$1 trillion, GE is leveraging this industrial base to drill deep into the challenges that customers face when they are confronted with terabytes of data generated by multiple types of installations and are committed to understanding this complexity and helping them navigate through it. To do this, GE is developing an analytics and software platform known as 'Predix' with the help of more than 1,000 dedicated specialists.

We are aware that LED lighting can be more energy efficient and is more durable in the long run than incandescent lighting. However, GE is far more ambitious by imagining an intelligent environment where for example, street lighting not just provides light for motorists and pedestrians. Imagine it as an interconnected digital infrastructure, where each light point has an IP address, a control module, sensors and other intelligent devices- that can enable a number of data based services. It can help optimise parking, manage traffic better, assist emergency response

services and provide real time environmental data including pollution.

HUGE SAVINGS

By incorporating LED lighting, there are huge savings to be made, which can in turn be used for providing education and healthcare. If encouraged by policy makers, planners and other key stakeholders, we can move into a more technologically advanced realm of controls, asset management, off-grid solutions and beyond. There are endless possibilities for research and job creation, which in turn will lead to economic growth. Investments in a new system may seem risky. However, there are several benefits for opting to make this shift to LED. Paybacks are immediate through instant savings or value added services. It can be the answer to several future challenges such as infrastructure resilience, energy security, job creation, revenue generation, and environmental sustainability and beyond.

This journey that began with an ambition to provide better light has the potential to reduce the environmental impact of cities. ↑

Above: Balatonf,
Hungary LED
streetlighting



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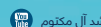
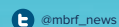


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