



MULTI IMSI VS. EUICC

In the world of IoT, there are a few popular choices for multi-network SIMs. As IoT devices are often set and forget for many years at a time, deployed to remote locations, and used for brand-new and often complex use cases, connectivity requirements need to be holistic and future focused.

This whitepaper will look at:

- Multi-IMSI Solutions for IoT Use Cases
- The rise of eUICC

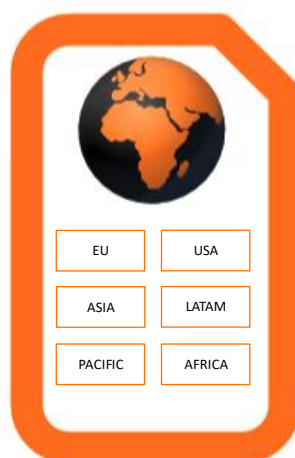
Multi IMSI

IMSI stands for International Mobile Subscriber Identity. A single IMSI means a single Mobile Network Operator (MNO) relationship. That means if you have one IMSI on a SIM card, you will be able to connect to that operator's network, plus whomever they have roaming agreements with.

A multi-IMSI SIM means you can hold multiple MNO relationships on the same SIM and switch quickly and easily from one to the other, dynamically downloading new IMSIs to the SIM, depending on where it's located. Once downloaded, the SIM will act exactly as a local SIM. A "nice to have" for mobile consumers who want to beat the high costs of roaming agreements, but critical for IoT because IoT behaves entirely differently from mobile phones.

With a single-IMSI solution, IoT devices can't help but experience gaps in service or availability, or a lack of flexibility that translates poorly on the business's bottom line. With the right multi-IMSI solution, devices can simply switch automatically as necessary to achieve contextual business goals. The impact of high MNO costs, potential network faults, and low coverage by any single MNO are suddenly far less significant.

Multi IMSI
Management Applet



Above mentioned regions are just examples. It is just as possible to load the IMSI from an MNO and only connect to the country in question.

eUICC

eUICC stands for Embedded Universal Integrated Circuit Card, a GSMA standard that was created around the same time as the growth of embedded SIM cards. eUICC was intended to support customers in avoiding MNO lock-in by allowing them to download new profiles to the same SIM in a standardized way.

eUICC is supported across all SIM form factors, including plastic (SIM), embedded (eSIM) or integrated (iSIM). The common factor is that like multi-IMSI solutions, eUICC can be provisioned over-the-air (OTA), using the GSMA standard. Enterprises can add profiles for new MNOs as necessary and will be able to make the switch without physically changing the SIM. Each profile can be considered entirely standalone.

eUICC
Profiles



Standard

eUICC is a globally accepted standard, ensuring security and compliance. provider.

Flexible

Mobile operators OTA new network profiles when you encounter a problem such as a permanent roaming restriction or poor service with the current provider.

Open

No lock-in to any MNO. Enter into new partnerships for existing devices with no need to physically change the SIM.

eUICC RSP overview

	CONSUMER	M2M
Form Factor	Embedded in the device (e.g. iPhone & Android mobile phones)	Plastic SIM / embedded SIM / Integrated SIM
EID (eUICC identifier)	Identifies the embedded device SIM	Identifies the eUICC SIM Card
Profile download mode	Pull model: the consumer can select an operator via QR code, URL	Push model: the operator is selected by the business entity
Transport mode	Consumer RSP uses mobile data or Wifi	M2M RSP uses SMS and OTA BIP
Main RSP modules	The SM-DP+ combined with the LPZ act as a local proxy application to perform local profile management	The SM-SR is responsible for managing the status of profiles on the eUICC (SGP.02)
Multi IMSI support	Can host only a single IMSI (i.e. no Multi IMSI)	Can host a Multi IMSI applet as a single profile
Lock to Vendor	Allows connection of any SM-DP+ as long as they share the same root CI certificate	Allows to connect to one server only (SM-SR) using a pre-shared key (PSK) infrastructure to establish secure channels to the eUICC

For further details on the differences between Multi IMSI and eUICC, please contact our sales experts at Fidenty BV.