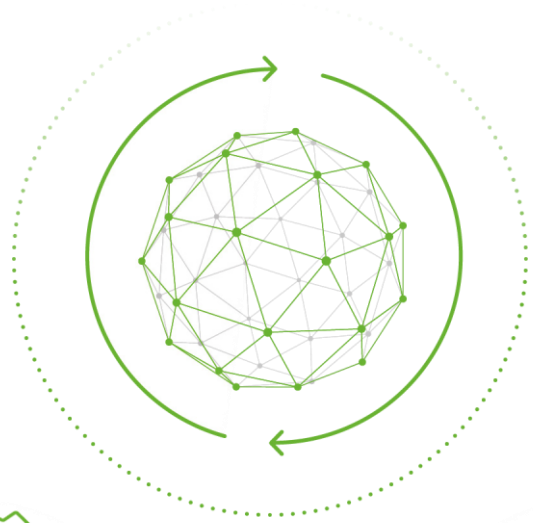
TRUSTED CONNECTIVITY ALLIANCE

Enabling trust in a connected future

Realising the Benefits of SGP.32

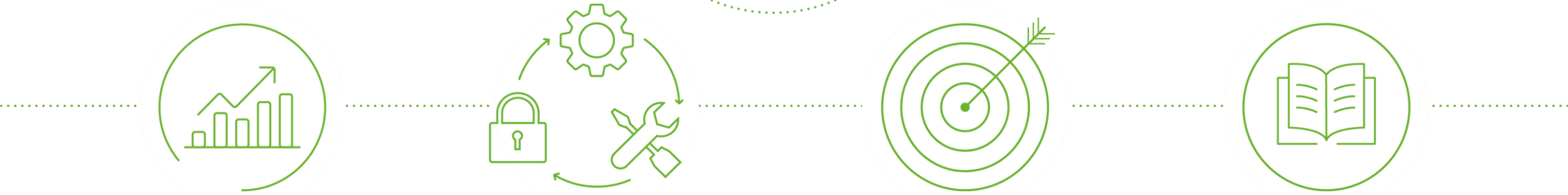
About Trusted Connectivity Alliance

Trusted Connectivity Alliance (TCA) is a global industry association, working to enable trust in a connected future.



VISION:

To drive the sustained growth of a connected society through trusted connectivity which protects assets, end user privacy and networks.



Market Monitoring	Specifications and Interoperability	Industry Engagement and Strategy	Education

Our Membership

TRUSTED CONNECTIVITY ALLIANCE

Executive:

Giesecke+Devrient · IDEMIA · NXP · life.augmented · THALES · Valid

Full:

card centric · 东信和平 EASTCOMPEACE · Linxens Opening the way to a better life · TATA COMMUNICATIONS · TIANYU · WORKZ · XH Smart 芯瀚

eSIM:

Kigen · monty mobile THE ART OF TELECOM

Ordinary:

COMPRION

TRUSTED CONNECTIVITY ALLIANCE

Enabling trust in a connected future

GSMA

Saïd Gharout

Chair of the RSP Working Group, Trusted Connectivity Alliance & Head of Standards, Kigen

Gloria Trujillo González

eSIM Technical Director, GSMA

eUICC Form Factors

SIM
(UICC)

eSIM
(eUICC)

iSIM
(integrated
eUICC)

Global Momentum for eSIM Technology is Growing

TRUSTED CONNECTIVITY ALLIANCE

- **Consumer eSIM profile downloads* more than doubled in 2023.**

109%

Increase YoY

- **The deployment of M2M eSIM SM platforms also increased.**

12%

increase

- **Future growth is expected to be boosted by:**

- **Looking ahead, global standardisation efforts will promote increased eSIM adoption across IoT verticals.**

Why Does the IoT Need a Dedicated eSIM Architecture?

- New types of devices
- Integration complexity
- Need for secure, reliable connectivity

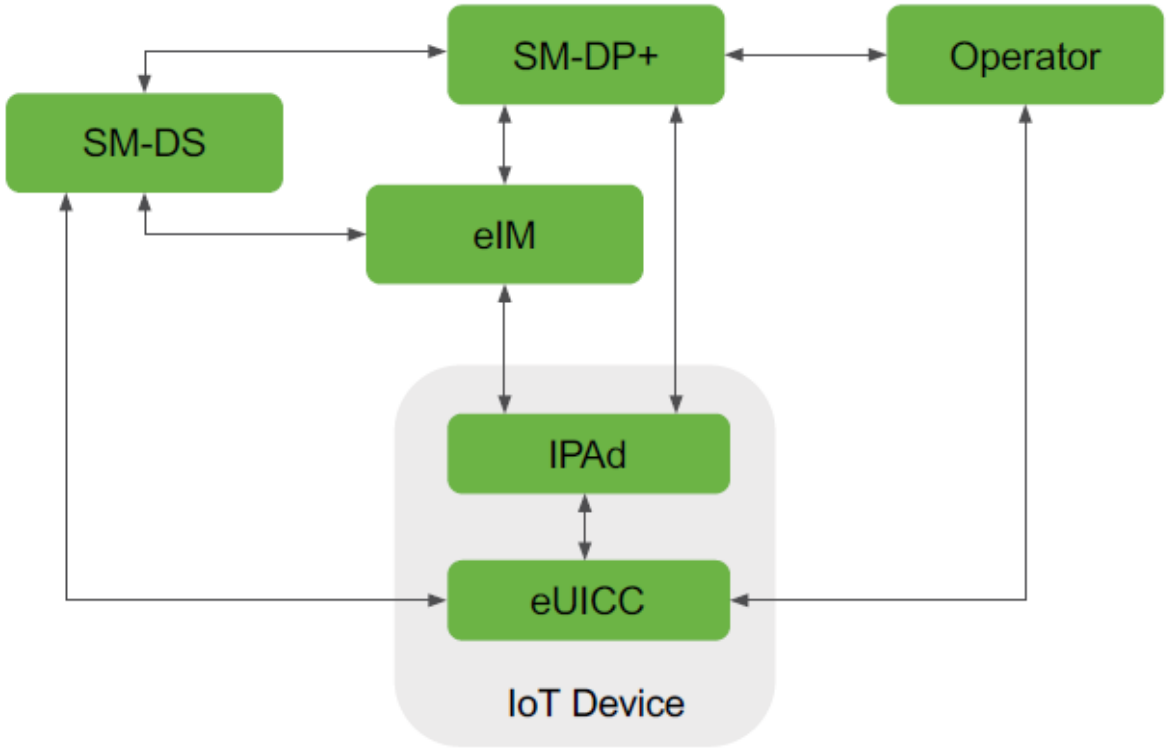
SGP.32 Specification: Two New Components

eSIM IoT remote Manager (eIM)

IoT Profile Assistant (IPA)

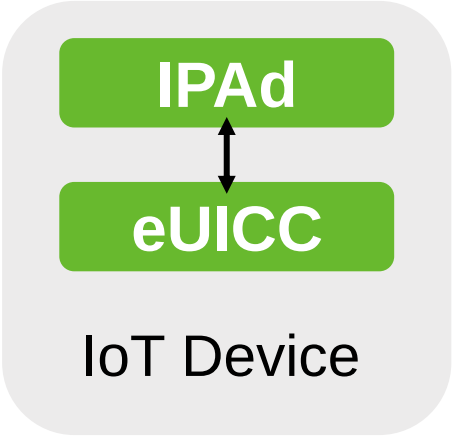
SGP.32 Specification Overview

- Extends Consumer specification (SGP.22) and inherits M2M features (SGP.02).
- Suitable for IoT devices that use LPWAN and/or lack a user interface (UI).
- Introduction of eIM for Profile Management and Profile Download.
- eIM change standardised.
- Profile Download is either direct between the device and the SM-DP+, or Indirect via the eIM.



IoT Profile Assistant (IPA) in the eUICC

- IoT Profile Assistant could be in the device (IPAd) or in the eUICC (IPAe).
- It’s possible for the device to activate IPAd or IPAe at any time.
- IPAd is suitable for high-end devices. Better interaction with device backend.
- IPAe is suitable for low-end devices. Better security and simplified deployment for device makers. All the IPA intelligence is implemented by the eUICC.



SGP.32 Features

IoT Minimal Profile

Lightweight communication protocols

Emergency call / roll-back / fall-back

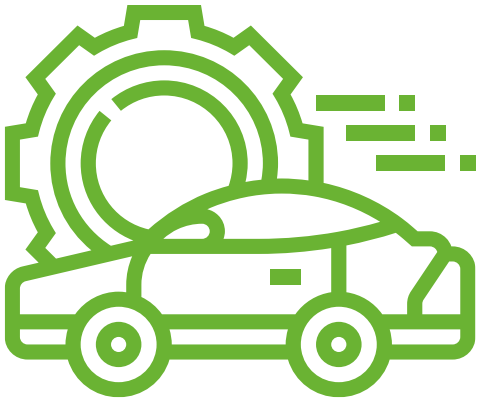
Connectivity parameters

Security

SGP.32 Benefits

- Reduced Time To Market
- Simplified IoT Deployments
- Streamlined Remote Profile Management & Provisioning

Integration Advantages for the Industry



Automotive

Smart Metering

Logistics

GSMA

SGP.32 Product Compliance

eSIM IoT - From Specifications To Product On The Market

eSIM IoT - From Specifications To Product On The Market

2023

eSIM IoT Architecture and Technical Specs (SGP.31/32 V1.1)

eSIM IoT Security Specs (SGP.25 V2.0)

TCA eUICC Profile Package (IoT Package)

Server and eIM implementation site Specs (SAS extension)

2024

eSIM IoT Architecture and Technical Specs (SGP.31/32 V1.2)

First eIM SAS-SM Certified

eSIM IoT Security Specs Certify with CC (SGP.25 V2.1)

2025

eSIM IoT Test Specs (SGP.33-x V1.x)

IPA Functional Certification Program (GCF/PTCRB)

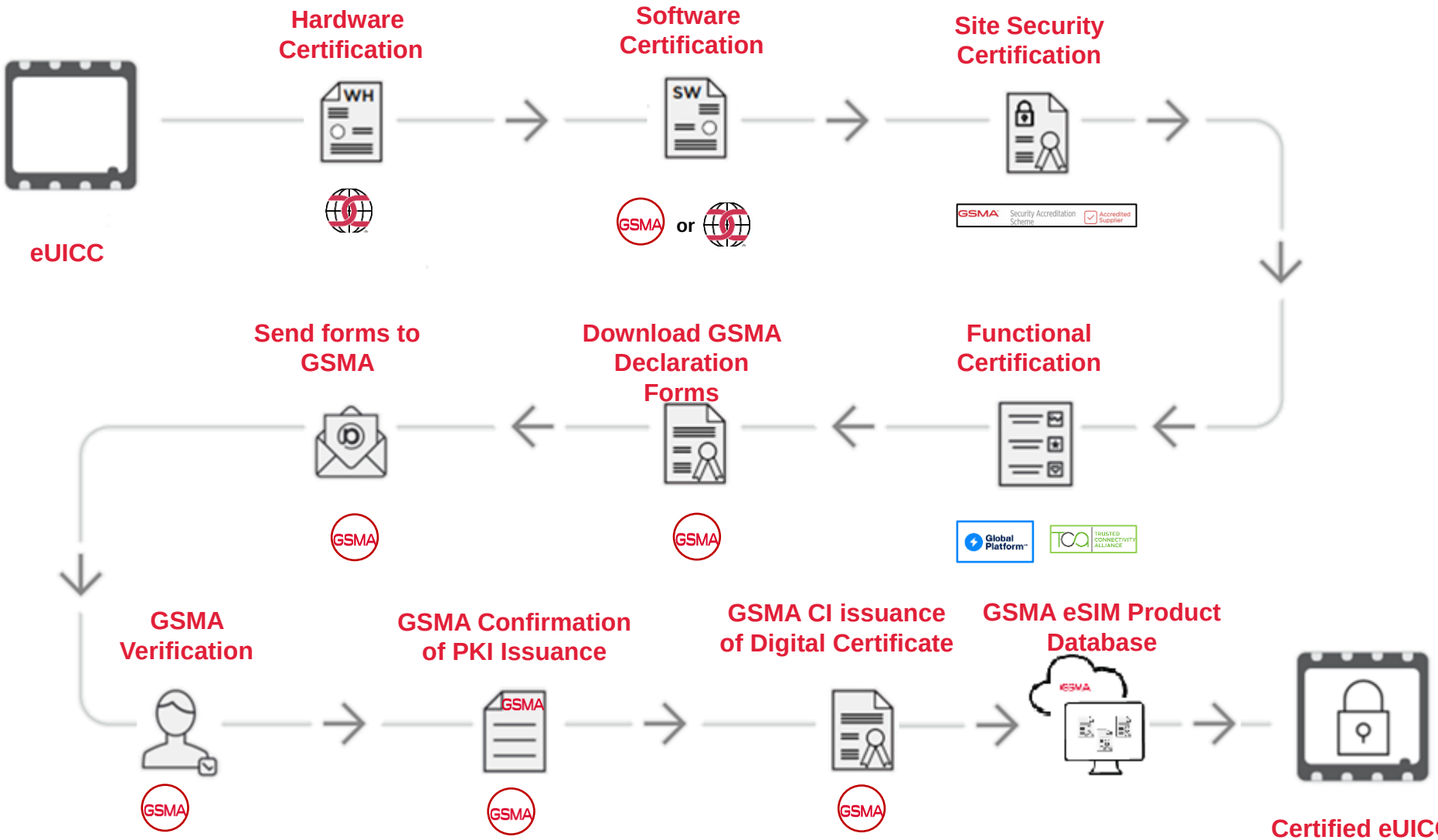
eUICC Functional Certification Program (GlobalPlatform)

GSMA Certified eUICCs

IoT Manager (eIM)

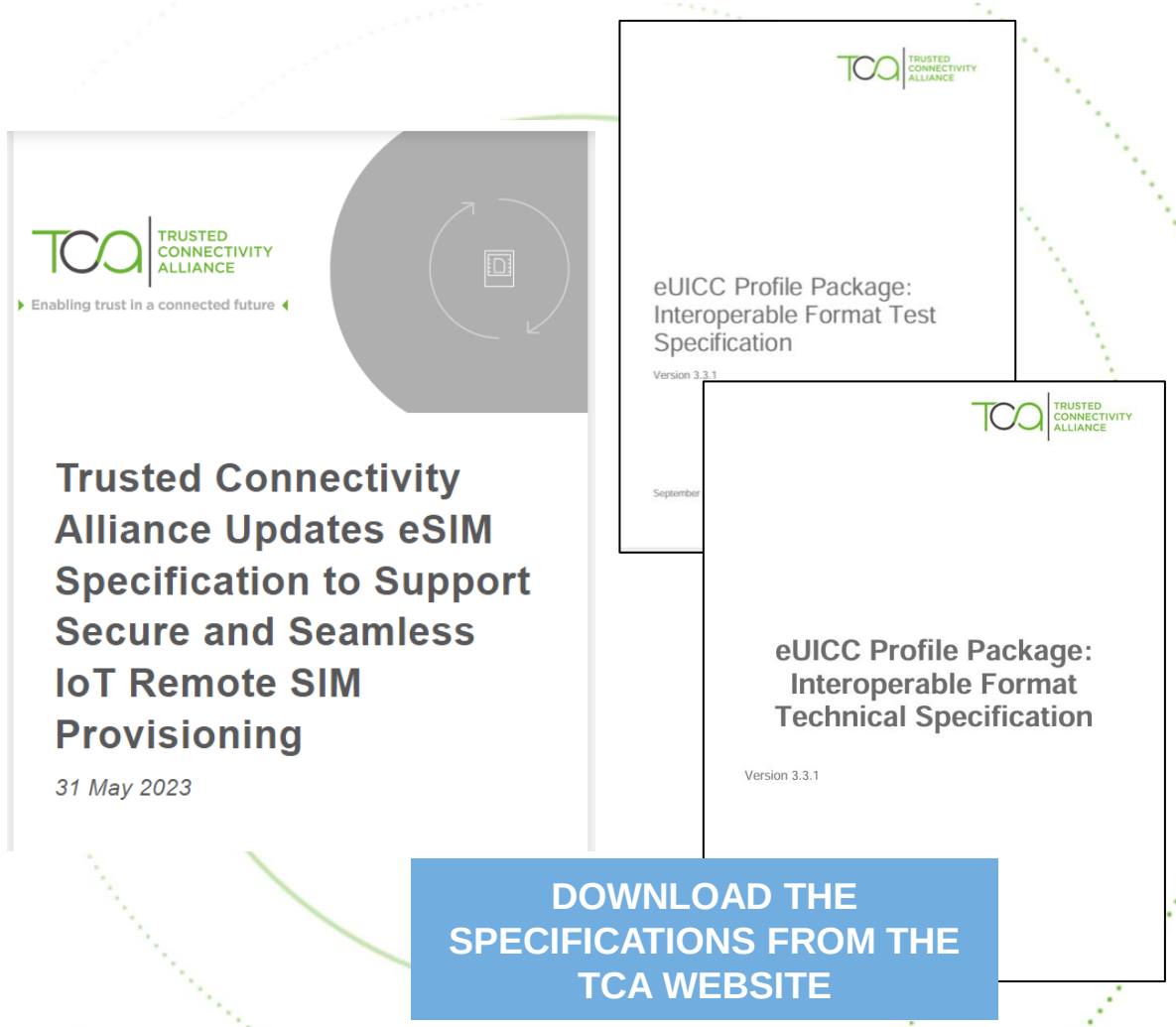
IoT Assistant (IPA)

The eUICC IoT Certification Journey



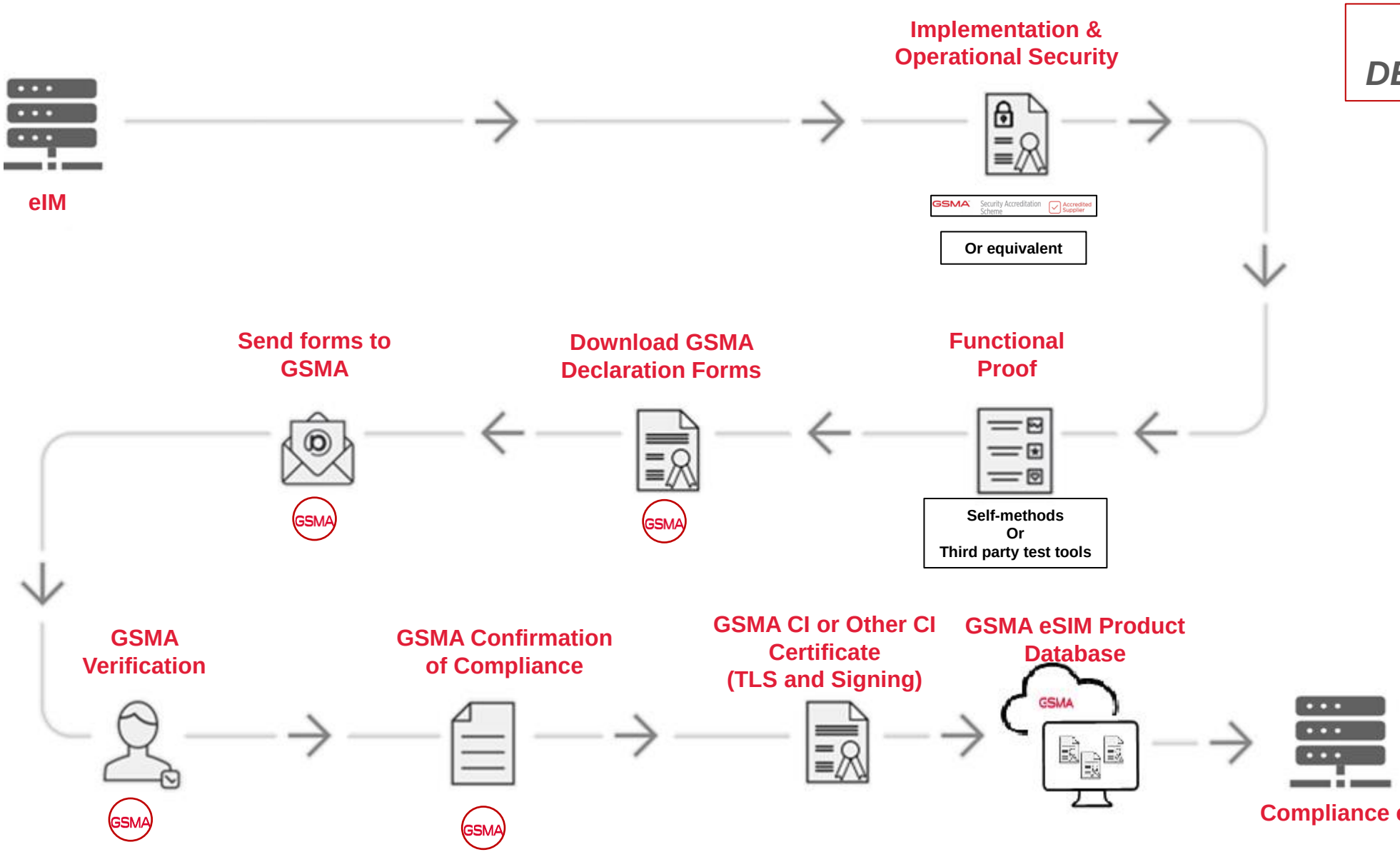
TCA's Interoperable Profile Package Specification

- Used in every eSIM (eUICC) deployed in the field.
- Enables mobile operators to load interoperable connectivity profiles in an eSIM, regardless of the SIM vendor.
- Addressing the challenge of remotely managing network constrained IoT devices.

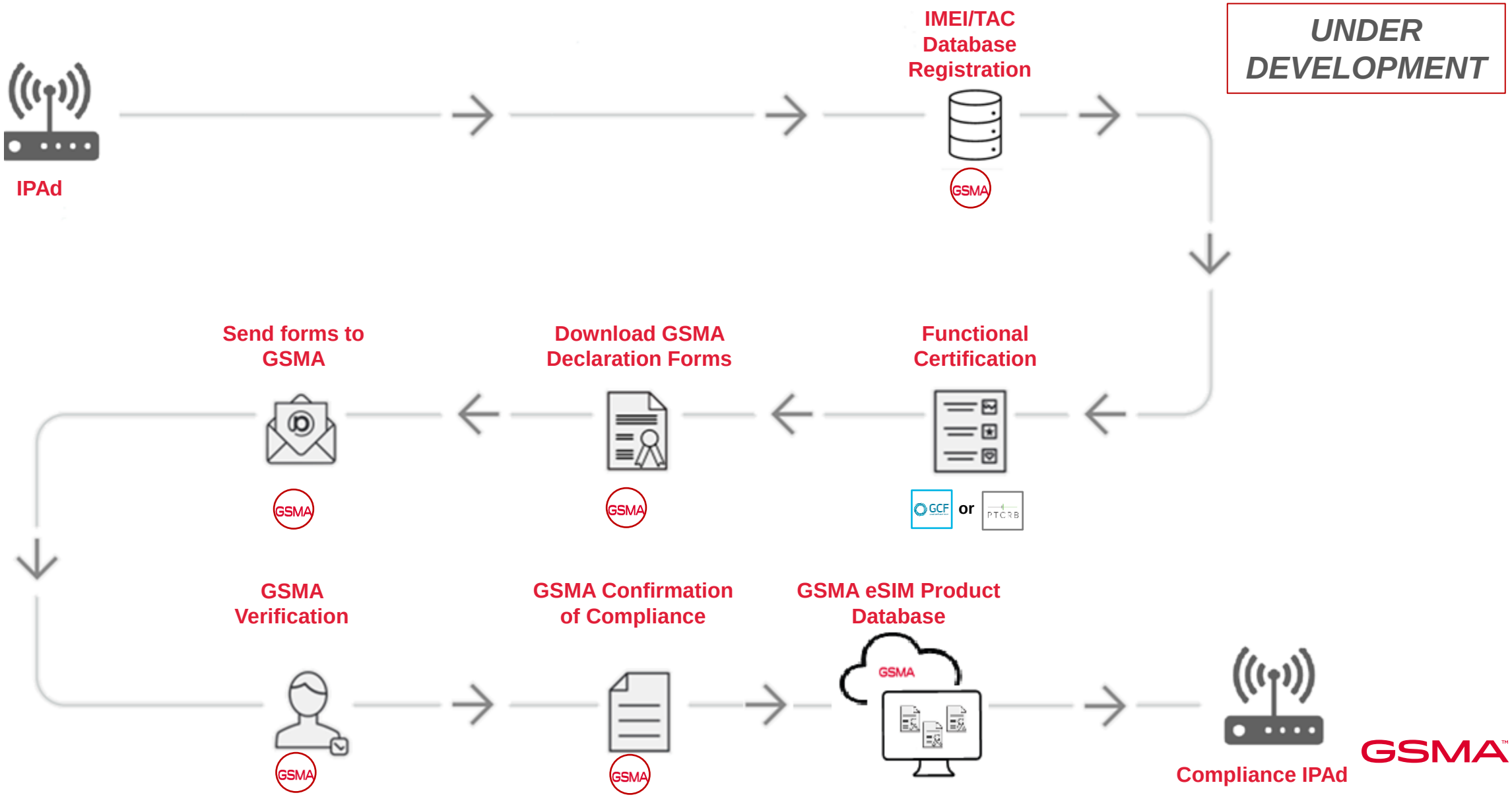


DOWNLOAD THE SPECIFICATIONS FROM THE TCA WEBSITE

The IoT Manager (eIM) Certification Journey



The IoT Assistant (IPAd) Certification Journey



Discover More on GSMA eSIM Compliance

eSIM Compliance Report

eSIM Compliance Consumer Page

RSPCompliance@gsma.com

eSIM IoT Expectations and Trends

eSIM is an important enabler of IoT deployments

But eSIM adoption is still low relative to its potential

SO FAR

Automotive

eSIM is already mainstream in connected vehicles

Beyond Automotive

Single eSIM initiatives rather than sector-wide deployments

NEW TRENDS SHOULD ACCELERATE ADOPTION

- New **eSIM specifications for IoT**
- The arrival of **new IoT technologies** such as 5G RedCap and satellite (e.g. satellite/cellular integration)
- Growing range of **eSIM IoT devices** and **eSIM products/ solutions** from SIM vendors (aiming for global capabilities and coverage)
- Growing rollout of **private networks** (an incremental use case)
- Growing emphasis on eSIM as a technology that can support the **sustainability imperative**

Source: GSMA Intelligence

GSMA Intelligence

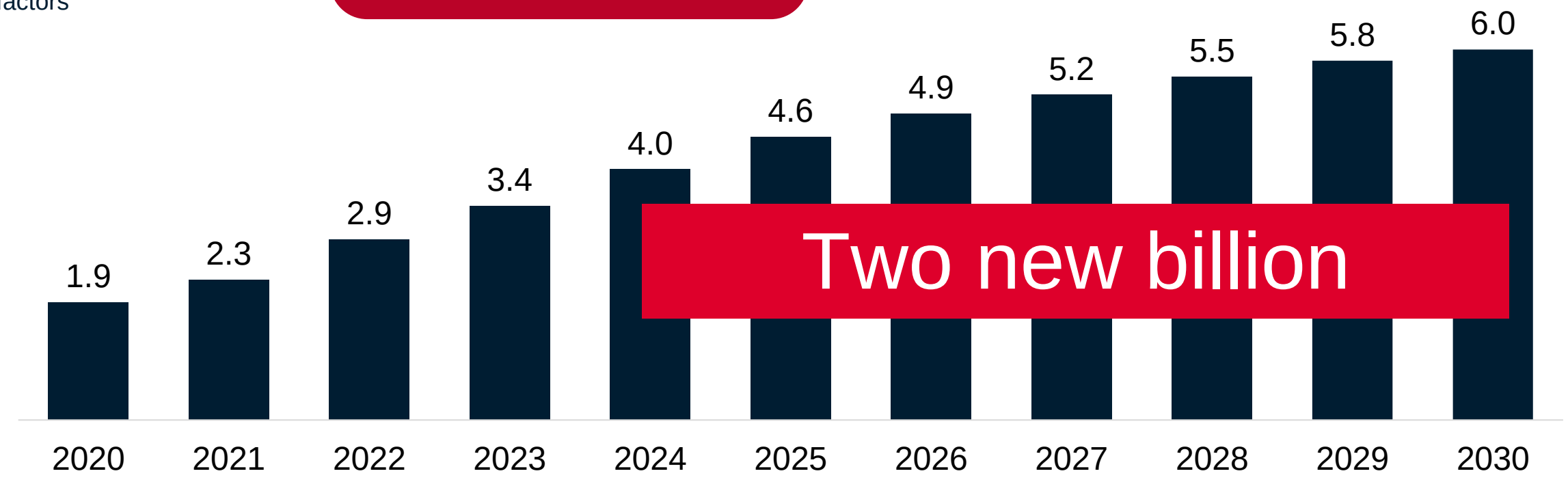
The Potential for Growth is Significant: Scaling eSIM Within a Fast-Growing IoT Market

IoT cellular connections globally

Billion. Total, all SIM form factors

eSIM targeting a growing share of the market

China biggest market: 4.3 billion connections by 2030

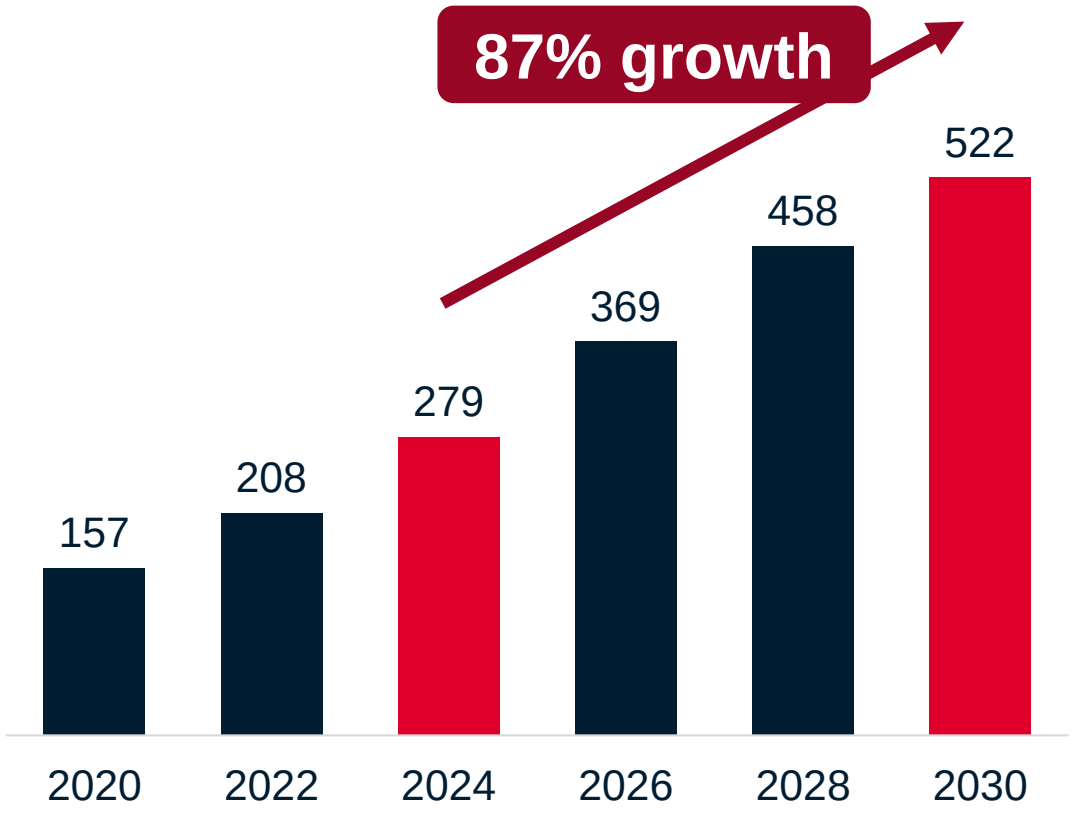


Source: GSMA Intelligence

GSMA Intelligence

USA: One of the largest IoT markets in the world
eSIM & iSIM capturing ~80% of the IoT market by 2030

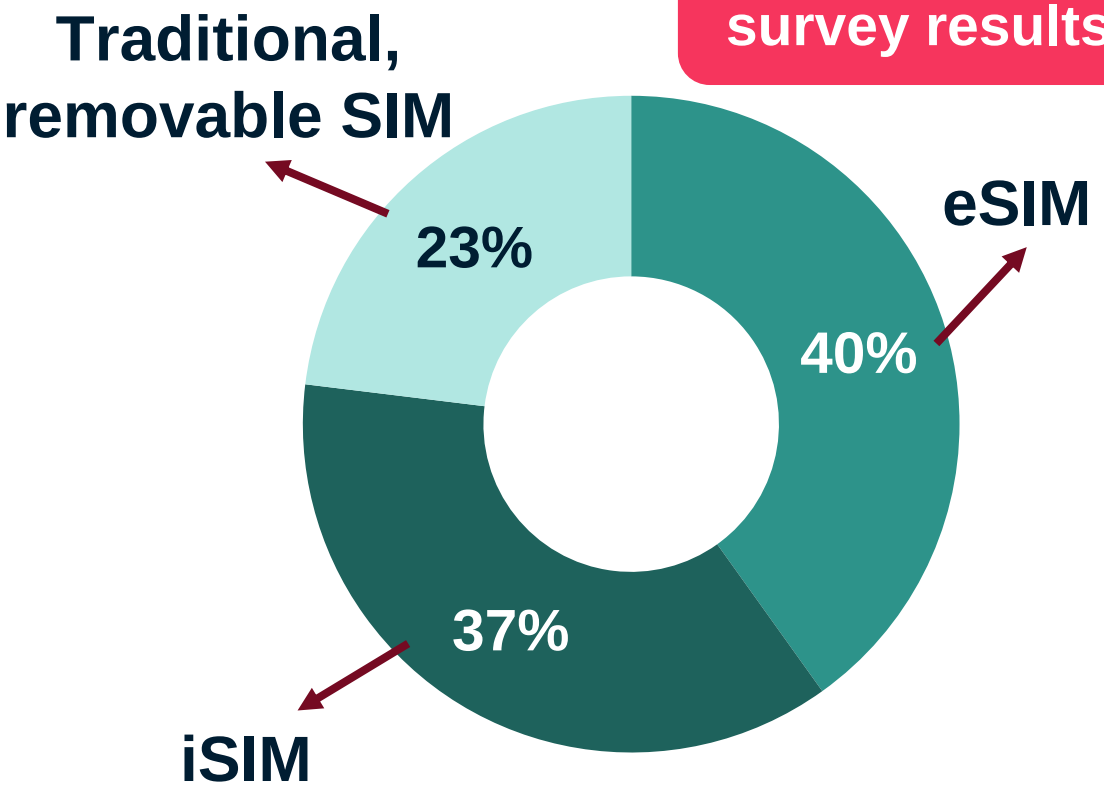
IoT cellular connections in the USA
Million. Total, all SIM form factors



Source: GSMA Intelligence

Market shares in 2030

Enterprise survey results



Source: GSMA Intelligence Enterprise in Focus – Global Digital Transformation Survey 2024

GSMA Intelligence

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Exclusive eSIM Bundle (selection of eSIM content)

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Discover More on GSMA eSIM Architectures

eSIM Architecture Video

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Audience Q&A

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