

CASE STUDY

Eseye streamlines IoT deployment with connectivity management from Thales

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5G and eSIM are supercharging the IoT

Over the past two decades, the smartphone has transformed our world. Now, the [IoT \(Internet of Things\)](#) is set to have an equally profound impact. [GSMA Intelligence](#) forecasts the number of licensed cellular IoT connections will reach 5.8 billion globally by 2030, up from 3.5 billion in 2023. Use cases such as [smart metering](#) and the [connected car](#) are already part of everyday life for millions of people. Many more consumer and industrial applications are emerging, fuelled by the roll-out of [5G networks](#) and rapid adoption of the [eSIM \(embedded SIM\)](#). The opportunities are immense. But so are the challenges involved in connecting massive populations of IoT devices and managing them effectively over multi-year lifecycles.

Delivering flexible connectivity management solutions for IoT service providers

[Eseye](#), a global IoT connectivity solutions provider, offers world-class connectivity solutions to IoT service providers. Eseye's customers demand highly flexible and efficient connection of IoT devices to a mobile network, once these devices are deployed in the field and switched on.

This can involve managing vast numbers of relatively simple, battery powered devices. If the deployment spreads across a wide geographic area, it is unlikely that a single mobile network will provide the best connectivity solution for all devices. IoT service providers therefore want the freedom to select the optimum local mobile network



connection for each IoT device, according to its particular location. What's more, over the lifetime of a device, it is quite possible that the best available network will change. Ideally, IoT service providers need the flexibility to switch connectivity at any time, without having to send technicians into the field.

The challenges extend further. In many IoT use cases, it is equally important to ensure manufacturing and logistics are streamlined and straightforward. That often includes keeping the number of different versions (or Stock Keeping Units (SKUs)) of an IoT device to an absolute minimum.

Battery life is another key consideration when IoT devices are battery powered. They must perform reliably in the field for several years, without an external power source or being recharged.

Thales Adaptive Connective supports a choice of end-to-end solutions

Thales now supplies Eseye with a comprehensive and seamless connectivity management solution based on its [Thales Adaptive Connect \(TAC\)](#) service. This operates in conjunction with Thales eSIM technology within IoT devices, and is built on the GSMA eSIM standard SGP.32.

To optimise flexibility and choice for Eseye's customers, the Thales solution offers two distinct approaches to lifetime connectivity management:

- The first approach enables a single version of an IoT device to be deployed in any region or country without first being personalised with a mobile subscription. The TAC service ensures all these devices connect to the optimum local mobile network the first time they are powered up.
- The second option leverages a [new PoC \(Proof of Concept\)](#) developed by Thales. With this approach, the optimum local mobile subscription for each IoT device is loaded in the factory, while it is still connected to an external power supply. This In-Factory Profile Provisioning (IFPP) enables a seamless transition toward the new on-gong GSMA SGP.41 standard. Once again, when the device is deployed to the field and powered up, the TAC server ensures seamless and automated connection to the chosen network without the need for any further human intervention.



Automatically connecting IoT devices to the optimum local network

Both approaches enable Eseye and its customers to streamline IoT deployments, and reap the benefits of flexible end-to-end connectivity management.

Because it is based on a single SKU, the first approach simplifies every stage of the operation, including manufacturing, logistics and connectivity. By eliminating the need to personalise IoT devices ahead of deployment, cost and complexity are driven out of the entire supply chain.

The second approach, based on the new PoC, is designed for enterprises that still prefer to pre-configure IoT devices ahead of deployment. The key additional benefit of this strategy is optimisation of the device's battery life. That's because downloading a mobile subscription in the field draws on the device's battery power. By loading the subscription in the factory, battery life can be extended by 10%. This adds another year to a typical ten year device lifecycle.

Both approaches deliver remote, automated, over-the-air connection to the optimum mobile network.

Eseye and its customers enjoy outstanding flexibility and efficiency not just at first activation of IoT devices, but throughout their lifecycle. TAC enables the mobile network connection to be changed remotely and automatically at any point in time. Connectivity can therefore be optimised continually.

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Giving IoT ecosystems the freedom to flourish

The IoT is not just growing in size, it is also becoming more diverse. Every single IoT device requires a secure and reliable connection to a wireless network. But beyond that, different IoT use cases and service providers have unique requirements. With the introduction of a new service based on Thales Adaptive Connect, including an innovative Proof of Concept, Eseye is now ideally positioned to deliver the flexibility that all IoT ecosystems need to flourish.

“Eseye are delighted to be partnering with Thales to take forward this leading-edge, innovative new IoT solution. Combining SGP.32 and SGP.41 support will ensure future IoT device deployments can deliver optimum efficiency and value to our customers. Not only do Enterprise customers get a completely future proofed eSIM platform, but it also enables maximum choice of either personalising devices for local mobile networks ahead of deployment or using TAC to do this for them in the field”

— **Adam Hayes**
Chief Operating Officer at Eseye

“Eseye is a dynamic partner with whom we have also worked on a Proof of Concept for customers interested in in-factory provisioning (IFPP) for their devices. This enables profiles to be securely provisioned during the device manufacturing process. For example, a blood sugar monitor device that has been configured at the factory will have a substantially longer battery life since there is no need for an in-field local profile download. This solution, which meets the latest market specifications (SGP.41), retains all of the benefits of an automatic and cost-effective connection to the preferred local network”

— **Guillaume Lafaix**
VP of Connectivity Solutions and Embedded Products at Thales



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