

Programmable mobile networks and the API ecosystem



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Agenda

- Network exposure and business opportunities
- Application areas
- Standardization: CAMARA
- API ecosystem
- Summary



Network exposure: The key to programmable networks and innovation

What is "exposure" the buzz word?

Make network capabilities easily available for customers and partners to innovate on and unlock revenue



How to expose the networks?

Using APIs to hide the complexity of the network

GSMA Open GW, CAMARA and 3GPP are playing a key role



NEF

BSS

Location
server

Why to expose?

Programmable
5G networks
(Differentiated
connectivity)



Creates new
revenue
streams



Enables new 2-
sided business
models



What to expose?

APIs are not a new thing

Communication APIs



Messaging



Voice



Video

Network APIs



Authentication



QoS



Location

Use case: User friendly improved security

Customer requirement:

- Improved secure authentication without the need for one-time passcodes (OTP) through SMS, Voice or Email

Use case examples:

- Application onboarding (e.g., banking app, social media, etc.)
- Application password reset and login

Used API:

- CAMARA Number Verification API enables the seamless authentication of the mobile device by the mobile network without end user interaction
- Application requests a check of the phone number of the device being used to access its service
- API either confirms the comparison result - such as whether the user is using a device with the same mobile phone number as is declared - or returns the phone number



Use case: Fraud detection and prevention

Customer requirement:

- Banks need a way to prevent fraudulent transactions because they are held responsible for refunding these transactions

Use case examples:

- Banks account holders are called by scammers that their account is under attack, and they should park their savings on a “safe account”, which is fact the scammers’ account.
The banks want to prevent this from happening and one way is to check if the account holder is in a phone call at that time, which could indicate that (s)he is being scammed.

Used API:

- Call Status API, CAMARA SIM swap API, CAMARA Verified caller API
- When the bank suspects a suspicious transaction, the bank initiates the Call Status API to check if the account holder is in a call at that time. When the response is that the customer is “busy”, the bank can decide to block the transaction and inform the customer.
- **This has caused a drop of 40% of these fraud cases in the UK.**



Use case: Secure performance enhancement

Customer requirement:

- CSP needs to be able to provide enhanced performance during large-scale events.
- Monetize superior network performance through add-on sales instead of best-effort connectivity with flat rates.

Use case examples:

- B2C: Offer secure performance enhancement subscription at the event
- B2B: Bundle secure performance enhancement subscription with the ticket to the event

Used API:

- CAMARA location retrieval API
- CAMARA Dedicated networks API



FWA mobility restriction

Customer requirement

FWA is the main 5G use case after eMBB.

Practice learns that a group of subscribers move their FWA units to other locations (e.g., holiday homes), which undermines network dimensioning and can lead to cell congestion, which in turn can lead to forced throttling of FWA units.

Use case description

An application requests a monitoring event update for the location of the device. As soon as the device moves out of the designated area, a trigger is sent to the application when then can decide what to do; Either deny access to the network for the FWA unit, or allow continued access when the subscriber pays for premium connection



Added value

Dimensioning of the network for FWA is secured, preventing congestion, and unlawful use of the FWA units outside of the home environment is prohibited.

Additional revenues can be generated by offering premium FWA subscriptions that can also be used outside of the home environment.

Use case: Improved end user experience

Customer requirement:

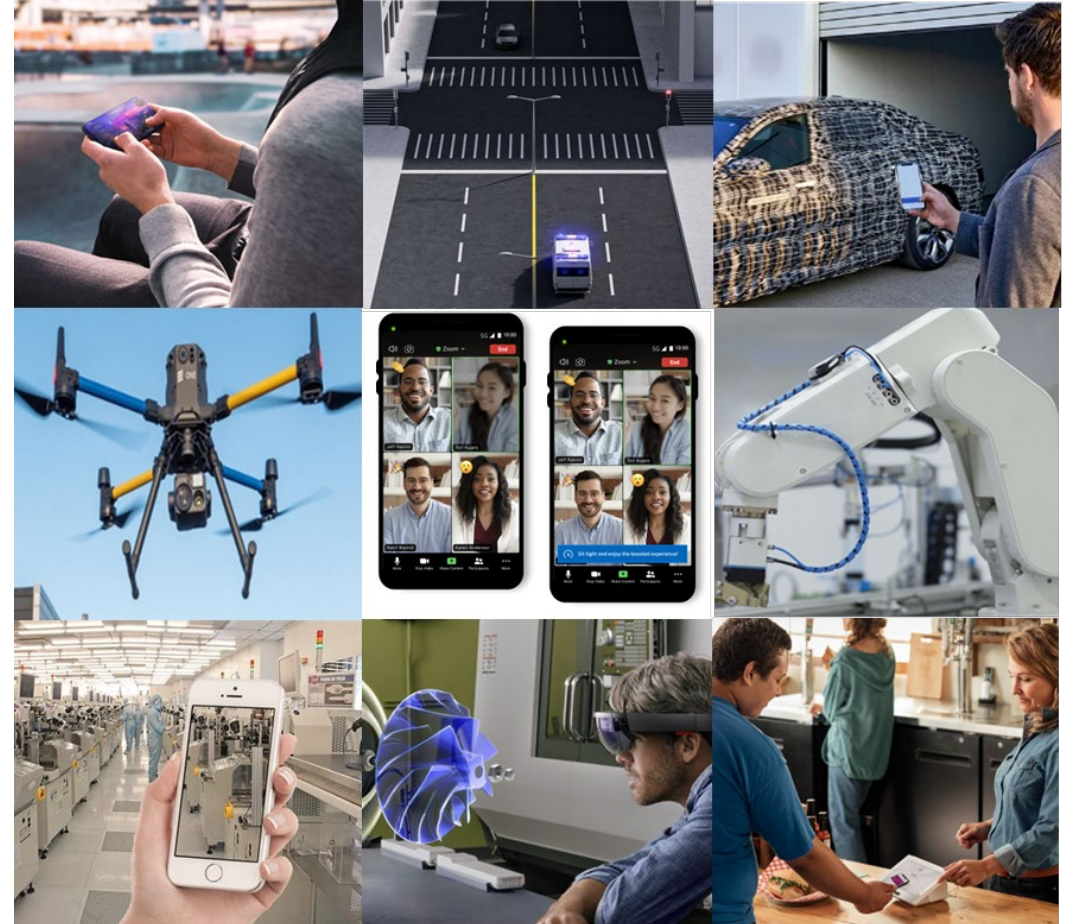
- Provide the best possible improved end user experience supporting sophisticated applications

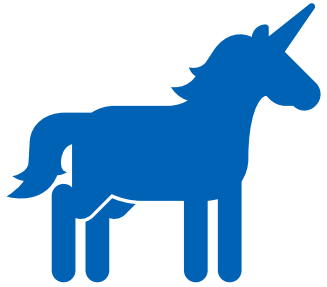
Use case examples:

- Video broadcast / remote working / XR applications / drones
- Gaming
- Public safety / emergency services

Used API:

- CAMARA Quality on Demand or 3GPP QoS API allows applications to request improved network performance (like lower latency or higher bandwidth) for specific applications or devices
- The application requests on demand improved (or even reduced) Quality of Service for the duration of the application activity and then returns the QoS back to default





Scale



Consistency



Simplicity



Accessibility



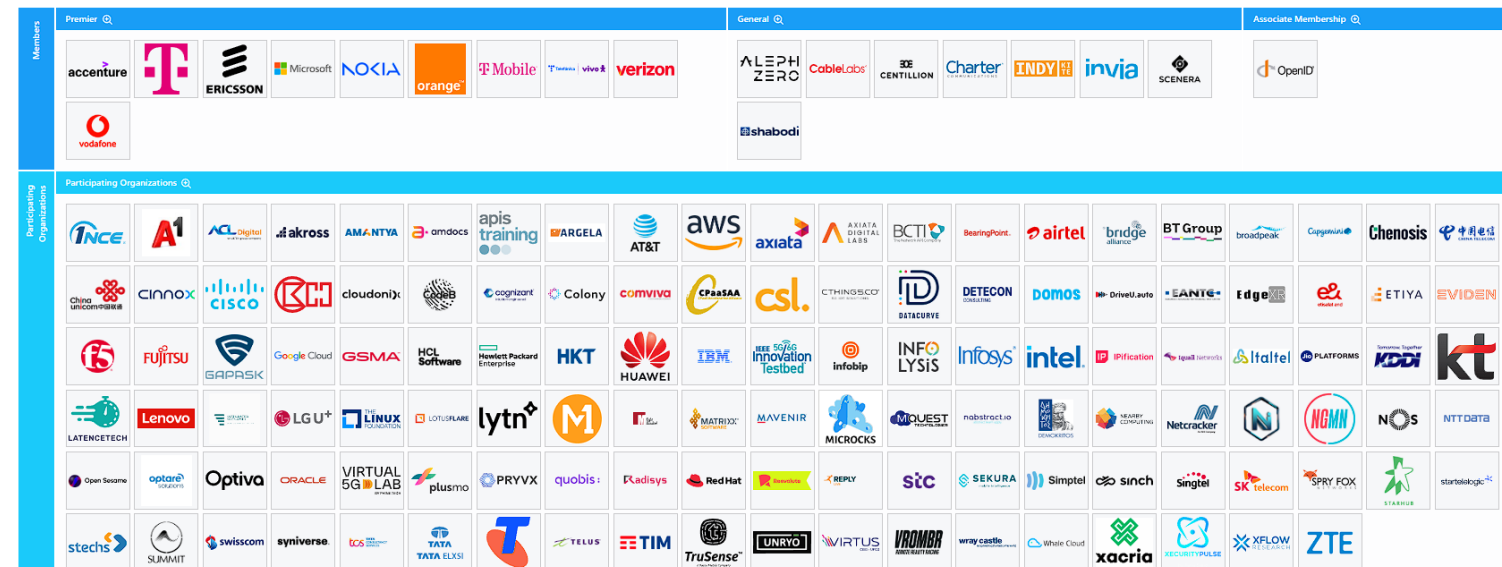
Demand driven

An [open-source project](#) within Linux Foundation to define, develop and test the harmonized telco APIs

Announced in MWC 2022 with 22 launch partners (Ericsson included)

Over 475 companies participating
(as of October 2025)

Over 479 APIs launched worldwide ([GSMA](#))





Stable CAMARA APIs ($\geq$ v1.0.0)

Previous versions launched in at least one market¹



1.0.0

**Device
Reachability Status**
(Device Status)



1.0.0

**Device
Roaming Status**
(Device Status)



2.0.0

**Location
Verification**
(Device Location)



2.0.0

**Number
Verification**



1.1.0

**One Time Password
SMS (Number
Verification)**



1.0.0

QoS Profiles
(Quality on
Demand)



1.0.0

**Quality on
Demand**



2.0.0

Sim Swap
(Number
Verification)



1.0.0

**Simple Edge
Discovery**
(Edge Cloud)

Initial APIs



CAMARA
THE TELCO GLOBAL API ALLIANCE

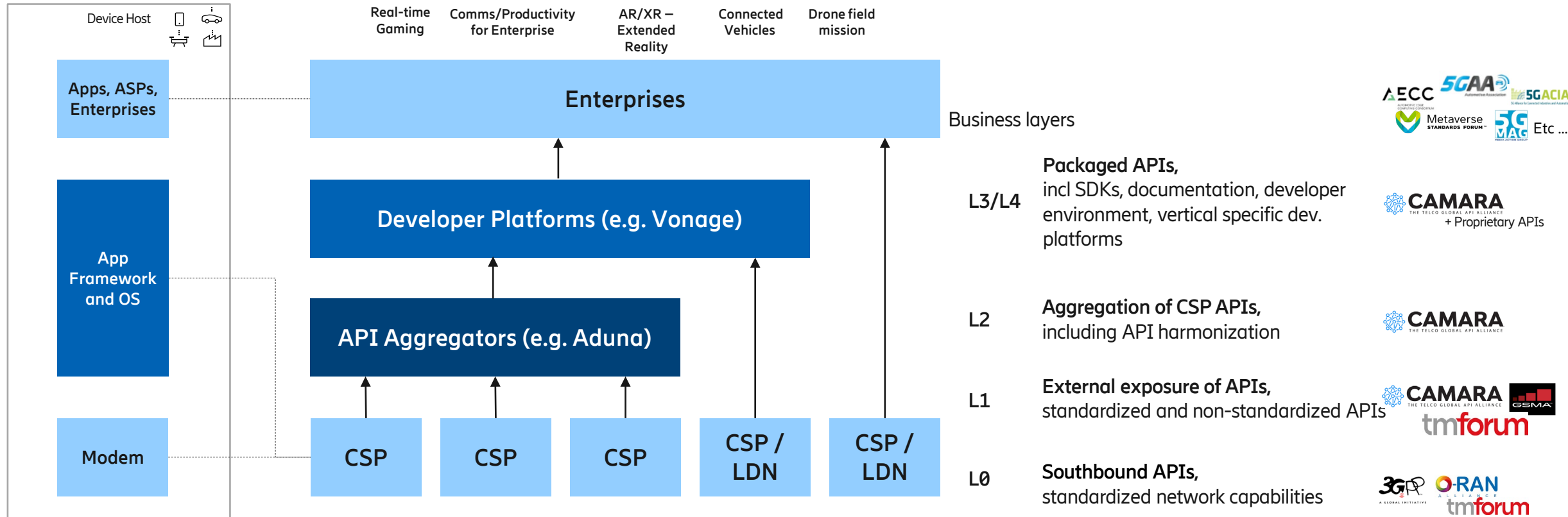
Initial APIs (v0.y.z)

Public initial API version available

 Application Profiles (Connectivity Insights) 0.4.0	 Blockchain Public Address 0.2.0	 Call Forwarding Signal 0.3.0	 Carrier Billing 0.4.0	 Carrier Billing Refund 0.2.0	 Connected Network Type (Device Status) 0.1.0	 Connected Network Type Subscriptions (Device Status) 0.1.0
 Connectivity Insights 0.5.0	 Connectivity Insights Subscriptions 0.5.0	 Customer Insights 0.1.1	 Device Identifier 0.2.0	 Device Reachability Status Subscriptions (Device Status) 0.7.0	 Device Roaming Status Subscriptions (Device Status) 0.7.0	 Device Swap 0.2.0
 Geofencing Subscriptions (Device Location) 0.4.0	 Home Devices QoD 0.4.0	 KYC¹ Age Verification 0.1.0	 KYC¹ Match 0.3.0	 KYC¹ Fill-In 0.3.0	 KYC¹ Tenure 0.1.0	 Location Retrieval (Device Location) 0.4.0
 Population Density Data 0.2.0	 QoD Provisioning (Quality On Demand) 0.2.0	 Region Device Count 0.1.0	 SCAM Signal (GSMA) ?	 SIM Swap Subscriptions (Number Verification) 0.1.2.0	 WebRTC Call Handling 0.2.0	 WebRTC Event Subscription 0.1.0
					 WebRTC Registration 0.2.0	

¹ KYC = Know Your Customer

Network exposure architecture overview



Conclusions

- Network exposure APIs catalyze a wealth of new use cases
- APIs need to be standardized and developer-friendly
- CAMARA Telco Global API Alliance is leading standardization
- Collaboration among Communication Service Providers is important to reach critical mass
- API aggregators facilitate Application Service Providers to reach global footprint





ERICSSON

ericsson.com/en/core-network/network-exposure