In Brief

Thematic Advisory Board Update
April 2015

In a bid to attract businesses and a more educated workforce, the world’s cities are battling to become smarter and more efficient urban centres. But if these new “Smart Cities” are to evolve into attractive places in which to live and work, they must also prioritise safety. Spending on urban security should therefore increase worldwide, generating some new investment opportunities.

In the online video game Watch Dogs, a highly skilled hacker whose niece is murdered on the streets of a futuristic Chicago takes the law into his own hands by plunging the city into cyber chaos. Gaining access to the city’s operating systems with smart phones, the protagonist and his accomplices switch off traffic lights, manipulate security cameras, siphon cash from banks and break into prisons.

The million-seller game might be set in the future, but some of the events it depicts are already eerily familiar to many of today’s city dwellers. In the past few years, hackers have infiltrated the traffic systems of the Israeli city of Haifa, causing massive traffic jams, and have also attacked the computer networks of South Korea’s nuclear power generators.

As the world urbanises and Smart Cities - wirelessly-connected high-tech urban hubs – become more widespread, society’s vulnerability to acts such as these could increase.

In a recent Advisory Board meeting for the Pictet-Security fund, a group of industry experts explained how businesses and governments are working hard to avoid such a scenario. They discussed how efforts to create safe Smart Cities that can attract employers and workers are leading to the development of – and significant investment in – urban security technology.

FIGURE 1. SMART CITY AT A GLANCE

Source: The United Nations, Frost & Sullivan, Navigant Consulting/Government Technology Magazine
Smart City projects are expected to attract investments of some USD3.3 trillion over the next decade.¹ Of that, some 14 per cent will be devoted to security-related investment by 2020.²

Security is an important pillar of a Smart City. Without sound security, cities cannot realistically hope to attract the businesses and workers they need to develop. Security in an urban setting encompasses both infrastructure security – safeguarding water, energy and transport systems, and services security – protecting the health and personal security of the citizens.

Specialised companies operating in these sectors are well placed to see earnings growth of more than 10 per cent per annum over the next 5 years.³

Smart City - a history

Competition among the world’s urban centres is nothing new. The ancient Egyptian capital of Thebes, the Greek city of Athens and renaissance Venice became successful precisely because they were able to develop a competitive edge that enabled them to become dominant hubs for commerce, trade and culture.

But the dawn of the Smart City promises to elevate urban competition to an entirely different level as the world is urbanising at a record pace. Currently, more than 1 million people migrate to cities every single week in the world.⁴ The United Nations expects two thirds of world population to live in cities by 2050.⁵

This is perhaps why Wellington E Webb, former mayor of Denver, Colorado, once said: “The 19th Century was the century of empires and the 20th Century was the century of nations. The 21st Century will be the century of cities.”

Crime prevention: Spot-the-anomaly

Our experts believe security will be a key battleground. Securing personal and public data and protecting cities from cyber attacks has become a priority for authorities and urban planners (see Fig. 2).

1 Frost & Sullivan, 08.2013
2 IFSEC Global/Frost & Sullivan, 2014
3 Compound annual growth rate over five years, Pictet Asset Management, 31.01.2015
4 AOS International/Euralarm, 02.2015
5 UN World Urbanization Prospects, 2014
6 CIS Cyber Alert, 2014

FIGURE 3. LATEST SECURITY INCIDENTS

- The US April 2014: Hackers gain access to the Associated Press’ twitter account and send a message reporting an attack on President Barack Obama, wiping USD1 billion off the NYSE within seconds.
- South Korea Dec 2014: Hackers steal “non-critical” data from computer systems at South Korea’s nuclear plant operator.
- Israel Sep 2012: The traffic management system for a major artery in the port city of Haifa suffers a cyber attack, causing traffic problems that last for several hours and causing hundreds of thousands of dollars in damage.

Source: Reuters, Washington Post, Haaretz

Because of Internet of Things – the network of objects and devices connected to the Internet -- today’s city infrastructure is increasingly complex yet easy to penetrate. The network can be disrupted not only by determined hackers, but also by savvy Watch Dogs players who may try out their skills by targeting computers and electronic systems in the real world. This was the threat specifically raised by the US Center for Internet Security.⁶ Essentially, a global cyber security attack can be triggered by just one smartphone or workstation.

Our advisors point out that specialised security companies are tackling these systemic threats from several angles. When it comes to combating crime and terrorism, technology is
being developed that will enable city authorities to “spot-the-anomaly” through large-scale data mining, enabling them to get ahead of an attack and protect their security networks.

This is the type of product being developed by Darktrace, a cyber security start-up. Founded by senior members of intelligence agencies such as GCHQ, MI5 and NSA, the firm offers self-learning machines developed by mathematicians in Cambridge to analyse the vast amount of data, detect abnormal behaviour and help prevent crimes.

Cyber security – itself a USD71 billion industry – is among the most attractive areas in security investment,7 with the earnings per share of specialised firms growing over 15 per cent year on year.9

Water security

Safeguarding a city’s natural resources is also paramount, and here too the private sector is developing innovative products and services.

Urban water supply systems are complex, large – the average city has around 400 kilometres of piping – and also vulnerable to accidental or deliberate contamination at various points along the network. What is more, traditional water testing and sampling processes are cumbersome and can take up to three days to test for contaminants.

Companies have developed a number of effective devices and processes that provide for early detection of bacteriological or chemical pollution; radiation contamination equipment has also been developed and is already being deployed in the areas affected by the Fukushima nuclear power plant disaster in Japan.

Smart security: no longer a grudge purchase

Spending on security, once a grudge purchase, is now a priority thanks to the twin threat of terrorism and cyber crime.

However, our Advisory Board members believe it’s not the fear factor but the desire to cut costs and enhance efficiency that will really drive investment in smart security products in the coming years. This is especially true in the context of a Smart City.

For instance, Detroit-based property and private equity firm Rock Ventures is implementing real-time smart building monitoring systems to enhance security in all 40 of their downtown buildings. State-of-the-art sensors, which can monitor fire and elevator systems to ensure physical security of tenants and offer integrated safety surveillance programme, are turning high-rises built back in 1910 into some of the smartest buildings in the country. This is saving the firm more than USD1 million a year.

As cities strive to become smarter, they will also need to invest in technology that will make them safer and more secure. This will not only benefit those living and working in the world’s urban centres but also provide attractive opportunities for investors.

PICTET-SECURITY FUND

The fund invests in around 40-70 providers of physical and IT based products and services that focus on users’ safety and security.

About two-thirds of the portfolio is invested in companies that have exposure to the themes of Smart City, urbanisation and innovation to create a safer world.

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For more, see “A new cyber security landscape”, Pictet Asset Management, 05.2014

Compound annual growth rate over five years, Pictet Asset Management, 31.01.2015

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