achelos

Counterpoint
Technology Market Research

Rise of ‘Off-the-shelf’ GSMA-compliant eSIM RSP Software

October 2023

Executive Summary

The adoption of eSIM (embedded SIM) across consumer and IoT applications will soon reach an inflection point. This offers new opportunities for MNOs, infrastructure providers, system integrators and other potential stakeholders to operate their own eSIM RSP (Remote SIM Provisioning) platforms and exercise full control over eSIM RSP management and services.

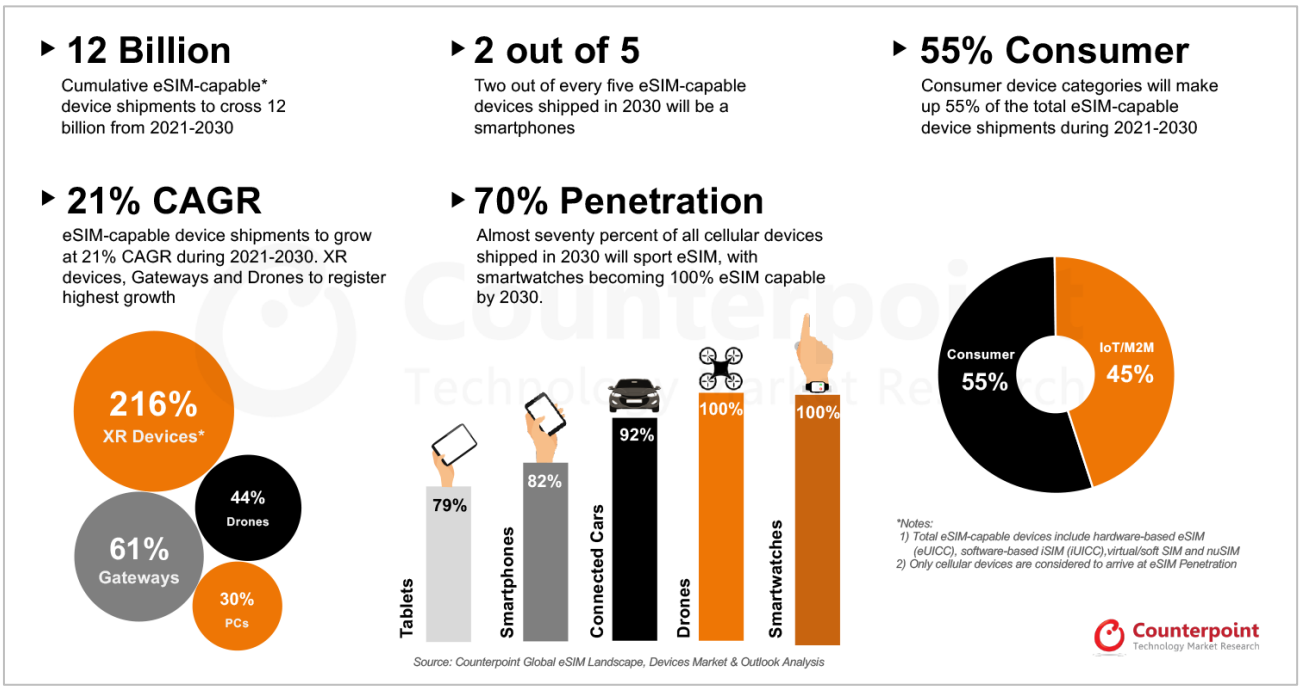
With growing geopolitical shifts and newer applications such as Private 5G Networks, having full data sovereignty and control is becoming imperative for the eSIM RSP platform users. Further, having a certain degree of autonomy can help the eSIM RSP platform owners shape business and pricing models and differentiate even more compared to the eSIM-as-a-Service solutions out there.

The German software development company **achelos GmbH,** one of the important players in the eSIM value chain, is positioned to fully satisfy these needs. The company offers a suite of off-the-shelf GSMA-compliant eSIM RSP software solutions with bespoke features and extensions that perfectly align with the requirements of solution providers, MNOs, private network operators or system integrators, filling an existing gap in the booming eSIM RSP market.

Preparing for the eSIM Tsunami

eSIM is a revolutionary technology driving the digital transformation of acquiring, accessing and consuming connectivity. The benefits of eSIM technology lie in enabling secure and seamless connectivity from chip to cloud, making possible an array of new business models for a broad range of stakeholders. It enables the transformation of mobile operators, making connected enterprises “fully digital”, thereby reducing overheads, customer acquisition costs and complexities while boosting customer experience and driving newer business models connecting people and things at scale.

The OEMs are increasingly offering eSIM functionality at the device level while the number of operators who enable eSIM capability is growing every day. eSIM not only helps operators improve consumer experience but also helps them make their operations faster, more flexible, and scalable. The drastic increase in the number of eSIM-only digital MVNOs is a testament to the disruptive potential of eSIM. All this is made possible by eSIM management solution vendors who enable mobile operators to connect eSIM-capable devices to end users. The disruption is not limited to the operators, it has also given birth to new-age “eSIM-first” eSIM management solution providers.



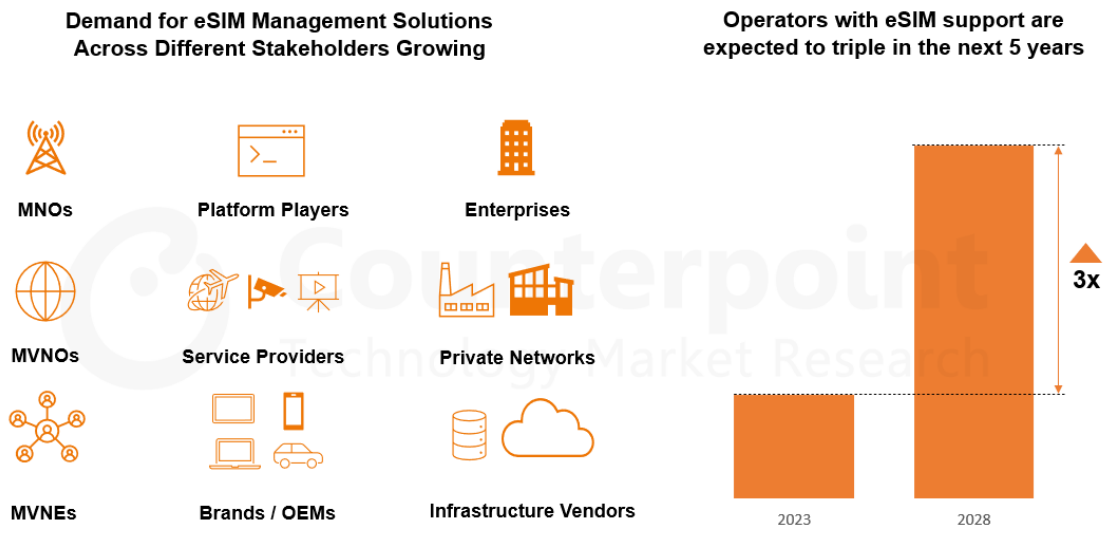
More than 12 billion eSIM-capable devices will be shipped globally during 2021-2030. To manage this growing installed base of eSIM-enabled devices, network operators need advanced software platforms to securely and reliably provision tens of millions of eSIMs remotely at scale. These eSIM activations are spreading across different connected device categories, from smartphones, tablets and smartwatches to drones and vehicles. All these devices require different modes of SIM data preparations, customizations, entitlements and policies supported by a software platform and services layer on top of them, usually called a Remote SIM Provisioning (RSP) offering.

eSIM Remote SIM Provisioning: Software to Service

Rising Need for eSIM RSP Solutions

There are more than 1,500 mobile network operators (MNOs) globally, from Tier-1 MNOs to long-tail mobile virtual network operators (MVNOs). They collectively activate and manage billions of SIMs every year, including the rapidly growing eSIM installed base. Additionally, there is a growing number of mobile virtual network enablers (MVNEs) driven by the acceleration of digital transformation after the COVID-19 pandemic and riding on the plethora of cellular IoT applications across verticals.

As a result, these mobile operators are also internally transforming themselves to provision the growing number of cellular devices digitally, securely and efficiently. eSIM enablement, provisioning and orchestration are playing a significant role in digitally transforming the end-to-end connectivity management for mobile operators.

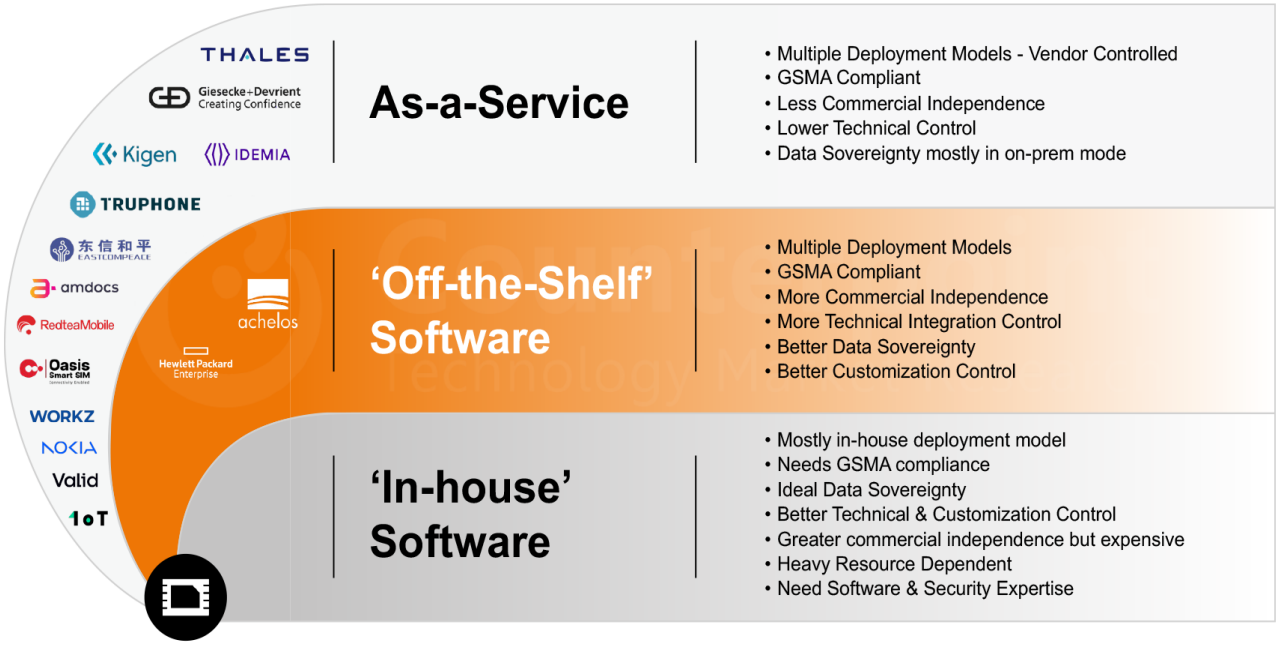


The primary factor driving the need for eSIM solutions is the large potential market. Currently, about 300 operators globally support eSIM on their networks, which means the number of operators adopting eSIM in the next five years will be more than 1,000 at the minimum.

The need for eSIM management platforms is also expanding beyond the traditional MNOs to new stakeholders. It ranges from IoT/CMP platform vendors getting into eSIM connectivity management to device OEMs, service providers such as content, communication apps, travel apps, connected devices, airlines, and enterprises and private networks managing increasing number of cellular connections for their employees' BYOD and IoT assets. There is also a greater opportunity for cloud infrastructure hyperscalers to become more vertically integrated by adding eSIM capabilities to their platforms as they already have strong relationships with MNOs and enterprises.

With the rising wave of eSIM adoption across device categories, operators are dual- or triple-sourcing eSIM RSP solutions for multiple reasons – maintaining redundancy, creating multiple geographic instances to meet local needs and regulatory requirements, having hybrid deployments to combine service localization and scalability with the strong security requirements of an RSP service, segmenting solutions by subscriber or device type, and gaining bargaining power.

Different Flavors of eSIM Management Solutions

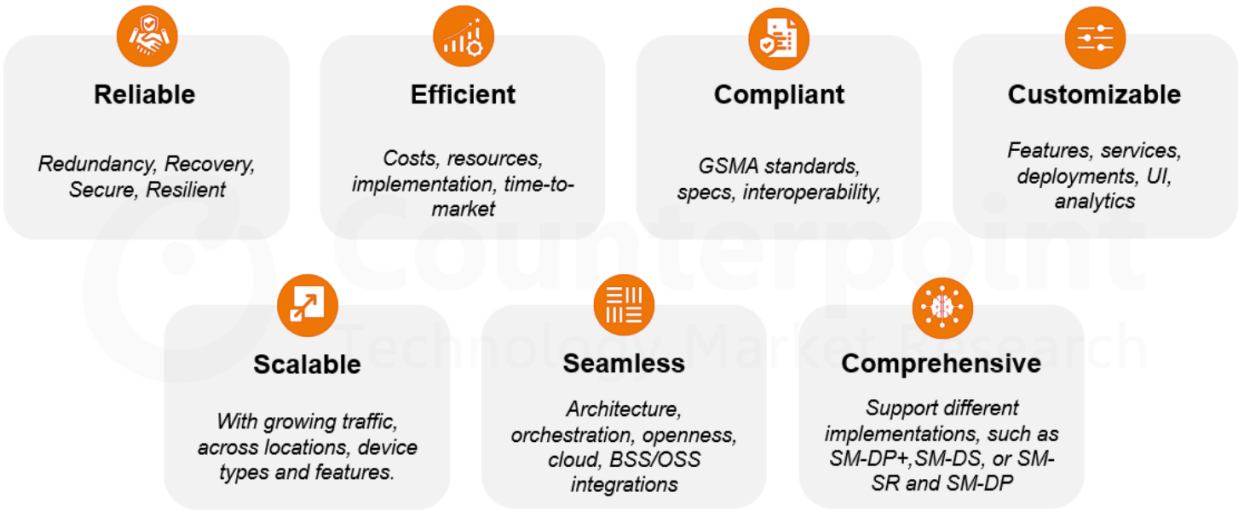


The incumbent SIM vendors have been delivering eSIM management solutions in the form of "eSIM-Management-as-a-Service", with the storage and processing of the subscriber data usually managed by the vendors at their own sites, applying the same established processes for SIM card production to the eSIM profile generation. While this has been the most successful and proven eSIM management offering in its early days, the competitive, geopolitical and regulatory landscape is changing. The growing need for "data sovereignty" has been one of the key triggers for several operators (and geographies) to consider either developing "in-house" eSIM management software or using "off-the-shelf" software and building a service on top of it as an alternative to the traditional eSIM Management-as-a-Service offerings.

Developing software and service "in-house" demands significant resources and domain knowledge, from software and standards to cybersecurity. It incrementally becomes expensive with ever-evolving standards, technologies and regulations. However, using an "off-the-shelf" eSIM management software is emerging as an attractive option.

Rise of Off-the-Shelf eSIM Management Solutions

Our discussions with multiple operators and telco solution providers reveal that the challenges they are facing are more related to having control over costs, technology, integration and data to independently manage connected devices and connectivity. This is where the “off-the-shelf” eSIM management software solution helps eliminate the significant cost risks, resource requirements and compliance requirements to achieve these goals.



Independent software-only providers such as achelos started as a niche by offering flexible off-the-shelf eSIM RSP software. The strategic decision of achelos to offer software rather than “eSIM Management-as-a-Service” has provided the company with a key differentiator in the market. It allows achelos to enable eSIM RSP services for ecosystem stakeholders, such as operators and solution providers, without entering into competition with them (by offering comparable services like connectivity, eSIM management and device management).

Having access to this kind of eSIM RSP software is a critical foundation for potential stakeholders to co-develop distinctive features and competitive services on top of the RSP core functionality with full control over security, scalability and costs.

Key Takeaways:

- eSIM adoption is growing rapidly across devices and sectors, which calls for more flexible eSIM management platforms to address different stakeholders, from MNOs and new-age digital MVNOs to service and solution providers, OEMs and enterprises.
- Players such as achelos can solve these new challenges with their unique cloud-ready, off-the-shelf solution approach that is cost-effective while being customizable and flexible due to state-of-the-art microservices architecture.
- "Off-the-shelf" RSP software helps the players differentiate compared to the traditional eSIM Management-as-a-Service solutions, especially when the software vendor is not offering similar, competitive services.
- "Off-the-shelf" RSP software offers significant flexibility and control to the stakeholders looking to expand their eSIM management platforms to add redundancies, comply with regulations and add extra capacity.
- The key to succeed with this approach is having a software partner like achelos which embraces state-of-the-art tools, frameworks and processes making it seamless for the stakeholder’s IT team to co-create unique solutions build on industry standard compliant and interoperable foundations.

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