Industry Panel

Evolution of Telco Edge Cloud toward Network-as-a-Service (NaaS)

Date/Time: Tuesday, 30 May // 11:30 - 13:00
Location: S7

name	role
Dario Sabella	Moderator, ETSI ISG MEC Chairman, Intel
Juan Carlos Garcia Lopez	GSMA TEC Forum Chair, Telefonica
Rui Frazao	AWS Global Telco Solutions
Nathan Rader	CAMARA project, Deutsche Telekom VP
Maxime Flament	5GAA CTO
Filippo Traviglia	Fabrique Avvocati Associati

https://icc2023.ieee-icc.org/program/industry-program/industry-panels#pa5

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Industry Panel - Evolution of Telco Edge Cloud toward NaaS

- The edge is becoming a hybrid multi-cloud environment, federating communication and computing assets from operators, service providers and hyperscalers.
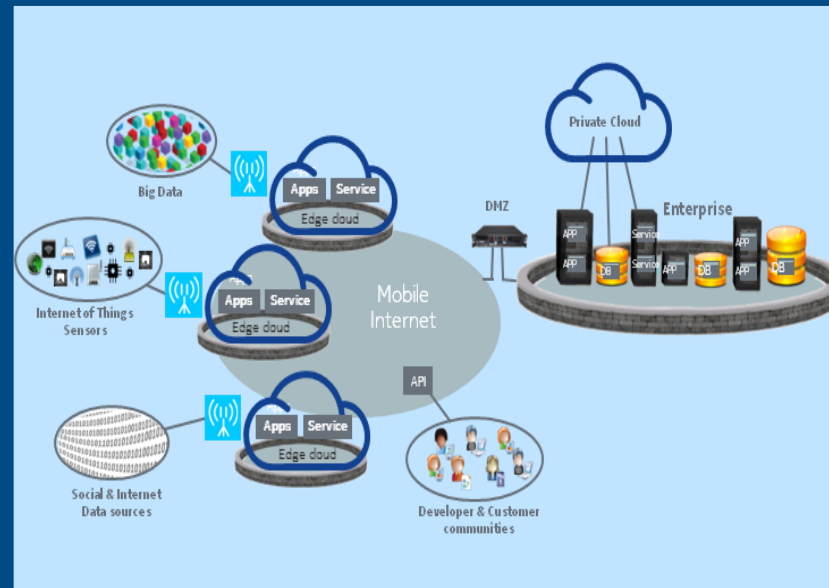

Cloud-computing at the network edge.

- Proximity
- Ultra-low latency
- High bandwidth
- Real-time access to access network and context information
- Location awareness

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Industry Panel - Evolution of Telco Edge Cloud toward NaaS

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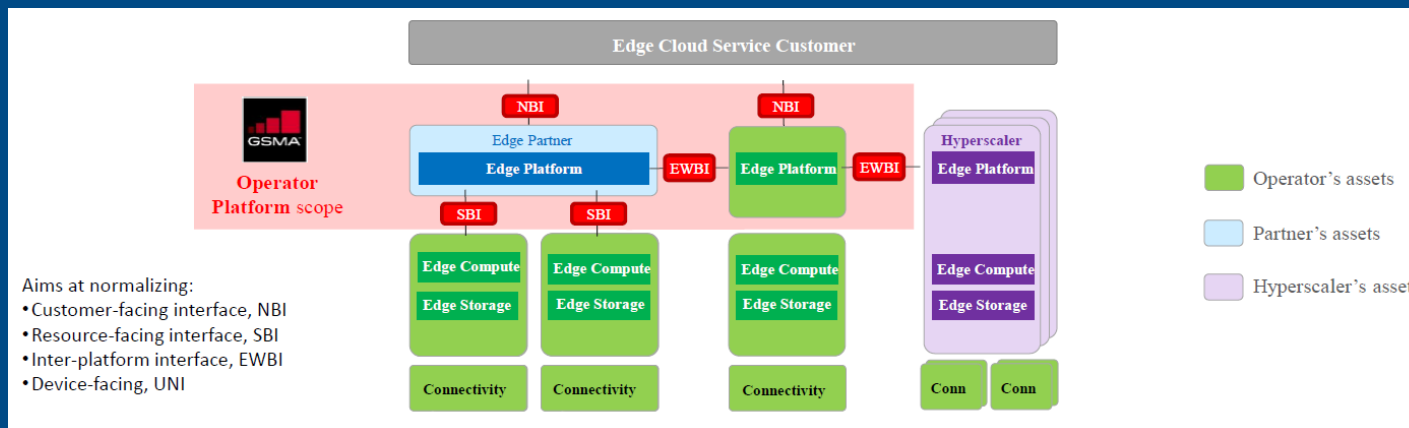
Ref: GSMA White paper: "Telco Edge Cloud: Edge Service Description and Commercial Principles", Oct 2020

intel.

Industry Panel - Evolution of Telco Edge Cloud toward NaaS

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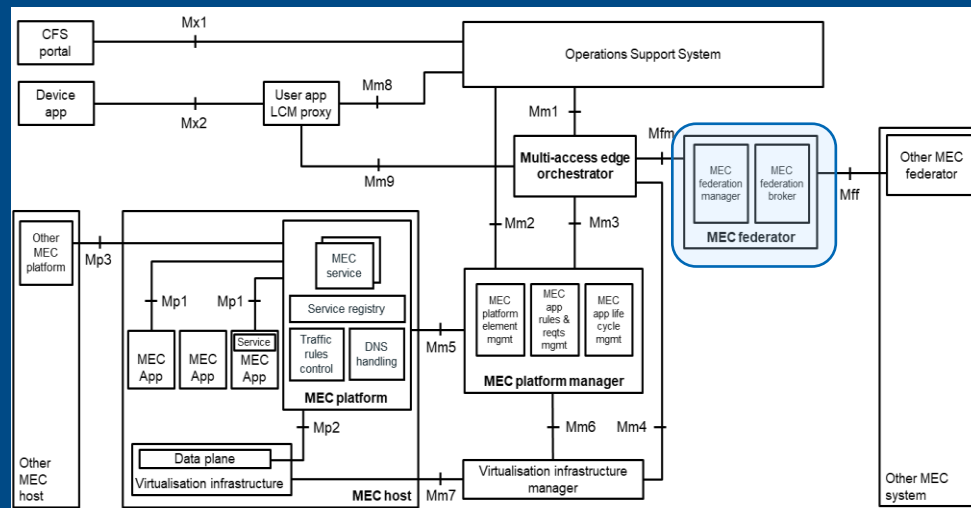
ETSI GS MEC 003 – introducing Architecture variant for MEC federation

Ref. https://www.etsi.org/deliver/etsi_gs/MEC/001_099/003/03.01.01_60/gs_MEC003v030101p.pdf

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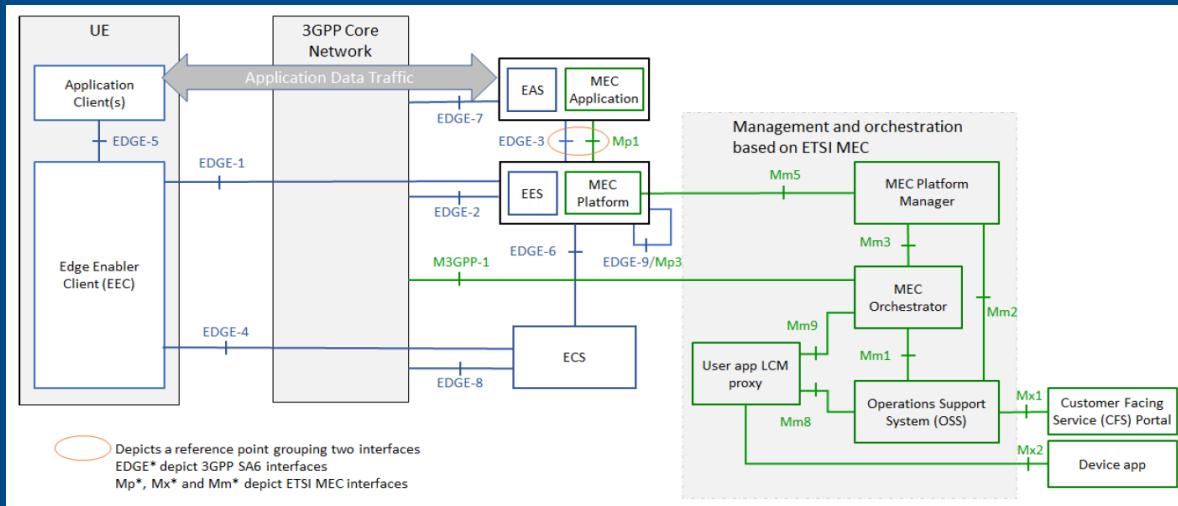
Ref: White paper: "Harmonizing standards for edge computing - A synergized architecture leveraging ETSI ISG MEC and 3GPP specifications", July 2021, link here

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Ref: CAMARA project, https://camaraproject.org/

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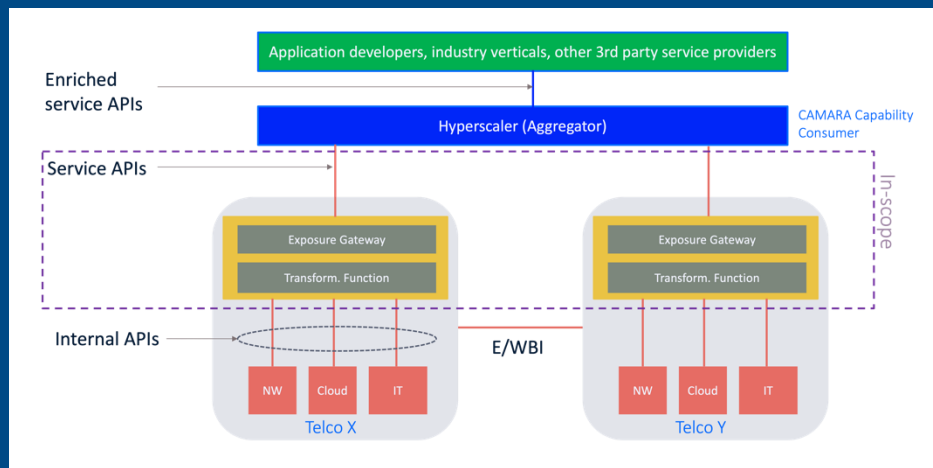- Also, TEC Forum is promoting 5G MEC trials to deploy solutions federating the operators' edge infrastructures with the objective of providing a global, telco-based edge computing service.

GSMA™
Telco Edge Cloud Forum

Edge Computing : Placement Of Data Center-Grade Network, Compute and Storage Closer to the Endpoint Devices

| ON-PREM EDGE | NETWORK EDGE | NETWORK CORE | CLOUD DATA CENTER |

DEVICES

EDGE SERVICES (NETWORK ANALYTICS + AI, MEDIA, ENTERPRISE SERVICES)

Manufacturing

Transportation

Wireless Base Stations

vRAN

MEC Platform

uCPE

Generation

Central Offices

~10Ks Locations

Wireline Fixed

~1Ks Locations

~100Ks Locations

~10Ks Locations

| Latency expectation | Varies <1 ms | <5 ms | <10-40 ms | < 60 ms | ~100 ms |

IMPROVE SERVICE CAPABILITIES

OPTIMIZE TCO

COMPLY WITH DATA LOCALITY

REDUCE APPLICATION LATENCY

AND DELIVER RICH USER EXPERIENCES

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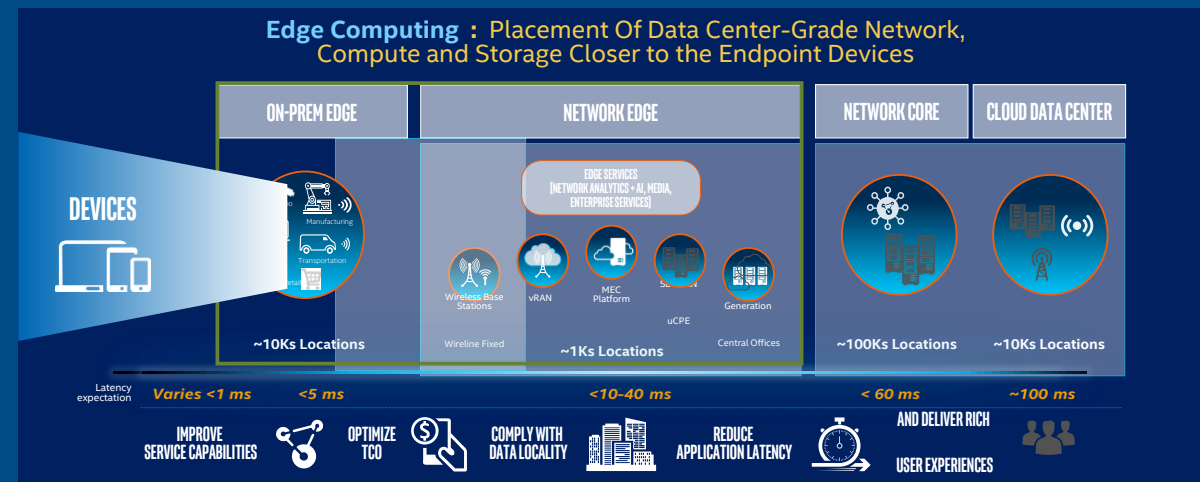- Also, TEC Forum is promoting 5G MEC trials to deploy solutions federating the operators' edge infrastructures with the objective of providing a global, telco-based edge computing service.
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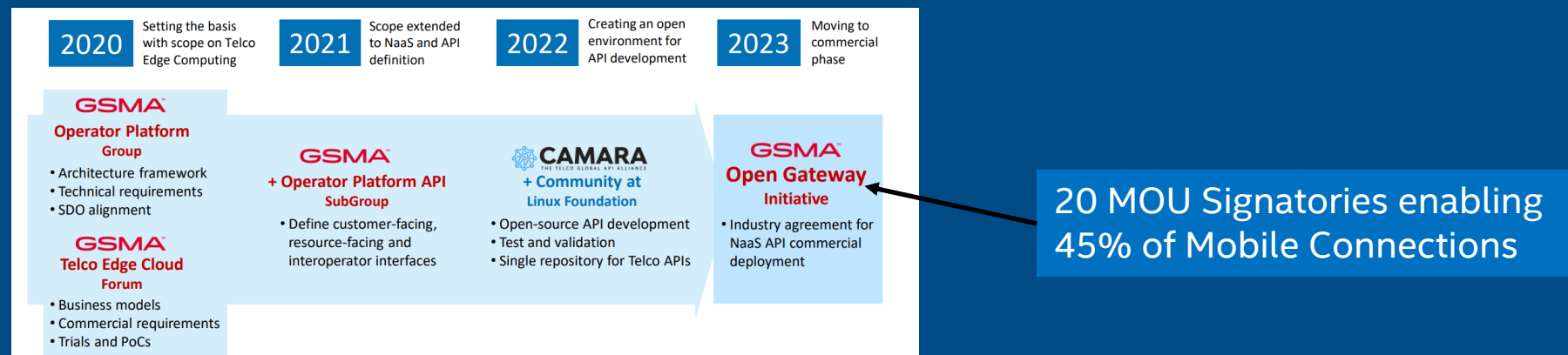
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- Moving forward, the panel will explore the concept of Network-as-a-Service (NaaS), expanding the Telco Edge Cloud to include multi-MNO federation and network service APIs.

2020 Setting the basis with scope on Telco Edge Computing
2021 Scope extended to NaaS and API definition
2022 Creating an open environment for API development
2023 Moving to commercial phase

GSMA Operator Platform Group
- Architecture framework
- Technical requirements
- SDO alignment

GSMA Telco Edge Cloud Forum
- Business models
- Commercial requirements
- Trials and PoCs

GSMA + Operator Platform API SubGroup
- Define customer-facing, resource-facing and interoperator interfaces

CAMARA THE TELCO GLOBAL API ALLIANCE + Community at Linux Foundation
- Open-source API development
- Test and validation
- Single repository for Telco APIs

GSMA Open Gateway Initiative
- Industry agreement for NaaS API commercial deployment

20 MOU Signatories enabling 45% of Mobile Connections

https://www.gsma.com/futurenetworks/wp-content/uploads/2023/03/MWC23-Barcelona_5G-Futures-Summit_Session-1-Slides.pdf

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The ecosystem of NaaS stakeholders is thus quite huge and heterogeneous, including operators, edge service providers, cloud providers, vertical segments, SW companies, open-source and developers communities, etc...

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Telco Edge Cloud: overview and business opportunities toward NaaS

Evolution of Telco Edge Cloud toward Network-as-a-Service

Juan Carlos García

SVP Technology Innovation and Ecosystems (Telefónica) & Chairman Telco Edge Cloud Forum (GSMA)

ICC23. Rome, 30th May 2023

A significant effort toward NaaS has been done in the last years…

February 2020

GSMA™
Operator Platform

- Architecture framework
- Technical requirements
- Platform interface definition
- SDO alignment

A **platform framework to expose services and capabilities** (Edge, NaaS, Slicing, IPComms…) to developers in a develop-once, deploy-to-many model.

↕ A parallel Group is created to address commercial/business model discussions and trials

GSMA™
Telco Edge Cloud Forum

- Industry engagement
- Collect requirements and feedback
- Show value: use cases/edge app trials
- Define potential commercial models

A **community** giving shape to the **Telco Edge Cloud** service with trials and industry collaboration.

February 2022

CAMARA
THE TELCO GLOBAL API ALLIANCE
@ THE LINUX FOUNDATION

- Open-source API development
- Test and validation
- Single repository for Telco APIs

Developer-friendly APIs to access **telco capabilities**, hiding telco complexity and available across telco networks and countries.

→ TEC Forum evolves to **Open Gateway Community**, extending the scope to **NaaS** and other Telco capabilities

February 2023

GSMA™
Open Gateway

- Industry agreement for NaaS API commercial deployment
- Make NaaS as universal as voice, SMS or internet access

An **agreement of 25 operators** (>50% of global mobile customers) to implement the platform and launch commercially the APIs

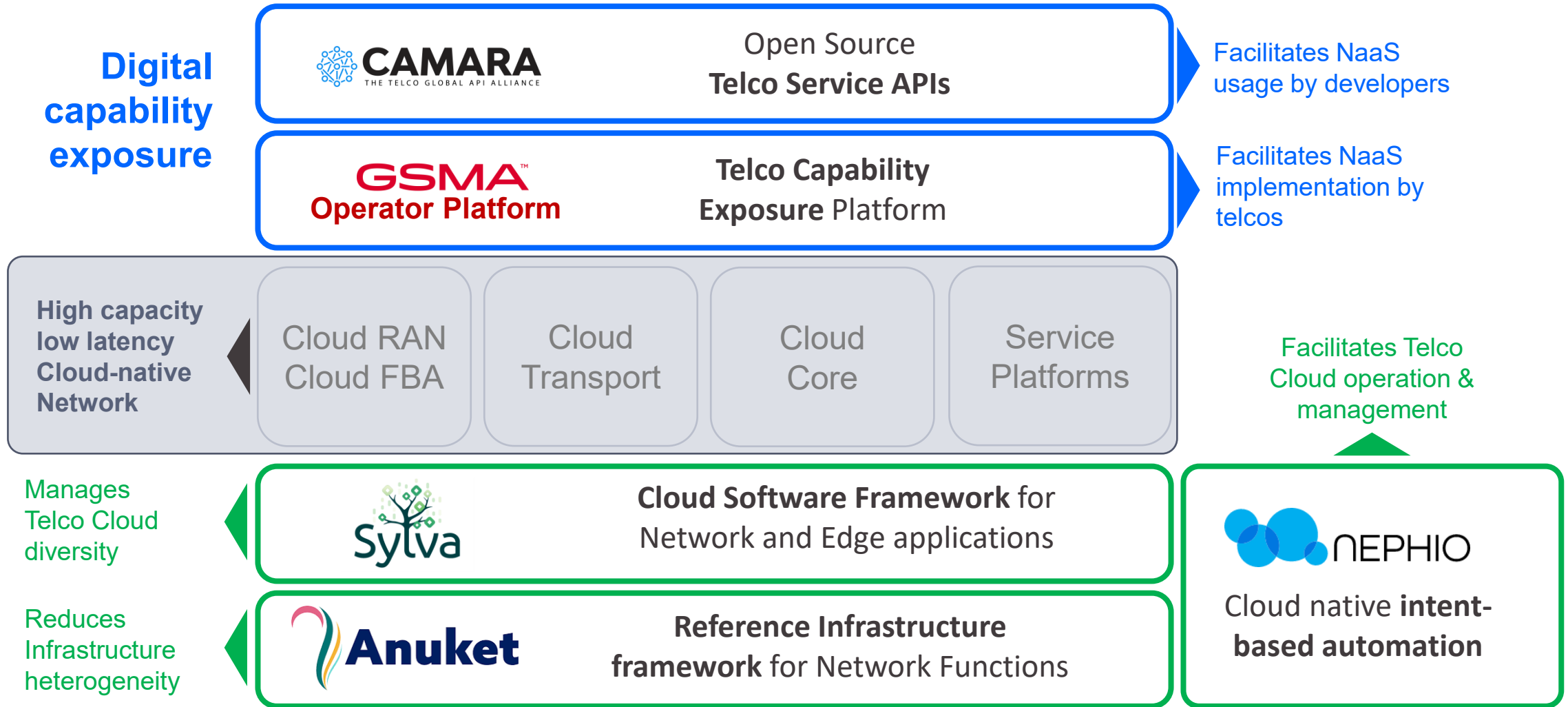↓ Creates a workstream to engage with the rest of the Industry

Kick-off 25th May

GSMA™
Open Gateway Community

- Industry engagement
- Collect requirements and feedback
- Show value: use cases/trials
- Discuss commercial models

A new **community** to promote development and adoption of **Telco APIs** (including NaaS, Edge and any other telco capability).

…as part of the network digital transformation…

Digital capability exposure

CAMARA THE TELCO GLOBAL API ALLIANCE — Open Source **Telco Service APIs** → Facilitates NaaS usage by developers

GSMA **Operator Platform** — **Telco Capability Exposure** Platform → Facilitates NaaS implementation by telcos

High capacity low latency Cloud-native Network ◄ Cloud RAN Cloud FBA | Cloud Transport | Cloud Core | Service Platforms

Facilitates Telco Cloud operation & management

Manages Telco Cloud diversity ◄ **Sylva** — **Cloud Software Framework** for Network and Edge applications

Reduces Infrastructure heterogeneity ◄ **Anuket** — **Reference Infrastructure framework** for Network Functions

NEPHIO Cloud native **intent-based automation**

Carrier-grade, packaged, industrial Cloud environment

…that includes a carrier-grade industrial Cloud environment

Feb 2020

GSMA Operator Platform

Feb 2022

CAMARA THE TELCO GLOBAL API ALLIANCE

@ **THE LINUX FOUNDATION**

Feb 2023

GSMA Open Gateway

Exposure layer

Jan 2021

Anuket

@ **THE LINUX FOUNDATION**

Apr 2022

NEPHIO

@ **THE LINUX FOUNDATION**

Nov 2022

Sylva

@ **THE LINUX FOUNDATION** | Europe

Underlying telco cloud

GSMA

THE LINUX FOUNDATION

Common model, **standardized reference infrastructure specifications**, and **conformance and performance frameworks** for virtualized and cloud native network functions, enabling faster, more robust onboarding into production, reducing costs and accelerating network digital transformations.

Carrier-grade, simple, open, Kubernetes-based cloud native intent automation and common automation templates to simplify deployment and management of multi-vendor cloud infrastructure and NFs across large scale edge deployments, enabling faster onboarding of NFs to production with a true cloud native approach.

Cloud software framework, meeting telco and edge requirements and specific technical challenges on infrastructure layer, integrating existing open source components. It delivers a **reference Implementation** and an **integration & validation** program for NFs and commercial stack distributions
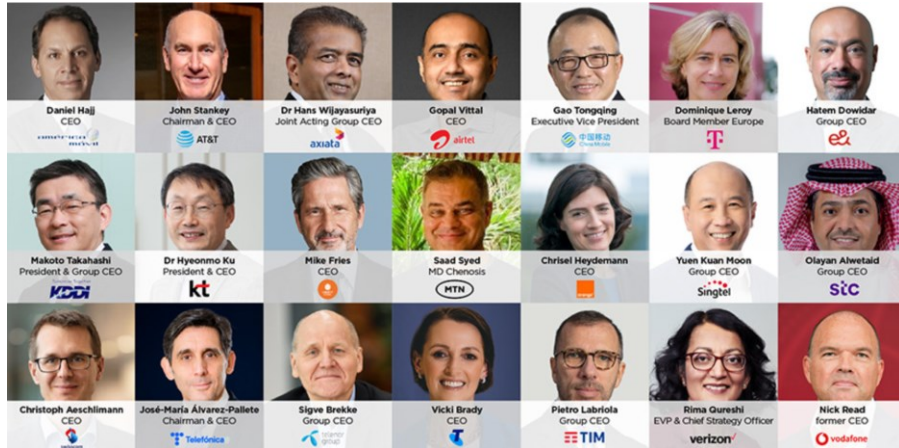
The GSMA Open Gateway MoU includes a first set of APIs

Terms of Reference signed by 25 telcos

The initial signatories:

have been followed by:

and the community keeps on growing...

> 50% total mobile customer base today

GSMA Open Gateway: initial set of APIs

Quality On Demand

Sets the priority of a traffic flow to deliver improved performance to an application

Edge Site Selection and Routing

Identifies the optimal Edge-Cloud node for a device. Ensures optimal routing towards the edge cloud node.

Device Status (Connected or Roaming)

Checks if a device is connected to the network and/or is roaming

Number Verification (www.numberverify.org)

Check of a number via a mobile network

Number Verification (SMS 2FA)

Sends an SMS or Call with an access code to a given number to verify that the number is correct

Carrier Billing – Check Out

Purchase and payment of products and services in a digital ecosystem using a customer's bill

Verify Location

Checks location of device against provided location and confirms geographic area

SIM Swap

Checks the last time that the device associated with a SIM was changed

CAMARA is the public repository for the Open Gateway Service APIs:

Several entities play a special role in the development of Open Gateway…
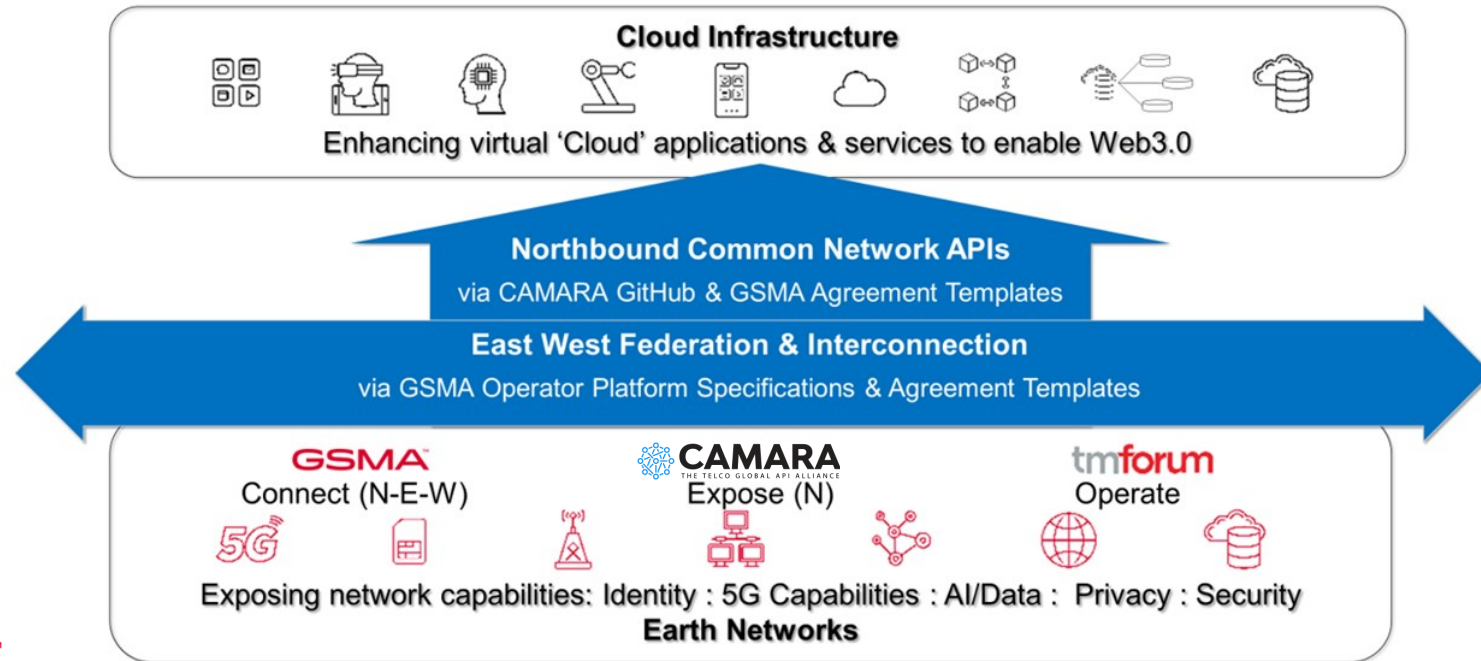
The Ecosystem for Open Gateway NaaS API Development

June 2023

Cloud Infrastructure

Enhancing virtual 'Cloud' applications & services to enable Web3.0

Northbound Common Network APIs
via CAMARA GitHub & GSMA Agreement Templates

East West Federation & Interconnection
via GSMA Operator Platform Specifications & Agreement Templates

GSMA
Connect (N-E-W)

CAMARA THE TELCO GLOBAL API ALLIANCE
Expose (N)

tmforum
Operate

Exposing network capabilities: Identity : 5G Capabilities : AI/Data : Privacy : Security
Earth Networks

GSMA

defines and develops the **architectural** and **business framework** and aligns with SDOs on Network and Cloud capabilities to support the Service APIs. Coordinates the go-to-market models for APIs (aggregation, federation) with the operator community.

CAMARA THE TELCO GLOBAL API ALLIANCE
@ **THE LINUX FOUNDATION**

defines, develops and hosts all **Service APIs** (APIs used by developers in their applications). Developed in collaboration with developers and business customers

tmforum

defines and develops **Operate APIs** that allow the interaction of marketplaces and aggregation platforms with the Operator NaaS platforms for the different business processes. Developed in collaboration with marketplaces and aggregators.

Telefónica

18

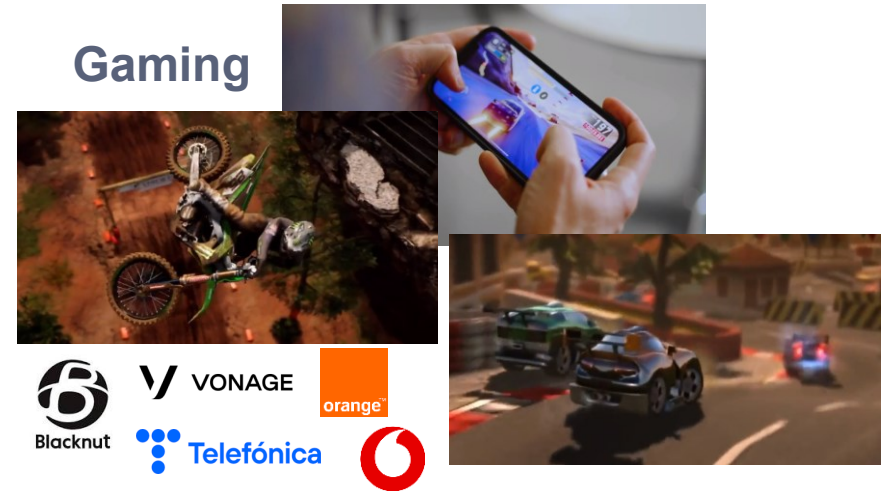# …while many others provide the corresponding capabilities
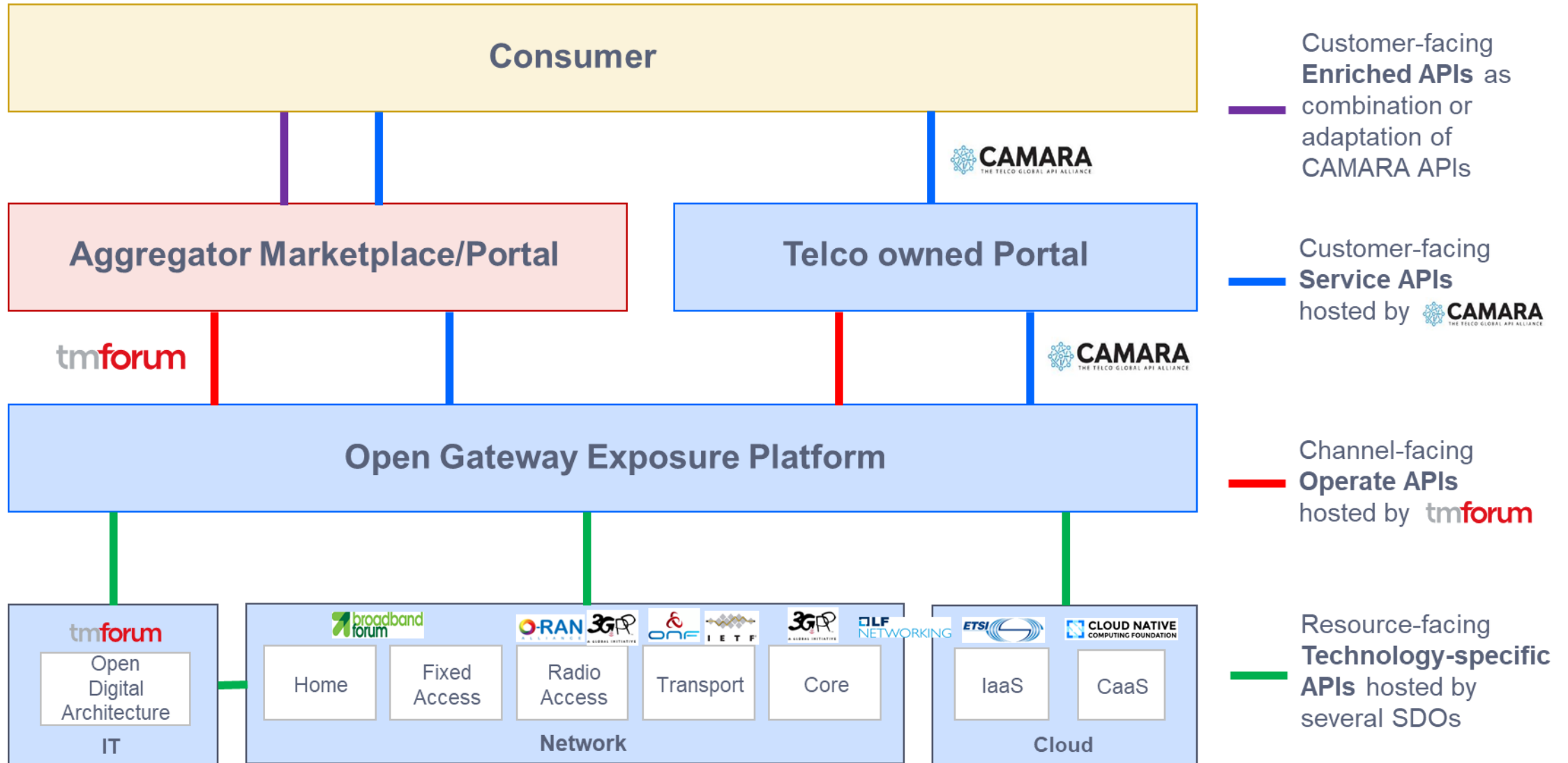
Operators and partners showed API-based use cases at MWC'23

Immersive Music Concerts
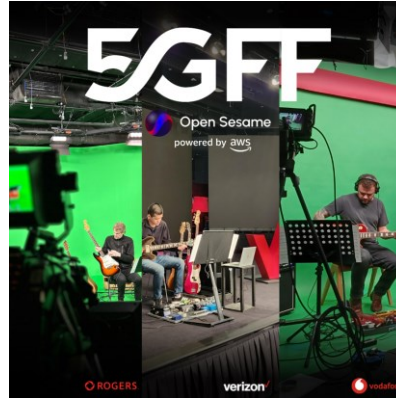
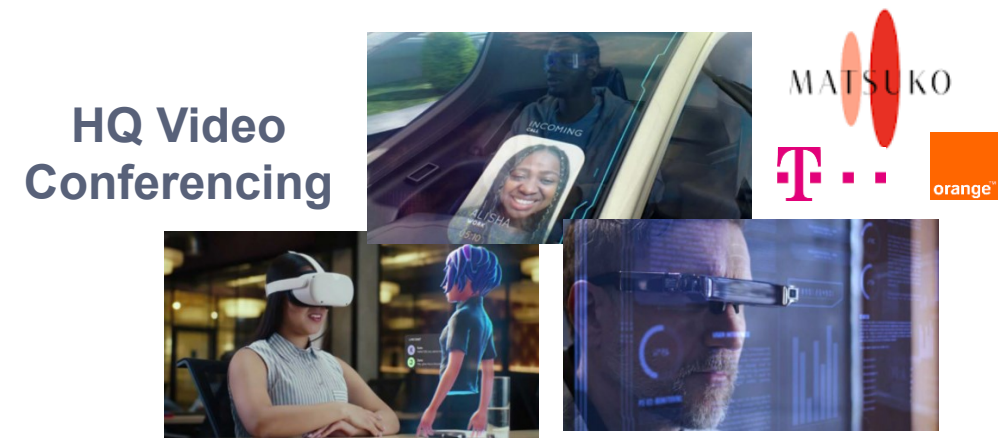**Global Music Bands**

Gaming

Digital Twin Stores

HQ Video Conferencing

Detailed information:
https://camaraproject.org/resources/

Telefónica's use cases addressed different verticals

Blacknut
(Cloud Gaming)

No games to buy - No installation
No ads or in-game purchases

Asphalt 9

QoD Mobile

Zoom (Video Calling)

QoD Mobile

Daycoval (Fintech)

Device Location
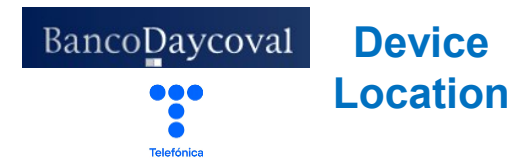
Use cases shown at MWC23 run on live Network

More details: https://opengateway.telefonica.com/en/our-solutions

Cinfo (Video Production)

QoD Mobile

Xbox (Cloud Gaming)

CLOUD GAMING BETA

Fortnite
Epic Games Inc. • Acción y aventura • Otros
Jugar con control   Jugar con la función táctil

QoD Mobile
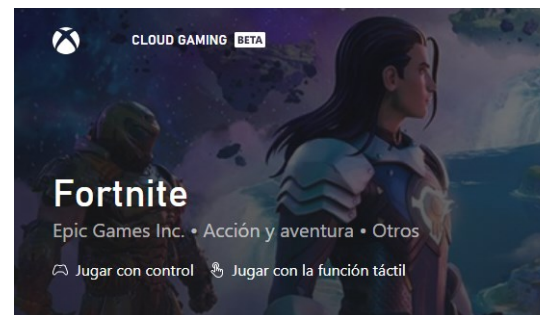
Hololens (Remote Assist)

QoD Mobile

Open Gateway will launch services in 2023…

Objective: launch OpenGateway API Services in 2023
supported by an interoperable and federated Network:
- with **open standard interfaces** to enable seamless universal connectivity and other technical capabilities
- within a **common business framework**, for the relationship with customers, aggregators and other operators.

Use Cases
demonstrating API value at MWC

MWC23

Consolidate the API factory
Technical and business governance

Early Adopter Programs
at main developer ecosystems

Enrich API portfolio
focused on value for the customer

Connect operators
to create a global footprint

Enable API LifeCycle Mgt
to take NaaS to mass production

Commercial Launch of APIs
at main developer ecosystems and main markets

2023

...and is currently promoting Open Gateway among developers

GSMA

Open Gateway

Many operators involved in GSMA Open Gateway have **Early Adopter Programmes**, giving developers exposure to open and interoperable APIs in a real environment.

https://www.gsma.com/futurenetworks/ gsma-open-gateway/early-adopter- programmes/

Telefonica is one of the operators offering Early Adopter Programmes

Telefónica

Open Gateway Early Adopter Program
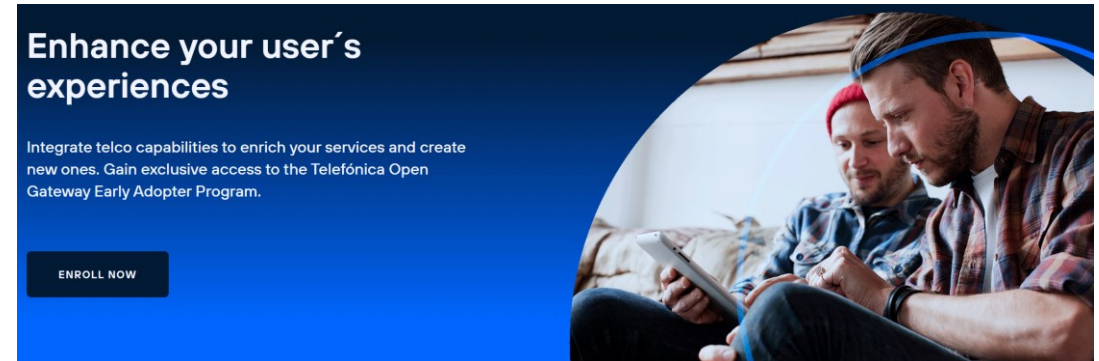
A program developed with partners to **define**, **create** and **test** our new network and **telco APIs**. It offers participants the possibility to enhance their user´s experiences, integrating telco capabilities to **enrich** their **services** and **create new** ones.

https://opengateway.telefonica.com/en/ early-adopter-program

Microsoft Azure   Google Cloud

aws   VONAGE

100+ leads so far

Telefónica

There is a high potential for new APIs in different categories, that we will see progressively added to the Open Gateway portfolio

Visit:
https://opengateway.telefonica.com/

QoD WiFi APIs

Slicing APIs

WebRTC APIs

Blockchain eWallet service

RCS APIs

NETWORK INFO & ACCESS
QoD Mobile
QoD WiFi
Network Info

COMMUNICATIONS PLATFORM AS A SERVICE
RCS, SMS,
Voice & video call forwarding
WebRTC

PAYMENTS & FINANCIAL SERVICES
Blockchain Public Address
Number verification
Wallet

Silent authentication API

Edge Comm APIs

Telefónica Open Gateway

DATA CENTERS & EDGE COMPUTING
Cloud routing
Edge selection
Traffic Management
CDN

SECURITY & PRIVACY
Identity
Device ID
Web3 Identity
Device Location
SIM Swap

Anonymized subscriber API

Edge Comp APIs

Telefónica

Telefónica

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CAMARA Project
What are Network APIs …

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

Number of UEs in geographic region
Traffic jam or Corona warning

Number 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

Deutsche Telekom Network API Showcases

Remote Maintenance
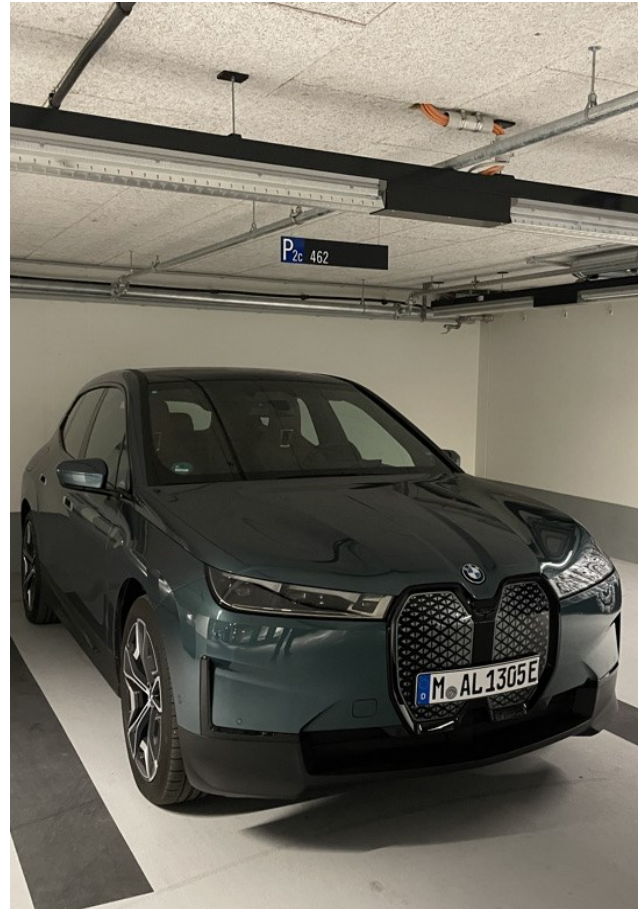
Automated Valet Parking
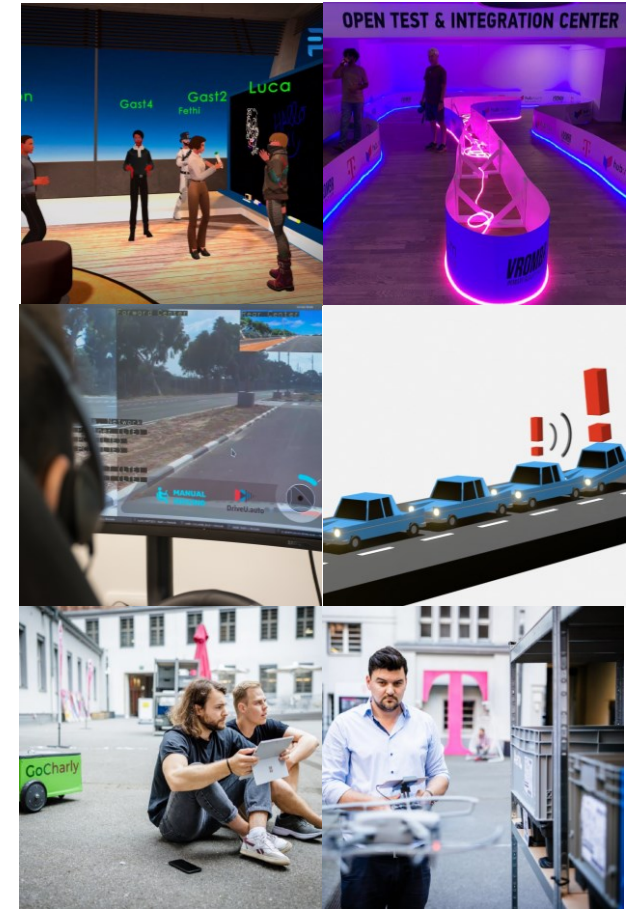
Early Access Program's

What is the CAMARA Project?
Key problems we are trying to solve...

CAMARA
THE TELCO GLOBAL API ALLIANCE
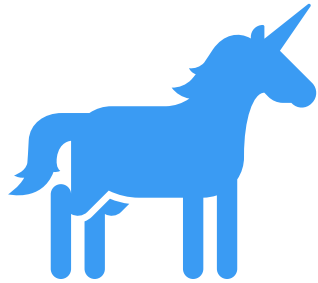
Scale

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 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 according to User demands

CAMARA Project
A Short History...

THE LINUX FOUNDATION + GSMA
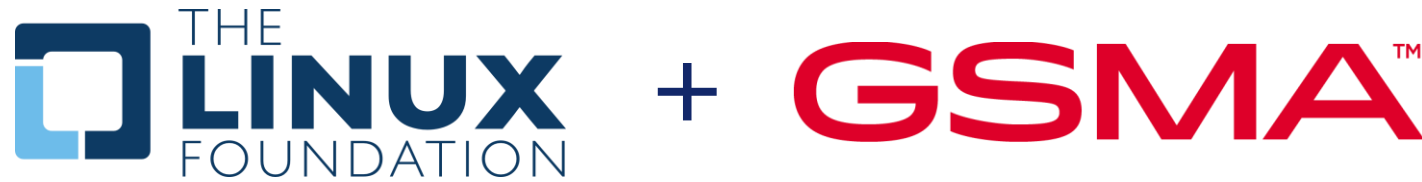
- Launched MWC2022

- Simple idea to "standardize" developer facing APIs

- 64 Named Partners

- Many more active companies working in the projects

- 12 Active API development repos

- 80+ regular participants in Open Steering Calls

- 400+ people on the CAMARA mailing lists

- Development "home" for GSMA Open Gateway

CAMARA Project
What else are we working on...

CAMARA
THE TELCO GLOBAL API ALLIANCE

Anonymized Subscriber ID
Identify a client device trying to access network services

Carrier Billing Checkout
Purchase, pay, and follow up on fulfilment of products

Device Identifier
Check the identity of the subscribers' device

Device Location
Check the location of a device.

Device Status
Check the network connection and roaming status of a device

Edge Cloud
Provide and manage network and compute resources for an application

Home Devices QoD
Request prioritization of traffic on a specific device on the home network.

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

Number Verification
Allows users to verify the phone number of the connected device

OTP Validation
To offer secure user authentication to service providers.

Quality on Demand
Allows users to set mobile connection quality and get notifications

SIM Swap
Allows users to get information on SIM pairing changes

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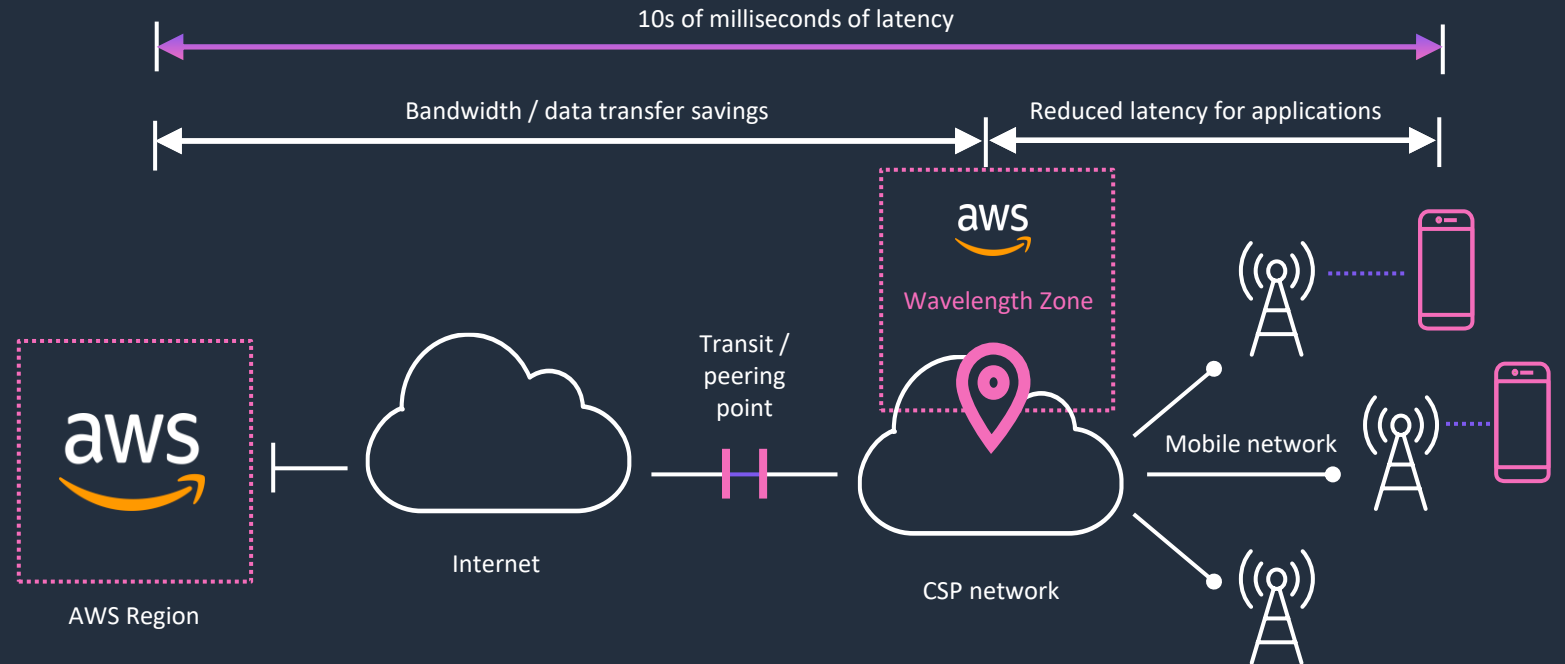- **Rui Frazao, AWS Global Telco Solutions**

intel

MEC - Multi-carrier Federation with AWS

Rui Frazao
Global Telco Solutions Architecture Leader

AWS Wavelength in a 5G network

- Launched in 2019.

- Partner with global Telcos.

- Develop applications once and scale deployments to multiple Wavelength Zones across global 5G networks.

- Leverage proven AWS infrastructure and services to accelerate innovative 5G edge application development.

10s of milliseconds of latency

Bandwidth / data transfer savings | Reduced latency for applications

aws
Wavelength Zone

aws

Internet

Transit / peering point

CSP network

Mobile network

AWS Region

5G Partners

verizon✓ KDDI SK telecom vodafone business Bell BT

aws

Architecting multi-carrier interoperability

3 Guitarists 3 countries and 3 CSP's

March 1, 2023, at Mobile World Congress (MWC) in Barcelona.

5G Future Forum (5GFF) and Open Sesame Media, Inc. (Open Sesame) demonstrated a first-of-a-kind cross-operator music jam session using AWS Wavelength and Outposts.

3 world-renowned guitarists performed a medley of rock 'n roll selections – each sitting in separate countries.

Used the low-latency compute environment using 5GFF's Edge Discovery Service (EDS) API, with Open Sesame's SyncStage ultra-low latency audio pipeline, with the 5G connectivity of Verizon, Rogers and Vodafone and AWS Wavelength.

Latency matters

- Minimizing audio latency between a group of musicians is critical for musicians to play, hear, and react to each other's performances.

- Those who have attempted to remotely perform online with common digital collaboration solutions have experienced challenges with synchronously performing together due to the significant audio latency.

- This exhibition not only achieved multi-country, glass-to-glass latency that enables the guitarists to jam together online, but also unlocked a new reference pattern for multi-edge, multi-region applications using an interoperable EDS API.

Go Global Edge in Minutes
with AWS Wavelength and Outposts

Open Sesame

In New York and London, Open Sesame deployed the Studio Server instances at the local Wavelength Zones.

In Toronto, the Studio Server was deployed on AWS Outposts in a Rogers Data center, connected to the Rogers 5G network to resemble the setup in the other locations.

Each of these instances were launched in a private subnet within a Virtual Private Cloud (VPC) spanning across the MEC and their parent Region.

Once Open Sesame deployed the applications, and connected devices to their local 5G networks, how do we interconnect them all?

 - This was accomplished using a networking concept in AWS known as VPC peering.
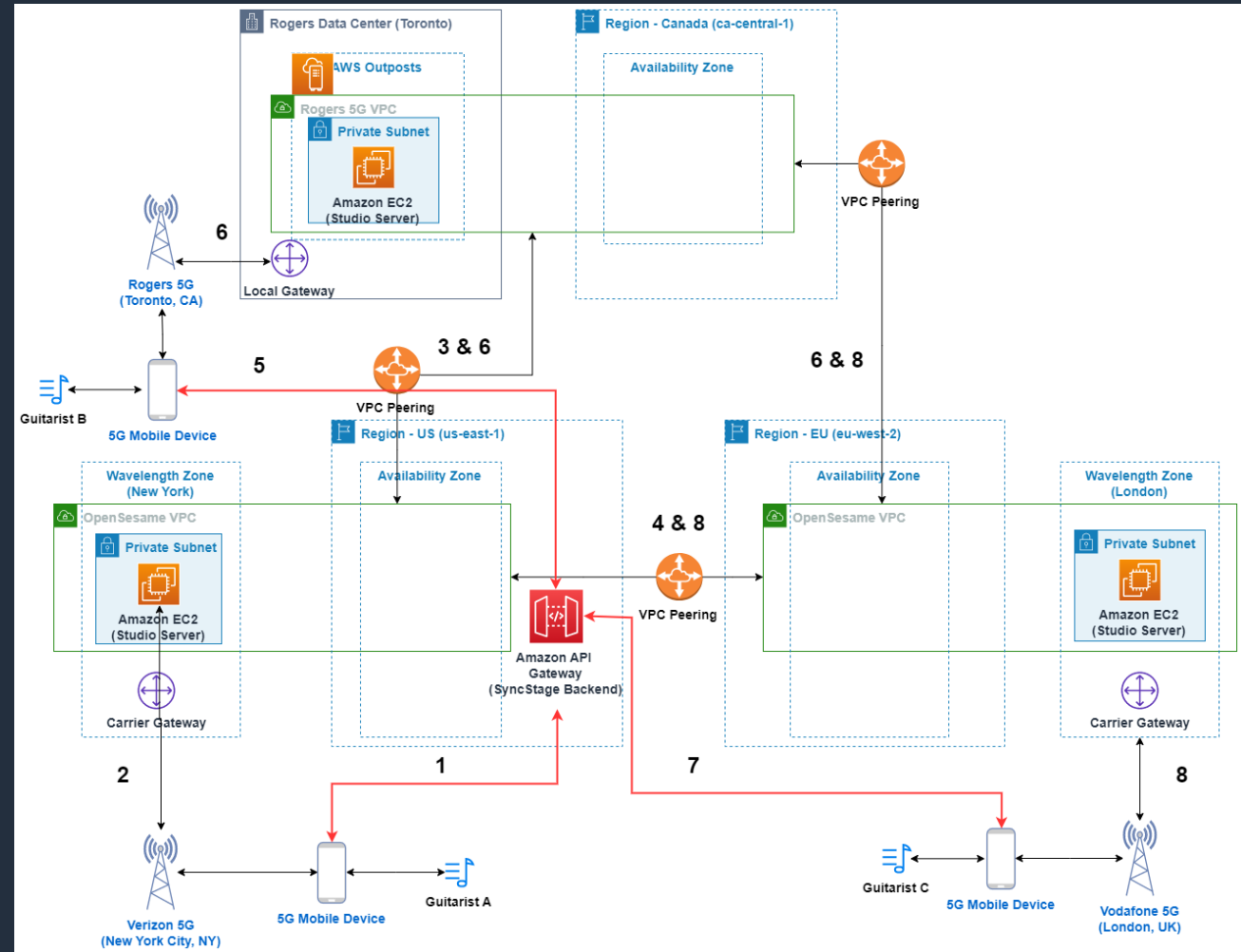
Thank you!

Industry Panel - Evolution of Telco Edge Cloud toward NaaS

- Dario Sabella - Moderator, ETSI ISG MEC Chair, Intel
- Juan Carlos Garcia Lopez GSMA TEC Forum Chair, Telefonica
- Nathan Rader, CAMARA project, Deutsche Telekom VP
- Rui Frazao, AWS Global Telco Solutions
- **Maxime Flament, 5GAA CTO**

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The view from 5GAA, on the need of MEC interoperability for multi-MNO, multi-OEM and multi-vendor environments

PA-5 EVOLUTION OF TELCO EDGE CLOUD TOWARD NETWORK-AS-A-SERVICE, NAAS

Maxime Flament, 5GAA CTO

Connected mobility for people, vehicles and transport infrastructure

5GAA bridges the automotive and telecommunication industries in order to address society's connected mobility needs bringing inclusive access to smarter, safer and environmentally sustainable services and solutions, integrated into intelligent road transportation and traffic management.

AUTOMOTIVE INDUSTRY

Vehicle Platform, Hardware and Software Solutions

TELECOMMUNICATIONS

Connectivity and Networking Systems, Devices & Technologies

C-V2X has two complementary communication modes

C-V2X Mobile Network Communications (Uu)

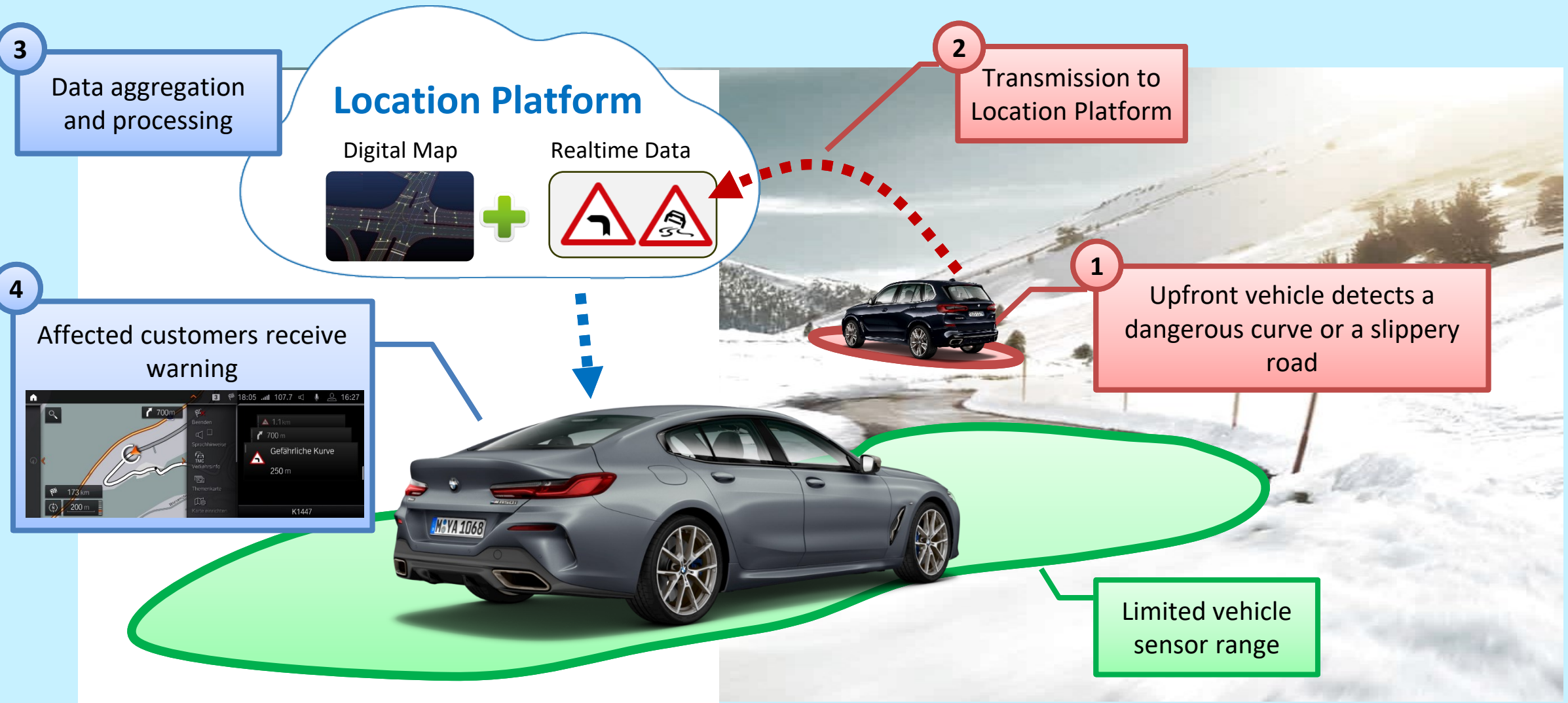**V2N/I2N/P2N** in licensed spectrum bands designated for mobile network communication
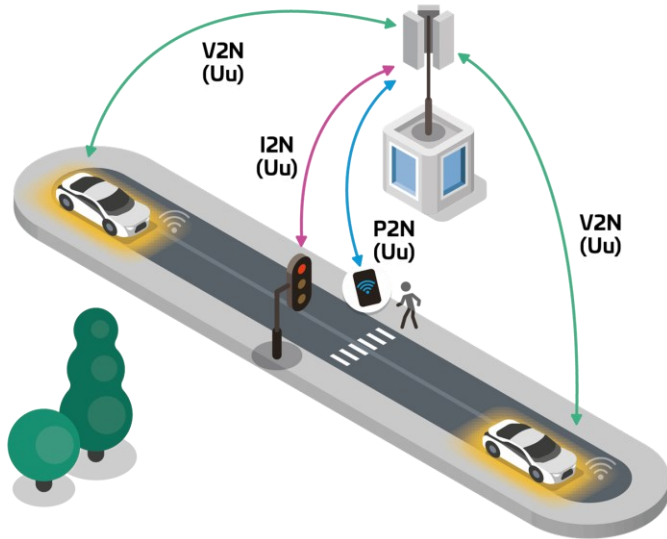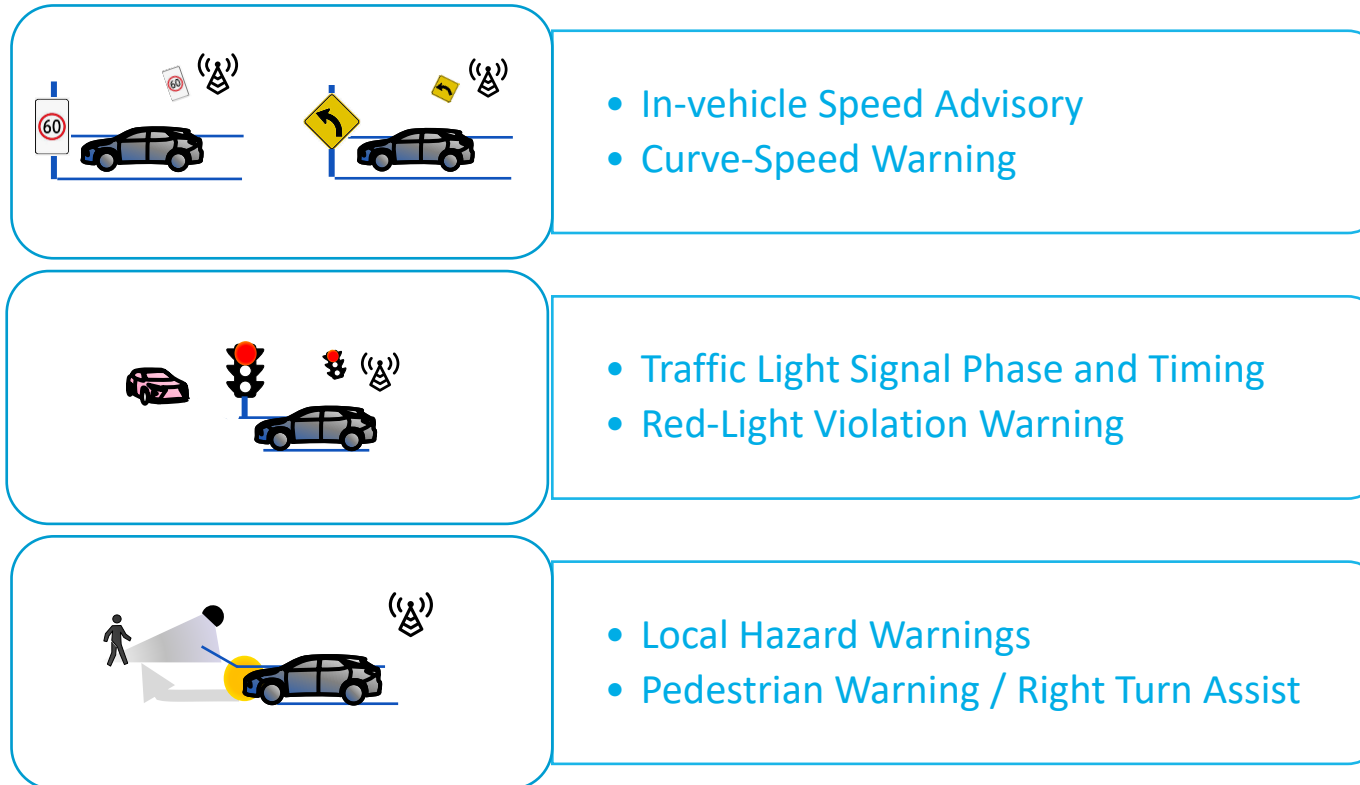
C-V2X Direct Communications (PC5)

V2V, **V2I**, and **V2P** operating in ITS bands (e.g. 5.9 GHz) independent of cellular network
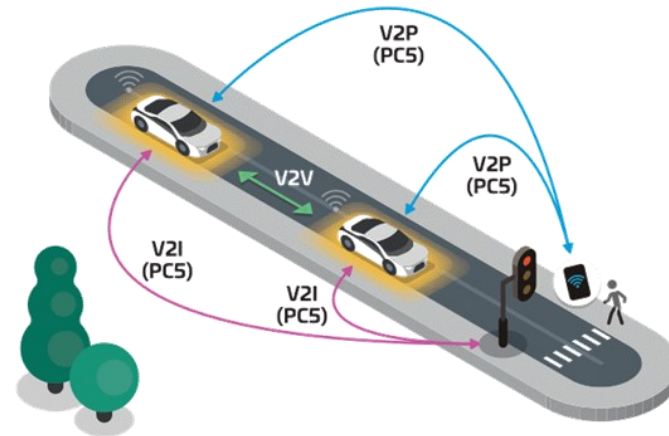
HAZARD PREVIEW AND DANGEROUS CURVE ASSISTANT

3 Data aggregation and processing

Location Platform

Digital Map + Realtime Data

2 Transmission to Location Platform

1 Upfront vehicle detects a dangerous curve or a slippery road

4 Affected customers receive warning

Limited vehicle sensor range

Some infrastructure-based C-ITS Services traditionally relying on presence of an RSU

- In-vehicle Speed Advisory
- Curve-Speed Warning

- Traffic Light Signal Phase and Timing
- Red-Light Violation Warning

- Local Hazard Warnings
- Pedestrian Warning / Right Turn Assist

C-ITS delivered via Virtual Roadside Units

Modular and Harmonized architecture scales for providing cellular communication, from basic to advanced services.

Flexible models for the Virtual RSU, follow the vehicle or a digital twin

Re-use of C-ITS message sets for vehicular communication provides necessary foundation for harmonization

Data Relay from the data sources like Road Authorities prevents threats to critical asset information, like hacking, as the critical asset information will still remain at the data sources and not reside in the platform.
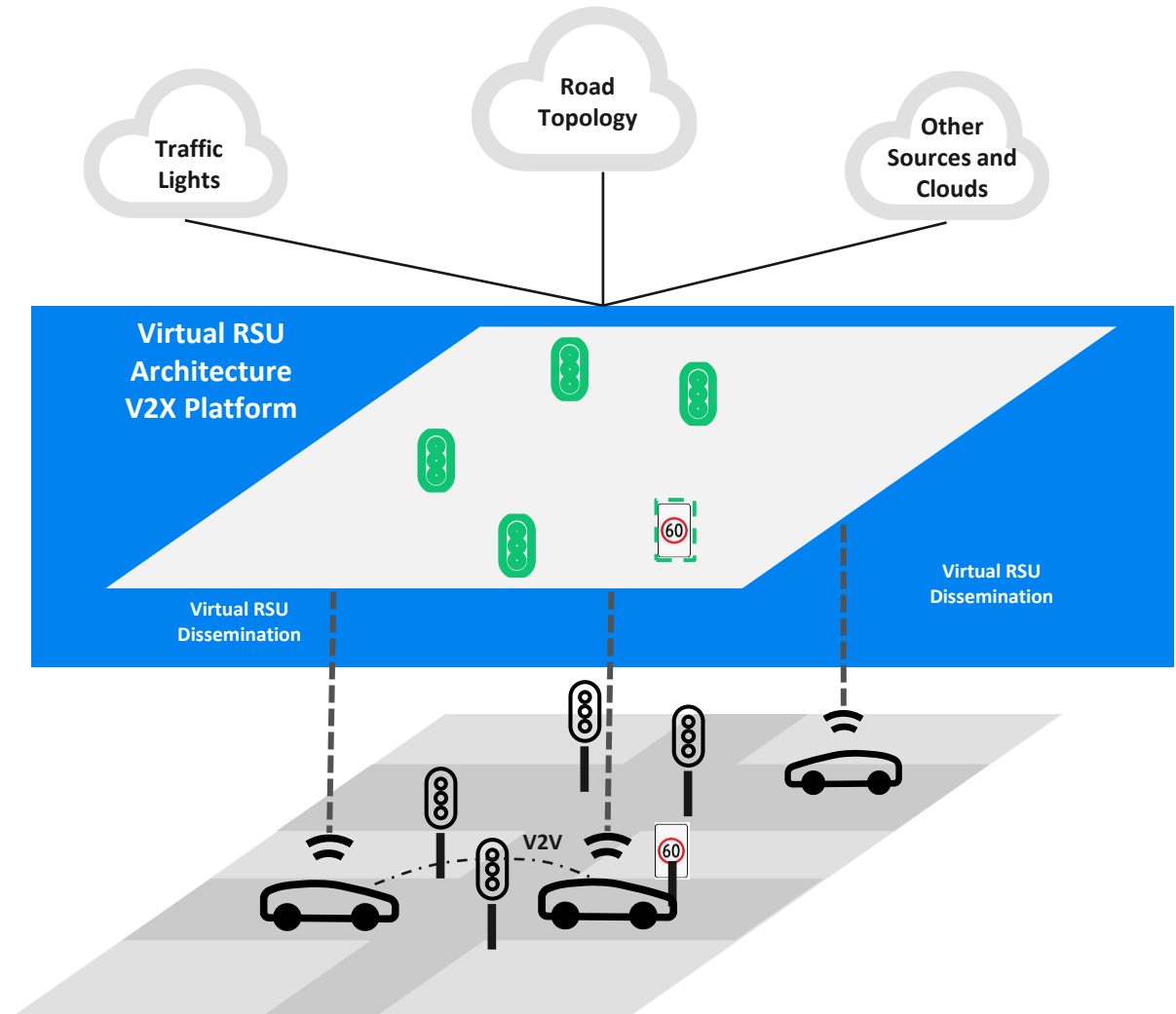
A "virtual" Roadside Unit – why?

- Connecting road infrastructure and vehicles using a C-ITS backend is the most efficient solution
  - 10-100x cost saving for public sector (compared to deploying Roadside Units)[1]
  - Fastest service penetration by leveraging vehicular cellular connectivity[2]
  - Low, controlled latency with 4G, further improved with 5G
- Flexible deployment and interoperability
- Future/backwards compatibility
- Road infrastructure as part of the larger IoT ecosystem

- ..despite European Commission's "revision of the ITS Directive", which currently excludes cellular networks from providing C-ITS services
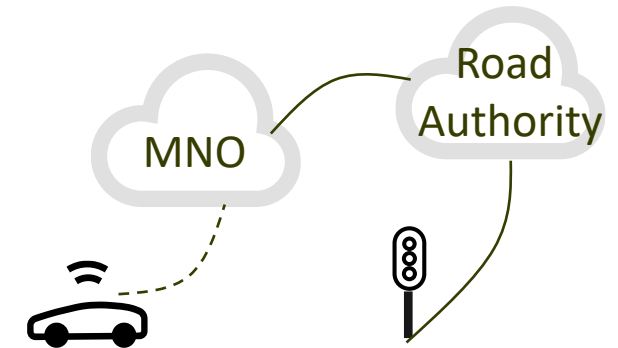
1) 5gaa.org/wp-content/uploads/2019/01/5GAA-BMAC-White-Paper_final2.pdf
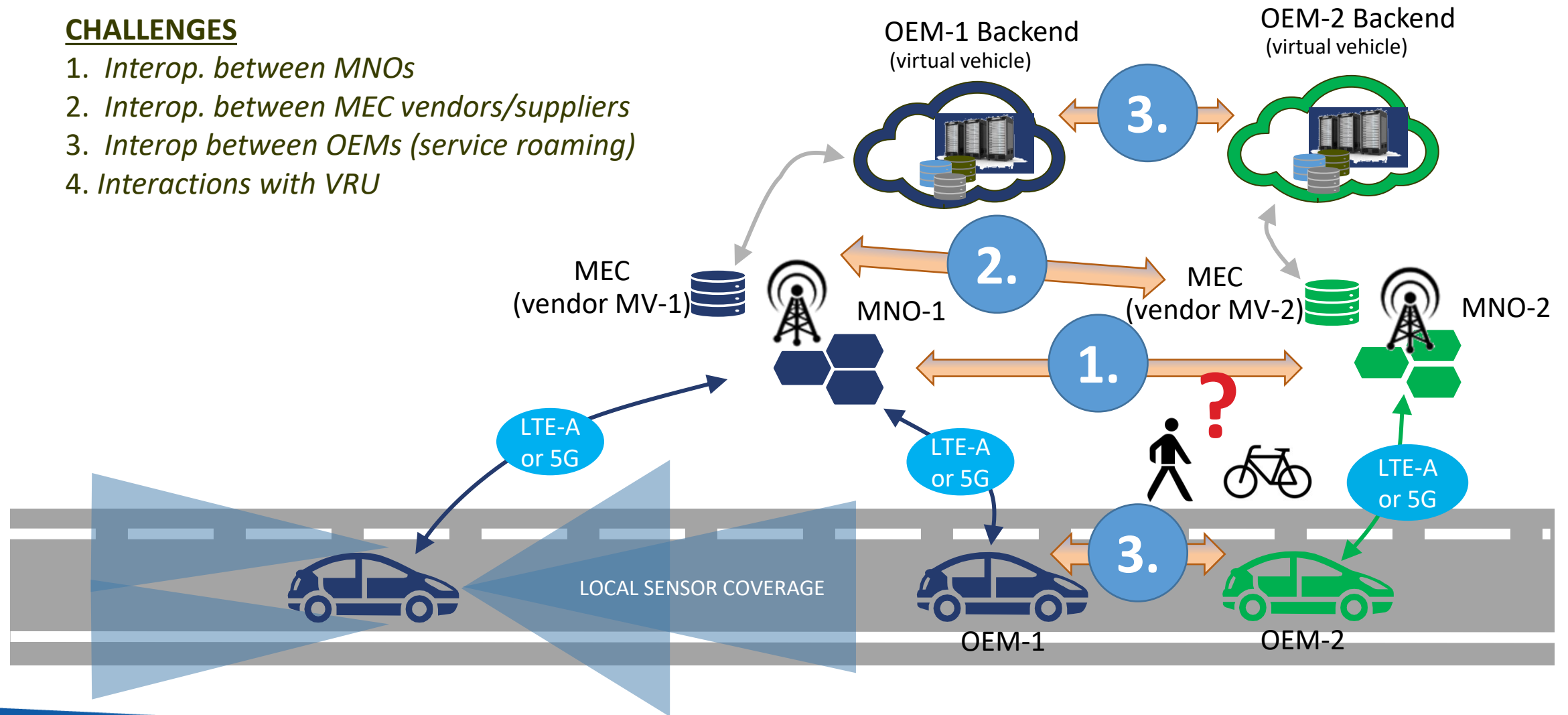*2) 5gaa.org/news/5gaa-safety-of-life-study/*
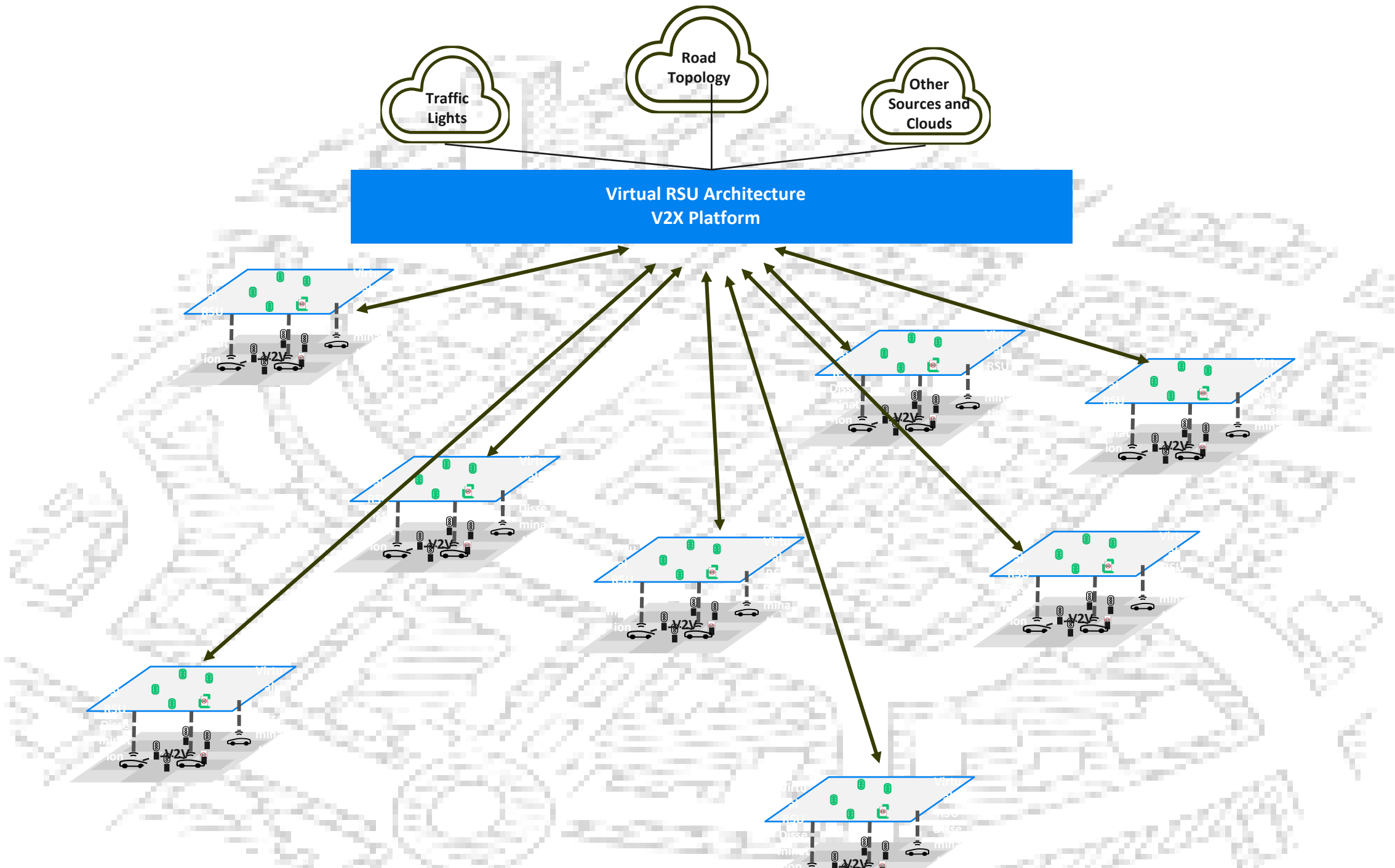
Too Good to Be True?
V2X MEC Challenges

# MEC in Multi-OEM, -MNO, -Vendor Setup: Challenges

CHALLENGES

1. *Interop. between MNOs*
2. *Interop. between MEC vendors/suppliers*
3. *Interop between OEMs (service roaming)*
4. *Interactions with VRU*

High level 5GAA goal (since the time of MEC4AUTO)

- In the long-term, i.e., in a time window of two years (by 2022 at latest), 5GAA should be able to easily demonstrate the use of Multi-access Edge Computing (MEC) technology for automotive services, for example, when two distinct automotive vendors can truly test at least three use cases involving two distinct MNOs and employing network infrastructure provided by two distinct infrastructure vendors.

Heterogeneous scenario:
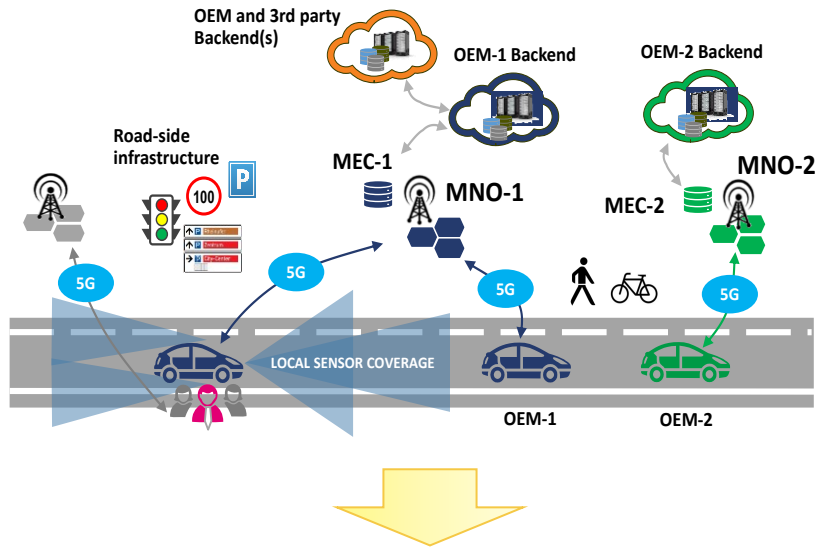
1. Interop. between MNOs
2. Interop. between MEC vendors/suppliers
3. Interop between OEMs (applications)

Key requirements from car industry:

1. How can a vehicle, which has radio access to **MNO A**, use a MEC application, which is operated by **MNO B**?

2. How do we ensure Interworking between **MNOs** whilst NOT losing the benefits of low latency?

3. How can an OEM (or a Tier-1 supplier) as the MEC application developer be sure, especially on a **global** basis, that a MEC app works in the same way whether it is operated by MNO A or by **MNO B**?

4. How do we ensure **global operational availability**?

5. How would the above two requirements be addressed in either a 1) **Neutral Host Edge Setup** or 2) **CoSP MEC Setup**?

1. *Edge resource sharing*
2. *Interworking at the Edge, 5G local breakout*
3. *MEC App portability*
4. *Global Oper. availability*
5. *Flexible MEC Deployment*

Suggested reading 5GAA MEC4AUTO technical report "MEC for Automotive in Multi-Operator Scenarios" (*)

(*) available at https://5gaa.org/wp-content/uploads/2021/03/5GAA_A-200150_MEC4AUTO_Task2_TR_MEC-for-Automotive-in-Multi-Operator-Scenarios.pdf

Multi Operator MEC Trial – Turin, December 2021
## C-V2X services in roaming scenario

- 8 members involved: BT EE, Capgemini, Cisco, Harman, Intel, Stellantis, Telefonica, TIM

- Hosted by the City of Turin, showcasing the value of the international collaboration of tech leaders and public sector to improve traffic safety

Objectives of the trial

- **Objective 1 - Multi-MNO scenario**: How can a vehicle, which has radio access to MNO A, use a MEC application, which is operated by MNO B → Interworking between MNO's (by NOT losing the benefits of low latency)

- **Objective 2 - Global operational Availability**: How can an OEM as the MEC application developer be sure, especially on a global basis, that a MEC application works in the same way if it's operated by MNO A, or if it's operated by MNO B

- **Objective 3 - Multi-MNO with MEC roaming scenario**: Where the two operators can seamlessly transfer the V2X service from one operator to the other as the car OEM moves from one geo to the other in a roaming scenario. Typically, when an in-vehicle driver does a cross-border travel that involves two operators.

Live Trial of 5G Connected Car Concept To Launch in Turin, Italy, December 2021
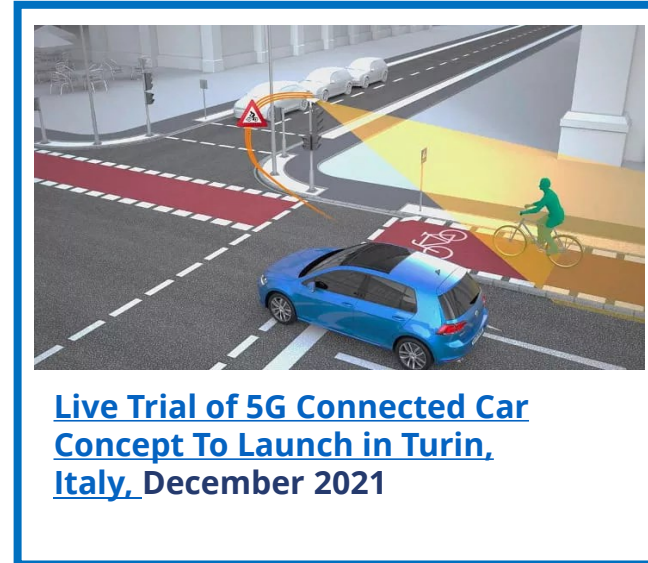
Digital Guardian Angel:
Deutsche Telekom/Continental Demo at ITS WC
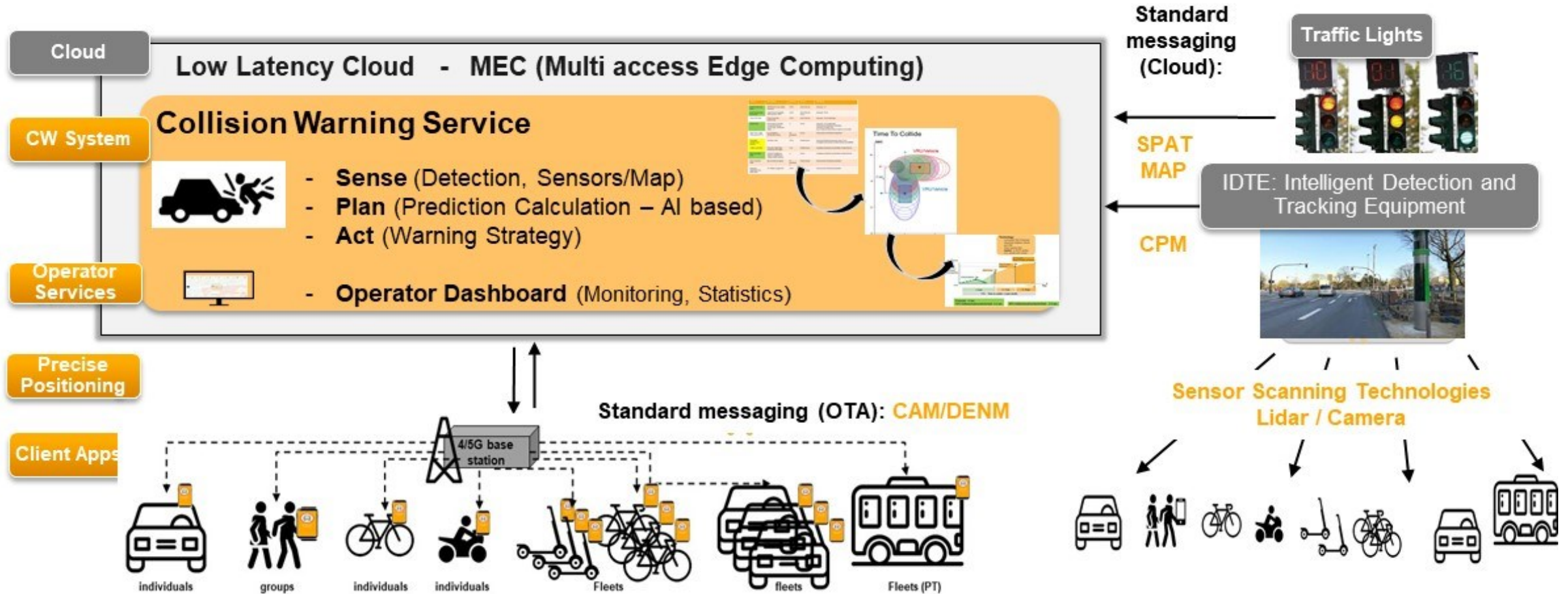
- Edge Computing offers Cloud Computing capabilities at the Edge of the Network.

- 5GAA considers Edge Computing as one of the key supporting technologies for many V2X services for Connected Vehicles and for Automated Driving.

- Some challenges are being addressed for the successful deployment of Edge Computing for V2X services

Thank you!

For more information please contact:

liaison@5gaa.org

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What is We-Transform Project?

We-Transform is an Horizon2020 Project (www.wetransform-project.eu) addressing the impacts of transport automation and digitalisation on the workforce by bringing stakeholders together to establish a comprehensive knowledge base from which to inform policymaking. The Consortium includes 34 partners from different countries (EU and non-EU) and of different nature, among others: automotive companies, railway companies, universities, public transport companies.

The project enables and supports a durable and effective dialogue between relevant stakeholders about innovation as well as workforce requirements and conditions. At the same time, it contributes in co-creating knowledge related to the impacts of automation and digitalisation on the transport labor market. It sets up tools for networking, awareness raising, collaboration, collection and co-creation of knowledge, priority setting and design of participatory approaches.

The main goal of the project is to apply a participatory approach, using collective intelligence, to generate an evidence-based and action-oriented agenda for politicians to tackle the challenges imposed on the labor force by the increasing digitalization and automation of transport.

The Consortium

Why does WET project need a legal assessment?

One of the main goals of the partners was to analyze the knowledge gap and offer insights regarding the future impact of transport automation and digitalisation on the work market. Therefore, a specific focus is dedicated to the legal assessment of the impacts of automation and digitalisation processes in the labor market (the task is entitled "*Assessment of the impacts of transport Automation – legal context*").

It was actually an accurate prediction since one of the *mantras* of the stakeholders during the preparatory work was "Regulation First". Therefore, what was asked by the partners, strictly from a legal point of view, is to: (a) offer an initial evidence based on common operational and legal analysis with reference to digitalisation and automation, focusing on the main legal impacts on the workforce; (b) observe and describe the legal context by preparing a more detailed assessment of legal impacts, dealing with the critical points related to legal challenges; (c) identify a system of actions and tools to deal with the critical points related to the legal challenges.

A) Defining "Legal Impact"

Focusing legal impact of digitalisation and automation on the workforce means identifying those impacts that, by their nature, have implications that: (i) require a new regulation, since no specific rules are in force with reference to the impact and a regulation is needed and/or; (ii) require a change of the regulation in force, since current regulation is inadequate or insufficient to ensure the best performance of labor relations, in the interests of both workers and companies and/or (iii) more in general, imply a juridical evaluation because of some criticisms.

B) Identifying Legal Impacts

An extensive work of collection and analysis of different sources was made. Two typologies of sources have been identified: (i) the so-called impact sources, which are those focused on identifying the impacts that could be considered legal impacts (workshops, interviews); and (ii) the so-called regulatory sources, which are those focused on identifying the relevant regulatory context.

C) Defining the methodology

Legal Impacts have been identified adopting a threefold approach commonly used in legal assessment processes: (i) the adaptation of the so-called «risk based» method; (ii) the analysis and comparison of the different legal and legislative approaches; (iii) a crossed analysis of the above methods to give a final overview of the legal aspects of the impacts.

D) Providing Regulatory Policies

The main goal of this work is to provide recommendations on actions and tools trying to elaborate something that could be defined as "regulatory policies", intended as a set of principles that – in the view of what has emerged from the knowledge-sharing work carried out – could be considered useful to deal with some of the main impacts that have been identified and selected.
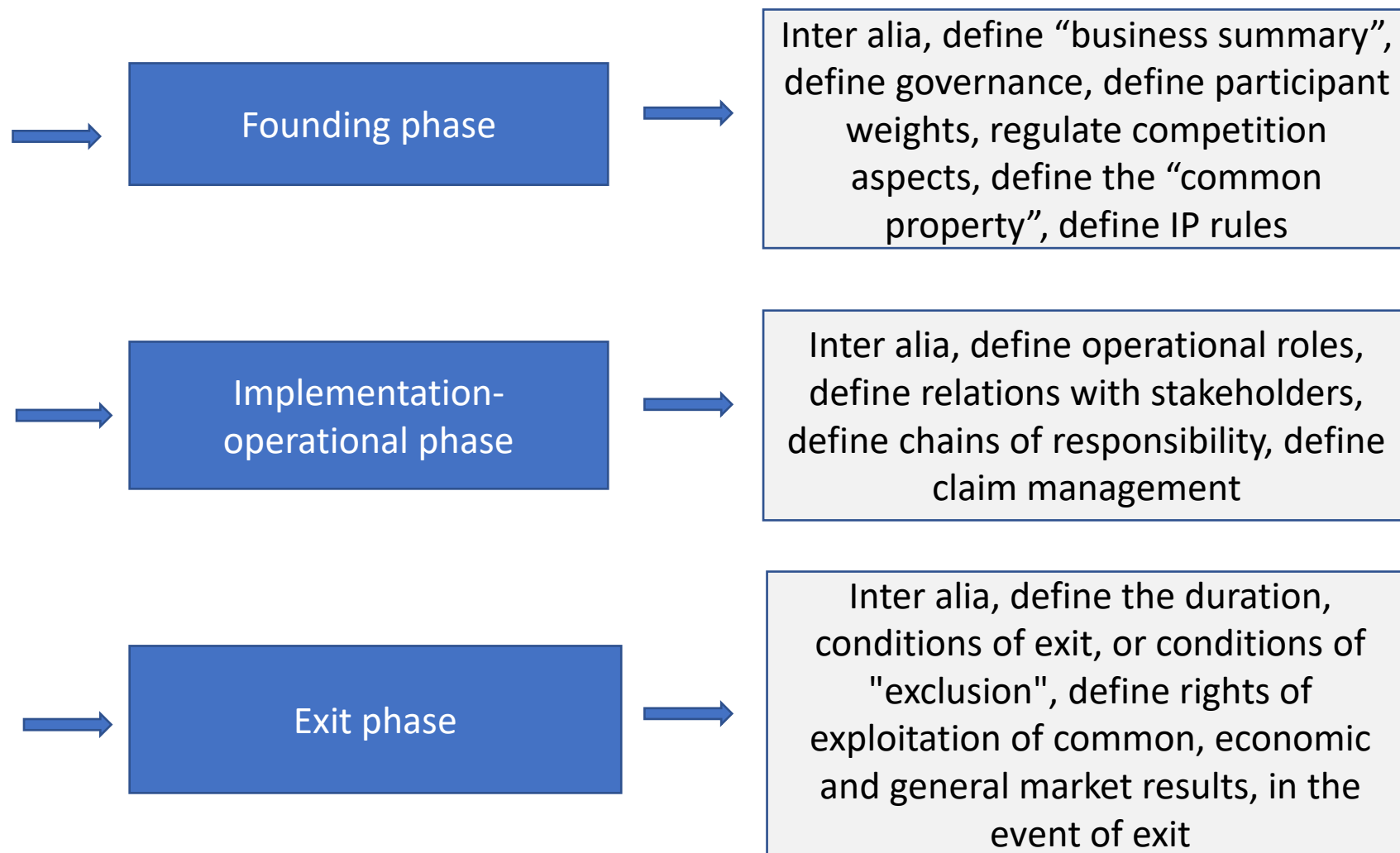
Therefore …

The project is indeed a multi-stakeholder collaboration experience and can represent, especially in perspective, a platform for action that offers a path forward for smarter decisions, more innovative and evidence-based policies. Even if it is a project not directly aimed at generating business but rather at creating a common base, a sort of ideal infrastructure in the transport sector, which, by its ontologically transnational nature, is based on the principles of reciprocity, internationality and interoperability.

In general, some points of attention in large joint business projects performed by entities operating in the same sectors (and competing with each other)

Net of WET project, more generally, the analysis from the legal point of view of the critical points of <u>large joint business projects</u> would take a long time. Very briefly, we can recall few aspects that certainly need to be considered, especially in sectors with a high technological contents. They are the points that, almost always in negotiations, constitute a major cause for discussion and, trying to simplify, they can be linked to three essential phases of a broad and long-term multi-stakeholder collaboration.

Founding phase → Inter alia, define "business summary", define governance, define participant weights, regulate competition aspects, define the "common property", define IP rules

Implementation-operational phase → Inter alia, define operational roles, define relations with stakeholders, define chains of responsibility, define claim management

Exit phase → Inter alia, define the duration, conditions of exit, or conditions of "exclusion", define rights of exploitation of common, economic and general market results, in the event of exit

Define the legal architecture of the collaboration (the choice has important consequences in terms of implementation).

Assessment of compliance with EU competition rules.

Establish clear governance rules with balanced checks and balances, both in terms of management and related responsibilities.

Manage Intellectual property, in particular, but not only, with reference to innovations.

Establish common compliance rules, also essential from the perspective of relations with public authorities.

Establish rules for relations with the common stakeholders (clients, suppliers, public entities), with specific reporting obligations.

Some points of attention in the hypothesis of large joint business project between entities operating in the same sectors and under competitive conditions

Establish in advance, as far as possible, exit strategies linked to objectified elements, also foreseeing possible scenarios at the time of way-out, in relation to the businesses developed in the meantime.

Establish clear and linear rules for claim management (e.g. by finding solutions that allow negotiated management of the internal chain of responsibility).

Establish rules for relations with the common stakeholders (clients, suppliers, public entities), with specific reporting obligations.

Establish rules to avoid possible unfair competition issues by precisely identifying the scope of the partnership; obviously, upstream, paying attention to European competition law.

Case study (only essential information for confidentiality reasons)

Product manufacturing sector. Assumption: since the sector is in a very difficult situation with reference to the issues of prices and quality of the product, the main EU players of the same sector decided to create a common entity to jointly manage certain aspects of product certification processes. The purposes were the following: through the development of a (spontaneous) quality system - implemented on the basis of the tools that Law makes available today and in compliance with a protection/development logic, the promoters of the initiative would like to provide the sector with a differentiating element that allows a general identification of a certain degree of product quality, for the benefit of all the players in the sector. In the light of the aforementioned premises - and having regard to EU legislation – the partners searched for institutes able to attribute distinctive character to the products, with particular reference to the quality of the products itself.

EU competition law compliance assessment (the players represented the majority of the EU relative market).

Define clear governance rules, both in terms of management and related responsibilities (alternation by geographical origin or interest group)

Establish clear Intellectual property rules, in this case in particular with reference to the use of the trademarks. It was decided to use a Collective Trademark (rules: (a) productions methods; (b) minimum quality requirements; (c) procedure for check and analysis; (d) minimum information for the consumers).

Establish rules to avoid possible unfair competition issues by precisely identifying the scope of the partnership: it was very complicated because the agreement provided for the use by the partners of a common infrastructure with essentially certifying, ideal and operational functions.

Establish the rules of entry/exit and, in particular, establish the conditions of entry of any parties other than the founders.

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- Open Discussion

Lets work together
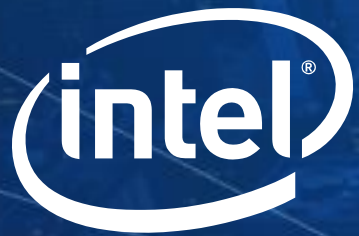
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