How eSIM enabled Iskraemeco to pioneer product innovation for a truly interoperable smart grid future

Global smart metering solutions provider Iskraemeco helps energy companies effortlessly deliver customer insights and functionality thanks to secure and trusted 'built-for-Internet of Things (IoT)' solutions for its smart meters, that are destined for multiple markets across the world. Key to this was the ability to anticipate how utility companies unlock the potential of data insights and intelligence. To stay ahead of the market and specification changes, Iskraemeco envisioned a truly interoperable smart grid ready future with its next-generation eSIM-enabled smart meters, which feature innovations from Kigen alongside partners; Sierra Wireless, Telemach Slovenia and Workz

A global shift to a more resilient, reliable smart grid is dependent on ensuring utility companies avoid lock-ins, reduce fragmentation, and build stronger customer relationships with end-users. This is why **Iskraemeco** launched a truly interoperable smart-grid ready smart meter. Prior to engaging with **Kigen**'s embedded SIM (eSIM) ecosystem, Iskraemeco saw that fast-changing legislation would become a hurdle for energy companies looking to scale. It also foresaw new possibilities in how data can generate revenue streams for utility providers, positioning them as broader service providers.

Iskraemeco's innovation team architected modular subsystems into its fourth-generation smart meter. These latest Interoperable Device Interface Specification (IDIS) Companion Specification-compliant meters introduced more diagnostics, enhanced security, updated meter reading functionality, and extended functionality for end-

user engagement. This next-generation smart meter relied on the industry's leading hardware, boasting a universal communication interface that facilitates the effortless exchange of various communication modules, specifically addressing the growing demand of M2M network connectivity.

Flexibility is key for smart grid-ready solutions That's why Iskraemeco transitioned to an eSIM with Kigen OS software, created and supplied by **Workz**. Each eSIM comes personalised with a global bootstrap, enabling both factory over-the-air meter testing and out-of-the-box global connectivity from Kigen's ecosystem of partners. If a local network is preferred, the Kigen remote SIM provisioning (RSP) service can provide a local operator profile with no need for physical access to the device. Interoperability across MNO profiles as well as modular subsystems remove hurdles for utilities when integrating mobile technology for large-scale, cost-sensitive smart meter deployments. ▶

Improve grid intelligence

Iskraemeco aggregates data flowing from its smart meters. Small and medium utilities typically adopt Iskraemeco meter management software, while larger utilities usually have their own software, integrating the Iskraemeco data stream. Always-on connectivity and secure cloud infrastructure open new possibilities, with uninterrupted data enabling better insights and cloud processing – automated decision-making relating to the grid's reliability and efficiency. This gives utility companies more visibility, more control and more opportunities for innovation.

Unlock new opportunities

As the number and variety of smart grid-connected assets expands, so does the data volume. Fog and edge processing can help to manage and extract more value from the data in the age of growing grid management complexity. Gregor Rodič, innovation manager for connectivity at Iskraemeco, leads its efforts to stay ahead of all these changes. "Meters will have more edge computing capability in the future," says Rodič. "Smart meters will process the data where the data is collected, at the edge, pick the insights needing cloud processing and empower local corrective action, enabling more grid flexibility."

By utilising smart metering and other technologies, utility providers can start providing value-added services. These include dynamic pricing, real-time billing, and real-time access to connected devices for remote monitoring, analysis, and usage control. New services open new revenue streams for utility providers, positioning them as broader service providers. Smart meters can become hubs for interoperating with all sorts of IoT devices and sensors at customer locations.

Flexible remote SIM provisioning from Kigen

Iskraemeco turned to Kigen for its remote SIM provisioning solution and the coverage offered by a range of MNOs as it began trials of its next generation eSIM-enabled meters with multiple utility companies. The Kigen support team helped with preparation of operational profiles for **Telemach Slovenia**, and proof-of-concept deployments into the Telemach territory using RSP were a success. A choice of MNOs in regional deployments prevents lock-in for their utility customers and alleviates concerns over varying signal quality between MNOs in some areas.

Integrating their meter management software with the Kigen RSP server's application programme interface (API) offers the opportunity to create a unified workflow for companies, which is a big step towards easier adoption. Moving that software onto a cloud infrastructure improves scalability. With this, Iskraemeco can help utility companies offer greater value by serving the increasing demand for real-time analytics needed for advanced asset optimisation and delivering smart grid resilience.

For more insight into how eSIM can help you, visit **www.kigen.com** ■

Innovation across the eSIM ecosystem

Kigen sees developing the eSIM ecosystem as a top priority. In this proof-of-concept, several Kigen innovations have been key, including:

- The Kigen professional services team and tools which supported Iskraemeco's product delivery
- Workz eSIM cards running Kigen OS SIM software
- Iskraemeco using the Kigen M2M RSP solution

eSIM technology is ready for smart metering, and many other IoT use cases. Utilities and other enterprises can take advantage of this technology and the broad cellular IoT coverage to reduce the total cost of ownership of managing IoT, get better insights and – ultimately - gain competitive edge. This clear market opportunity presents an attractive opportunity for OEMs to capitalise on while simplifying the way they manage smart device supply chain.

Reduce total cost of ownership, get better insights and gain competitive edge

Kigen brings ecosystem solutions to ease ready-to-connect hardware expertise across a growing ecosystem combined with secure SIM, eSIM and integrated eUICC (iSIM) OS and a flexible approach to RSP to help global leaders get ahead with secure devices and secure services. For more information, please visit **kigen.com**