

SMART CONNECT CONSUMER

eSIM Subscription Management



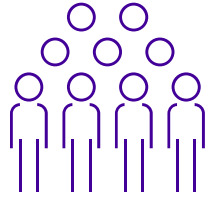
FROM SIM TO ESIM

What does eSIM change?



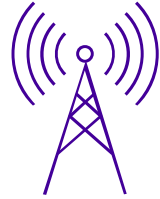
- › eSIM stands for “embedded SIM”
- › One element (SIM card) becomes 2 elements with the eSIM:
 - eUICC
 - Profile
- › New platform needed by MNOs for:
 - Management of eSIM Profiles lifecycle
 - Download of eSIM Profiles

ESIM BENEFITS



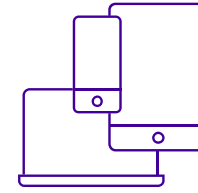
For end-users

- › Full digital onboarding
- › New use cases and more flexibility
- › More connected devices
- › More robust devices (dust and waterproof)



For mobile operators

- › Simplified logistics leading to significant cost savings
- › Reduced impact of chip shortage
- › Improved remote customer experience
- › New distribution channels (fully digital)
- › New revenue streams: Upsell and cross sell



For device makers

- › Reduced Bill of Material
- › Space saving in the device
- › Possibility to connect new devices
- › More robust devices (dust and waterproof)

ESIM TECHNOLOGY ENABLES VARIOUS USE CASES



Remote onboarding

One of the main advantages of eSIM technology, is the possibility to activate its device connectivity, **anytime and anywhere**, and allowing an **out-of-the-box experience**.



Travel

eSIM technology enables subscribers to **stay connected globally**, while ensuring hassle-free and secure connection. Upon arrival, users can easily get mobile connectivity to a local operator.



Connected home

More and more, we will see new **connected objects** entering our homes, and eSIM can be an easy way to connect them and to manage contracts. This can be for detection systems, alarms, fire alarms, for home automation...



Family connectivity

With eSIM, subscriber can add **other devices on a single contract**, by simply scanning a QR code. It can be devices of **other members of the family**, or other **companion devices** such as smartwatches.



Try & Buy

The **Try & Buy** business model allows customers to test a service for a fixed amount of time before engaging with a paid subscription. This can be a great way to increase its **customer acquisition**.



Mobile workforce

The growing number of remote workers creates challenges in terms of **security, always-on connectivity and logistical issues**. eSIM helps by eliminating supply chain complexity, by avoiding unsecure Wi-Fi connections, and by enabling more devices to be connected.

SMART CONNECT CONSUMER

Core solution



COMPLIANT WITH ALL INDUSTRY STANDARDS

eSIM

Smart Connect Consumer



GSMA **SAS-SM Certified** eSIM platform



Implements **all GSMA specifications** from 2.0 and beyond



Implements **all TCA specifications** from SAIP v2.0 and beyond



Connected to **GSMA eSIM Discovery** and **Apple Lookup Server**

ALL ESIM DEVICES ON THE FIELD SUPPORTED

21.3%

of total smartphone shipments were eSIM compatible in 2023....

263M

...which represents 263M eSIM smartphones shipped in 2023

76%

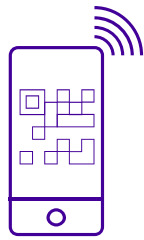
of smartphone connections will use eSIM by 2030

Main brands

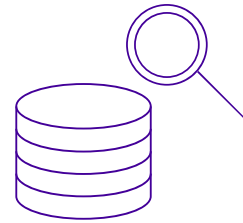
IDEMIA has a long term technical and commercial relationship with device makers



ALL PROFILE DOWNLOAD & ACTIVATION METHODS SUPPORTED



Method #1 QR Code

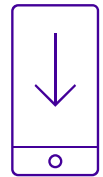


Method #2 Discovery Server

GSMA eSIM Discovery
Apple Lookup Server
Samsung SM-DS
Google SM-DS



Method #3 Default SM-DP+



Method #4 Carrier Application

PUBLIC CLOUD DEPLOYMENT



Deploying in the Public Cloud

An “always-on” approach to support your business growth

- › Higher levels of **availability**: up to 99,999%
- › More **resilience**: Geo-redundancy with a possibility to deploy locally
- › More **capacity** and **elasticity**
- › Best industry **security** systems on all aspects: **Confidentiality, Integrity, Availability**



- › **Never miss an eSIM activation**, anytime, anywhere.
- › Be ready to handle **high volumes** fueled by eSIM growth
- › Be able to **handle activity or seasonal peaks** (Christmas, Black Friday, new device launch, etc.)
- › **Protect** your business from attacks and major disasters



GSMA SAS-SM accredited

SMART CONNECT CONSUMER

Advanced features



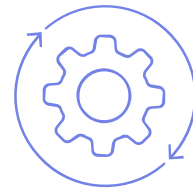
SMART CONNECT CONSUMER COMPONENTS



Digital Personalization System (DPS)

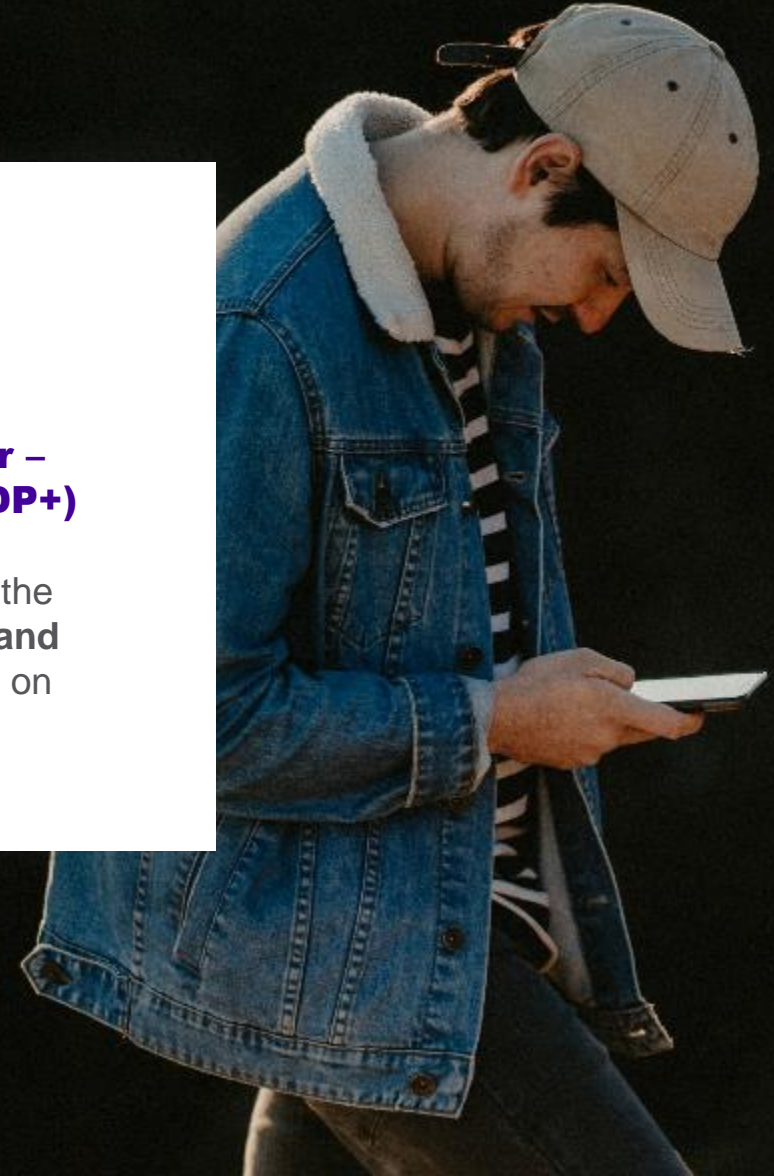
DPS is responsible for the generation and delivery of eSIM profiles to the SM-DP+.

DPS acts as a **Digital Factory**, enabling real-time management throughout the eSIM lifecycle.



Subscription Manager – Data Preparation (SM-DP+)

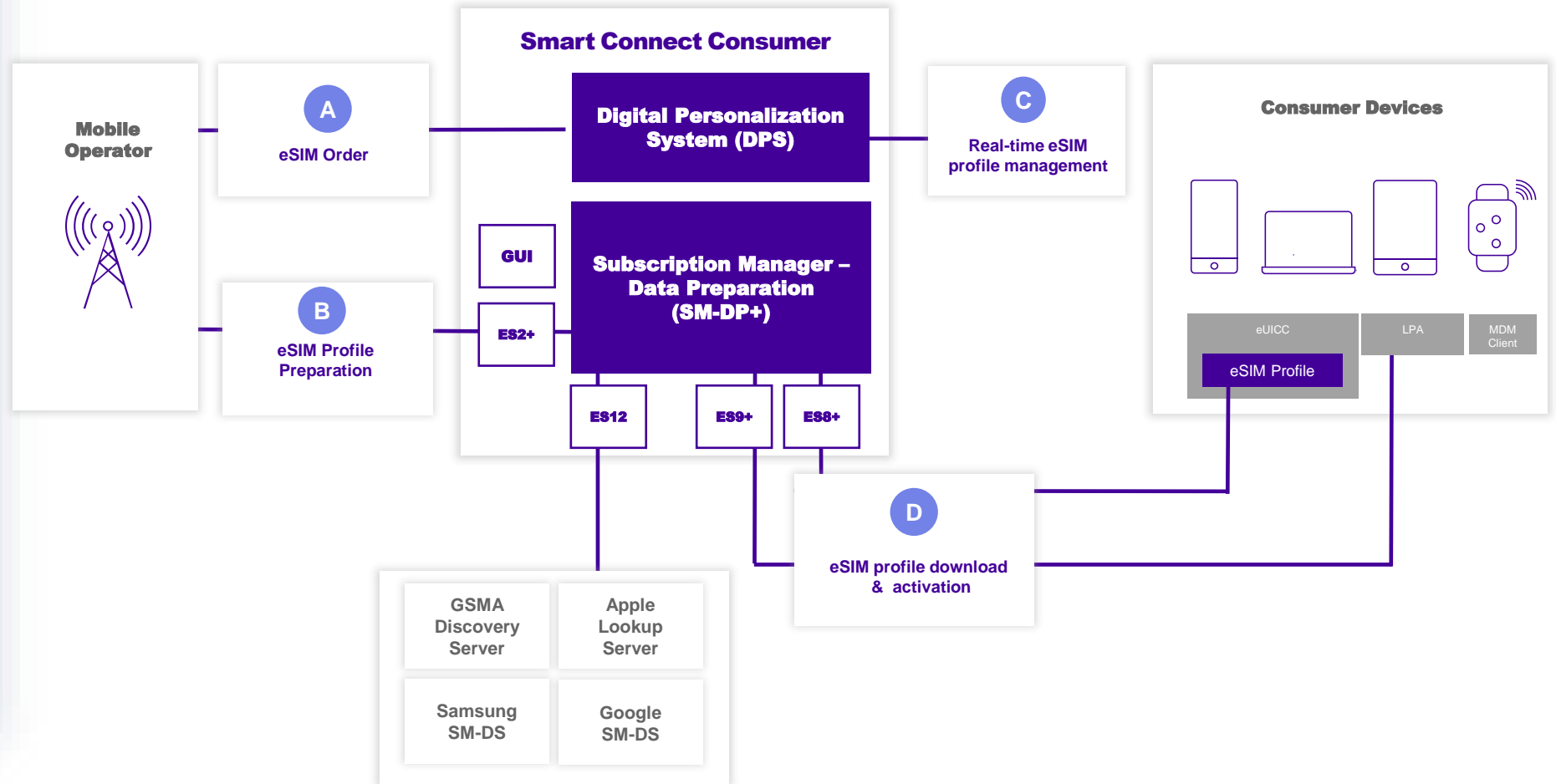
SM-DP+ is responsible for the **management, protection and download** of eSIM profiles on consumer devices.



SMART CONNECT CONSUMER

High level architecture and flows

- A eSIM order**
The DPS takes profile orders from the MNO following the Profile Description agreed, and generates eSIM profiles
- B eSIM profile preparation**
The SM-DP+ prepares the profile, generating and securing a unique subscription profile ready to be downloaded to an eSIM
- C Real-time eSIM profile management**
The DPS performs dynamic adaptations, customizations and updates of eSIM profiles just-in-time before the download
- D eSIM profile download & activation**
The SM-DP+ remotely downloads the subscription profile to the end-user device following the consumer request.



ESIM PROFILE CUSTOMIZATION

Challenges

- › Mobile operators are forced to personalize profiles after eSIM profiles are downloaded and activated
- › This creates additional processes and takes longer for subscribers to complete onboarding.

IDEMIA's solution

All eSIM profile elements are customizable

Customize any profile element and profile metadata (SPN, ADN, PIN, PLMN file to adapt the roaming configuration, etc.)

All customizations done prior to the download

The eSIM profile is completely updated and can be downloaded and activated at once without requiring any OTA update, which makes the onboarding process quicker and easier for users

New revenue streams

Create unique offers in the market based on affiliates, MVNOs, or partners.

DYNAMIC PROFILE ADAPTATION

Challenges

- › More and more eSIM capable devices increasing heterogeneity
- › Interoperability issues: Device capabilities might not be all accessible if wrong eSIM profile is downloaded
- › Complex logistics & inventory management: different SKUs per device or use case

IDEMIA's solution

A single SKU for all devices and use cases

Benefit from an easier eSIM profile management to support all new devices and use cases, ensuring **fast time to market**

Last minute adaptation of the eSIM profile

Get device and the eUICC characteristics to **dynamically adapt the profile** with the adequate set of variables (Pin code, IMSI, ICCID, etc.) and SAIP template right before the profile download

Improved user experience

Ensure the success of eSIM profile download and a **positive subscriber experience**, regardless of the device.

ESIM PROFILE REPROCESSING

Challenges

- › Solving interoperability issues with some devices or eUICCs often involves heavy & costly processes
- › Deploy new features on existing profiles (such as 5G network)
- › Update batch of profiles already generated without discarding out-of-date profiles

IDEMIA's solution

Facilitates batch profiles update

No need to exchange new input files to reprocess profiles

Avoids wasting profiles

No need to generate new profiles or to discard outdated ones

No need to regenerate and replace existing physical vouchers distributed to POS

Improves profiles interoperability

Faster time to market to adapt profiles for new devices

Easy resolution of interoperability issues by setting up new parameter on the profile description (ex: applets)

GROUP QR CODE

Challenges

- › Capture customers on the move
- › Address groups of people (families, travelers, employees, etc.) while optimizing the subscriber acquisition cost
- › Offer instant eSIM activation for all connected devices

IDEMIA's solution

Easy onboarding of groups

Enables MNOs to leverage a single QR code to onboard public or private group of subscribers, regardless of the device type

Marketing campaigns follow up

Enables to finely manage and follow up performances of marketing campaigns depending on user's profiles, locations, special events.

Improved user experience

End-user scans the QR code, downloads the profile and finalize subscription to instantly get access to connectivity services

FOCUS ON ESIM DIGITAL SERVICES LIFECYCLE ANALYSIS RESULTS

Verified by Bureau Veritas



For one consumer eSIM profile handled by IDEMIA

eSIM profile generation



eSIM profile download



Datacenter energy consumption & equipment

< 0.2g CO2 equivalent

MEET ALL ESIM CHALLENGES WITH IDEMIA



IDEMIA Smart Connect Consumer

eSIM Subscription Management

Compliant with all eSIM devices, today and tomorrow

Support all existing eSIM devices on the market today

Committed to implement all future versions of the eSIM GSMA specifications

Ensuring high levels of availability

Offering **uninterrupted service** to support mobile operators in delivering an always-on service, avoiding churn and any disruption in eSIM activation process

99.99% today and 99.999% 2024

Protecting data from major disasters

A resilient architecture that makes data bases replicated through **geo-redundancy** allowing **traffic load balancing** and avoiding major disasters

Handling significant volumes & activity peaks

Strong capacity to **handle significant volumes of eSIM downloads** along with the upcoming market growth, as well as the ability to immediately **adapt to activity peaks**

Efficiently securing the critical eSIM business

Most advanced systems to protect the eSIM business from **DDoS attacks** that could create major service disruptions

End-to-end security of credentials

SAS-SM accreditation

Offering real-time eSIM profile management

Profiles dynamically adapted, customized and updated which **simplifies inventory** and **speeds up time-to-market** for latest devices launch

Full digital onboarding process

Enabling mobile operators to **realize their digital transformation**, combining eKYC with eSIM to offer a streamlined user experience at the onboarding

Worldwide footprint

- **160 live or qualified eSIM platforms** around the world
- A cloud-approach to support **global deployments** of eSIM platforms



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