

The adoption of eUICCs and iSIMs for IoT is forcing vendors to adapt their strategies

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The introduction of eUICCs¹ and iSIMs is disrupting the IoT connectivity value chain. Chipset players and SIM vendors will have a more-direct relationship with the end user as a result of this change, and their focus will shift from providing hardware to offering software services. Vendors have no choice but to adapt their IoT strategies to address the challenges that eUICCs and iSIMs will bring.

This article summarises the findings of our report, [eUICC and iSIM for IoT: vendor case studies and analysis](#). We grouped the eight vendors profiled in the report based on their role in the IoT connectivity value chain for eUICC/iSIM.

- **Chipset players.** These are vendors at the start of the iSIM connectivity value chain. They are typically device IP providers or system-on-a-chip (SoC) providers.
- **eUICC and RSP platform providers.** These are vendors that produce eUICCs and provide the remote SIM provisioning (RSP) platform (also known as the eUICC/iSIM subscription management platform) to operators and OEMs. The RSP platform enables the profiles of eUICCs and iSIMs to be changed remotely.
- **RSP orchestrators.** These are vendors that provide ‘behind-the-scenes’ RSP orchestration solutions to operators that do not have the expertise to develop such solutions themselves.

Figure 1 summarises the current eUICC and iSIM for IoT solutions of these eight vendors.

Figure 1: Overview of the vendors profiled²

Vendor	Main business	Primary role in eUICC/iSIM value chain	Commercial IoT eUICC solution?	RSP platform?	Commercial IoT iSIM solution?
Altair Semiconductor	Semiconductor provider	Chipset player	N/A	N/A	✓
Arm	Semiconductor IP and software design company	Chipset player	✓	✓	✓
Gemalto (Thales)	SIM provider, digital security solutions provider	eUICC and RSP platform provider	✓	✓	✗

¹ We use the term ‘eUICC’ as defined in the GSMA SGP.01 V4.0 M2M eSIM Architecture Specification: “A UICC which is not easily accessible or replaceable, is not intended to be removed or replaced in the device, and enables the secure changing of subscriptions.” This definition is often used interchangeably with ‘eSIM’ when referring to GSMA-compliant solutions; we use the term ‘eSIM’ to refer to solutions that predated the GSMA M2M SGP.02 specifications (first released in May 2016).

² N/A signifies that the vendor is not involved in this part of the IoT connectivity value chain. Ericsson currently only offers its eUICC orchestration solution to consumers. Its RSP platform is also currently only available to consumers.

Vendor	Main business	Primary role in eUICC/iSIM value chain	Commercial IoT eUICC solution?	RSP platform?	Commercial IoT iSIM solution?
G+D	SIM provider, digital security solutions provider	eUICC and RSP platform provider	✓	✓	✗
IDEMIA	SIM provider, digital security solutions provider	eUICC and RSP platform provider	✓	✓	✗
Truphone	MVNO, SIM provider	eUICC and RSP platform provider	✓	✓	✗
Amdocs	Software and professional services vendor	RSP orchestrator	✓	N/A	N/A
Ericsson	Telecoms network vendor	RSP orchestrator	✗	✓	N/A

Source: Analysys Mason, 2020

Chipset players have previously had a limited role in the IoT value chain, but the introduction of iSIMs is bringing them to the forefront

Chipset players do not have a major role in the IoT connectivity value chain for physical SIMs or eUICCs, but this is changing with the introduction of iSIMs. iSIMs position device IP providers and SoC providers at the beginning of the IoT connectivity value chain; SoC providers design and produce the SoCs for iSIMs using SIM IP from IP providers such as Arm and Synopsys.

Arm launched an iSIM-based smart label solution in April 2020 for life sciences company, Bayer, in collaboration with several IoT players. Arm provided the SIM IP and the RSP platform, Altair provided the SoC, Murata produced the hardware and Vodafone provided the connectivity. Altair has been the most active SoC provider in the enterprise IoT space so far; other SoC providers, such as Qualcomm, are instead focusing their attention on the consumer iSIM use case. Synopsys has also been active in the iSIM market; it has embedded its security IP solution into Truphone's Io3 eUICC solution through a partnership with the MVNO.

Traditional SIM providers are shifting from providing hardware to offering software services

Gemalto (Thales), G+D and IDEMIA are the largest SIM providers worldwide in terms of market share, and have established relationships with MNOs. These vendors are now producing eUICCs (including SIM IP, such as the design of the secure element) and provide RSP platforms to operators and OEMs. The introduction of iSIMs will change the role of these vendors even further because they will no longer be required to provide the SIMs (thereby giving them a less-direct relationship with operators), but they will continue to provide SIM IP and RSP platforms.

Traditional SIM providers are being challenged by new entrants. MVNOs such as Truphone and Gigsby have used acquisitions to acquire eUICC capabilities (such as the ability to produce eUICCs and RSP platforms). SIM providers are adjusting their strategies to defend their position in the eUICC value chain and to secure their place in the iSIM value chain. Some examples are as follows.

- Gemalto has partnered with Eseye, an IoT MVNO. Eseye will supply bootstrap connectivity to Gemalto's 'plug-and-play' eUICC modules in order to provide an out-of-the-box connectivity solution.
- G+D is focusing on automating aspects of its RSP platform in order to offer on-demand provisioning services. It is also involved in Deutsche Telekom's open, collaborative 'nuSIM' iSIM solution.
- IDEMIA differentiates itself by offering an eUICC orchestration solution along with its RSP platform (Gemalto and G+D outsource the orchestration solution to Amdocs). IDEMIA is also developing other differentiators for its RSP platform such as its automotive connectivity manager tool.

RSP orchestrators have had success in the consumer segment; the IoT use case will be more challenging

RSP orchestrators offer operators several solutions to make the profile provisioning process more efficient, including:

- BSS integrations on the RSP platform between operators and various OEMs, and between operators and other subscription management or device management platforms
- entitlement servers that allow operators to restrict an end user's access to certain applications (for example, some features may only be available to specific OEMs)
- software development kits (SDKs) for a seamless, OEM-agnostic user experience on the RSP platform.

Amdocs and Ericsson have so far been focused on consumer devices (such as smartphones and smart watches) where the business case is clear. Amdocs is currently developing an eUICC orchestration solution for IoT devices. It has also developed a tool for partner revenue settlement that will be a complementary part of the eUICC for IoT solution. Ericsson has substantial experience in the IoT space, but has not yet launched a full IoT eUICC offering; it is awaiting the outcome of the GSMA work item for low-cost IoT devices. It believes that the current GSMA specifications are not yet optimised to support these devices.

Vendors that embrace eUICCs and iSIMs early on will be well-placed to cement their future role in the new IoT value chain

The adoption of eUICC technology is still at an early stage and the iSIM market is even more nascent. Vendors should be proactive in developing eUICC and iSIM solutions in order to learn more about the technologies, develop expertise and influence standards (particularly for iSIM, because no official or de-facto standard has emerged yet).