

# FLASHES

JAN 2015

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



## THE FINEST 43

The UAE's pioneers  
and innovators  
recognised

## ARAB WOMEN IN SCIENCE

Dr Habiba  
Al Safar

## CHANGING THE WORLD

Innovations  
from the  
past year

## The First Knowledge Conference

The Creation of  
Knowledge

# Dubai Duty Free

Stylish designer bags  
Irresistible fragrances  
Glamorous sunglasses  
One way to have it all

**TRAVEL LIGHT**  
**Shop at Dubai Duty Free**



[www.dubaidutyfree.com](http://www.dubaidutyfree.com)



**Full of surprises.**



# CONTENTS

JANUARY / 2015



COVER IMAGE:  
Winners at the First Knowledge  
Conference

## 22 LIGHTING THE WAY

UNESCO confers  
global recognition to  
Emirates Wildlife Society

## 24 HAVE YOUR PACK AND EAT IT TOO...

Edible tableware can help  
reduce refuse in landfills

## 26 JUST ADD INK AND STIR

Forget cooking, try printing  
your meals instead

## 28 LAUGHTER: THE BEST MEDICINE?

Research shows that  
laughing gas may help fight  
depression

34



## FIRST KNOWLEDGE CONFERENCE

The creation of knowledge, its  
effective transfer to youth and  
its effects on the economy / 06

## THE FINEST 43

43 pioneers and innovators that  
helped shape the face of the  
nation / 16

## CHANNEL HOPPING

Where, when and how we see TV  
commercials are changing / 18

## ARAB WOMEN IN SCIENCE

Dr Habiba Al Safar, a winner of the  
2014 L'Oreal-UNESCO for Women  
in Science Fellowship / 30

## ADDED VALUE PROPOSITIONS

How can global CEOs connect  
with consumers on the issue of  
sustainability? / 34

## CHANGING THE WORLD

Flashses reviews some innovations  
from the past year / 38



Hello Tomorrow **Emirates**

# Make friends from new dimensions

Journey to different worlds with movies and TV, or play the latest video games with new friends on board. Let our inflight entertainment take you places you won't find on a map.

[emirates.com](https://www.emirates.com)

Join Emirates Skywards and open up a world of rewards at [emirates.com](https://www.emirates.com) ♦ Enjoy up to 1,800 channels of entertainment

For more information or to make a booking, contact your travel agent or visit [emirates.com](https://www.emirates.com)





**Qandil**

Printing & Publishing Services  
Member of MBRF Holding

**CHAIRMAN**

HE Jamal Bin Huwaireb

**CORPORATE**

**AFFAIRS ADVISOR**

Saif Al Mansoori

**MARKETING AND  
COMMUNICATIONS  
DIRECTOR**

Lina Al Anani

Mohammed Bin Rashid  
Al Maktoum Foundation  
T: +971 4 4233 444  
F: +971 4 368 7777  
PO Box 214444, Dubai  
United Arab Emirates  
www.mbrf.ae  
flashes@mbmf.ae



**MOTIVATE**

A Motivate  
Connect Publication

Media 1 Tower,  
Dubai Media City  
PO Box 2331, Dubai, UAE  
T: +971 4 427 3000  
F: +971 4 428 02261  
motivatepublishing.com  
connect@motivate.ae

**REGIONAL MANAGER**

Rami Rahman  
rami@motivate.ae

**SENIOR EDITOR**

Siobhan Adams

**CONTRIBUTOR**

Nusrat Ali

**SENIOR**

**ASSIGNMENTS EDITOR**

Ingrid Valles

**SENIOR DESIGNER**

Rouf Majid

**HEAD OF PRODUCTION**

Sunil Kumar

Printed by Rashid Printers



## FOREWORD

**T**he New Year is always a time for retrospection and of course, new beginnings. It's a time when we at the Mohammed Bin Rashid Foundation renew our goals of inspiring, applying and disseminating knowledge, review the progress we have made so far and chalk out the next targets on our roadmap. I am happy to say that 2014 was a fruitful year. Our achievements included the launch of *Flashes*, our first English language magazine and Qindeel Printing Services; we forged new and lasting relationships with a variety of educational and cultural bodies such as the Japan Arts and Culture Foundation, introduced a variety of initiatives such as Dardachat – all with the single-minded purpose of strengthening the foundations of a knowledge-based society.

Among all these landmark achievements, our most triumphant moment was the launch of the first Knowledge Conference. This enlightening event brought global innovators to our young nation, reiterating our commitment to build a powerful knowledge-based economy founded on the pillars of education, innovation and creativity. MBRF had the privilege of conferring upon Sir Tim Berners-Lee and Jimmy Wales the first Sheikh Mohammed Bin Rashid Al Maktoum Knowledge Awards underlining our deep respect

for those who are involved in the pursuit of making the world a better place through the distribution of knowledge. Our youth is our most powerful asset and in the years to come we are completely reliant on them to unleash the full potential of a knowledge based future. Towards this quest, the Arab Knowledge Report 2014 provides us with significant insights. Read about these from page 6 onwards.

As we aspire to be leaders of a global initiative, we are aware that we cannot succeed alone. Our bringing together of opinion makers, educators and academicians among others for the Knowledge Conference clearly demonstrates our philosophy of global collaboration and unity.

In spite of this string of successes, we know that we cannot simply rest on past laurels. There is much work to be done in the building of a sustainable, knowledge based future. Armed with determination to relentlessly pursue education, innovation and creativity and with the unwavering support of the wise leaders of our nation, we are sure that 2015 will see us make huge positive strides.

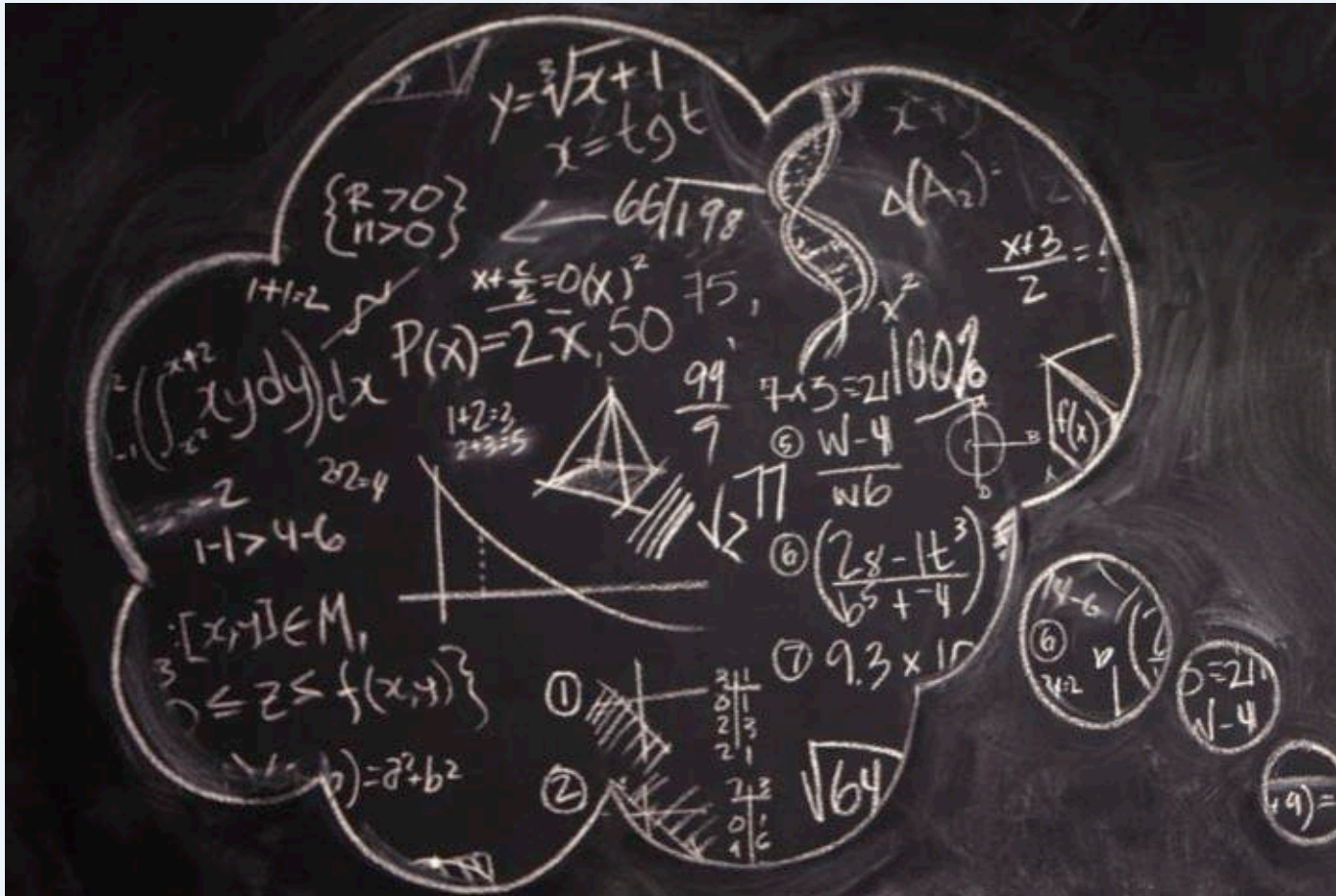
---

**HE Jamal Bin Huwaireb**

MD of the Mohammed Bin Rashid  
Al Maktoum Foundation



# FOUNDATION UPDATES AND INITIATIVES



## HOW READY IS THE ARAB WORLD FOR KNOWLEDGE ECONOMIES?

*The region has a colossal task in building a knowledge society and in preparing its youth for full participation, but a new roadmap will make this collective undertaking less daunting and more daring.*

✍ IONA STANLEY REPORTS



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



**T**he relationship between knowledge and development is both organic and dynamic, and acknowledging this is the first step on the long passage to progress. The Arab Knowledge Report takes it up several notches, first by placing the human element – particularly young people – at the epicentre of this correlation, and thereafter, in highlighting the issues, solutions, and probable opportunities that lie at the heart of the matter.

A joint initiative between the Mohammad Bin Rashid Al Maktoum Foundation (MBRF) and the United Nations Development Programme (UNDP), the Arab Knowledge Report articulates a shared vision of the two organisations in developing the embryonic knowledge economies of the Arab world. In its third edition, the current report is self-explanatory in its sub-title, 'Preparing Future Generations for The Knowledge Society'.

"Knowledge is the backbone of economic development, the main pillar of sustainable social progress, and the cornerstone of prosperity for the people," HE Jamal Bin Huwairib, managing director of MBRF said at the launch of the report on 8 December, 2014 in Dubai. "The

Arab Knowledge Report reflects our joint commitment to support the knowledge society with adequate tools and resources, in order to establish sustainable human development in the region."

In a first, the Arab Knowledge Report 2014 also has a companion country report, 'Youth and the Localisation of Knowledge in the United Arab Emirates', that examines the UAE's efforts and achievements in building human capital that is capable of producing knowledge, especially through investments in its youth.

#### FROM IDEA TO ACTIVITY, TO IMPERATIVE ACTION

The Arab Knowledge Report has garnered contextual history, and continues to grow from its two previous editions: 'Towards Productive Knowledge Communications' (2009) emphasised the mutually dependent premises of knowledge and freedom, and 'Preparing Future Generations for Integration within a Society of Culture' (2010/2011) measured the deficits and gaps of the first report, especially in the readiness of Arab youth to create knowledge-based societies.

Now in its current avatar, the report moves to a stage of action by examining two critical issues – the production, transfer and localisation of knowledge as an engine for human development, and thereafter, the integration of youth into all these processes. The report analyses and specifies determinants and opportunities for disseminating and localising knowledge in the Arab world, and explores methods that can mobilise effective youth engagement.

The critical yet constructive vision presented by the third report is an urgent call to focus on youth – prepare them, provide them with formation, and actively integrate them – in the process of localising knowledge, and thereby allow them to contribute to societal progress.

In summation, the report observes that at this historic crossroads in time, the Arab region can and necessarily must empower its young men and women to take full advantage of the globally growing force of knowledge – to transform all aspects of the economy, social life, services, education and health.





### THE ARAB WORLD JUXTAPOSED AGAINST THE WORLD

The Arab region ranked sixth out of eight regions on the World Bank's Knowledge Economy Index (KEI) 2000-2012, each measured against the global knowledge economy and each other. According to Dr. Sima Bahous, assistant secretary-general and regional director of the UNDP's Regional Bureau for Arab States, this ranking underscores the huge gap between the Arab region and most others, in the key components of illiteracy, education, training, research, and youth unemployment.

In the past decade, Arab countries have recorded rather insignificant progress on several other global indices including the Knowledge Index, the Innovation System sub-index, and the Education and Human Resources sub-index. In a specific example, The Global Innovation Index 2014 shows a major gap in innovation and knowledge in the Arab region – measured for value, rank and progress in comparison to other world regions.

In the section entitled 'Conceptual Framework of Integrating Youth in the Transfer and Localisation of Knowledge', the authors point out how Arab nations can narrow at least some of these gaps to compete at a global level: "This is dependent on the ability of Arab countries to rehabilitate their young people, and transform them from being a problem and a challenge into human

capital and cognitive assets in building knowledge economies. This will foster participation in global civilisation, and contribute in steering the course of development towards a society blessed with peace, prosperity and justice."

### EDUCATING, ENABLING AND EMPOWERING YOUTH

In the chapter, 'Youth and Localisation of Knowledge', the report urges the Arab region to integrate better into the global knowledge economy, and emphasises that the most effective route towards achieving this is with the full and active engagement of youth. The authors say one of the preliminary tasks of preparing Arab youth for a knowledge society is equipping them with a comprehensive set of skills – cognitive, compassionate and social – that are consistent with requirements of the future.

Amat Al Alim Aloswa, assistant secretary general, assistant administrator, and director of the Regional Bureau for Arab States at the UNDP, also adds a cautious addendum, in a foreword to the report: "Skills alone are not enough, unless they are accompanied by a set of values that guide the youth in their work for the good of humanity and society."

Meanwhile, the report's 'Enabling Environments and Their Effectiveness in Transfer and Localisation of Knowledge' section emphasises the role of higher education in development. The

**6  
OUT  
OF  
8  
ARAB  
REGION'S  
RANK ON  
THE WORLD  
BANK'S  
KNOWLEDGE  
ECONOMY  
INDEX (KEI)  
2000-2012**





report argues that although efforts are underway to expand higher education in the Arab region, these will remain futile unless substantiated by similar efforts in advancing the quality of education delivered.

The report also identifies lack of innovation as one of the major weaknesses of the region, citing that in recent years Arab countries have only allocated modest amounts of their GDP to research and development, at a rate ranging between 0.03 and 0.73 per cent.

### TRANSFORMING YOUTH POPULATION INTO KNOWLEDGE WEALTH

According to the report, the Arab region is among the most youthful in the world. In the year 2015, almost a third of the total regional population will be under 15 years of age, and approximately 20 per cent in the age bracket between 15 and 24 years. However, the majority of Arab countries remain unable to transform this great wealth of their young populations to bridge the knowledge gap and to build sustainable knowledge-based economies and societies.

The report also identifies specific challenges that continue to stifle the region's aim to integrate youth into development processes:

- ⇒ Shortcomings in the dissemination of education, and at training and scientific research institutions
- ⇒ Rapid increase in jobs for youth in the public sector, typically undemanding of developed knowledge skills
- ⇒ Weaknesses in the private sector, entrepreneurial endeavours, and manufacturing industries
- ⇒ Lack of public policies promoting entrepreneurship
- ⇒ High youth unemployment rates, leading to marginalisation in the labour market and in other areas of public life
- ⇒ Increasing migration especially among highly skilled academics and researchers, commonly known as Arab brain drain
- ⇒ Lack of transparency and integrity in government sectors, leading to weakened economic mentality
- ⇒ Failure to maintain, develop, and reform the Arabic language to adapt to the changing requirements of knowledge societies and economies

### THE TWIN ILLS OF ILLITERACY AND UNEMPLOYMENT

Some of the structural problems in the Arab world have a direct relation to progress made

in building knowledge economies, or lack of it thereof, and these include illiteracy, poverty, unemployment, internal conflicts and financial and economic crises, observes Dr. Gaith Fariz, director and coordinator of the Arab Knowledge Report.

Approximately 52 million of the region's total population remains illiterate, and 4.5 million children remain outside schools. Unemployment in the Arab world, especially among young graduates, is another pressing issue, with youth currently accounting for more than 50 per cent of the unemployed. Dr. Fariz says this is particularly disconcerting for the future because starting next year, the percentage of youth below the age of 15 will be as high as 33 per cent.

The report warns that the Arab region will need to continuously create new job opportunities until 2020, to prevent unemployment from sliding to deeper levels. "A total of 17 million jobs are needed by 2020 to maintain the current unemployment rate, and prevent it from increasing.

"Localisation of knowledge must be built on twin pillars – the production of knowledge and the utilisation of knowledge," adds Mr. Bin Huwareb. "Both must necessarily involve our youth populations."

### UAE: Perseverance, prowess and progress

Compared to the rest of the Arab world, the United Arab Emirates has demonstrated much prowess and progress in creating a knowledge-based economy. Benchmarked against other nations in the region, the UAE has recorded high scores on international indices that measure and monitor innovation, economic competitiveness, human development, education, and even happiness.

The Arab Knowledge Report's companion report on the UAE lauds the country's efforts to build human capital, especially its youth to be capable of producing and employing knowledge as a cornerstone of sustainable human development. Particular praise is directed towards investments in the field of education, with an allocation of Dh. 3.9 billion for university education in the UAE federal budget of 2013 amounting to 8.7 per cent of the total spending that year. Subsequently, the number of students enrolled in the UAE's universities marked a growth rate of 7.95 per cent against the previous year (2012).



# HOLISTIC VIEWS ON HOW BEST TO HARNESS KNOWLEDGE

*The creation of knowledge, its effective transfer to youth, and its effects on economy and society were some of the topics covered at the First Knowledge Conference. The inaugural event also saw the launch of a new global prize, and several dozen new ideas and initiatives, as a ground-building exercise to create knowledge societies and economies across the Arab region.*

The introductory Knowledge Conference organised by Mohamed bin Rashid Al Maktoum Foundation (MBRF) under the theme 'Empowering Future Generations'; was held at the Grand Hyatt, Dubai from December 7 to 9, and addressed several critical issues related to the creation, transfer and localisation of knowledge in the Arab region. With strong international participation and local representation at sessions spread over three days, the First Knowledge Conference was widely acknowledged as an exemplary input from the MBRF, and from the United Arab Emirates.

Hosted under the patronage of HH Sheikh Mohammed bin Rashid Al Maktoum – Vice President and Prime Minister of the UAE and Ruler of Dubai, and under the direction of HH Sheikh Ahmed bin Mohammed Bin Rashid Al Maktoum – Chairman of MBRF, the event proved to be a first on many fronts – with novelty, originality and creativity marking all facets and aspects.

## SHEIKH MOHAMMED BIN RASHID AL MAKTOUM KNOWLEDGE AWARDS

The MBRF used the august forum of the conference to launch the Sheikh Mohammed bin Rashid Al Maktoum Knowledge Award – an international prize for notable contributions towards building a global knowledge economy. The first recipients of the award, Sir Tim Berners-Lee, inventor of the World Wide Web and Jimmy Wales, co-founder of Wikipedia, were each presented with a prize of US\$ 500,000 by HH Sheikh Ahmed bin Mohammed bin Rashid al Maktoum, at the opening ceremony.

Receiving the award, Tim Berners-Lee expressed his appreciation of the MBRF's efforts to bringing and bridging understanding, between the Arab world and the rest of the world. "I have always hoped that technology would be used, both to nurture and enhance cultures, and to break down the barriers between them. I am grateful to the MBRF for their hospitality and generosity, and I commend them for embracing these issues," he declared.

Sir Berners-Lee admitted that in the 25 years since the historic launch of the World Wide Web, his personal role has not only included inventing and promoting it, but more recently, also defending it. He urged the conference that it must now be used for the transfer and creation of knowledge: "Let us use the openness of the web and the knowledge we share, to enhance our different cultures and understanding of other cultures. Let us use it to break down barriers and borders – it is very important for peace in the world."

Jimmy Wales, co-founder of Wikipedia explained why it was a true honour for him to be a co-recipient of this award: "It is an exciting time for the world, as the tools for people to educate themselves and share knowledge with others are better than any other time in our history. I am proud in some small way, to have played a part in this process."

He also spoke about the internet as an important tool to harness knowledge. "The internet will soon reach the next 2 to 3 billion people, and I believe it is coming to these people faster than anticipated, even within the internet industry. This is going to result in an enormous





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

cultural upheaval as people who previously had almost no access to knowledge will suddenly have huge access," Mr. Wales stated.

After delivering speeches to a packed auditorium, both award-winners participated in a panel discussion on 'Knowledge through Innovation and Integration', with fellow speakers Dr. Chizu Nakajima – Director of the International Centre for Integrity and Governance at the London Guildhall Faculty of Business and Law, Prof. Hamid M.K. Al Naimiy – Chancellor of the University of Sharjah, Dr. Dana Brown – Director of the MBA programme at Saïd Business School at Oxford, and moderator, senior journalist Raghida Dergham.

#### MAKING HEADWAY ON THE ARAB KNOWLEDGE INDEX

The imperative need for an Arab Knowledge Index and a roadmap for developing and using this index was the focus of an interactive discussion at the conference, with speakers including HE Jamal bin Huwaireb – managing director of the MBRF, Dr. Samir Aita – president of the Arab Economist Circle, Dr. Lana Mamkegh – Jordanian Minister of Culture, and Dr. Ghaith Fariz – director and coordinator of the Arab Knowledge Report.

The Arab Knowledge Index is being jointly

developed by the MBRF and the United Nations Development Programme (UNDP), and Mr. bin Huwaireb said it will provide regional policy and decision-makers accurate information about the level of knowledge in Arab communities, and focus areas for development plans. "The index will act as both a representation of the present situation, as well as provide guidance for the future. We aim to provide this index to the Arab world as a tool that will aid better decision-making," Mr. bin Huwaireb explained.

Dr Samir Aita emphasised the inclusivity factor of the index in showcasing the disparities, challenges and specific needs of each country in the Arab world. "The index takes into account that every country in the Arab world has differing levels of progress and fields of success, as well as unique issues and development challenges," he pointed out.

#### CALL FOR CREATION OF KNOWLEDGE INCUBATORS IN ARAB REGION

Experts at the First Knowledge Conference were unanimous in the view that development of human capital is vital to achieving localisation of knowledge, and called for the creation of knowledge incubators and similar steps, to achieve this across the Arab region.

In particular, panellists at the 'Producing and



Localising Knowledge' session of the conference were keen on exploring how best to create local knowledge pools. The United Arab Emirates was showcased as a success story for the region, and speakers observed that the UAE has adopted a futuristic outlook by embracing innovation and initiating various efforts to create a knowledge economy. HE Hussain Nasser Lootah, Director General of Dubai Municipality, simultaneously cautioned that, "In spite of technological innovations and the availability of various tools, it is still important to build minds, and to build minds we need new incubators. There should be no let-up in the focus on human capital, for without the human element we cannot benefit from any of these tools."

Citing the example of Japan, where 80 per cent of research and development is in the private sector, Dr. Sami Mahroum – executive director of INSEAD Innovation and Policy Initiative called out to the private sector in the Arab region to do likewise, to achieve localisation of knowledge. Dr Mahroum also observed that knowledge automation will threaten as many as 45 million jobs in the OECD (Organisation for Economic Cooperation and Development) countries, and called for a new approach to knowledge creation that suits the specific requirements of the future.

### ENGAGING AND ENABLING YOUTH IN KNOWLEDGE TRANSFERS

The Knowledge Conference addressed several issues pertaining to a youth's sense of local

identity which can easily get endangered in an increasingly globalised world. The panel at 'Arab Youth Integration in the Process of Knowledge Transfer and Localisation' examined the delicate balance for Arab countries to evolve and ensure that they are globally competitive, while safeguarding their language, values, and long-standing cultural heritage.

Dr. Yousry El-Gamal, former Egyptian Minister of Education, said educational institutions, particularly universities, have a significant role to play in the transfer of knowledge to young people: "It is essential that academics continue to adapt their methods to ensure that youth are receiving contemporary, relevant skills which they can then apply into their careers and day-to-day lives. There is no doubt that in today's globalised world there is a need for young people to be familiar with modern technologies. Despite this, there is still an important requirement for youth to have a sense of identity, and understand and value their cultural heritage."

His thoughts were also echoed by Dr. Ziad Aldrees, Saudi Arabia's Ambassador to UNESCO, who added: "It is important that young people remember and respect their identity: there is an ethical aspect of gaining knowledge and we need to remember the central principle of valuing who we are, and what we stand for."

Dr. Hassan El Bilawi – secretary general of the Arab Council for Childhood & Development, and Dr. Idris Bensaid – research professor of sociology at Mohammed V University were the other

Expert panel:  
Youth participation was a key discussion point throughout the event







Lively debate:  
FKC drew  
many experts  
commentators

distinguished speakers at this panel moderated by Dr. Abdelrahim Al Atri – professor of higher education at the College of Humanities and Social Sciences.

#### COLLABORATION BETWEEN STAKEHOLDERS TO MAXIMISE EFFECTIVENESS

Discussions at the conference concluded that academic institutions must join hands with the private and public sectors to ensure that full spectrum of knowledge is passed to young people. A panel assessed the most efficient ways in which to stimulate the creation of knowledge among young people in the Arab world and it was agreed that different stakeholders must involve each other and integrate their efforts for maximum effectiveness. Education was identified as a crucial incubator for both entrepreneurship and innovation, two important concepts that to thrive require long-term thinking, lasting funding and the transfer of knowledge.

'The Status of Youth in the UAE and Enabling Factors for Their Active Participation in the Transfer and Localisation of Knowledge' was headed by leading academicians from the Arab region – Drs. Karma Al Hassan, Abdelwahab Bin Hafiedh, Inam Bayoud and Ekhliel Tarawneh, and moderated by Dr. Essam Al Rawas.

According to Dr. Ekhliel Tarawneh, President of the University of Jordan, "A combined approach, in which different organisations, businesses and government work together to plot a path for the future is often the most fruitful in terms of delivering results."

Concurrently, Dr. Karma Al Hassan, director of the Office of Institutional Research & Assessment at the American University of Beirut emphasised how the right education and training can encourage youth to initially access, and then augment a knowledge society: "The channel of knowledge transfer should always be considered a multi-lateral formula, and it has been proven to be most effective when there are a number of

stakeholders from the public, private and government sectors involved."

#### EDUCATION AS A TOOL TO ERADICATE INSTABILITY

The instabilities of the Arab Spring and the rise of extremism in the region are the direct outcomes of inadequacies in the education system in Arab countries, experts concluded at the conference.

Speaking at an energetic session, 'The Status of Arab Knowledge in Light of the Arab Spring' panellists stressed the need to build human capital and support youth empowerment with knowledge that meets the future requirements of the market.

HE Lt. General Dhahi Khalfan Tamim, deputy chairman of Dubai Police and Public Security, said it is the combination of deteriorating and fragile knowledge that paved the way for the Arab Spring. "The Arab world needs to revive the instinct for exploratory knowledge which was the hallmark of the earlier generations. Exploratory knowledge enabled our forefathers to depend on their own efforts rather than depend on the expertise of other countries," he observed. Highlighting the urgency to design efficient educational systems, Mr Khalfan said the current level of education in the region is grossly inadequate to create a knowledge-based generation. "The region is churning out graduates every year but these graduates are not equipped with the knowledge required for the labour market. The resultant unemployment situation poses grave threat in the form of disillusionment and extremist tendencies. What Dubai and the UAE have shown must be emulated in other Arab countries," he said.

Dr. Essam Sharaf, former Prime Minister of Egypt noted how the Arab region has a problem about differentiating between homeland and country. "Politics change, but the homeland remains constant. Inadequacies in this knowledge have created a vacuum in national identity, thereby leading to extremism." †



**EDUCATION  
IS THE  
CRUCIAL  
INCUBATOR**



## A WORLD VIEW OF THE ARAB WORLD

*Delegates at the First Knowledge Conference had much to say about a range of region-specific topics that included youth, language, culture, youth, data – and their roles in building knowledge societies.*

FLASHES EDITORIAL TEAM

The inaugural Knowledge Conference attracted an eclectic but erudite range of opinion-makers, academicians, researchers, educators, students, and journalists – who jointly represented universities, institutions, think-tanks and governments from around the world. This staggering diversity in attendance and participation was also reflected in the animated topics covered in their speeches and discussions, and through comments that were made off-stage or long-distance.

With ‘knowledge’ as a collective lynch pin, the broad-ranging observations covered learning and language, love of country, countering terrorism, training and teaching young people, and how best to prepare them to merge into the global knowledge economy.

### APPLAUSE FOR THE UAE

**The Secretary-General of the United Nations, Mr. Ban Ki-moon**, was among the first to applaud the First Knowledge Conference, and its aim of driving sustainable development throughout the Arab region, and his personal message was delivered by Sima Sami Bahous, assistant administrator at the Regional Bureau for Arab States, United Nations Development Programme (UNDP). “The UAE is serving as a leader in promoting knowledge across the Arab States and the world, in particular through its collaboration on the Arab Knowledge Report. I applaud the UAE for its achievements in this field, particularly its success in education, innovation, and information and communication technology,” Ms. Bahous said on his behalf.

Mr. Ban Ki-moon also touched upon collective Arab action, in his message: “People across the Arab region yearn for justice, dignity, and full respect for human rights. Leaders must respond to the legitimate demands of their people. Young people are especially eager to claim their rights

– and especially deserving of opportunities, particularly for productive employment. When individuals are more knowledgeable, they can contribute more to the collective progress of all humanity.”

### MESSAGES TO THE ARAB REGION

The two keynote speakers at the conference had much to say about – and to – the Arab region, in a motley collection of observations. In his address to the audience, **Sir Tim Berners-Lee**, said that in the 25 years since he invented the World Wide Web, its open and free nature remains its most important feature. “The convenience of plugging it into a wall and talking to another computer in another country highlights how decentralised it is – socially and technically.”

He urged the audience to retain this feature, and harness the web to build Arab knowledge societies. “Teach your students to be data-aware, teach your children to code, whether or not they are going to become programmers,” he added. Sir Berners-Lee also spoke of the efforts of the World Wide Web Foundation to narrow the gap between people who have, and do not have internet access: “Internet access, and the freedom to exercise this access, must be considered basic human rights. There should be no attitude or expectations, and no constraints. We must use it to break down borders and barriers,” he stated.

Echoing these thoughts was **Jimmy Wales, co-founder of Wikipedia**, who said he wishes to see every single person on the planet have free access to the internet. In his presentation, Mr. Wales also commented extensively on the Arabic language. “In the 13 years since I started the Wikipedia community, more than 32 million articles have been uploaded in 287 languages, and Arabic is currently the twelfth largest language group – with 341,000 articles. Arabic is a vibrant language, and the fifth best among the large languages in terms





Ban Ki-moon



Sir Tim Berners-Lee



Jimmy Wales



Prof. Peter Stokes



Dr. Chizu Nakajima



Dr Lana Mamkegh



Dr Essam Sharaf

of collaborative depth among editors. It is placed very strongly, moving forward.”

#### KNOWLEDGE, AND ITS MANY DIMENSIONS

**Professor Peter Stokes, deputy dean of the University of Chester Business School**, who spoke at the opening ceremony of the conference, emphasised the power of people. “A knowledge economy is fiction without individuals taking action. We know knowledge exists, but it is all about utilising it correctly,” he said. “In the Arab context, internal knowledge needs to be fed into the mainstream.”

**Dr. Chizu Nakajima, director of the International Centre for Integrity and Governance at the London Guildhall Faculty of Business and Law**, articulated her thoughts about knowledge transfer from a legal perspective: “The freedom of the internet is subject to abuse, and there is a difference between transparency and confidentiality, especially when it comes to social issues of organised crime. There is a degree of balance we have to strike.”

*“Internet access, and the freedom to exercise this access, must be considered basic human rights. There should be no attitude or expectations, and no constraints. We must use it to break down borders and barriers.”*

**Dr. Dana Brown, director of the MBA programme at Oxford University’s Saïd Business School**, asked audiences at the conference to focus on how best to train young business leaders in the Arab region, and veer them away from merely exploiting market forces. She said students must be equipped with different skill sets: “We must instil global-mindedness in them – not just investing in their economic and financial skills, but also in their cultures and traditions.”

#### CALLS FOR COLLECTIVE ACTION

**Jordan’s minister of culture, Dr Lana Mamkegh** explained the correlation between Arabic language and Arab youth, “For years, we have been telling our children that they have to love the Arabic language, but we don’t present this language to them in a friendly way.” Arabic is critical to preserving and advancing Arab culture, customs and traditions, she said, and asked that authorities look into current curricula in the region, which is far from attractive.

According to **Dr. Ekhlef Tarawneh, President of the University of Jordan**, when attempting to transfer knowledge from one generation to the next, it is important that the recipients – the youth of today – are engaged and involved at every stage of the process. “Young people are the key contributor within this process, as not only are beneficiaries of the future, but they are also the generation which currently displays creativity, dynamism and innovation – the key components to delivering successful solutions”

#### KEYSUMMARIESANDPRINCIPALLEARNINGS

Some of the best anecdotes presented at the conference were undoubtedly those of **Dr. Abdelrahim Al Atri, professor of Higher Education at Morocco’s College of Humanities and Social Sciences**. Dr Atri used a particularly apt story to illustrate his point of widening existing knowledge circles in the Arab region. “I have a friend in the Egyptian army, and one night, he was late to report to duty. The commanding officer decided

to punish my friend for his behaviour – he asked him to draw a circle and spend the entire night inside this circle,” he narrated. “The next morning, when the commanding officer asked him what he had learnt, my friend readily admitted to him: ‘I wish I had drawn a bigger circle and not constricted myself’”

Dr Al Atri used this to tell the panellists and the audience how restrictive the Arab world still is: “We must enlarge our existing circles of knowledge,” he commended.

**Dr. Essam Sharaf, the former Prime Minister of Egypt**, added that knowledge is not merely education, “Knowledge is also society, family and media. Our regional systems are fragile but they exist. We must support and educate our youth for the future.” Meanwhile, **Professor Peter Giblin, member of the Board of Trustees of the American University in Cairo**, added another dimension. “Knowledge is a combination of information and judgment. Information comes from all of us, but what we choose to do with it is what makes it knowledge.”†

# THE FINEST 43

**T**he UAE celebrated its 43rd National Day on December 2 2014. On the landmark occasion His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, honoured 43 pioneers and innovators that helped shape the face of the nation. The award winners hailed from a variety of fields ranging from social, economic and scientific to literary and educational.

The awards were a tribute to the entrepreneurial spirit of the forefathers of the UAE. At the ceremony, HH Sheikh Mohammed said, "If Sheikh Zayed and Sheikh Rashid didn't have such passion for the first position, we would not have been where we are and we would not have achieved so much during very few decades. Zayed and Rashid are real pioneers and real achievers".

Among the honourees was Her Highness Sheikha Fatima bint Mubarak, President of the General Women's Union, Supreme Chairwoman of the Family Development Foundation and Chairwoman of Motherhood and Childhood Supreme Council. Deservingly called the "Mother of the UAE", Sheikha Fatima has stood as a global icon for female empowerment, especially the Emirati women. HH Sheikh Mohammed lauded her role in creating generations of powerful, capable and well equipped women.

The award winners were chosen through public poll. HH Sheikh Mohammed had launched a social media campaign in November last year, asking the people to nominate 43 top position holders in the country. "We, Emiratis, like the first position and appreciate those who work for it. We want the community to nominate the top achievers, such as first Emirati doctor, female ambassador, first Emirati to climb Mount Everest or those from other academic, sports, social and professional fields, so as to honour and show our appreciation to them during the UAE's 43rd National Day celebrations. First position holders are role models, and honouring them embodies the UAE citizen's love for the top position," he said at that time. ♪



## 2015 UPBEAT FOR UAE

Global transformations and changes in 2015 will produce positive impact on the United Arab Emirates asserted HH Sheikh Mohammed Bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai at the Arab Strategy Forum held last month. The UAE is well prepared for global scenarios and ready to keep pace with all the social, technological and political changes thanks to its stability and strong and diversified economy. Sheikh Mohammed added that the UAE had become an economic and political force in the region and the world because we had a head start in studying the future and its implications. "We are part of an extremely complex region, a well connected global economy and a fast changing world of technology and therefore, there is more need to invest in the future", he said.

His Highness was also optimistic that 2015 will see positive political indications in the region as well.



## THE LIST OF WINNERS

**SHEIKH KHALIFA BIN ZAYED AL NAHYAN**  
**SHEIKH RASHID BIN SAEED AL MAKTOUM**  
**SHEIKHA FATIMA BINT MUBARAK**

First Emirati graduate: **SHEIKH MOHAMMED BIN SAEED GHOBASH**

First Emirati female teacher in public school: **SHEIKH NAEMA BINT MAJED AL QASSIMI**

First Emirati female teacher in public school: **AMENA SALEM AL HAJEERI**

First Emirati doctor: **DR. AHMED KAZEM**

First Emirati martyr Corporal: **SALEM SUHAIL KHAMIS**

First Emirati military personnel: **COLONEL MOHAMMED SALEH AL QAEEDI**

First Emirati female military personnel: **COLONEL DR. ASMA SULTAN AL MUGHERI**

First Emirati university professor: **DR. RASHID ABDULRAHMAN AL SAEED**

First Emirati female PhD holder: **DR. AYSHA AL SAYAR**

First Emirati editor in chief after the union: **KHALID MOHAMMED AHMED**

First Emirati female broadcaster: **HESSA AL ASSELY**

First Emirati Chief Justice at the Union Supreme Court: **ABDULWAHAB ABDOOL**

First Emirati female judge: **KHULOOD JUAN AL DHAHERI**

First Emirati ambassador after the union: **DR. ALI HUMAIDAN**

First Emirati female ambassador: **SHEIKH NAJLA AL QASSIMI**

First Emirati police officer: **MOHAMMED SAEED BU RAHIMA**

First Emirati novelist: **RASHID ABDULLAH AL NUAIM**

First Emirati banker: **ISSA SALEH AL GURG**

First Emirati FNC member elect: **AMAL ABDULLAH AL QUBAISI**

First Emirati National Team coach: **JUMA GHAREEB**

First Emirati Olympic gold medalist: **SHEIKH AHMED BIN MOHAMMED BIN HASHER AL MAKTOUM**

First Emirati male nurse: **HUSSAIN GAED**

First Emirati female photographer: **SHEIKHA AL SUWAIDI**

First Emirati Paralympics medalist: **HUMAIID HASSAN MURAD AL MAZEM**

First Emirati female Olympic medalist: **SHEIKHA MAITHA BINT MOHAMMED BIN RASHID AL MAKTOUM**

First Emirati National Team captain: **AHMED ISSA**

First Emirati international referee: **ABDULLAH AL SAI**

First Emirati inventor: **SAQR MAJED AL MARRI**

First Emirati selected among the world's eight most impressive young medical pioneers by CNN: **ADEEB SULAIMAN AL BALUSHI**

First Emirati female nuclear engineer: **AMANI AL HUSSANI**

First Emirati satellite project manager: **SALEM HUMAIID AL MARRI**

First Emirati to discover a bio-artificial liver device: **PROFESSOR ALI AL NAQBI**

First Emirati to discover DNA male profiling: **RASHID HAMDAN AL GHAFIRI**

First Emirati to identify a gene associated with prevalence of Type 2 diabetes among the Emirati population: **DR. HABIBA ALSAFAR**

First Emirati to invent a catheter: **DR. HAWA AL MANSOURI**

First Emirati to invent a mechanism that generates biofuel from genetically modified algae: **AHMED AL HARTHI**

First Emirati robot expert: **MOHAMMED MATAR AL SHAMSI**

First Emirati to obtain a gold medal from international inventions exhibitions: **AHMED MJAN**

First Emirati to discover a thermal gas detector for oil and gas fields: **DR. MOHAMMED AL MARZOUQI**

First blind Emirati to obtain PhD: **DR. AHMED AL AMRAN**

First Emirati female Asian Paralympics medalist: **THURAIA AHMED AL ZAABI**

First Emirati female police officer: **TUFAHA SALEM KHAMIS AL HAMEDH**

# CHANNEL HOPPING

*Where, when and how we see TV commercials is changing. Flashes talks to Singapore-based Carmine Masiello, the man behind the screens.*

---





### ▲ How is the future of TV advertising distribution developing worldwide?

The internet is creating one world. With this brands are demanding global advertising campaigns covering all consumer mediums. Where TV used to be the main place to advertise with video, consumer eyes are hooked across many different places. Mobile, iPTV, cinema, Facebook, YouTube, online new outlets, digital out-of-home screens; video is everywhere.

Traditionally for TV advertising, brands would have to record commercials to specialist tapes (like the VHS, but special for broadcast) and courier these to their relevant media partners. This was a logistical nightmare, highly manual, error prone and very expensive. Advertisers wanting to air in multiple countries, or across multiple mediums had their problems increase exponentially.

In what has been a very fragmented and complex industry, we're developing a space within which all broadcasters, media and suppliers are connected with a single global platform. Commercials can be delivered to any broadcaster, web device or screen within minutes and receive instant feedback and analytics on how their campaigns are performing. Decisions can then be made based on real consumer engagement, with higher cost efficiencies and transparencies.

### Is this significantly different from the way the industry is developing in Asia and The Middle East?

The West usually embraces technology a lot quicker than developing nations. The markets in Asia and the Middle East usually follow slowly after. Demand for TV channels and programming is on the rise. This increases complexity as brands need to reach more broadcasters with their advertising assets. And tapes are not the answer. Therefore, the combination of education and the requirement to reach new TV channels quickly helps break most barriers.

Many Western markets stopped receiving advertising material on tapes a decade ago. We predict that this will continue throughout all our markets, and it's only a matter of time before this happens in the Middle East too.

What's interesting to note though is that digital delivery of commercials has taken a lot of evolution over the past decade. As we've recently implemented digital delivery to Middle East broadcasters only in the past year, these broadcasters have leaped the evolution process, straight to the world's latest technology. This has put them in front of a lot of broadcasters, including those in the UK, which is usually seen as the home of broadcast technology to the world.

Where TV used to be the main place to advertise with video, consumer eyes are hooked across thousands of different places.



“... when a consumer is watching video online, a company like VW can choose to show their SUV instead of hatchback commercial.”

### What are the challenges faced by brands, when distributing their TV Commercial Assets in each local market or globally?

Analytics. One of the largest problems global brands have when working in so many countries is that they don't know who they work with.

We have clients that have more than 50 different brands, airing across 100 different countries. Each brand will have global brand manager, regional brand managers and local brand managers, all of whom have their preferred way of working and preferred list of suppliers. Countries also have their local brand variants, and local brand acquisitions.

For global procurement teams, this is impossible to manage. Brands that have not been able to measure are finding it increasingly difficult to make decisions regarding their media suppliers, because there are just so many and reliable data does not exist.

Because we connect every supplier for a brand worldwide – media, creative, post, audio, production, freelance and broadcast – brands are finally able to measure and manage.

We call this *IMD Analytics*. Procurement and global brand teams can pull data in real time and see what they couldn't see before such as the full list of global suppliers, how their work is shared across all global and local stakeholders, split by percentage or how much is globally adapted versus regionally localised versus locally made.

### Are consumers able to select the type of TV ad they want to watch, or is this technology still unavailable?

The technology that allows you to choose which TVC you would like to watch as a consumer exists. It depends if your service provider is currently making this option available to you. Here is another scenario that is possible and more likely to be available without you knowing about it. For example, let's take a large country like the United Kingdom. Brand one promoting car X would

make sure the station in London will show a TVC promoting car X, while the same brand will show a TVC promoting car Y in Scotland during the same station, the same show and during the same break. This allows consumer targeting.

This kind of sophistication requires good media planning, proper logistics creative campaign planning, and broadcaster innovation. Our technology helps facilitate the logistics to make all this happen.

Online advertising is another story altogether. Some advertisers are starting to store information specific to a consumer. They know if they're a man or woman, what hobbies they're into and even what their favourite colour is.

This means when a consumer is watching video online, a company like VW can choose to show their SUV instead of hatchback commercial. They can even choose to show the blue SUV instead of the white one.

### How does IMD deal with multi formats? Meaning a brand may want to air its TVC on network TV, while simultaneously wanting the same material on YouTube and other digital channels.

We specialise in automated file conversion and transcoding. This means we lock in the file format each destination wants and we ensure it's delivered in the correct format. Users don't have to worry about this. They can give us one file format, which is then adapted to the needs of each advertising destination. The traditional complexity of file formats has now been eliminated as a problem for advertisers and partners.

All people have to do is select the end destination for their media campaign, and it can be delivered anywhere whether it's TV, cinema, digital out-of-home or online media. †

**CARMINE MASIELLO**,  
CEO Asia Pacific Middle East, Group IMD, Singapore ▀



## Lighting the way

*UNESCO confers global recognition to Emirates Wildlife Society*

Recently UNESCO named the Emirates Wildlife Society in association with the World Wildlife Fund (EWS-WWF) as one of the region's top five education programmes for sustainable development.

Globally, the society came within the top 25.

EWS-WWF has been active in the UAE since 2001 and has initiated and implemented several conservation and education projects in the region.

Its Be'ati Watani is a comprehensive bilingual online environmental resource for 6-14 year olds, and is the first on-going environmental education programme devoted specifically to the UAE environment.

In 2013, 54,500 students marked their participation in the Be'ati Watani education programme by taking the online quiz.

Additionally, the society operates an Eco-Schools Programme in the country. The programme is an initiative by the Foundation for Environmental Education (FEE), an international non-profit NGO and EWS-WWF runs its operation in 60 schools in the UAE. Through

the programme, the society aims to raise students' awareness on sustainable development issues through classroom study as well as school and community action.

The NGO's environmental education programmes seek to endow students with a range of educational experiences that enable them to develop skills and attitudes to ultimately lead a sustainable future through the empowerment of students and teachers and encouraging community involvement by providing locally-relevant information.

EWS-WWF's combined efforts with its partners, the Ministry of Education, as well as other education authorities have resulted in significant progress being made across the UAE.

Apart from educational initiatives, EWS-WWF has implemented a slew of environmental awareness campaigns in the country.

Its most successful venture has been the introduction of WWF's Earth Hour in the UAE. Earth Hour is the world's largest grass-roots environmental movement towards action on climate change.

In 2013, the Earth Hour message



75  
HAWKSBILL  
TURTLES  
TAGGED IN  
FOUR YEARS



reached more than four million UAE residents due to the efforts of the EWS-WWF.

Furthermore, the society's Marine Turtle Conservation is the largest such initiative in the region to date. The project which came to an end in November last year, spanned four years (from 2010 to 2014) and resulted in the tagging of 75 Hawksbill turtles.

The project aimed to chart key migratory routes and habitats used by the turtles. EWS-WWF will use the data gathered to guide future conservation efforts. The organization has also been appointed by the Government of Fujairah to spearhead the planning and implementation of the Wadi Wurayah National Park.

The Wadi is renowned for the delicate ecosystems and endangered species it houses. It holds significant cultural and historical importance too. Archaeological sites dating as far back as 300 BC have been discovered there. EWS-WWF launched a Water Research and Learning Centre in Wadi Wurayah in February 2014, in collaboration with international environmental charity Earth Watch. The centre is the first of its kind in the Gulf region, and is crucial to the Wadi Wurayah conservation plan. [f](#)



**54,000 STUDENTS  
PARTICIPATED IN  
THE BE'ATI WATANI  
EDUCATION  
PROGRAMME**

Top: Marine Turtle  
Conservation tagged 75  
Hawksbill turtles in a span  
of four years

Left: Wadi Wurayah National  
Park is renowned for the  
delicate ecosystems and  
endangered species





## Have your pack and eat it too...

*Edible tableware can help reduce refuse in landfills.*

While dinner parties are great fun to attend, the ensuing waste can put a damper on the spirits of the environmentally conscious. Whether you use disposables, which are convenient yet wasteful, or glassware, which has to be cleaned using litres of water and soap, both are damaging to the environment.

But all is not lost thanks to the concept of edible tableware. For instance, plates made of shrimp crackers and small cups made of seaweed, are gaining popularity in Japan as environmentally friendly substitutes for disposable dishes.

The “e-tray” series developed by Marushige Seika KK are edible serving plates and bowls made of shrimp crackers. Available in a variety of oval or rectangular shapes and sizes, the plates and bowls are durable enough to ensure that they don’t break too easily says the company.

“You can pour in water and they will still hold up for 30 minutes,” said Katsuhiko Sakakibara, a senior managing director at Marushige. “The plates have even been used for serving parfaits.” The “e-tray” products even include flavoured plates that taste of sweet potato or onion.



The product is popular with food vendors at baseball stadiums and local festivals.

Meanwhile, small cups made from edible seaweed by Yokohama-based food packaging material manufacturer Honest have also become hot sellers. The cups, approximately 2 cm deep and about 4 cm in diameter at the base, are especially popular among mothers with young children as they can be put to various uses when making “bento” lunch boxes or hosting house parties.

Similarly, US-based Loliware has launched a “biodegradable” cup too. Loliware’s cups made of agar, a seaweed-based gel, look like glass and taste good too. Consumers can choose from two flavours: pink grapefruit and yuzu.

“The problem with disposable cups is that they take months and sometimes years to degrade, often leaking chemicals in the process. But Loliware can simply be thrown in the grass or disintegrated in a matter of minutes with hot water. Billions of plastic cups are entering the landfill every year. If Loliware replaces

“Biodegradable”:  
Loliware’s cups



**YOU CAN POUR  
IN WATER AND  
THEY WILL  
STILL HOLD UP  
FOR 30 MINUTES**



even a small percentage, that would have far-reaching impact,” says Chelsea Brigranti, co-founder of Loliware.

Research on producing edible tableware with 3-D printers is also under way. Keio University in Tokyo is involved in a research project to make eating utensils such as chopsticks, spoons and cups with rice flour, and has built an experimental 3-D printer for that purpose.

“We are aiming to make tableware and toys that are safe for children to put into their mouths,” said Hiroya Tanaka, an associate professor at Keio.

Apart from edible tableware, a wave of edible packaging solutions is also gathering pace. Last year, New Hampshire-based Stonyfield Farm launched its Stonyfield Frozen Yogurt Pearls in conjunction with WikiFoods. The size and shape of a donut hole, the Yogurt Pearls have an outer skin and bite-size frozen yoghurt bonbon inside. The protective outer skin is crafted with organic fruit using WikiPearl technology. The ingredients in the

skin interact with each other in way that creates a solid outer layer that’s less permeable to air. This allows the pearls to be washed, carried and handled without being damaged all while keeping the contents safe inside.

However, edible packaging isn’t without its critics. Some people feel that it being edible defeats the whole point of packaging – to protect the food from dirt and microbes. Food safety regulators will be concerned about the number of hands and surfaces food wrapped in edible packaging is likely to touch on its way to a shop shelf. And if it is decided that any edible packaging must be protected by more packaging, then the whole idea of edible packaging is defeated.

Manufacturers believe the way to allay people’s fears is to design a product that is as fun as it is environmentally friendly. They believe that flavouring the edible glass or plate to complement the food would encourage people to make “the switch from plastic”.<sup>1</sup>

Clockwise: Marine The “e-tray” series developed by Marushige Seika KK are made of shrimp crackers; New Hampshire-based Stonyfield Farm launched its Stonyfield Frozen Yogurt Pearls in conjunction with WikiFoods; Research on producing edible tableware with 3-D printers is also under way.



## Just add ink and stir

*Forget cooking, trying printing your meals instead*

For those whose cooking skills stretch only as far as boiling eggs, hope is on the way because now anyone can whip up a three-course meal within minutes. The only twist is that it won't be cooked, it will be printed.

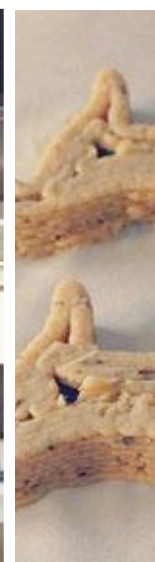
A company called Natural Machines is revolutionising home cooking through a 3D printer for food. The Foodini deploys edible ingredients squeezed out of stainless steel capsules to put together a meal.

"It is the same technology as a regular 3D printer," said Lynette Kucsma, co-founder of Natural Machines, "but with plastics there's just one melting point, whereas with food it's different temperatures, consistencies and textures".

The Foodini can be used to create pizza, pasta, burgers and a wide range of other savoury and sweet foods. Users begin by choosing the recipe they want to print; Foodini then offers instructions for the various ingredients that should be prepared and placed in its reusable capsules. Once that is done, printing can begin. The assembled result can be available in as little as a few minutes. Other than being capable of creating complex

designs, such as very detailed cake decorations or food arranged in unusual shapes, the Foodini can be useful for recipes that require precision and dexterity, such as homemade pizza or filled pasta.

Currently, the device only prints the food, which must be then cooked as usual. Manufacturers are, however,



working on a future model that will also cook the preparation and produce it ready to eat.

In principle, the Foodini sounds like the ultimate lazy cook's aid: press a button to print ravioli. But Natural Machines is quick to point out that it's designed to take care only of the difficult and time-consuming parts of food preparation that discourage people from home cooking. Instead of forcing people to rely on highly processed convenience food that's laden with additives and high levels of salt, as microwave meals generally are, Foodini says it promotes healthy eating by requiring fresh ingredients prepared before printing, argues the company.

Another advantage with Foodini is that users are not limited to using only pre-filled food capsules. They can load the capsules with food of their choice. However, the food has to be of the right texture to print so it can be squeezed through the Foodini's pipes. This means that users may have to blend chickpeas or even chicken into a thick paste prior to loading it into the Foodini.

Natural Machines is also considering working with retailers who could prepare pre-packaged food capsules fresh in-store as an added convenience

for consumers who cannot be bothered getting food to the right blended consistency to work in the device. Critics say that this might require injecting the foods with all sorts of additives to ensure it is the right consistency, thereby losing the fresh and healthy element. But Natural Machines assures the pre-packaged capsules will be free of preservatives, with a shelf life limited to five days.

Foodini comes with a social element too. A touchscreen on the front of the machine connects to a recipe site in the cloud allowing users to share their recipes. Users can also control the device remotely using a smartphone.

"It is an internet-of-things, connected kitchen appliance," said Kucsma.

"We have done tests and everybody liked the food," she added. "Take the microwave oven for example: in the 1970s, people were a bit fearful about it, they thought food could be poisoned with radiation or something, but fast forward 30 years, and there's one in every household. This is real food, with real fresh ingredients, it's just prepared using a new technology."

The company is completing a round of financing and plans to begin mass manufacturing in the second half of 2015. [↑](#)



**FOODINI PROMOTES HEALTHY EATING BY REQUIRING FRESH INGREDIENTS PREPARED BEFORE PRINTING**









# LAUGHTER: The Best Medicine?

*Research shows that laughing gas may help fight depression*

A proof-of-concept trial has shown that nitrous oxide, or laughing gas, holds potential as an effective treatment for severe depression in patients who do not respond to standard therapies. Researchers from Washington University School of Medicine in St. Louis, Missouri, presented their findings on the power of laughing gas to the American College of Neuropsychopharmacology and published their study in the journal *Biological Psychiatry*.

The study is the first to consider the effects of laughing gas on patients with depression.

"It's kind of surprising that no one ever thought about using a drug that makes people laugh as a treatment for patients whose main symptom is that they're so very sad," the study's co-author Peter Nagele, assistant professor of anesthesiology, said.

For the new study, 20 patients with treatment-resistant depression (TRD) were treated twice with laughing gas during a 24-hour period. The findings showed that two-thirds of the patients who received laughing gas experienced an improvement in symptoms such as sadness, feelings of guilt, suicidal thoughts, anxiety, and insomnia.

By comparison, meanwhile, one-third of the same patients reported improved treatments after receiving a placebo (a mixture of oxygen and nitrogen, which is basically air). Although, the group size was very small, and the duration of the study short, researchers are nonetheless encouraged by the results. The team thinks this is a good

starting point, and that therapy with nitrous oxide eventually could help many people with depression.

In their background information, the authors note that currently up to one-third of patients with clinical depression do not respond to prevalent therapies, indicating a need for more effective treatments. Among the reasons that attracted them to laughing gas is the fact it has few side effects – mostly limited to nausea and vomiting – and it leaves the body soon after patients stop inhalation. It was this last point that convinced the researchers that the improvement in symptoms, measured 24 hours after treatment, was real and not just a side effect of the gas.

Charles Conway, co-author and associate professor of psychiatry at Washington University says most of the participants who showed improvement reported feeling better only two hours after receiving nitrous oxide. This compares with "at least two weeks for typical oral antidepressants to exert their beneficial, antidepressant effects," he notes.

If the findings can be replicated, such a fast-acting drug could literally be a life-saver for patients at risk of suicide. For such patients, two weeks could be a very long time to wait for improvement. Such a drug can also be used to relieve symptoms temporarily until more conventional treatment takes effect. The team is soon to start a new series of studies to test the effects of different concentrations of laughing gas on symptoms of depression. [f](#)



*“ I was always fascinated by, and have had a keen interest in, many aspects of biology such as living organisms, the environment and human biology. This is why I pursued all my studies in science. Studying biology and chemistry has both increased my interest and broadened my knowledge within the subjects. ”*



# ARAB WOMEN IN SCIENCE

*Flashes talks to the winners of the 2014  
L'Oreal-UNESCO For Women In Science  
Fellowship starting with Dr Habiba Al Safar*

November 2014 was an important month for the scientific community in the GCC. The L'Oreal-UNESCO Women For Science programme honoured four women from the Arab community for their groundbreaking research.

Launched in 2010, the L'Oreal-UNESCO programme provides support for women researchers on all continents and at different points in their careers. This may come in the early stages of a young researcher's vocation or be in celebration of a full career committed to scientific advancement. Last year, 2014, marked the fifth edition of the programme and covered the GCC countries along with Yemen, granting four Euro 20,000 fellowships to female researchers hailing from UAE, Yemen and Saudi Arabia (two winners) respectively.

In future editions *Flashes* hopes to profile each winner and discuss her groundbreaking work. We start, this month, with Dr Habiba Al Safar, who was honoured for her achievement in identifying a gene associated with the prevalence of Type 2 diabetes among the Emirati population. Her research is the first genome-wide association study of the UAE Bedouin population, and the first of its kind in the Middle East.

## **Please tell us a bit about your background and early life.**

I grew up in an average Emirati family, four girls and the boys. I am in the middle. My family is conservative but they keenly support education because it is an intrinsic part of Islamic belief. The Prophet Muhammad (PBUH) said: "The seeking of knowledge is obligatory for every Muslim". My three brothers are engineers in automotive, petroleum and aviation while my youngest sister is a lawyer. I am the Assistant Professor in the Biomedical Engineering Department at Abu Dhabi's Khalifa University of Science, Technology & Research.

The turning point of my life was when I decided to study abroad. I pursued my under graduate studies in biochemistry in the US; Masters Degree in medical engineering in UK and >



- a Doctorate in Philosophy in Forensics and Medical Sciences from Australia. I also completed a one-year Global Clinical Scholars Research Training programme at Harvard Medical School.

All these were amazing journeys of discovery. And, although I faced many challenges, the advantages of the experience were more. I learned a lot from being on my own. It taught me how to make friends from all over the world and unleashed in me a desire for success. I did not only benefit academically, but also grew as a person through interaction with different cultures and traditions. I became a different person who looked at life differently and with a positive perspective.

### What ignited your interest in science?

Ever since I was about 12 years old, I found wildlife documentaries very interesting. I was always fascinated by, and have had a keen interest in, many aspects of biology such as living organisms, the environment and human biology. This is why I pursued all my studies in science. Studying biology and chemistry has both increased my interest and broadened my knowledge within the subjects.

### Please describe your award-winning project.

My project revolves around the identification of genetic and environmental risk factors associated with Diabetes Type 2 Induced Cardiovascular Disease in the UAE Arab Population, extended families. In 2007, we initiated a project (Genome-Wide Association Study) to study a cohort of

patients with Type 2 Diabetes and subsequently identified candidate genes that were linked to the disease process. When the study was conceived, it was unique and the first of its kind in the Middle East as it addressed a local deficiency namely the absence of a genetic registry to study the indigenous populations of the Middle East. This led to its being listed the Genome-Wide Association Study catalogue, a huge achievement for us.

### Diabetes has been labeled a “national health emergency” the UAE. How does our research help tackle this?

In our studies we examined genotype, lifestyle and demographic factors that may contribute to Type 2 Diabetes. The results can be used to successfully identify high-risk individuals, substantially benefitting both the potential patient and society. Targeting preventive measures towards such individuals could delay the onset of disease, slow its progression, and reduce the ultimate severity of the condition. This would result in substantial improvements in quality of life for affected individuals and a reduction in healthcare costs.

### What are your hopes for the future of Arab women in science?

Women have made significant contributions to science from the earliest times throughout the region and UAE is among the world's most advanced nations in the field of women's education. However, the lack of female scientists in UAE is a lost opportunity in advancing the country's knowledge economy. More Arab women scientists are needed and we have to encourage our girls in science.

We need to encourage their curiosity and natural interest with science and activities, which keep the spark alive.

We also need to lead by example. We need to celebrate the women who have been pioneers in science so that from a young age, they have more role models with whom they can identify. It is not difficult at all to be a woman scientist in the UAE. Women here are succeeding in every sphere. This is because of the Government's support that women can accomplish so many things and overcome the obstacles. †

**Thank you and many congratulations on our award.**

(l-r): Presentation:  
Dr Sara Ravella,  
Dr Habiba Al Safar  
and Her Excellency  
Sheikha Lubna Bint  
Khalid Al Qasimi

# 2014'S GREATEST BENEFACTORS

*Each year the Nobel Prize recognises and awards those who have 'conferred the greatest benefit to mankind'. We take a look at the 2014 prize winners.*



For more than 100 years, the Nobel Prizes have recognised the finest in human achievements in the fields of physics, chemistry, physiology or medicine, literature and peace.

They were created by Swedish inventor Alfred Nobel who charged the Royal Swedish Academy of Sciences, the Nobel Assembly at Karolinska Institutet and the Norwegian Nobel committee with selecting the winners. His criterion for selection was "those who, during the preceding year, shall have conferred the greatest benefit on mankind."

The Nobel prizes for physics, chemistry, physiology/medicine, literature and peace prizes were first awarded in 1901, while the economics prize was created in 1968.

The prizes, worth 8million kronor (£690,000), are handed always conferred on 10 December, the anniversary of Nobel's death in 1896. As well as the prize money, each laureate receives a diploma and a gold medal.

## THE 2014 WINNERS ARE:

### ECONOMICS

**Jean Tirole** of Toulouse University, for his work on market power and regulation, and his work on taming powerful firms.

### PEACE

**Malala Yousafzai**, the teenage Pakistani education campaigner shot on a school bus in 2012 by a Taliban gunman, and **Kailash Satyarthi**, an Indian children's rights activist.

### LITERATURE

French author **Patrick Modiano**.

### CHEMISTRY

**Stefan Hell** of the Max Planck Institute for

Biophysical Chemistry in Göttingen, **William Moerner** of Stanford University in California, and **Eric Betzig** of the Howard Hughes Medical Institute in Virginia, "for the development of super-resolved fluorescence microscopy".

### PHYSICS

**Shuji Nakamura** of the University of California, and **Isamu Akasaki** and **Hiroshi Amano** of Japan, for "the invention of efficient blue light-emitting diodes which has enabled bright and energy-saving white light sources".

### PHYSIOLOGY/MEDICINE

British-US scientist **John O'Keefe** and married couple **May-Britt** and **Edvard Moser** from Norway for discovering the brain's "inner GPS".

## WHY DID ALFRED NOBEL INSTITUTE THE NOBEL PRIZES?

Alfred Nobel was the inventor of dynamite, a product that revolutionised the mining and construction industries. However, soon dynamite soon became used as a military weapon. It is not known whether Nobel approved of this military use or not. Nonetheless, he found out what others thought when, in 1888, his brother Ludvig died. Through some journalistic error, Alfred's obituary was widely printed instead, and he was scorned for being the man who made millions through the deaths of others. One French newspaper wrote "Le marchand de la mort est mort," or "the merchant of death is dead." The obituary went on to describe Nobel as a man "who became rich by finding ways to kill more people faster than ever before."

Reportedly stunned by what he read, he was determined to do something to improve his legacy. One year before he died in 1896, Nobel signed his last will and testament, which set aside the majority of his vast estate to establish the five Nobel Prizes, including one awarded for the pursuit of peace.





**S**ustainability is a concept that is increasingly becoming a global issue. Where once it used to be the preserve of politics and particular stakeholder groups, sustainability has now become a global issue that affects us all, as consumers, as employees, as business owners, and as the public at large.

In recent years we have seen a remarkable broadening of the corporate sustainability movement, with growing commitment in every quarter of the world to achieve success while

ensuring that business benefits economies and societies everywhere.

In seeking to outline a collective pathway for business to contribute to global priorities, from environmental sustainability to labour standards, human rights and anti-corruption, it is crucial that we cogently communicate the views of business leaders.

As part of this effort, we have surveyed CEOs in both 2010 and 2013 in partnership with the UN Global Compact.

For our previous study in 2010, CEOs across the world expressed a strong belief that a new summit, or “peak”, was in sight for global

# ADDED VALUE PROPOSITIONS

*How can global CEOs connect with consumers on the issue of sustainability?  
Justin Keeble has some ideas*

capitalism and sustainable development: an era in which sustainability was to be embedded into companies globally and, in which, markets would align with development priorities to enable business to contribute at an unprecedented scale.

In short, CEOs were bullish about business's abilities to meet sustainability challenges.

But, as time has gone by, many business leaders have found themselves stuck on their ascent, unable to scale sustainability at the pace required to address global challenges.

So, when it came to our 2013 conversations with over 1,000 CEOs from around the

world, business leaders described a "plateau" beyond which they couldn't progress without radical changes in market structures and systems, driven by a common understanding of global priorities.

However among sustainability leaders, those companies achieving superior business performance as well as impact on sustainability challenges, we began to glimpse the beginning of a collaborative, systems-approach to sustainability, focused on value creation. These CEOs seemed to be exploding the myth that sustainability gains come at costs to business success. From the experiences of these "transformational



Companies must shift their communication with consumers to a clearer demonstration of their purpose and relevance to the society and the environment

leaders”, we can see the seeds of a new approach: innovating new technologies and solutions, collaborating within and across industries and sectors, and working closely with stakeholders to develop the beginnings of transformational change.

The problem at the moment, however, seems to be, that the views of consumers are not aligned with those CEOs whom we deem to be leaders.

Only a third of consumers regularly consider sustainability in their purchasing decisions, according to our 2014 global study of the views of 30,000 consumers in 20 countries conducted by Accenture and Havas Media. The survey revealed reasons for the disconnect between business and consumer expectations of sustainable products and services.

Taken together, the two studies tell us that while CEOs see engagement with consumers as the most important single factor motivating them to accelerate progress on sustainability, they are often out of step with what motivates consumers to buy sustainable products and services.

The vast majority (81 per cent) of CEOs believe that their company’s reputation for sustainability is important to consumers. Our new research, however, shows that less than one-quarter (23 per cent) of consumers report that they regularly seek information on the sustainability performance of the brands whose products they buy.

There is good news though. There are opportunities for companies to close the gap and engage consumers by approaching sustainability as an opportunity to bring tangible impacts to consumers’ quality of life. Our research suggests that there are three main strategies for achieving this.

Firstly, companies must promote a commitment to honesty and transparency throughout their organisation’s operations. Trust is critical. Companies must be able to hold themselves accountable to consumers who are armed with greater access to information and social media tools that help them expose disingenuous corporate behaviour.

Secondly, companies must meet expectations



*“... companies must offer improved consumer value propositions in which sustainability is inbuilt, not just a marketing tool.”*

for responsible business practice while delivering tangible improvements to consumers' lives. This is particularly true for mature markets where consumers increasingly consider sustainable corporate credentials as a given.

And, thirdly, companies must shift their communication with consumers from a focus on their sustainable credentials and corporate performance to a clearer demonstration of their purpose and relevance to the society and the environment.

This is especially relevant in emerging markets where companies are seen as playing a major role in improving health, education and other fundamental quality of life factors. The importance of local impact cannot be overstated.

There is also another key obstacle to overcome. CEOs told us in our previous research with the UN Global Compact that they struggle to identify the business value of sustainability even though they know that consumers are the most important determinant of their approach to sustainability. It is clear that many companies, especially in mature economies, need to shift from marketing sustainability performance to delivering innovative products and services to which consumers will respond. In other words, companies must offer improved consumer value propositions in which sustainability is inbuilt, not just a marketing tool. This is by no means simple but, with innovative new business models, materials and ways-of-working it is becoming a reality in many sectors, not least through the application of what we at Accenture call Circular Advantage.

Above all, there is a strong positive consumer correlation among levels of optimism about the future, positive expectations that businesses should directly improve consumers' lives and expectations that they will improve society. Even though, this is not quite the same as expecting consumers to “look under the label” at the precise sustainability credentials of every product and service a company produces.

Companies need focus on revolutionising the consumer value proposition for more sustainable products and services. They need to be the

best products, the most aspirational, the most desirable, the best performing, or they need to be at a price point that is equal to or better than competing products. The sustainability narrative helps to play a key role in driving differentiation and brand loyalty.

Sustainability is one of the most complex issues we face today globally. The issue is complicated by the dramatic differences in sentiment and purchasing behaviour between consumers in developing and developed markets. However, sustainability is top of mind for consumers. They now want to see action on top of the marketing. I have heard it said that the era of greenwash is well and truly over. If companies want to lead on sustainability, they have to embed the concept within their actual business strategy. Those who lead will not only benefit the environment but also their own bottom line. The transformational leaders demonstrate this. It is not the future that is sustainable business, it is happening now. Are you there yet? ↑



Only a third of consumers regularly consider sustainability in their purchasing decisions

#### JUSTIN KEEBLE

Managing Director of Accenture Sustainability Services in Europe, Africa and Latin America.

# CHANGING THE WORLD

*Flashes reviews some of the innovations from the past year that could change our planet and how we live forever.*

Technology evolves at a mind boggling pace. Each day scientists around the globe are making important discoveries, changing everyday life for the human race. Here we cite some of 2014's most amazing technological and scientific advances.

## AGRICULTURAL DRONES

The future of farming is set to change with the advent of agricultural drones. Easy-to-use drones equipped with advanced sensors and imaging capabilities – for less than \$1000 – are giving farmers new ways to increase yields, reduce crop damage plus improve water use and pest management.

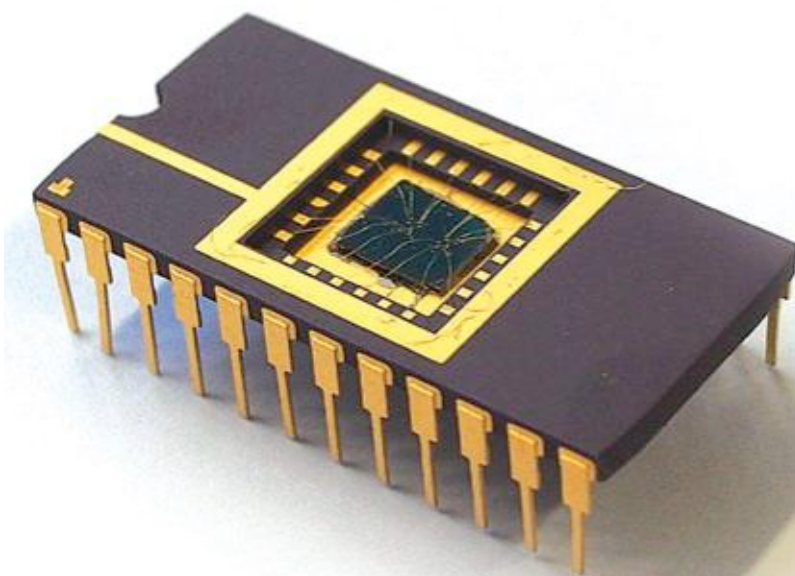


## ULTRAPRIVATE SMARTPHONES

For those with a penchant for privacy, the Blackphone is just the thing. The highly-secure smart phone uses a variety of encryption tools to block the ways your phone can leak data about your activities.

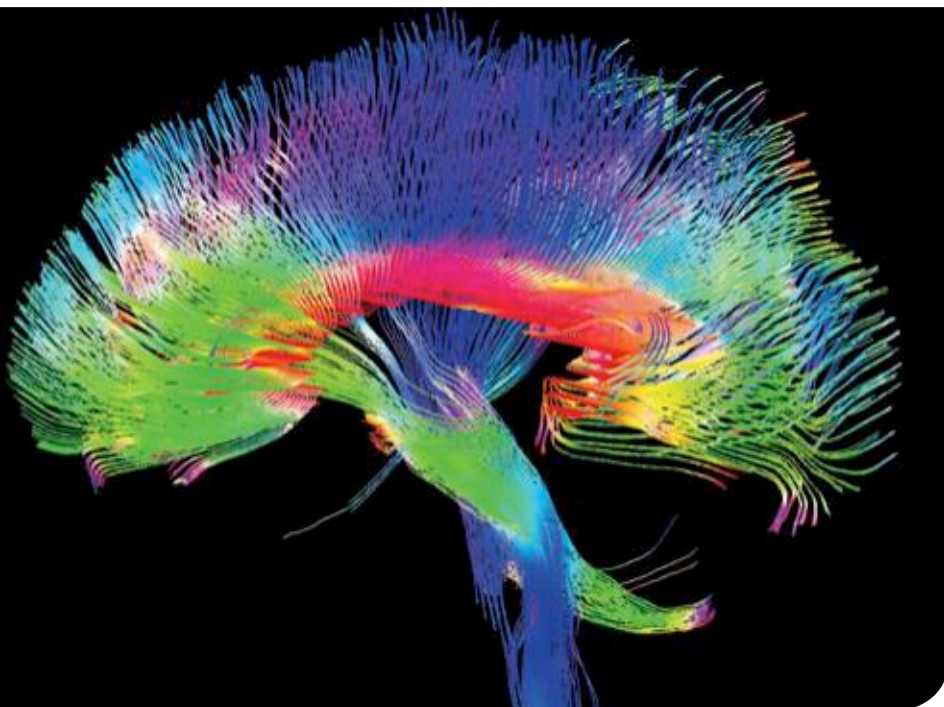
## BRAIN MAPPING

Scientists can study the structure of the brain in far greater detail than ever before thanks to the Human Brain Project. An international team of researchers led by German and Canadian scientists produced a three-dimensional atlas of the brain that has 50 times the resolution of previous such maps.



### NEUROMORPHIC CHIPS

The invention of these chips means that computers will now be able to gauge your needs better and behave in a more human-like manner. These “neuromorphic” chips—so named because they are modelled on biological brains—will be designed to process sensory data such as images and sound, and to respond to changes in that data spontaneously without any prior programming. This means medical sensors and devices could track individuals’ vital signs and response to treatments over time, learning to adjust dosages or even catch problems early. Or, your smartphone could learn to anticipate what you want next, such as background on someone you’re about to meet.



### GENOME EDITING

Chinese researchers used the new genome-editing tool, CRISPR, to create monkeys with specific genetic mutations. This ability to create primates with intentional mutations could provide powerful new ways to study complex and genetically baffling brain disorders. CRISPR can also be used to genetically engineer any type of animal cells including human ones in a petri dish.



### MICROSCALE 3-D PRINTING

A bionic ear that combines biological tissue and electronics, retinal cells that form complex eye tissue and even microscopic electrodes – the possibilities with 3D printing are endless. The process uses inks made from a variety of materials including biological tissue, and applied with much precision, to create objects such as artificial organs and novel cyborg parts.



### OCULUS RIFT

Although virtual-reality goggles and immersive virtual worlds debuted some 30 years ago, the technology became only viable for widespread use in 2014. Last year saw the introduction of Oculus Rift, a high-quality virtual-reality hardware that is cheap enough for the consumer market. Plus, Facebook's deal with Oculus Rift's developers is a sign of faith that virtual reality has huge potential for more than just video games. It could be a compelling tool for teleconferencing, online shopping and even movies designed just for the Rift.



### SMART WIND POWER

The National Center for Atmospheric Research (NCAR) in Colorado introduced a new system for forecasting wind power. The system yields forecasts of unprecedented accuracy that are making it possible for Colorado to use far more renewable energy, at lower cost, than utilities ever thought possible.



### AGILE ROBOTS

Computer scientists created machines that have the balance and agility to walk and run across rough and uneven terrain, making them far more useful in navigating human environments.

Boston Dynamics' Atlas has an exceptional sense of balance and can stabilise itself with

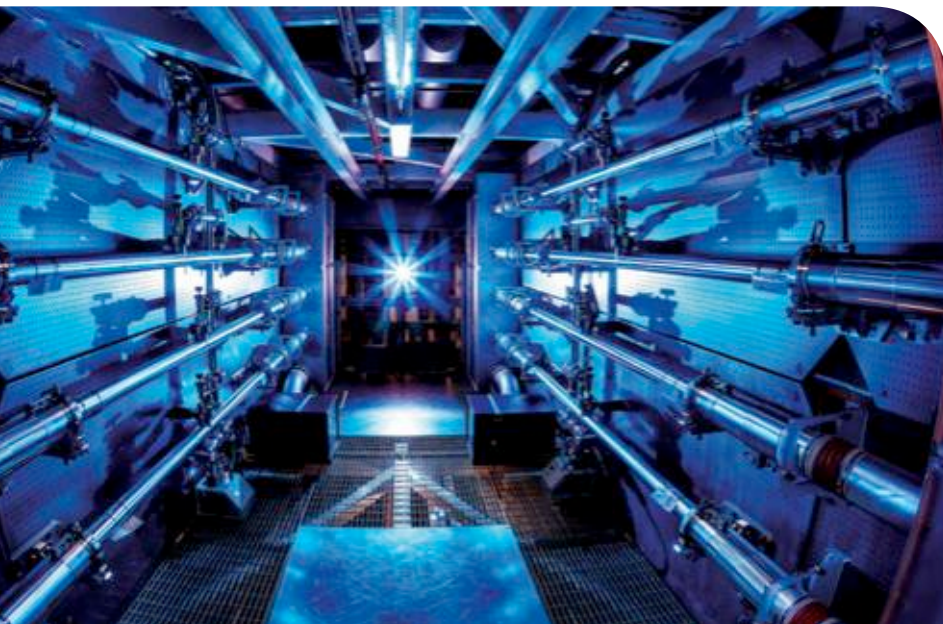
ease, which demonstrates the abilities that robots will need to move around human environments safely and easily.

Robots that walk properly could eventually find far greater use in emergency rescue operations. They could also play a role in routine jobs such as helping elderly or physically disabled people with chores and daily tasks in the home.



### SMART HOMES A REALITY IN UAE

Within the UAE, the smart home automation service is going to become a reality with telecom operators, du and Etisalat gearing up to launch the service. Users will be able to change the home ambience to fit their mood; open doors to let guests in while they are still on the way, plus use a home messaging system that sends parents a message when the kids are safe at home.



### HARNESSING NUCLEAR ENERGY

In October 2014 American technology company Lockheed Martin claimed a huge technological breakthrough in the realm of nuclear fusion power. Nuclear fusion is an alternative energy source that, if deemed safe and scalable, could be a good alternative in a world that is rapidly approaching an energy crisis. The new type of reactor is small enough to fit on the back of a truck, and could be ready within a decade.



### WEARABLE TECHNOLOGY

From Google Glass to the Fitbit wristband, wearable technology attracted a lot of attention in 2014, with most devices helping people to better understand their personal health and fitness by monitoring exercise, heart rate, sleep patterns, and so on. However, the sector is now shifting beyond external wearables such as wristbands or clip-on devices to “body-adapted” electronics that further push the ever-shifting boundary between humans and technology.



### FIRST LANDING ON A COMET

The European Space Agency (ESA) achieved a first for human space exploration in November 2014, landing the first probe on a comet. Its Philae lander detached from its ship, *The Rosetta*, landing on the comet after a seven hour descent. *The Rosetta* mission, a ten-year journey, is a team effort among the ESA, NASA, and other partners. Scientists hope the probe will teach us about the composition of comets and how they react when nearing the sun.





### PROSTHETICS THAT CAN FEEL

Researchers in Denmark have created a prosthetic hand that can actually “feel”. The hand includes electrodes that have to be surgically implanted in the person’s nerves restoring sensory feedback.



### CURE FOR CANCER

In May 2014, the Mayo Clinic published a study in which they treated a 50 year old female patient’s aggressive blood cancer with the measles vaccine. After receiving a single, enormous dose of the vaccine, her body was completely free of cancer. While the measles vaccine will not work for all types of cancer, it is an incredible step forward.



### NEW TYPE OF ORGANIC BATTERIES

A team of Harvard scientists and engineers demonstrated a new type of organic battery that could transform the way electricity is stored on the grid, making power from renewable energy sources such as wind and solar far more economical and reliable. The metal-free flow battery relies on the electrochemistry of naturally abundant, inexpensive, small organic (carbon-based) molecules called quinones to store energy. Quinones are similar to molecules that store energy in plants and animals.





# RECYCLE ME

... JOIN THE RECYCLING MOVEMENT

#mycity\_myenvironment

My City... My Environment is a green initiative embarked by Dubai Municipality with the ambition to encourage recycling and therefore reducing Dubai's domestic waste.

It is the first of its kind in the UAE and aims at introducing the best practices for cleanliness and making Dubai a greener city. It also emphasizes Dubai Municipality's continuous efforts on being environmentally friendly and keeping the city clean.

Residents are kindly asked to place recyclable waste in the green bin with the rest being placed in the black bins provided which are distributed in selected residential areas .



Our Vision: Creating an excellent city that provides the essence of success and comfort of sustainable living.



Facebook/DubaiMunicipality



Instagram/dubaimunicipality



Youtube/DubaiMunicipalityUAE



Twitter/DMunicipality

#Our\_Aim\_is\_You

800900

For Suggestions & Complaints & Notifications

www.dm.gov.ae



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

جائزة الشيخ محمد بن راشد آل مكتوم للمعرفة

SHEIKH MOHAMMED BIN RASHID AL MAKTOUM KNOWLEDGE AWARD

**Honoring International Achievements in Knowledge**



**The First Knowledge  
Conference**

Empowering future generations



mbrf.ae



@mbrf\_news



mbrf\_news



mbrf.newschannel

www.fkc.ae