CAMARA

THE TELCO GLOBAL API ALLIANCE

Presentation

31.10.2026

Content of the CAMARA presentation

CAMARA
THE TELCO GLOBAL API ALLIANCE

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APIs enabling seamless access to Telco network capabilities

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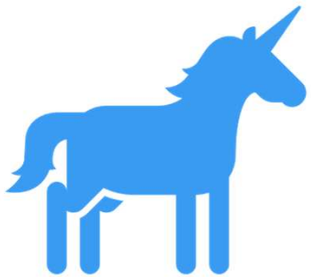
Telco network capabilities exposed through APIs provide a large benefit for customers. By simplifying telco network complexity with APIs and making the APIs available across telco networks and countries, CAMARA enables easy and seamless access.



CAMARA Mission

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

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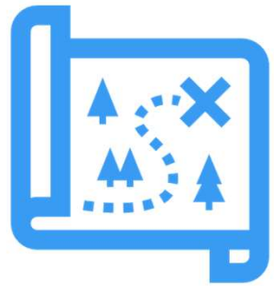
Scale

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 our customers need it. The demand is collected from organizations like GSMA OPAG but also from customers directly.

Key problems we try to solve
Consistency Benefit

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Availability across telco networks and countries is necessary:

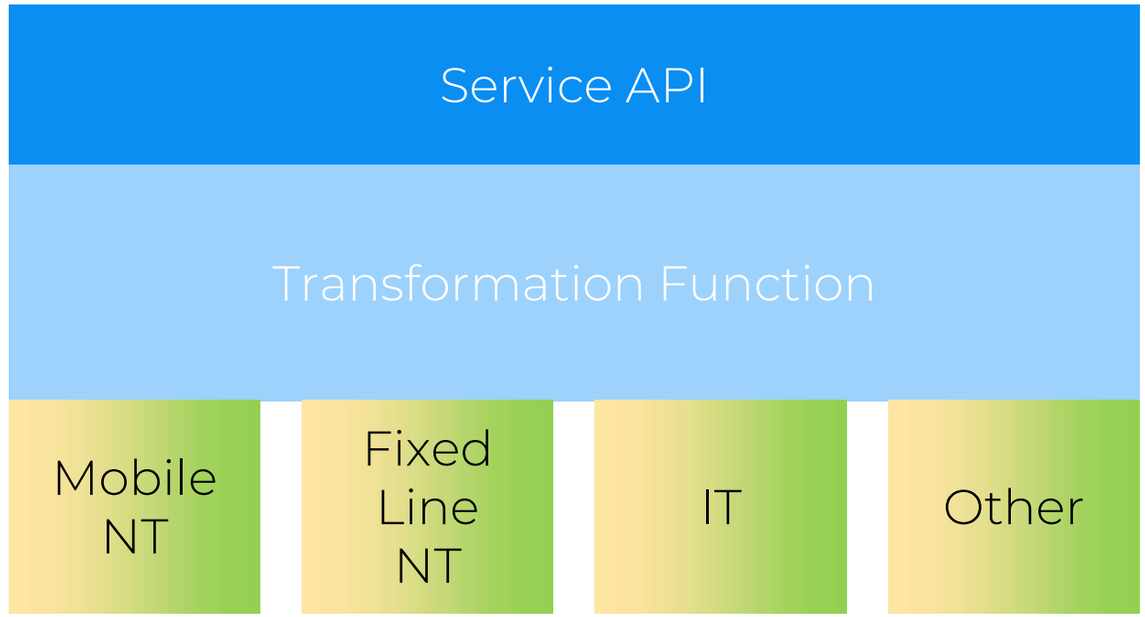
- To ensure seamless customer experience
- To accelerate technology development and commercial adoption (minimize implementation effort)
- To accelerate education and promotion
- To support application portability

Key problems we try to solve
Simplicity Benefit

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Abstraction by transformation from network capabilities to Service APIs is necessary:

- To simplify telco complexity making APIs easy to consume for customers with no telco expertise (user-friendly APIs)
- To satisfy data privacy and regulatory requirements
- To facilitate application to network integration



CAMARA
Open Source

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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. 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 (Apache2.0 license).

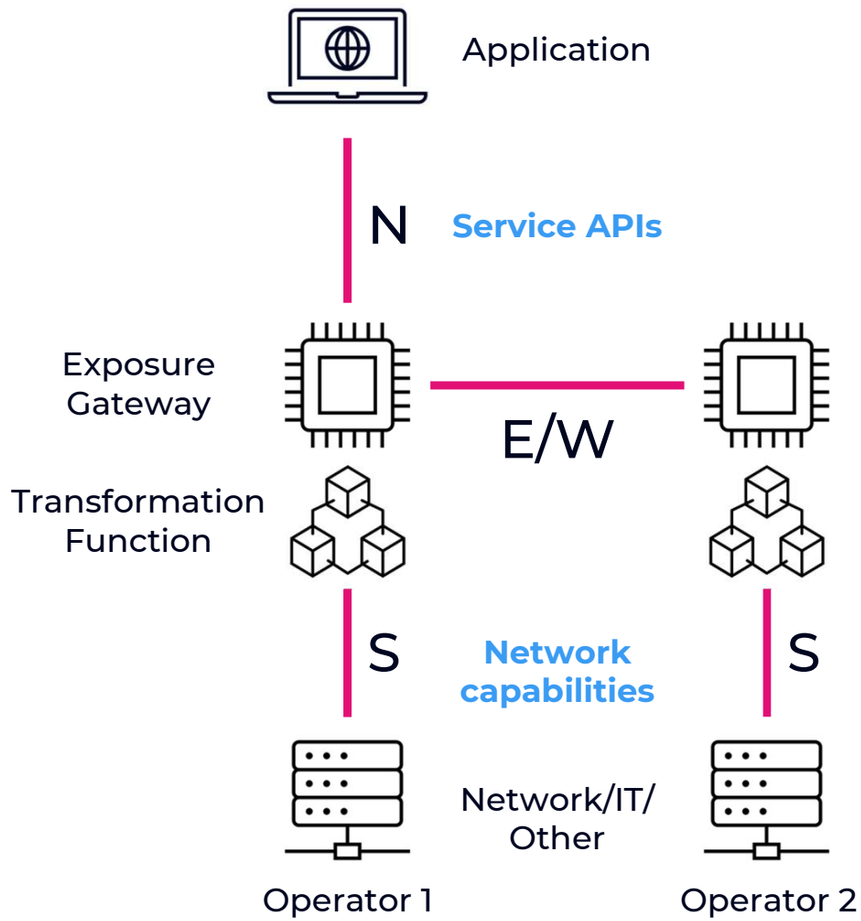
THE LINUX FOUNDATION

GSMA™

CAMARA Scope

From functional perspective the scope is limited to **telco APIs**, that means APIs in the domain of telco mobile networks, telco fixed line networks, telco edge cloud, etc. or supporting these.

Thereby the focus is on the **northbound interface** (between telco operator and aggregator or capability consumer). East-/westbound interface APIs are out of scope for CAMARA.

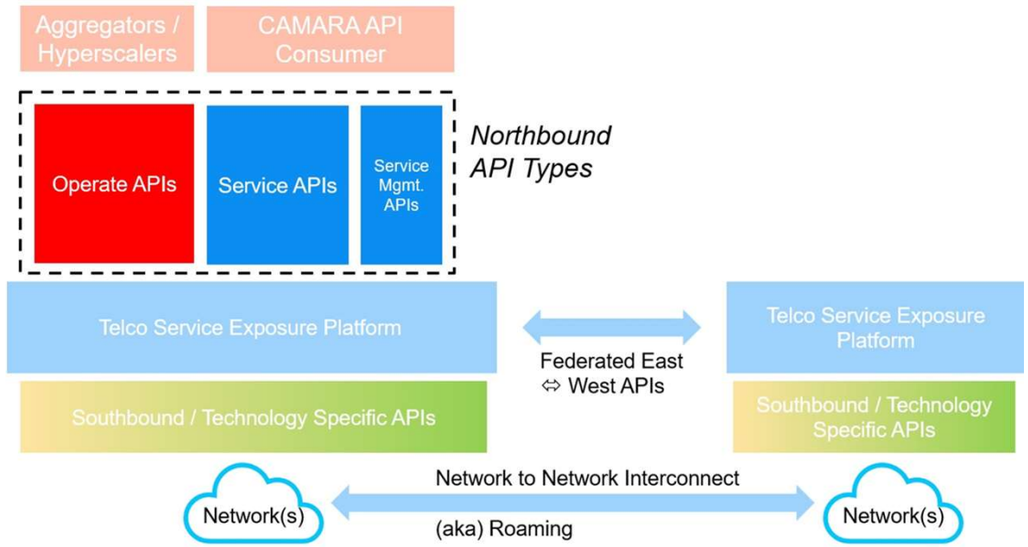


CAMARA Scope

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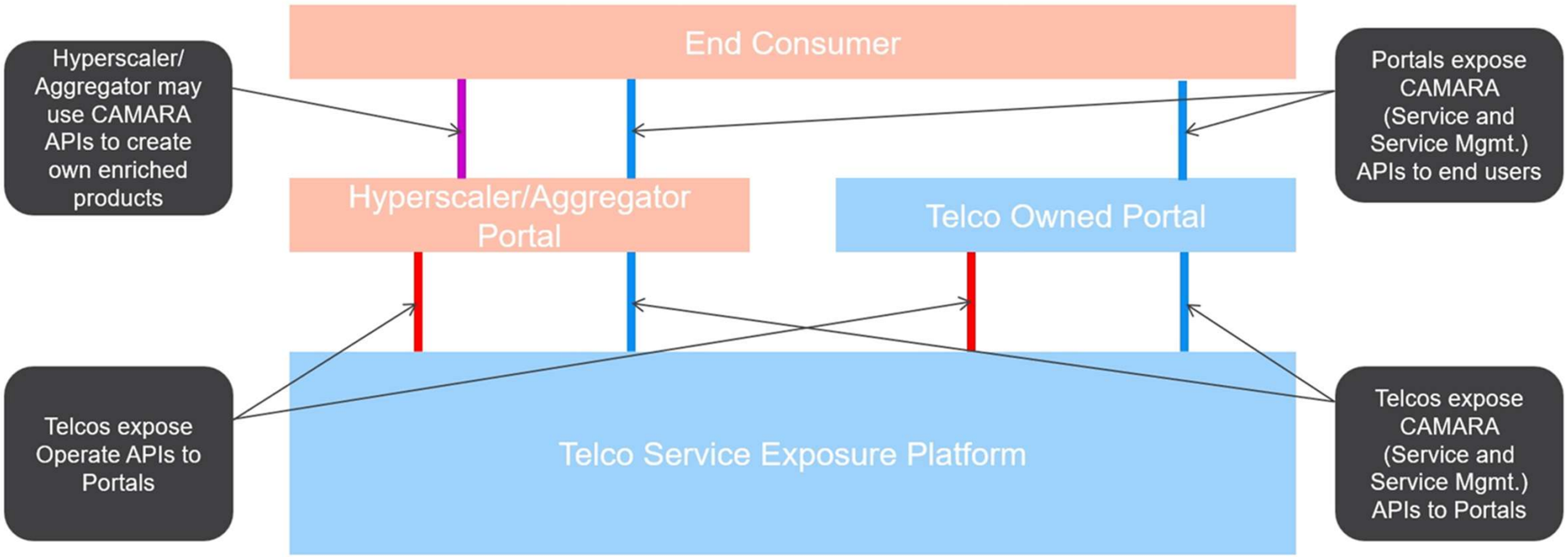
We differentiate between 3 types of Northbound APIs:

- **Service APIs:** APIs intended for end consumers and integrated by developers to invoke a certain telco capability.
- **Service Management APIs:** APIs intended for end consumers to manage or get data about offered Service APIs in application runtime, e.g., check service availability or performance information.
- **Operate APIs:** Operational and maintenance APIs provided by a telco to channel partners for the purpose of service fulfillment and assurance to their [channel partner] customers. This may include service provisioning for a mobile user, technical API performance monitoring, fault ticketing, information exchange such as product catalog, pricing, settlement, etc.



Service APIs and Service Management APIs are in scope of CAMARA. Operate APIs are out of scope of CAMARA (these are already covered by other SDOs = Standards Development Organizations like TM Forum).

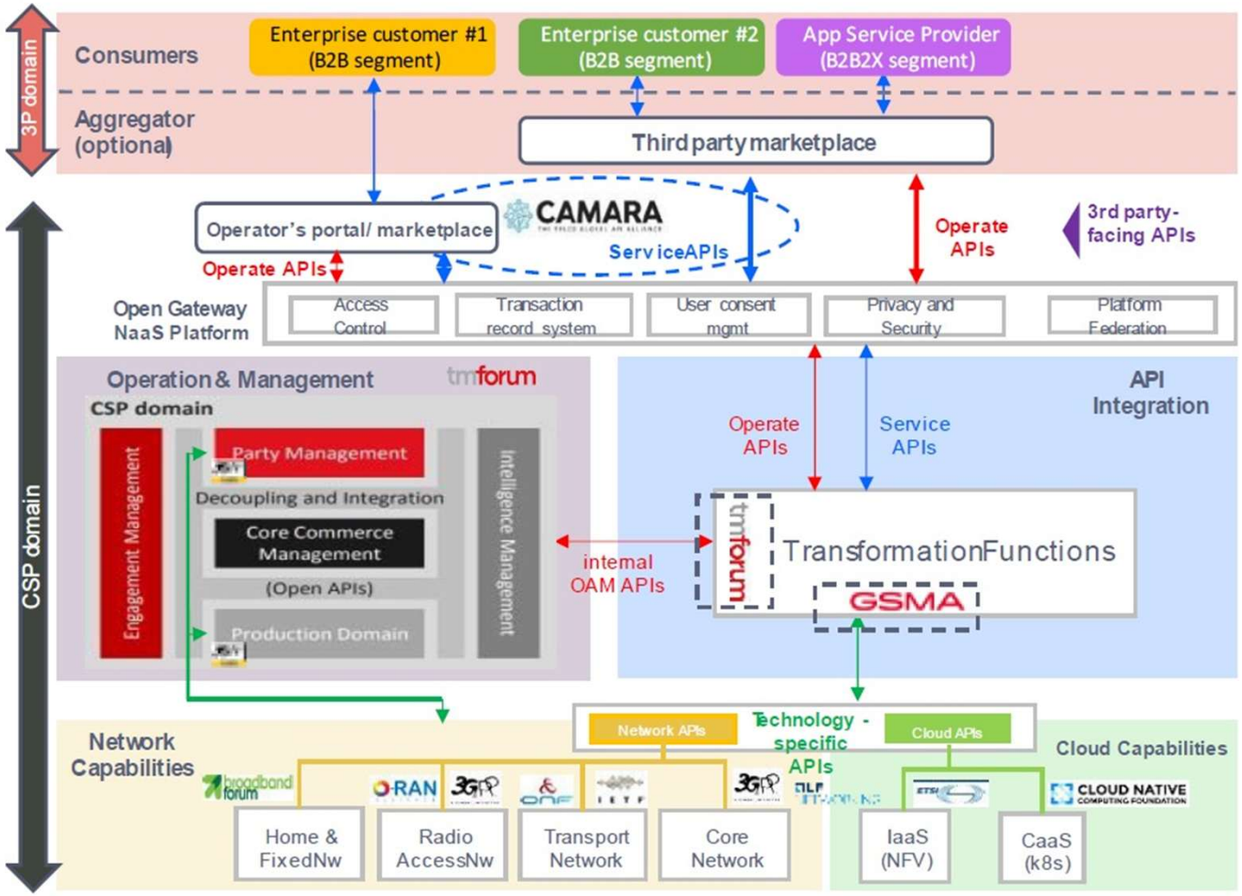
CAMARA – Scope / Collaboration with Open Gateway and TM Forum



Hyperscalers and aggregators have the possibility to create own enriched products based on the CAMARA APIs and expose that in addition to the CAMARA APIs.

CAMARA – Scope / Collaboration with Open Gateway and TM Forum

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3rd Party-facing APIs

Service APIs
App-centric, developer-oriented
Apache2.0 lic, user -friendly , easy-to-use
Example: QoD, verify location, device status, SimSwap,….
Includes some management functionality used from the apps (in-app OAM APIs)

Hosted by CAMARA

Contributed by OpenGateway partners , directly or supported by bodies like
GSMA 5GFF tmforum bridge CableLabs

Operate APIs
Management oriented
Easy-to-implement , easy-to-use, simple
Example: register, account, monitor, issue mgmt, order/purchase, pay…
Provides an easy integration of the NaaS Platform with marketplaces /portals

Contributed by OpenGateway partners, hosted by tmforum

Technology -specific APIs
Technical capability oriented, standard, (FRAND) deterministic
Example: policysetting parameter setting information check..

Contributed by specific domain SDOs
O-RAN broadband forum IETF ONF 3GPP CLOUD NATIVE ETSI LINUX

CAMARA project defines CAMARA APIs.

TMForum develops the Operate APIs.

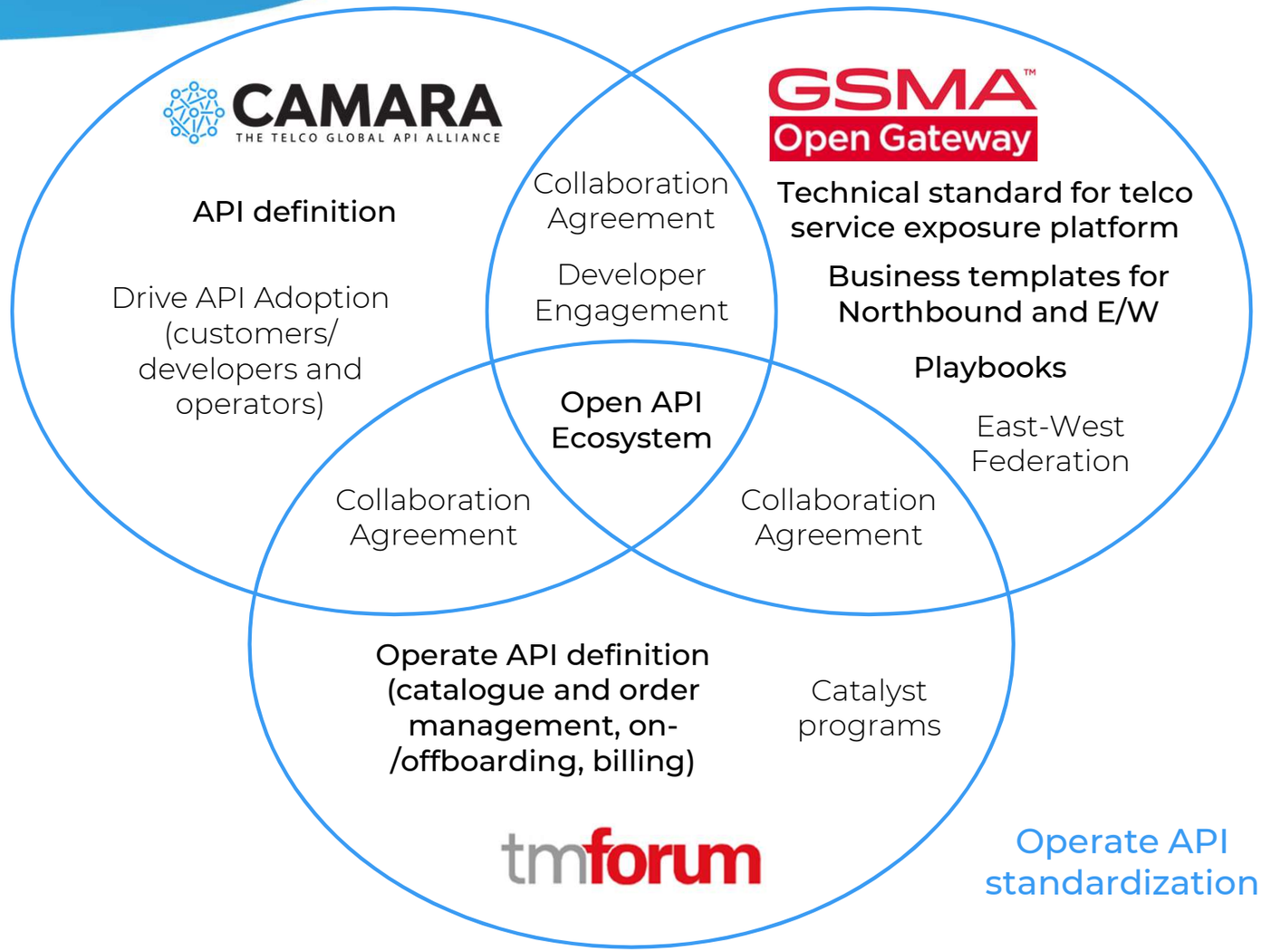
Several SDOs cover the different technology domains that provide the telco capabilities.

More details can be found in the whitepaper "The Ecosystem for Open Gateway NaaS API Development" (jointly published by GSMA, CAMARA, Linux Foundation and TMForum) available here.

CAMARA – Scope / Collaboration with Open Gateway and TM Forum

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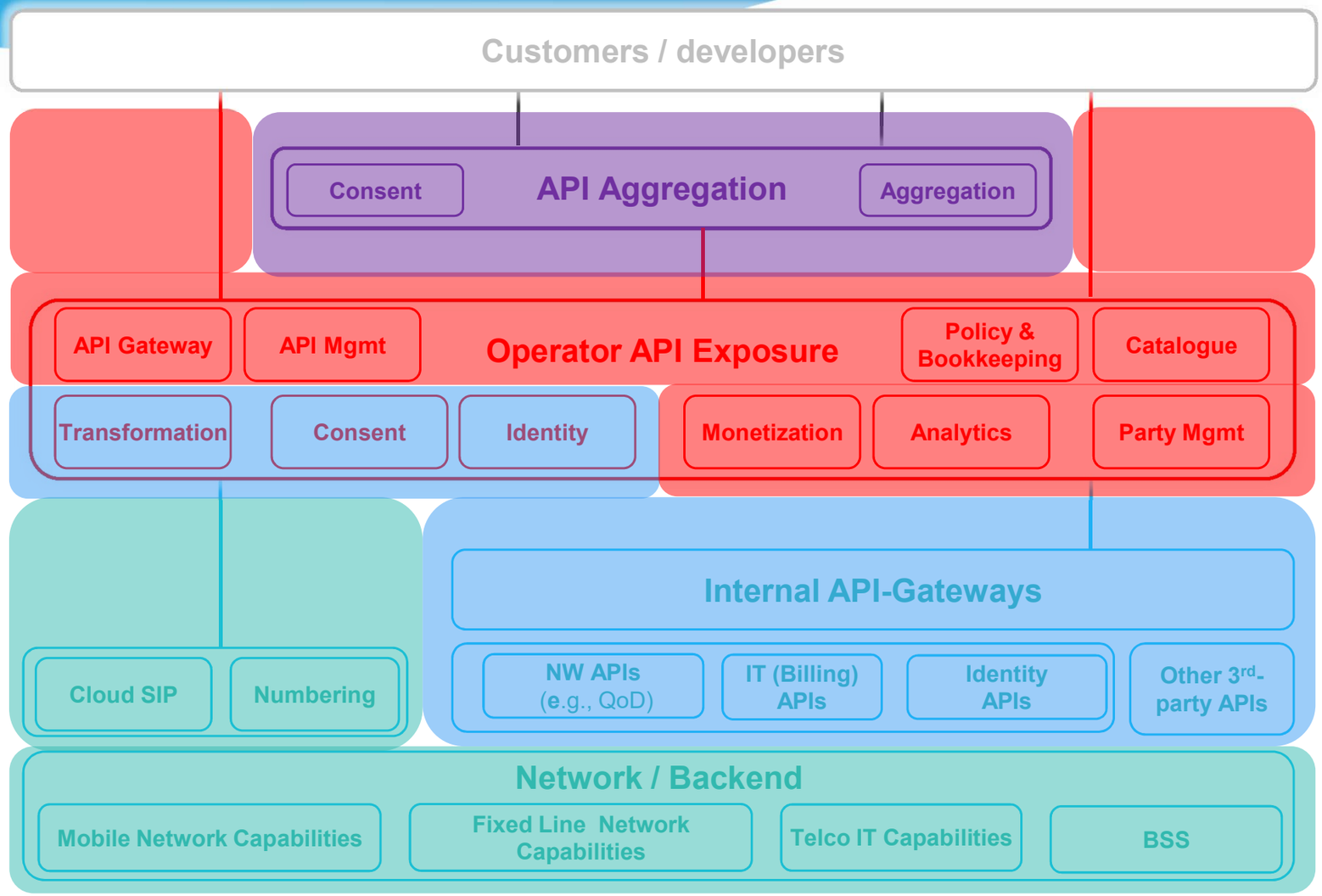
Service API "standardization"



Standardization of telco service exposure platform

Operate API standardization

Role of CAMARA, Open Gateway and aggregators



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Aggregators in each market

tmforum

GSMA™ Open Gateway

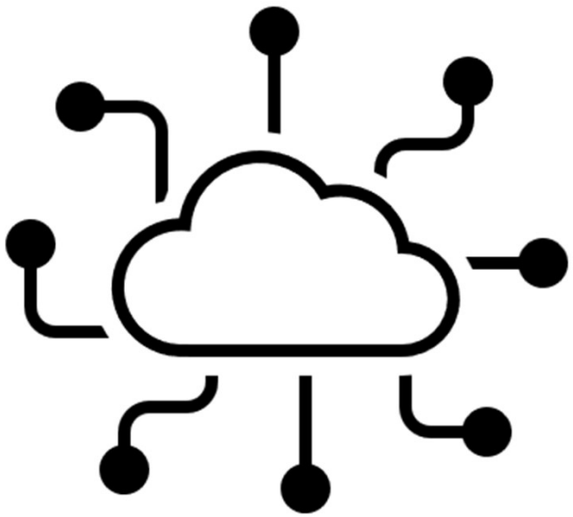
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CAMARA Scope

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The scope of the CAMARA Project is:

- **Collect API requirements** from GSMA Operator Platform Group and other sources
- **Define Service APIs and Service Management APIs**
- Create test plans / cases / tools from an API consumer perspective
- **Develop and test Service APIs and Service Management APIs**
- Create developer friendly **documentation**



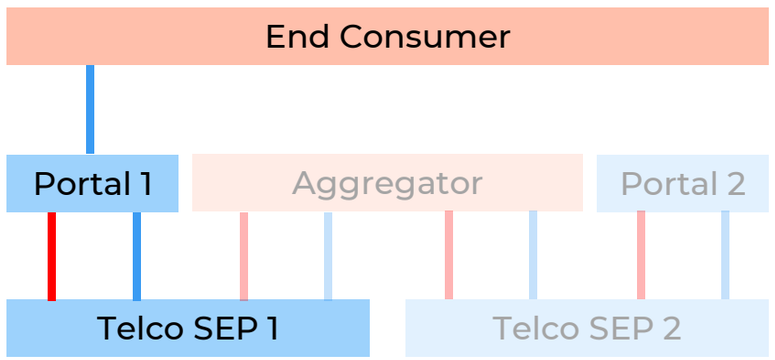
The following deliverables are provided by the CAMARA Project:

- **Service API and Service Management API definitions and documentation**
- Optionally Service API and Service Management API code and
- Test plans, cases and tools for the APIs all contained in deployment packages.

Project resources can be found in the **GitHub repository**: https://github.com/camaraproject.

CAMARA API Distribution Options

Single-Operator Relationship

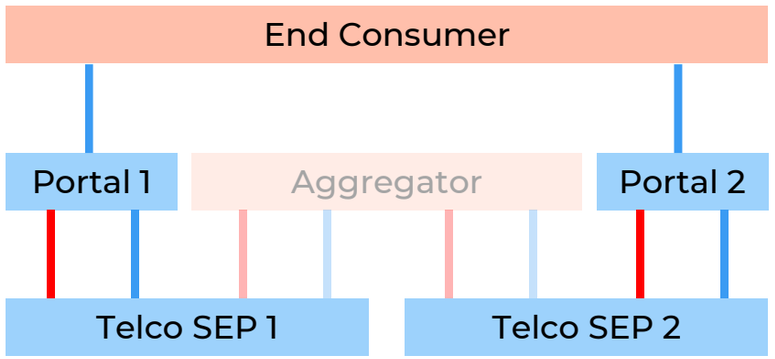


Blue lines = CAMARA APIs

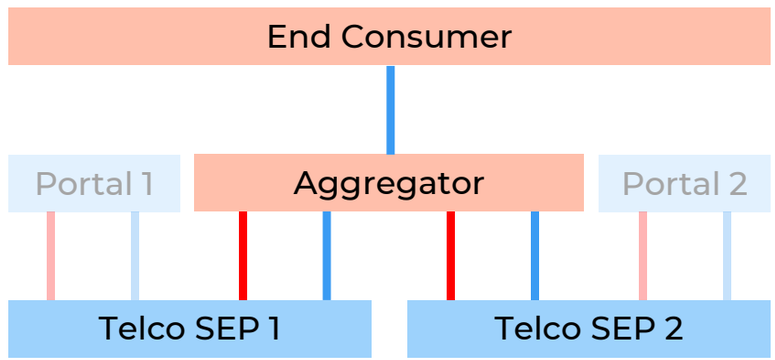
Red lines = Operate APIs

SEP= Service Exposure Platform

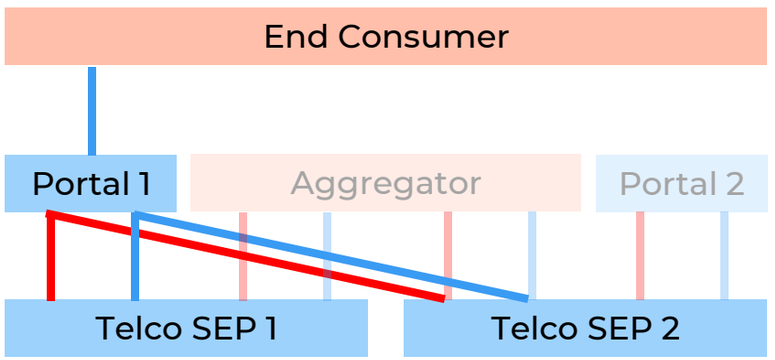
Multi-Operator Relationship



Operator Aggregation



Single-Operator “API Roaming”



What is different now in comparison to former API exposure trials?

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- **Simplicity** – Telco complexity is hidden behind simple, easy to use APIs
- **Demand driven** - Listening to API consumer's voice and demand
- **Availability** – Open APIs with great support of many operators on many platforms
- **Alignment** - With standardization bodies like TM Forum, GSMA or ETSI-MEC
- **Sustainability** – We have the CEOs behind (e.g. Open Gateway MoU, API Venture)
- **Telco maturity** – Telcos are now more digital and cloud oriented
- **Privacy** – Well defined

CAMARA
Where we started...

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Launched at MWC Barcelona 2022

22 Launch Partners

Supported by GSMA and Linux Foundation

Simple idea to “standardize” developer facing APIs



CAMARA
… and where we are now

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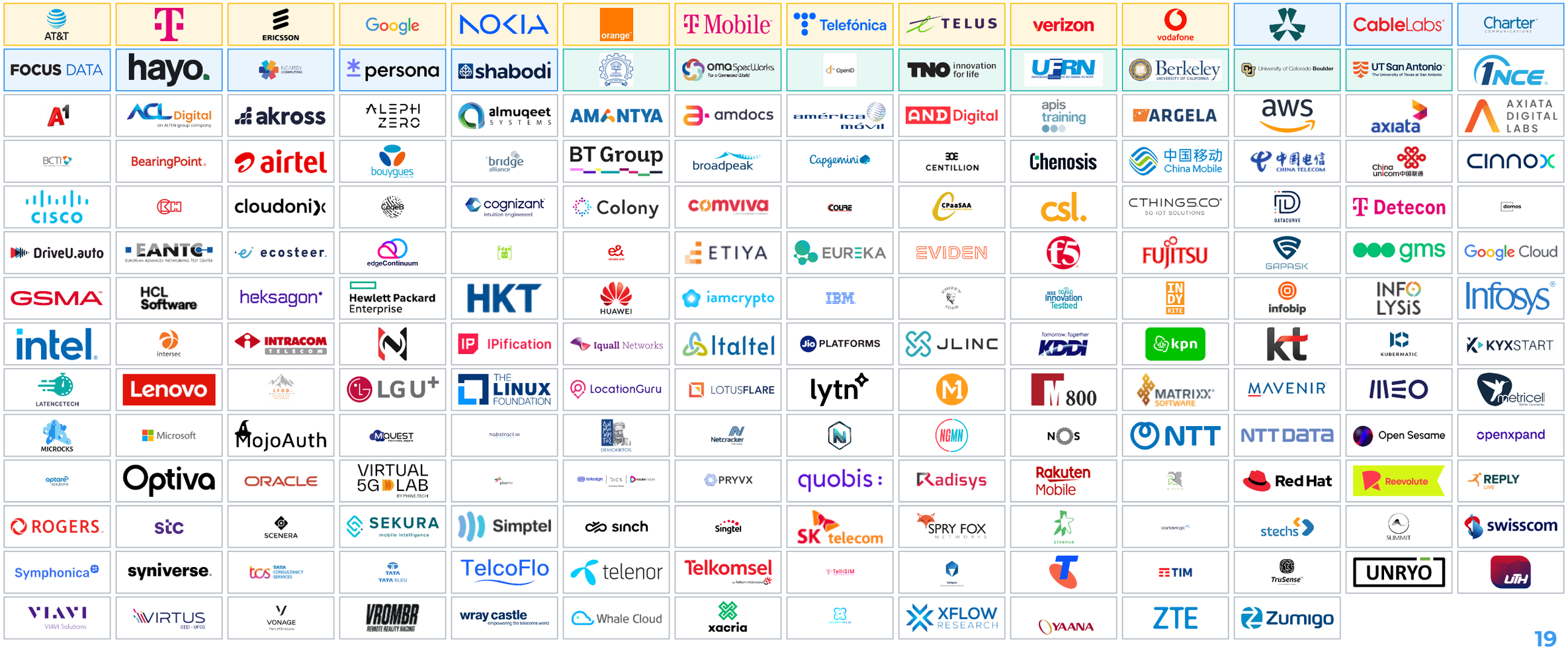


- 194 Named Partners
- 489 companies participating in CAMARA
- 8 API Sub Projects
  30 Sandbox Projects
  72 APIs
  5 Working Groups
- 1371 people joined CAMARA
- Development ”home” for GSMA Open Gateway

CAMARA Logos

- Premier 11
- General 8
- Associate 8
- Participating 167

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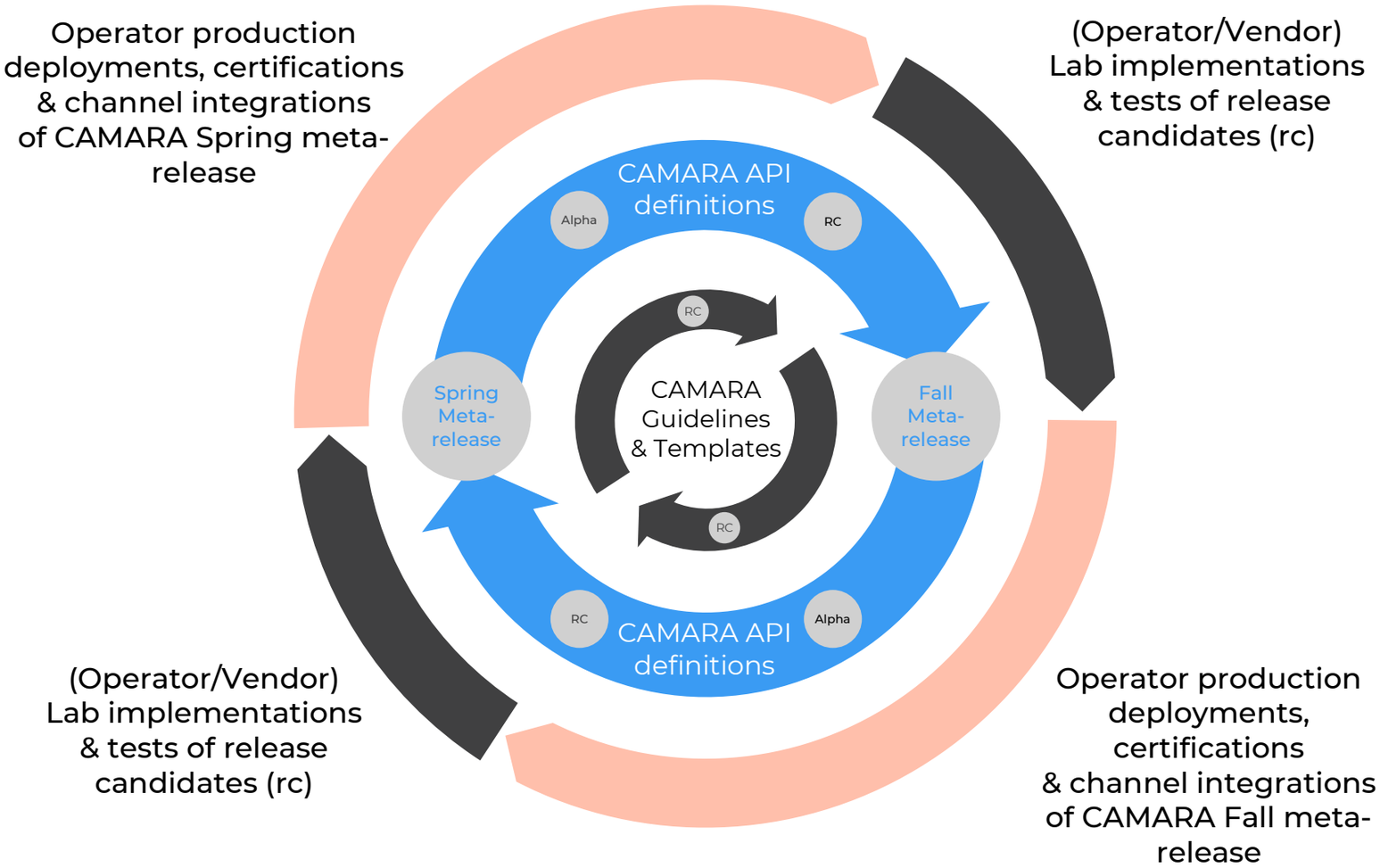
Release Management Motivation and Benefits

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- A **CAMARA meta-release** combines a set of CAMARA API versions into a **consistent** release.
- There are **two meta-releases per year** (in spring and fall).
  - API providers (e.g. Network operators, Channel Partners) can plan their implementations and deployments in production.
  - API consumers can plan the integration in their platform and applications.
- All API versions in a meta-release **fulfill defined quality criteria** and are **compliant to the CAMARA guidelines** from CAMARA Commonalities and Identity and Consent Management of that meta-release.
- **CAMARA meta-releases** ensure the
  - Availability of consistent API definitions (by use of guidelines, templates, and linting),
  - Quality of API definitions (by use of checklists, test definitions, and release management),
  - Stability of API definitions (clear criteria for stable versus initial API versions) and
  - Reliability of schedule and deliverables (with defined milestones and release candidates).
- **CAMARA meta-releases** provide the foundation for API version management in production.

Release Management
Release Cycle

- 2 meta-releases per year
  - Fall (in September)
  - Spring (in March)
- Continuous and overlapping cycles
  - Update of CAMARA guidelines
  - Development and updates of API definitions in CAMARA
  - Lab implementations and production deployments at network operators
- Tests of API release candidates
  - In operator (lab) implementations
  - Based on CAMARA test definitions
- Feedback in all phases
  - From (lab) implementations and deployments to CAMARA API definitions and guidelines
  - From API definition work to CAMARA guidelines



For details see: https://wiki.camaraproject.org/display/CAM/Meta-release+Process

CAMARA Fall 25 meta-release
60 #total CAMARA APIs



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10

STABLE APIs

- device-reachability-status
- device-roaming-status
- device-swap
- location-verification
- number-verification
- one-time-password-sms
- qos-profiles
- quality-on-demand
- sim-swap
- simple-edge-discovery

23

NEW INITIAL APIs (v0.y.z)

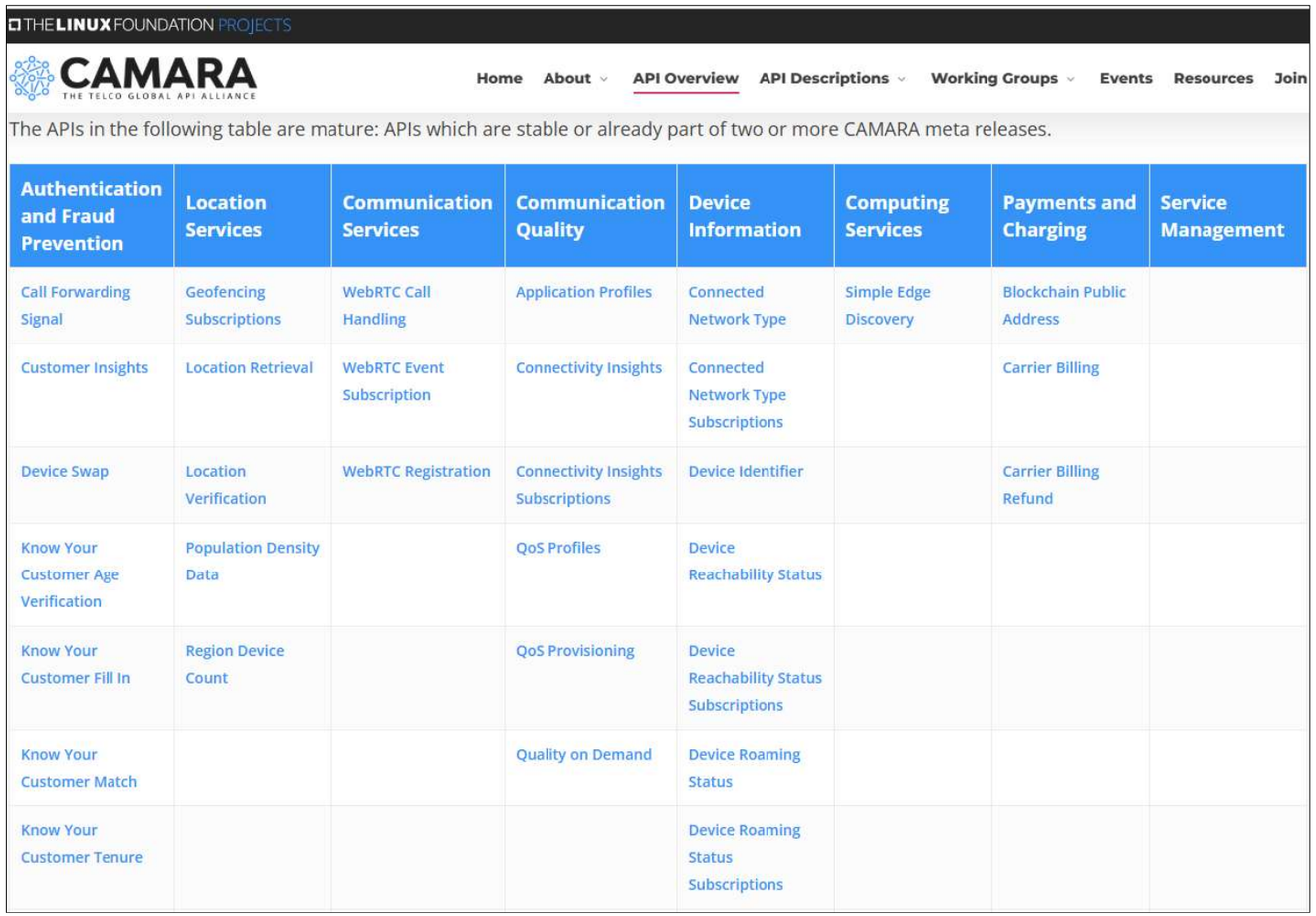
- application-endpoint-discovery
- application-endpoint-registration
- blockchain-public-address-validation
- brand-registration
- consent-info
- dedicated-network
- dedicated-network-accesses
- dedicated-network-profiles
- device-data-volume
- device-data-volume-subscriptions
- energy-footprint-notification
- knowledge-base
- most-frequent-location
- network-slice-booking
- optimal-edge-discovery
- predictive-connectivity-data
- qa-assistant-manage
- qa-assistant-service
- qos-booking
- qos-booking-and-assignment
- subscription-status
- traffic-influence
- verified-caller

27

SPRING25 UPDATED INITIAL APIs (v0.y.z)

- application-profiles
- blockchain-public-address
- call-forwarding-signal
- carrier-billing
- carrier-billing-refund
- connected-network-type
- connected-network-type-subscriptions
- connectivity-insights
- connectivity-insights-subscriptions
- customer-insights
- device-identifier
- device-reachability-status-subscriptions
- device-roaming-status-subscriptions
- geofencing-subscriptions
- kyc-age-verification
- kyc-fill-in
- kyc-match
- kyc-tenure
- location-retrieval
- number-recycling
- population-density-data
- qos-provisioning
- region-device-count
- sim-swap-subscriptions
- webrtc-call-handling
- webrtc-events
- webrtc-registration

CAMARA API Overview


THE LINUX FOUNDATION PROJECTS

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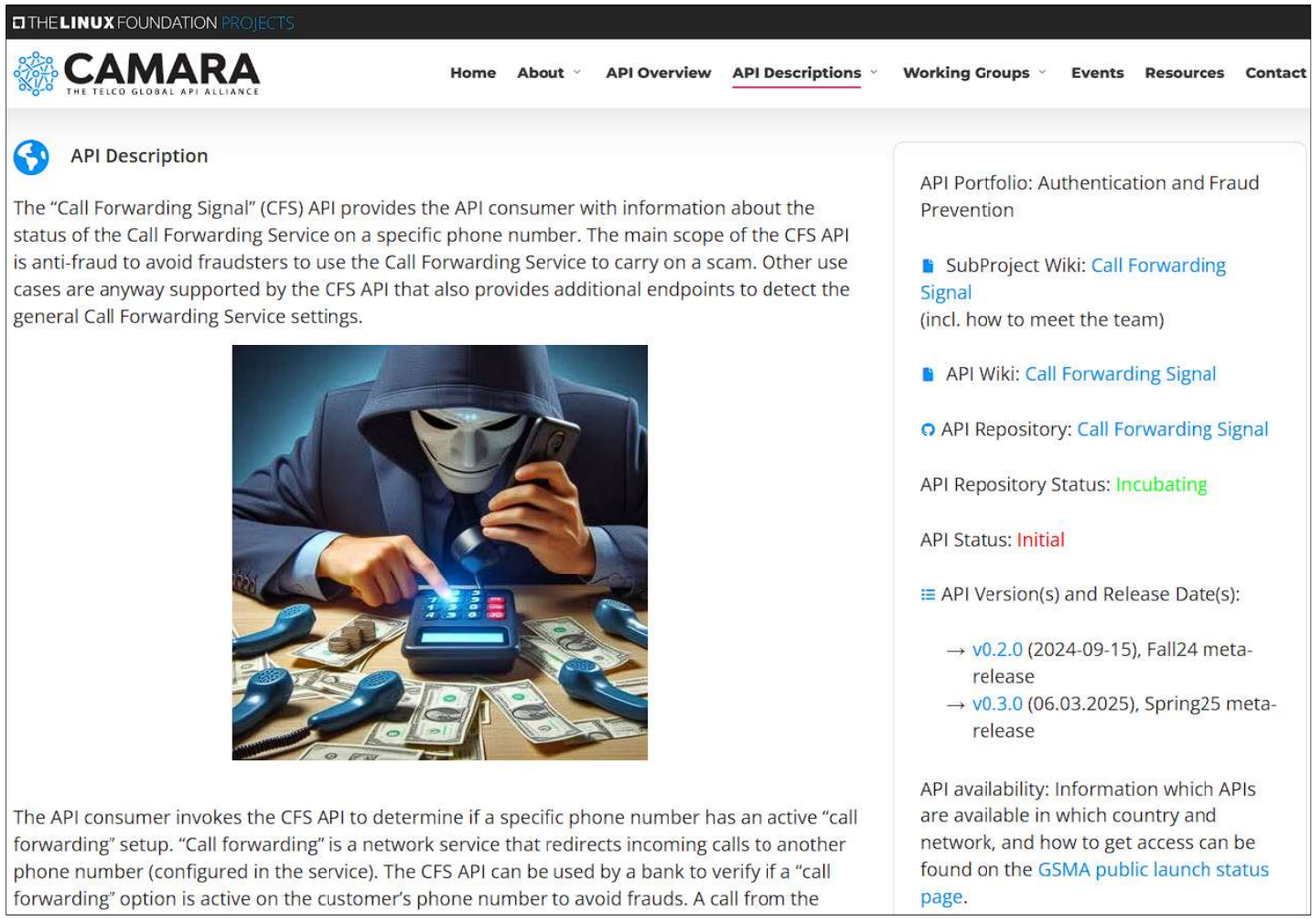
Home | About | API Overview | API Descriptions | Working Groups | Events | Resources | Join

The APIs in the following table are mature: APIs which are stable or already part of two or more CAMARA meta releases.

Authentication and Fraud Prevention	Location Services	Communication Services	Communication Quality	Device Information	Computing Services	Payments and Charging	Service Management
Call Forwarding Signal	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		QoS Profiles	Device Reachability Status			
Know Your Customer Fill In	Region Device Count		QoS Provisioning	Device Reachability Status Subscriptions			
Know Your Customer Match			Quality on Demand	Device Roaming Status			
Know Your Customer Tenure				Device Roaming Status Subscriptions			

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

API Descriptions

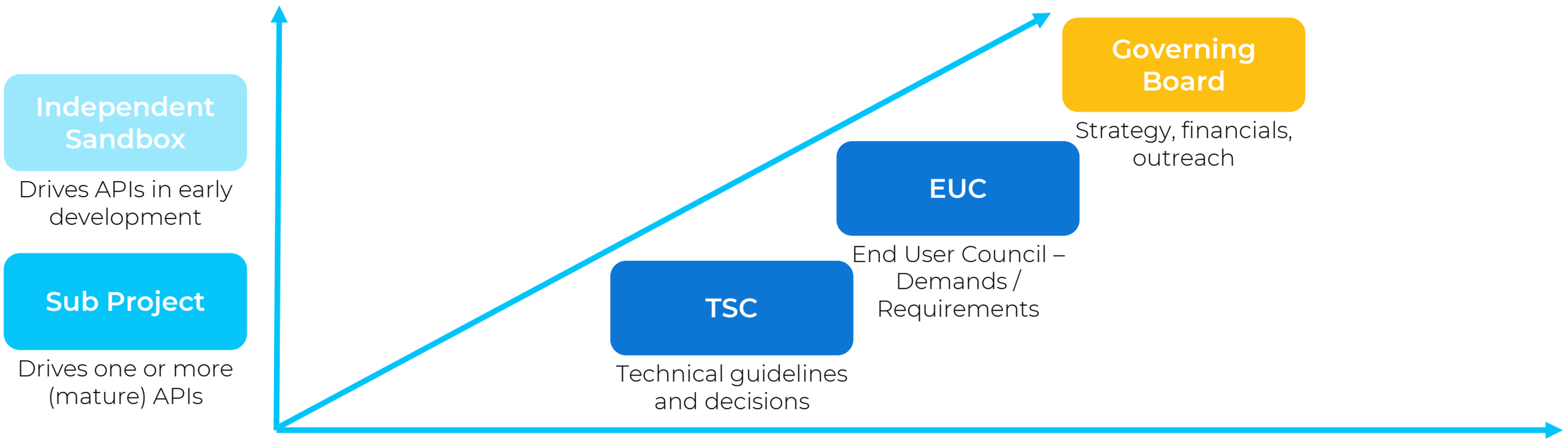


- API description
- Use Cases
- Benefits

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

How CAMARA Works

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API Backlog
Maintains the API Backlog for CAMARA

Common-alities
Guidelines and assets mandatory for all CAMARA Sub Projects

Identity and Consent Management
Provides solutions to capture, store and manage user consent

Marketing / Outreach
Plans and performs marketing activities for CAMARA

Release Management
Guidelines and assets for Release Management in CAMARA

CAMARA / Open Gateway API Showcases

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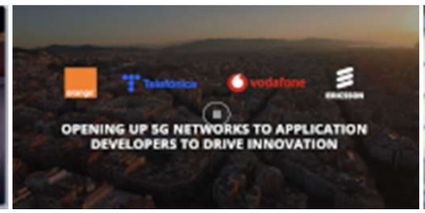










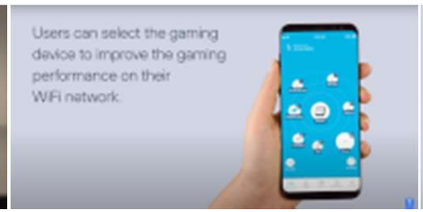




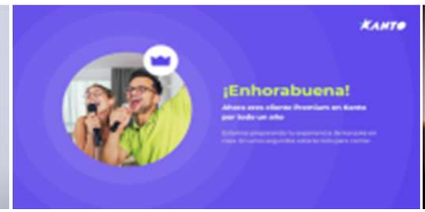












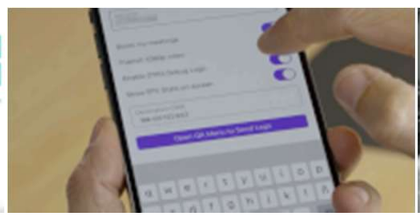








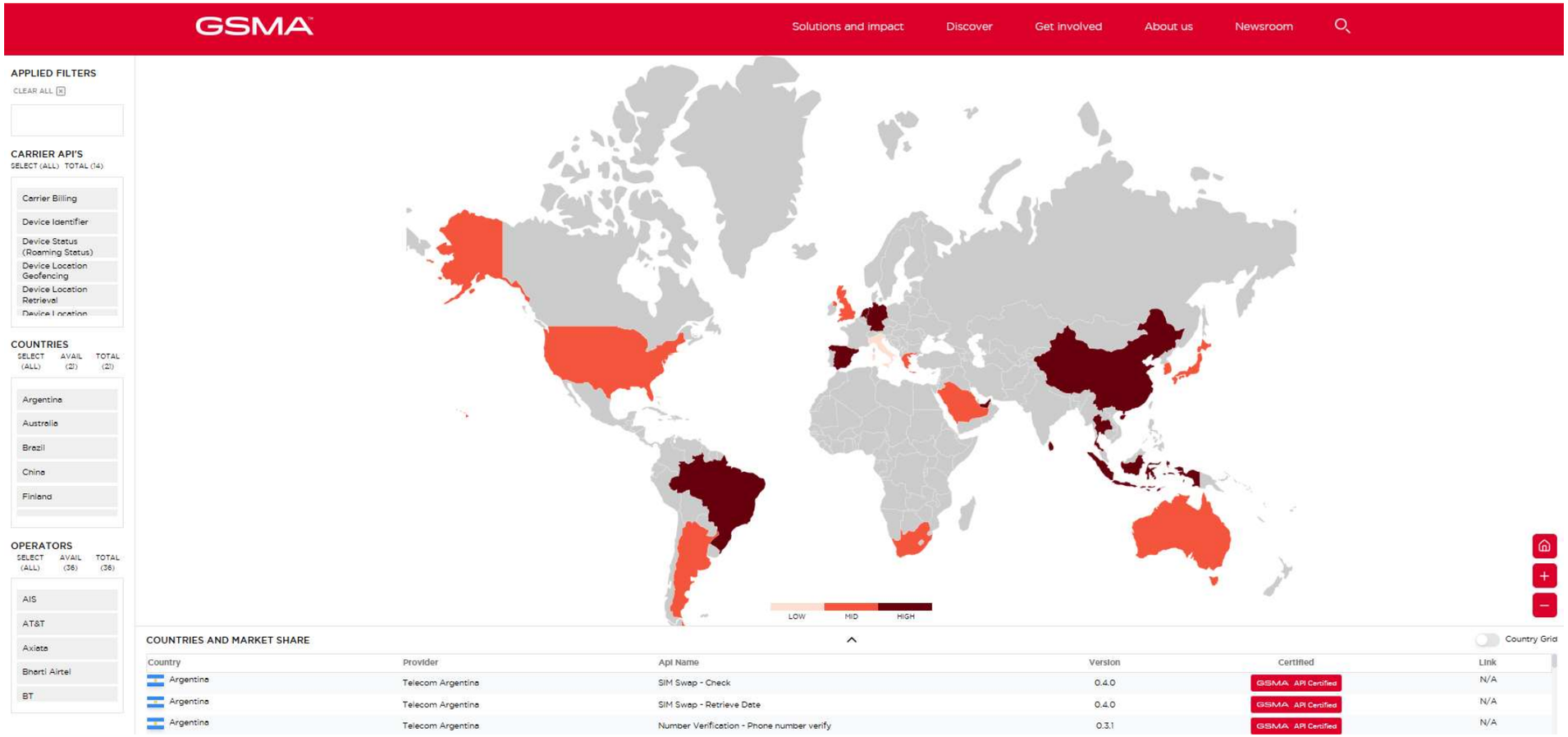






https://camaraproject.org/resources/

CAMARA / Open Gateway API public launch status



https://open-gateway.gsma.com/

CAMARA / Open Gateway API public launch status

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Commitment

173 ***89*** operator groups and ***84*** Channel Partners supporting the Open Gateway MOU

303 operator networks represented

>80% of mobile connections represented

Assets

62 APIs published in CAMARA

Technical

Standardization through certification Certified APIs, Market View, Deployment Map

Commercial

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

Impact

362 commercial API launches

32 market champion launches with align GTM services, engaged with ***78*** Markets

>60% of mobile connections protected by commercial Anti-Fraud APIs

5G network capabilities Introduction

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Telco network capabilities are functions partly available already in 4G but new and much more powerful in the 5G network. These functions enable to get information out of the network but also to configure the network.

The on-demand, secure and controlled exposure of these capabilities pave the way for transforming operator networks into service enablement platforms, facilitating the application-to-network integration, which will be key to deliver enhanced and service-tailored customer experience in the 5G era.

5G network capabilities
Introduction

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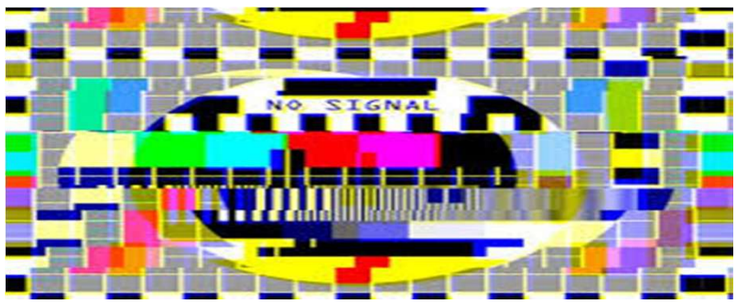
Reachability and Location of UEs
Identify (last known) location of drone



# of UEs in geographic region
Traffic jam or Corona warning



# of UEs in slice, network congestion
Adapt resolution for video transmission



Quality on Demand / Traffic influence
Enable augmented reality



Wake up UEs
Support low energy IoT devices



Block UEs in geographic region
Crisis management



Potential Business Use Cases

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Authentication and Fraud Prevention	Location Services	Communication Quality	Device Information	Computing Services
				
Secure Auth Fraud Prevention	Location Verification Location Retrieval Location Geofencing	Safeguarding of Transactions Remote Control AR/VR/XR Gaming	Proactive User Information	Edge Application hosting Latency optimization
Number Verify, Sim Swap, etc.	Location APIs	Quality on Demand	Device Data Volume	Simple Edge Discovery

Network APIs offer the opportunity

- For customers to optimize their use cases and applications
- For operators to monetize their invest in 5G infrastructure

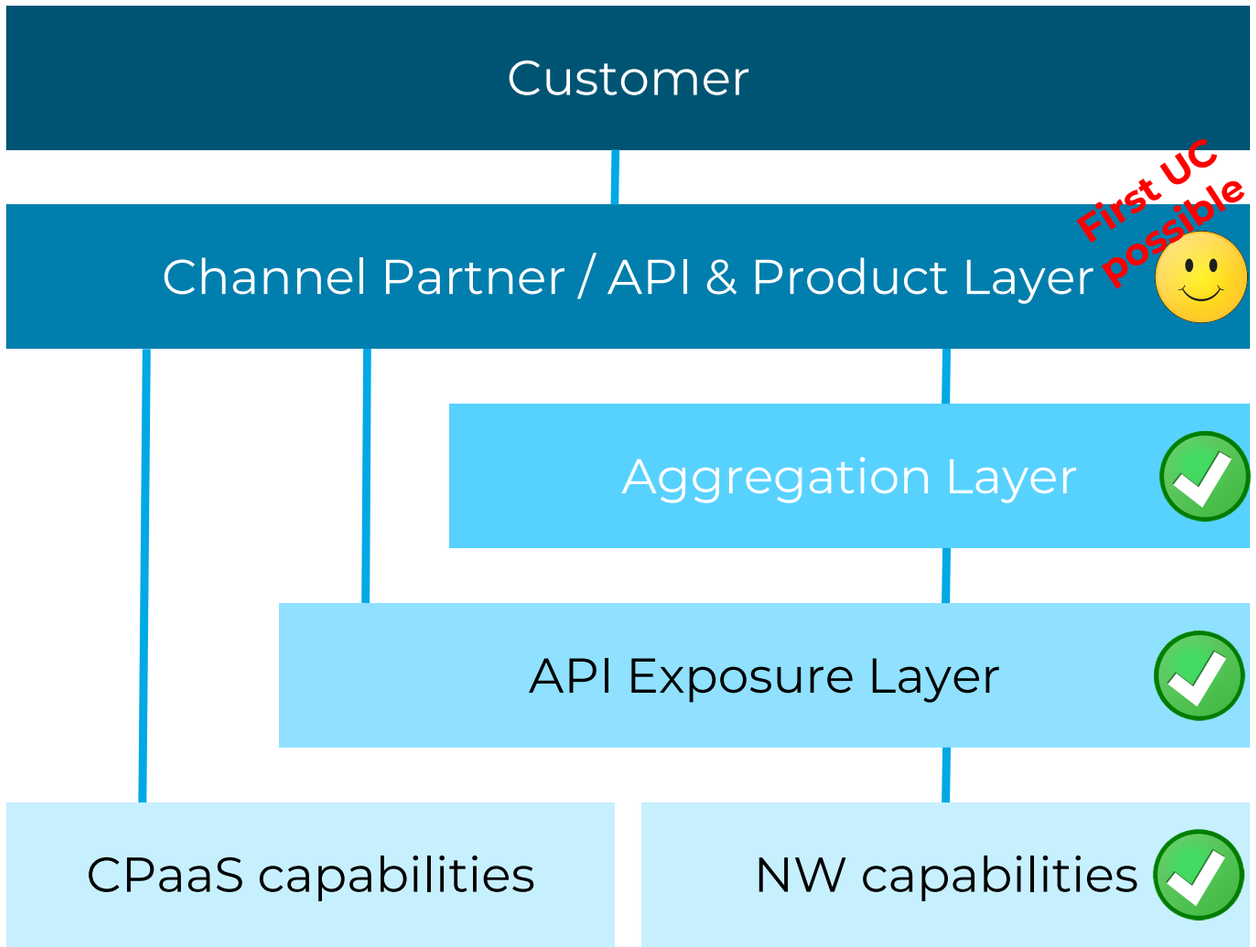
It's a win-win!

Anti Fraud APIs

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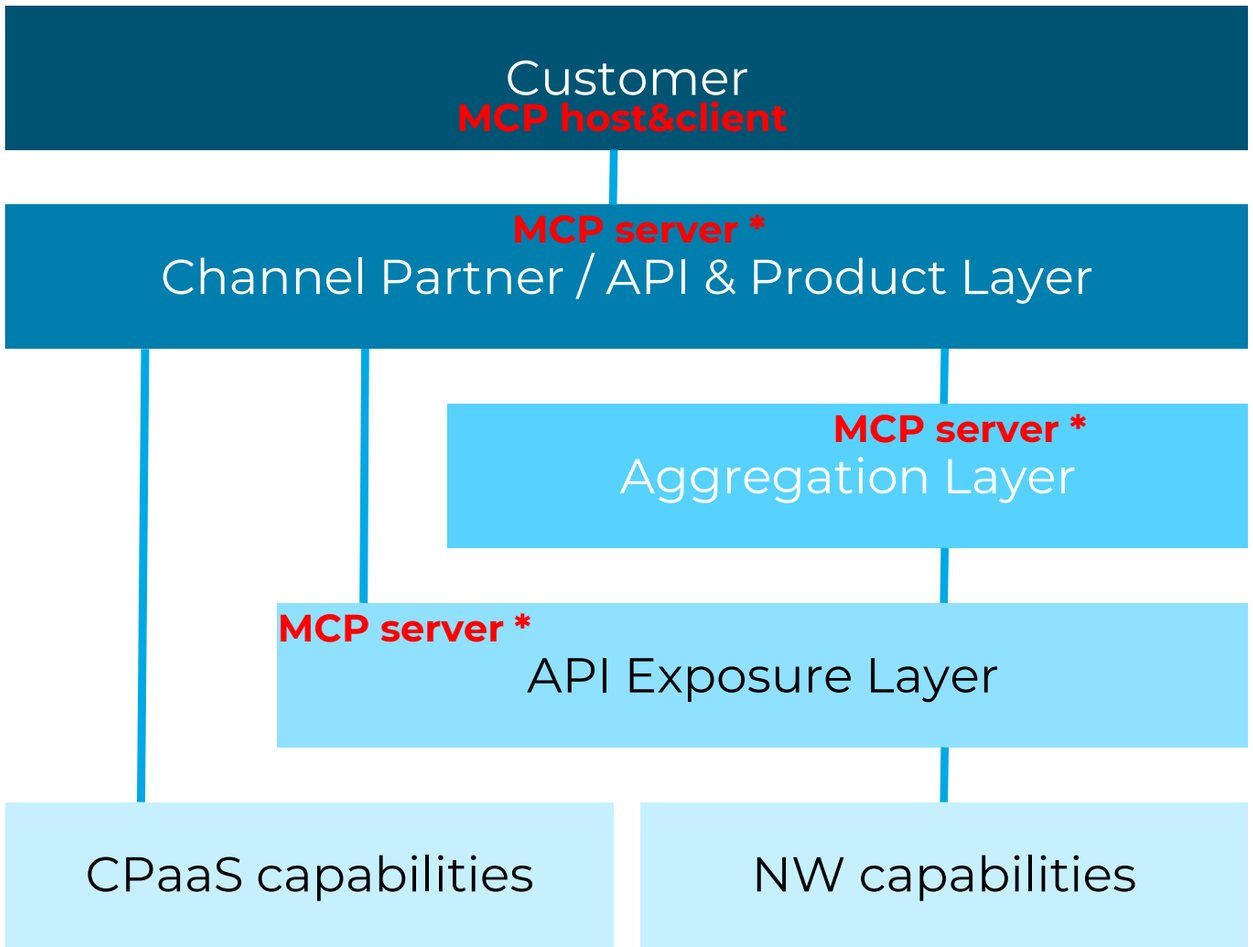


The API ecosystem – Current status and challenges



- Show the figures (successful revenues) - GSMA
- Find balance between regulation/data privacy and usability for the markets - GSMA
- Prepare all layers for (agentic) AI – Channel Partners, GSMA, CAMARA
  Next slide
- Introduce products - Channel Partners
  - Change communication (solve customer problems instead of expose capabilities)
  - Design and develop products following customer need, considering alternative (non-telco) solutions and attractive pricing
- Push market coverage and communicate it - GSMA
- Close gaps at operators - Operators
- Enable Consent API for multi-API one-step consent independent of API flows - CAMARA

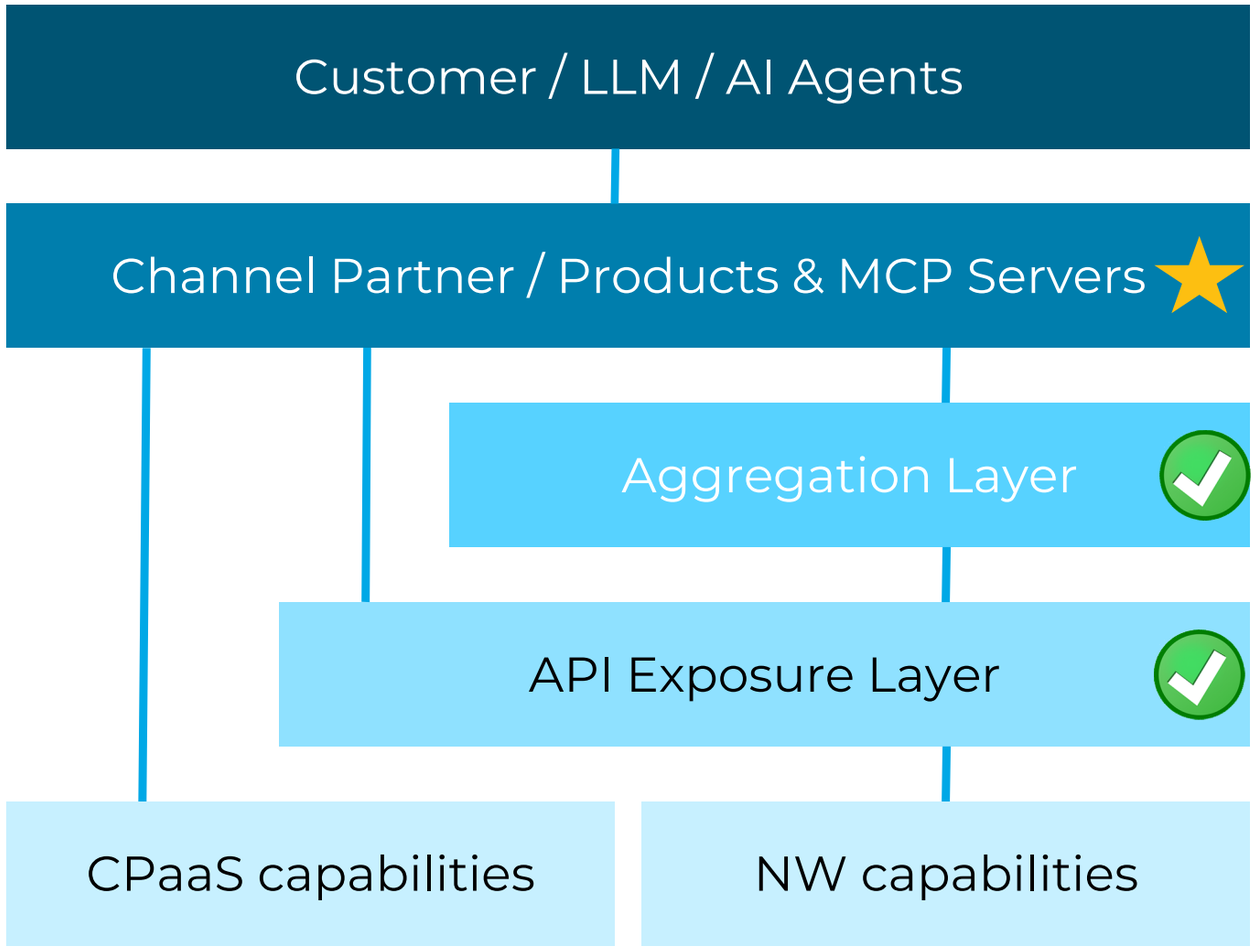
The API ecosystem – Prepare for agentic AI



- CAMARA should provide context for MCP servers, esp. scopes and purposes, user consent requirements
- CAMARA should adjust security guidelines and API design guidelines
- CAMARA should provide authoritative MCP function definitions versioned in lockstep with corresponding CAMARA API definitions
- GSMA/OGW should add MCP servers to technical standards, launch map, certification
- Operators and Aggregators should expose MCP servers in parallel to APIs
- Channel partners and Customers should use LLMs/MCP hosts/MCP clients in parallel to products. Channel partners also can expose MCP servers to customers.

*** MCP server can sit in exposure layer (for single operator APIs), aggregation layer (for aggregated APIs) or Channel Partner layer. But aggregation only happens on API side, not on MCP side**

The API ecosystem – Current status and challenges



CSP – Critical Success Point 2026

Aggregators in each market

GSMA Open Gateway

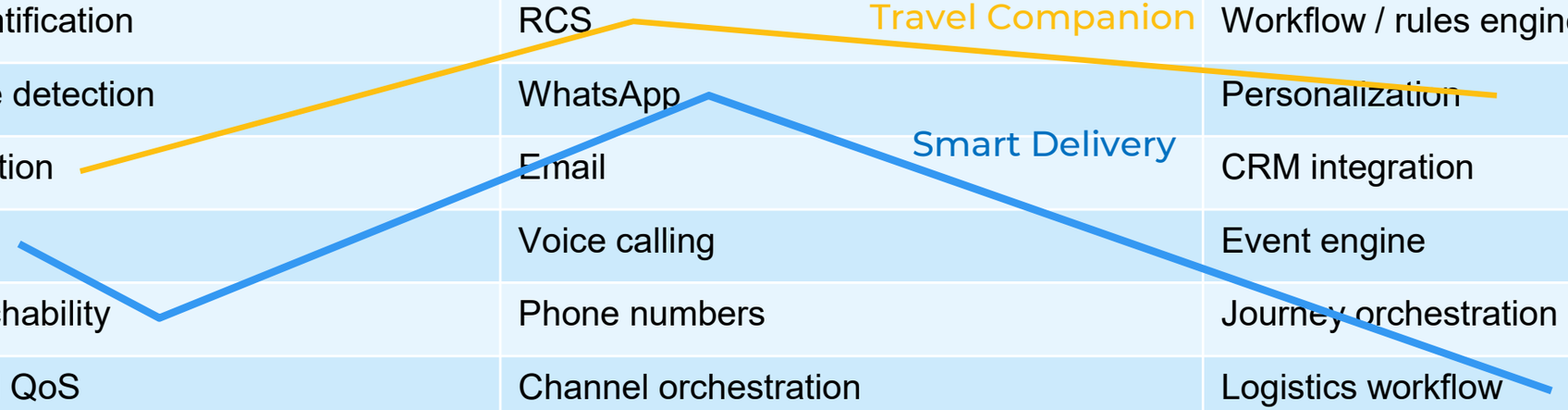
tmforum

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Products - Building blocks

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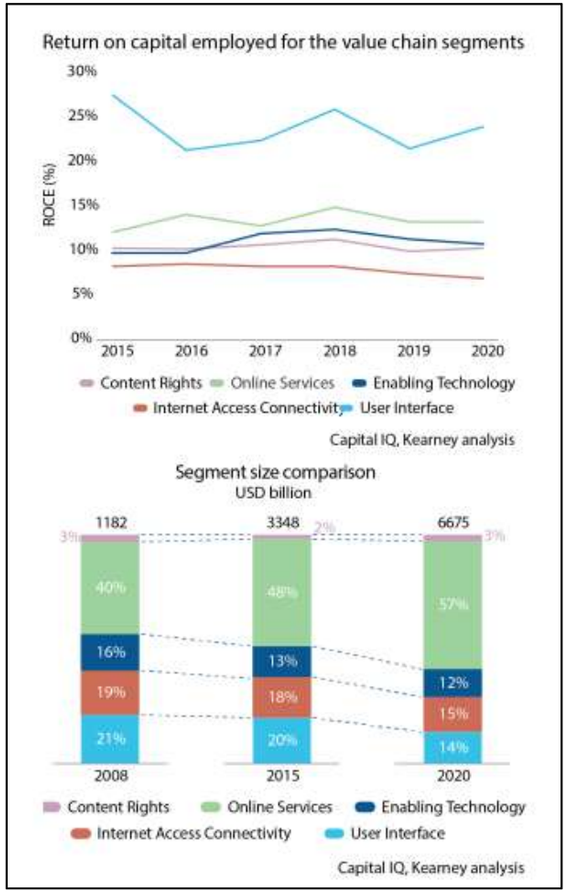
Network Capabilities (40)	CPaaS Capabilities (25)	Further Capabilities (25)
Number verification	Send/receive SMS	Risk scoring
OTP authentification	RCS	Workflow / rules engine
SIM change detection	WhatsApp	Personalization
Device location	Email	CRM integration
Geofencing	Voice calling	Event engine
Device reachability	Phone numbers	Journey orchestration
On-demand QoS	Channel orchestration	Logistics workflow
Traffic steering	Campaigns	Analytics
Session insight	Delivery intelligence	SLA / assurance
Carrier payment	Sender identity	Policy engine
…	…	…



AI does not solve the telco dilemma

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- **AI offers a low-hanging fruit** for telcos to save cost and improve UX, e.g.
  - Hotline automation (for customers and employees)
  - Network automation up to autonomous networks
  - …
- For that reason **telcos prioritize AI activities** in the moment (sometimes at the expense of APIs)
- **But AI won't solve the telco dilemma**, APIs are key for that. You cannot build an AI agent / MCP server without a tool / API
- **AI gives a breather to the API teams**, but it should be used to
  - Prepare for (agentic) AI
  - Close gaps

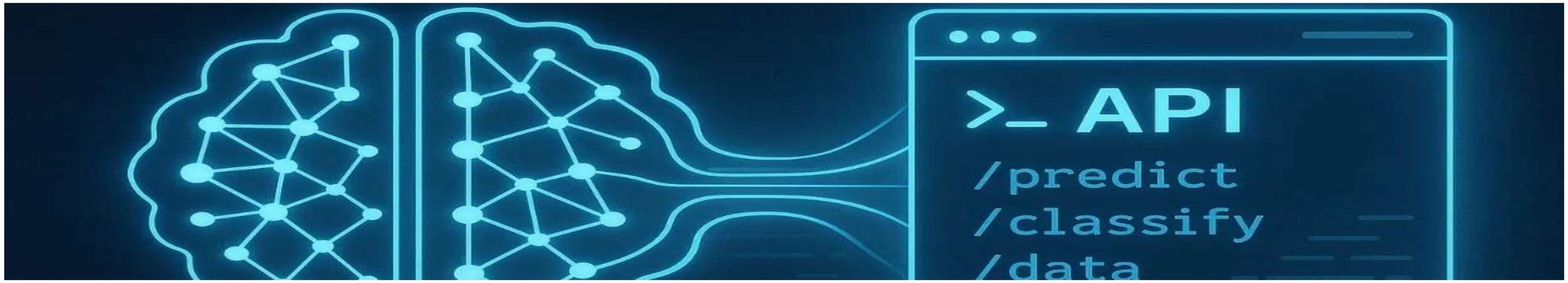


APIs and AI – The intersection

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4 different scenarios:

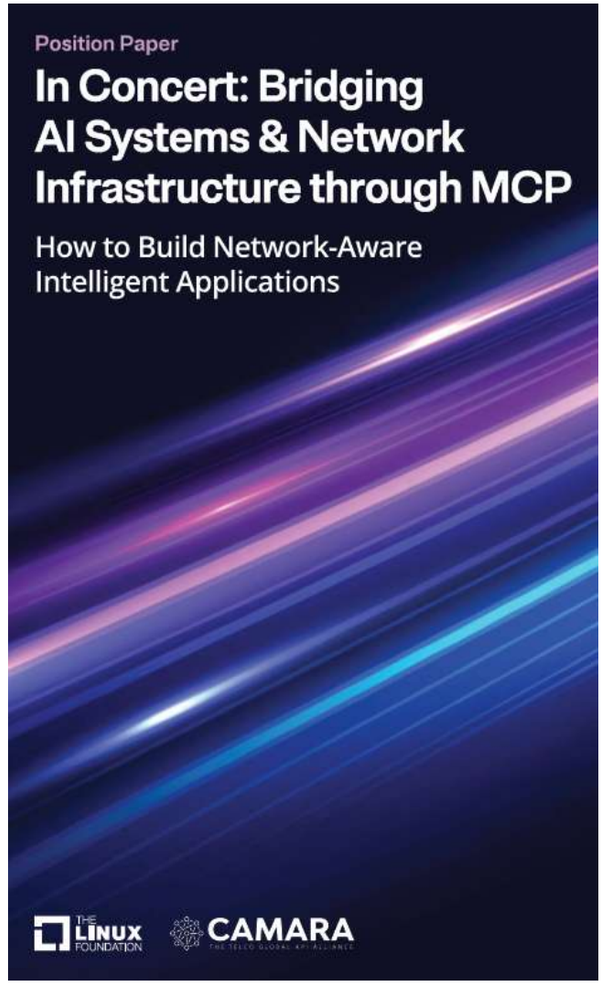
- AI used by developers inside operators for their daily work
- AI used inside operators to develop better APIs (e.g. prediction)
- AI used by operators as an additional portfolio (MaaS)
- AI used as sales channel (agentic AI)



In Concert: Bridging AI Systems and Network Infrastructure through MCP

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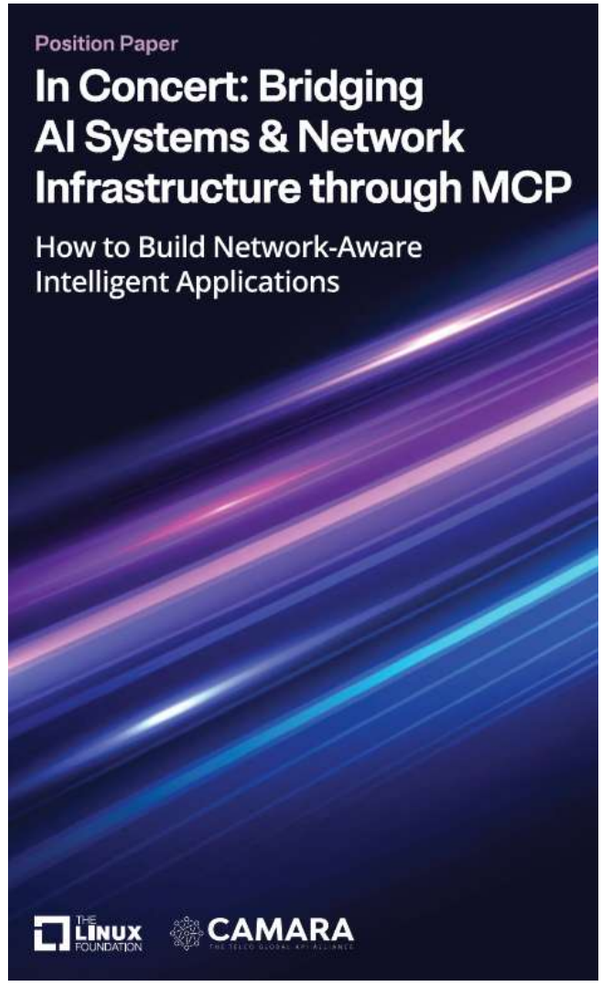
- To enable LLMs accessing network capabilities, APIs and a bridging protocol (MCP) is needed. Combining both AI developers can
  - Deliver more intelligent, network context-aware services
  - Reduce delivery complexity, accelerate time-to-market, expand global reach
  - Enable AI models to make real-time, policy-compliant decisions that optimize UX and resource utilization
- Example use cases are listed in the whitepaper



In Concert: Bridging AI Systems and Network Infrastructure through MCP

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- No fundamental changes are required to either ecosystem
  - Provide context for MCP servers, esp. scopes and purposes, user consent requirements
  - Follow CAMARA security guidelines and API design guidelines (both need to be adjusted to AI)
  - CAMARA may provide authoritative MCP function definitions versioned in lockstep with corresponding CAMARA API definitions
- Details are documented in the whitepaper



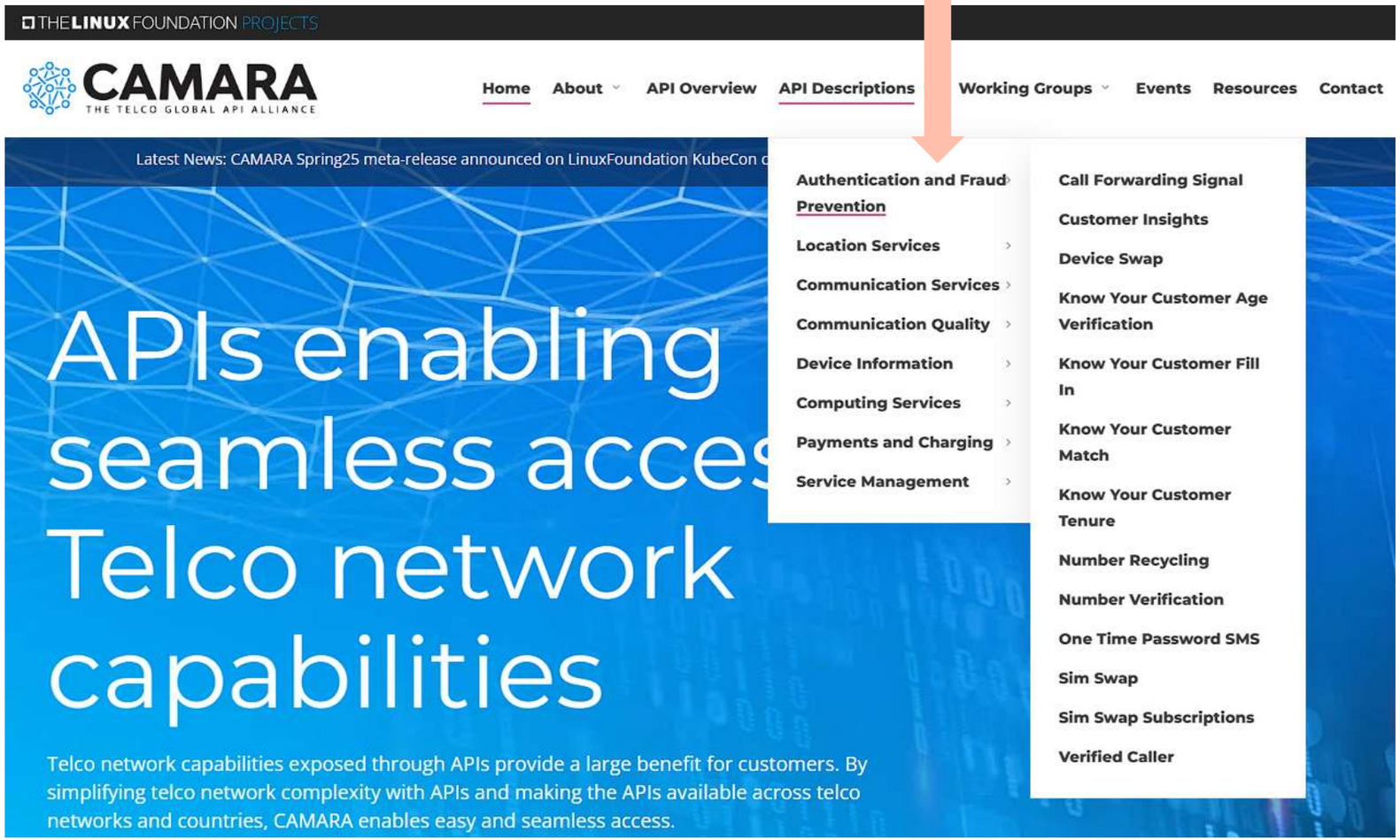
Benefit for developers to use CAMARA APIs

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1. Reduces friction for developers to access network information across telcos globally.
2. Increases usage and value of telco networks by providing easy access to network capabilities.
3. Enables developers to create new applications or improve existing ones with access to these capabilities.

Additional revenue on existing assets, leveraging SDN and NFV capabilities

Developers Getting Started with CAMARA APIs



Developers Getting Started with CAMARA APIs

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API Description

The "Location Verification" API determines whether a mobile device is within the proximity of a specified geographical area. The API request includes the target area, defined as a circle with a specified center (latitude and longitude) and a radius or accuracy threshold. The API response confirms whether the location detected by the mobile network operator falls within the requested accuracy range.



Depending on the version of the API, other request and response parameters can be used. For example, the request can specify the maximum accepted age of the location information used in the verification, and the response can give information about such age and how the detected location matches the requested one.

Use Cases

→ **Fraud prevention in location-dependent transactions for Banking and Financial Services**: For example, if someone attempts to withdraw cash from an ATM or make a payment using your credit card number in a city within your country where you are not physically present

API Portfolio: Location Services

SubProject Wiki: Device Location (incl. how to meet the team)

API Wiki: Location Verification

API Repository: Device Location

API Repository Status: Incubating

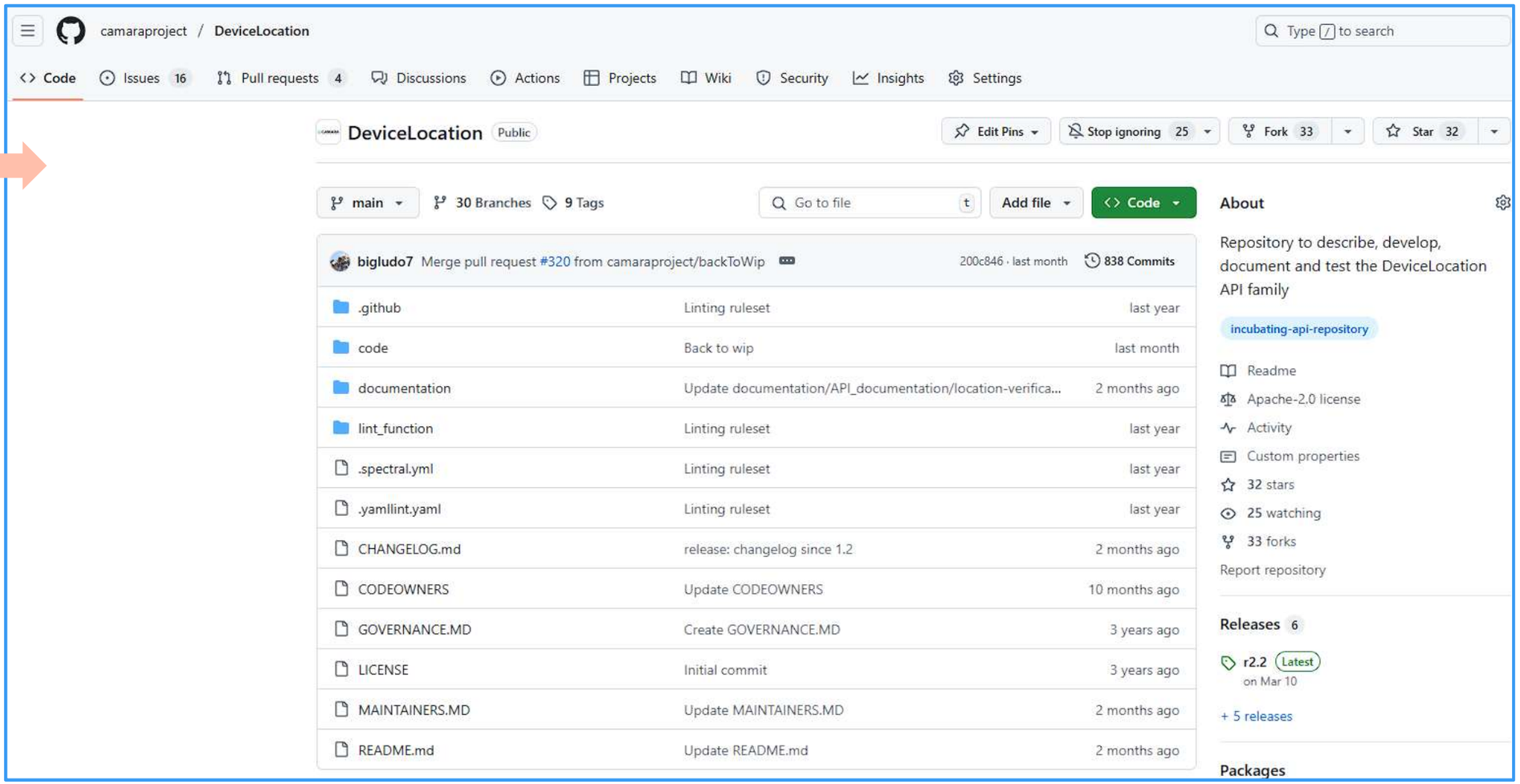
API Status: Stable

API Version(s) and Release Date(s):

→ v0.2.0 (27.02.2024), second alpha version
→ v1.0.0 (10.09.2024), Fall24 meta-release
→ v2.0.0 (10.03.2025), Spring25 meta-release

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.

Developers Getting Started with CAMARA APIs

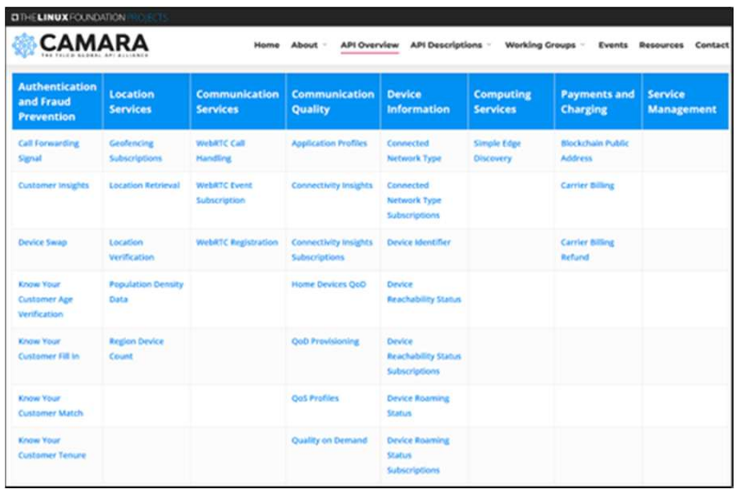


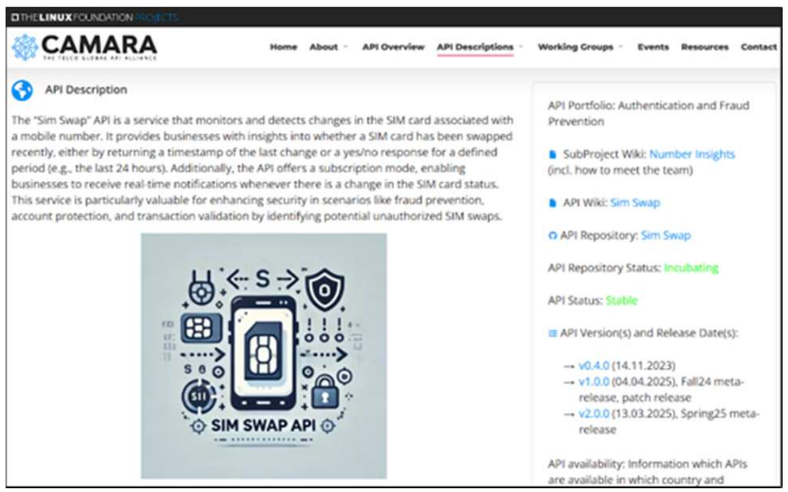
Developers Getting Started with CAMARA APIs

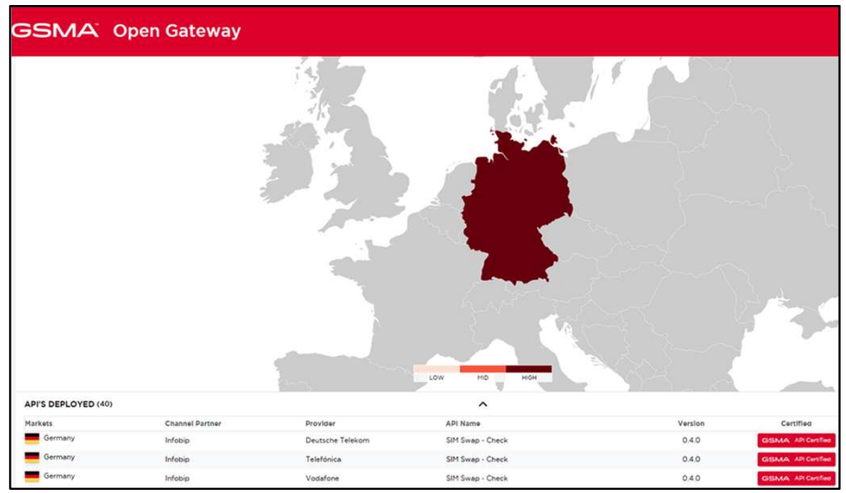
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Integrate API call in own code, e.g. for Sim Swap:

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







Benefit for developers to work in CAMARA

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As a typical Open Source Project **CAMARA is driven by contribution!**

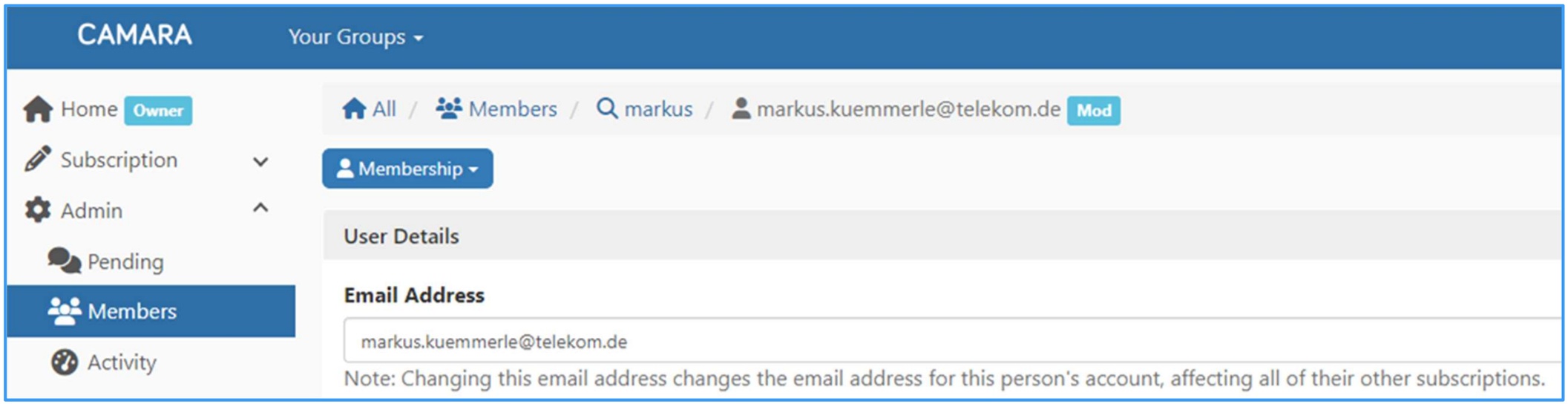
People who contribute define priorities and drive the direction.

Working in CAMARA on API definitions, API documentations and API code (transformation functions) enables to

- **Bring in own demand** and contribute a solution
- **Influence the definition** of new APIs and API versions
- Ensure that own requirements are considered
- **Provide code which can be used globally**
- **Learn** about CAMARA, Open Gateway and the Network API ecosystem
- **Get deep knowledge about the APIs**
- **Become maintainer and TSC member** to influence technical decisions in CAMARA

Joining CAMARA as Developer

To join the CAMARA mailing list send an (empy) email to all+subscribe@lists.camaraproject.org.



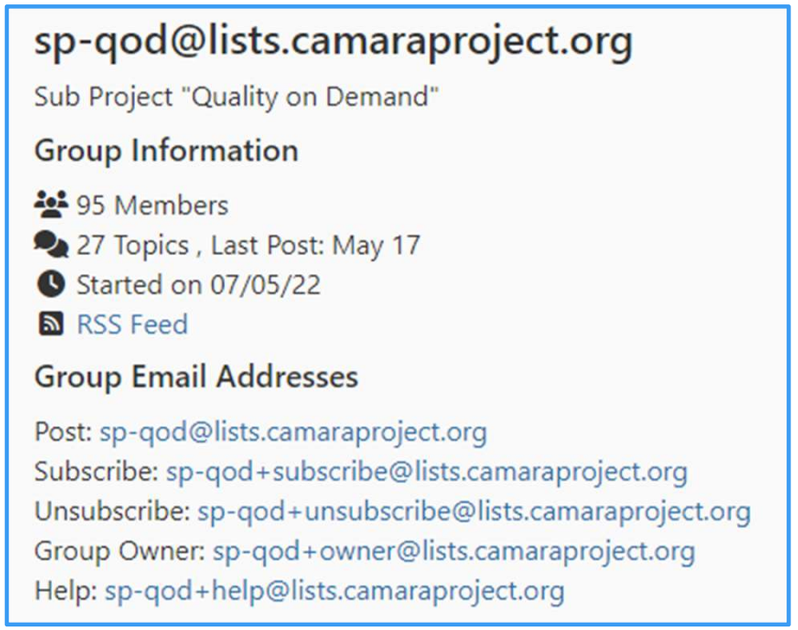
The CAMARA GitHub https://github.com/camaraproject can be accessed without any prerequisite. To create issues and start contributing to CAMARA you need a free GitHub account.

Joining CAMARA as Developer

Each API in CAMARA is developed in a separate repository under a Sub Project or as an Independent Sandbox with (example QoD):

- A dedicated lead repository (containing API definition and API documentation)
- 0…n provider implementation repositories (containing API code)
- A dedicated mailing list and meeting schedule to discuss progress/issues on the APIs





Joining a Sub Project as Developer

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To join a Sub Project please have a look into its Readme.md (example Quality on Demand):

last commit april | issues 10 open | pull requests 2 open | contributors 27 | repo size 11.5 MiB | License Apache 2.0 | release r2.2
Incubating API Repository

QualityOnDemand

Incubating API Repository to evolve and maintain the definitions and documentation of QualityOnDemand Service API(s) within the Sub Project Quality On Demand

Scope

- Service APIs for "Quality on Demand" (see APIBacklog.md)
- The Service APIs provide the API consumer with the ability to:
  - retrieve the possible quality options (profiles) from the network (qos-profiles)
  - set the quality for a connection of a mobile device or a home device within the access network
    - dynamically, for a selected session of a specific duration (quality-on-demand)
    - provisioned, applying the same quality each time the device connects to the network (qod-provisioning)
  - get a notification if the network cannot fulfill the requested quality profile (quality-on-demand, qod-provisioning)
- Describe, develop, document and test the APIs (with 1–2 Service Providers)
- Started: October 2021
- Incubating stage since: February 2025

- Meetings are held virtually: Meeting registration / Join
- Schedule: bi-weekly, Friday, 2 PM CET/CEST (13:00 UTC, 12:00 UTC during European DST). For date/time of next meeting see previous meeting minutes.

Status and released versions

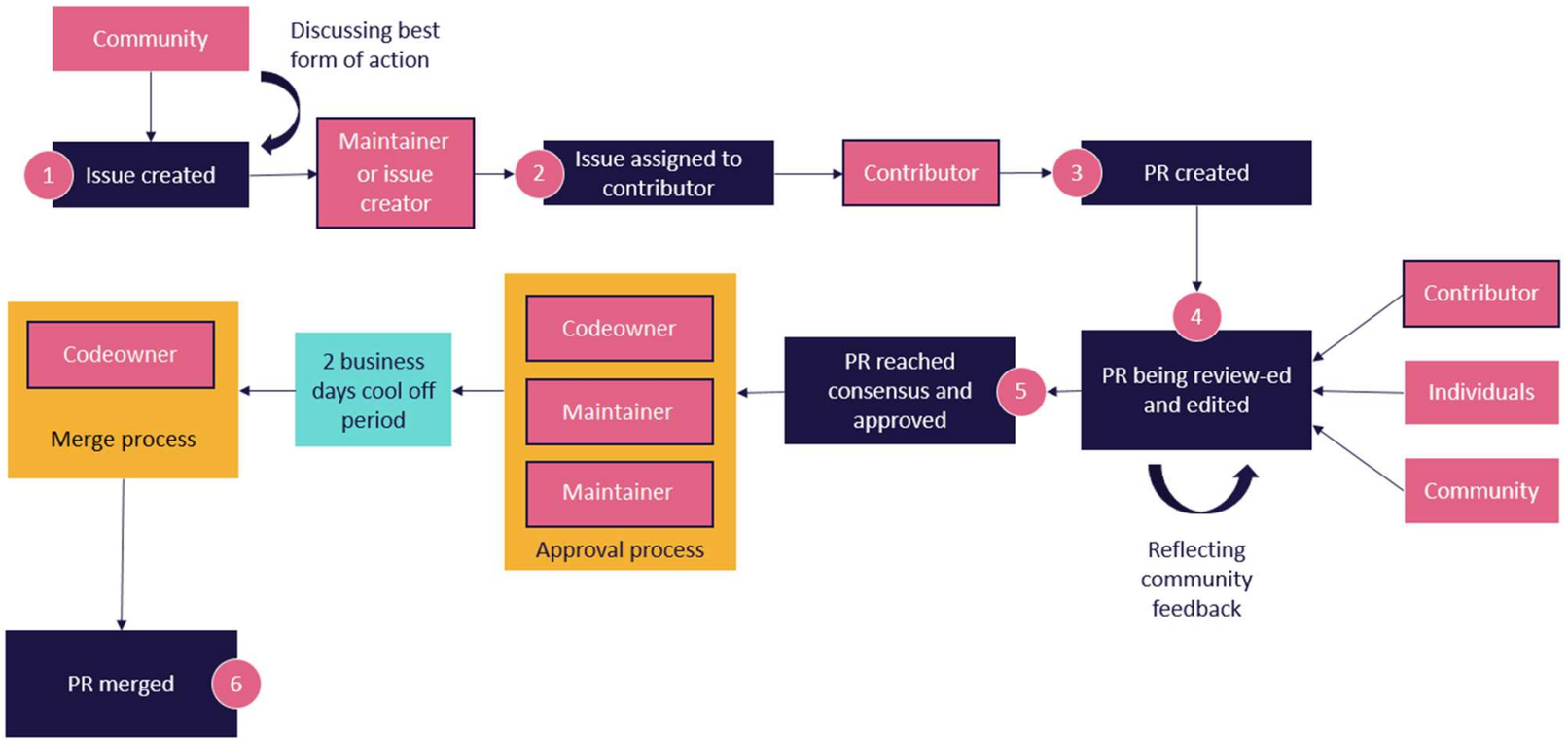
- Note: Please be aware that the project will have frequent updates to the main branch. There are no compatibility guarantees associated with code in any branch, including main, until a new release is created. For example, changes may be reverted before a release is created. **For best results, use the latest available release.**
- **The latest available and released version 0.10.1 is available here**
  - API definition v0.10.1 with inline documentation:
    - View it on ReDoc
    - View it on Swagger Editor
    - OpenAPI YAML spec file
- The previous released version v0.9.0 is availabe within the release-0.9.0 branch
- For changes between v0.10.0 and v0.9.0 see the CHANGELOG.md
- Provider implementations (PI) are available within separate repositories (partly for previous releases):
  - QualityOnDemand_PI1 by Deutsche Telekom
  - QualityOnDemand_PI2 by Orange
  - QualityOnDemand_PI3 by Spry Fox Networks

Contributorship and mailing list

- To subscribe / unsubscribe to the mailing list of this Sub Project and thus be / resign as Contributor please visit https://lists.camaraproject.org/g/sp-qod.
- A message to all Contributors of this Sub Project can be sent using sp-qod@lists.camaraproject.org.

Contributing to CAMARA

In the Project the “Fork and pull model” is used. Changes and contributions to CAMARA shall follow this process:



thttps://github.com/camaraproject/Governance/blob/main/ProjectStructureAndRoles.md

Benefit for operators to implement CAMARA APIs in their networks

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Operators have made high investments in

- Spectrum licenses
- Infrastructure (cell towers, fibre)

Operators haven‘t been successful in

- Increasing prices for connectivity contracts

CAMARA APIs open opportunities

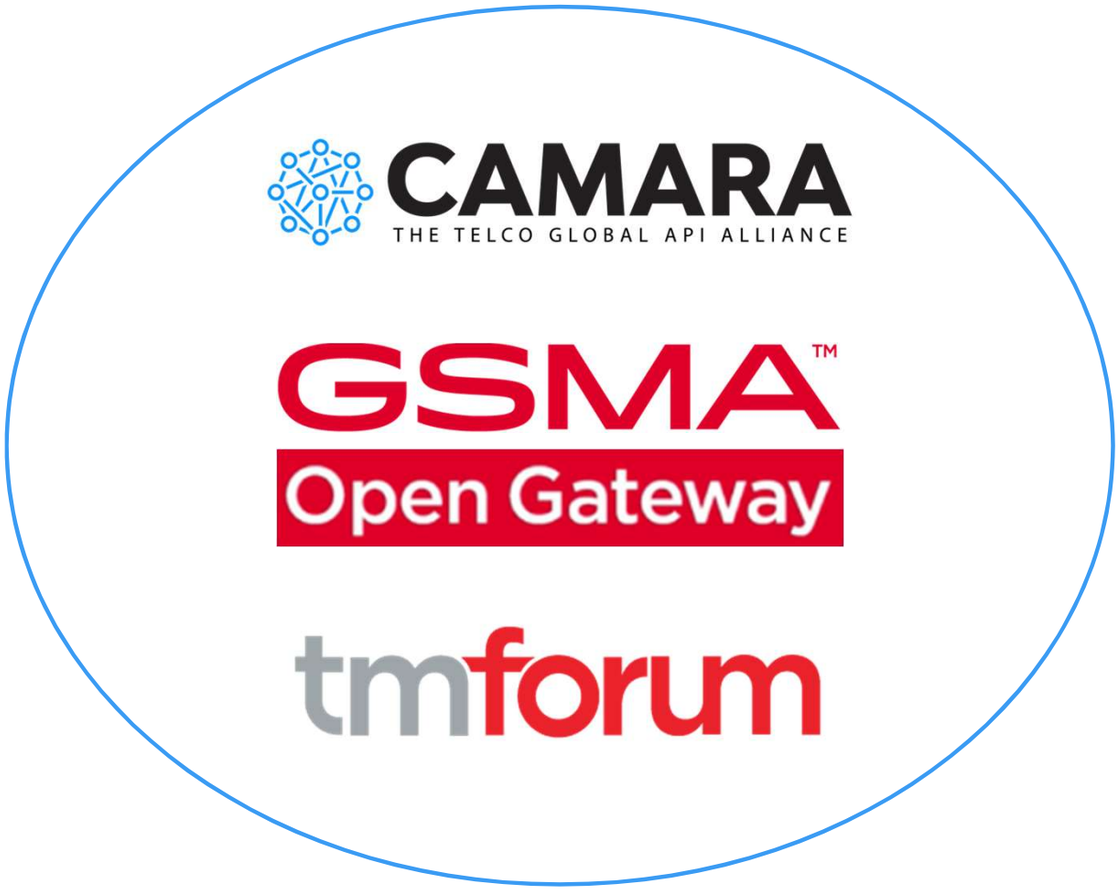
- To monetize the high investments
- To improve customer experience
- For market positioning



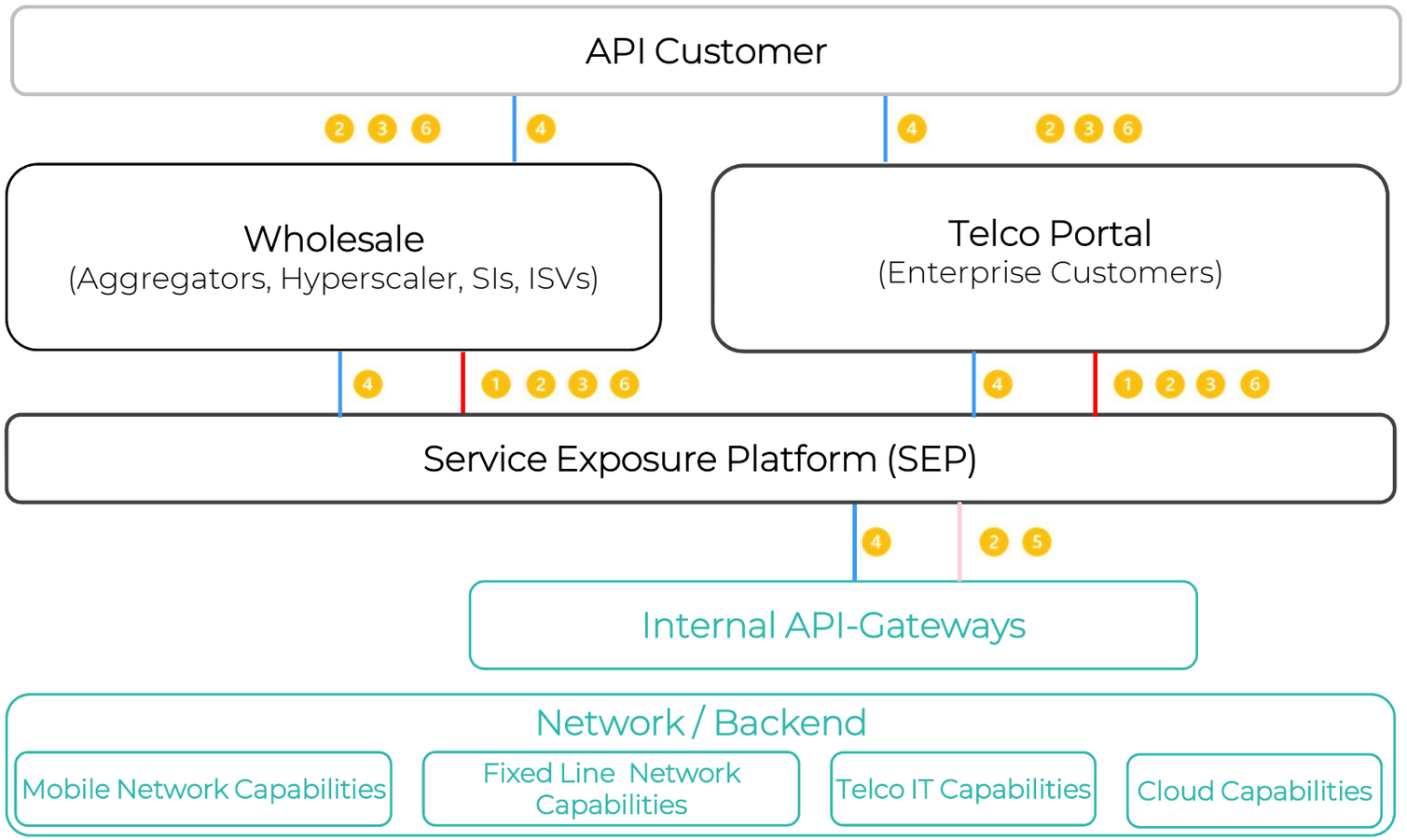
What have operators to do to implement Network APIs?

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- Implement CAMARA APIs based on the network capabilities
- Implement an exposure infrastructure, with TMForum Operate APIs
- Define commercial products
- Sell it



What have operators to do to implement Network APIs?



Possible API workflows

1. Catalog published from SEP to portals
2. Customer onboarding to SEP
3. Customer orders API, SEP sends credentials to access API
4. If necessary SEP requests user consent for API. Capacity management is done. Customer uses API. SEP performs metering and rating.
5. SEP initates billing for wholesale and retail
6. Customer offboarding

Service API | IT API | Operate API

Benefit for operators to work in CAMARA

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Collaborative Innovation

- Industry Collaboration
- Standardization: contribute to development of industry standards, ensuring interoperability and consistency across networks and services
- Bring in your requirements!

Networking and Partnerships

- Access to a growing global network of industry leaders
- Technological Advancements
- Knowledge Exchange

Shared Resources

- Collaborative projects often lead to cost savings through shared resources and reduced duplication of efforts
- Benefit from the collective research efforts

Benefit for operators to work in CAMARA

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Why Join CAMARA as a sponsor /member?

- Seat on the Governing Board to influence CAMARA strategy
- Elevate your Brand
- Signal Support & Commitment to open API development
- Discounts on Linux Foundation events & programs
- Help ensure the Project continues to provide needed governance & infrastructure
- Platform to showcase thought leadership

Operators Getting Started with CAMARA

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Individuals and organizations who are application developers / API consumers (e.g. enterprises and startups), aggregators, cloud operators, telco operators, network equipment vendors, system integrators, and software vendors are welcome to join CAMARA.

For organizations:

- If you are interested to show your logo on the CAMARA website as **“Participating Organization”** send a .SVG version of it to adm@lists.camaraproject.org. Participation is free, without any fees or obligations.
- If you would like to become a **CAMARA sponsor** please don’t hesitate to use the enrollment link. The cost is depending on the kind of membership and the number of employees.
- Associate Members of The Linux Foundation can also join as **"Associating organization"** for free, without any fees or obligations.

Operators Getting Started with CAMARA

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Why Organizations Join CAMARA?

Aside from having a seat at the collaborative table to shape the future of the open telco API ecosystem, organizations join CAMARA as a sponsoring member to:



Influence strategy and direction of the open telco API ecosystem

CAMARA sponsor organizations play a pivotal role in shaping the open telco API ecosystem by participating in the CAMARA governing board to influence strategic decisions and prioritize marketing activities. Sponsors contribute financial and technical resources to accelerate development, support testing initiatives, and enhance developer tools and documentation for broader usability.



Accelerate time to market

IDC recently projected revenues for telecom and network APIs to reach $6.7 billion in 2028, up from just $700 million in 2023. Be part of the ecosystem from the ground up! Together with partner organizations GSMA Open Gateway and TM Forum, CAMARA APIs help operators monetize high investments in areas like spectrum licenses and infrastructure.



Elevate your brand

Those participating in cross-industry collaboration to evolve open APIs have the chance to showcase their efforts broadly and gain visibility as a pioneering expert in the openTelco API space. CAMARA members have access to multiple industry platforms, including speaking and networking opportunities (both virtually and in-person); authoring white papers, blogs, and other publications; press and analyst engagement; and so much more, including access to Linux Foundation channels that reach developers, operators, hyperscalers, enterprises, vendors, and other from around the world.



Collaborate with global thought leaders

Access to a varied community of leading industry organizations across Telecom, Cloud, hyperscalers, aggregators enterprises, start-ups, and vendors, all collaborating to shape the ecosystem for more accessible and aligned open APIs. Connect with individuals and companies from across the globe, learn from peers and technical entrepreneurs while fostering new partnerships and business opportunities.



Communicate commitment to ensuring the availability of accessible, quality open APIs

Aligning with CAMARA signals your commitment to ensuring broad accessibility of open Telco APIs. Let your customers, partners, and shareholders know you support!

CAMARA Membership Benefits Overview

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Collaborate for Impact

- **Shape the future:** Influence marketing & event strategies
- **Lead the way:** Access thought leadership opportunities
- **Exclusive events:** Attend and plan member-only events
- **Collaboration with major players:** Work alongside telcos, hyperscalers, and developers in a neutral, open-source environment
- **Visibility:** Feature in research reports and the speakers' bureau
- **Amplify your brand:** Get broad exposure across CAMARA and ecosystem

Drive Business Growth

- **Lead the industry:** Secure a seat on the Governing Board
- **Drive global interoperability:** Help ensure your organization's needs are considered in the push toward standardized, interoperable APIs across networks and regions
- **Early access to new APIs and features:** Stay ahead of the market by testing and deploying APIs before general release
- **Strategic planning:** Shape long-term goals on the Strategic Planning Committee
- **Expand ecosystem reach:** Position your company at the center of a global developer and network provider community

Exclusive Access & Privileges

- **Priority input on policies and licensing:** Help define the rules and frameworks that govern CAMARA's operations and contributions
- **Strategic seats:** Join Outreach, Governing Board, and other committees as a voting member
- **Shape API development:** Gain a voice in defining, prioritizing, and evolving the CAMARA APIs that align with GSMA Open Gateway and network operator needs
- **Member discounts:** Save on LF events, training, and more
- **Access to roadmap discussions:** Participate in strategic planning and early access to upcoming features and initiatives

Member-Only Benefits
(Non-Code Focus: Collaboration & Growth)

Collaborate for Projects

- **Engage with the community:** Participate in TSC calls, Zulip channels, and other community forums
- **Collaborate on code projects:** Contribute to and innovate within various API Working Groups and Sub Projects
- **Workstream participation:** Get involved in workstreams to drive development forward

Free to All Organizations
(Code Involvement)

Top 10 Reasons to Join as a Member

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Influence Global API Standards: Shape the development of open, telco-exposed APIs aligned with the GSMA Open Gateway initiative - ensuring your business needs are reflected in global standards.

Accelerate Service Innovation: Leverage standardized APIs to unlock network capabilities (e.g., QoD, device location, slicing) and build differentiated digital services faster.

Collaborate with Industry Leaders: Develop personal relationships with thought leaders (including executives, architects, program manager, engineers, and more) from a global community of telecom operators, hyperscalers, and aggregators, and enterprises all working together to bridge networks and applications through open source.

Set the Open Telco API Development Strategy: Participate in building an ecosystem that makes it easier for developers to consume network capabilities - growing adoption and monetization of your services.

Gain Early Access to APIs and Roadmaps: Stay ahead of the market with insider access to early-stage APIs, technical roadmaps, and experimental features.

Top 10 Reasons to Join as a Member

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Expand Business Opportunities: Enable cross-operator, cross-border deployment of your services by building once and scaling globally with consistent APIs.

Boost Visibility and Brand Recognition: Access co-marketing opportunities, including event participation, case studies, webinars, and blog posts - highlighting your leadership in telco innovation.

Participate in Governance and Leadership: A voting membership on the CAMARA Governing Board enables you to Influence the direction of the open telco API ecosystem align with your business strategy.

Align with Other Open Source Projects and Industry Initiatives: Collaborate easily and directly with other Linux Foundation projects such as LF Networking, CNCF, Sylva and more, as well as major industry bodies like GSMA, TMForum, MEF, CPaaSaa (and more) - position your organization at the center of the open telco APi movement.

Elevate Your Organization's Industry Perception within the Telco API Ecosystem: Joining the CAMARA Board sends the message that you are a technology leader within a technology on the precipice of unlocking new monetization opportunities. Your absence could be perceived as reluctance to adopt this new technology disruption.

CAMARA
Where are we going next...

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1	Stabilize APIs and roadmap sync across CSPs, Aggregators and Hyperscalers
2	API lifecycle management consistency, Documentation of API versioning and availability globally
3	Drive API Adoption (application developers and operators)

CAMARA Contacts

Individuals and organizations from application developers / API consumers (e.g. enterprises and startups), aggregators, cloud operators, telco operators, network equipment vendors, system integrators, and software vendors are welcome to join CAMARA.

To access CAMARA technical resources like API definitions, API specifications or API code just visit the CAMARA GitHub. All resources are reachable without any prerequisite. To create issues and start contributing to CAMARA you need a free GitHub account without any further prerequisite. This participation is free, without any fees or obligation to work.

If you are interested to be included in the CAMARA communication, please subscribe to all+subscribe@lists.camaraproject.org. You may unsubscribe from CAMARA and these communications at any time. Participation is free.

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