

Unlocking the Network: How Open Source Is Driving Standardization & Interoperability

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Teaser



CAMARA is redefining how developers interact with telco networks. Hosted by the LF in collaboration with GSMA and TM Forum, CAMARA is an OSS project creating standardized, operator-exposed APIs—giving developers secure, scalable access to capabilities like Quality-on-Demand, Location Verification, and Edge Discovery.

This session introduces how CAMARA bridges the gap between telcos and the developer ecosystem. Learn how you can use CAMARA APIs to power real-world use cases in gaming, XR, IoT, and more—without needing deep telco expertise.

We'll showcase active APIs, demo contributions in action, and explain how you can get involved—whether by implementing APIs within operators, connecting exposure platforms, integrating their own portals, or adapting products to fit into this growing ecosystem. If you're building applications that rely on connectivity, this is your invitation to help shape the next generation of open, programmable networks.

Explore how open source is unlocking network capabilities and how you can contribute to the next generation of telco innovation

What can you do with a network API?

Identity & Fraud Prevention APIs



Enhanced Security

Improved signup

Better Experience

Location and Geofencing APIs



Public Safety

Geofencing

Child & Vulnerable Person Protection Edge Computing APIs



Latency & Response

Power Management

Efficiency

Payment & Charging APIs



Enhanced Security

Better Experience

Social Inclusion

Quality APIs

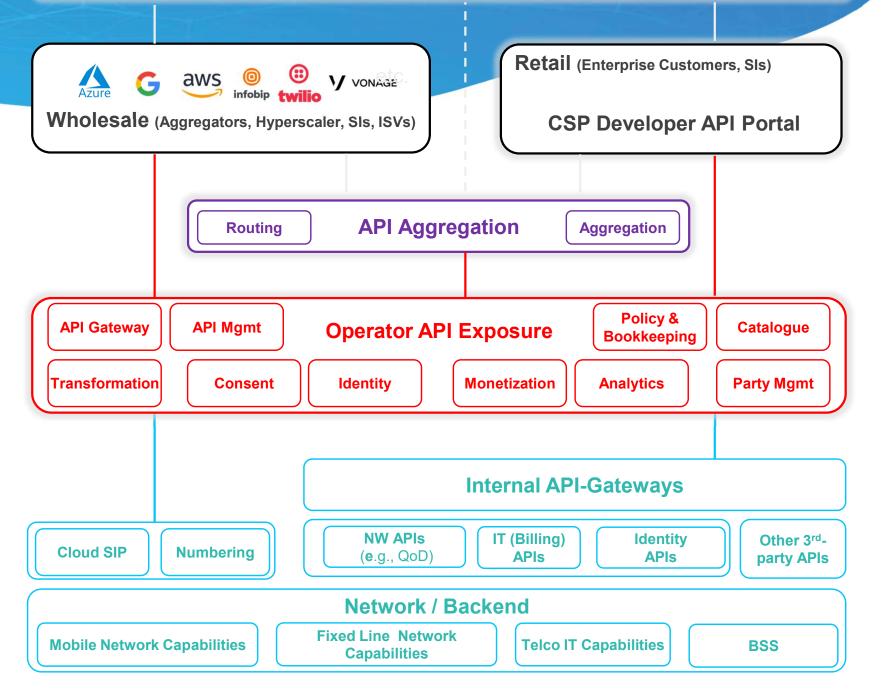


Quality on Demand

Improved Service Offers

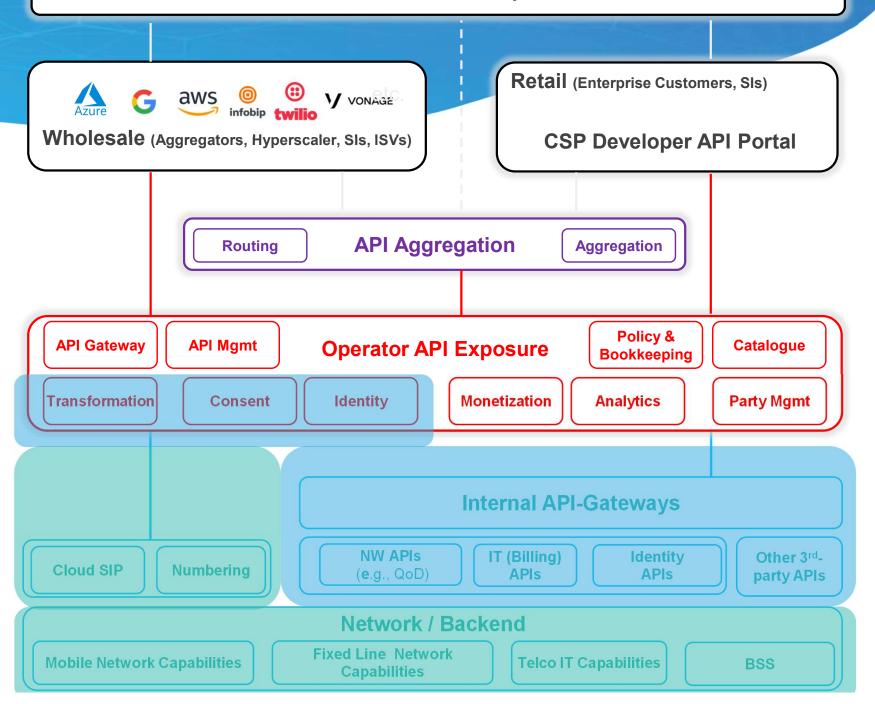
Better Experience

Customers / developers





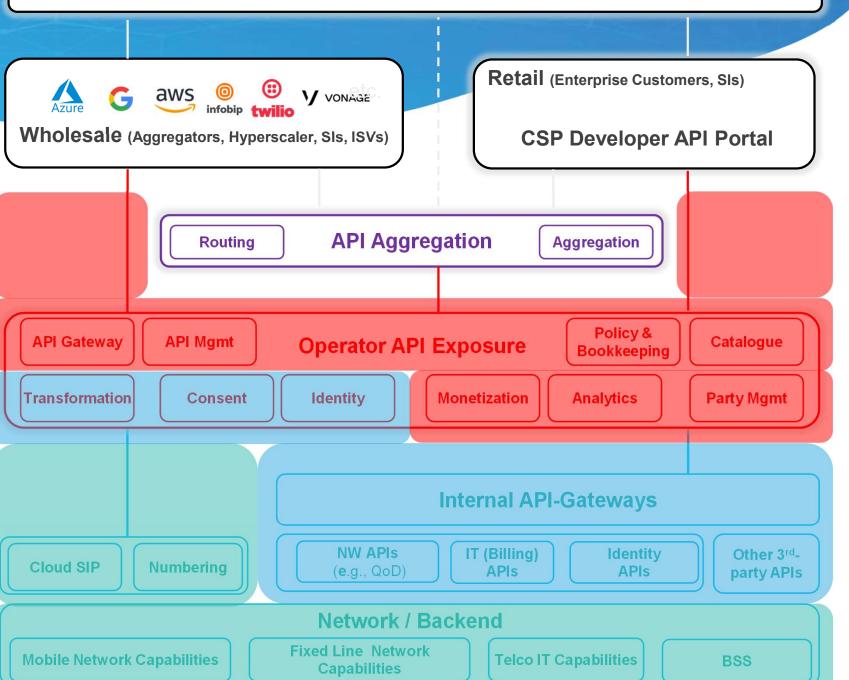
Customers / developers





























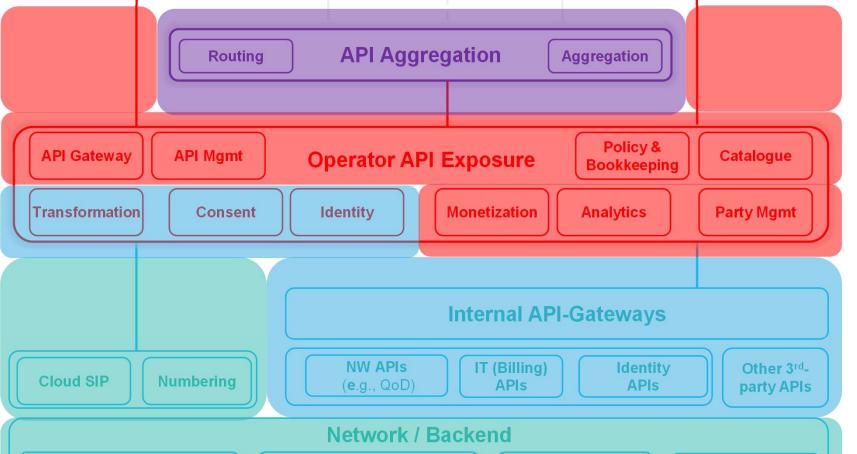




Wholesale (Aggregators, Hyperscaler, SIs, ISVs)

Retail (Enterprise Customers, SIs)

CSP Developer API Portal



Aggregators (Aduna, Nokia...)





CAMARA Open Source



CAMARA is an open-source project within Linux Foundation to define, develop and test the APIs. CAMARA works in close collaboration with the GSMA Operator Platform Group to align API requirements and publish API definitions and APIs. Harmonization of APIs is achieved through fast and agile created working code with developer-friendly documentation. API definitions and reference implementations are free to use (Apache 2.0 license).





What is the CAMARA Project? Key problems we try to solve









Scale

Developers dream of being the next unicorn... If apps, products, or services are built on our APIs they want them in all relevant markets and networks globally.

Consistency

Multi-nationals want
consistency across all
markets they operate in...
they do not want APIs that
only work in a single
network in a single country.
They do not want to try and
build for the differences of
each network.

Simplicity

Telco networks are complex, and every network is different....
Developers want simple, intent-based APIs.

Accessibility

We go to the developers where they are so the project is open sourced in the Linux Foundation.
Allowing API users to work directly with CSPs creating the service.

Demand Driven

We develop the APIs and design it in the way customers need it. The demand is collected from organizations like GSMA but also from customers directly.

CAMARA Success

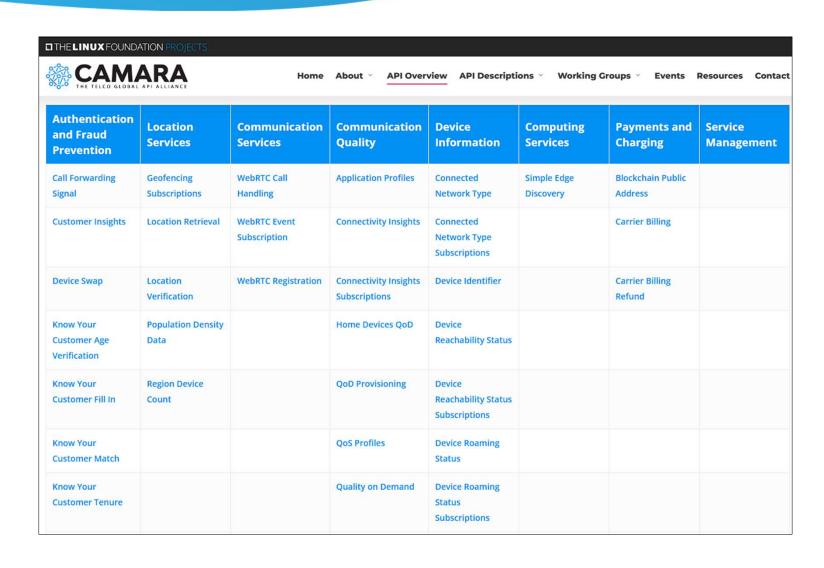




- 165 Named Partners
- 467 companies participating in CAMARA
- 9 API Sub Projects
 29 Sandbox Projects
 61 APIs
 5 Working Groups
- 1292 people joined CAMARA
- Development "home" for GSMA Open Gateway

CAMARA API Overview

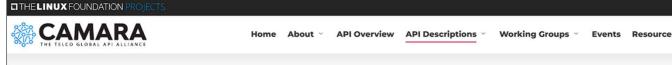




- https://camaraproject.org/apioverview/
- Mature APIs
- APIs in earlier development

API Descriptions







The "Call Forwarding Signal" (CFS) API provides the API consumer with information about the status of the Call Forwarding Service on a specific phone number. The main scope of the CFS API is anti-fraud to avoid fraudsters to use the Call Forwarding Service to carry on a scam. Other use cases are anyway supported by the CFS API that also provides additional endpoints to detect the general Call Forwarding Service settings.



The API consumer invokes the CFS API to determine if a specific phone number has an active "call forwarding" setup. "Call forwarding" is a network service that redirects incoming calls to another phone number (configured in the service). The CFS API can be used by a bank to verify if a "call forwarding" option is active on the customer's phone number to avoid frauds. A call from the

API Portfolio: Authentication and Fraud Prevention

SubProject Wiki: Call Forwarding Signal

(incl. how to meet the team)

- API Wiki: Call Forwarding Signal
- API Repository: Call Forwarding Signal

API Repository Status: Incubating

API Status: Initial

- ≡ API Version(s) and Release Date(s):
 - → v0.2.0 (2024-09-15), Fall24 metarelease
 - → v0.3.0 (06.03.2025), Spring25 metarelease

API availability: Information which APIs are available in which country and network, and how to get access can be found on the GSMA public launch status page.

- API description
- Use Cases
- Benefits
- Links to
 - Sub Project (contacts)
 - API Wiki
 - API repository
 - API version(s)
 - GSMA public launch status

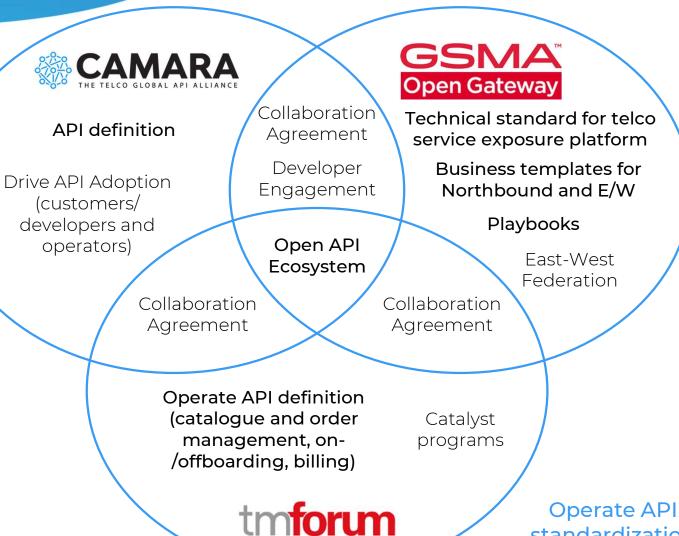
APIs in Swagger UI, Redoc, ...



CAMARA – Scope / Collaboration with Open Gateway and TM Forum



Service API "standardization"



Standardization of telco service exposure platform

GSMA Open Gateway Success



Commitment

118

73 operator groups and 45 Channel Partners supporting the Open Gateway MOU 284 operator networks represented

>78%

of mobile connections represented

Assets

48

APIs published in



53 APIs in Development

Technical

Standardization through certification Certified APIs

Commercial

Open Service Agreement, Channel Partner On-Boarding and E-W Federation Agreement Templates

Impact

198 commercial API launches

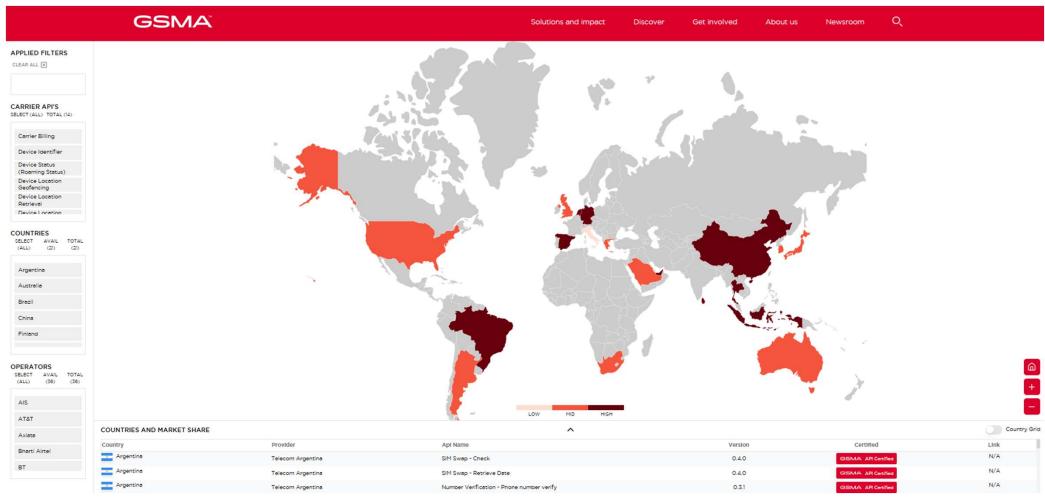
market champion launches with align GTM services, engaged with 50 Markets

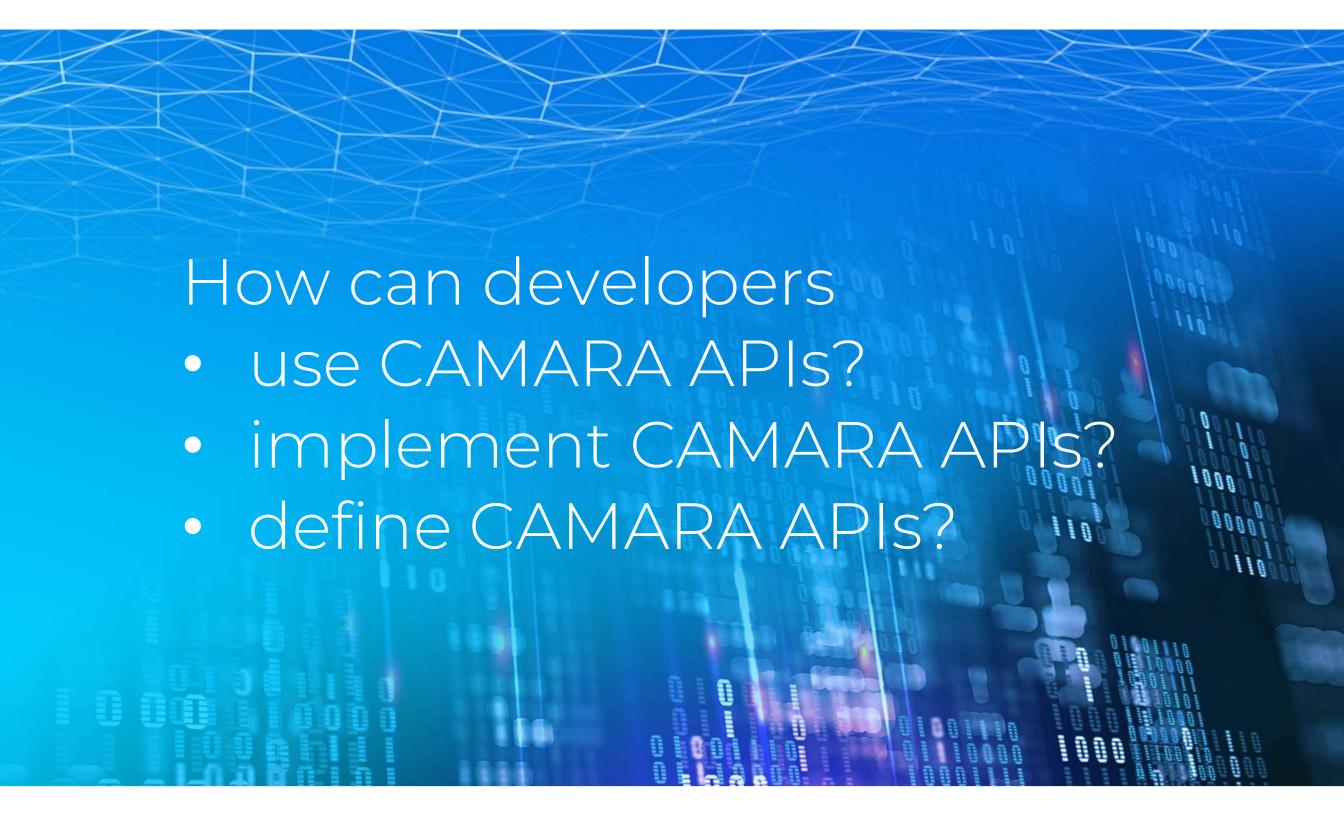
8,875

media mentions in 2025, 22K in 2024

CAMARA / Open Gateway API public launch status







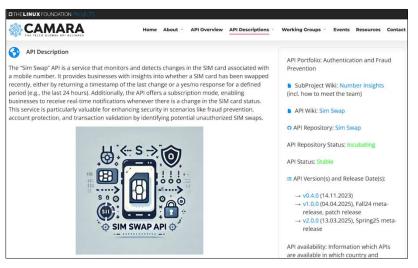
How can developers use APIs? Work at Customers



Integrate API requests in own code, e.g. for Sim Swap:

- Get API definition and documentation from https://camaraproject.org/api-overview/ (open and free!)
- Get API availability from GSMA public launch status map (linked in API description)
- Get API access, e.g. from Deutsche Telekom (linked in map)

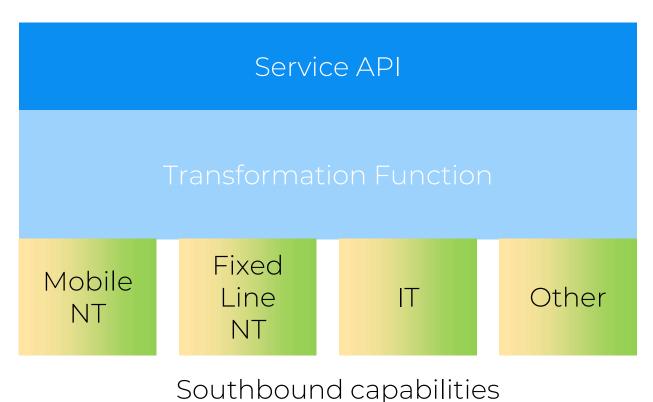
Authentication and Fraud Prevention	Location Services	Communication Services	Communication Quality	Device Information	Computing Services	Payments and Charging	Service Management
Call Forwarding	Geofencing Subscriptions	WebRTC Call Handling	Application Profiles	Connected Network Type	Simple Edge Discovery	Blockchain Public Address	
Customer Insights	Location Retrieval	WebRTC Event Subscription	Connectivity Insights	Connected Network Type Subscriptions		Carrier Billing	
Device Swap	Location Verification	WebRTC Registration	Connectivity Insights Subscriptions	Device Identifier		Carrier Billing Refund	
Know Your Customer Age Verification	Population Density Data		Home Devices QoD	Device Reachability Status			
Cnow Your Customer Fill In	Region Device Count		QoD Provisioning	Device Reachability Status Subscriptions			
Know Your Customer Match			QoS Profiles	Device Roaming Status			
Know Your Customer Tenure			Quality on Demand	Device Roaming Status Subscriptions			





How can developers implement APIs? Work at Operators





Create Transformation Functions, e.g. for Quality on Demand.

Get detailed knowledge/code:

- From https://camaraproject.org/api-overview/
- From the CAMARA GitHub (linked in API description)
- From the CAMARA Wiki (linked in API description)
- From the CAMARA Community (contacts in Wiki)

How can developers define APIs? Work at CAMARA

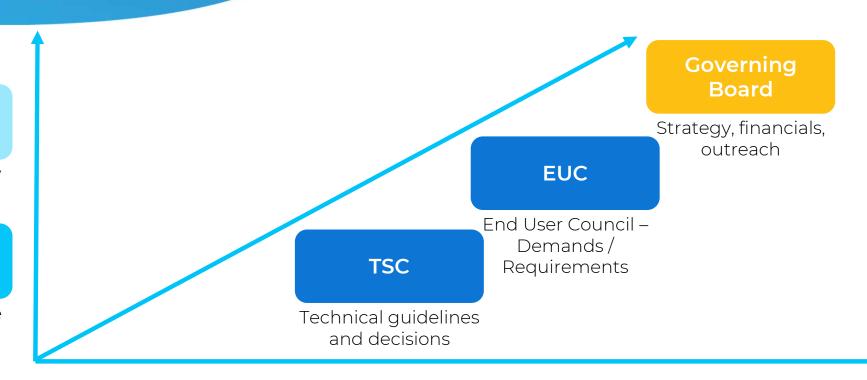


Independent Sandbox

Drives APIs in early development

Sub Project

Drives one or more (mature) APIs



API Backlog

Maintains the API Backlog for CAMARA

Commonalities

Guidelines and assets mandatory for all

Identity and Consent Management

Provides solutions to capture, store and CAMARA Sub Projects manage user consent

Marketing / Outreach

Plans and performs marketing activities for CAMARA

Release Management

Guidelines and assets for Release Management in CAMARA

