Article
SPECIAL REPORT SMART CITIES:
Editor's introduction

SECURITY JOURNAL UK - Issue 2 - March 2021

EDITOR'S INTRODUCTION

Matthew Bull | @SecJournalUK | Security Journal UK

SMART CITIES

Security Journal UK looks into the rise of the smart city and the security advantages it will bring

This month's Special Report focuses on the critical subject of smart cities and has been produced in collaboration with SPAC and STid.

Society's dependence on technology has been accelerated exponentially by the COVID-19 pandemic. Given the various lockdown and quarantine restrictions that have been enforced around the world, organisations have come to rely on technology in almost every aspect of their business.

This has meant that smart cities, an idea once regarded as far-fetched and unrealistic, will very soon become a practical part of our day-to-day lives. These cities will enhance the safety, security and quality of life for each of its residents, leading to a more sustainable way of living.

A look at the latest market figures highlights just how much potential the smart cities sector has for growth. Research from Facts and Factors, published in February 2021, estimates that the global smart cities market will grow from US$83.1 billion to US$297.7 billion by 2026, which is a staggering compound annual growth rate of 20%.

Some of the top technology providers in the world, such as ABB, Huawei, Siemens and Cisco have all shifted their focus to the development of smart city solutions.

The power of partnerships

To accelerate the roll-out of smart cities around the world, technology giants are now working together to develop new solutions and innovations. For example, Johnson Controls and Microsoft Corp. have announced a global collaboration to digitally transform how buildings and spaces are conceived, built and managed.

As a key partner for Microsoft Azure Digital Twins, Johnson Controls' OpenBlue Digital Twin is a comprehensive platform that will support the entire ecosystem of building and device management technologies with digital cloud technologies.

Digital twins are digital replicas of physical entities capable of providing an in-depth analysis of data and the potential to monitor systems to mitigate risks, manage issues and utilise simulations to test future solutions. The use of digital twins plays an important role in helping technicians identify the root cause of issues accelerating problem solving. Additionally, building managers are able to support COVID-19 safety and security protocols, while ensuring efficient use of energy and other facility resources.

Among the numerous pilots currently under development is an ambitious effort at The National University of Singapore (NUS). As part of the university's ongoing efforts to create a smart, safe and sustainable campus for students and staff, the new alliance's complementary products and services are coming together to test the foundations of a Digital Twin-powered operations platform. The data-driven platform will enable integrated building management across the campus and serve as the foundation for energy and space optimisation, predictive maintenance and unmanned operations.

As this project highlights, the incredible advances being made in cloud and computing capabilities mean that smart cities are going to quickly become a very common sight in the UK and beyond.

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The smart way forward

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MARKET ANALYSIS

THE SMART WAY FORWARD

Security Journal UK analyses the growing shift towards smart cities throughout the United Kingdom

The growth of smart cities around the world should come as no surprise. For several years now, the advantages that smart cites bring to security, safety, sustainability and quality of life have been obvious.

A look at the latest market figures highlights just how much potential the smart cities sector has for growth. Research from Facts and Factors, published in February 2021,

estimates that the global smart cities market will grow from US$83.1 billion to US$297.7 billion by 2026, which is a staggering compound annual growth rate of 20%.

Some of the top technology providers in the world, such as ABB, Huawei, Siemens and Cisco have all shifted their focus to the development of smart city solutions. Although the Middle East is undoubtedly leading the way when it comes to developing smart cities,

with Dubai and the Vision 2030 project in Saudi Arabia in particular, there is certainly a growing focus and emphasis on smart cities in the UK.

Smart city surveillance

Within the UK, it is the city of Edinburgh, capital of Scotland, that has taken a central role in the shift towards smart cities. With public safety being an absolute priority of every smart city, the City

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of Edinburgh Council has taken the decision to upgrade its video surveillance system from analogue to IP and has appointed Global MSC Security to consult on the project.

Working with the Council, Global MSC Security will use its public sector expertise to oversee the preparation of a tender specification of a fully integrated public space surveillance operation.

The appointment of Global MSC Security follows the announcement that the City of Edinburgh Council is investing over £1 million in its public realm CCTV (including housing blocks, transport network and Council buildings) and has also secured £712,000 from the 'Scotland's 8th City – the Smart City' European Regional Development Fund Strategic Intervention in support of an upgrade to its CCTV infrastructure, as part of its smart city programme.

Derek Maltby, Managing Director of Global MSC Security said: "Global MSC Security is proud to be involved in what is a major initiative not only for the City but Scotland and its position as a leader in smart services and society."

Maltby added: "This important and essential infrastructure upgrade represents a significant investment and the resulting system will provide the Council with a function-rich, future-proof, highly resilient and secure surveillance system. However, for any organisation making the switch from analogue to IP, it is vital that the transition is managed in the correct way, to maximise resources and optimise system performance. That begins with a robust tender specification, which is where our expertise lies."

Exporting excellence

The knowledge and innovation being developed in the UK in the field of smart cities is now also proving to be in high demand around the world. To help UK providers connect with interested parties in the Asia Pacific region in particular, the Department for International Trade launched the Tech Export Academy in 2020. The new Academy will see the first two cohorts of smart city tech

> "There is an increasing global demand for smart city technology, as we design urban environments that better suit the needs of 21st century life."

firms participate in a nine-month programme that will provide a package of support to help them expand and grow their business in the Asia Pacific region.

108 companies applied for the programme across smart cities capabilities, from smart mobility and infrastructure to smart buildings and cybersecurity. An independent panel selected the successful companies based on the strengths of their products and services, their focus on exporting to the Asia Pacific region and their commitment to diversity and inclusion, a key priority for DIT and the tech sector more widely. The 30 successful companies are based across all four nations of the UK.

The programme will also include opportunities for the businesses to meet investors, undertake pitch training and learn about UK Export Finance support as well as participate in virtual trade missions to the Asia-Pacific region.

At the launch of the Academy, Minister for Exports, Graham Stuart MP said: "There is an increasing global demand for smart city technology, as we design urban environments that better suit the needs of 21st century life, from transport to energy to residential design. It is businesses like these joining the programme today that are working on and discovering the best solutions.

"I look forward to seeing the outcomes of this scheme and what opportunities these innovative businesses grasp over the next nine months."

As we have seen in many other sectors, the COVID-19 pandemic has accelerated our dependency on technology within security and public safety as well, meaning that smart cities will become a reality a lot quicker than we envisioned only a few years ago. It is time for all UK security providers to start taking the smart city revolution very seriously.

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The rise of the smart city

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KNOWLEDGE PARTNER

THE RISE OF THE SMART CITY

Vincent Dupart, President of SPAC and Anne-Isabelle Parodi, General Secretary of SPAC discuss smart city security challenges

More and more of us are living in cities – the UN predicts that 68% of the world's population will live in urban areas by 2050. And this means our cities are facing growing environmental, societal and economic challenges. By making cities smarter, we can overcome some of these challenges and make cities better places to live

The smart city is a necessity, but we must solve security challenges to make it successful. Vincent Dupart, President of SPAC and Anne-Isabelle Parodi, General Secretary of SPAC explain.

What is a smart city and what are the security needs?

Vincent Dupart: A smart city is one that leverages technology to increase efficiencies and improve the quality of services and life for its residents. Smart city initiatives can cover anything from building management, power distribution, transport systems, streetlights and rubbish collection. The idea is to use data and technology to make everyday life easier and better for the people who live and work in the city, while maximising the use of resources.

IoT sensors, video cameras, social media, reader access control, security hardware and other inputs act as a nervous system, providing the city operator and citizens with constant feedback so they can make informed decisions.

These sensors and connected devices collect and analyse data. This data is used to optimise city operations, manage resources and improve the everyday life of citizens.

Our interest today is to focus on the physical security of these Smart cities. The choice of devices and of communication protocols is crucial for the security success of a Smart City.

This is the mission of the SPAC Alliance.

With so many more layers of technology, sensors and data, smart cities are open to many potential risks. Smart city security is a big area of focus as there are a number of potential risks and challenges involved in these urban landscapes.

One area of risk comes from the level of interconnected information technology (IT) systems and operational technology (OT) systems. The integration of the digital and physical environment creates a large layer of connected endpoints. This results in more opportunities for attackers.

Even if smart cities offer a whole new world of efficiency, innovation and improved community systems, they also involve the widespread movement of data and information. These communications can clearly pose a threat to smart city security - an area that needs particular focus in order for smart cities to function well.

Before we go any further, what is the SPAC Alliance?

Vincent Dupart: Cities or companies contain infrastructures and are increasingly subject to physical attacks by intrusion into buildings or data centres and logical attacks by the Internet vector. Cybersecurity and physical security should go hand in hand as both notions are increasingly intertwined.

In addition, connected objects are more often present in the premises of cities or of the companies that are located there and they communicate on the same communication protocol as the security devices. All the devices are more interconnected than ever before.

In light of these serious physical threats, we decided to create SPAC.

SPAC is an Alliance whose goal is to build a strong and open physical security solution including connected devices. Our members offer different security solutions and IoT solutions.

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SJUK SPECIAL REPORT

We choose to promote strong security solutions, resistant to all cyberattacks, open and scalable.

Our actions and choices adapt to the smart city. That's why SPAC will be a key player in the success of the smart city.

What are the assets used by SPAC and which are adaptable to the smart city?

Anne-Isabelle Parodi: Following the hybrid attacks for instance against sensitive infrastructures, the European Commission and European agencies like the ANSSI have defined regulations to fight against these attacks.

These Directives like the NIS Directive define requirements to be implemented in our security solutions in order to secure sensitive infrastructures and to be resistant to all cyberattacks.

And the role of S.P.A.C. is to promote these strong solutions to prevent our ecosystem from choosing weak physical security solutions.

One of the important requirements that we recommend is security certifications of the connected or not connected devices. Using certified devices ensure the usage of trusted solutions. In addition, protocols must be security certified to allow the provision of a complete

> "A smart city is one that leverages technology to increase efficiencies and improve the quality of services and life for its residents."

trusted security solution.
In addition, to secure a smart city, the security certified protocol must offer the possibility to communicate on wired and wireless links.

The SSCP communication protocol is the answer to all these requirements and is the solution for the smart city.

What is this protocol?

Anne-Isabelle Parodi: The SSCP

Protocol is an Industrial Standard allowing integrity and confidentiality by the encryption of sensitive data. It is the first protocol for our security market to have been security certified by the ANSSI to be resistant to all cyberattacks. In addition, this protocol allows communicating on wired or wireless links (RS485, USB, TCP/IP, etc.), meaning that it is interface agnostic.

And it offers the possibility to communicate with different hardware objects which can be connected or not connected to offer a global trusted security solution with the same security.

And this Industrial Standard is completely open to be evolutive and is future-proofed for any new requirements of the smart city. This evolution is carried by the SPAC Alliance.

With these assets, we meet the expectations required to secure a smart city and to enable its success.

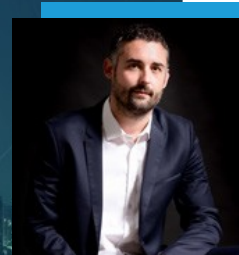For more information about SPAC, please contact Anne-Isabelle Parodi - ai.parodi@sp-ac.org - https://en.sp-ac.org/

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Turning towards smart technology

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TURNING TOWARDS SMART TECHNOLOGY

STid's Vincent Dupart and Pierre-Antoine Larrera de Morel examine the increasing demand for contactless identification solutions

What are your latest trends?

Vincent Dupart: STid's growth continues. Our strategy is consolidated and our investments retained. This period is challenging for companies. Our investment in the IT infrastructure has allowed us to set up teleworking and maintain an optimal quality of service. Our eyes are locked onto the future!

What are the new needs of end users in access control? What are STid's solutions?

Vincent Dupart: STid's vision is to create products and solutions that grow with ever-changing security needs. The current health crisis is a typical illustration of the importance of modularity. The "unexpected" has abruptly changed customer's needs. STid is especially well-positioned to address these new challenges.

> "A technological answer was needed for customers already equipped with readers, without replacing their current installation."

Our high security Architect Reader range is extremely modular and offers a real alternative to the full replacement of older technologies. Our readers can evolve by simply adding Biometric, QR Code and Multi-technology modules to meet the everyday demand for additional functionality and safety.

Pierre-Antoine Larrera de Morel: The QR Code is a perfect example. Visitor access management demand has soared. A technological answer was needed for customers already equipped with readers, without replacing their current installation. The Architect QR Code module can be easily connected to the existing reader. It is a cost-effective and reliable solution to visitor

management within an office or facility. QR Codes can be generated by existing systems/software and used in paper format or onto the smartphone (by email, virtual cards, and so on). One effective and yet secure way to easily manage different user profiles such as visitors, temporary contractors, employees, drivers, deliveries etc. with simplicity and security!

Beyond modularity, how does STid deliver instinctive and secure access control?

Pierre-Antoine Larrera de Morel: STid supplies contactless identification products and solutions that limit risks of contamination. The smartphone is your greatest personal device and it now becomes your key to touchless/contactless access control. STid Mobile ID® offers all access cards in one single app for all users without restrictions. Six identification modes are available: tap-tap, hand slide, card, remote buttons, hands-free and now voice control. A simple tap on the phone, 30 feet away, will grant you access, as would a simple voice command like, "Hey Siri, Open the door". For maximum convenience, smartphone unlocking isn't necessary and can stay in your pocket or handbag.

Life becomes just a little easier in today's world with STid Mobile ID®.

Vincent Dupart: We accepted the "security sector" challenge to combine seamless identification and flawless security between the card and the reader and between the reader and the controller. This last part is the distinct role of the SSCP and OSDP protocols. To build trust through certification, freedom and interoperability delivering end-to-end security throughout the entire system. Open and interface agnostic protocols like SSCP are based on certified security and transparent technology which delivers total customer independence and autonomy to their security management.

What are STid's next steps in 2021?

Vincent Dupart: We will continue to strive daily to make the identification process even more instinctive, smarter, innovating and exploring solutions that other manufacturers have not and strengthening the levels of trust and powerful relationships with our global partners and customers.

If you would like to learn more about STid's products and solutions, please contact Gordon Mackay: g.mackay@stid.com - https://stid-security.com/en/

SJUK SPEAKS WITH GORDON MACKAY, UK & IRELAND SALES DIRECTOR, STID

STid Mobile ID® is your digital access control platform. What are its strengths?

STid Mobile ID® digitalises all your access cards in a unique mobile application. The system manages physical employee access, the reception of visitors, access to parking, etc. and the smartphone, when simply switched on and even during phone calls, becomes a means of identification that uses several identification modes (passing your hand or the smartphone in front of the reader, tapping the smartphone, using your Apple Watch...). Access to buildings is controlled according to the user profile, with access rights that can be granted, updated or revoked remotely.

Why should an end user select virtual credentials?

Unlike physical credentials, virtual cards can be easily personalised online with the company's corporate identity (logo, layout, colours, etc.). And it can make significant savings too. One virtual card is between two and five times cheaper than a physical card. No more consumable, printing and personalisation costs, recycling expenses or costs incurred when cards are lost or damaged. Thanks to virtual identification, the solution offers economies of scale and a higher operational efficiency, all in an eco-friendly package.

And what about security?

Security is verified by independent laboratories. The application uses the most demanding encryption and exchange mechanisms within today's current marketplace. The exact same encryption methods are used by worldwide governments to access their critical infrastructures because our 24 years-experience is based on a certified end-to-end total control of the security chain to guarantee the protection and the confidentiality of data. We are passionately engaged in digital security. We are SPAC's founding partner, a non-profit organisation, SPAC unites all key parties within international access control. By actively supporting the SSCP standard, Smart Physical Access Control establishes itself as an organisation working for a stronger, independent and interoperable European security standard.

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SPECIAL REPORT SMART CITIES:
Combining high security and intuitiveness

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EDITOR'S PRODUCT

View our product section online ▶

EDITOR'S PRODUCT

COMBINING HIGH SECURITY AND INTUITIVENESS

STid's SPECTRE technology enables organisations to greatly enhance the security of visitors and their vehicles

Seven out of ten employees drive their car to work each day. A situation likely to be intensified with the current health crisis. Employees will select their own vehicle rather than use public transport. However, a motorist's daily commute can quickly turn into a nightmare because of traffic-jams. At the car park entrance, the situation is no better: they need to stop their vehicle, open the window and present their card until almost touching the reader to gain access. This lack of fluidity raises anxiety. Hence the importance of finding new solutions such as contactless technologies, to simplify the driver's experience.

The new advantages of contactless technologies

Contactless technologies such as RFID, NFC, Bluetooth® and IoT, offer new alternatives to allow continuous flow car park secure access by automatically identifying the vehicle and/or driver. When a driver approaches the car park entrance, the vehicle is automatically detected thanks to a Teletag positioned inside the car and a STid SPECTRE long-range UHF reader installed nearby. SPECTRE ensures a calm and consistent read over an impressive range of up to 13 metres. The car park owners can also opt for multi-antenna access management. Up to four antennas can be connected to just one SPECTRE reader to tackle all security challenges and fulfil all configurations: managing a

diverse fleet of vehicles (cars, vans, motorbikes), encompassing wide access points and even smooth access control for four separate vehicle lanes.

Authorised for entry

The driver's "access rights" can also be controlled thanks to STid Mobile ID®. Their identity is also verified before allowing both cars and drivers access. This is a level of security that many companies or offices need to ensure. For example, motorcycles in car parks are challenging. The motorcyclist doesn't have a front number plate for identification, hindering access control for their vehicle. The rider is required to remove a glove to either use a card or a smartphone. With STid Mobile ID®, by simply tapping the smartphone inside their fastened jacket pocket, the motorcyclist can gain successful access.

This growing need for intuitiveness must never impact on security and data protection. STid ensures

security between the Teletag and the reader and between the reader and the system using the SSCP protocol, which helps to provide uniformed end-to-end security. This protocol protects the communications of physical and digital access control equipment. It provides a secure connection between the readers (inspection devices) and the management system (concentrator) to guarantee a level of security in line with government requirements. Which explains why seven out of ten French banks have opted for STid solutions!

Return On Investment

A prerequisite is to thoroughly analyse your current procedures and a full risk assessment to identify the potential added values of employing new technologies. The same applies for a true Return On Investment (ROI). STid's ultimate success is based on attentiveness to market needs and to always propose improved, instinctive and highly secure solutions.

stid-security.com/en