5G and Edge Cloud for Smart Communities

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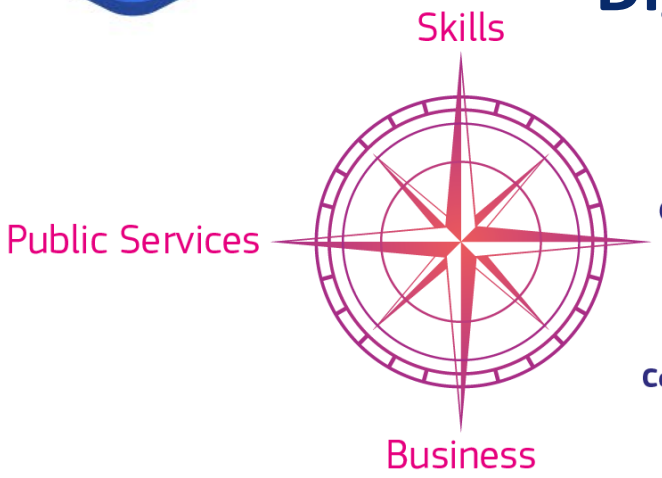
Stavros KALAPOTHAS

Policy Officer, Unit B.5 Investment in High-Capacity Networks, DG CONNECT, European Commission

Policy objectives

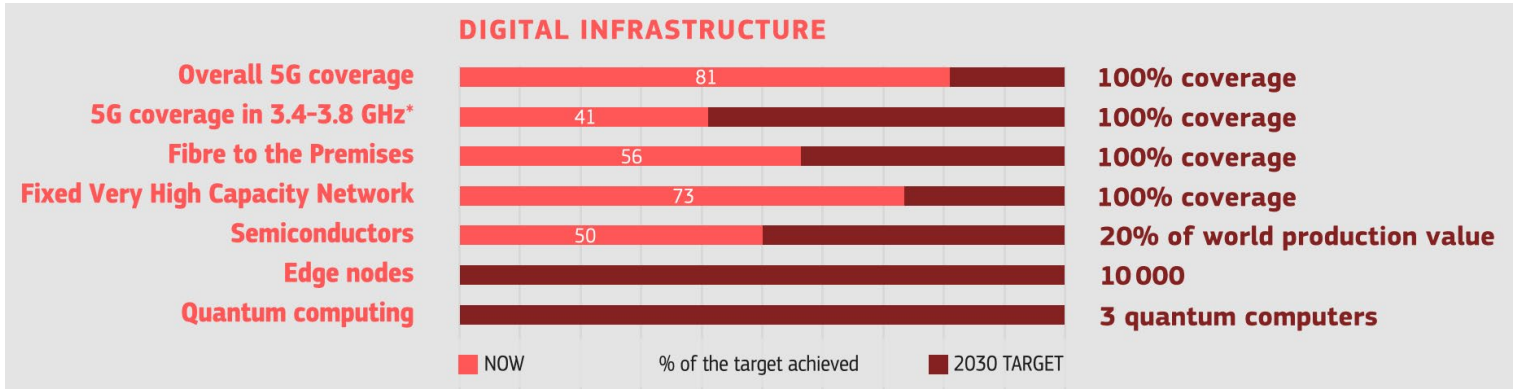
Where and how the CEF 5GSC-EDGE funding should make a difference?

Digital Decade Policy Programme 2030 targets



Connectivity: Gigabit for everyone, 5G everywhere
Cutting edge Semiconductors: double EU share in global production
Data – Edge & Cloud: 10,000 climate neutral highly secure edge nodes
Computing: first computer with quantum acceleration

Report on the state of Digital Decade 2023



Support the provision of public services & SGIs through the deployment of:

- Highest-quality 5G infrastructure
- Edge nodes attached to the 5G infra

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The 5G “continuum”

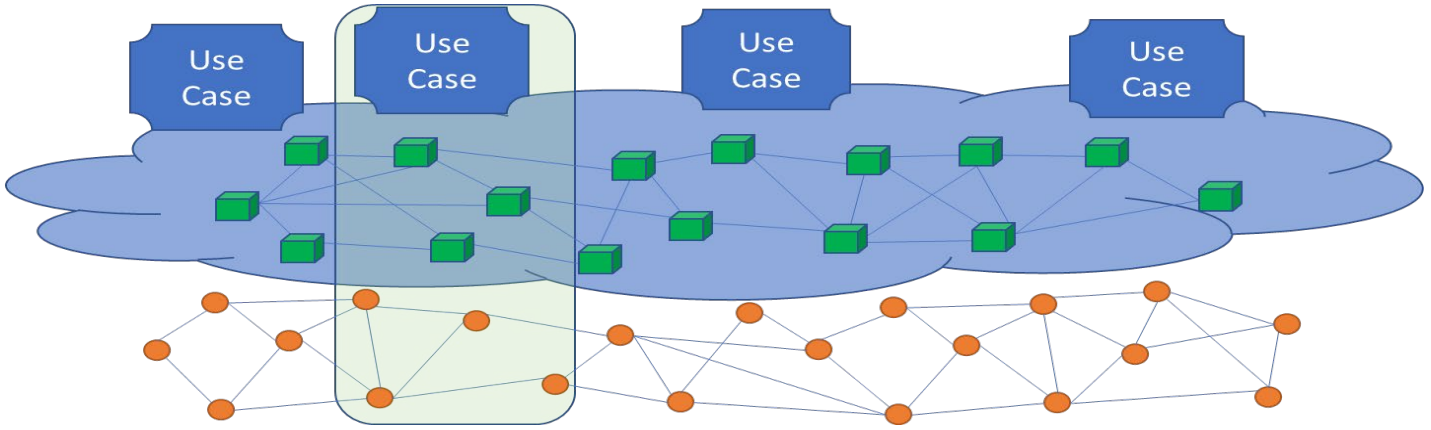
Large-scale 5G deployments → Local 5G systems

Major transport paths

Urban areas

Rural areas

Geographical continuum: From main corridors and cities to local communities and villages



Cloud Edge infrastructure

Connected objects and devices (IoT)

Technological continuum: Application-driven vertical integration, stimulus to EU digital supply chain

5G deployment and take-up (bundling connectivity to applications via cloud-to-edge/data/IoT)

Call 1 to Call 2 Evolution

- Call 1 (7 ongoing projects)
- Call 2 (projects under GAP)

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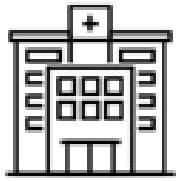
Call 1 Projects

≈ € 4.00 M

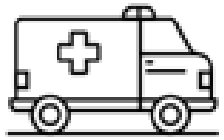
5G for a Smart Academic Campus in Sicily

≈ € 3.34 M



5G for the Frankfurt University Hospital

≈ € 4.00 M



A 5G network for Disaster Relief & Public Protection along Hungary-Ukraine border

≈ € 0.4 M

A 5G network in a Mosonmagyaróvár farm

≈ € 2.8 M

5G Connectivity for Smart City Services in Toulouse

≈ € 2.98 M

A 5G Network for Emergency Responses in Wavre

≈ € 4.13 M

5G Coverage for Healthcare & Education in Flanders Fields

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*The amounts refer to the max EU financial contribution

5GSC Call 1 & 2 trends

- **From projects' portfolio**
  - Public Operators - Alternative Operators - Tower Companies
  - Public & Private 5G Networks (MPN)
  - Transitional flexibility: 5G Standalone (SA) & 5G non-Standalone (NSA) (RF upgrade, 4G core)
  - **Edge Cloud** network integration (with EU-based cloud solutions)
    - Key benefits:
      - Densification: increase of the connected objects & devices
      - Reduced power consumption
  - Variety of IoT applications (port safety, city recycling, city traffic, precision agriculture)
  - Multiple verticals (health, education, energy, transport)
  - Positive impact in environmental transition and energy consumption

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Call 3 update

- **What's new**
  - Bundling 5G with **Edge Cloud** deployment.
  - Reimbursement of the Edge Cloud computing infra as an option (if deployed at the same location to take advantage of energy and time efficiencies).

- **What remains unchanged**
  - At least 2 partners: the owner of the 5G infra & the provider of the SGI use-case.
  - 75% reimbursement of the infra cost (passive & active).
    - Fibre backhaul (up to 10%).
  - Total funding: Following the order of magnitude of previous Calls.
  - Procurements should be in line with 5G cybersecurity toolbox (high-risk suppliers).
  - Duration 36 months (extensions are possible).

Scope

What can (& cannot) be funded under 5GSC-EDGE?

Eligible Costs (up to 75%)

- ✓ 5G passive & active infrastructure, including **5G connectivity software** & **services** and **connectivity hardware/software** for objects
- ✓ **Edge cloud hardware/software**
- ✓ Fibre backhaul, yet *not* the major focus (< about 10%)
- ✗ Individual applications

Participants (at least)

The owners of the funded 5G infrastructure

&

Public authority or Provider of services of general interest

Security Requirements

- ✓ A **self-declaration** must be submitted by all participating legal entities &
- ✓ **Approved by the Member State** in which they are established, on the basis of national law

(See call text)

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Some projects in focus

Targeting different sectors

EDUCATION & HEALTHCARE

5G4ASSAC: 5G for a Smart Sicilian Academic Campus (Italy)

Vodafone Italia + the University of Palermo

Use cases: new functional approaches to education training in universities and hospitals; creation of a continuous care system

5G4UH: 5G for Frankfurt University Hospital (Germany)

Vodafone + Frankfurt University

Use cases: mobile ultrasound examinations; telemedical concept for Covid-19 diagnosis; digital health records; optimising internal and external logistic processes & more

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Some projects in focus

Targeting different sectors

PUBLIC ADMINISTRATION & CITY SERVICES

Hi5: High Connectivity via 5G in Toulouse (France)

Toulouse Métropole + Alsatis

Use cases: traffic management and supervision of public space; “high-speed video data offloading” for more safe and user-friendly public transport & more

HEALTHCARE

FlandersSmartFields: 5G for innovative healthcare services in the Westhoek (Belgium)

E-BO Enterprises + Jan Yperman hospital + Province of West-Flanders

Use cases: remote assistance for emergency response vehicles; transportation of blood samples by drone; remote classrooms

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5GAGRIHUB

5G AgriTech HUB

Vodafone (HU) together with a SGI provider will establish a 5G Mobile Private Network (MPN) Hub at a Demonstration farm in Mosonmagyaróvár, to enable end-to-end solutions in agriculture

3 use cases enabled:

- ✓ Row crop cultivator in field crop production
- ✓ Machine-to-machine connection in field crop production
- ✓ Weed monitoring and spraying plan with machine-to-machine connection in field crop production

Demonstration Farm in Mosonmagyaróvár

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Closing the gap between 5G & Edge

Convergence driven by real life use cases

The premise?

- Slow rollout of Edge capacity in 5G
- no infra deployment, no software developed

The promise?

- Decreasing latency in 5G (6G) > added value in compute & storage attached
- Off-loading for battery or compute limited devices

Hot to get there?

- CEF-DIG-2023-5GSMARTCOM-EDGE

5G CARMEN

5G for Connected and Automated Road Mobility in the European UnioN

<u>Experimental use case example:</u>

- low latency, autonomous and assisted driving vehicle functions
- 5G connectivity and edge computing infra deployed by the network operators

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3rd Call is now open!

More info

5G AND EDGE FOR SMART COMMUNITIES

Available budget: **51M Euro**

Application deadline: **17 January 2024**

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THANK YOU!

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