



5GMEC4EU

5G SC Workshop
October 18th

A Pan-European Collaborative Approach towards Federated 5G Edge Cloud Integration

The EU has heavily invested in edge implementation in Call 3 and will continue to do so in Call 4

5G and Edge Cloud for Smart Communities - Works CEF-DIG-2023-5GSMARTCOM-EDGE-WORKS

Call 3

closed



CEF Digital Programme 2: 2024-2027 – **5G LSPs**

Call 4

upcoming

- IoT and edge infrastructure and edge community services that require a flexible, low-latency, reliable, high-user-density connectivity infrastructure, e.g. through a combination of fibre and wireless connectivity (5G, small cells, and Wi-Fi) that is IPv6 enabled.
- 5G-based use cases that leverage new 5G characteristics, e.g.: higher bandwidth and ubiquitous coverage (eMBB), ultra-low latency (uRLLC), massive machine-type (mMTC).
- Process and data innovations that require infrastructures with advanced service features, e.g. quality of service guarantees enabled by edge computing facilities and support by network slicing.
- Projects using open, disaggregated, interoperable technology solutions and which allow the emergence of a European ecosystem of 5G suppliers.

- Focus shift on to 5G Large Scale Pilots → **5G stand-alone integrated with edge computing facilities**
- Alignment with the **Connected Collaborative Computing** narrative of the White Paper on Europe's Digital Infrastructure

5GMEC4EU: Who are we?



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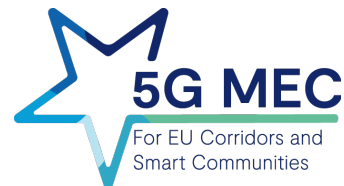
Christian Maasem



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5GMEC4EU in a Nutshell

Project Duration: **30 Months**

Project Start: **January 2024**

Consortium: **Monotch & Detecon**

Funding: **CEF Digital**

Managed by: **HaDEA**

Type: **Coordination & Support Action (CSA)**

Main Stakeholders: **5G Smart Communities & 5G Corridors**

The **5GMEC4EU** project supports the establishment of a “**Connected Collaborative Computing**” – “**3C Network**” to align 5G infrastructure and share knowledge across stakeholders. It supports **5G Smart Communities** and **5G Corridors** in implementing **edge computing** through their 5G projects, enhancing Europe's edge capabilities and fostering profitable **business models**.



Paul Potters



Menno Malta



Nicolas Mercier



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5GMEC4EU coordinates and supports the implementation of edge cloud technologies in 5G Corridor and 5G Smart Community deployment projects.

GUIDE CSA: 5G Corridors

The GUIDE project aims to coordinate and support 5G Corridors in Europe by capturing and sharing best practices from CEF 5G Corridors projects.

The project objectives:

- Analyze CEF 5G Corridors for best practices.
- Develop guidelines for EU 5G Corridors deployment.
- Coordinate projects, monitor progress, offer feedback.

5GSC CSA: 5G Smart Communities

It is an initiative to deploy and use 5G networks to improve public services and socio-economic drivers in local communities.

The project objectives:

- Digital transformation and recovery of local areas
- 5G benefits in various sectors
- Collaboration and knowledge exchange



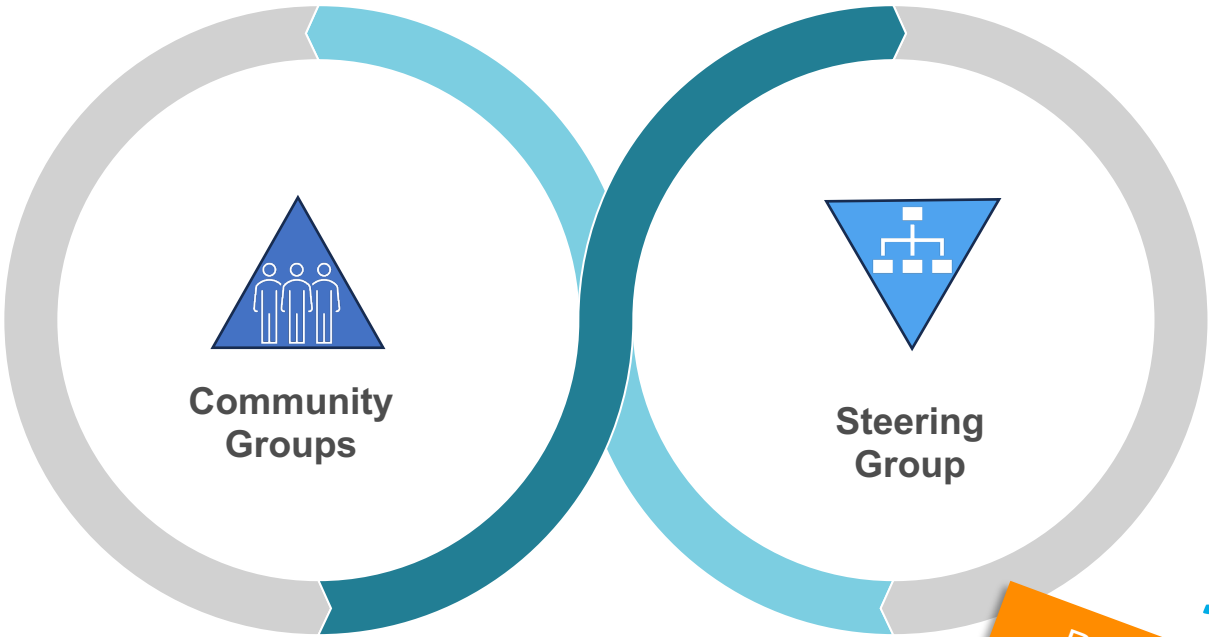
External Project Strategy: Stakeholders and Communities (Groups).

Feedback and review mechanisms

Established feedback loops with the Steering Group, Community Groups, and the European Commission will occur **quarterly**. This will ensure the project remains agile, responding to external inputs and aligning with broader European goals.

5G Smart Community Group & 5G Corridors Group

- Comprises representatives from Smart Communities & 5G Corridors.
- Convenes once every two months (planned).
- A separate meeting is held with the Smart Community/ 5G Corridors consortium every half year



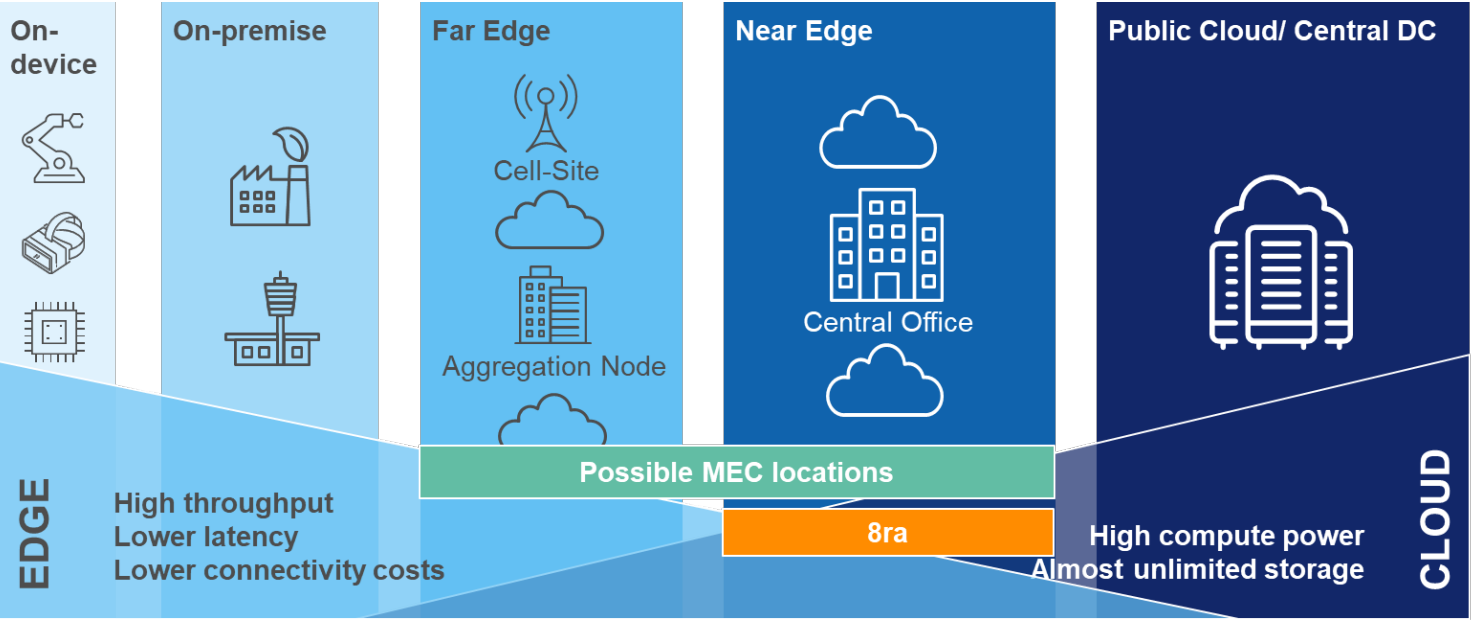
Project Steering Group

- Group comprises representatives from stakeholder systems, including both partners.
- Responsible for overall direction, decision-making, and strategy.
 - Meets quarterly to review progress and address strategic challenges.

Rail to be included next!



MEC & Edge Computing in a Nutshell.



Indoor/ Small scale

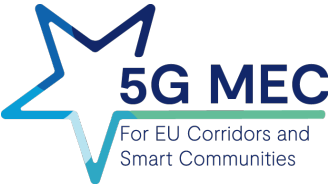
- Industrial UCs
- Smart Home/ Hospital
- Limited-area deployments

Outdoor / Large-scale

- Mobility Use Cases
- Railway use cases
- National and multi-national deployments
- Smart agriculture, smart logistics, etc.

Other

- All other UCs



EU Edge Landscape

MNOs in EU see the **raising interest** to Edge Computing & MEC and have developed their first offerings around edge computing.



Multiple EU-funded **projects** aimed to proof the **value of MEC** infrastructure by deploying **use cases** enabled by **edge computing technology**.



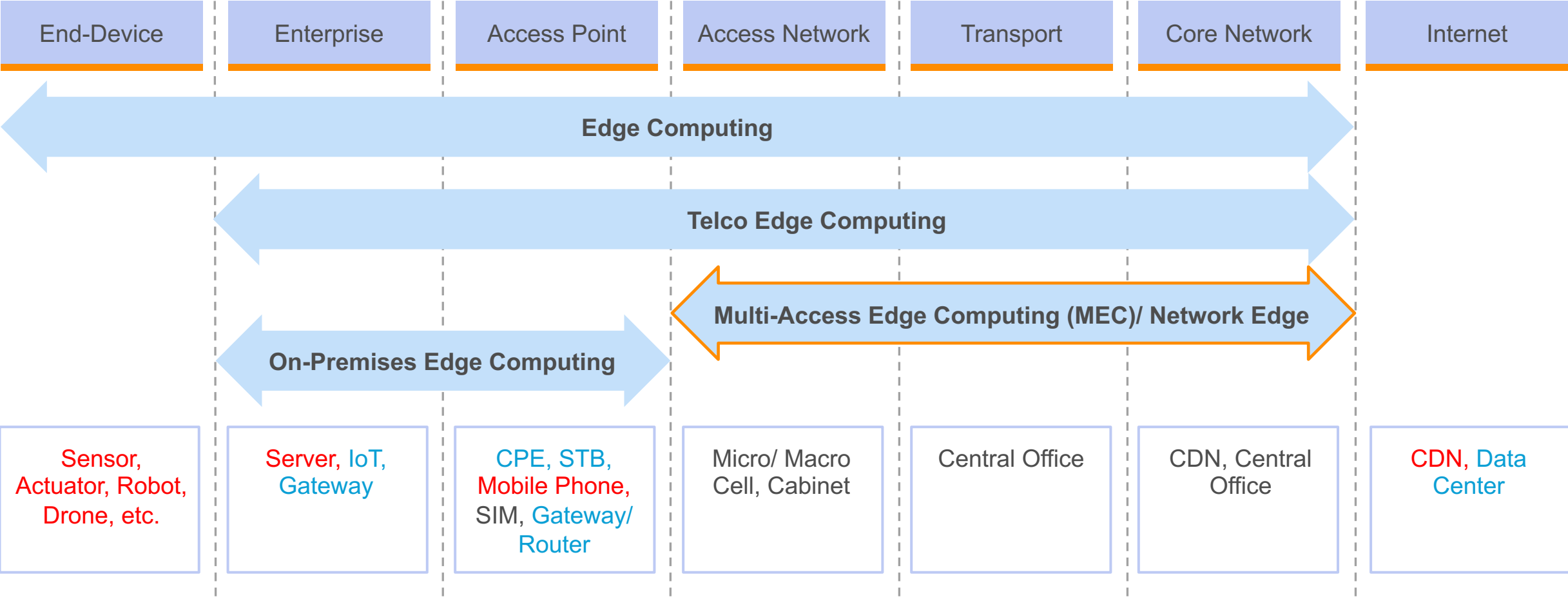
To enable a **pan-European** edge capabilities, **IPCEI CIS** project was launched and aims to build **Edge Cloud** technology across **Europe**.

IPCEI CIS/ 8ra

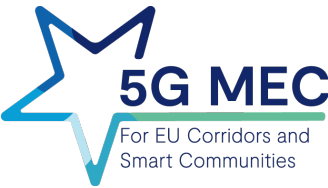


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The Edge Continuum spans between devices and hyperscale cloud.



Source: STL Partners



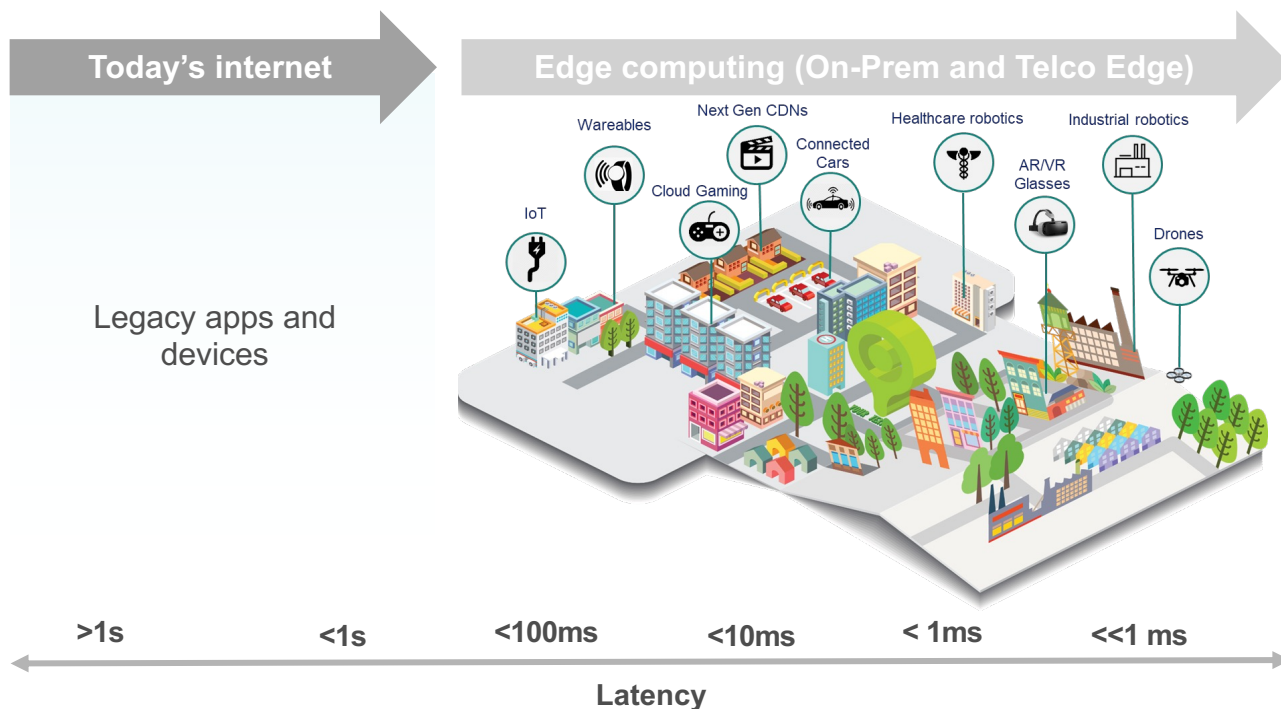
Key: Telco-owned, May not be Telco-owned, Not Telco-owned



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MEC provides solutions when traffic volume in WAN must be reduced, low latency is required, local autonomy is necessary or data security must be guaranteed.

New applications and devices, new latency demands



Low latency & high data transfer

New applications require high data transfer and low latency processing



Form factor, battery constraints & costs

Computing on device is not possible due to form factor, battery constraints and cost



Centralized nature of cloud

Sending large volume of data to public cloud is cost and time (latency) intensive

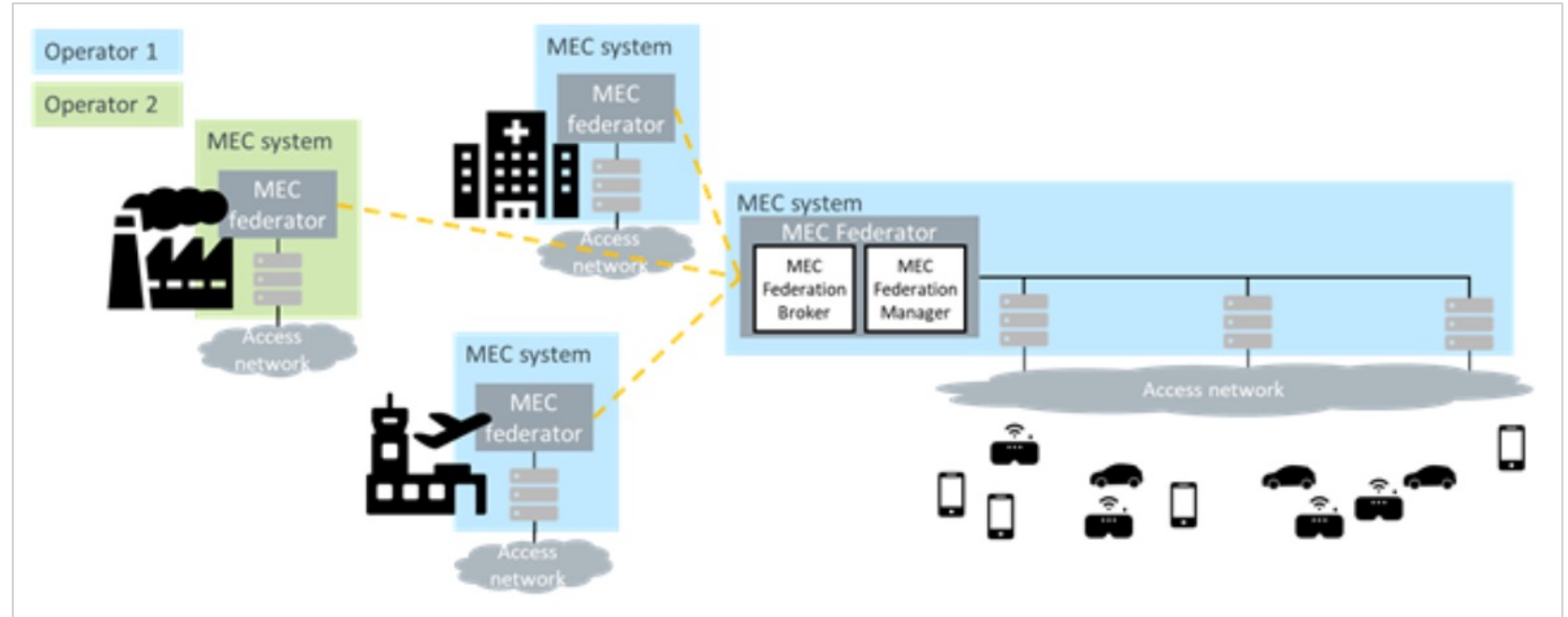
The hallmark of MEC is the ability to federate multiple MEC systems into one ecosystem to enable shared usage of MEC services.

Multi-access Edge Computing (MEC)*:

System which provides an IT service environment and cloud-computing capabilities at the edge of an access network which contains one or more type of access technology, and in close proximity to its users.

MEC federation*:

Federated model of MEC systems enabling shared usage of MEC services and applications.



MEC federation deployment within multiple MEC system operators. Source: ETSI

*Source: ETSI GR MEC 001 V3.2.1

5G SC projects` innovative use cases can be grouped in five industrial segments.

Agriculture

- **Machine-to-Machine communication**
- Weed monitoring and spraying
- Row crop cultivator
- **Smart agriculture**

Healthcare

- **Connected first response vehicles**
- Medical services over 5G connectivity
- AR/VR for healthcare
- **Remote support to diagnosis and monitoring via 5G/IoT**
- **VR/AR in the recovery of patients**
- Emergency medical services.

Education

- **AR/XR for Education and Training**
- Smart Campus



Logistic

- **Real-Time Location Systems**
- Surveillance and keeping record of cargo manipulations
- **Incident prevention and management**

Public & Safety

- **Traffic mgmt. and supervision of public space**
- **High-speed video data offloading**
 - Real-time communication with broadband transmission services
- **Smart City & smart waste mgmt.**
 - **Real-time aerial situational awareness**
- Automatic vulnerability assessment
 - **Smart Public Safety**

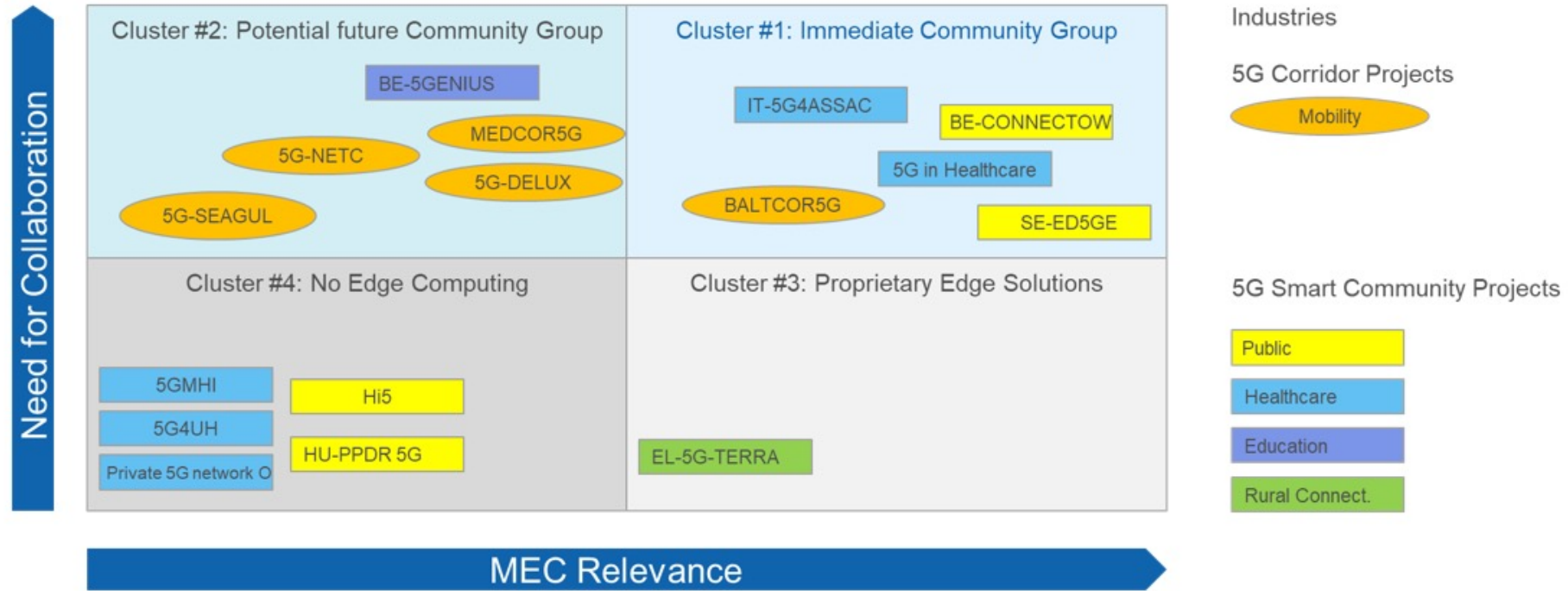
Energy

- Smart Energy Metering



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Evaluation of CEF projects regarding need for collaboration and MEC relevance.



Challenges:

- Long timing for deployment and high costs due to security constraints
- The gap between industry-driven use cases and the underlying architectures
- Need for local breakout in 5G network design
- Lack of end customers and clear business value

We have made some updates to our project core elements!

Relevant Deliverable: **Analysis Use Cases 5G CCAM** (Published soon)

A	Probe vehicle data	D1	Alert temporary slippery road
		D2a	Alert animal on the road
B	Road works warning	D2b	Alert people on the road
		D3	Alert obstacle on the road
C	Signage applications	D4	Alert stationary vehicle / breakdown
D	Hazardous location notifications		
E	Traffic information and smart routing		
F	Parking, park & ride, multimodality		
G	Intersections		
H	Traffic management		
I	Vulnerable users		
J	Logistics		
K	Level crossing		
L	Law enforcement		
M	Payment services		

155 use cases are identified and described, from various regional implementations, EU projects, studies, etc.

Strategic outreach via diverse communication channels

LinkedIn

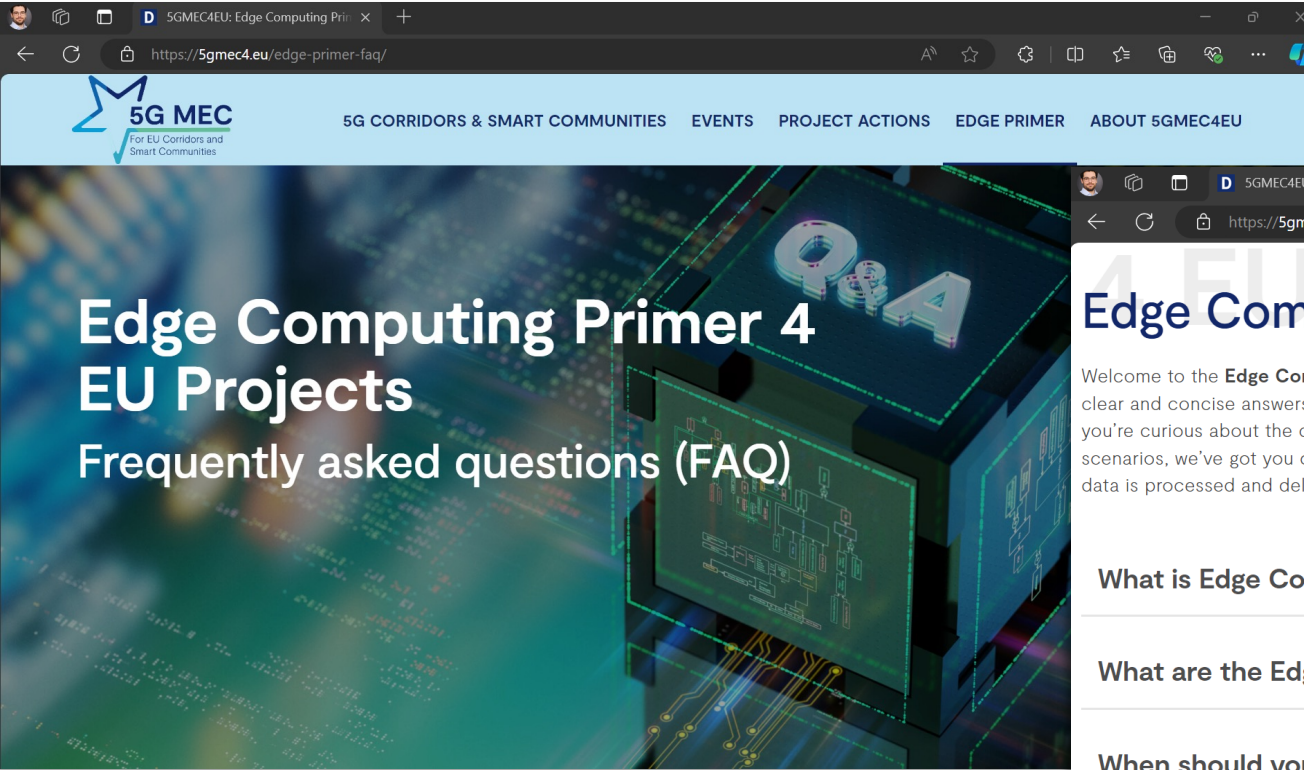
Webpage
5G MEC
For EU Corridors and Smart Communities

www.5gmec4.eu

Feedback loops and constant review of the outreach KPIs



5GMEC4EU presents: The Edge Computing Primer 4 EU Projects!



Edge Computing Primer

Welcome to the **Edge Computing Primer**, your go-to resource for understanding the rapidly evolving world of Edge Computing. This FAQ section provides clear and concise answers to common questions about Edge Computing, its key concepts, and its role in shaping modern digital infrastructure. Whether you're curious about the differences between Edge Computing and Multi-access Edge Computing (MEC), what an Edge Node is, or the various deployment scenarios, we've got you covered. Explore the topics below to get up to speed on the essentials and discover how Edge Computing is transforming the way data is processed and delivered.

What is Edge Computing?

What are the Edge Computing deployment scenarios?

When should you use Edge Computing?

What are the benefits of Edge Computing?

How can I decide which Edge Architecture to choose?

Let's talk about Edge!



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