

Getting smarter about cities

Why creating tomorrow's Smart City is about much more than just technology

Accelerated urbanisation is reshaping MENA and the world

In the year 2007, humanity reached a remarkable milestone: for the first time in history, half of the planet's population was living in cities. We are now seeing the rate of growth in our urban centres accelerate, a global 'mega trend' that shows no signs of abating. In some parts of the world over 80% of the population now live, work and play in urban centers and as growth continues our cities expand and new cities are born.

The vast majority of this urban growth is happening in developing countries, giving increased importance to planning and finding the right solutions and institutional arrangements that maximise the benefits of urbanism while tackling the challenges that take new shapes and forms. As early as 1990, MENA reached similar urbanisation levels to European economies. It is projected that by 2050, more than 80% of the MENA region's population will be living in urban areas.

So, laying down the foundations now is vital for the future generations that will also live, work and play in our world's cities. It's interesting that while this is an issue that will impact millions of lives, there is no formally agreed on universal definition of what constitutes a 'smart city' or community. Given the 'Smart' tagline, many people suggest that it's about technology, and to some degree that's true – technology is an important enabler, and has an important role to play. But, we think it's much wider than that - we believe it's about creating a holistic ecosystem of people who are interconnected and contributing towards a common vision, creation of knowledge and exchange of ideas. It's these things that are needed alongside all of the tangible infrastructure that we normally associate with urban planning.

Smart cities are not just places where new smart technologies are adopted; they are places where basic safety, security, and environmental needs are met, the economy is productive, educational attainment and knowledge production thrive, and the city is able to maximise its performance across all its capitals and building blocks. Only then can cities reach a level where they can set new standards for quality of life and prosperity.

Cities worldwide, new or old, face the challenge of growing economically while balancing social and environmental factors to remain sustainable in the future. To succeed, they need urban projects that have a clear vision and goals, are well managed, and involve a broad range of parties working together effectively.

The MENA region is at an exciting time of its development, with a huge amount of opportunity in its grasp. In our view, there are three reasons why:

- First, local urban development is well-suited to attract and foster Islamic Financing, which is equity-driven and socially-conscious.
- Second, the global mega events being hosted by the region can be positively transformative for the region's economy and society.
- Third, a growing number of new greenfield cities are being planned around the MENA region.

All of these together means that we are set to see MENA at the forefront of accelerating urbanisation.

Planning for sustainable growth

Cities are engines of economic growth, attracting talent, creating jobs and generating innovations. But with more people also comes more problems: providing the essential needs of humans can become more complicated in dense environments; the anonymity of cities can create a fertile ground for crime; transport gridlock wastes precious productive hours and negates the face to face benefits of cities; and perhaps most pressing, diseases can thrive and spread faster in dense environments if sanitation and public health isn't properly anticipated and planned.

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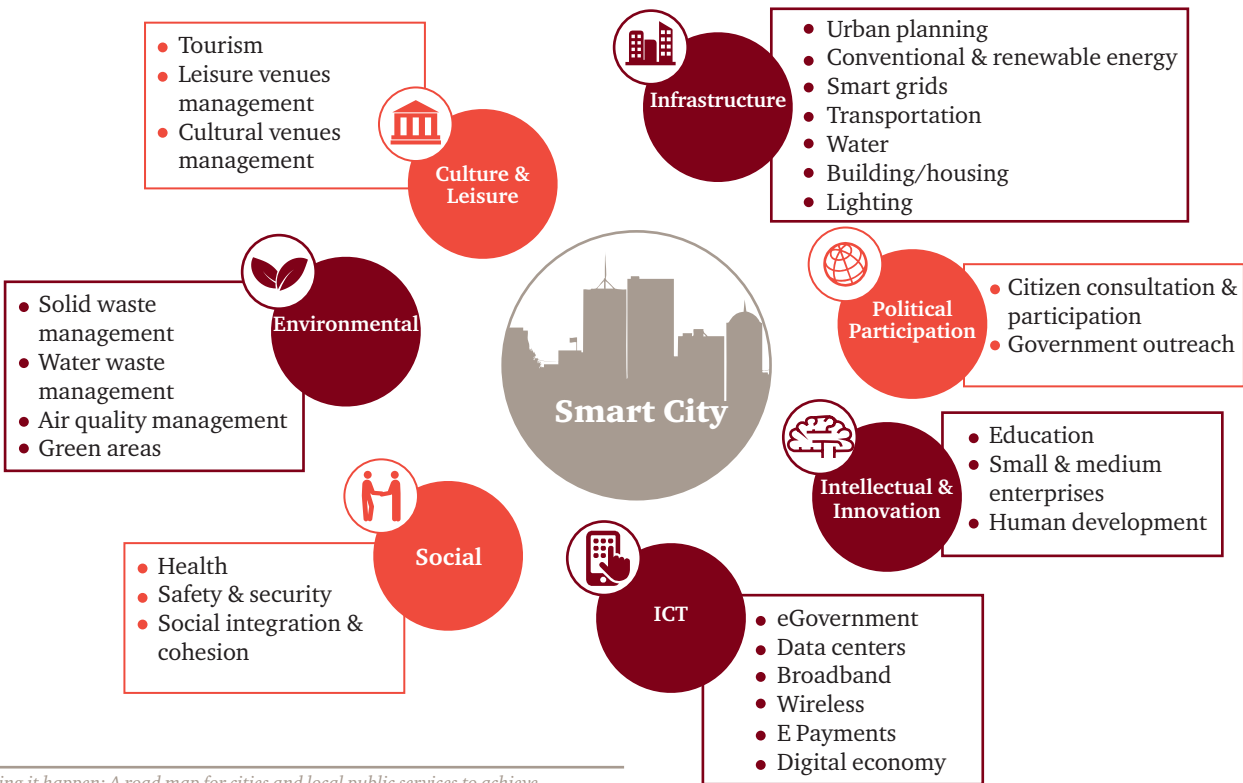
Smart cities are not only about technology

As we’ve said before technology is a really important enabler, but shouldn’t define what a ‘Smart City’ is. Here’s what we believe are really important principles to creating a truly smart city:



In 2011 we published a report, ” Making Things Happen”¹ , we first outlined an approach that is now being adopted by visionary cities and local governments across the world as a framework to think through the challenges they face. In summary, we said that major stakeholders in a city must begin by identifying and developing a vision which captures the strategic ambition of the city. With that vision in place, enjoying the support of all major stakeholders, they can invest in, prioritise and strategically manage the building blocks or ‘capitals’ needed for long-term prosperity, and these are: social, environmental, cultural, intellectual, infrastructural, information and communication technology (ICT), and political participation.

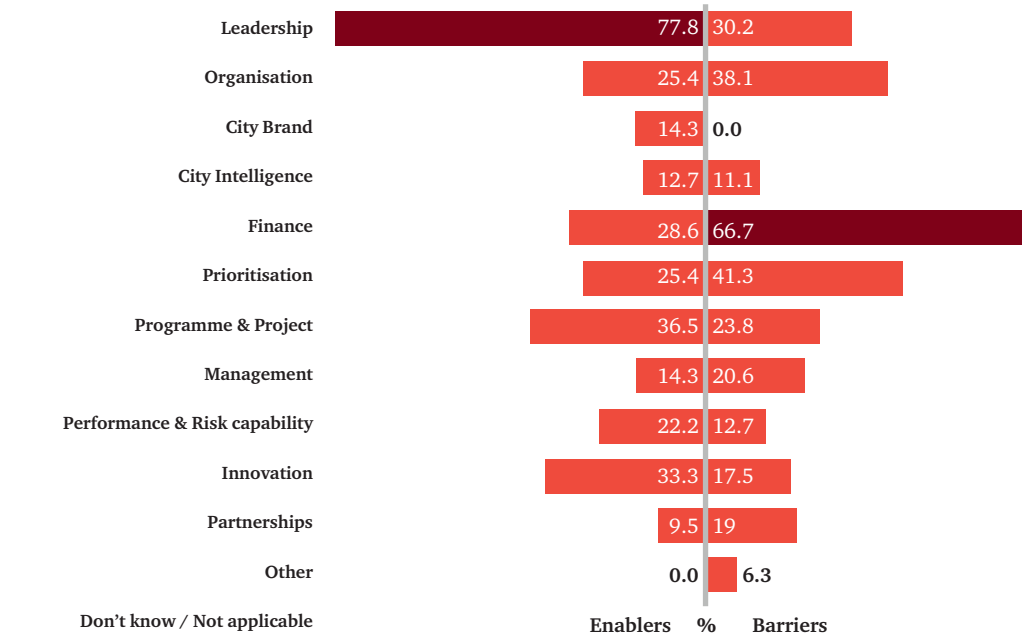
In the context of a smart community, each one of the aforementioned ‘capitals’ can be further divided into a set of sub-components, where a smart city needs to provide a set of integrated services that would address the needs of its citizens, businesses, and visitors. These services have to support the city’s vision and their quality/ impact should be measured by a clear set of metrics.



¹“Making it happen: A road map for cities and local public services to achieve outcomes”,PwC,2011

In this same report we surveyed 64 cities, with a population of over 120 million people from around the world, and set out key enabler and barrier factors vital for the execution of a city’s strategy and realisation of its vision. We found that the second most important barrier to strategy implementation is prioritisation.

Enablers and Barriers for execution of city strategy



As budget constraints become more pressing both for city governments and individuals, it is vital that cities identify clearly how to prioritise action programs, and PwC suggests using a ‘Maslow’s Hierarchy’ for cities’ priorities. A city must first address its very basic needs: security, health, and basic infrastructure such as clean water and sanitation, this level of the pyramid is the most pressing for underdeveloped and least developed cities as they seek to become industrially productive. In cities where these basic needs are met, focus shifts to safety and security needs, roads and transport infrastructure and educational access, as the city moves from basic industrial production to becoming an informational society. Beyond these two levels is the belonging level, which applies to more developed cities which can focus on environmental needs, social integration, culture and leisure as well as ICT as an enabler for a knowledge-based society. At the next level are the smart cities, which defined as a world leader able to maximise its performance across all capitals. Beyond that comes the level of self-actualisation, when cities explore new paradigms and set new standards for the quality of life, and are willing to share their experiences to help other cities advance.

With a clear vision for prioritising investment, cities can better address the challenges of the most important barrier to strategy implementation: financing.

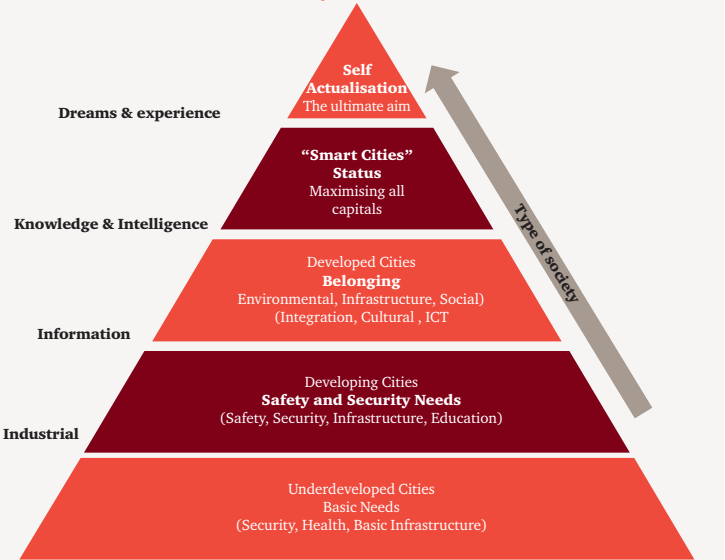
The funding challenge

PwC’s research on “Investor Ready Cities” shows that cities are now more reliant than ever on private sector support to scope, finance, and deliver projects. Cities need to demonstrate how infrastructure will deliver value to both citizens and investors. Authorities need to provide certainty in policy and legal regulation to attract investment in an era of highly selective and mobile capital. In the MENA region, Islamic Finance appears to be a naturally synergetic fit to urban development investment. Islamic Finance is equity-driven, and equity investors prefer to have a real hands-on feel for their investments. Islamic Finance also values socially-conscious investing, and lenders can see up-close how their investments are faring, and the peace of mind of knowing their investment are going towards making their own communities better. Large amounts of capital seek to be invested in Islamic Finance compliant instruments, and city governments are in need of large investments. Highlighting the natural synergy between these two demands is a priority which PwC seeks to highlight across MENA and the Islamic world.

Mega events, greenfield cities - catalysts for development?

Our experience shows that mega events, which are properly planned and executed, can serve as important transformational projects. As Qatar prepares itself for hosting the FIFA World Cup, and Dubai prepares to host the EXPO 2020, and while Mecca continues to host the world's largest recurring mega event, the annual Hajj, PwC sees the importance of these events not just in staging a good show for the participants and the global audience, but more importantly, in leaving behind a powerful legacy that impacts the population and transforms the economy and society and their way of doing business. The finality of these events’ deadlines instills a seriousness and professionalism in the organisers which can serve as a catalyst for change, development and continuous improvement.

A “Maslow’s Hierarchy” for cities



In 1975, the Saudi government identified a small eastern fishing village as the site for a new industrial city. Today, Jubail is the largest civil engineering project in the world, and thrives as a modern state of the art industrial and residential area. This encouraging example provides inspiration as the region embarks on exciting futuristic greenfield cities: Saudi Arabia is building the King Abdullah Economic City on the west coast, while the United Arab Emirates is building Masdar City as a pioneer city in the use of renewable energy, and Qatar is building Lusail with a view of providing a state-of-the-art host city for the 2022 World Cup. As more greenfield cities emerge in the region, they present their own challenges to attract talent, provide efficient infrastructure and integrate with the existing communities in the regions surrounding them. Greenfield cities offer exciting possibilities for trying state of the art ideas and concepts in city planning, but their needs will obviously be different from those of existing cities. A road map for a smart city must take into account these vital differences in infrastructure economics, tipping points, service portfolio design approach (push vs. pull)², and funding. Greenfield cities can serve as leading lights and pioneers in experimentation, but retrofit efforts for existing cities must be aware of their differing needs.

²Successful smart cities also need to achieve a balance between a "pull" based approach, where they offer services based on the demand of their stakeholders and "push" services driven by innovation.

An opportunity to create a lasting legacy

All in all, this is a challenging but exciting time for our region, whose cities have every opportunity to thrive if they adopt a holistic approach to sustainable development and anticipate and address challenges.

Being a Smart City is about so much more than technology. Planning alongside execution is the key to unlocking the potential of smart cities: a road map must be developed before embarking on the smart city journey so cities can prioritise and strategically manage their investments. Silos between the different entities delivering the portfolio of smart services have to be broken to ensure a seamless delivery of services. Data governance and ownership, especially across multiple tiers of government, have to be clearly defined and implemented. National programs for smart cities in the region will need to be put in place to encourage sharing and take part in the on-going global drive towards creating smart cities/ infrastructure standards. All of this could transform cities in our region, and transform the lives of our citizens in the process.

How we can help

PwC has been a pioneer in working with cities such as Singapore, Amsterdam, New York, Rio De Janeiro and Astana on enhancing their urban competitiveness. We have also supported cities in the region - the UAE, Saudi Arabia and Qatar to design the right strategies and developed the required capabilities to implement them. Our global experience in working with developed and emerging cities around the globe can be of enormous value for the MENA's cities.

We recognise the opportunities and the challenges that you need to address and can help you design and implement innovative, efficient and sustainable solutions.

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