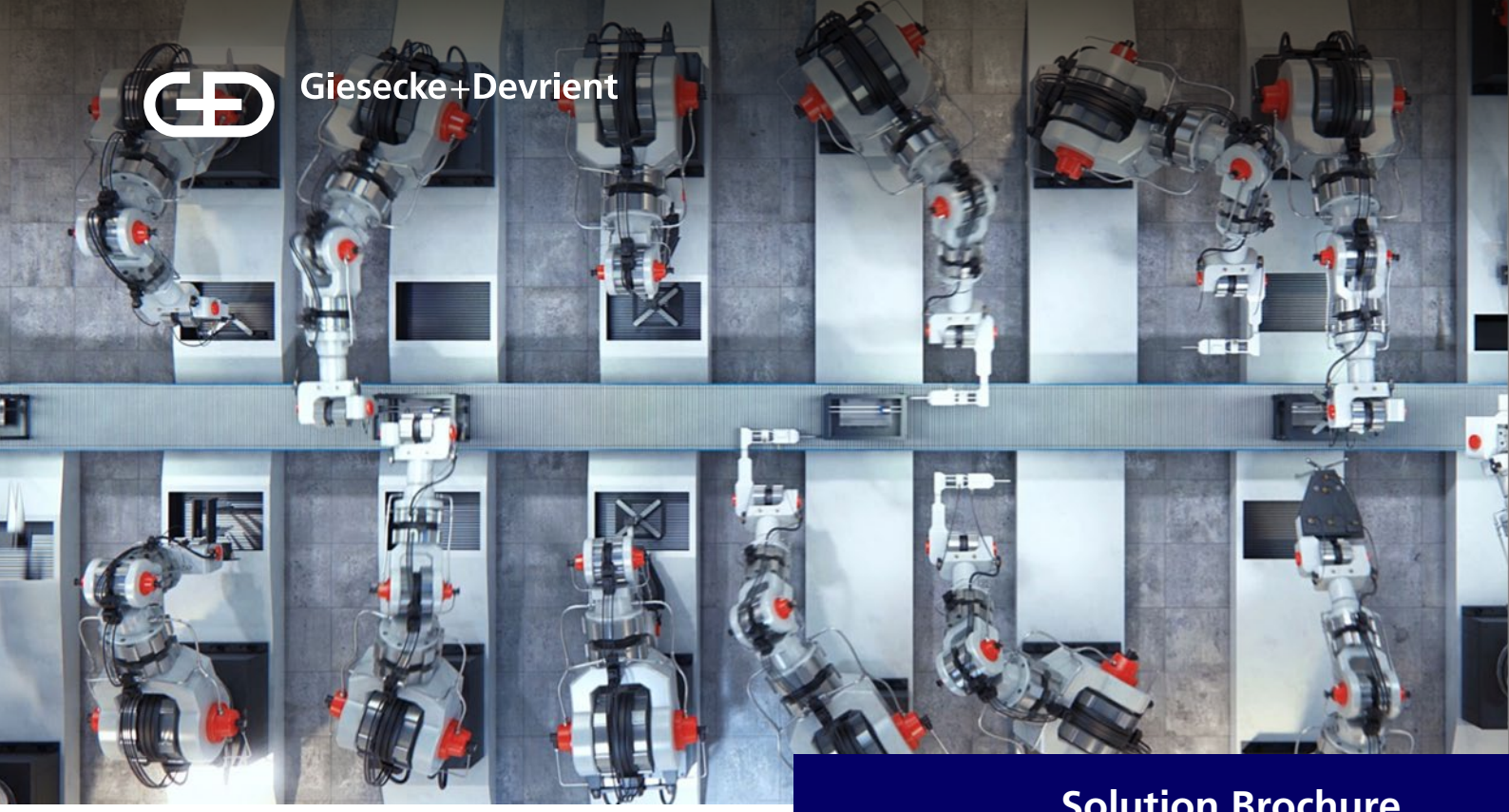


Giesecke+Devrient

Solution Brochure

In-Factory Profile Provisioning with G+D's AirOn360® In-Factory eSIM

In today's fast-paced digital landscape, the need for seamless, secure, and efficient connectivity has never been more critical. As manufacturers strive to meet the growing demands of the Internet of Things (IoT), In-Factory Profile Provisioning (IFPP) emerges as a game-changing solution. This brochure explores the concept, benefits, and applications of IFPP, showcasing how it can transform your manufacturing processes and enhance device security.

IFPP is a process that enables Original Equipment Manufacturers (OEMs) to securely load MNO profiles for mobile networks into embedded SIMs (eSIMs) for IoT devices during the production phase. This approach ensures that devices are ready for secure connectivity as soon as they leave the factory, eliminating the need for manual configuration, post-deployment or any other manual interaction. Utilizing technologies like eSIM and Remote SIM Provisioning (RSP), IFPP simplifies device onboarding, streamlines production, enhances security, and accelerates time-to-market.

No certification according to the GSMA security accreditation scheme (SAS) is required for the production site!

Challenges for IoT device OEMs

Connectivity: Ensuring seamless connectivity for devices right out of the factory.

Flexibility: Achieving flexible production capabilities to support different MNOs across various batches, series, and regions.

Simplification: Reducing logistics complexity by minimizing the number of single stock keeping units (SKU) and simplifying inventory management.

Acceleration: Speeding up time-to-market while simplifying device hardware without compromising on quality and performance.

Digitization: Digitizing the delivery process of connectivity credentials during production to streamline processes and quickly adapt to customer needs.

Benefits of AirOn360® In-Factory eSIM for Device Manufacturers

New Use Cases

- Enables flexible production batches to suit low and high volume use cases.
- New markets and customers can be addressed without added logistic efforts.

Digitalization

- Digital download of MNO profiles/subscriptions.
- Drives digitalization and ensures future-readiness.
- Reduction of production costs.

Efficient Logistics

- Single Stock-Keeping Unit (SKU) for various regions and operators.
- The lack of pluggable SIMs eases logistics, simplifies processes and allows fast customer acquisition.

Further Advantages of G+D's IFPP

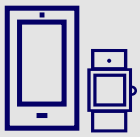
- **Efficiency:** Streamlines the manufacturing process by integrating MNO profiles during production.
- **Security:** Enhances device security with pre-provisioned, encrypted profiles, reducing the risk of unauthorized access.
- **Cost Savings:** Reduces operational costs by minimizing the need for manual configuration and post-deployment adjustments.
- **Scalability:** Easily scales to accommodate large volumes of devices, ensuring consistent and reliable provisioning.
- **Device Simplification:** No need for Wi-Fi, Bluetooth or any other additional wireless interface.
- **Bring Your Own Connectivity:** Ensures devices are equipped with the necessary MNO profiles to connect to cellular networks worldwide, enhancing their global operability.
- **G+D's Global Connectivity:** Alternatively, G+D's global IoT connectivity can be used with coverage in 185 countries across more than 600 mobile networks, including satellite-based connectivity for remote areas.

How IFPP Works

Typically IFPP involves involves several key steps:

1. **Subscription Order:** OEM requests suitable connectivity profiles.
2. **Profile Order:** MNO sends eSIM profile order to G+D.
3. **Data Generation:** Necessary profiles are securely generated at G+D.
4. **Hardware Delivery:** eUICC production at G+D and delivery to the OEM.
5. **Download Process:** Batch download of profiles to the OEM server before production.
6. **Profile Provisioning:** Profiles are securely loaded to the eUICC during device production. No permanent online connection required.
7. **Shipment:** Completed devices are dispatched to the target destination.
8. **Deployment:** IFPP ensures that devices are connected "out of the box" and automatically set up on the desired destination network.

Use Cases and Applications



Consumer Electronics: Smartphones, tablets, notebooks and wearables with pre-provisioned MNO profiles for instant cellular connectivity.

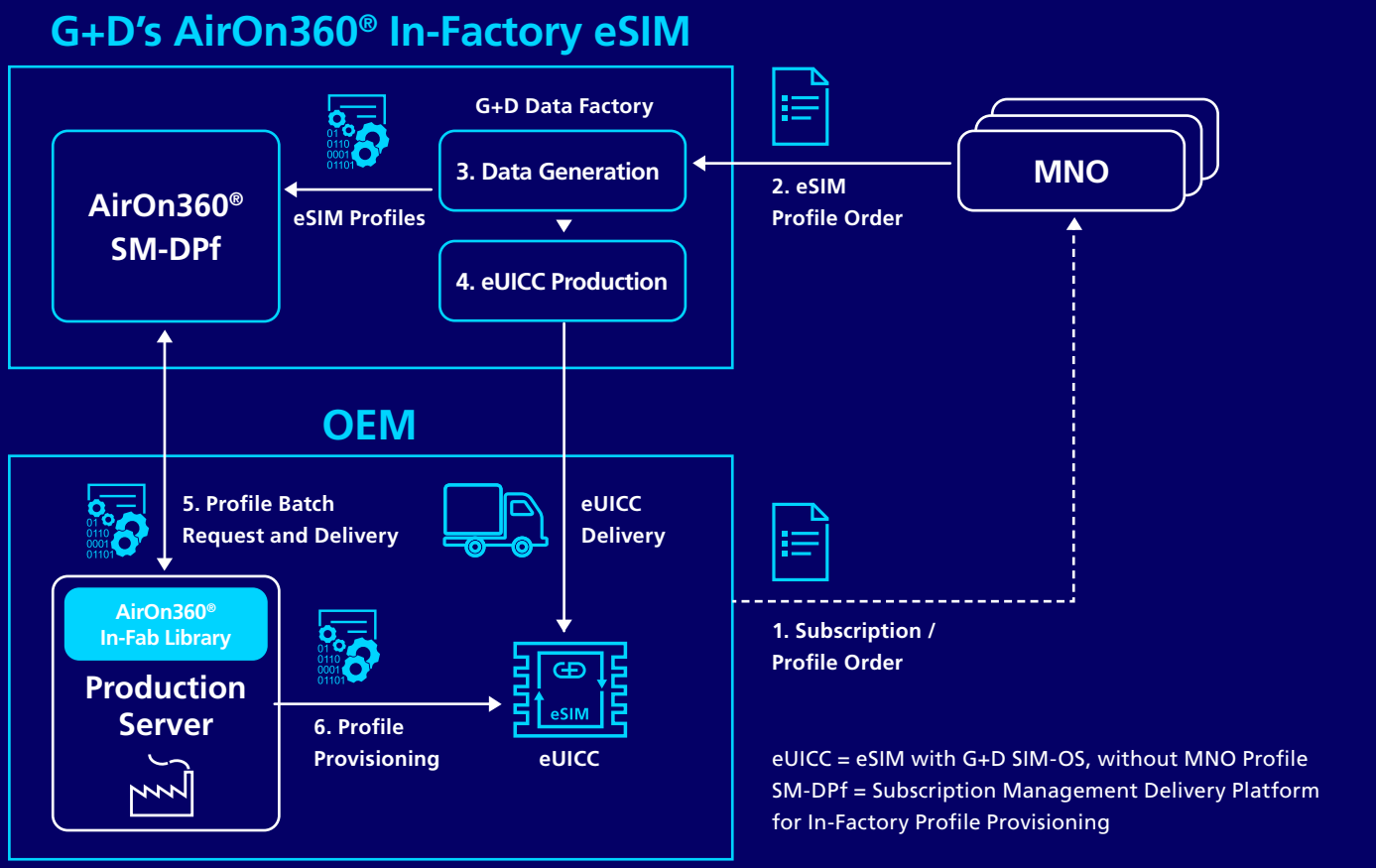
Automotive Industry: Connected vehicles with MNO profiles for seamless global communication and telematics.

Transport and Logistics: Trackers and other battery-powered IoT devices that need to be connected immediately.

Healthcare Devices: Medical devices with secure connectivity for reliable data transmission and remote monitoring.

Smart Metering: Smart electricity, gas, and water meters/sensors which need to be connectivity-enabled from the very beginning without the need for in-field profile provisioning.

Industrial IoT: Sensors and machinery with ready-to-use connectivity for real-time monitoring and control.



The graphic shows the simplified IFPP process. All data is encrypted during transmission and processing. There is no access to plain data, cryptographic keys, or eSIM profiles during the production process.

Security and Compliance

Security is paramount in IFPP. By loading profiles during manufacturing, we ensure:

- **Data Encryption:** Profiles are encrypted to prevent unauthorized access and tampering.
- **Secure Authentication:** Devices use secure authentication protocols, safeguarding against network breaches.
- **Regulatory Compliance:** Adherence to industry standards and regulations, ensuring compliance with data protection laws.
- **Standard Compliance:** G+D's IFPP solution is in line with the upcoming GSMA standard SGP.42.
- **Remote SIM Provisioning (RSP):** With G+D's eSIM solution, MNO profiles can optionally be managed via RSP. Our AirOn360® IoT Suite enables the remote SIM management of all GSMA standards via one platform.
  - SGP.02 / M2M – Legacy devices, cars
  - SGP.22 / Consumer – Phones, tablets
  - SGP.32 / IoT – Headless IoT devices, cars
  - SGP.42 / IFPP – Born Connected® devices
- **Combined RSP:** For some use cases a combination of RSP solutions for in-factory and in-field management can be beneficial.
  - SGP.42 + SGP.22
  - SGP.42 + SGP.32

Why Choose Our Solution?

G+D's AirOn360® In-Factory eSIM stands out because of:

- **Our Expertise:** More than 30 years of experience in SIM, eSIM and iSIM technologies, ensuring reliable and secure profile provisioning.
- **Customization:** Solutions can be tailored to meet the unique needs of different industries and applications.
- **Availability:** Highest service availability.
- **Support:** Comprehensive support throughout the provisioning process, from profile creation to deployment.
- **Innovation:** Continuous innovation to stay ahead of emerging trends and technologies in IoT connectivity.
- **Sustainability:** Data centers that are operated with sustainable energy, depending on the region and availability.

Secure connections.
Unlimited potential.

About Giesecke+Devrient

Giesecke+Devrient (G+D) is a global SecurityTech company headquartered in Munich, Germany. G+D makes the lives of billions of people more secure. The company shapes trust in the digital age, with built-in security technology in three segments: Digital Security, Financial Platforms and Currency Technology.

G+D was founded in 1852 and today has a workforce of more than 14,000 employees. In the fiscal year 2023, the company generated a turnover of 3 billion euros. G+D is represented by 123 subsidiaries and joint ventures in 40 countries.

Further information: **www.gi-de.com**

Giesecke+Devrient

Giesecke+Devrient Mobile Security Germany GmbH
Prinzregentenstrasse 161
81677 Munich
Germany

www.gi-de.com
connectivity@gi-de.com

Follow us on: