



Streamlined IoT Connectivity Management & Cybersecurity from factory to field

THALES
Building a future we can all trust

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). Additionally, advancements in low-power, wide-area (LPWA) networks like NB-IoT are providing cost-effective and energy-efficient connectivity solutions for a wide range of IoT applications. The opportunities are immense. But so are the challenges involved in connecting massive populations of IoT devices and managing them effectively and securely over multi-year lifecycles. This is where Thales' "Build Run, Protect" approach comes into play.



Thales' Build, Run, Protect framework for IoT

To address the challenges faced by enterprises in IoT deployments, Thales has developed a comprehensive approach that focuses on three key aspects: Build, Run, Protect.

Build

Design industrial device and service Value Propositions to deliver sustainable and profitable growth over coming decades

Thales understands the importance of providing complete control to OEMs and IoT service providers. This allows for flexibility and scalability in IoT deployments, enabling customized solutions to meet specific requirements. By empowering customers with control over connectivity choices and device variants, Thales helps optimize IoT networks and create tailored connectivity solutions.

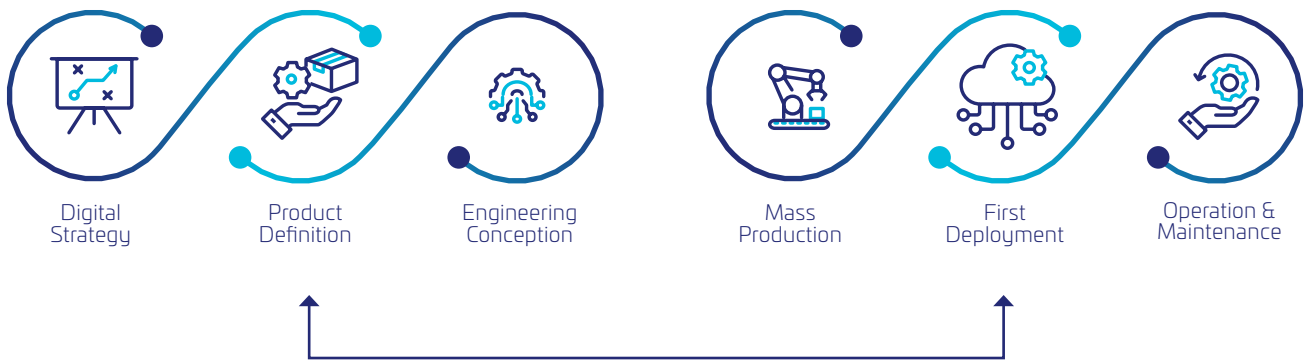


Run

Leverage on existing industrial processes to produce at the best cost

Thales acknowledges the complexity of serving different geographies and markets. The company streamlines production, deployment, and maintenance processes to address challenges such as onsite labor, initial setup, and issue resolution throughout the device lifecycle. Thales ensures a smooth operational flow for IoT deployments, minimizing disruptions and enhancing efficiency.

On the field, manage first on-boarding and life cycle installed base



Protect

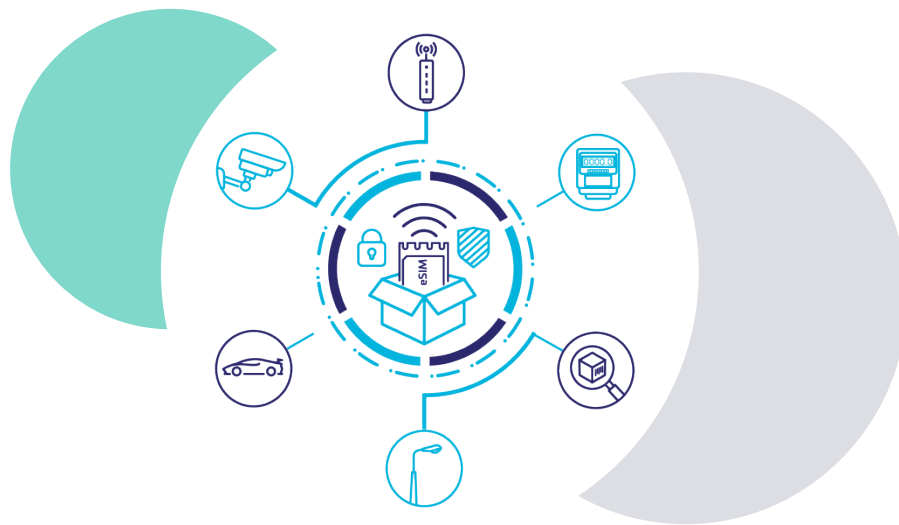
From design to use and from edge to cloud protect identity and data against cyber threats

Thales places a strong emphasis on continuous cybersecurity measures to protect connected devices. From the production line to long-lasting operations, Thales prioritizes robust security throughout the entire lifecycle of IoT devices. By implementing advanced cybersecurity measures, Thales safeguards devices against potential threats and vulnerabilities, ensuring the integrity and privacy of data.

This commitment to security enhances the overall trustworthiness of OEMs' and IoT service providers' IoT ecosystems. By adopting the Build, Run, Protect framework, Thales delivers a holistic approach to IoT. By addressing the specific pain points of connectivity management, logistics, and cybersecurity, Thales enables enterprises to overcome challenges and achieve secure, reliable, and efficient IoT deployments. Thales framework is applied to Thales IoT portfolio of solutions



Thales Solutions' Portfolio



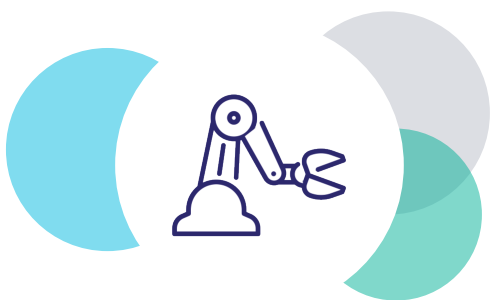
Build upon the Build, Run, Protect framework, Thales' portfolio is a One-Stop-Shop set of solutions. It offers comprehensive connectivity management solutions for IoT OEMs and IoT service providers, leveraging Thales eSIM technology.

The solutions cater to the needs of simplification in IoT deployments by providing flexible, secure and efficient

connectivity life cycle management for IoT devices, when deployed worldwide. Indeed, IoT devices, can seamlessly connect to the best local mobile networks overtime.

Additionally, Thales' solutions offer two approaches to initial connectivity management, enabling OEMs and IoT service providers to choose the strategy that best aligns with their specific requirements and goals.

In-factory provisioning profile (IFPP)



This approach allows for in-factory provisioning of mobile subscriptions during the device's manufacturing process. This can be achieved using for instance the factory's private network. This leverages the secure capabilities of eSIM to avoid putting additional security burden on the OEM.

This approach is ideal for enterprises that prefer pre-configuring IoT devices before deployment. By loading the mobile subscription of the destination location during manufacturing, device battery life can be extended significantly, optimizing its performance in the field.

In-field initial provisioning



In this scenario, there is no need for personalized mobile subscriptions to be pre-loaded before deployment. Instead, a single version of an IoT device can be deployed globally.

When these devices are powered up, they can seamlessly connect to the most optimal local mobile network available. This approach eliminates the need for managing personalized subscriptions ahead of time, making operations more efficient and reducing complexity in the supply chain.

Flexible and Seamless Connectivity Lifecycle Management.

Thales Solutions offers a holistic streamlined and secure solution, ensuring a seamless experience from the initial connectivity of IoT devices to their ongoing connectivity management.

Simplified manufacturing:

Our solutions leverage in-field initial provisioning. This eliminates the need for personalized subscriptions before deployment, enables global employment of IoT devices using a single SKU.

This significantly simplifies manufacturing and the supply chain.



Adaptive Connectivity Management:

Our solutions allow IoT service providers to select the most suitable local mobile network for each device based on its specific location.

This ensures optimal and resilient connectivity without the need for manual intervention or technician visits.



Extended Battery Life:

With IFPP, mobile subscriptions can be loaded during manufacturing. This empowers IoT devices with an extended battery life, offering up to 10% longer operation time. By adding an extra year to the typical ten-year device lifecycle, our solutions not only enhances device longevity but also minimizes maintenance efforts throughout their lifecycle.



Thales solutions powered by Thales eSIM is driving the entire connectivity lifecycle from factory to field deployment.

It provides value-added services such as built-in backup connectivity setup and context analysis, automatically determining the optimal network for uninterrupted and seamless connectivity.

Enabling Cyber Security Chip-to-Cloud at Scale

Security is a top priority, and Thales embedded products which include eSIM, eSE (embedded Secure Element) deliver uncompromising protection through embedded hardware. This seamless integration simplifies device management and protection, providing several key benefits for IoT service providers.



Firstly, Thales eSIM safeguards device IDs, ensuring that they remain protected.

This is crucial for maintaining the integrity and privacy of sensitive data transmitted by IoT devices. Additionally, Thales eSIM ensures the authenticity and integrity of firmware updates, ensuring the stability and security of IoT devices.

Furthermore, the plug-and-play nature of Thales eSIM eliminates the need for complex integration efforts.

This simplifies the massive deployment and management of IoT devices, reducing time and effort for both manufacturers and service providers.



We offer a comprehensive range of IoT consulting services to help you comply with IoT cyber security requirements.

These activities encompass tasks such as compliance assessment and certification. For instance, they are applicable to regulations like the EU RED (Radio Equipment Directive) and the Cyber Resilience Act.

We also provide IoT operational services.

These include security lifecycle management, utilization of any third-party RoT (Root of Trust), signing services, FOTA (Firmware Over-The-Air) service and PKIaaS (Public Key Infrastructure as a Service).

By leveraging Thales solutions powered by Thales eSIM and IoT services, IoT service providers and their customers can simplify operations, and unlock the full potential of their IoT ecosystem.

Secure Solutions for a Connected World

Thales is at the forefront of digital transformation, securing cellular communications for billions worldwide. Our mission is to deliver security, reliability, and simplicity in a rapidly evolving tech landscape. As your trusted partner for eSIM solutions, Thales offers a complete portfolio of certified products and extensive expertise.

With strong relationships with over 100 OEMs

we provide highly secure solutions and global support.

Recognized as the world's

No. 1 provider of eSIM subscription management solutions,

our *award-winning* products have been adopted by numerous MNOs, MVNOs, and key industry players worldwide.

Having successfully delivered

more than

380 projects,

we are the industry leader in Remote SIM Provisioning platforms for both consumer and M2M/IoT environments.

Thales offers a complete portfolio of field proven solutions,

from hardware eSIMs, adapted to each type of device, to servers.

Thales is actively involved in leading the standardization efforts in the field of IoT. This includes contributions to the GSMA eSIM standards for IoT, which help drive innovation and support the deployment of IoT solutions. By adhering to industry standards and regulations, Thales ensures interoperability and compatibility, enabling customers to confidently deploy their IoT solutions. For example, Thales has led the GSMA SGP.32 standard specifications, which allows for flexible eSIM connectivity across the entire IoT domain. In terms of security, Thales leads the IoT cybersecurity specifications (GSMA IoT SAFE). Additionally, Thales offers value-added services beyond just complying with standards, such as Thales Trusted Key Manager that securely manages device identities and secrets for any device vendor.

For more information on our products and services, visit our [website](#).

Useful links

- > [Thales for IoT: Enabling Cyber Secure IoT Connectivity](#)
- > [Thales Trusted Key Manager](#)
- > [Thales IoT SAFE](#)
- > [Thales Adaptive Connect](#)
- > [Thales Instant Connect](#)
- > [Thales eSIM Solutions for the consumer, corporate and IoT Markets](#)
- > [Ruggedized IoT SIM and eSIM: The Thales Range](#)

Case Studies

- > [ZTE and Thales deliver effortless instant connectivity for Fixed Wireless Access \(FWA\)](#)
- > [Eseye streamlines IoT deployment with connectivity management from Thales.](#)

THALES

Building a future we can all trust

4 rue de la Verrerie
92190 Meudon
France

Tel: +33 (0)1 57 77 80 00

[thalesgroup.com](https://www.thalesgroup.com)

