AN INTERVIEW WITH KIGEN

Future Digital Awards Platinum Winner: Urban Smart Grid Innovation

JUNIPER RESEARCH

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Kigen

Juniper Research interviewed Vincent Korstanje, CEO of Kigen, in October 2022.

Vincent Korstanje is CEO of Kigen. He is driven by the vision to integrate trust in all connected things.

At Kigen, we are making the future of securing connectivity simple. As simple as can be. Together with our partners and customers, we are at the forefront of unlocking a new era of secure IoT as Integrated SIM (SIM) and eSIM become the mainstream choice for connected devices. Our industry-leading SIM OS products enable over 2 billion SIMs. Our GSMA-certified remote SIM provisioning and eSIM services drive this momentum further placing us amongst the top 5 SIM vendors globally. As an Arm-founded company, we bring an ecosystem approach to driving innovation and collaboration. For more information, go to kigen.com or speak to us on @Kigen_Ltd on Twitter and LinkedIn about #FutureofSIM.

What major trends are you seeing in the IoT and urban smart energy market today?

The energy market, with its many diverse components, complex delivery infrastructure, geographical scale and commercial pressures, presents a sizable and varied challenge when transitioning to a smarter mode of operation.

The major trends common in this space fit into three key areas:

- Commercial obligations delivery
- Technology enablement
- Reliability, security and trust

The energy market is challenged, through regulation and legislation, to move to a carbon-neutral stance with the greatest emphasis on utilising green energy sources and EV (Electric Vehicle) adoption support with smart charging. Increasing energy costs are adding an additional dimension, with customers looking for ways to better manage their energy consumption to prevent bills from spiralling.

The use of IoT technology is critical to realising a smart energy market, with intelligent devices distributed throughout the delivery infrastructure and operational support systems. In such deployments, the information gathered can be aggregated, analysed and even traded in order to deliver greater efficiency and value-added services. However, such a smart energy market has little value if it is unreliable, unavailable, or inaccurate.

The delivery of reliable, current, accurate and trusted data creates this value, thus ensuring the technology has built-in security so that the device, its connectivity, and the data it is providing are all trusted, is paramount.

What are the key challenges facing the smart energy market?

The clear definition of what constitutes a smart energy market will vary across the utility industry and will be influenced somewhat by existing infrastructure, business processes and commercial relationships. This is something each actor will need to define and tailor for themselves.

At a simplistic level, what is clear is enabling the ability to monitor and gather data across, and to the extremities of the infrastructure deployment, with its transit into a centralised location for analysis, presentation and even trading.

The challenge, therefore, revolves around bridging the gap between the simplistic view and the complex realisation. Along the way, challenges in sourcing and selecting the appropriate IoT device technologies to meet deployment needs will add to the burden.

IoT devices are, by nature, complex, and even making the choice between the type of connectivity, connectivity provider or device and data security can be challenging. The wrong selection can create short- or longer-term headaches, such as preventing continued evolution or introducing commercial lock-in. Having the clearest picture of the end-to-end ecosystem from the off will aid some decisions, ensure compatibility, and will be a powerful asset when seeking guidance.

Choosing technologies with a clear roadmap and an industry standards-backed regime will aid in ensuring backward and forward compatibility, as technologies evolve.

Where do you see technologies such as eSIM evolving the smart energy market?

The SIM is the cornerstone of secure and trusted cellular connectivity, with the eSIM and iSIM, size optimisation evolutions that are critical to enabling the creation of many cellular IoT devices. In the smart energy context, the eSIM and iSIM's reduction in size supports cellular connectivity enablement of sensors and components operating in previously unconnectable locations, allowing further data harvesting and greater insight.

Furthermore, with remote SIM provisioning technology included, connectivity deployment logistics is simplified, and in-life changes of connectivity providers are made possible remotely, ie, without costly site visits.

The security inherent in the SIM technology is also extendable to enable device and data security, where a device root of trust can be deployed with IoT SAFE. This allows an aggregation point to establish trust with the endpoint through shared secrets and ensure the data is secured for transport over the connectivity. The inclusion of blockchain tokenisation within the SIM for use at the point of data generation adds value, as it allows for this data to be trusted and thus traded across the energy market.

Congratulations on winning the Platinum award for Urban Smart Grid Innovation. Can you tell us more about the solution, and who it is for?

It was great to see our multi-award-winning solution, brought to market collaboratively with our partners KORE and Energy Web, receive this award.

Each partner has brought elements that deliver the benefits of global connectivity, security, and blockchain to offer an essential step to a zero-carbon economy.

Kigen's OPEN IoT SAFE app has enabled KORE's market-leading eSIM, OmniSIM, with Energy Web's de-centralised crypto to bring transactional data security at source, in transit, and authentication that forms the basis for the world's first open-source data exchange for energy grid players.

This is a giant leap as more smart energy grid players find a common blueprint that meets the needs of future grid and energy demand. Discover more in our case study here.

What are the implications for the digital economy of things, and what would you advise IoT companies consider when looking at eSIM technology?

Smart utility infrastructure and smart urban energy deployments will contribute to the value the digital economy of things is set to deliver. As more utility things are connected, gather real-time information and feed this into this digital economy, greater insight can be drawn, with the use of comparative analytics, to give a holistic view of performance, efficiency and usage trends. Customers have a better view and management of their service through information-rich online tools and providers can quickly react when service levels decline. Utilities are also able to look at ways to introduce new value-added solutions and offer connected services.

eSIM and iSIM, along with energy-efficient cellular connectivity, such as NB-IoT or LTE-M, are key enablers for this digital economy as this technology, in many cases, will afford the optimum data transit method for the endpoint devices. The key and most fundamental consideration, when looking at eSIM technology is not to focus on a device case-by-case basis, but to look at what will be required across the entire utility estate. Additionally, deployment and a device's initial connectivity are only the

start of the journey to create a smart infrastructure, and attention also needs to be given to how it can continue to be kept smart. Security and trust should not be underestimated and whilst a stream of data may not seem important in isolation, how smart would the system be without it? Building a secure and trusted infrastructure end to end ensures the value contained within, which in turn can be traded across the digital economy.

Lastly, choose partners that can support how you can adopt standard-based approaches and can ensure cloud vendor-agnostic solutions. To understand how Kigen can further support your enterprise's requirements, contact our expert team today.