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CASE STUDY

The future of property is only possible with unified connectivity, cyber security, and smart systems

Internet service provider and cybersecurity experts, Vaioni Group, and ITS Technology Group have forged a future-thinking partnership, not only focused on providing the basic infrastructure necessary to propel the UK's smart city agenda, but also driven to inspire critical private and public sector change that ensures the future of smart property is secure in an age defined by cyber security threats.

The concept of smart buildings and connected spaces is continually evolving, thanks to revolutionary technology from the Internet of Things, AI, robotics, and digital policies. But one of the common missing pieces of the interconnected, smart future puzzle is the unity between connectivity, cyber security, and smart technology.

Executive summary

Leveraging innovative technologies, smart property, and connected buildings presents a shift in urban development, offering unparalleled opportunities to optimise workspaces, enhance remote working opportunities, cut costs and prioritise sustainability to achieve net-zero targets.

A smart property in isolation uses intelligent systems, such as IoT devices, Big Data analytics, and 'headless sensors' to automate critical components of property management, such as heating, lighting, air quality and security.

Not only do these systems make a landlord's portfolio more attractive, but these spaces are an essential component of driving forward the wider 'smart city' agenda set to revolutionise both private businesses and communities.

However, the Vaioni and ITS partnership highlights that there is a critical piece missing from public dialogue on smart cities and connected buildings – cyber security.

While smart properties undoubtedly offer endless opportunities to optimise infrastructure, such as transport, energy, public health, and food, there is also considerable risk associated with digitalising our commercial properties.

Recent reports have revealed that the average business loses up to four days of trading following a cyber security attack, with Vaioni revealing that properties are 68% more likely to suffer a cyber-attack than a physical break in.

The Vaioni and ITS partnership highlights that part of embracing the possibilities of smart technology is ensuring that there are the appropriate layers of protection.

This includes leveraging electro-magnetic interference resistant full fibre and business-grade firewalls, alongside cyber security products such as Endpoint security, regular penetration and vulnerability testing, and real time cyber threat monitoring.

Recognising the synergy between connectivity, cyber security and smart devices is a key component of creating a responsive, secure and, sustainable smart city.

The Vaioni and ITS Partnership

The collaboration between Vaioni and ITS is underpinned by a reliable, high-speed full fibre network, providing the essential infrastructure needed to support the sophisticated technology of smart buildings. Vaioni's connected building solution 'ConnectOn' ensures that properties are not only smart ready but also fortified with the necessary cybersecurity measures to protect against potential cyber threats.

Utilising their security portfolio, ranging from proactive fully managed Unified Threat Protect & SD-WAN enabled firewalls, to running a penetration test on the buildings infrastructure to assess the security of the property system from a potential attack – backed by a scalable fibre connection, ensures property managers can implement revolutionary smart devices with confidence.

The interconnect of cyber and fibre

The collaboration between Vaioni and ITS is also underpinned by a shared value to be a key conduit for the adoption of smart technologies. By providing the mandatory education to the public sector not just around the problems that smart technology can solve through its innovation, but also the Cyber risks that smart technology can be vulnerable to and how to mitigate against these.

Just as vital, once an organisation is dependent upon smart sensors to feedback critical data, the connectivity that device utilises becomes CNI (Critical National Infrastructure).

For example, notifying a local authority of rising river waters and the risk of flood to enable barricades to be constructed to reduce damage to property and vulnerable people to be evacuated safely. Therefore, ensuring the resilience of the infrastructure the solution sits on is paramount.

But many adopters of smart technologies, both in the public and private sector, have reported that they have not been made aware of these risks or the simple solutions that mitigate against them.

Therefore, education and knowledge sharing from industry experts is essential to ensure the UK continues to advance through the adoption of smart and maintains pace with other nations.

Edward Davies, Vaioni's Enterprise Director, notes that this private and public sector collaboration is "key" to a safe smart city future. The private sector has a responsibility to advocate for "essential legislative change" that ensures minimum security measures are in place for property managers and landlords before they implement smart technology, to ensure the safety of both their commercial security, and their tenants.

Challenges and Solutions

Smart buildings face significant challenges in their development and deployment, particularly in terms of cybersecurity. Smart technology, while offering immense benefits, also opens doors to cyberattacks that can cripple infrastructure.

Mr Davies refers to a recent incident in the NHS. King's College Hospital NHS Trust declared a critical incident and was unable to carry out blood transfusions after an attack on Synnovis, the Trust's system for rapid turnaround of pathology studies. The attack has led to delays of up to two months for operations and blood test within the trust.

An incident like this is prime example of why private sector engagement with local authorities to educate and resolve risks associated with smart cities is essential, with the UK around "5-6 years behind legislative action."

In the UK, cyber incidents do not legally have to be declared unless there is loss of customer or sensitive data. This policy disregards the other risks associated with attacks, such as delayed lifesaving appointments.

The partnership between Vaioni and ITS to provide the UK property sector with cyber security and fibre protection is helping to avoid similarly disruptive incidents where the buildings connected building managements systems are targeted, such as an attack on smart emergency fire extinguishing systems or disruption to access control systems within co-working spaces.

Powering Smart Properties with full fibre

Full fibre connectivity is the backbone of smart buildings and cities. It enables the seamless operation of smart devices and systems, providing the high-speed, low-latency internet required for real-time communication and data processing. Vaioni and ITS have demonstrated that full fibre is not just about fast internet–it is the engine that powers the smart cities of the future.

It's electromagnetic interference resistant fibre that supports the scaling of Vaioni's cybersecurity solutions ensures that technology can be deployed effectively on property, providing resilient connections to support cyber security products that actively monitor the safety and performance of smart property devices.

...This is even true for IoT solutions that use cellular connectivity, as cell towers utilise fibre to connect to their network. With the aggressive and competitive nature of the 5G rollout plan being adopted by the UK's four major mobile carriers, and with 5G requiring more base stations to ensure coverage due to running at higher frequencies, fibre is in high demand to support them.

Regulatory and Policy Challenges

The development of smart buildings and cities also faces regulatory and policy challenges. The UK currently lacks a comprehensive cybersecurity standard for properties, putting them at risk. In contrast, countries like Australia have established minimum cybersecurity standards for businesses, providing a model for the UK to follow.

Vaioni advocates for the introduction of similar standards in the UK, along with an accreditation system to incentivise landlords to secure their properties.

Similar to a WiredScore rating, Vaioni states that incentivising landlords either through an accreditation or financially through a mechanism like tax breaks, is a simple yet effective way of ensuring that both private and public parties take responsibility for security smart technologies.
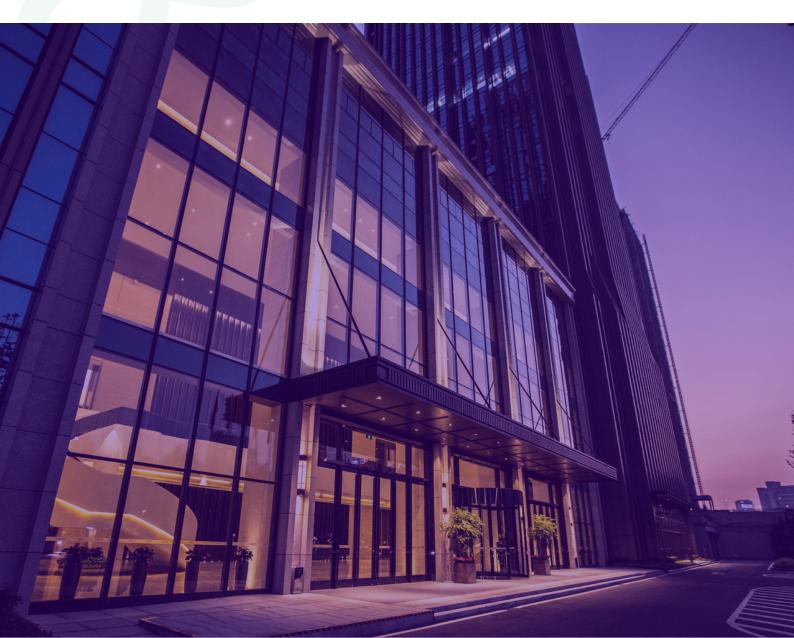
Vaioni and ITS' partnership helps to demonstrate to local authorities that embracing the long-term benefits of smart initiatives and viewing smart technology in the context of national incentives is a key way of boosting the value of the UK property market, while protecting data and infrastructure.

The importance of acting now...

Investing in smart building and smart city technologies can help protect and enhance the lives of the local populations but more importantly it is critical to achieving a greener future and the UK Government's Carbon Neutral by 2050 goal.

Vaioni recognised that ITS provided a solution that supported their deployment of secure systems, supporting the expansion of smart properties and ensuring that the UK has a method to reach its sustainability goals safely.

Investing in the right connectivity for the future of property

ITS' XGS-PON-enabled network ensured that Vaioni could confidentially roll out an ever-expanding cyber-security offering to their property clients.

The combination of a resilient network, business-grade broadband with 99.9% uptime rates and Vaioni's full cyber security product suite provides the key ingredients to a safe, competitive, profitable and sustainable smart property market.

"For a successful smart city, you need a solid foundation that addresses the requirement and problem you are solving. This starts with robust infrastructure and connectivity, followed by advanced systems and smart technology. The often-overlooked elements are cyber and network security, and the crucial aspect of training people—not just users, but also those impacted by the systems and the local community. That's how you pursue a successful smart city mission that protects life and infrastructure, optimises costs, and achieves greater sustainability. ITS and Vaioni provide the critical ingredient we need to keep properties safe – cyber and fibre."

-Edward Davies, Enterprise Director, Vaioni Group.

The ITS Vaioni partnership provides the UK property sector with a golden opportunity to deploy smart devices safely and responsibly, ensuring communities reap the benefits of connected buildings without the fear of cyber threats.

Prepare for tomorrow's smarter and more secure property market, today...

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