Välkommen till informationsmöte om 2023 års utlysning för CEF Digital

PTS:

Elizabeth Sandström Greenfield – CEF koordinator

Jan Boström - Teknisk sakkunnig

Sverker Forslin – Teknisk sakkunnig

Anders Duhrin – Teknisk sakkunnig

Lise Alkerstedt - Handläggare





Agenda:

15.00-15.05	Välkommen – Elizabeth Sandström Greenfield, PTS CEF-koordinator
15.05-15.10	Introduktion och översikt av CEF Digital, Franco Accordino, DG Connect
15.10-15.30	5G och edge för smarta samhällen – Stavros Kalapothas &Tomas Petru, DG Connect
15.30-15.50	5G transport korridorer- Bianca Jitea, DG Connect
15.50-16.05	Sjöklablar - Digital Global Gateway - Thomas Kuepper, DG Connect
16.05-16.10	Nästa steg – PTS CEF kansli och Sammy Lauritsen, HaDEA
16.10-16.30	Frågor och svar (Q&A) – Alla deltar

Tredje utlysningen i CEF Digital

5G Smarta samhällen/europeiska molntjänster Utbyggnadsprojekt

51 M€

5G and Edge Cloud for Smart Communities

Sjökablar, Digital Global Gateways

90 M€

Studie och utbyggnadsprojekt

Backbone connectivity for Digital Global Gateways

5G transportkorridorer

100 M€

Studie och utbyggnadsprojekt

5G coverage along transport corridors

Total budget: 241 M€

5G smarta samhällen & moln

10-15 projekt - bästa praxis med edge molnintegration

Indikativ budget per projekt: 300 K€ - 5 M€

Global Gateways

(undervattenskablar, satellit, markinfrastruktur)

Indikativ budget per projekt: 20 M€ för utbyggnadsprojekt 5 M€ studier

5G Korridorer

Vägar, järnvägar, vattenvägar

- studiers uppföljning
- Ytterligare Greenfield-projekt
- Uppföljning av CAM-testprojekt

Indikativ budget per projekt: 10 M€ - 25 M€ för utbyggnad 300K€ - 1 M€ för studier

General overview of CEF Digital

Franco Accordino

Head of Unit, Investment in High-Capacity Networks at European Commission

NEW Calls for proposals INFO DAY 26 OCTOBER 2023

- 5G coverage along the transport corridors
 Budget: €100 million
- 5G and edge for Smart Communities
 Budget: €51 million
- Backbone connectivity for Digital Global Gateways Budget: €90 million

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CEF Digital - 5G and Edge Cloud for Smart Communities

Stavros KALAPOTHAS, CNECT B5

Investment in high-capacity networks

Tomas PETRU, CNECT E2

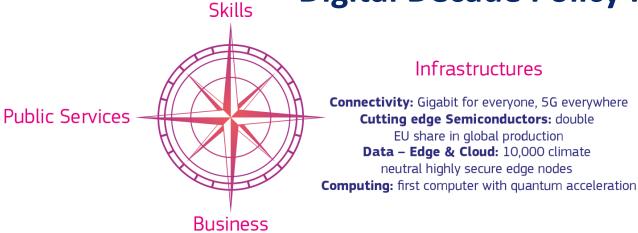
Cloud & Software



Policy objectives

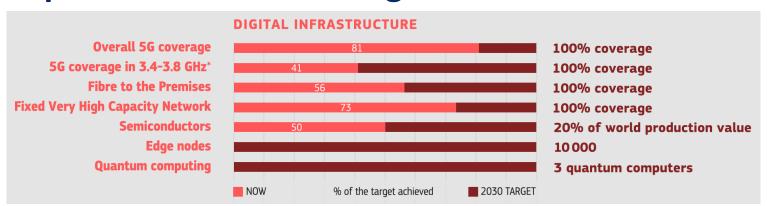
Where and how the CEF 5GSC-EDGE funding should make a difference?

Digital Decade Policy Programme 2030 targets



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

Report on the state of Digital Decade 2023





Highest-quality 5G infrastructure



Edge nodes attached to the 5G infra



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%)
- X Individual applications

Participants (at least)



The owners of the funded 5G

&



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



Call 1 to Call 2 Evolution



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



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).



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



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



Some projects in focus

Targeting different sectors

PUBLIC ADMINISTRATION & CITY SERVICES

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



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

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





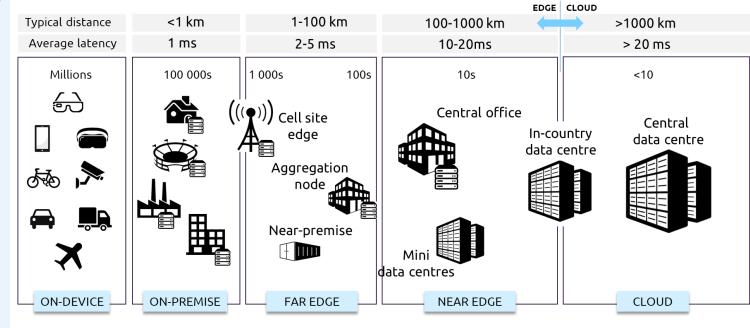
Climate-neutral highly secure edge nodes

State of play and future trajectories

Edge computing comprises combinations of systems that span a wide range of locations and conditions, and support a diverse set of use cases.

The location of equipment, such as a micro edge data center or a wall-mounted industrial cabinet, places different constraints on the hardware (nodes).

All of these factors result in a wide range of edge hardware that will continue to diversify, driven by needs of rapid data processing derived from Al execution at the Edge









- → Edge market at tipping point from early experimentation to value demonstration
- → Need of AI execution at the Edge acting as the transformative force that drives the growth of the Edge hardware industry



Closing the gap between 5G & Edge

Convergence driven by real life use cases

The premise?

- Slow rollout of Edge capacity in 5G
- Catch-22 problem:
 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 for Connected and Automated Road Mobility in the European UnioN

Experimental use case example:

- low latency, autonomous and assisted driving vehicle functions
- 5G connectivity and edge computing infra deployed by the network operators
- key role in coordinating 5G service continuity for these cross-border usage scenarios





Background: Call 3 expected impact

Edge Cloud integration

- In line with European Cloud policy.
- By adding the cloud computing infrastructure at the Edge (at the antenna location)
 the processing time and energy is further reduced.
- Enable data-intensive use-cases and applications for improvising public services and SGIs.
- Enhance ubiquitous 5G coverage, processing power and low latency to increase resources and support dense devices deployment for more innovative IoT applications.
- Further dissemination of beacon projects in different sectors.



THANK YOU!





5G Corridors

CEF Digital 2021-27

Big Wave: Call 1 Deployment Projects 2023

Bianca Jitea

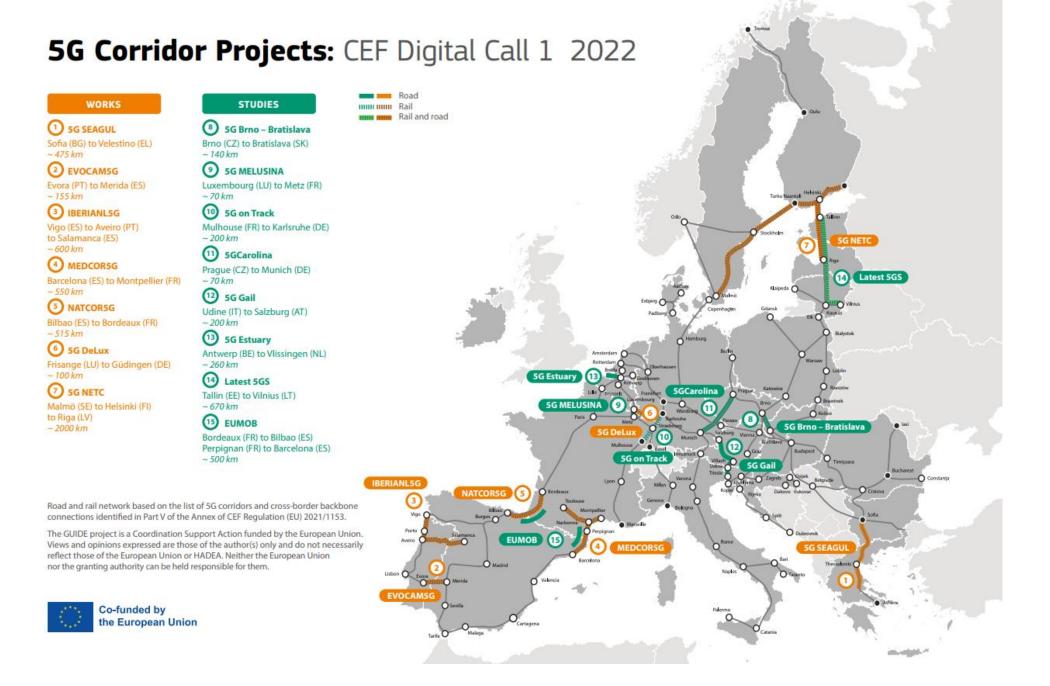
Policy Officer
DG CNECT

5G Corridors Planning

CEF Digital 5G corridor deployment calendar & planning												
Year		2021	2022	2023	2024	2025	2026	2027	2028	2029 2030	EU Budget	
Early Wave	Call 1	Call Q4-Q1		Stud	dies							
		Call Q4-Q1		Deplo	yment (CEF	/RRF)					42 MM €	
	Call 2		Call C	Q4-Q1	Stu	dies						
			Call C	Q4-Q1	Deplo	yment (CEF	/RRF)				28 MM €	
1st big Wave (Call 3)				Call Q	4-Q1	Studies Deployment (CEF/RRF)						
				Call Q	4-Q1			RRF)			100 MM €	
nd big Wave (TBC)			Call Q1-Q2	Studi	es							
						Call Q1-Q2	Deploy	ment (tbe	c)			
Last Wave (TBC)											TBC	

5G corridor CEF Budget: 170 MM € for 2021-23

- Call 1 Studies and Projects launched in 2023 (8 studies & 7 works)
- Call 2 Studies & Projects will launch in 2024: grant agreements currently under way
- Call 3 : Published on 17/10/23, EU budget 100 MM € (50% co-financing)



OBJECTIVES

- ✓ Leverage the needed private investment to establish a full pan-European road and railway network of 5G corridors
- ✓ **Deploy 5G systems along transport paths** thus enabling Connected and Automated Mobility (CAM), including automated rail and waterway operations
- ✓ **Uninterrupted coverage** with 5G systems across all major European transport paths, following but not limited to TEN-T corridors (indicative list in Part V of CEF Regulation Annex)
- ✓ Uninterrupted coverage for: CAM, FRMCS, RIS and multi-service application of 5G services, including non-safety services
- ✓ Transport modes: rail, road, inland waterways and/or a multimodal combination thereof (example: smart logistics use cases in multimodal logistics platforms and ports, etc.)

CONSORTIUM COMPOSITION



✓ Minimum 2 applicants (beneficiaries or affiliated entities) from at least 2 Member States or a Member State and associated or third country

✓ Exception: minimum 2 applicants (beneficiaries; not affiliated entities) from at least one Member State - if there is no terrestrial border with a Member State & 5G corridor deployment projects cross the border into a 3rd country or terminate at a port with maritime connections to other EU Member States

POSSIBLE CONSORTIUM MEMBERS

- √ 5G spectrum band owners / telecom operators
- **✓** Tower companies
- **✓** Public authorities/agencies in charge of traffic and infrastructure management
- **✓** Road operators
- **✓** Rail infrastructure managers
- ✓ Original equipment manufacturers
- ✓ Mobility service providers (such as innovative solutions providers for traffic management and intelligent transport systems)

Scope

Scope	Studies	Works	Both
Cross-border			✓
Use of 5G pionner bands (also FRMCS 900MHz and 1900MHz)			✓
If C-ITS using 5.9GHz band – compatibility analysis			✓
Road, rail, inland water ways, multimodality (i.e., logistics)			✓
Installation of active elements (routers, switches, antennae, MEC edge nodes, etc.)		✓	
Installation of passive elements (ducts, dark fiber, 5G radio stations, etc.)		✓	
Installation of specific track side devices (sensors, cameras for traffic monitoring incl. road side units)		✓	
Studies for preparatory works, including network planning	✓	If deployment within the proposal	
Location, length		✓ 15% TEN-T	

Requirements

Requirements	Works	Studies	Both
Security declarations	✓		
Security guarantees approved by Member States			✓
Market failure declarations from the coordinator indicating no other 5G infrastructure present or credibly planned	✓		
MNO declarations - beyond coverage obligations	✓		
Other: please check carefully admissibility requirements!			

Call 3 Timeline

Call publication/ opening	17 October 2023
Deadline	17 January 2024 17:00 (CET)
Evaluation of proposals	February - April 2024
Information to applicants and launch of Grant Agreement Preparation	July 2024
Grant Agreement signature	October 2024

Thank you!

#CEFDigital #DigitalEU

Contact DG CONNECT:

CNECT-E1@ec.europa.eu



@EU HaDEA

HADEA-CEF-DIGITAL-CALLS@ec.europa.eu



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Digital Global Gateways

Presentation for workshop at PTS, Sweden on 231018

Thomas Küpper, European Commission, DG Connect



Connectivity Ambition

2025 Gigabit Society Objectives

- 100 Mbps to all households, upgradable to 1Gbps
- 1Gbps to all main socio-economic drivers (schools, businesses etc.)
- Uninterrupted 5G coverage in all urban areas and all major terrestrial transport paths

2030 Digital Compass Targets

- All European households will be covered by a Gigabit network
- All populated areas covered by 5G

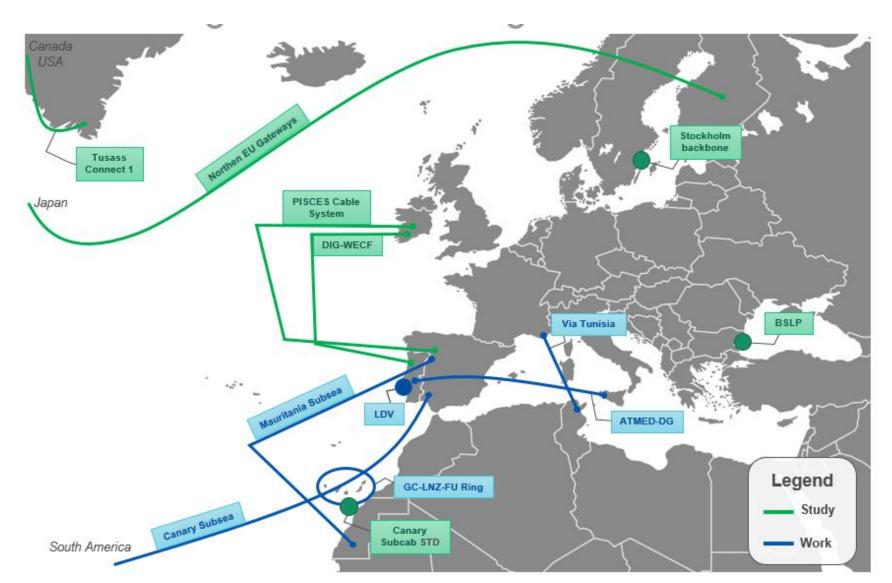
Digital Global Gateways - CEF Call 1 Results

CEF-DIG-2021-GATEWAYS-STUDIES	21-GL-DIG-Tusass Connect 1	Tusass Connect 1	Tusass	GL	8.845.988,50 €
CEF-DIG-2021-GATEWAYS-STUDIES	21-EU-DIG-WECF	West European Coast Festoon	Orange	FR	423.267,00 €
CEF-DIG-2021-GATEWAYS-STUDIES	21-EU-DIG-NORTHERN EU GATEWAYS	Planning of development of the autonomous digital backbone and connecting Europe with global strategic partners	Cinia	FI	3.650.000,00 €
CEF-DIG-2021-GATEWAYS-STUDIES	21-SE-DIG-Stockholm Backbone	Resilient Stockholm Archipelago Backbone	Netonomics AB	SE	189.945,00 €
CEF-DIG-2021-GATEWAYS-STUDIES	21-IE-DIG-PISCES Cable System	Portugal Ireland Spain Connecting Europe Subsea	McMahon Design and Management	IE	4.000.214,00 €
CEF-DIG-2021-GATEWAYS-STUDIES	21-ES-DIG-CANARY-SUBCAB-STD	Study to deploy new submarine cables in Canary Islands	Canalink	ES	413.425,00 €
CEF-DIG-2021-GATEWAYS-STUDIES	21-BG-DIG-BSLP	Black Sea Landing Point	Varna Net Ltd	BG	57.500,00 €
CEF-DIG-2021-GATEWAYS-WORKS	21-IE-DIG-Mauritania Subsea	Submarine cable connecting Mauritania to Portugal and Europe	EllaLink	IE	9.570.811,20 €
CEF-DIG-2021-GATEWAYS-WORKS	21-ES-DIG-ATMED-DG	Digital Gateway between the Atlantic and the Mediterranean	AFR-IX Telecom	ES	7.792.411,50 €
CEF-DIG-2021-GATEWAYS-WORKS	21-ES-DIG-GC-LNZ-FU Ring	Submarine cable system between Gran Canaria, Lanzarote and Fuerteventura in Canary Islands	Canalink	ES	23.000.853,40 €
CEF-DIG-2021-GATEWAYS-WORKS	21-PT-DIG-LDV - ICC	LDV - Interconnection and Colocation Center	MEO	PT	717.984,00 €
CEF-DIG-2021-GATEWAYS-WORKS	21-FR-DIG-ViaTunisia	Submarine cable between Marseille (France) and Bizerte (Tunisia)	Orange	FR	10.000.000,00 €
CEF-DIG-2021-GATEWAYS-WORKS	21-IE-DIG-Canary Subsea	Build the future Canary Islands submarine cable connection	EllaLink	IE	13.691.173,40 €



^{*}NORDUnet is owned by SE (31,7%), DK (22.2%), FI (22.2%), IS (1.6%), NO (22.2%)

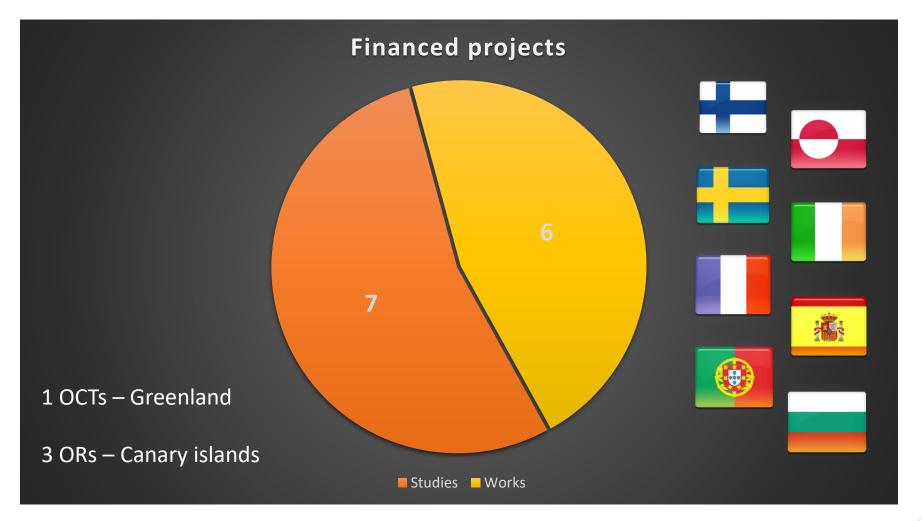
Digital Global Gateways - CEF Call 1 map



Please notice that this map is just a draft and it may not reflect the real path of the cables.



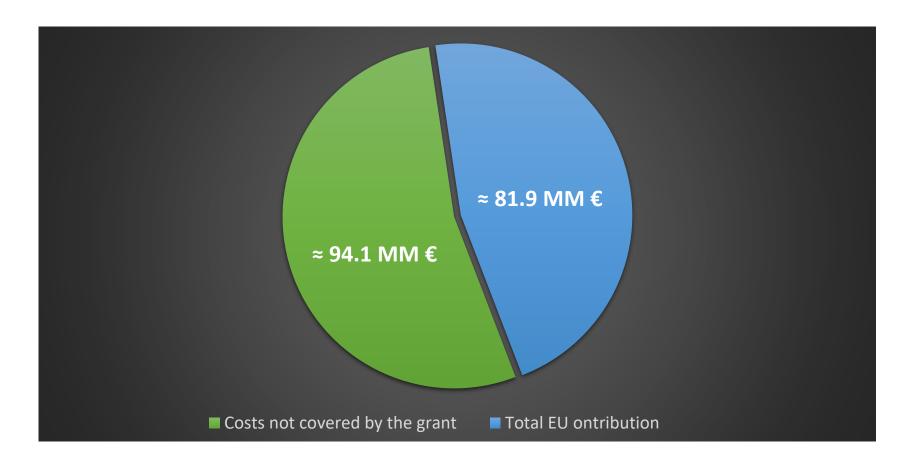
Digital Global Gateways - CEF Call 1 financed project





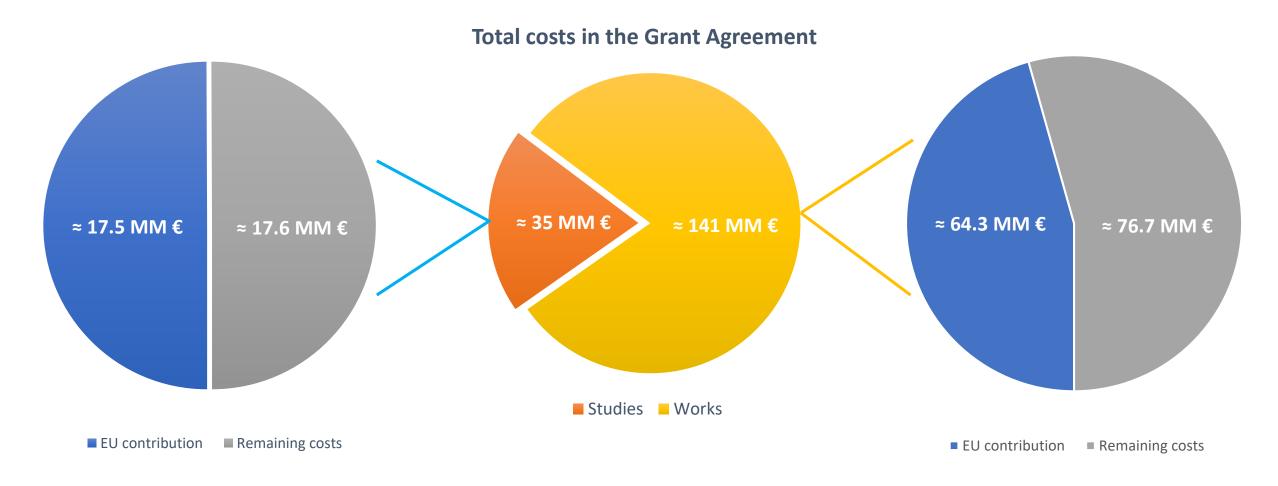
Digital Global Gateways - Total volume of the GAs

The CEF Digital Call 1 is enabling Digital Global Gateways projects (studies + works) with a total volume of ≈176 MM € in areas of market failure.





Digital Global Gateways - Studies vs Works







Connecting Europe Facility — CEF Digital

Digital Global Gateways - 3rd Call for Proposals



CEF-DIG-2023-GATEWAYS-WORKS & STUDIES

1. Objective

Support the deployment of strategic networks as part of the Digital Global Gateway Strategy of the EU by addressing connectivity needs, such as:

- (1) Connecting territories of the EU including its Outermost Regions.
- (2) **Supporting the specific connectivity needs of the Member States**, which are islands themselves, or have islands as part of their territory.
- (3) Intermeshing backbones to interconnect major connectivity points in the EU.
- (4) Addressing the specific needs of Overseas Countries and Territories in the EU.
- (5) **Ensuring international connectivity to EU partners** worldwide as a basis for European strategic autonomy.
- (6) **Promoting synergy projects** addressing other objectives of CEF Digital, including sector specific considerations encompassing the connectivity of large-scale digital capacities such as HPC or cloud.



CEF-DIG-2023-GATEWAYS-WORKS & STUDIES

2. Scope

Support the deployment of backbone connectivity for routes within Member States, between Member States, and between the EU and third countries, including to remote territories where:

- (1) there is a lack of **redundancy**, or
- (2) existing infrastructure cannot satisfy **demand**, or
- (3) the users in the territories suffer from suboptimal services and prices.

3. Security requirements

- Exclusion of non-EU controlled entities (art. 11.4 CEF regulation).
- **Exception** for infrastructure connecting EU with third countries: legal entities in that third country where their participation is indispensable for the achievement of the objectives can participate subject to security guarantees approved by the third country.
- Security declaration that no **security sensitive equipment** or **services** procured from third country suppliers.

CEF-DIG-2023-GATEWAYS-WORKS & STUDIES

4. Technology neutral call

Digital Global Gateways can be provided with the technology best suited including e.g.:

- Submarine Cable Systems,
- Satellite Infrastructure,
- Connectivity to internet exchange points, and
- Inter-Connection of Backbones with networks within the supported territories

5. What will be co-financed

- For works: Total project costs required to construct and deliver the described infrastructure for the foreseen lifetime, from end to end, including cable landing station and their connectivity. Operating costs, and costs for the land ownership excluded.
- For **studies:** All preparatory work required to design, deploy and deliver a backbone network, e.g., marine ground surveys for submarine cables, the application for required permits, technological solutions, including any step prior to signing a contract with a supplier, etc.



CEF-DIG-2023-GATEWAYS-WORKS & STUDIES

6. Changes in Call 3

Alignment with Digital Network Strategy

- Focus on Global Gateway
- 5G4SC/5GC: bundling 5G and Edge Cloud deployment & Take up

Reinforcement of sovereignty:

- Where guarantees are requested (5G topics and international gateways), no change of ownership/control imposed (3 years for 5G topics, 10 years for gateways)
- Security provisions: additional reference to the Communication of 15 June 2023



CEF-DIG-2022-GATEWAYS-WORKS

Important changes for call 2:

- Call 2: only works proposals. Studies only as part of works proposal.
- Maximum co-financing rates:

Works: 30 % Studies: 50%

Strong Cross-border Dimension: 50%

In Outermost Regions: 70%

- Studies within a works proposal may also be financed up to 50%!
- Smart Cables (in scope)!
- Overall budget 90 M€ (up from 40 M€ in Call 1, similar to 100 M€ in Call 2).
- Indicative grant size: up to 20 M€ for works and 5 M€ for studies.



Digital Security requirments



Security requirement	5G for Smart Communities	5G coverage for corridors	Digital Global Gateways	Cloud & DNS	CSA
Ownership control questionnaire			Works/Studies	Works/Studies	
Security declaration	Works	Works	Works	Works	
Security guarantees approved by the MS	Works	Works/Studies			All
Security guarantees approved by the third country			Works/Studies		
Application Form Part B - Digital security section (4.3)	Works	Works	Works	Works	



Questions?



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Nästa steg

Fyll i ett projekt-PM och skicka till CEF2@pts.se.

- Projekt-PM mall: 5G transportkorridorer
- Projekt-PM mall: 5G Smarta samhällen-edge moln
- Projekt-PM mall: Sjökablar Digital Global Gateway
- Fyll i säkerhetsdeklaration finns i portalen och skicka till cef2@pts.se
- Fylli säkerhetsgaranti finns i portalen och skicka till cef2@pts.se
- Fyll i ägarstruktur ownership of control och skicka till cef2@pts.se
- Registrera dig i portalen (varje organisation behöver ett pic-nummer) du gör det genom att öppna nedan länk för den specifika utlysningen och registerna dig.

Utlysningar:

- 5G coverage along transport corridors
- 5G and Edge Cloud for Smart Communities



<u>Tidsplan</u>

- 17 oktober Utlysningen öppnar
- 19 oktober Informationsmöte
- 26 oktober EU:s informationsmöte om CEF Digital
- 24 november skicka projekt till PTS (PM, ägandestruktur, säkerhetsdeklaration, garanti)
- 1 december Skickar PTS sin rekommendation till Regeringskansliet
- 15 dec Granskning och gemensamberedning på RK
- Ca 10 januari Återkoppling / regeringsbeslut av de ansökningarna som godkänns
- Ca 17 januari 2024 Utlysningen stänger



EU:s informationsdag den 26 oktober

•Thursday 26 October 2023, 09:30 - 13:20 (CEST)

CEF Digital Info Day - Call for proposals 3 - online on 26 October 2023.

Join the livestreaming!

HADEA-CEF-DIGITAL-CALLS@ec.europa.eu.

Join the Info Day

CEF Digital Frequently Asked Questions and our mailbox

Check first the list of Frequently Asked Questions at the F&T Portal:

https://webgate.acceptance.ec.europa.eu/sedia/portal/screen/support/faq

Write any questions you don't find the answer for to HADEA-CEF-DIGITAL-CALLS@ec.europa.eu



hadea.ec.europa.eu



@EU HaDEA



<u>HaDEA – European Health</u> <u>and Digital Executive Agency</u> Q & A

Frågor:

CEF2@pts.se

News item for call 3 launch and info day

Info day

<u>LinkedIn</u>

<u>Twitter</u>

