

FLASHES

FEB 2015

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



GIFT OF COMPASSION

UAE's Show
Compassion Campaign

DRUGS GO DIGITAL

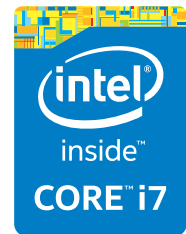
Are digital drugs a real
threat or just a hoax?

CAN WE HAVE TOO MUCH TALENT?

Can 'more' become
'too much'?

Dubai Plan 2021

Dubai's roadmap
to the future



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FOREWORD

Dubai is the world's best city. Apart from this being the sentiment of each of Dubai's residents, it is now a proven fact.

Last month, Dubai came on top in a list of cities who were awarded an ISO certification, the first of its kind, for meeting the highest standards across a wide variety of fields and sectors. Meeting 96 out of 100 indicators, Dubai was the best among nine other cities from around the world to be awarded a platinum designation for complying with the ISO 37120 international standard, which is considered to be the first of its kind in the world. The recognition comes just as the emirate is embracing the Dubai Plan 2021, an ambitious development plan that will make the city a force to reckon with in every sphere.

It is evident that our impact now extends far beyond our borders and as such we must make a more concentrated effort to make the world a better place. UAE's Tarahamu (Show Compassion)

campaign is an instance of how we could use the strength of our people and infrastructure to reach those in need.

In today's fast evolving world, it is imperative to keep pace with change, to know, to be aware. Through *Flashes* we attempt to give you a glimpse of the new discoveries and inventions that are happening around us each day. In this issue, you will find a variety of topics; from including the UAE's contribution to humanitarian causes, solar power, Arab female scientists, attracting top talent that will stimulate your curiosity and knowledge to keep you turning page after page. Do remember to log on to www.mbrf.ae to access the latest series of *Book In Minutes*.

Remember, the more that you read, the more you will know.

HE Jamal Bin Huwaireb

MD of the Mohammed Bin Rashid
Al Maktoum Foundation

MOHAMMED BIN RASHID FOUNDATION ACHIEVEMENTS IN 2014

The past year has been a momentous one for the Mohammed Bin Rashid Al Maktoum Foundation (MBRF). Here's a snapshot.



The First Knowledge Conference 2014

The First Knowledge Conference was the most notable achievement of the year for the Foundation. From December 7 – 9 2014, Dubai became the meeting point for international and regional thought-leaders and influencers, making the two-day conference the first of its kind in the region. The conference grabbed global attention with the launch of the Sheikh Mohammed Bin Rashid Al Maktoum Knowledge Award. The US\$1 million award, the highest award of its kind in the world, aims to highlight the importance of the dissemination and transfer of knowledge as a means for sustainable development and prosperity of the society. The first award was shared between Sir Tim Berners-Lee, inventor of the World Wide Web, and Jimmy Wales, co-founder and promoter of Wikipedia.



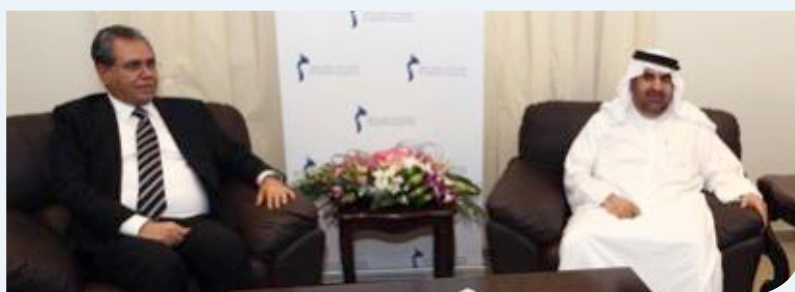


مؤسسة محمد بن راشد آل مكتوم
MOHAMMED BIN RASHID
AL MAKTOUM FOUNDATION



Arab Knowledge Report 2014: Youth and Localisation of Knowledge

During the Knowledge Conference, the Foundation also released the acclaimed Arab Knowledge Report 2014: Youth and Localisation of Knowledge. Regarded as one of the Arab world's most important initiatives dedicated to the spread of knowledge, the Arab Knowledge Report (AKR) is a joint initiative between the MBRF and the UNDP's Arab Bureau.



Encyclopedia of Arab Narrative

Another notable achievement during 2014 was the completion of the preparatory phase of the Encyclopedia of Arab Narrative. The encyclopedia is authored by Dr. Abdullah Ibrahim, an Iraqi critic and professor who has specialised in narrative studies and culture, and recipient of the Sheikh Zayed Book Award in 2013. Comprising eight volumes, it contains critical data on the development of the narrative genre of Arab literature and its salient features.

Long Lasting Partnerships

The past year was also notable for the number of agreements and memoranda of understanding signed by MBRF. Its MoU with the Bahrain Folk Poetry Society aims to reinforce the status of poetry, literature and culture in the Arab societies. Another MoU with the Japan Arts and Culture Foundation led to the activation of the first partnership under the Writer Exchange category of MBRF's DIPW. Qindeel Printing and Publishing Services signed a MoU with Obeikan Publishers, a subsidiary of Obeikan Investment Group, during the Frankfurt Book Fair 2014. This alliance between two of the biggest influencers in the transfer of knowledge in the region is expected to pave the way for the implementation of joint projects in the fields of translation and publishing.



Qindeel | قنديل

Qindeel Printing and Publishing Services

Last year, MBRF forayed into the world of printing with Qindeel Printing and Publishing Services. Through Qindeel, the Foundation aims to establish itself as a world leader in the provision of printing and publishing services. Qindeel publishes books, magazines and journals in Arabic and other languages which encourage learning, knowledge and development.



Participation in the Frankfurt Book Fair

The Frankfurt Book Fair is the largest event of its kind in the world. MBRF was a proud participant in the 2014 edition of the Fair held from October 8 -12. The participation enabled the Foundation to identify international best practices and exchange knowledge with key players in the knowledge sector.



Launch of Flashes

Inspired by HH Sheikh Mohammed Bin Rashid Al Maktoum's book *Flashes of Thought*, the Foundation launched its first English language knowledge magazine in 2014. Flashes is an interesting collection of scientific, economic and social research features plus exclusive interviews with renowned public figures and decision makers.

The Knowledge Page

Going mainstream, the Foundation initiated The Knowledge Page in partnership with *Al Bayan* newspaper. A showcase of articles and opinion pieces on culture and science by some of the most famous Arab and international writers, The Knowledge Page appears in *Al Bayan* five days a week, from Sunday to Thursday.



BilArabi

Year 2014 marked the launch of the second edition of the Bil Arabi

initiative. A part of MBRF's efforts to promote Arabic as an international language, the initiative encourages people to post and share updates on social media websites for an entire day in Arabic. Bil Arabi is held on December 18 each year to coincide with the International Day for the Arabic Language observed annually by the United Nations General Assembly.



Value Added Lifestyle Development

In another major initiative, MBRF signed a joint venture agreement with Nshama, a newly launched developer of smart integrated communities. The agreement will enable the Foundation to undertake the creation of a value-added lifestyle development in Dubai that focuses on sustainability, culture and education. MBRF will extend a part of its land bank in Dubai for developing this integrated community.

Dubai International Program for Writing

Young writers and authors from the UAE and the Arab world received a much needed boost when the MBRF launched the first phase of its Dubai International Program for Writing (DIPW). The inaugural workshop was held in September 2014 with renowned Lebanese novelist Najawa Barakat conducting a training workshop on novel writing.

New Series for Book In Minutes

Reading has now become easier than ever with the launch of the new monthly series for the Book in Minutes initiative by the Mohammed Bin Rashid Al Maktoum Foundation (MBRF). Book in Minutes is one of the Foundation's most popular ventures that aims to strengthen a culture of reading amongst the nation's people. The initiative embraces all segments of society with books for everyone, including youth and families as well as intellectuals and business professionals.

Recognising that most people do not have the time and patience to pore over lengthy books, Book in Minutes makes international best-seller books available in easy-to-read Arabic summaries. The new series of summaries includes an introductory note by HE Jamal bin Huwaireb, Managing Director of MBRF, which discusses the importance of sharing knowledge as a foundation for sustainable development and personal growth. "Through this series, we are further promoting an inclusive society and contributing to social solidarity. The rich experience of the authors will inspire the participants and enable them to lead productive and creative lives. The 'Book in Minutes' initiative is a strong complement to the Dubai Plan 2021 to build cohesive families and communities that form the bedrock of the society," he said.

The first book, *Rookie Smarts - Why Learning Beats Knowing in the New Game of Work* - by Liz Wiseman, the author of the best-seller *Multipliers*, discusses how genius is inherent to even many inexperienced professionals and how some of them have managed to outperform the experts.



In the book she identifies a breed of leaders she refers to as "perpetual rookies". Despite years of experience, they retain their ability to think and operate with the mindsets and practices of high-performing beginners. The author advises experts to retain their freshman spirit as they have to work with amateurs and develop new practices.

In the second book in the series, *Start With Why - How Great Leaders Inspire Everyone To Take Action*, author Simon Sinek talks about how leaders can inspire others and push them forward through training. The author explains how great leaders think, communicate and interact to motivate people. Great leaders, the author notes, inspire people to act and give people a sense of purpose or belonging that has little to do with any external incentive or benefit to be gained.

The final book in the series is *Peaceful Parent, Happy Kids - How to Stop Yelling and Start Connecting* - by Laura Markham, which reveals the secrets for the establishment of strong and successful relationships between parents and their children. The author emphasizes the need to evaluate the behavior of parents through self-control and to deepen communication, and effective training.

Books Take Centre Stage

The Foundation's efforts to bring government entities on board its knowledge development initiatives achieved a major milestone when it joined hands with Dubai Smart Government and Mohammed Bin Rashid Housing Establishment for the *My Family Reads* initiative. Under this program a variety of books are distributed to targeted Emirati families in the UAE.

The period was also significant for the Foundation's

Book in Minutes initiative, which completed its first year in 2014. The initiative aims to strengthen the culture of reading among all segments of the society, including youth and families as well as intellectuals and business professionals.

2014 was a year of remarkable success for the Foundation. Each of its achievements was in line with the directives of HH Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, to enhance the value of knowledge in the UAE and the region to achieve prosperity and happiness of the people.



MBRF's Writer Exchange Program Off To A Grand Start

Mohammed Bin Rashid Al Maktoum Foundation's (MBRF) Writer Exchange program made a bright start last month with the launch of its first author exchange with the Japan Arts and Culture Foundation (JACF). Under the initiative, four authors each from the UAE and Japan have been selected to stay for a month in each other's country. The Japanese team of writers accompanied by their Emirati counterparts will take part in a comprehensive program of visits that will acquaint them with the various aspects of life in the UAE. Following this, based on their experiences, the authors will collaborate to publish four books in both Arabic and Japanese. During their stay in the UAE, the Japanese writers will meet MBRF officials and UAE writers in addition to visiting key literary and cultural organizations such as Emirates Writers Union in Sharjah and Sultan Bin Ali Al Owais Cultural Foundation.

Speaking at the launch of the Exchange program, His Excellency Jamal Bin Huwairib, Managing Director of MBRF, said: "The Writers Exchange program partnership has been conceived with the idea of enabling writers to understand other

cultures and inspire each other. Writers taking part in the program will be able to communicate their experience and understanding to their readers through their own first-hand experiences".

HE Huwairib also emphasised the keenness of the Foundation to explore more cooperation and partnerships with other countries to expand the Writers Exchange program. "MBRF will continue its efforts to enable writers from different countries to enhance their knowledge by understanding different cultures and inspiring communication between writers to build knowledge bridges across borders," he added.

The Exchange program is coordinated by Yusaku Imamura, Senior Advisor, JACF and Kayoko Iemura, Director, Japan Arts and Culture Foundation. Both Imamura and Iemura have extensive experience on the international cultural exchange and artist-in-residence program. They have also previously worked on the cultural scene in the UAE – Iemura was a curator for the 2014 SIKKA Art Fair and Imamura was advisor for SIKKA and Dubai Art Season in the same year.

"The Writers Exchange Program

offers a new horizon of cultural exchange between the UAE and Japan. We are very honoured to work with MBRF on this important exchange program. Japan and the UAE have many exchanges in the field of business, but until now we did not have any significant official cultural exchanges. I hope this program will be a great opportunity to set the pace for more cultural exchanges between the two countries," said Imamura. The Writers Exchange program has the strong support of Shinzo Abe, Prime Minister of Japan, and the Ministry of Education, Culture, Sports, Science and Technology (MEXT), he added.

The first phase of the Exchange program will last for a month in the UAE and will conclude with the second phase in Japan. The exchange program will then be extended to several other countries with the aim to contribute to the development of a knowledge based society. The initiative is in line with the objectives of Dubai Plan 2021 and the efforts to make innovation a key pillar of social and economic development in accordance with the vision of His Highness Sheikh Mohammed bin Rashid Al Maktoum, UAE Vice

President and Prime Minister and Ruler of Dubai, and the directives of HH Sheikh Ahmed bin Mohammed Bin Rashid Al Maktoum, Chairman of the Foundation.

The Writer Exchange program is a part of

the Dubai International Program for Writing launched by MBRF in 2013. The program is aimed at encouraging and empowering young talented writers from around the world who have displayed a flair for writing.

MEET THE AUTHORS

UAE



Al Hanoof Mohammed
Member of the Union of UAE Writers and Union of Arabs Writers. Chairman of the Media and Cultural Committee of Dubai Theatre and board member of Dubai Theatre.



Muhsin Suleiman
Member of the Union of UAE Writers. Represented UAE at various art and literature forums in the UAE and Oman; published a number of short stories and articles in local and regional publications.



Talal Salim Al-Sabri
Participated in the first session of 'Prince of Poets program' and won the title 'Poet of Transparency'. Al-Sabri has published a number of works.



Mariam Helal Al Saedi
Participated in local and international literary events such as Sheikh Zayed Book Award, Abu Dhabi International Book Fair, and won a prize in the Creative Emirati Women Award from Sharjah.

JAPAN



Kika Hotta
Winner of the 3rd Fukio Shiba Haiku New Talent Award and 13th Sawa New Talent Award for Haiku and 2nd Takuboku Ishikawa Award for Tanka.



Kenkichi Tsurukawa
Winner of the 110th Bungaku-Kai New Writer Award



Mokako Nakajima
Winner of Shin-cho-sha Entertainment Award



Yumi Fuzuki
Winner of the Gendai-Shi-Techo Chuya Award and the Yutaka Maruyama Memorial Contemporary Poem Award.

MBRF'S 2014 ACHIEVEMENTS



KNOWLEDGE

First Knowledge Conference
Knowledge Award
Arab Knowledge Report
Knowledge Page



PUBLICATIONS

Wamadat Magazine
Flashes Magazine



INVESTMENTS

Nshama Real Estate Project
Qindeel Printing and Publishing Services



PARTICIPATIONS

Frankfurt Book Fair
Sharjah Book Fair



MOUs

Bahrain Poetry Society
UNESCO
Dubai Club for the Disabled



INITIATIVES & PROGRAMS

Book in minutes
Bil Arabi
Bait al Shear
Dubai International Program of Writing
My family reads

ROADMAP TO THE FUTURE

Dubai Plan 2021 aims to shape Dubai as one of the world's leading cities.

The New Year is always a time for new beginnings. And in keeping with its habit of being a leader in every sphere, even before 2014 was out, Dubai announced its new roadmap for the future. After a year of 'Creativity Lab' sessions, HH Sheikh Mohammed Bin Rashid Al Maktoum, Vice President and Prime Minister of UAE and Ruler of Dubai, announced the emirate's strategy for the future: Dubai Plan 2021.

The plan outlines the emirate's development framework over the next seven years and aims to reinforce its positioning as a "global centre" across a number of areas. The goals of Dubai Plan 2021 are in line with recent events such as winning the right to host the World Expo 2020, the launch of an initiative to make Dubai to become the capital of the Islamic economy, and the launch of the Dubai Smart City strategy.

The framework of the plan includes six themes that aim to define and describe Dubai in the year 2021:

☞ THE PEOPLE:

"City of Happy, Creative & Empowered People"

☞ THE SOCIETY:

"An Inclusive & Cohesive Society"

☞ THE EXPERIENCE:

"The Preferred Place to Live, Work & Visit"

☞ THE PLACE:

"A Smart & Sustainable City"

☞ THE ECONOMY:

"A Pivotal Hub in the Global Economy"

☞ THE GOVERNMENT:

"A Pioneering and Excellent Government"

"Rapid regional and global changes compel us to double our efforts to protect our achievements and enhance our opportunities to reach new ones; this approach constitutes a strategic objective that serves the best interest, both individually and collectively. This is a clear and detailed roadmap, and the success depends on our commitment



and our ability to cope with the changes efficiently,” said HH Sheikh Mohammed.

“The future is full of opportunities, yet challenges exist too. But facing the future with positive energy will always ensure the best. We will thoroughly monitor the plan’s implementation and measure the workflow through a set of key performance indicators (KPIs) along the six main pillars,” he added. The Dubai Plan 2021 framework and its KPIs were endorsed by the Sector Committees and approved by the Executive Council in May 2014.

“Dubai 2021 is a city that puts people first. It is the highest priority for government of Dubai for the next seven years,” reiterated Dubai’s Crown Prince Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum.

In 2007, the Vice President and Prime Minister of the UAE and constitutional monarch of Dubai, Sheikh Mohammed Bin Rashid Al Maktoum, launched an ambitious eight-year plan, the Dubai Strategic Plan 2015, aiming to make Dubai a smart, environmentally friendly, and sustainable city by 2015.

The 2015 plan, which is now in its final stages, highlights five main areas: (1) Economic Development, (2) Social

Development, (3) Security, Justice, & Safety, (4) Infrastructure, Land, & Environment, and (5) Government Excellence. Following on from this plan, in 2010 Sheikh Mohammed launched another initiative, UAE Vision 2021, aiming to make UAE one of the world’s best countries in all sectors—education, healthcare, economy, standard of living, fair government, infrastructure—by the time it celebrates its Golden Jubilee in 2021.

Dubai’s journey towards a bright future has already begun. It is from this perspective that the plan addresses the targeted key sectors. Each segment highlights a strategic developmental effort of the Dubai Plan 2021 framework as envisioned by His Highness Sheikh Mohammed bin Rashid Al Maktoum. In the time to come, the people of Dubai will play an active, productive, and innovative role in all aspects of the society and economy.

‘DUBAI 2021’ – a first-of-its-kind initiative in the world – focuses on continuing in Dubai’s drive towards growth and prosperity to show the world, once again, it is the most environmental-friendly city in the world. ↗

DSP 2015 PILLARS AND STRATEGIC THRUSTS



ECONOMIC DEVELOPMENT



SOCIAL DEVELOPMENT



INFRASTRUCTURE, LAND AND ENVIRONMENT



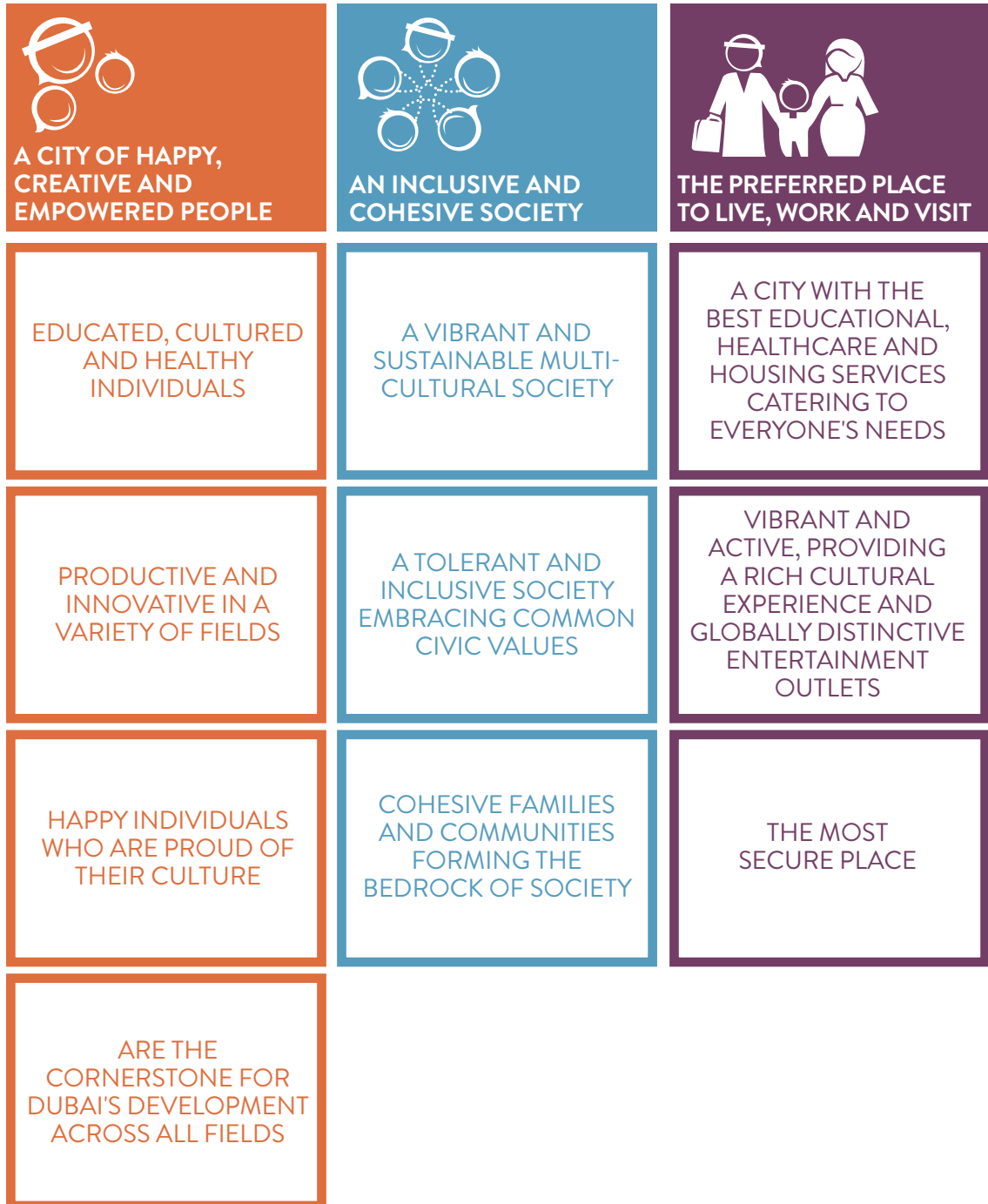
SAFETY, SECURITY AND JUSTICE

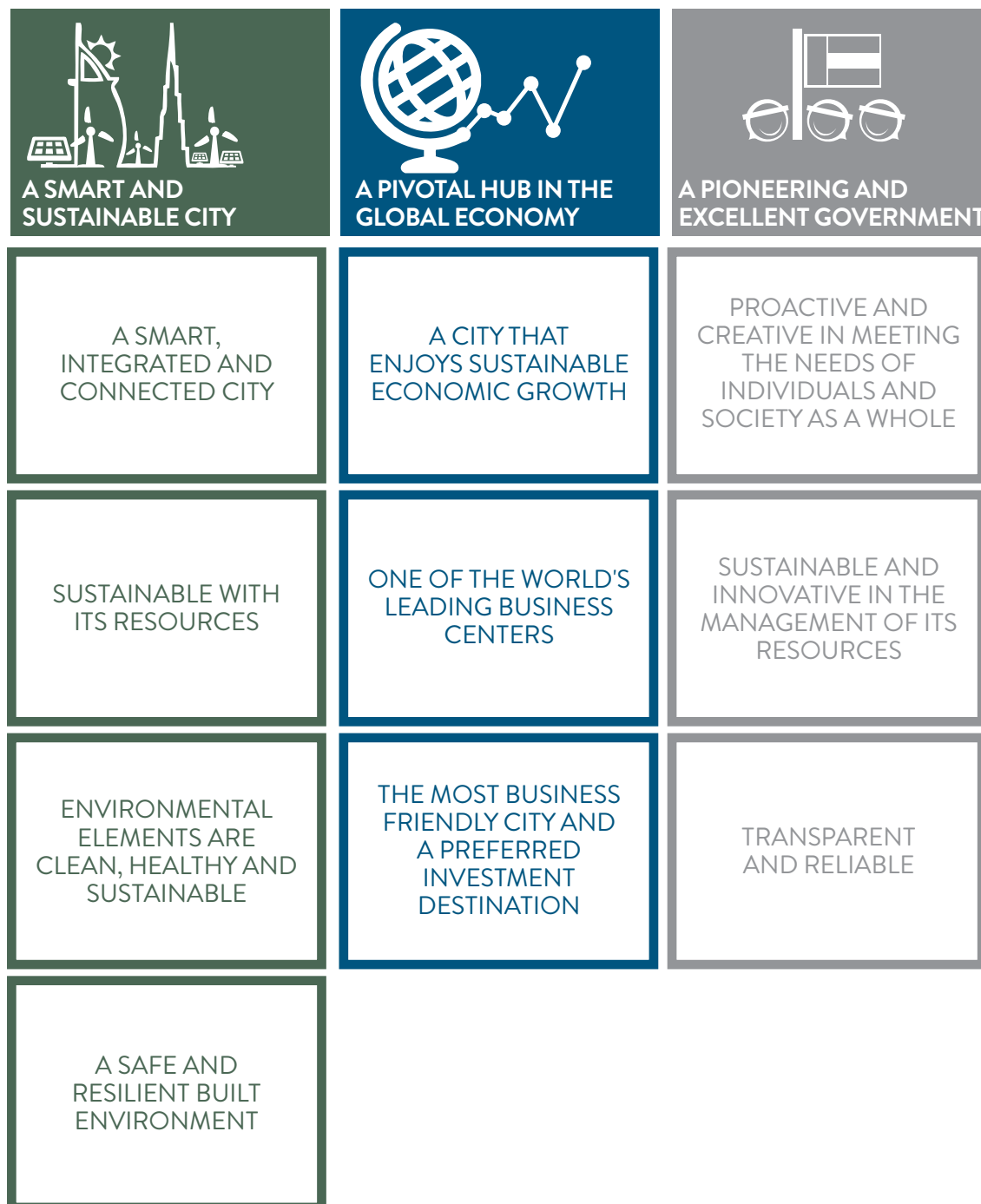


GOVERNMENT EXCELLENCE

DUBAI PLAN 2021

Dubai plan 2021 describes the future of dubai through holistic and complementary perspectives, that were divided into six themes, each highlighting a group of development aims for dubai, and together forming the city's vision for 2021.







WE AIM TO BE AT THE GLOBAL FOREFRONT BY 2021

Dubai's Crown Prince Sheikh Hamdan Bin Mohammed Bin Rashid Al Maktoum talks about Dubai's ambitious seven-year plan to become one of the world's top cities.

Sheikh Hamdan Bin Mohammed Bin Rashid Al Maktoum has been closely involved with the 2021 plans for the city. For thirteen months he worked closely with the project's preparatory team searching for the best frameworks that will allow Dubai to achieve the plan's six national priorities. The Crown Prince recently spoke to Arabic newspaper *Asharq Al-Awsat* about Dubai Plan 2021. Here are excerpts from the interview.

What are the general outlines of the Dubai Plan 2021 and how will they affect the city of Dubai?

If we look at the plan in general, we find that it outlines a comprehensive vision for Dubai in 2021, while keeping in mind the main components that make up any city: a group of people governed by the principles of communal living within a cultural space carrying out certain productive activities which provide the main driving force of the city. The plan comprises a comprehensive vision beginning with the individual, and considers the general characteristics expected of each individual in society—to take up [different] roles within the [city's] development process, as well as their roles in achieving its unity and cohesion, respect for the different cultures that live there, and to coexist in a harmonious manner. The plan also considers infrastructure, especially those components which relate to people's daily lives, whether those relating to how they interact with one another or those related to cultural activities and social and economic services. At the same time the plan considers Dubai's status as a major focal point of the global economy, as well as ensuring we have a wise government that will continue the development process, and [operating] based on codified and well-studied foundations.

When the plan begins to be implemented at the start of the first quarter of 2015, we will immediately begin the process of coordinating strategic operations for all government institutions, so

everything works in complete harmony so we can achieve the agreed-upon goals in the quickest time possible.

How does the Dubai Plan 2021 relate to Dubai's previous eight-year Strategic Plan for 2015?

Dubai's Strategic Plan for 2015 succeeded in achieving its goals, so the new plan comes as a continuation of these achievements. We held a series of ambitious initiatives and events, and which will continue during the next seven years as part of this new plan. Some of these included the 'Dubai: The Capital of Islamic Economy' and 'Dubai: A Disabled-Friendly City' initiatives, as well as the Dubai smart city initiative. We also cannot forget another important achievement, which was Dubai's winning the World Expo for 2020, one of the world's oldest and largest trade conventions. This will be the first time the event is held in the Middle East, North Africa and West Asia region. This counts as one of the main gains of our 2015 plan, and we will continue until 2021 our work on other projects and initiatives, all of which aim to secure Dubai's place as a major global city.

How does the Dubai 2021 Plan link up with the UAE Vision 2021?

We have been constantly coordinating [with the other emirates of the UAE] since the beginning of the launch of the project by Sheikh Mohammed Bin Rashid Al Maktoum in order to make the UAE at the global forefront in all sectors. And as he has said, "We are not emirates, but a nation of emirates." And this spirit forms the backbone of the project. The Dubai Plan 2021 uses the same indicators of the National Agenda [of the UAE Vision 2021] launched by Sheikh Mohammed at the start of this year. Our plan relies on his ambitious vision for the country and continuous planning for the future in order to ensure the happiness and prosperity of our people. †

Source: <http://www.aawsat.net>
This is an abridged version of an interview originally conducted in Arabic.



Two young Syrian refugees walk past barbed wire near their camp

The Gift of Compassion

UAE's Show Compassion campaign reiterates the nation's commitment to humanitarian causes.

Last month, as residents of the Levant region braced for one of the harshest winters recorded, the UAE set in motion a relief campaign that would help alleviate their suffering. The Tarahamu (Show Compassion) humanitarian and relief campaign sought to raise funds to provide winter aid for one million people in the Levant countries.

The campaign was launched under the directives of the President, His Highness Sheikh Khalifa bin Zayed Al Nahyan, who ordered the immediate construction of an air bridge to deliver emergency relief supplies to refugees in Jordan, Lebanon, Iraq, Gaza and the rest of Palestine. Nearly a million people were affected by the extreme winter conditions in the Levant, especially by the snowstorm Huda. With temperatures dropping below zero and wind speeds hitting 110km per hour accompanied by heavy snowfall, hail and rain, the storm was claimed as the worst seen in the Middle East in decades.

President His Highness Sheikh Khalifa said, "The United Arab Emirates remains committed to its humanitarian message and continues to be a global humanitarian capital and a major hub for helping those in need. Alleviating the sufferings of hundreds of thousands of refugees during this winter is a moral obligation, an Islamic duty, driven by truly Emirati values that our



founding fathers have instilled in all of us.”

His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai, endorsed His Highness Sheikh Khalifa's orders and directed concerned parties to immediately start the UAE air-bridge to dispatch urgent relief shipments. “The UAE, under the leadership of HH Sheikh Khalifa, has been and will always remain a great supporter of refugees, never abandoning its humanitarian obligations and duties under any circumstances,” he said.

“We cannot forget all the humanitarian causes that Sheikh Khalifa stands for. His compassion towards suffering people has always inspired the people of the UAE, and his efforts to be the first to help other nations in times of need has granted the UAE global respect and appreciation,” added Sheikh Mohammed.

The Ruler of Dubai also called for the formation of a special work force from the Emirates Red Crescent, Khalifa Bin Zayed Al Nahyan Foundation, Mohammad Bin Rashid Al Maktoum Humanitarian and Charity Establishment, the International Humanitarian City and Dubai Cares to start immediate transportation of relief materials to the affected area.

Each charity organisation involved in the campaign covered a specific refugee camp. According to UN figures on January 5, 2015, Jordan hosts nearly 620,000 registered Syrian refugees, while there are some 1.1 million registered in Lebanon. There are also 1.65 million in Turkey, 228,000 in Iraq and 137,000 Syrian refugees in Egypt.

Within 48 hours of its launch and just before the storm reached its peak, the first relief shipments arrived at the refugee camps setting a new

record for UAE humanitarian organisations. The United Nations refugee agency UNHCR said it was impressed by the quick response from the Emirates.

Tarahamu received overwhelming support from the nation's residents. A 5-hour telethon organised by Emirates Red Crescent raised Dhs150 million. The biggest donation made was by Shaikh Hamdan Bin Mohammad Bin Rashid Al Maktoum, Crown Prince of Dubai, who donated Dh20 million during the telethon. Other significant donations made during the telethon were by the Dubai Islamic Humanitarian Foundation and the Khalifa Humanitarian Foundation, which donated Dhs10 million each. Emirates Airline and Dubai Cares made donations of Dhs5 million each. Other contributors included Fujairah Welfare Association, Union Co-operative Society, Al Ansari Exchange, Khalaf Al Habtoor and Abdul Rahim Mohamed Al Zarooni who donated Dhs1 million each, while Dhs200,000 was donated by the Obaid Al Helo Quran Learning Centre. By January 11, the total amount contributed had reached Dhs177 million. Similarly, Dubai Cares partnered with several entities such as Knowledge and Human Development Authority (KHDA), private schools in Dubai, Emaar Malls, Majid Al Futtaim investments and the UAE Red Crescent. Apart from monetary aid, Tarahamu also benefitted from the donation of essential supplies such as food, warm clothing, blankets and food parcels reaching nearly 40 tonnes.

The Show Compassion campaign was also welcomed by the Arab League. Arab League Secretary General Dr. Nabil Al Arabi urged all Arab countries to emulate the UAE's move and provide assistance to the region's refugees. †

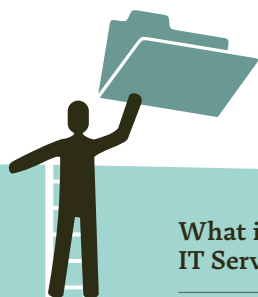


BY JANUARY 11, THE TOTAL AMOUNT CONTRIBUTED HAD REACHED DHS177 MILLION

CLOUD IT EMBALMENT

*The how and why of Cloud based IT Solutions. Flashes talks to Mark Davies
and Julian Dyer of Cobweb Solutions Ltd.*





What is the market size for Cloud Based IT Services from a global perspective?

According to research by global information company IHS, the increase in IT infrastructure hosted in the cloud has seen a 400% increase over the past 5 years. This continues to gain momentum as more and more businesses see the cost savings and security benefits of having their infrastructure managed by a company that has a much higher level of competence than they would be able to implement directly themselves.

What has Cobweb done to carve out its market share from the total pie?

As an early adopter to this market, Cobweb has always remained very focused on the value and service that it delivers into its customer base. We currently service over 6,000 small and medium enterprises (SMEs). As a result, we have developed automated billing & provisioning systems as well as high levels of technical skills to help with customer on-boarding and management, along with the administration of our infrastructure. This combination allows us to keep costs low for both the business as well as our customer base, thus allowing us to provide enterprise class services to customers of all shapes and sizes from any business vertical.

Cobweb's philosophy from the outset has been to integrate the best of breed products into our

core service offering. This allows us to align with multiple vendors; each bringing their technology into our portfolio. There are several advantages to this approach, the most important being eliminating the risk of relying on a single vendor to provide us with their products and services.

How is cloud technology developing and what has changed to increase demand for cloud based services?

Cloud based technology is developing to encompass a much broader range of services. Going back ten years the typical services offered would be email or backup. But this has increased exponentially over the past five years, almost to the point that practically any premise solution could now be hosted in the cloud, even if it was just in a hybrid model. This breadth of services along with the benefits it brings has increased the rate of adoption across a wider range of businesses. Additionally, the ever increasing range of service providers has driven costs of services down and increased choice for customers.

Can a business fully operate on the cloud?

Smaller businesses would be able to operate their typical IT services (mail, backup, CRM etc) fully in the cloud. There would be a cut-off point where having cloud only services could prove limiting to some businesses but this would come down to





the complexity of their requirements. Most businesses of sub 50 seats would probably not be able to have the capital expenditure of infrastructure and could go cloud only.

How secure is the cloud?

It is felt that having data stored securely in the cloud would pose a higher risk than having it stored on-premise due to high profile examples of data being lost. For example weak passwords and rogue employees are the biggest cause of data loss regardless of whether a service is stored on-premise or in the cloud. If companies follow a clear path for their employees and data, then the cloud would prove to be more secure, based on the protocols cloud providers are required to put in place to protect data. One of the key ways that providers can show their level of approach to security and compliance is to go through a rigorous audit of their systems and processes and get accredited to a security standard like ISO27001. This standard covers all aspects of confidentiality, availability and integrity of customers' data as well as company wide security. This ensures industry best practise is followed to give customers peace of mind that their data is being well taken care of.

What do businesses need to be aware of while moving their business onto the cloud?

It isn't just a different location to store data. Cloud based services allow much more flexibility and mobility to companies which means that they could enhance the way they work as businesses.

By allowing workers to work from practically

any location, businesses can raise the level of productivity across their workforce. It also allows a pay-as-you-go model for the services so that they only need to be paying for what they are using and scaling with the service as they grow. As mentioned above security is still of paramount importance, but following the right levels of employee training around security should put them in a better place than having an on-premise service.

Do businesses still resist moving to the cloud?

Some businesses are still resistant to move to the cloud based on fears of loss of control or that their data is at more risk of being accessed by an unknown third party. Most companies have access to the internet and therefore their internal network is vulnerable to intruders accessing data across it unless they have a high level of security internally. Smaller companies – sub 100 people – would struggle to put the same time and money resources into securing their data as a cloud provider who was specifically looking to provide a service and protect their customer's data. The other resistance comes from IT managers feeling that services which are being managed by a 3rd party cloud provider reduces the businesses' need of them and therefore putting their own roles at risk. This isn't the case as most cloud services are more run of the mill business applications that the technical team don't need to be managing, allowing them to focus their technical expertise on making the company more efficient and saving costs.

Why is the cloud cheaper?

The cloud can be cheaper but not necessarily in all cases. Depending on the amount of users, levels of integration, customisation, levels of complexity or the services provided, these can either add or reduce the costs. Typically costs of an on-premise solution can be hidden across other business areas.

Do you need rocket speed internet connectivity?

Quick internet connectivity can be useful for some services but not required for all. For example if

“By allowing workers to work from practically any location businesses can raise the level of productivity across their workforce.”

you have a lot of data that needs backing up to a cloud service then the bigger the pipe the better. However if you take a service such as email then this requires a low amount of connectivity and it doesn't need to be very quick at all.

Five years from now, will businesses have any need for on-premise IT?

In all likelihood there will still be the need for some levels of IT to remain on-premise, but this will not be the case for all customers. Hybrid models of IT will become more prevalent and integration and security between both business models will become more and more common.

Can you provide some background on Cobweb and explain why Cobweb was an early adopter of the cloud?

Cobweb has been around as a business since 1996. We first started delivering hosted services or what is now called cloud based services since 2001 when we launched our first hosted exchange platform. The idea to remove the complexity of running a mail platform away from the typical small businesses was conceived by the Cobweb CEO Paul Hannam and Cobweb CTO Julian Dyer. Liberating customers from the constraints of running the platforms themselves was a big part of the solution provided. The early days of service delivery was fraught with challenges and the early adopters of the service experienced the growing pains of running a new kind of delivery model. This changed from 2007 onwards with the first proper release of a hosting platform from Microsoft which then gave a much better level of stability to the platform. Please visit www.cobweb.com for additional information about our products and services.

Do you see the cloud allowing for an improvement in delivery of entertainment content to consumers?

Not sure I can answer this one, apart from, yes it probably can! 📶



MARK DAVIES, Business Development Director

Mark is the Business Development Director of Cobweb Solutions Ltd, and has been working with businesses of all sizes for over 15 years providing specialist cloud based solutions. His broad range of skills and knowledge was supplemented by a Masters Degree in Business at Portsmouth University.



JULIAN DYER, Chief Technical Officer

Julian was founder of Athene Internet and launched the first free dial up Internet Service in the UK called Freenet. A serial entrepreneur, Julian joined forces with Cobweb in 1999 and has played a leading role as an industry visionary and currently sets the technical agenda for Cobweb, in his role as Chief Technical Officer.



**WEAK
PASSWORDS
AND ROGUE
EMPLOYEES
ARE THE
BIGGEST
CAUSE OF
DATA LOSS**

Turning the tides

After solar power and wind power, tidal energy could be our next source of renewable energy.

BBC recently described Scotland as the “Saudi Arabia of renewable energy potential” thanks to its fast-flowing waterways that could produce twice as much energy as an average nuclear power plant. The comment followed green technology firm MeyGen’s announcement to install an underwater turbine farm off the Scottish coast – where some of the fastest flowing-marine waters in the world are found. Churning at rates of up to 18 miles per hour, the rough and energetic waters may help to generate enough energy to power a third of Scotland.

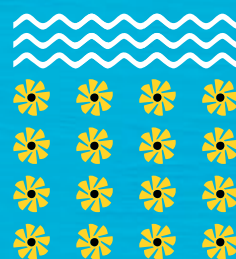
Although MeyGen’s tidal power project was first announced almost a decade ago, the firm expects phase 1 of construction to be completed only by 2016. If all goes according to plan, the underwater power plant could produce 398 megawatts of electricity a year. One hundred turbines will be lined up 525ft (160m) apart, weighted down by scrap metal. As the water depth in the Pentland Firth is about 130ft (40m), small crafts will be able to sail over the area of about four square miles (10.4km²) without fear of hitting them. When complete in 2020, the project will generate enough electricity for 400,000 homes.

ADVANTAGES OF TIDAL FARMS

Water is denser than air so the underwater turbines could produce the same amount of energy as wind turbines plus they would have the benefit of invisibility. They can also be placed closer together taking up less space, and they are not reliant on the weather. Rather, they are very reliable due to the regularity of tidal changes – engineers can determine how much power will be generated on any given day. Additionally, underwater turbines have minimal impact on sea life. The turbines move slower than those on land, so experts believe animals would either ignore the blades or move out of their way with ease.

OTHER EFFORTS TO HARNESS TIDAL POWER

GE Power Conversion also believes that tides are an ideal source of renewable energy, more predictable and reliable than wind or solar power. Currently, GE is testing tidal turbine generators and other underwater technology in turbines standing on the sea floor near the Orkneys in Scotland and at Ramsey Sound in Wales.



**100 TURBINES
WILL BE LINED
UP 525FT (160
METRES) APART
AND COULD
PRODUCE
398MW OF
ELECTRICITY
A YEAR**

THE WORLD'S BIGGEST TIDAL POWER PLANTS

- » **Sihwa Lake Tidal Power Station, South Korea:** With an output capacity of 254MW, this power station is the world's biggest tidal power plant.
- » **La Rance Tidal Power Plant, France:** The 240MW power plant has been operational since 1966 making it the world's oldest and second biggest tidal power station. It has an annual generation capacity of 540GWh.
- » **Swansea Bay Tidal Lagoon, United Kingdom:** This project will become the world's third biggest tidal power project upon completion in 2018 with an estimated annual power generation capacity of 400GWh.
- » **Meygen Tidal Energy Project, Scotland:** Meygen Tidal Energy Project is currently the world's biggest underwater tidal turbine power project under development.
- » **Annapolis Royal Generating Station, Canada:** The Annapolis tidal power generating station has an installed capacity of 20MW making it the world's third biggest operating tidal power plant and generating 50GWh of electricity annually.

Similarly, USA is underwriting the development of 17 tidal and wave energy demonstration projects. The U.S. Department of Energy's latest assessment identified up to 1,400 terawatt hours of potential tidal energy generation per year; one terawatt-hour of electricity is enough to power about 85,000 homes. Developing just a small fraction of the wave and tidal energy available in the country could power millions of American homes.

THE CHALLENGES

In spite of their many advantages, there are chances tidal power generation may never reach the potential of other renewable sources of energy like solar or wind power. This is simply because tidal farms require a very specific type of site – for turbines to work productively; they need to be installed where tidal flow is intensified by obstructions such as bays or headlands. While such sites are not present everywhere, there are still a good few around. If Scotland's model proves successful, it could eventually lead to turbine arrays installed in more places, giving the power of tides their rightful place alongside the wind and the sun. †

HIGHLY POTENTIAL AREAS FOR TIDAL RESOURCES





Connecting children with nature

Incorporating nature into school reduces children's stress and improves learning

Playing in schoolyards that feature natural habitats and trees and not just asphalt and recreation equipment reduces children's stress and inattention, according to a University of Colorado Boulder study. The paper recently published in the journal *Health & Place* shows how important students' relationship with nature really is. "Many schools already offer stress management programs, but they're about teaching individuals how to deal with stress instead of creating stress-reducing environments," said Louise Chawla, lead author of the study.

The study found that incorporating natural habitats into schoolyards helps students cope more appropriately with stress, while increasing attention span and reducing conflict. The presence of

trees and grass instead of plastic and asphalt effectively balances the behaviour of the children. Being among nature is more meditative and free, balancing the children's energy levels.

"Schools are where children spend a major part of their life hours, so it's an important place to look at for integrating daily contact with the natural world because of the many benefits it brings," said Chawla.

KEY FINDINGS

Researchers observed these advantages at a Baltimore elementary school that served children with learning disabilities. The researchers also traveled to suburban Denver to study students who came from a wide range of socioeconomic backgrounds. After



**96 PERCENT
OF STUDENTS
CHOSE TO PLAY
IN THE WOODS
INSTEAD OF
ON ASPHALT
PLAYGROUNDS**



conducting 1,200 hours of observation, the researchers interviewed teachers and parents, looking for behavioural changes.

STUDENTS PREFER WOODS OVER PLAYGROUND EQUIPMENT

At the Baltimore elementary school recess site, they observed that 96 percent of students from three consecutive school years chose to play in the woods instead of on asphalt playgrounds. While playing in the woods, the children felt free to engage in sensory-based activities like building forts and trading objects. In interviews, teachers reported that these children were more attentive and stress-free when they returned to the classroom. For the most part, parents thought the experience was empowering for the children too, vital to their social and emotional balance.

Likewise, gardening classes provided enormous stress-reducing benefits, allowing the youth to

reconnect with nature and feel a sense of calm. The classrooms that gardened outdoors were more relaxed and cooperative. Reflecting on their experiences, nearly all students felt favorable about connecting to natural living systems, they enjoyed caring for living things and having time for positive self-reflection.

CHILDREN FOSTER SUPPORTIVE RELATIONSHIPS WHEN LEARNING AMONGST NATURE

At the Denver elementary school, one in four students who completed assignments in a natural habitat called the experience “peaceful” or “calm.” Most thought that the process helped them escape stress of the classroom.

The benefits of nature didn’t end there. Researchers found that incorporating dirt, scrub oak and water features into the study environment helped the children foster supportive relationships and feelings of competence. In one case, a student was being

provoked by a group of classmates. The teachers reported that the student was more calm than usual because of the natural environment he was in. He did not allow his temper to escalate like usual.

“In more than 700 hours of observations at the Denver school’s green outdoor space, zero uncivil behaviours were observed. But there were many incidences of arguments and rudeness indoors, as there are at many schools,” said Chawla.

Having recess in wooded areas, taking science class outdoors, teaching gardening and doing writing assignments in nature are four powerful ways that can reduce the claustrophobic environments of schools. Using nature frees children from social and behavioural conditioning. Nature doesn’t treat children as if they are the problem. By bringing nature into the learning environment, children feel freer to interact, pay attention and use their creativity. †

Drugs go digital

Are digital drugs a real threat or just a hoax, Flashes explores.

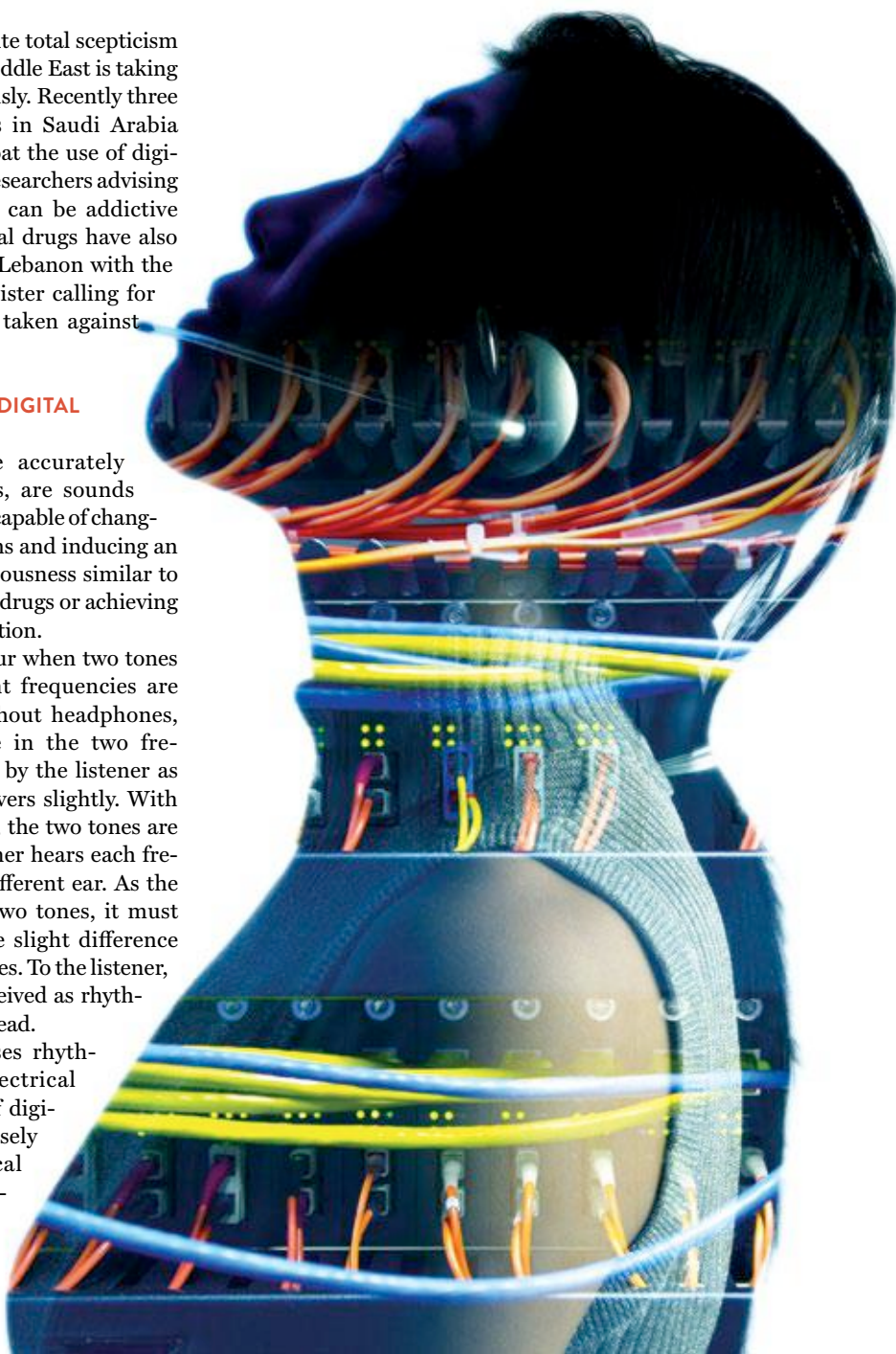
Digital drugs may invite total scepticism from some, but the Middle East is taking them extremely seriously. Recently three government agencies in Saudi Arabia joined hands to combat the use of digital drugs, with some researchers advising that “binaural beats” can be addictive and dangerous. Digital drugs have also sparked an outcry in Lebanon with the country’s Justice Minister calling for legal measures to be taken against the product.

WHAT EXACTLY ARE DIGITAL DRUGS?

Digital drugs, more accurately called binaural beats, are sounds that are thought to be capable of changing brain wave patterns and inducing an altered state of consciousness similar to that created by taking drugs or achieving a deep state of meditation.

Binaural beats occur when two tones with slightly different frequencies are played together. Without headphones, the slight difference in the two frequencies is perceived by the listener as a single tone that wavers slightly. With headphones, however, the two tones are isolated and the listener hears each frequency clearly in a different ear. As the brain processes the two tones, it must take into account the slight difference between the frequencies. To the listener, this difference is perceived as rhythmic beats inside the head.

The brain processes rhythmic stimulus as electrical impulses. The goal of digital drugs is to purposely control the electrical impulses and encourage the listener’s brain to synchronise its brain waves with the binaural beats. This synchronisation is



not a new concept. It forms the basis for many types of meditation and medical bio-feedback. Digital drugs are also known as sound healing, solfeggio frequency therapy and more recently, i-dosing.

CAN LISTENERS REALLY GET A 'HIGH' OUT OF THEM?

Whether the sounds actually work as claimed is very much open to debate, according to Michael Casey, a computer science and music professor at Dartmouth College who studies the effects of music on the brain.

"The idea that binaural beats or this very simple sound phenomenon is having an impact on a direct medical condition or a cognitive state such as sleep or increased focus is still a matter of further research at this point," said Casey, noting that there is so far too little scientific evidence about whatever effects they may have.

"The suggestion that digital drugs are dangerous because they can induce mental states that are analogous to psychoactive drugs is an area of pure speculation," he said. What is clear, he added, is that the idea of sound or music being used to induce a hypnotic or transcendent state goes back to the "dawn of civilisation" and can be seen in various religions and cultures. It has also been a characteristic of trance music since the 1980s, he said.

Audio "doses" might be under review in places like Lebanon and Saudi Arabia, but there has been no similar reaction among US authorities. "At this time, we are aware of no scientific data on this phenomenon, so NIDA cannot establish the validity of the claim that you can get high listening to these sounds or that it leads to drug abuse," the National Institute on Drug Abuse offered in a statement.

NOT JUST A HOAX

Executive director of scientific affairs at Takeda Middle East Dr Hisham El Ezaby said the idea of digital drugs is not new at all, and though clinical

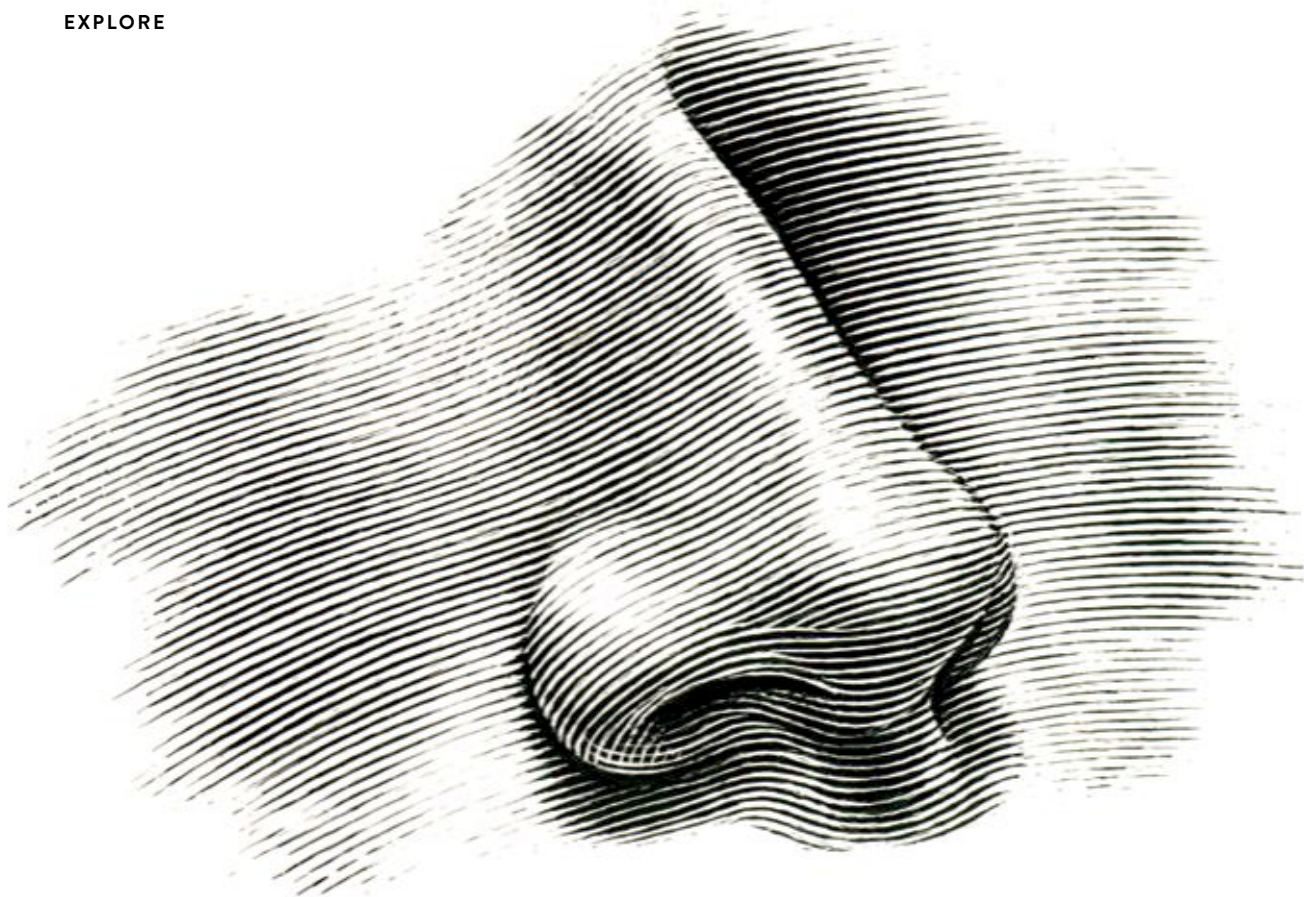
research is still sparse, it should be taken seriously. "The effects of binaural beats on the brain have been described as early as the 19th century as a form of alternative medicine. Back then, such beats were claimed to induce relaxation, help meditation and boost creativity."

"In my view, there is some reasonable evidence that this is not just hoax; however it is too early to make any concrete conclusions. We don't know what we don't know and there is no way to gain more knowledge about the real impact of these tunes on the brain other than further clinical research. We need to be very cautious until we have a better understanding of the effects of these beats on the human brain. The issue now is that these beats have been made commercially available on the Internet. The initiative taken by the Dubai Police to block sites commercialising these i-Doses is a very wise approach, but we still need to explore and investigate how these beats can influence a person if used on a regular basis and what could be the potential hazards. Till this level of knowledge is available for us I believe we all have to refrain from using it," El Ezaby added. ↑



BINAURAL BEATS OCCUR WHEN TWO TONES WITH SLIGHTLY DIFFERENT FREQUENCIES ARE PLAYED TOGETHER.





The nose knows no limit

Scientists find that the human nose can detect up to a trillion odours.

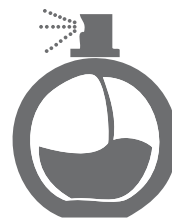
A rose, a fresh cup of coffee, a wood fire. These are only three of the roughly one trillion scents that the human nose and brain are capable of distinguishing from each other, according to a new study. Researchers had previously estimated that humans could sense only about 10,000 odours but the number had never been explicitly tested before.

“People have been talked into this idea that humans are bad at detecting smells,” says neurobiologist Leslie Vosshall of Rockefeller University in New York City, who led the research. “So these findings should give the whole human race a confidence boost.”

Humans detect smells by inhaling air that contains odour molecules, which then bind to receptors inside the nose, relaying messages to the brain. Most scents are composed of many odourants; a whiff of chocolate, for example, is made up of hundreds of different odour molecules.

Understanding how people process the complex information contained in scents – or memories of smells – offers a window into how the human brain functions.

To investigate the limits of humans’ sense of smell, the research team prepared scent mixtures with 10, 20 or 30 components selected from a collection of 128 odourous molecules. Then they asked 26 study participants to identify the mixture that smelled differently in a sample set where two of three scents were the same. When the two scents contained components that overlapped by more than about 51 per cent, most participants struggled to discriminate between them. The authors then calculated the number of possible mixtures that overlap by less than 51 per cent to arrive at their estimate of how many smells a human nose can detect: at least 1 trillion. The



**HUMANS DETECT
SMELLS BY
INHALING AIR
THAT CONTAINS
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MESSAGES TO
THE BRAIN**

people invited to do this study were not professionals such as perfumers.

Donald Wilson, an olfactory researcher at the New York University School of Medicine, says the findings are ‘thrilling’. He hopes that the new estimate will help researchers begin to unravel an enduring mystery: how the nose and brain work together to process smells.

A human nose has around 400 types of scent receptors. When the smell of coffee wafts through a room, for example, specific receptors in the nose detect molecular components of the odour, eliciting a series of neural responses that draw one’s attention to the coffee pot. But many details of that sequence are still unknown. For instance, the relationship between the number of odourants that we can discriminate and the number of receptors that humans have is still unclear. Some scientists assume that having more types of scent receptors indicates a more-sensitive sniffer.

But that is not the only difficulty facing scientists exploring the bounds of our ability to smell. “It’s hard to organise odours,” Wilson says. Researchers can group scents

into categories, but the relationship between those categories is not clear; unlike colours or sounds, smells do not fall along a clear continuum.

Those questions remain for future study. But the new findings may help put to rest at least one longstanding assumption – that humans have a bad sense of smell. ↗



**HUMAN NOSE
IS CAPABLE OF
DISTINGUISHING
ONE TRILLION
SCENTS FROM
EACH OTHER
ACCORDING TO
A NEW STUDY**

WINNER OF L'OREAL-UNESCO FOR WOMEN
IN SCIENCE FELLOWSHIP

“ My research
is particularly
investigating
the “Fountain
of Youth”
(translation for
the German word
Jungbrunnen),
a gene involved
in slowing down
plant senesce or
plant death.”

Photo: www.saltlab.kaust.edu.sa

ARAB WOMEN IN SCIENCE

Flashes talks to the winner of the L'Oreal-UNESCO for Women in Science Fellowship

In November 2014, the L'Oreal-UNESCO Women For Science programme honoured four women from the Arab community for their groundbreaking research. Launched in 2010, the programme provides support for women researchers on all continents. 2014 marked the fifth edition of the programme and covered GCC countries along with Yemen, granting four-20,000 Euro-fellowships to four female researchers hailing from UAE, Yemen and Saudi Arabia (two winners) respectively.

Flashes speaks to Nouf Al Shareef, who was honoured for her research into genes identified as possible contributors to salinity tolerance.

Congratulations on winning the receiving the L'Oreal-UNESCO fellowship. What does this award mean to you?

This award is the first I have received and is very important, as it will open many new future opportunities for me to apply for other prizes and grants. It is not only important for me, but also for my lab, my research centre and King Abdullah University for Science and Technology (KAUST), as they have all given me much, and now is a time to reward them as well.

Tell us about your background and education.

I have a master's degree in Molecular Genetics from KAUST. Currently I am pursuing a PhD in Bioscience there. ➤



“Our ultimate goal is to transfer this gene to crop plants to enable them grow and reproduce better in a difficult stress environment.”

➤ **Please describe your project.**

My research project is aimed at characterising candidate genes identified as potential contributors to salinity tolerance. I am using a reverse genetic approach to characterise a transcription factor that is hypothesised to regulate several other genes involved in salinity response. My research is particularly investigating the “Fountain of Youth” (translation for the German word Jungbrunnen), a gene involved in slowing down plant senescence or plant death.

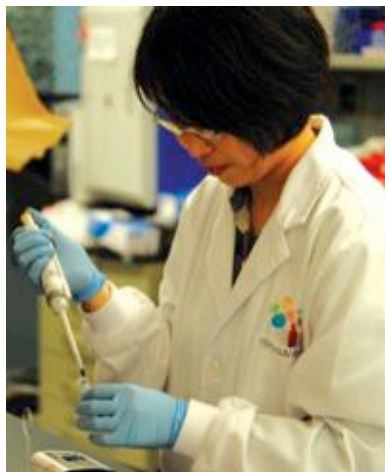
How do you think your research will impact agriculture in the region?

Once identified, this gene will help improve plant tolerance to salt and heat stress. Our ultimate goal is to transfer this gene to crop plants to enable them grow and reproduce better in a difficult stress environment.

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

As researchers, we are always in need of more support from both private and government organisations to fund the projects and facilitate the research wheel. I hope for a future where such support is abundant and Arab women are afforded many more opportunities in science. ♡

Winners with
Dr Sara Ravella
and Her Excellency
Sheikha Lubna Bint
Khalid Al Qasimi



Clockwise: The Salt Lab group; Research students; ICBA Field trials; Tomato Hydroponics

THE SALT LAB

Soil salinity is a major constraint to crop productivity, particularly in arid and semi-arid regions. The United Nations estimates that salinity affects crops on about 200 million acres (80 million hectares) of arable land globally. King Abdullah University of Science and Technology's Salt Lab was started in February 2013. The aim of the research program is to understand the basis for natural variation in salinity tolerance of plants and then use this knowledge to increase the salinity tolerance of crops such as wheat, rice, barley and tomatoes.

While the Salt Lab is undertaking large scale experiments in the field in Saudi Arabia, the group is also running four consecutive experiments at The Plant Accelerator® at the Australian Plant Phenomics Facility, University of Adelaide to investigate salt tolerance in over 4,000 barley plants.

WHAT IS SALINITY IN PLANTS?

All soil contains salts, many of which are essential nutrients for plants. Salinity occurs when soluble salts greatly increase in soil and water. Usually salt-affected or saline soils occur mainly in arid or semi-arid areas and can arise from natural processes like weathering of mineral rocks. In these arid areas, there is often inadequate rainfall or drainage to move the salt down through the soil so it can leach away from plant roots. In irrigated soils, salinity occurs due to the evaporation of water, which leaves salt behind.

When there is an increase in salinity, it takes the plant more energy to draw water up through its roots. Sometimes the plant can dehydrate even when there is a comfortable water supply available because it cannot keep up with the effort required to replenish its water supply.

Photos: www.saltlab.kaust.edu.sa

CAN
WE
HAVE

TOO
MUCH
TALENT?



Attracting top talent is a key priority for competitive

Going into the 2010 World Cup, France had one of the best squads in the competition. Chock-a-block with talent, expectations were high, but the results could not have been more disastrous. Beset by internal bickering, the team imploded, failed to proceed to the second round, and was flown home economy class in disgrace.

Whether it's a football line-up or organisational team, it's generally assumed that bringing

together the most talented individuals possible gets the best results. The reality, however, is that when teams are required to closely coordinate their work, having too many talented members can lead to competition over status and rank, and decreased performance as a result.

THE 'TOO-MUCH-TALENT EFFECT'

The question of when and why high levels of talent reduce team performance was considered by Roderick Swaab, INSEAD Assistant Professor of Organisational Behaviour, in the research paper *The Too-Much-Talent Effect: Team Interdependence Determines When More Talent Is*



organisations. But can 'more' become 'too much'?

Too Much Versus Not Enough, co-authored by Michael Schaerer, INSEAD Doctoral Student; Eric Anicich, Doctoral Student at Columbia University; Richard Ronay, Assistant Professor at VU University Amsterdam and Adam D. Galinsky, Professor of Business at Columbia.

The researchers hypothesised that while the addition of talented individuals boosts team performance initially, there comes a point after which the benefits of enlisting a new star decreases until the extra talent eventually has a negative effect on the team's achievements.

In addition, their assumption was that the 'too-much-talent effect' would only occur

in teams that require high levels of task interdependence, but not in teams where members operate relatively independently. The theories were then tested in some of the most popular sports worldwide: football, basketball and baseball.

TALENT DIMINISHES TEAM COORDINATION

The research examined real-world data from national football teams during the qualification for the 2010 World Cup in South Africa and the 2014 World Cup in Brazil and found that the linear relationship between talent and a football team's performance was positive – but only up to



a point. After this point the marginal benefit of talent decreased and eventually turned negative.

A similar result occurred when researchers tested their theory in a setting where on-court team performance is carefully documented: the US National Basketball Association. Using regular season play data from all NBA teams between 2002 and 2012, individual talent was computed using the Estimated Wins Added (EWA) formula, which evaluates the victories that any given player adds over and above what a replacement player would contribute. The researchers calculated the percentage of top talented individuals within each team. By examining comprehensive on-court data from all the games they tallied team coordination while team performance was taken as the winning percentage at the end of each season.

Once again, they found evidence of a “too-much-talent” effect such that teams with very high levels of top talent actually performed worse. In addition, they found that this effect emerged because these teams failed to coordinate their actions on court.

It was now time to test the crux of the theory that the “too-much-talent” effect would only emerge when individual jockeying for dominance harmed team coordination. The researchers hypothesised that in teams where less coordination is required, the accumulation of talent should continue to benefit, and never hurt, performance. An analysis of talent and team performance in the context of Major League Baseball confirmed this hypothesis: more talent simply increases the team’s performance.

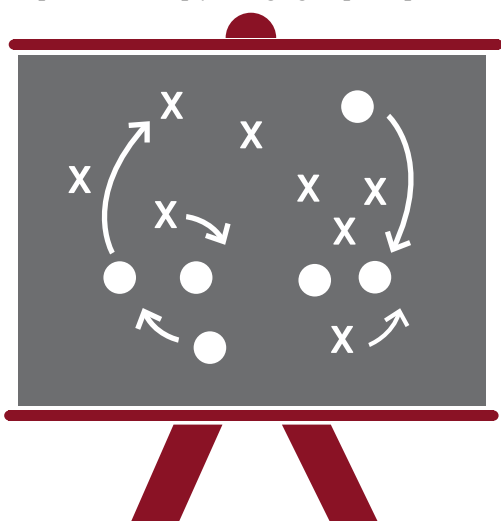
“When teams are required to closely coordinate their work, having too many talented members can lead to competition over status and rank, and decreased performance as a result.”



HOW TO MANAGE A TALENT OVERLOAD

This sports analogy has important ramifications for business. “When hiring for an opening in a team with low levels of interdependence, such as sales teams, hiring the most talented individuals may be a good strategy as these individuals will not have to work with each other,” says Swaab. However, when teams require high levels of interdependence, simply hiring a group of top talented

individuals may not be sufficient and potentially be disruptive. “One solution is to hire fewer top talented individuals, something the Argentinian and French coach did during the 2014 World Cup when deciding not to select talented players like Carlos Tevez and Samir Nasri. Another option is to invest more in training team members how to coordinate effectively in different situations. Establishing a legitimate hierarchy and formalising roles and responsibilities provides team members insight into what they must be able to do together without focusing their attention on jostling for intra-group rank.”



WHEN TALENT CAN TEAR US APART

Contrary to the belief that higher and higher levels of talent produce ever-better performance, these findings suggest that organisations should reconsider their priorities and remember that when teams need to come together, more talent can tear them apart. †



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THE HISTORY OF THE PRINTING PRESS

The Mohammed Bin Rashid Al Maktoum Foundation recently established Qindeel Printing and Publishing Services to enhance the spread of knowledge and learning in the Arab World through printed material such as books, magazines and journals in Arabic and other languages. In view of this development we take a look at the history of printing.



15th century inventor Johannes Gutenberg is usually cited as the inventor of the printing press. However, the history of printing begins long before Gutenberg's time.

CHINESE MONKS AND BLOCKS

Nearly 600 years before Gutenberg, Chinese monks were already setting ink to paper using a method known as block printing, in which wooden blocks are coated with ink and pressed to sheets of paper. One of the earliest surviving books printed in this fashion — an ancient Buddhist text known as 'The Diamond Sutra' — was created in 868 during the Tang (T'ang) Dynasty (618-909) in China. The book is now housed in London's British Library in London.

The carved wooden blocks used for this early method of printing were also used in Japan and Korea as early as the eighth century. Private printers in these places used both wood and metal blocks to produce Buddhist and Taoist treatises and histories. An important advancement to woodblock printing came in the early eleventh century, when a Chinese peasant named Bi Sheng developed the world's first movable type printing. His ingenious method of printing involved the production of hundreds of individual, movable characters made out of baked clay. The ink he used was a mix of pine resin, wax and paper ashes. Although Sheng's method could be used to print thousands of copies of a document fairly quickly, his movable type did not become popular until many centuries later.

Then in the 14th century, Wang Chen, a Chinese government official, created his own set of movable characters out of wood. His printing method slowly caught on and was used for reproducing documents in the centuries that followed. Later metal blocks — made from bronze and even tin — were used in China for the printing of books and paper money until at least the 18th century.

ADVENT IN EUROPE

Despite its early successes, the movable method of printing did not catch on as quickly in Asia as it did in Europe. Before the invention of the printing press — sometime between 1440 and 1450 — most European texts were printed using xylography, a form of woodblock printing similar to the Chinese method used to print 'The Diamond Sutra'. Manuscripts not printed with woodblocks were painstakingly copied by hand. Both processes were extremely labour intensive and, as a result, books in Europe were very expensive and few could afford to buy them.

But all that changed in the middle



Above: The carved wooden blocks used for this early method of printing were also used in Japan and Korea as early as the eighth century.

L-R: Engraving of the first printing press, invented by Johannes Gutenberg, 16th century; Johannes Gutenberg (c.1398-1468), German printer and publisher.

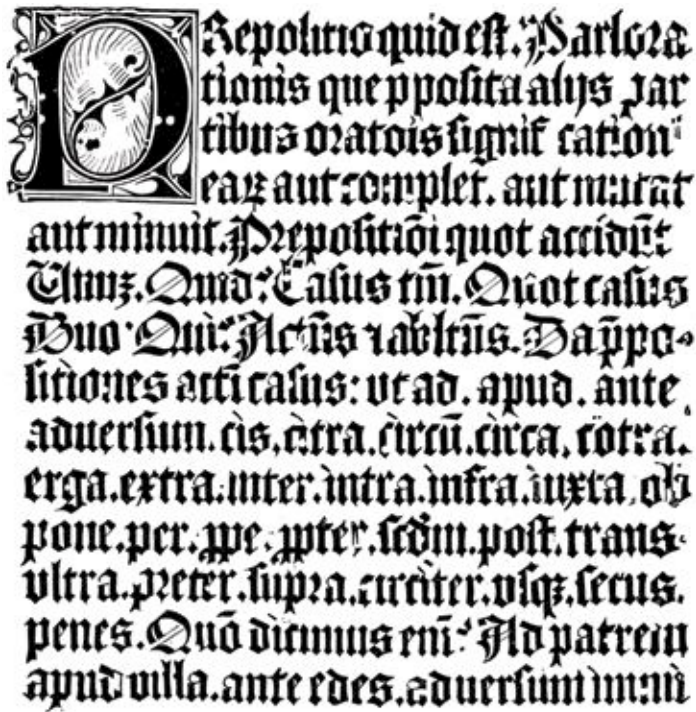
of the 15th century, when Johannes Gutenberg established himself as a goldsmith and craftsman in Strasbourg, Germany. In Strasbourg, Gutenberg first began experimenting with both xylography and the development of a more efficient method of printing. He altered an olive press to create a printing press machine. Instead of using the heavy screw to press the olives for oil, he used it to force a printing block onto a sheet of paper below it. Gutenberg developed

metal type for each of the 26 characters in the Roman alphabet and designed a way to move the characters around on a printing plate. With this invention, it was possible to print more copies in a few weeks than could have been produced in years using the hand-carved block method. The printed word now spread like wildfire throughout Europe.

By 1499 print-houses had become established in more than 2500 cities in Europe. Fifteen million books had



ONE OF THE EARLIEST SURVIVING BOOKS PRINTED — AN ANCIENT BUDDHIST TEXT KNOWN AS "THE DIAMOND SUTRA"



Above: Example of a page of xylography.
Right: An employee of the printing company reads a special edition of French daily newspaper *Le monde*.

been flung into a world where previously scholars would travel miles to visit a library stocked with twenty hand-written volumes.

Before the printing press was created in Europe, only the church and royalty were wealthy enough to have books printed. Once printed material became widely available, a greater number of people learned to read and the flow of textual information reached all corners of the continent. Access to information helped to feed Europe's brainpower, closing out the Middle Ages for good and helping open the door for the Renaissance.

THE IMPACT OF THE PRINTING PRESS

Gutenberg's invention laid the foundation for the commercial mass production of books. The success of printing meant that books soon became cheaper, information could now be spread quickly and accurately, creating a wider literate reading public. It enabled people to follow debates and take part in discussions of matters that concerned them. More and more books of a secular nature were

printed, with especially profound results in science. By the 1600's, this led to the Scientific Revolution.

While the Gutenberg press was much more efficient than manual copying, the Industrial Revolution and the introduction of the steam-powered rotary press allowed thousands of copies of a page in a single day. Mass production of printed works flourished after the transition to rolled paper, as continuous feed allowed the presses to run at a much faster pace.

Some people go as far as to say that the printing press is the most important invention between the invention of writing itself and the computer. Although it is impossible to justify that statement to everyone's satisfaction, one can safely say that the printing press has been one of the most powerful inventions of the modern era. It has advanced and spread knowledge and moulded public opinion in a way that nothing before the advent of television and radio in the twentieth century could rival. [↑](#)





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