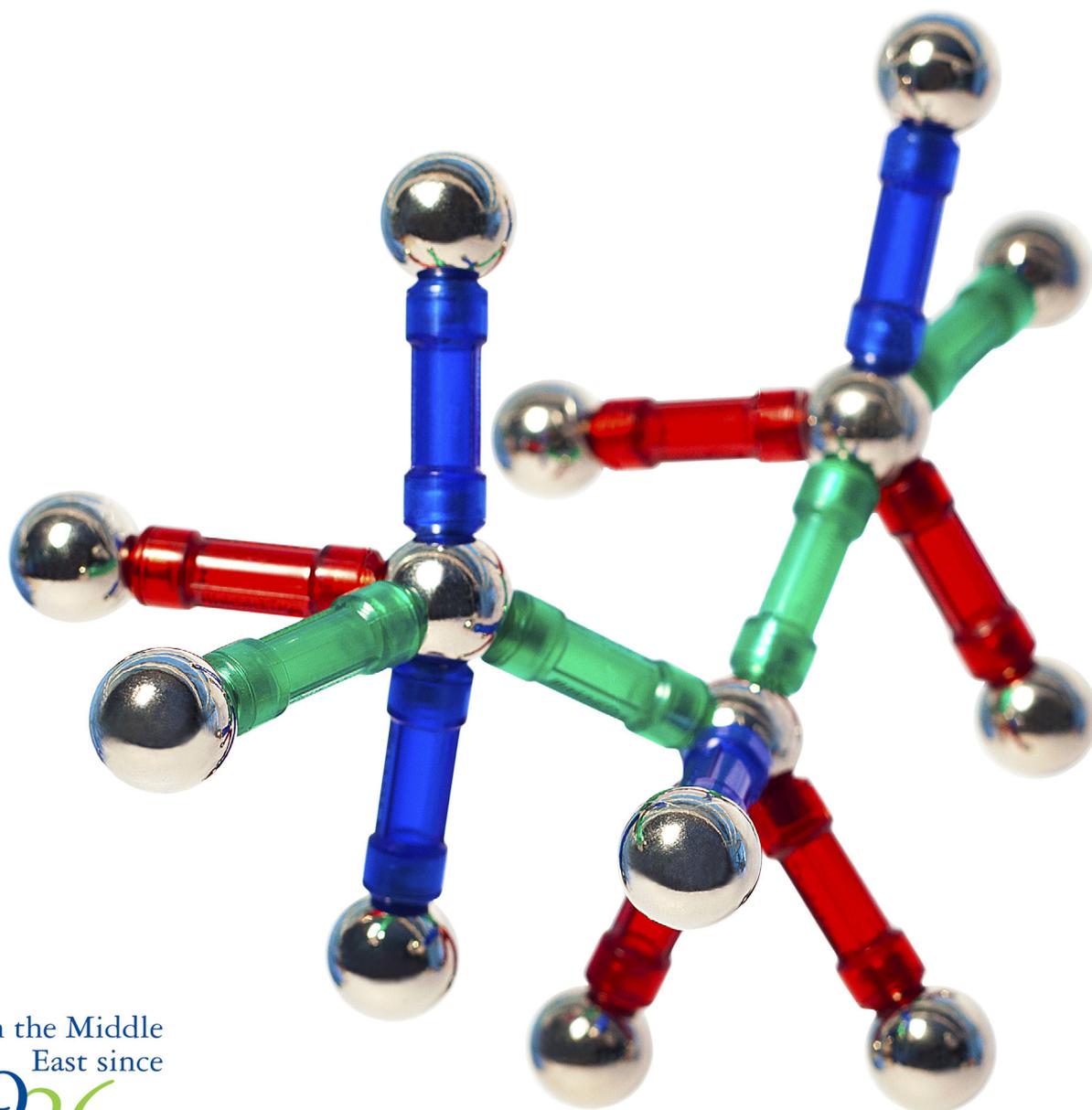


Deloitte.

Technology, Media &
Telecommunications Predictions 2015
Middle East

#TMT*predictions*



In the Middle
East since
1926

Welcome to the 2015 edition of Deloitte's predictions for the technology, media and telecommunications (TMT) sectors.

The Technology, Media & Telecommunications (TMT) Predictions report reveals the latest trends and emerging issues shaping the TMT industries across the region in the year ahead and beyond.

While the Global Predictions are currently in their 14th edition, this year for the 3rd time, Deloitte has launched a version of the predictions with specific relevance to the Middle East region.

Our endeavor is to provide a considered point of view on key industry trends. In some cases we seek to identify the drivers behind major inflection points and milestones, such as the first billion-unit year for the smartphone sector, the take-off of contactless mobile payments or Digital Islamic Services.

In others our intent is to explain why we are not expecting fundamental change, such as in the use of drones for home deliveries, or in smartphone battery technology or the deployment of miniature satellites, known as nanosats.

We also consider it critical to examine sub-trends. For instance, broadband speeds are, on average, increasing at a double-digit pace, but in many markets the average is being lifted by significant performance improvements among the fastest connections, while slower connections remain sluggish.

Deloitte's TMT predictions are built around hundreds of discussions with industry executives, analysts and commentators, along with tens of thousands of consumer interviews. The predictions are also tested with clients, industry analysts, conference attendees and leverage Deloitte's international and regional TMT project experience in the months leading up to their release.

The Middle East report consists of predictions covering the technology, media and telecommunications industries across the region. A summary of this year's TMT predictions to impact the marketplace in 2015 includes:

Technology

- The Internet of Things really is things, not people
- Drones: high-profile and niche
- 3D printing is a revolution: just not the revolution you think
- Smartphone batteries: better but no breakthrough
- Nanosats take off, but they don't take over
- Data opens up in the GCC
- Smart cities...not just the sum of its parts
- The re-enterprization of IT

Media

- Islamic Digital Services: set for take off
- Short form video: a future, but not the future, of television
- The 'generation that won't spend' is spending a lot on media content
- Print is alive and well – at least for books

Telecommunications

- One billion smartphone upgrades
- Mobile government: a new mode of public engagement
- The connectivity chasms deepen: the growing gap in broadband speeds
- Contactless mobile payments (finally) gain momentum

We would like to express, once again, our gratitude to Dubai Media City (DMC) for its support in the launch of the TMT Predictions in the Middle East for the third year. The TMT Predictions are a part of DMC's untiring commitment to support the research and study into the future of the sector and its implications for the region in the year ahead and beyond.

We wish you all the best for 2015 and trust that you and your colleagues will find this year's predictions a useful stimulant in your strategic thinking. We look forward to discussing them with you.

The Technology, Media & Telecommunications (TMT) Predictions report reveals the latest trends and emerging issues shaping the TMT industries across the region in the year ahead and beyond.

Technology

The Internet of Things really is things, not people

Deloitte predicts that in 2015 one billion wireless Internet of Things (IoT) devices will be shipped, up 60 percent from 2014, and leading to an installed base of 2.8 billion devices. The IoT-specific hardware (which could be a more expensive cellular modem, or a much cheaper Wi-Fi chip) is likely to be worth \$10 billion, and the associated services enabled by the devices worth about \$70 billion.

In the Middle East, IoT adoption is still relatively nascent, but we are already seeing some enterprise applications take hold. We estimate the Middle East region to currently represent about 2-3 percent of the global enterprise IoT market. As such, Deloitte predicts that around 25 million IoT devices will be shipped to the Middle East region in 2015, leading to an installed base of around 70 million IoT devices. This would likely be worth around \$250 million in IoT-specific hardware, with revenues of around \$1.7 billion in associated IoT services.

Drones: high-profile and niche

Deloitte predicts that in 2015, the active base of non-military drones costing \$200 or more should exceed one million units for the first time. We expect sales of non-military drones (also known as unmanned aerial vehicles or UAVs), to be about 300,000 units in 2015, with the majority being bought by consumers or prosumers. We expect total industry revenues to be \$200-\$400 million dollars in 2015 (equivalent to the list price of a single, mid-sized passenger jet). While we believe that UAVs have a tremendous range of applications, particularly for enterprise and government, we are not foreseeing a breakthrough year for drones in 2015.

3D printing is a revolution: just not the revolution you think

Deloitte predicts, in line with the industry consensus, that in 2015 nearly 220,000 3D printers will be sold worldwide, with a dollar value of \$1.6 billion, representing 100 percent unit growth and no more than 80 percent growth in dollars versus 2014. But there won't be a 'factory in every home': although 3D printing can be seen as 'the next Industrial Revolution' the real revolution is for the enterprise market, not the consumer.

The revolution of 3D printing extends into the Middle East, a much smaller market, but rising to the occasion. The Middle East region represents a small fraction of the global 3D printing market, as a relatively immature market with a limited design and manufacturing industry, with China and the United States driving the growth globally. However, the Middle East is expected to follow the global growth trend with an expected increase of almost 60 percent per annum in 3D printer units and almost 30 percent per annum in 3D printing revenues until 2017, albeit off a low base.

Smartphone batteries: better but no breakthrough

Deloitte predicts that the rechargeable, lithium ion (Li-Ion) battery technology used in all smartphones will improve only modestly in 2015. We expect a 2015 Li-ion battery to have no more than five percent greater unit charge or milliampere hours (mAh) compared to a 2014 model of the same dimensions and voltage. Longer battery life is likely to remain a key factor for those choosing their next smartphone.



Nanosats take off, but they don't take over

Deloitte predicts that by the end of 2015 over 500 nanosatellites (nanosats) will be in orbit. Nanosats have a mass of between one and ten kilograms compared to hundreds or even thousands of kilograms for the average commercial satellite. They also tend to be sized in increments of ten centimeters (cm), with a 30 cm x 10 cm x 10 cm configuration being the most common, whereas most commercial satellites measure at least one meter or more in every dimension. Prior to November 2013, only 75 nanosats had ever been launched, and another 94 were put in orbit in the three months ending January 2014, for a total of nearly 170. Our prediction calls for a nearly 300 percent increase in the installed base.

Data opens up in the GCC

Monitor Deloitte predicts that GCC countries in the Middle East will make significant open data advancements in 2015, and within the next three to five years, break into the top half of countries ranked the most 'open' in the world. Although the Gulf countries will take some time to match the level of leading 'open' countries to reap the benefits of open data, and despite the split in their degrees of 'openness', 2015 will represent a key milestone of actions implementing major national open data announcements made in 2014. GCC countries that have not yet outlined open data initiatives will begin to do so in 2015, while those that already have will embark on their journey towards open data implementation.

Smart cities...not just the sum of its parts

Monitor Deloitte predicts that in 2015 and beyond, the number and value of smart city initiatives will expand substantially. The majority of new smart city projects globally will continue to be led by a few European cities.

However, as smart city projects developed over the last few years are further tested and scaled up, other cities will adopt pre-tested solutions and drive smart cities growth. Much of the expansion will occur in North American and advanced East Asian cities, followed by cities in the GCC. Although industry estimates as to the market value of smart cities vary greatly, there is no doubt that the smart cities market will increase significantly over the next five years to be anywhere from over \$400 billion to over \$1.5 trillion by 2020.

Monitor Deloitte predicts that the number of new smart city greenfield developments in the GCC will double within the next two to three years. This follows the launch of six entirely new, master-planned smart city developments in the GCC over the past decade. Going forward we also expect the majority of new city sub-developments will incorporate at least some element of "smart" infrastructure. The region's smart city growth will largely be driven by developments in the government planning, administration, and operations area, backed by significant GCC government investments in e-government and mobile services.

The re-enterprization of IT

Deloitte predicts that in 2015 the impetus for IT adoption will swing back to the enterprise market following a decade of consumer-led technological change.

In the Middle East, Deloitte predicts that in 2015 the pendulum of IT adoption will not only swing back towards the reenterprization of IT, but will move faster and deeper than the rest of the world. Consumerization has been rapid, and will coexist with enterprization as a driver to the region's technological development, even leading in certain areas. But the scale of development in the enterprise space, backed by large corporate and government expenditure, will be the region's biggest driver.

Media

Digital Islamic Services: set for take off

Deloitte predicts that 2015 will be the year that Digital Islamic Services start to take off across the Middle East region and the world. If global and regional online benchmarks are used, we estimate within the next three to four years the region's Digital Islamic Economy to nearly double in size in terms of online Muslim consumer spend on lifestyle products and services, from around \$15 billion currently to touching and probably crossing \$30 billion by 2018. Muslim consumer spend on Digital Islamic Services in the region, driven by already high digital media consumption, will likely expand by as much as 25 to 30 percent across most areas of the Islamic economy in 2015 and beyond.

Short form video: a future, but not the future, of television

Deloitte predicts that in 2015 total time spent watching short-form (under 20 minutes' duration) video online will represent under three percent of all video watched on all screens. Short-form revenues will be about \$5 billion: by comparison long-form TV content will generate over \$400 billion from advertising and subscription revenues alone.

Deloitte predicts that in 2015 total time spent watching short-form video online in the Middle East will also represent under three percent of all video watched locally on all screens, in line with its global sub-three percent share. On average, the region's viewers will consume an estimated 545 million hours per month, of short-form video (5.5 percent of global short-form estimates) in addition to watching over 23 billion hours per month of traditional long-form television (about 5 percent of global long-form viewership).

The 'generation that won't spend' is spending a lot on media content

Deloitte predicts that US and Canadian millennials will spend over \$62 billion on media content in 2015. This is greater than the total spend on Internet advertising in the US and Canada, and as such represents a significant contribution to the media sector from the generation of 18-34 year-olds often accused of defaulting to unpaid sources of content. There are 83 million millennials in the US and Canada, and \$62 billion of spending on media content equates to \$750 each.

Deloitte predicts that millennials in the Middle East will spend up to \$15 billion on media content in 2015 (\$120 per millennial, in purchasing power parity terms). Millennials in the Middle East represent over 37 percent of the total regional population, a total of around 123 million millennials. They are the most influential age group as they make up a significant portion of the population. High rates of smartphone adoption, broadband, technological advancements and increasing literacy rates play a key role in the growth of media consumption in the Middle East in 2015 and beyond. Despite these advancements however, media spending by millennials in the region is quite low in comparison to more developed markets such as North America.

Print is alive and well – at least for books

Deloitte predicts that in 2015 print will represent more than 80 percent of all book sales in dollars worldwide. In the US, the world's largest book market, the figure is lower at just under 80 percent, but the percentage of print is higher in other developed world countries, and even more so in the developing world.



Telecommunications

One billion smartphone upgrades

Deloitte predicts that one billion smartphones will be purchased as upgrades for the first time in 2015, generating over \$300 billion in sales. We expect smartphone upgrade volumes to continue increasing through 2018, and possibly beyond.

Deloitte predicts that in 2015, Middle East region sales from smartphone upgrades will surpass 70-100 million units for the first time, generating over \$18-28 billion in revenues. In line with our global expectations, we foresee regional upgrade volumes to grow further, as penetration rates continue to rise in the years to come. The majority of upgrades will take place in the GCC, which has the highest penetration levels, whereas in large parts of North Africa, with much lower smartphone penetration, many will be new adopters, buying a smartphone for the first time.



Mobile government: a new mode of public engagement

Deloitte predicts that the number of mobile government (m-gov) smartphone applications across the Middle East region will surpass 500 apps by 2016. This follows a sharp increase in m-gov services development in the region, which saw the number of m-gov smartphone applications increase from close to 200 apps in 2013 to over 400 apps in 2014.

The connectivity chasms deepen: the growing gap in broadband speeds

We expect the global number of broadband homes to have grown by about two percent to 715 million by the end of 2015. Average broadband speed obtained in most markets should increase by between 15 and 25 percent. This average, however, obscures significant differences between households. In many markets the top decile of homes are likely to enjoy ten times or greater the average speed of those in the bottom decile. Countries with ubiquitous fiber to the premise (FTTP) are likely to have the most consistent broadband speeds.

Deloitte predicts that in 2015, total internet penetration in the Middle East will reach around 38 percent, over approximately 25 million homes. Fixed broadband penetration however, is expected to reach over 21-22 percent of all Middle East households (around 14 million households). Fixed broadband penetration rates vary significantly across the region due to high economic disparity – particularly when comparing GCC countries with significantly higher penetration rates to those in North Africa where dial-up connections are more common.

Contactless mobile payments (finally) gain momentum

Deloitte predicts that by end-2015, five percent of the base of 600-650 million near-field communication (NFC) equipped phones will be used at least once a month to make contactless in-store payments at retail outlets. This compares with monthly usage by less than 0.5 percent of the 450-500 million NFC-phone owners as of mid-2014. Contactless mobile payment will not be mainstream by end-2015, but niche adoption will be a major progression from near nil in prior years.

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