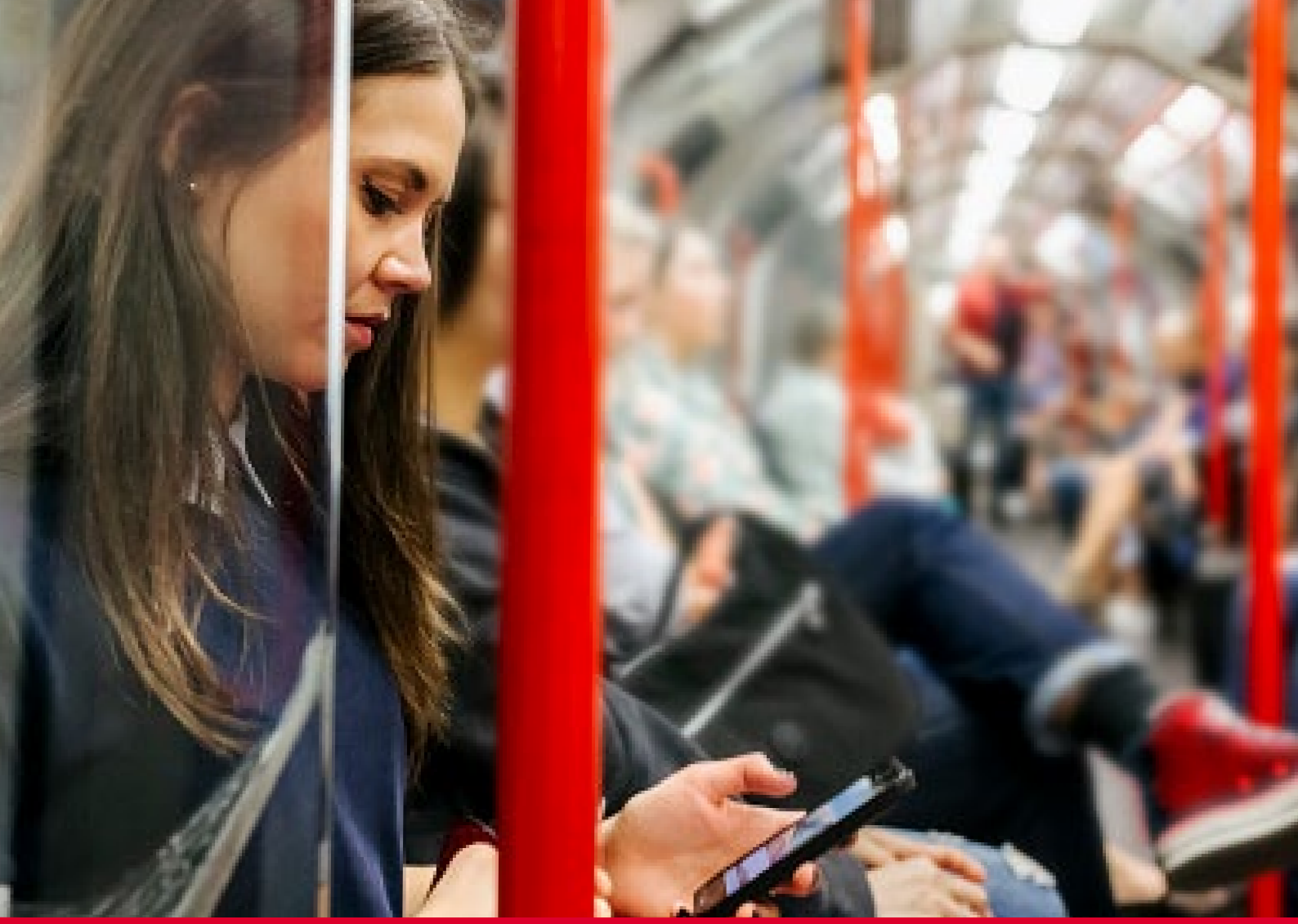


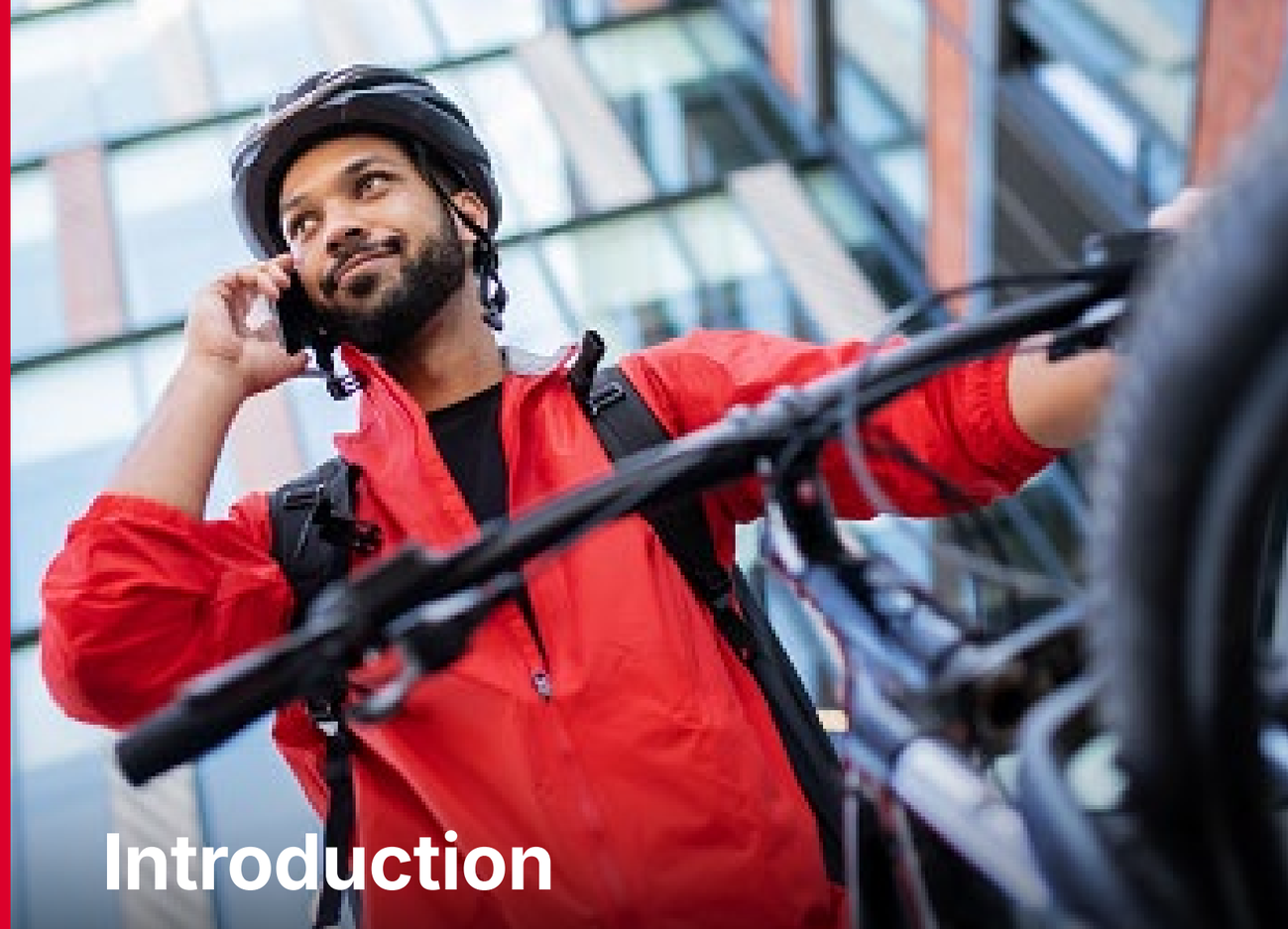
Case Study

Real-world solutions to key connectivity problems

Want to deploy your digital transformation strategy more easily? Discover how Kigen are helping businesses scale IoT by simplifying device connectivity and enhancing end-to-end security.

GSMA
Industry Services

The answer to your IoT deployment challenges



Introduction

Kigen, in collaboration with GSMA working groups, are enabling flexibility and scalability for IoT deployments, through the pivotal transformation of eSIM IoT technology thanks to innovative technical frameworks and robust certification.

In the era of digitalisation, 5G and AI, businesses need to evolve – and quickly.

Yet one of the key obstacles for both device manufacturer's and network operators' digital transformation strategies has been the challenge of the management and security of IoT deployments – due to network constraints, inflexibility, data integrity and complex activating processes for large fleets of IoT devices.

Kigen, a global leader in secure SIM, eSIM, iSIM OS, and remote SIM provisioning server solutions, are empowering device manufacturers, mobile network operators and IoT solution providers by working in partnership with the mobile ecosystem and industries to unlock the full potential of IoT for businesses worldwide.

> In today's connected world, digital transformation strategies increasingly depend on cellular IoT devices, and Kigen has been at the forefront of this evolution of SIM and the data IoT relies on."
>
> **Vincent Korstanje, CEO**

The importance of eSIM in scalable and flexible IoT

Some of the key barriers to deploying IoT are connectivity, security and interoperability issues.

While 5G technology answers the connectivity problems, it doesn't solve the others.

That's where eSIM comes in.

eSIM technology is undergoing a pivotal transformation. The release of SGP.32 positions eSIMs as enablers of smarter, more intelligent products and services at a price point that allows it to be built early into the design phase for benefits across all parts of any business that relies on connectivity."

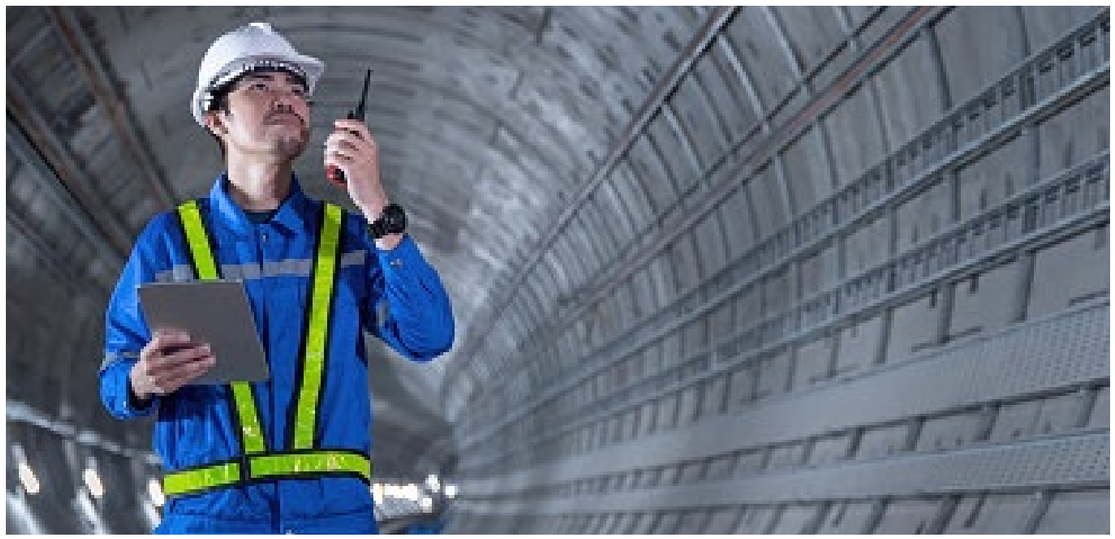
Vincent Korstanje, CEO

What is the GSMA's SGP.31/32?

The standards are a huge breakthrough for eSIM technology and IoT.

Remote SIM provisioning (RSP) for IoT devices enables over-the-air management of eSIM profiles, allowing for the simplified management of connected devices and eliminating the need for manual intervention – essential when dealing with IoT devices.

The SGP.31/32 standards is a flexible, hybrid solution of previous consumer (SGP.22) and M2M (SGP.02) eSIM standards, tailored to IoT requirements – an important step in realising IoT's potential.



How eSIMs address IoT security and interoperability issues

Security challenge:

– IoT creates a wider attack surface, increasing the risk of security breaches, from data theft to device hijacking.

eSIM answer:

- Unlike traditional solutions, the integrated secure element within an eSIM offers robust protection against security threats.
- A secure foundation enabling reliable insights from data.
- As well as secure device authentication, which is crucial for sensitive IoT applications
- As a result, eSIMs are set to play an increasingly vital role in the future, shaping a world where secure connectivity drives innovation and trust across IoT ecosystems.

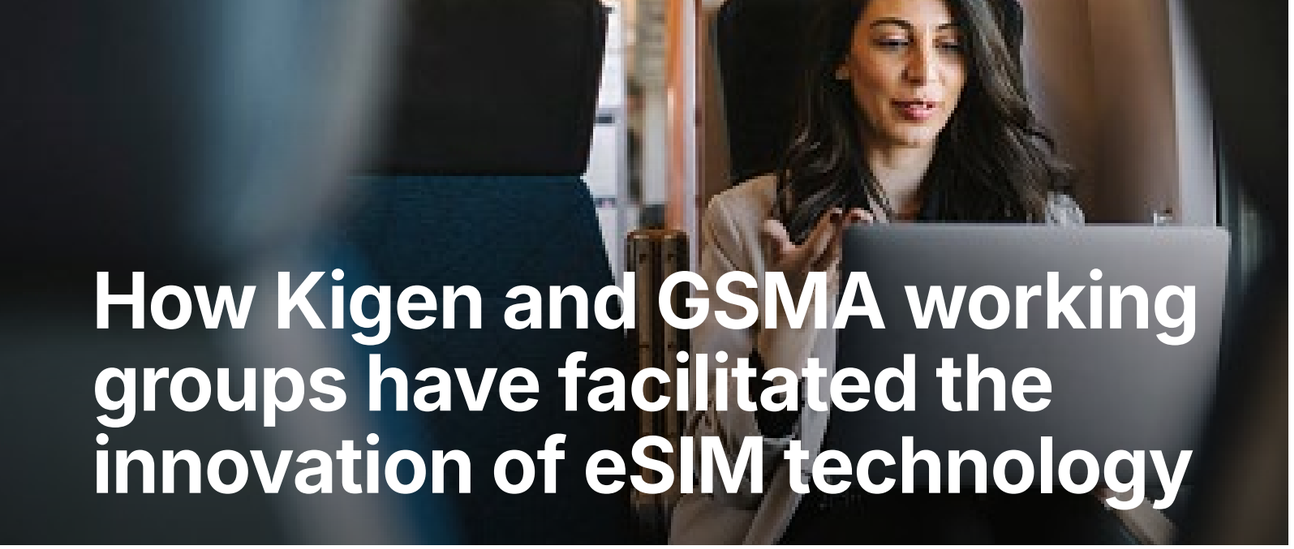
Interoperability challenge:

– Integrating diverse devices from different manufacturers into a single, cohesive system can be difficult because of their proprietary interfaces and lack of communication capabilities.

– The absence of universal standards for IoT devices, protocols and data formats leads to interoperability issues, hindering seamless integration and functionality.

eSIM answer:

- eSIMs enable a single, global device strategy, removing the need for different hardware versions or dedicated SIM cards for each region or network.
- eSIM technology allows the effortless addition of new devices and the modification of network connections on the fly without the physical constraints of traditional SIMs.
- They store multiple operator profiles and can switch between them remotely – allowing continuous, optimised connectivity.
- eSIM's remote provisioning allows operators to manage profiles for entire fleets of devices through a single platform, simplifying logistics for manufacturers and service providers.



How Kigen and GSMA working groups have facilitated the innovation of eSIM technology

The groundbreaking advancements in eSIM technology that are enabling IoT strategies and deployments to reach their full potential, are only possible thanks to the introduction of standards like the GSMA's SGP.31/32.

Since it's only with a standardised approach that a unified framework for managing eSIMs can be created.

Kigen collaborates with GSMA working groups to drive innovation through standardisation and unity – such as the IoT SAFE, eSIM Standards, Security Accreditation Scheme Subgroup (SAS Subgroup that's within the GSMA Fraud and Security Group) and Secured Applications for Mobile (SAM).

Dr. Said Gharout, Kigen's Head of Standards, has chaired the eSIM Standards Working Group for the past four years, guiding cross-industry collaboration to deliver groundbreaking advancements.

While Paul Bradley, Kigen's VP of Sales for Europe, chairs the IoT SAFE Working Group, contributing expertise over four years to drive end-to-end security innovation.

This group addresses critical security needs across devices, networks and cloud environments, enabling seamless, secure IoT ecosystems.

> IoT cannot scale without robust, resilient security, while ensuring interoperability is critical to its success. This certainly cannot be achieved in isolation and can lead to fragmentation that has in the past impeded the adoption of IoT. To address these – collaboration is essential across the entire mobile ecosystem for unified frameworks that reduce complexity, accelerate adoption and empower businesses."
>
> **Loic Bonvarlet, SVP Ecosystem & Marketing**

> GSMA working groups are integral to our mission for a more inclusive and connected future. By engaging with MNOs, MVNOs and service providers, we can work towards common goals and ensure solutions that drive innovation and simplify adoption across the ecosystem."
>
> **Said Gharout, Head of Standards**

> GSMA working groups enable the development of high-security, reliable and scalable solutions that meet the evolving demand of modern mobile and IoT value chains."
>
> **Chris Burke, CTO**

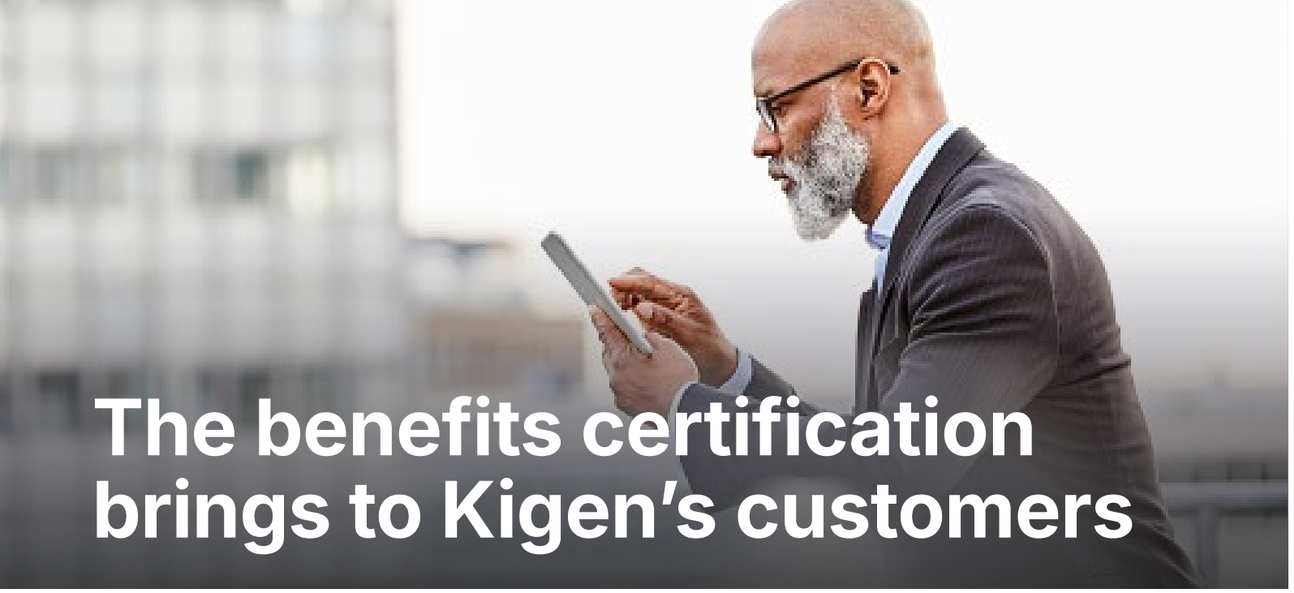
Why certification is crucial

> Standardised site security is essential because security enables scale. It provides the trust and reliability needed to support large-scale deployments while delivering the assurances required as IoT increasingly becomes part of critical industrial infrastructure. By ensuring consistent, robust security standards, the mobile ecosystem can accelerate innovation and spur future growth – in IoT, consumer, and beyond."
>
> **Said Gharout, Head of Standards**

> It's important to create technological frameworks that reduce the barriers to technology evolutions and unlock the cellular market to new entrants."
>
> **Paul Bradley, VP of Sales Europe**

Certification shows commitment to the highest security standards,which brings the assurance required for large-scale deployments – especially those that form critical industrial infrastructure.

Without certification, technologies like IoT couldn't exist in the real world and would be left in the pilot stage.



The benefits certification brings to Kigen’s customers

Kigen’s unique business model focuses on supporting device manufacturers by providing the freedom to work with a strong ecosystem offering secure EUM (eUICC Manufacturing) capabilities, and BYOC (Bring Your Own Connectivity Provider) for secure handling of connectivity profiles.

This offering is made possible because Kigen is GSMA SAS certified (Security Accreditation Scheme) – which brings the reassurance to customers that they provide continually high standards in security that are endorsed across the mobile industry.

All this is why Kigen has become GSMA SAS certified for both subscription management and universal integrated circuit card production.

> These certifications enable us to strengthen the eSIM and iSIM ecosystems, creating unique growth opportunities while ensuring robust, secure, and scalable solutions for our customers worldwide.”
>
> **Vincent Korstanje, CEO**

> Achieving GSMA SAS-UP certifications in Europe and India, and SAS-SM certification for multiple products—including being the world’s first to certify an eIM (eSIM IoT Remote Manager)—underscores our commitment to the highest security standards.”
>
> **Chris Burke, CTO**

GSMA’s certification empowers device manufacturers to deliver transformative IoT

> This GSMA certification and the advances in interoperability in Kigen’s ecosystem empower OEMs to innovate, scale, and deliver transformative IoT and AI experiences with assured eSIM security — no matter their starting point: the chip, module, or network level. We’re at a pivotal step toward fulfilling the promise of IoT eSIMs by enabling automation, freedom, and unparalleled scalability.”
>
> **Vincent Korstanje, CEO**

How eSIM will evolve in the era of AI

The future of eSIM will involve navigating two evolving standards:

One for consumer devices and another for IoT, with a significant overlap as the technologies converge. As devices integrate AI, the boundaries between these categories may blur, placing greater emphasis on energy efficiency, data and network transmission, and processing optimisation.

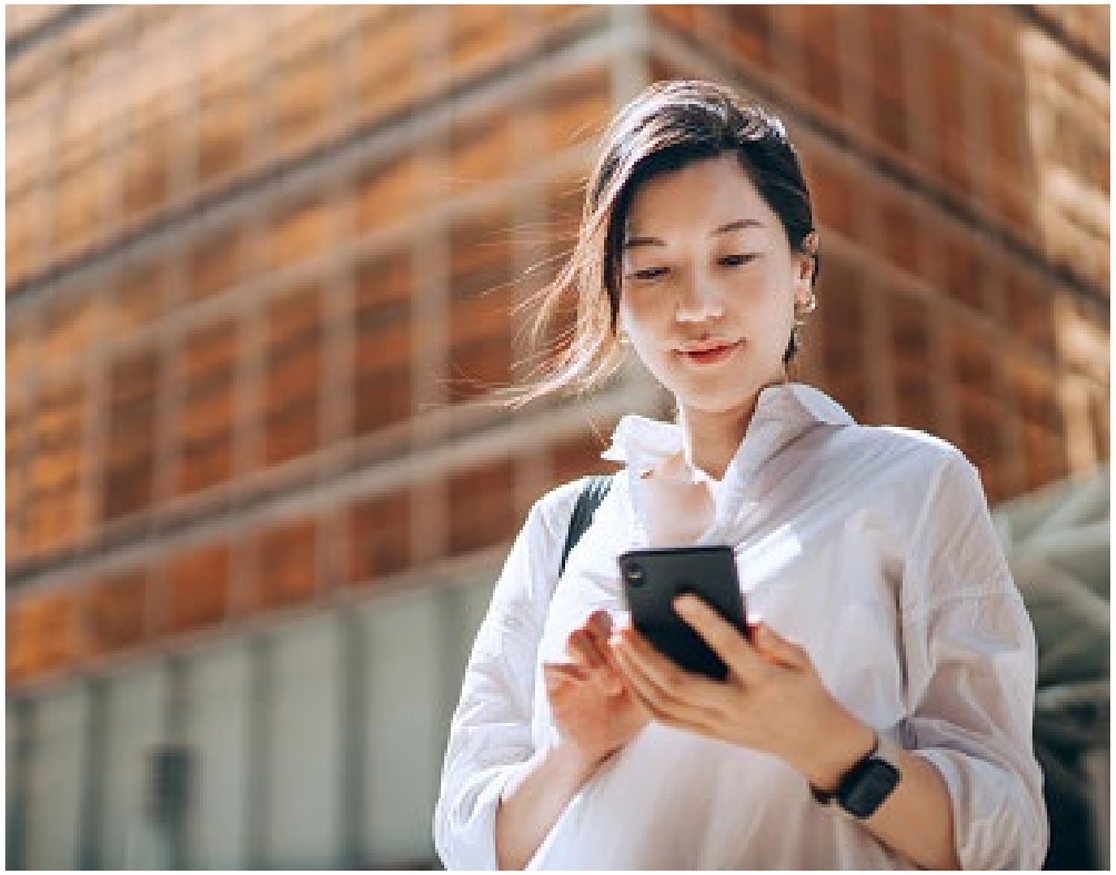
The evolution to iSIM (integrated SIM) will address key challenges, such as improving efficiency and reducing BOM (Bill of Materials) costs.

These considerations are critical for scaling innovation and meeting the demands of smarter, more connected ecosystems.

This journey will shape how we create sustainable, intelligent solutions for the future.

Find out more about GSMA’s SGP.31/32, the GSMA industry service that uses it:

GSMA eSIM Discovery and the GSMA Security Accreditation Scheme (SAS).



GSMA

Industry Services

GSMA Industry Services

Data, resources and tools that improve and support global connectivity by underpinning important interoperable backend functions and addressing the problems GSMA Working Groups have identified.

To find out more visit visit gsma.com/services