



Connecting Europe Facility (CEF)

Call for proposals

CEF 2 Transport – Projects related to smart and interoperable mobility –
General envelope

(CEF-T-2022-SIMOBGEN)

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EUROPEAN CLIMATE, INFRASTRUCTURE AND ENVIRONMENT EXECUTIVE AGENCY (CINEA)

CINEA.B – Sustainable networks and investments

CINEA.B.1 – CEF Transport: Northern Europe, Austria + MoS and ERTMS

CALL FOR PROPOSALS

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0. Introduction

This is a call for proposals for EU **action grants** in the field of Transport under the **Connecting Europe Facility (CEF)**.

The regulatory framework for this EU Funding Programme is set out in:

- Regulation 2018/1046 ([EU Financial Regulation](#))
- the basic act (CEF Regulation [2021/1153](#)¹).

The call is launched in accordance with the 2021-2023 Work Programme² and will be managed by the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('Agency').

Topics under this call are linked³ to other CEF Transport calls: (CEF-T-2022-COMPCOEN, CEF-T-2022-COMPGEN, CEF-T-2022-COREGEN, CEF-T-2022-CORECOEN, CEF-T-2022-SAFEMOBOEN, CEF-T-2022-SAFEMOBGEN, CEF-T-2022-SIMOBOEN, and CEF-T-2022-SUSTMOBGEN). The grants under both calls will be managed as linked projects.

The call covers the following **topics**:

- CEF-T-2022-SIMOBGEN-ERTMS-UNITS: ERTMS – unit contribution
- CEF-T-2022-SIMOBGEN-ITS-WORKS: ITS – studies, works or mixed
- CEF-T-2022-SIMOBGEN-SESAR-DSDU-WORKS: SESAR-DEMONSTRATORS HLA - works
- CEF-T-2022-SIMOBGEN-SESAR-DSDA-WORKS: SESAR-DEMONSTRATORS VC - works
- CEF-T-2022-SIMOBGEN-SESAR-DSD-CP-WORKS: SESAR-DEMONSTRATORS Common Project One implementation projects – works
- CEF-T-2022-SIMOBGEN-SESAR-DSD-OP-WORKS: SESAR-DEMONSTRATORS Other SESAR Projects – works
- CEF-T-2022-SIMOBGEN-RIS-WORKS: RIS – studies, works or mixed

¹ Regulation (EU) 2021/1153 of the European Parliament and of the Council of 7 July 2021 establishing the Connecting Europe Facility (OJ L 249, 14.7.2021, p. 38).

² Commission Implementing Decision C(2021)5763 final of 5.8.2021 on the financing of the Connecting Europe Facility - Transport sector and the adoption of the work programme for 2021-2027.

³ Twinned proposals concern the same project submitted under different calls and/or topics. Each proposal will be evaluated on its own merits – and based on the award criteria detailed in the Call document while taking into account the twinning with other applications.' This means that 'when submitting twinned proposals, the applicant must cross-reference the twinned proposal(s) in Parts A and B of the application form.

- CEF-T-2022-SIMOBGEN-EMSWe-WORKS: EMSWe - studies, works or mixed
- CEF-T-2022-SIMOBGEN-VTMIS-WORKS: VTMIS - studies, works or mixed
- CEF-T-2022-SIMOBGEN-eFTI-WORKS: eFTI – studies, works or mixed
- CEF-T-2022-SIMOBGEN-DATA-WORKS: data - studies, works or mixed
- CEF-T-2022-SIMOBGEN-NEWTECH-STUDIES: New technologies and innovation – studies
- CEF-T-2022-SIMOBGEN-REMIB-WORKS: Removing interoperability barriers - studies, works or mixed

Each project application under the call must address only one of these topics. Applicants wishing to apply for more than one topic, must submit a separate proposal under each topic. Furthermore, the same application can only be submitted to one call and topic.

Transfer of applications between calls and/or topics will not be made.

We invite you to read the **call documentation** carefully, and in particular this Call Document, the Model Grant Agreement, the [EU Funding & Tenders Portal Online Manual](#) and the [EU Grants AGA – Annotated Grant Agreement](#).

These documents provide clarifications and answers to questions you may have when preparing your application:

- the [Call Document](#) outlines the:
 - background, objectives, scope, activities that can be funded and the expected results (sections 1 and 2)
 - timetable and available budget (sections 3 and 4)
 - admissibility and eligibility conditions (including mandatory documents; sections 5 and 6)
 - criteria for financial and operational capacity and exclusion (section 7)
 - evaluation and award procedure (section 8)
 - award criteria (section 9)
 - legal and financial set-up of the Grant Agreements (section 10)
 - how to submit an application (section 11)
- the [Online Manual](#) outlines the:
 - procedures to register and submit proposals online via the EU Funding & Tenders Portal ('Portal')
 - recommendations for the preparation of the application
- the [AGA – Annotated Grant Agreement](#) contains:
 - detailed annotations on all the provisions in the Grant Agreement you will have to sign in order to obtain the grant (*including cost eligibility, payment schedule, accessory obligations, etc*).

You are also encouraged to visit the [CINEA website](#) to consult the list of projects funded previously.

1. Background

This call resorts under the Connecting Europe Facility 2021-2027 – multiannual work programme for the transport sector. The programme has the general objective to build, develop, modernise and complete the trans-European networks, taking into account the Union long-term decarbonisation commitments, and thus to contribute to smart, sustainable and inclusive growth and to enhance territorial, social and economic cohesion. It shall contribute to the development of projects of common interest relating to efficient, interconnected, and multimodal networks and infrastructure for sustainable, smart, interoperable, inclusive, accessible, resilient, safe and secure mobility. It shall contribute to more sustainable modal composition of the transport system, in order to meet EU climate neutrality and zero pollution ambitions by 2050.

CEF contributes to the EU goal of climate-related spending and decarbonising transport. In accordance with the European Green Deal, CEF 2021-2027 will target a contribution of 60% of its overall financial envelope to co-financing projects supporting climate objectives and moving fast towards zero-emission mobility. A methodology to track climate expenditures against the targets set has been developed by the Commission and will be applied to all projects under CEF.

The implementation of the multiannual work programme aims at contributing to the completion of the Trans-European Networks - Transport (TEN-T), thereby further enhancing sustainable and smart mobility. It is expected that granting of support on the basis of this multiannual work programme will contribute to the timely and efficient development of the TEN-T Core Network, support the realisation of a robust and resource-efficient European transport system and address climate change in accordance with the European Green Deal.

The granted support will directly contribute, inter alia, to the achievement of important transport policy objectives, such as establishing major interoperable transport axes interconnecting national networks and facilitating the functioning of the internal market, the optimal use of existing infrastructure capacities, improving the safety and reliability of the network, fostering cohesion and cross-border mobility, enhancing accessibility of peripheral areas of the Union, enhancing an integrated multimodal approach aiming at shifting a considerable part of transport that currently takes place by road towards more sustainable transport modes, increasing the capacity and performance of rail, inland waterways and short sea shipping infrastructure, contributing to a more balanced modal distribution, and reducing the negative environmental impacts of transport, in particular as regards GHG emissions.

The assessment of the award criterion “Priority and urgency” will, where relevant, also take into account:

- the new situation created by the Russian war of aggression against Ukraine;
- the Commission communication on Solidarity Lanes (COM/2022/217/Final);
- the “100 Climate Neutral and Smart Cities” announced by the Commission on 28 April 2022.

Background specific to SESAR - Digital Sky Demonstrators (DSD):

The Digital European Sky Programme is structured into three main R & I phases (Exploratory Research, Industrial Research and Validation and Digital Sky Demonstrators) that aim to deliver through a pipeline of innovations addressing the thematic defined in the Strategic Research and Innovation Agenda (SRIA)⁴. This matures operational and technological solutions through the Technology Readiness Levels (TRL).

As such, for the Digital European Sky Programme, the pipeline is constructed from the four categories of activities below, of which categories 2 and 3 are within the Industrial Research Phase:

1. Exploratory Research (TRL 0-2);
2. Industrial Research and Validation (TRL 3-6)
3. Fast-Track Innovation and Uptake(TRL 2-7);
4. Digital Sky Demonstrators (TRL 7-8).

Many of the innovations needed to deliver the digital European sky are not “business as usual”, but breakthrough solutions that combine digital and physical infrastructure capabilities. Bringing these innovations to scale in the market is challenging considering the high degree of technological, regulatory or market risk the aviation industry faces, which has so far deterred or delayed private investment in its infrastructure.

The establishment of a Europe-wide network of large-scale digital sky demonstrators offers a viable means to build confidence and bridge from research, through industrialisation to implementation. As such, the demonstrators will be closely connected to the standardisation and regulatory activities, and will provide a platform for a critical mass of “early movers”. Demonstrators will take place in live operational environments demonstrating services, technologies and standards necessary to deliver the digital European sky. This will help create buy-in from the supervisory authorities and operational staff, providing tangible evidence of the performance benefits in terms of environment, capacity, safety, security and affordability. Typically, these activities address up to TRL-8. This covers:

- TRL-7 System demonstration in an operational environment (ground or airborne),
- TRL-8 Actual system completed and "mission qualified" through test and demonstration in an operational environment (ground or airborne).

To achieve the Digital European Sky (Phase D of the **European ATM Master Plan**), nine research and innovation flagships have been identified in the Strategic Research and Innovation Agenda (SRIA) with their underlying R & I needs/challenges. The SRIA presents the strategic research and innovation (R & I) roadmaps for the years 2021 to 2027 to deliver on the implementation of the Digital European Sky (i.e. fully scalable services supported by a digital ecosystem minimising the environmental footprint of aviation), including the gradual transition towards higher levels of automation and virtual centres and ATM data service providers. The activities outlined in the SRIA to build a digitalised infrastructure are also critical for a post-COVID recovery, enabling aviation to become more scalable, economically sustainable, environmentally efficient and predictable.

⁴ The SRIA details the research and innovation roadmaps to achieve the Digital European Sky. The document is [available on the SESAR JU website \(https://www.sesarju.eu/sria\)](https://www.sesarju.eu/sria).

The Digital Sky Demonstrators under this call contributes to two SRIA research and innovation flagships, namely gradual transition towards higher levels of automation and virtual centres and ATM data service providers:

- Gradual transition towards higher level of automation;
- Virtual centres and ATM data service providers.

With the aim of ensuring a common approach across all projects contributing to deliver the Digital European Sky, a programme execution framework has been defined by the SESAR 3 JU and is available on the SESAR 3 JU website (<https://sesarju.eu/sites/default/files/documents/projects/SESAR3ProjectHandbook.pdf>). The document provides a guidance to project coordinators and their teams about how to conduct their project and comply with the needs defined by the SESAR 3 JU for its programme execution. This guidance is applicable to all SESAR 3 Digital Sky Demonstrators projects.

2. Objectives – Themes and priorities – Activities that can be funded – Expected impact

CEF-T-2022-SIMOBGEN-ERTMS-UNITS: ERTMS – unit contribution

Objective: The general objective is to modernise transport infrastructure on the Core and Comprehensive Networks of the TEN-T.

Scope: In accordance with the Article 9(2)(b)(ii) of the CEF Regulation, the following works will be supported:

- European Rail Traffic Management Systems (ERTMS) on-board and track-side deployment with a priority to rolling out ERTMS on the entire Core Network. projects shall be:
 - compliant with Commission Regulation (EU) No 2016/919 (Commission Regulation (EU) 2016/919 of 27 May 2016 on the technical specification for interoperability relating to the 'control-command and signalling' subsystems of the rail system in the European Union (OJ L 158, 15.6.2016, p. 1)) as amended by Commission Implementing Regulation 2019/776 (Commission Implementing Regulation (EU) 2019/776 of 16 May 2019 amending Commission Regulations (EU) No 321/2013, (EU) No 1299/2014, (EU) No 1301/2014, (EU) No 1302/2014, (EU) No 1303/2014 and (EU) 2016/919 and Commission Implementing Decision 2011/665/EU as regards the alignment with Directive (EU) 2016/797 of the European Parliament and of the Council and the implementation of specific objectives set out in Commission Delegated Decision (EU) 2017/1474 (OJ L 139 I, 27.5.2019, p. 108)), or subsequent versions, and with Directive (EU) No 2016/797 (Directive (EU) 2016/797 of the European Parliament and of the Council of 11 May 2016 on the interoperability of the rail system within the European Union (OJ L 138, 26.5.2016, p. 44)) and Directive (EU) No 2016/798 (Directive (EU) 2016/798 of the European Parliament and of the Council of 11 May 2016 on railway safety (OJ L 138, 26.5.2016, p. 102)) or subsequent versions;
 - baseline 3 (B3) compliant - the set of specifications #2 or #3 in table A2.2 or A2.3 of the Annex of Commission Regulation (EU) No 2016/919 as

amended by Commission Implementing Regulation 2019/776 (Commission Implementing Regulation (EU) 2019/776 of 16 May 2019 amending Commission Regulations (EU) No 321/2013, (EU) No 1299/2014, (EU) No 1301/2014, (EU) No 1302/2014, (EU) No 1303/2014 and (EU) 2016/919 and Commission Implementing Decision 2011/665/EU as regards the alignment with Directive (EU) 2016/797 of the European Parliament and of the Council and the implementation of specific objectives set out in Commission Delegated Decision (EU) 2017/1474 (OJ L 139 I, 27.5.2019, p. 108)), or subsequent versions;

- o supported in the form of unit contributions as defined in the Commission Decision authorising the use of unit costs to support the deployment of ERTMS under the Connecting Europe Facility (CEF) - Transport (https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/cef/guidance/unit-cost-decision-cef-ertms-afif-evri-rfn_en.pdf).

Where relevant, ERTMS projects will be coordinated with 5G corridors deployment.

Where relevant, the above mentioned projects shall take into account the innovative new technologies and solutions in the fields of smart applications for transport resulting from Horizon Europe activities.

Support for retrofitting will be limited to locomotives which have been put into operation before 31/12/2020.

Support will not be provided to fitment of new rolling stock.

Digital platforms supported under CEF must be accessible for use by all operators on a non-discriminatory basis.

CEF-T-2022-SIMOBGEN-ITS-WORKS: ITS – studies, works or mixed

Objective: The general objective is to modernise transport infrastructure on the Core and Comprehensive Networks of the TEN-T.

Scope: In accordance with the Article 9(2)(b)(ii) of the CEF Regulation, studies and / or works, related to the following projects will be supported:

- Intelligent Transport Services for road (ITS):
 - o projects related to the deployment or upgrade of ITS infrastructure and services (including the upgrade of eCall Public safety answering points to packet switched eCall) related to the priority areas of Directive 2010/40/EU of the European Parliament and of the Council of 7 July 2010 on the framework for the deployment of Intelligent Transport Systems in the field of road transport and for interfaces with other modes of transport (OJ L 2017, 6.8.2010, p. 1).
 - o Projects related to deployment of cooperative ITS (C-ITS) services. Projects shall deploy C-ITS stations to provide C-ITS services based on the hybrid communication approach defined in the European C-ITS Strategy (COM (2016) 766 "A European strategy on Cooperative Intelligent Transport

Systems, a milestone towards cooperative, connected and automated mobility").

- o Projects related to the coordination, harmonisation and monitoring of ITS and C-ITS deployment. Projects shall concern the establishment of a platform and involve as beneficiaries a sufficiently high number (minimum 15) of EU Member States to foster EU-wide continuity and interoperability of services. Projects shall build on and take forward the related work of EU-ITS and C-ROADS platforms.

Where relevant, ITS projects will seek synergies with 5G corridors deployment.

Where relevant, the above mentioned projects shall take into account the innovative new technologies and solutions in the fields of smart applications for transport resulting from Horizon Europe activities.

Digital platforms supported under CEF must be accessible for use by all operators on a non-discriminatory basis.

This topic focuses on the deployment or upgrade of ITS infrastructure and services and it may include data collection and dissemination that are necessary for these objectives. Projects with the main/sole purpose of collection and dissemination/availability of information/data for mobility, shall be submitted under the topic CEF-T-2022-SIMOBGEN-DATA-WORKS.

Projects may include both works and studies (with or without pilots activities) provided that these different activities are clearly distinguished and separated into different Work Packages.

CEF-T-2022-SIMOBGEN-SESAR-DSDU-WORKS: SESAR-DEMONSTRATORS HLA – works

Objective: High Level of Automation Support

The Digital Sky Demonstrators (DSD) under this topic aim to increase the level of automation support in Air Traffic Management (ATM). This includes:

- **Operational efficiency and environment.** Higher automation and interoperability will result in fewer tactical interventions by air traffic control (ATC) and increase predictability, enabling airspace users to fly closer to their preferred trajectories, thus reducing fuel-burn and emissions.
- **Capacity.** The increased level of automation support to ATC will contribute to optimising the use of the airspace. Improvements in ground operations predictability and the integration of advanced tools for arrival and departure will help to optimise runway use. Better connectivity between stakeholders, higher levels of interoperability and greater predictability brought about by increased automation will increase capacity.
- **Cost-efficiency.** Increased automation support, when adopted consistently, will contribute to operational harmonisation and eventually to cost-efficiency. A service-based approach and a well-defined required service level (e.g. for Communication Navigation Surveillance (CNS) services) will also help to achieve cost-efficiencies.
- **Safety.** The automation of some procedures will ultimately lead to improved safety and fewer errors, due to better allocation of human resources creating

the greatest possible added value. Additionally, increased data-sharing will also foster the early detection of potential safety issues and their mitigation.

The airspace architecture strategy (AAS) recognises that humans will remain at the centre of the system. The participation of pilots, controllers and air traffic safety electronics personnel (ATSEPs) in the DSD will contribute to assessing the human aspects of increasing the level of automation in ATM (e.g. Human Machine Interface , workload, training needs).

The Digital Sky Demonstrators will help to increase buy-in from the ATM community to Single European Sky ATM Research (SESAR) Solutions and will provide further evidence to support the business case for them. The Digital Sky Demonstrator instrument will provide a basis for achieving a critical mass of early movers, thus accelerating market uptake, facilitating the industrialisation process for SESAR solutions and promoting their deployment. All stakeholders will have an opportunity to learn and exchange practical expertise related to the introduction of SESAR solutions.

Themes and priorities:

The objective is to establish a network of Digital Sky Demonstrators to accelerate the transition to deployment of a number of SESAR solutions that are part of measure 3 under the airspace architecture study transition plan (AAS TP) in order to fully leverage breakthrough technologies that can contribute to the defragmentation of European skies (e.g. dynamic airspace configurations, solutions boosting the level of automation support, enhanced air-ground datalink capabilities, multilink environment, etc.).

The scope of the topic is described in terms of individual elements. A proposal shall fully cover at least one of these elements, but should also aim at addressing as many elements as possible.

- **Increased automation support.** This will cover improved conflict detection and resolution tools that are derived from the improvement of ground trajectory prediction, based for example on the use of advanced data from automatic dependent surveillance contract (ADS-C)reports, improved algorithms or improved use of meteorological data. The improvements to ground trajectory prediction may include the use of ADS-C data (e.g. gross mass, speed schedule, top of climb (TOC) and top of descent (TOD) altitudes, the predicted speeds at route points), improvements to calculations of turning manoeuvres thanks to the use of turn radius and the turning strategy (overfly versus fly-by), the implementation of catch-up manoeuvres (not depending on the extended projected profile (EPP) data), etc. (*PJ.18-W2-53B, AAS TP Milestone 6: trajectory-based operations*).
- **New HMI interaction modes and technologies for Air Traffic Service Unit (ATSU).** The aim is to minimise the load and mental strain on controllers in ATSUs . This may include the use of in-air gestures, attention control, automatic speech recognition, user-profile management systems, tracking labels, virtual and augmented reality, etc.(*PJ.10-W2-96 AG (Attention Guidance), PJ.10-W2-96 ASR (Automatic Speech Recognition) and PJ.10-W2-96 UPMS (User Profile Management System), AAS TP Milestone 4: gradual transition towards higher levels of automation supported by SESAR solutions*).
- **Flight-centric demonstrator to improve ANS productivity.** This demonstrator covers the demonstration of flight-centric operations in environments where most benefits in terms of cost-efficiency are expected (e.g. daytime high-altitude airspace and daytime or night-time low-density airspace) (*PJ.10-W2-73 FCA (Flight Centric ATC), AAS TP Milestone 5: transition to flight-/flow-centric operations*).

- **Near-real-time traffic management in sequence- or flow-based coupled AMAN-DMAN (Arrival – Departure Management tools) environment.** This will involve taking advantage of predicted demand information provided by local AMAN and DMAN systems and potentially include, in addition to the optimisation of runway usage, the balancing of flows in the Terminal Manoeuvring Area TMA (e.g. through the prioritisation of traffic flows where appropriate), and more consistent and manageable delivery into the en-route phase of flight, while still ensuring optimal usage of runway and TMA capacity (*PJ.01-W2-08A1, AAS TP Milestone 4: gradual transition towards higher levels of automation supported by SESAR solutions*).
- **Use of enriched Demand Capacity Balance (DCB) Information and enhanced what-ifs to improve flight planning, including the Network Manager (NM) flight plan approval process.** The aim is to reduce the impact of ATM planning on airspace users' costs of operations, by providing them with better access to ATM resource management and allowing them to better cope with ATM constraints. The objective is to demonstrate solutions aimed at improving airspace users' flight planning and network management through improved Flight Operations Centre (FOC) participation in the ATM network and collaborative processes in the flight and flow information for a collaborative environment (FF-ICE) context. Enriched DCB information will be available to improve Airspace Users (AUs)' decision-making processes when planning or replanning trajectories and may include DCB constraints/measures, information such as air traffic flow and capacity management (ATFCM) regulations / calculated take-off time CTOT / short-term ATFCM measures (STAM), additional DCB information such as hotspots and congestion level indicators, etc. The information (provided either for the trajectory planned by the AU as part of a submitted flight plan or for alternative trajectories considered in the context of advanced what-ifs) can be used in different use cases: proactive management of fleet delays by AUs, collaborative decision making (CDM) processes triggered by flow managers (e.g. STAM/cherry-picking measures), etc. (*PJ.07-W2-38, AAS TP Milestone 4: gradual transition towards higher levels of automation supported by SESAR solutions*).
- **Improving the connectivity between regional airports and the NM.** This can be achieved thanks to the provision of departure planning information messages based on target times and a reduced set of turnaround milestones compared with full airport collaborative decision making (A-CDM) implementation. This reduced set of milestones is calculated quasi-automatically, reducing the need for airline / ground handler input. The expected benefits relate to predictability, flexibility and efficiency for all airport stakeholders, while improving stability, predictability and resilience at network level. The demonstration is expected to cover a significant number of regional airports. Note that the airports under scope are beyond those listed in Common Project One (CP1) regulation (*AAS TP Milestone 4: gradual transition towards higher levels of automation supported by SESAR Solutions*).
- **Operating a multilink communications infrastructure.** This must include several elements, the Enhanced air-ground datalink capabilities beyond controller-pilot datalink communications services, the testing of a multilink environment and the assessment of the operational benefits of the higher performance of LDACS within that environment.
 - Firstly, the Enhanced air-ground datalink capabilities beyond controller-pilot datalink communications service is a key enabler of automation. This addresses the need of airborne users to connect to the ground by different means to support ATS B1 and in particular the B2 communication services in an operational environment with representative traffic scenarios, hence demonstrating a seamless and automatic switch between different technologies in the air and in

- ground, based on availability and performance needs. The demonstration shall address the prioritisation of air traffic service (ATS) messages over any other data traffic over the same link, which is not possible via VDL2.
- Secondly, the testing of the multilink environment must include the combination of at least a terrestrial and satellite technologies from those within the Future Communication Infrastructure (FCI): namely Terrestrial L-Band Digital Aeronautical Communication System (LDACS), Satellite Satcom (ATN/IPS and OSI (Aeronautical Telecommunications Network Internet Protocol Suite / Open Systems Interconnection) and Aerodrome Technologies in an ATN IPS/OSI environment. It should address where possible both Datalink and Digital Voice. Projects may include test bed platforms, to appropriately stress test avionics equipment, space and ground systems and support validation of standards as well as certification of equipment. The end to end demonstration must include the ground, space and the aircraft components, validation of the operational interface with pilots and air traffic controllers (ATCOs) (AAS TP Milestone 6: trajectory-based operations).
 - Thirdly, the demonstration of the next generation of air-ground datalink via LDACS. This will include within a multilink environment, the assessment of the operational benefits of the higher performance of LDACS (in particular the lower latency in combination with higher data capacity thanks to prioritisation of ATS traffic over any other traffic over the same link). Although the focus of this demonstration is datalink communications, the LDACS technology is part of the advanced integrated CNS concept; as a complement to the demonstration of the datalink aspects, the demonstration may also address the use of LDACS for alternative position, navigation and timing (A-PNT) and/or surveillance aspects, as well as digital voice via LDACS options (AAS TP Milestone 6: trajectory-based operations).
- **Integrated ground-ground back-up voice between remotely piloted aircraft system (RPAS) pilots and ATC.** The demonstration should include the retransmission of voice communications over the VHF channel in support of the seamless integration of RPAS into the European airspace (*AAS TP Milestone 6: trajectory-based operations*).
 - **The initial demonstration of the next generation of air-ground datalink via LDACS.** Nominal communications between RPAS pilots and ATC are via VHF relay to the RPAS, which means that in the event of a lost-link contingency, the remote-pilot ATC communication is also disrupted. The establishment of a back-up communication (typically phone connection) entails some delay at this critical contingency time; once established, the back-up connection via phone poses safety challenges due to the increased controller workload at a critical contingency time due to its lack of integration in the ATC communications system. The objective of this demonstration is to establish a reliable backup voice communication between the remote pilot and ATC, e.g. via phone or internet VoIP (voice over Internet Protocol) that is fully integrated into the ATC communications system. The demonstration should include the retransmission of backup with party-line voice communications over the very high frequency (VHF) channel in support of the seamless integration of RPAS into the European airspace, and could also address ground-ground backup CPDLC communications (*AAS TP Milestone 6: trajectory-based operations*).

Activities that can be funded:

Target maturity levels required

The demonstrations under this topic shall address a Technical Readiness Level 8 (TRL8) maturity level ('actual system completed and mission qualified through test and demonstration in an operational environment') for a number of SESAR solutions delivered at TRL6 level by SESAR 1 and SESAR 2020 and which will contribute to increasing the level of automation support in ATM. This covers TRL-8 Actual system completed and "mission qualified" through test and demonstration in an operational environment (ground or airborne): end of system development, fully integrated with relevant operational systems (people, processes, hardware and software), most user documentation, training documentation, and maintenance documentation completed. All functionalities are tested in simulated and operational scenarios. Verification, Validation (V&V) and Demonstration completed, regulatory needs and standards are finalised.

Standardisation and Regulatory activities

The demonstrators must be closely connected to the standardisation and regulatory activities. Early engagement with the regulator during the demonstration process can significantly de-risk subsequent issues related to regulatory needs, approvals, safety assessments etc. for the SESAR solutions under scope. With this in mind, European Union Aviation Safety Agency (EASA) and/or National Supervisory Authority (NSA) involvement through the partners must be envisaged at the level of advising on the suitability of the safety assessments as well as risk and hazard identification and mitigation approaches required for the solution. The potential need for future rulemaking to support the eventual implementation of the solution must be identified in the European ATM Standards Coordination Group (EASCG) rolling plan. The work of the project must then be appropriately focused on delivering the material that is required (if applicable) for finalising regulatory needs and standards.

The following two specific deliverables addressing the regulatory activities and standards will have to be provided by the Digital Sky Demonstrators in order to guarantee the adequate consideration by the projects of the needs to coordinate closely with EASA and EASCG:

- REG: proposed SESAR Acceptable Means of Compliance to EASA to illustrate means to establish compliance with the SES Regulations, EASA Basic Regulation and its Implementing Rules;
- STAND: proposed SESAR Input to EASCG standardisation activities.

Expected impact:

Demonstrators will take place in live operational environments demonstrating services, technologies and standards necessary to deliver the digital European sky. This will help create buy-in from the supervisory authorities, civil and military stakeholders, manufacturers and operational staff, providing tangible evidence of the performance benefits in terms of environment, capacity, safety, security and affordability.

The establishment of a Europe-wide network of large-scale digital sky demonstrators offers a viable means to build confidence and bridge from research, through industrialisation to implementation.

CEF-T-2022-SIMOBGEN-SESAR-DSDA-WORKS: SESAR-DEMONSTRATORS VC – works

Objective: Virtual Centres

The objective of the demonstrations under this topic is to address the issue of the lack of flexibility in sector configuration capabilities at pan-European level clearly highlighted by the airspace architecture study. This lack of flexibility is caused by the close coupling of ATM service provision to ATS systems and operational procedures, preventing air traffic from making use of cross-border service provision and data sharing.

A more flexible use of external data services, taking into account data properties and access rights, would allow the infrastructure to be rationalised, reducing the related costs. This would enable data-sharing, foster more dynamic airspace management and ATS provision, and allow Air Traffic Service Units (ATSUs) to improve capacity in portions of airspace where traffic demand exceeds available capacity. Furthermore, it offers options for the contingency of operations and increased resilience of ATS provision.

- **Cost-efficiency.** Virtualisation in support of delegation of the provision of ATSS among ATSUs will have an impact on Air Navigation Service Provider (ANSP) capabilities in terms of resource management at both staffing and facilities level (cost optimisation).
- **Capacity/resilience.** More manoeuvring margin on resources management by the ANSP will lead to a better use of spare capacity (fewer demand measures required). More dynamic airspace management will contribute to improving capacity while responding with flexibility to airspace users' flight trajectory needs.
- **Environment.** The delegation of the provision of ATSS among ATSUs, for both cross-border and non-cross-border cases, will make ATS provision more seamless, as load balancing between ATSUs and avoidance of airspace or ATS provision disruptions will allow Airspace Users (AUs) to fly more efficient trajectories.

The Digital Sky Demonstrators will help to increase buy-in from the ATM community to SESAR Solutions and will provide further evidence to support the business case for them. The Digital Sky Demonstrator instrument will provide a basis for achieving a critical mass of early movers, thus accelerating market uptake, facilitating the industrialisation process for SESAR solutions and promoting their deployment. All stakeholders will have an opportunity to learn and exchange practical expertise related to the introduction of SESAR solutions.

Themes and priorities:

To successfully address the expected outcomes, all or some of the following priorities should be addressed:

- **Demonstration of a new Air Traffic Service (ATS) operating model based on the delegation of ATS using virtual centres (VC).** The objective is to demonstrate the increased efficiency and resilience of the ATS thanks to better use of resources across ATSU borders; the scope includes the following elements.
 - Delegation of ATS among ATSUs based on traffic/organisation needs (either static on fixed-time transfer schedule (e.g. day/night) or dynamic e.g. when the traffic density is below/above a certain level) or on contingency needs.
 - ATFCM aspects in support of the delegation of ATS, including the interaction with the Network Manager (NM) on dynamic sectorisation and flow allocation. This may include the dynamic delegation of ATS provision for load balancing (ATFCM), cross-border rostering concepts,

- etc. The delegation of the ATFCM service provision between ATSUs may also be considered.
- o Civil–military aspects of delegation of ATSS (e.g. delegation of ATS provision between civil and military ATSUs). The digitalisation of ATC systems enables virtualisation approaches in which remote operations become an important contributor to resource pooling and rationalisation. Civil–military ATSUs will be able to delegate the airspace to another ATSU as long as there is guarantee of seamless ATS provision in the delegated airspace. Virtual control centres allow for more efficient and flexible use of resources, with civil–military synergies.
 - o The Air Traffic Controllers (ATCOs) receiving the delegation of airspace need to be in possession of the appropriate qualification; the demonstration may include complementary concepts in support of increased flexibility in ATCO validations (e.g. validations for working in a sector restricted to a certain configuration, such as airports/TMAs that are closed at night, sectors combined, etc.), standardisation of procedures and performance support tools to reduce the number of hours required to be current in a sector, so as to make it possible for ATCOS to control more sectors, etc. (*PJ.16-03, PJ.10-W2-93 and PJ.32-W2-01, AAS TP Milestone 3: virtual centres and dynamic airspace management at large scale*).
 - **Demonstration of new ATS operating model based on the ATM data service providers (ADSPs) concept outlined in the airspace architecture study and later complemented by a European Commission study** (European Commission study number MOVE/E3/SER/2018-580/SI2.813340) In the Commission study, ATM data services are defined as services that provide ATSUs, airspace users, airports and other operational stakeholders with information on the intended movement of each aircraft, or changes thereto, and with current information on the actual progress of each aircraft, based on operational data received from surveillance services, aeronautical information services, meteorological services, network functions and any other relevant operational data.
 - o The scope includes the demonstration of new operating models based on the opportunities opened up by the new service delivery model (e.g. provision of flight data processing and integration services, provision of surveillance data processing and integration services, new services related to ATM data transformation and/or processing dependent on or related to outputs from flight data processing and/or surveillance data processing, services for remote technical monitoring of distributed systems). The development of the technical enablers in support of the new services is also in scope; this includes in particular the ATSEP support tools to support the efficiency of the ATSEP distributed team.
 - o The DSD is an opportunity to address the military concerns (e.g. security) on the ADSP concept;
 - o The proposed demonstrations must be aligned with the scope of ATM data services in each of the data categories and take into account interfaces with other services or functions and the actors feeding into or consuming the ATM data services, as defined in the European Commission study.
 - o These demonstrations should help to overcome the challenges associated with regulatory and certification issues. Close cooperation with European Union Aviation Safety Agency (EASA) and/or national regulators is therefore essential to the success of the demonstrations; the demonstrations should aim to achieve the certification of the first ADSP(s) in Europe (*PJ.16-03, PJ.10-W2-93 and PJ.32-W2-01, AAS TP*

Milestone 3: virtual centres and dynamic airspace management at large scale).

- **Demonstration of dynamic airspace configurations.** This will entail demonstrating in an operational environment the combination of dynamic airspace management and airspace configurations level 0, digital integrated network management and ATC planning (INAP) and dynamic mobile area (DMA) type 1. DMA type 1 is a volume of airspace of specified dimensions described as an integral part of the Mission Trajectory (MT) at flexible geographical locations agreed upon in a CDM process (as part of the mission trajectory negotiation); this solution aims to satisfy military training needs while minimising the impact on civilian traffic. The demonstration's scope includes the consideration of initial mission trajectory management capability at subregional/local level in the ATM planning phase to support the dynamic configuration of segregated airspace, thus contributing to the efficiency of both civil and military operations. The objective is to demonstrate improvements in the use of airspace capacity for both civil and military AUs, with increased efficiency in airspace management and increased flexibility in civil–military coordination. The scope of the demonstration includes the digital transformational technology impact on collaborative decision making (CDM), mission trajectory management (MTM) and airspace management (ASM) (e.g. ATCO support systems: ATCO screen to show active DMAs in real time and system support for revising trajectories of aircraft that are planned to go into a DMA) (*PJ.07-W2-40 and PJ.09-W2-44, AAS TP Milestone 3: virtual centres and dynamic airspace management at large scale*).

Activities that can be funded:

Target maturity levels required

The demonstrations under this topic must address a technological readiness level 8 (TRL-8) maturity level ('actual system completed and mission qualified through test and demonstration in an operational environment') for a number of SESAR solutions delivered at TRL6 level by SESAR 1 and SESAR 2020.. This covers TRL-8 Actual system completed and "mission qualified" through test and demonstration in an operational environment (ground or airborne): end of system development, fully integrated with relevant operational systems (people, processes, hardware and software), most user documentation, training documentation, and maintenance documentation completed. All functionalities are tested in simulated and operational scenarios. Verification, Validation (V&V) and Demonstration completed, regulatory needs and standards are finalised.

Standardisation and regulatory activities

The demonstrators must be closely connected to the standardisation and regulatory activities. Early engagement with the regulator during the demonstration process can significantly de-risk subsequent issues related to regulatory needs, approvals, safety assessments etc. for the SESAR solutions under scope. With this in mind, European Union Aviation Safety Agency (EASA) and/or National Supervisory Authority (NSA) involvement through the partners must be envisaged at the level of advising on the suitability of the safety assessments as well as risk and hazard identification and mitigation approaches required for the solution. The potential need for future rulemaking to support the eventual implementation of the solution must be identified along with the development of standards identified in the European ATM Standards Coordination Group (EASCG) rolling plan . The work of the project must then be appropriately focused on delivering the material that could be required for finalising the regulatory needs and standards.

The following two specific deliverables addressing the regulatory activities and standards will have to be provided by the Digital Sky Demonstrators in order to guarantee the adequate consideration by the projects of the needs to coordinate closely with EASA and EASCG:

- REG: proposed SESAR Acceptable Means of Compliance to EASA to illustrate means to establish compliance with the Basic Regulation and its Implementing Rules;
- STAND: proposed SESAR Input to EASCG standardisation activities.

Expected impact:

Demonstrators will take place in live operational environments demonstrating services, technologies and standards necessary to deliver the digital European sky. This will help create buy-in from the supervisory authorities, civil and military stakeholders, manufacturers and operational staff, providing tangible evidence of the performance benefits in terms of environment, capacity, safety, security and affordability.

The establishment of a Europe-wide network of large-scale digital sky demonstrators offers a viable means to build confidence and bridge from research, through industrialisation to implementation.

**CEF-T-2022-SIMOBGEN-SESAR-DSD-CP-WORKS: SESAR-DEMONSTRATORS
Common Project One implementation projects – works**

Objective: The general objective of this topic is to support the timely and synchronised implementation of Common Project One (Commission Implementing Regulation (EU) 2021/116 of 1/02/2021) in accordance with the deployment approach defined in the SESAR Deployment Programme⁵.

Scope:

This Call for Proposals addresses the short term implementation needs resulting from the SESAR Deployment Programme. These needs are defined considering: technical aspects, which make the related sub-functionalities essential to advance in the implementation of the overarching ATM functionality; the implementation status of the relevant ATM functionalities or sub-functionalities, aiming to fill any current implementation gaps; and contribution to network performance, focussing on Deployment Programme 'Families' that are mostly contributing to network performance improvements, to digitalisation and to the objectives of the European Green Deal.

Implementation projects (see Article 10 or Commission Implementing Regulation (EU) No 409/2013) related to any of the following functionalities will be supported under this topic:

- a) AF1 - Extended AMAN and Integrated AMAN/DMAN in the high-density TMA sub-functionality on AMAN/DMAN integration, **limited to the SESAR Deployment Programme Family 1.2.1 – AMAN/DMAN integration.**

⁵ The SESAR Deployment Programme 2022 edition:
https://transport.ec.europa.eu/document/download/95064d2a-e447-4b7b-9e8b-acc9cad6dabe_en?filename=SESAR%20Deployment%20Programme%202022%20-%20C_2022_5748_Full%20text.pdf

- b) AF2 – Airport Integration and Throughput sub-functionality on airport operations plan, **limited to the SESAR Deployment Programme Family 2.2.2 Extended AOP.**
- c) AF3 - Flexible Airspace Management and Free Route Airspace sub-functionality on free route airspace, **limited to the SESAR Deployment Programme Family 3.2.2 Enhanced Free Route Airspace Operations.**
- d) AF4 – Network Collaborative Management sub-functionality on Collaborative NOP, limited to the SESAR Deployment Programme Family 4.2.2 – Initial AOP/NOP information sharing, and sub-functionality on AOP/NOP integration, **limited to the SESAR Deployment Programme Family 4.4.1 – AOP/NOP integration.**
- e) AF5 – System Wide Information Management (SWIM) sub-functionality on Aeronautical Information Exchange, limited to the SESAR Deployment Programme Family 5.3.1 – Aeronautical Information Exchange, and sub-functionality on Flight Information Exchange (Yellow profile), **limited to the SESAR Deployment Programme Family 5.6.1 – Flight Information Exchange.**

The SESAR Deployment Manager must be the coordinator of each of the projects under this topic. Applicants to this topic must coordinate their applications with the SESAR Deployment Manager who will advise them on the relevance and compliance of their proposals with the SESAR Deployment Programme and the priorities of this call for proposals. The SESAR Deployment Manager will also consolidate, as appropriate, the relevant implementation projects into one or more projects to ensure the effective and optimal synchronisation of the projects in accordance with the SESAR Deployment Programme.

It is essential that, if selected, the proposed projects fully implement the above mentioned functionalities within the agreed timeframe that will be defined in the grant agreement and by the respective legal implementation deadlines defined in Common Project One. For this purpose, proposals must define clear milestones, consistent with the SESAR Deployment Programme, that allow a close follow-up of the progress of the projects. Where appropriate, proposals must include a milestone requiring the submission of requests to the competent authorities for the certification/approval of the infrastructure and the submission of the change of the functional system resulting from the implementation of the above mentioned functionalities that are necessary for operational implementation.

The Commission encourages and supports operational stakeholders to be 'First movers' in implementing Common Projects. Consequently, the specific subjects that are addressed under this topic might not be included in future calls for proposals or may be proposed with a reduced funding rate.

CEF-T-2022-SIMOBGEN-SESAR-DSD-OP-WORKS: SESAR-DEMONSTRATORS Other SESAR Projects – works

Objective:

The objective is to **support projects that implement Communications, Navigation and Surveillance (CNS) ground and airborne infrastructure, route and procedures that are not addressed by the Common Project One** (Commission Implementing Regulation (EU) 2021/116), notably those mandated under Commission Implementing Regulations (EC) No 29/2009 (DLS Regulation), (EC) No 1207/2011 (SPI Regulation) and (EU) 2018/1048 (PBN Regulation).

Scope:

Works related to any of the following projects will be supported:

1. Performance Based Navigation (PBN Regulation)

Projects in this domain must implement PBN routes and procedures by service providers in accordance with the requirements of point AUR.PBN.2005 of the Annex of the PBN Regulation, whose deadline for implementation has not expired by the date on which this call is published. In particular, projects should support TMA airspace optimisation, implementing SIDS and STARS using PBN specifications, not only as an additional overlay of existing procedures, but as an integral part of the airspace re-design to increase efficiency, optimize noise footprint and/or reduce radar vectoring operations. Projects may include equipping aircraft with SBAS capable avionics and rationalising the ground navigation infrastructure without compromising safety and security. Plans for decommissioning legacy ground infrastructure must be defined in a specific milestone of the project. However, the costs for decommissioning legacy ground infrastructure are not eligible for funding.

2. Datalink Services (DLS Regulation)

Projects in this domain support the deployment of avionics upgrades to resolve identified interoperability issues (e.g., avionics identified in the recommendations that EASA has issued in the SIBs related to VDF deafness). Projects may cover additional avionics updates that enable airspace users, who are already equipped with datalink avionics compliant with the DLS regulation, to take full advantage of the operational datalink service without any restriction (as, for example, the limitations imposed by the log on list). The avionics upgrades should be included in the list of implementation projects⁶ for operators established by the Datalink Support Group⁷. Applicants must provide evidence that the avionics upgrades are fully interoperable with currently deployed datalink systems by all Communication Service Providers and air navigation service providers. Applicants are encouraged to team up and submit a single proposal that covers several aircraft grouped and coordinated by a single coordinating entity.

3. ADS-B (SPI Regulation)

Projects in this domain support the synchronised evolution of airborne and ground surveillance infrastructure aiming to enhance surveillance services by using ADS-B technology to reduce costs, improve spectrum usage and reduce risk of over interrogations.

These projects may include:

- achieving an optimal combination of new types of ground surveillance infrastructure by air navigation service providers that make operational use of ADS-B data that will enable decommissioning existing radar infrastructure. Plans for decommissioning existing infrastructure must be defined in a specific

⁶ https://ext.eurocontrol.int/WikiLink/images/8/89/Datalink_Deployment_Actions_-_Recs_for_Operators.pdf

⁷ Datalink Support Group (DSG) is a group established by the Network Manager (NM), jointly with EASA and SDM, that actively pursues the resolution of technical issues in the European datalink system. The group promotes discussion between affected stakeholders (aircraft operators, ACSPs, ANSPs and manufacturers), analyses technical and operational issues, and proposes technical and/or operational solutions to the relevant stakeholders. DSG has identified a list of deployment projects for operators to upgrade their avionics with patches that resolved known and verified interoperability issues, including those linked with EASA SIBs. Find DSG on: https://ext.eurocontrol.int/WikiLink/index.php/Data_link_Support_Group

milestone of the project. However, the costs for decommissioning this infrastructure are not eligible for funding.

- Equipping aircraft with avionics with ADS-B out or equivalent performance by airspace users that are exempted to comply with the requirements in the SPI Regulation (e.g., military and General Aviation) when it facilitates ANSPs to achieve an optimal combination of surveillance infrastructure.

Priority will be given to projects:

- proposed by consortia grouping air navigation providers and airspace users, including general aviation, operating within the same local environment;
- that include the decommissioning of legacy infrastructure.

Funding will not be granted for projects mandated under Union Law, in particular relating to the single European sky legislation, whose deadline for implementation has expired by the date on which this call is published. Costs incurred after the deadlines established in the above mentioned legislation will not be eligible for funding.

Proposals for the above mentioned projects must include a milestone requiring the submission of requests to the competent authorities for the certification/approval of the relevant CNS avionics, infrastructure, route or procedures (e.g., airworthiness approval or publication in AIP) if they are necessary for operational implementation.

CEF-T-2022-SIMOBGEN-RIS-WORKS: RIS – studies, works or mixed

Objective: The general objective is to modernise transport infrastructure on the Core and Comprehensive Networks of the TEN-T.

Scope: In accordance with the Article 9(2)(b)(ii) of the CEF Regulation, studies and / or works, related to the following projects will be supported:

- Projects supporting the implementation of River Information Services (RIS), inland single window, inland port community systems.

The above mentioned projects should primarily address inland waterway transport and/or port services targeted at inland waterway vessels.

Where relevant, the above mentioned projects shall take into account the innovative new technologies and solutions in the fields of smart applications for transport resulting from Horizon Europe activities.

Digital platforms supported under CEF must be accessible for use by all operators on a non-discriminatory basis.

CEF-T-2022-SIMOBGEN-EMSWe-WORKS: EMSWe – studies, works or mixed

Objective: The general objective is to modernise transport infrastructure on the Core and Comprehensive Networks of the TEN-T.

Scope: In accordance with the Article 9(2)(b)(ii) of the CEF Regulation, the following Projects will be supported:

- studies and / or works, related to the implementation of the European Maritime Single Window environment (EMSWe) (as defined in the Regulation (EU)

2019/1239 establishing a European Maritime Single Window environment (OJ OJ L 198, 25.7.2019, p. 64)).

Where relevant, the above mentioned projects shall take into account the innovative new technologies and solutions in the fields of smart applications for transport resulting from Horizon Europe activities.

Digital platforms supported under CEF must be accessible for use by all operators on a non-discriminatory basis.

CEF-T-2022-SIMOBGEN-VTMIS-WORKS: VTMIS – studies, works or mixed

Objective: The general objective is to modernise transport infrastructure on the Core and Comprehensive Networks of the TEN-T.

Scope: In accordance with the Article 9(2)(b)(ii) of the CEF Regulation, studies and / or works, related to the following projects will be supported:

- Projects supporting the implementation of Vessel Traffic Monitoring and Information Systems (VTMIS), maritime port community systems, and relevant customs information systems. This could include the implementation of the VHF Data Exchange System (VDES), the development of a Vessel Traffic Service for future monitoring and communication needs for enhanced surveillance of autonomous ships and shipping (MASS) and/or the development of additional features to the “ship to shore” reporting in the Mandatory Reporting Systems (MRS).

Where relevant, the above mentioned projects shall take into account the innovative new technologies and solutions in the fields of smart applications for transport resulting from Horizon Europe activities.

Digital platforms supported under CEF must be accessible for use by all operators on a non-discriminatory basis.

CEF-T-2022-SIMOBGEN-eFTI-WORKS: eFTI – studies, works or mixed

Objective: The general objective is to modernise transport infrastructure on the Core and Comprehensive Networks of the TEN-T.

Scope: In accordance with the Article 9(2)(b)(ii) of the CEF Regulation, studies and / or works, related to the following projects will be supported:

- Projects supporting Member States to develop and implement IT platforms and processes in accordance with the eFTI Regulation (Regulation (EU) 2020/1056 of the European Parliament and of the Council of 15 July 2020 on electronic freight transport information (OJ L 249, 31.7.2020, p. 33)).

Where relevant, the above mentioned projects shall take into account the innovative new technologies and solutions in the fields of smart applications for transport resulting from Horizon Europe activities.

Digital platforms supported under CEF must be accessible for use by all operators on a non-discriminatory basis.

CEF-T-2022-SIMOBGEN-DATA-WORKS: data – studies, works or mixed

Objective: The general objective is to modernise transport infrastructure on the Core and Comprehensive Networks of the TEN-T.

- Scope: In accordance with the Article 9(2)(b)(ii) of the CEF Regulation, studies and / or works, related to the following Projects will be supported:
- Where complementary and consistent with the activities supported by the Digital Europe Programme regarding Common Data Spaces, projects to support the creation, collection, management, sharing and dissemination of accurate and up-to-date transport, traffic and travel data for all modes. In particular, projects will enable interoperability and ensure the digitisation of the related processes. This inter alia covers projects related to increasing availability of data for transport safety, urban vehicle access regulations, collaborative logistics and multimodal travel with the aim to make them available to relevant public and/or private stakeholders, in particular for mobility and traffic management purposes and the implementation of sustainable urban mobility indicators (SUMI).

Where relevant, the above mentioned projects shall take into account the innovative new technologies and solutions in the fields of smart applications for transport resulting from Horizon Europe activities.

Digital platforms supported under CEF must be accessible for use by all operators on a non-discriminatory basis.

Investments concerning rolling stock, notably the installation of sensors or other devices on wagons, will not be supported.

CEF-T-2022-SIMOBGEN-NEWTECH-STUDIES: New technologies and innovation – studies

Objective: The general objective is to modernise transport infrastructure on the Core and Comprehensive Networks of the TEN-T.

Scope: studies related to the following projects will be supported:

- Projects supporting new technologies and innovation, including automation, integrated infrastructure capacity and traffic management, enhanced transport services, modal integration in accordance with Article 9(2)(b)(iv) of the CEF Regulation, including aspects of the Mobility as a Service (MaaS) development, such as combined and e-ticketing for passengers or track and tracing features for goods (except for the alternative fuels which are supported by the Alternative Fuels Infrastructure Facility).

Investments concerning rolling stock, notably the installation of sensors or other devices on wagons, will not be supported.

Support is limited to study activities only and does not include pilot activities.

CEF-T-2022-SIMOBGEN-REMIB-WORKS: Removing interoperability barriers-studies, works or mixed

Objective: The general objective is to modernise transport infrastructure on the Core and Comprehensive Networks of the TEN-T.

Scope: studies and / or works, related to the following projects will be supported:

- Projects removing interoperability barriers in compliance with the Technical Specifications for Interoperability (TSI) adopted by Directive 2016/797 on the interoperability of the rail system (Directive 2016/797 of the European Parliament and of the Council of 11 May 2016 on the interoperability of the rail system within the European Union which replaces Directive 2008/57/EC as of 16 June 2020 (*OJ L 138, 26.5.2016, p. 44*)), including automatic gauge-change facilities in rail freight traffic in accordance with Article 9(2)(b)(v) of the CEF Regulation, as well as terminals and their equipment necessary for the transfer between different track gauges. In particular, developments in line with the Technical Specification for Interoperability relating to Telematics Applications for Freight/Passenger Services (TAF/TAP TSIs) and other relevant TSIs such as TSI OPE or TSI Safety in tunnels will be supported.

Investments concerning rolling stock, notably the installation of sensors or other devices on wagons, will not be supported.

3. Indicative budget

The indicative call budget is **EUR 400 000 000**.

Depending on the proposals received and the results of the evaluation, we reserve the right:

- To use the flexibility provided in the 2021-2027 Work Programme to exceed the indicative call budget, or;
- Not to award all available funds or to redistribute them between the call topics.

4. Timetable and deadlines

Timetable and deadlines (indicative)	
Call opening:	13 September 2022
<u>Deadline for submission:</u>	<u>18 January 2023 – 17:00:00 CET</u> <u>(Brussels)</u>
Evaluation:	January – May 2023

Information on evaluation results:	June 2023
GA signature:	September / October 2023

5. Admissibility and documents

Proposals must be submitted before the **call deadline** (see *timetable section 4*).

Proposals must be submitted **electronically** via the Funding & Tenders Portal Electronic Submission System (accessible via the Topic page in the [Search Funding & Tenders](#) section. Paper submissions are NOT possible.

Proposals (including annexes and supporting documents) must be submitted using the forms provided *inside* the Submission System (⚠ NOT the documents available on the Topic page – they are only for information).

Proposals must be **complete** and contain all the requested information and all required annexes and supporting documents:

- Application Form Part A – contains administrative information about the participants (future coordinator, beneficiaries and affiliated entities) and the summarised budget for the project (*to be filled in directly online*)
- Application Form Part B – contains the technical description of the project (*to be downloaded from the Portal Submission System, completed and then assembled and re-uploaded*)
- **mandatory annexes and supporting documents** (*templates available to be downloaded from the Portal Submission System, completed, assembled and re-uploaded*):
 - detailed budget table per Work Package/calculator
 - activity reports of last year (unless exempted from operational capacity check; *see section 7*⁸)
 - list of previous projects (key projects for the last 4 years) (*template available in Part B*)⁹
 - timetable/Gantt chart
 - agreement by the concerned¹⁰ Member States (letters of support)
 - full cost-benefit analysis (CBA) report and CBA cash flow template - only for works and mixed¹¹ projects with a budget (eligible costs) above 10 000 000 EUR.

⁸ Public bodies, Member State organisations, and international organisations are exempted from the operational capacity check. Also, beneficiaries of grants under CEF 1 and 2 are not required to submit this annex.

⁹ Public bodies, Member State organisations, and international organisations are exempted from the operational capacity check. Also, beneficiaries of grants under CEF 1 and 2 are not required to submit this annex.

¹⁰ Letters of support are signed by the Member State benefitting from the project.

- simplified CBA calculator – only for works and mixed¹² projects with a budget (eligible costs) below 10 000 000 EUR
- environmental compliance file¹³ (for works, for studies with physical interventions and for studies without physical intervention¹⁴)

Please note that the amounts entered into the summarised budget table (filled in directly online) must correspond to the amounts calculated in the detailed budget table. In case of discrepancies, the amounts in the online summarised budget table will prevail.

At proposal submission, you will have to confirm that you have the **mandate to act** for all applicants. Moreover you will have to confirm that the information in the application is correct and complete and that the participants comply with the conditions for receiving EU funding (especially eligibility, financial and operational capacity, exclusion, etc). Before signing the grant, each beneficiary and affiliated entity will have to confirm this again by signing a declaration of honour (DoH). Proposals without full support will be rejected.

Your application must be **readable, accessible and printable**.

Proposals are limited to maximum **120 pages** (Part B). Evaluators will not consider any additional pages.

You may be asked at a later stage for further documents (*for legal entity validation, financial capacity check, bank account validation, etc.*).

 For more information about the submission process (including IT aspects), consult the [Online Manual](#).

6. Eligibility

Eligible participants (eligible countries)

In order to be eligible, the applicants (beneficiaries and affiliated entities) must:

- be legal entities (public or private bodies)
- be established in one of the eligible countries, i.e.:
 - EU Member States (including overseas countries and territories (OCTs))
 - third countries associated to the CEF ([list of participating countries](#)^(OBJ))

Beneficiaries and affiliated entities must register in the [Participant Register](#) – before submitting the proposal – and will have to be validated by the Central Validation Service (REA Validation). For the validation, they will be requested to upload documents showing legal status and origin.

¹¹ In mixed proposals, the threshold of EUR 10 000 000 applies to the work component(s) of the eligible costs.

¹² In mixed proposals, the threshold of EUR 10 000 000 applies to the work component(s) of the eligible costs.

¹³ The environmental compliance file must be submitted for all applications. The declarations accompanying the file must be submitted in addition, when applicable, and do not replace the environmental compliance file. This is however not applicable for the CEF-T-2022-SIMOBGEN-ERTMS-UNITS topic.

¹⁴ For proposals not subject to environmental compliance, the file must be uploaded while ticking the box of project type 'Studies without physical intervention'. Thereby, the other parts of the file are not applicable and do not need to be filled in.

Other entities may participate in other consortium roles, such as associated partners, subcontractors, third parties giving in-kind contributions, etc (see section 13).

Specific cases

Exceptional funding — Entities from other countries (not listed above) are exceptionally eligible for projects of common interest in the field of transport, energy and digital and for cross-border projects in the field of renewable energy, if the granting authority considers their participation essential for the implementation of the project.

Natural persons — Natural persons are NOT eligible (with the exception of self-employed persons, i.e. sole traders, where the company does not have legal personality separate from that of the natural person).

International organisations — International organisations are eligible. The rules on eligible countries do not apply to them.

Entities without legal personality — Entities which do not have legal personality under their national law may exceptionally participate, provided that their representatives have the capacity to undertake legal obligations on their behalf, and offer guarantees for the protection of the EU financial interests equivalent to that offered by legal persons¹⁵.

EU bodies — EU bodies (with the exception of the European Commission Joint Research Centre) can NOT be part of the consortium.

EU restrictive measures — Special rules apply for certain entities (e.g. entities subject to [EU restrictive measures](#) under Article 29 of the Treaty on the European Union (TEU) and Article 215 of the Treaty on the Functioning of the EU (TFEU)¹⁶ and entities covered by Commission Guidelines No [2013/C 205/05](#)¹⁷). Such entities are not eligible to participate in any capacity, including as beneficiaries, affiliated entities, associated partners, subcontractors or recipients of financial support to third parties (if any).

 For more information, see [Rules for Legal Entity Validation, LEAR Appointment and Financial Capacity Assessment](#).

Consortium composition

n/a

Eligible activities

Eligible activities are the ones set out in section 2 above.

Projects should take into account the results of projects supported by other EU funding programmes. The complementarities must be described in the project proposals (Part B of the Application Form).

Projects must comply with EU policy interests and priorities (*such as environment, social, security, industrial and trade policy, etc.*).

Financial support to third parties is not allowed.

¹⁵ See Article 197(2)(c) EU Financial Regulation [2018/1046](#).

¹⁶ Please note that the EU Official Journal contains the official list and, in case of conflict, its content prevails over that of the [EU Sanctions Map](#).

¹⁷ Commission guidelines No [2013/C 205/05](#) on the eligibility of Israeli entities and their activities in the territories occupied by Israel since June 1967 for grants, prizes and financial instruments funded by the EU from 2014 onwards (OJEU C 205 of 19.07.2013, pp. 9-11).

Geographic location (target countries)

Proposals must relate to activities taking place in the eligible countries (*see above*).

Project budget

Project budget (maximum grant amount): projects of any budget are admitted.

In order to ensure efficiency in EU funding interventions, applicants are strongly encouraged to submit applications for projects with a total requested EU contribution to the eligible costs of no less than EUR 1 000 000. Where possible, related projects should be grouped and submitted as one proposal.

7. Financial and operational capacity and exclusion

Financial capacity

Applicants must have **stable and sufficient resources** to successfully implement the projects and contribute their share. Organisations participating in several projects must have sufficient capacity to implement all these projects.

The financial capacity check will be carried out on the basis of the documents you will be requested to upload in the [Participant Register](#) during grant preparation (*e.g. profit and loss account and balance sheet, business plan, audit report produced by an approved external auditor, certifying the accounts for the last closed financial year, etc*). The analysis will be based on neutral financial indicators, but will also take into account other aspects, such as dependency on EU funding and deficit and revenue in previous years.

The check will normally be done for all beneficiaries, except:

- public bodies (entities established as public body under national law, including local, regional or national authorities) or international organisations
- if the individual requested grant amount is not more than EUR 60 000.

If needed, it may also be done for affiliated entities.

If we consider that your financial capacity is not satisfactory, we may require:

- further information
 - an enhanced financial responsibility regime, i.e. joint and several responsibility for all beneficiaries or joint and several liability of affiliated entities (*see below, section 10*)
 - prefinancing paid in instalments
 - (one or more) prefinancing guarantees (*see below, section 10*)
- or
- propose no prefinancing
 - request that you are replaced or, if needed, reject the entire proposal.

 For more information, see [Rules for Legal Entity Validation, LEAR Appointment and Financial Capacity Assessment](#).

Operational capacity

Applicants must have the **know-how, qualifications** and **resources** to successfully implement the projects and contribute their share (including sufficient experience in projects of comparable size and nature).

This capacity will be assessed together with the 'Quality' award criterion, on the basis of the competence and experience of the applicants and their project teams, including operational resources (human, technical and other) or, exceptionally, the measures proposed to obtain it by the time the task implementation starts.

If the evaluation of the award criterion is positive, the applicants are considered to have sufficient operational capacity.

Applicants will have to show their capacity via the following information:

- description of the consortium participants (in the application form part B), if applicable
- applicants' activity reports of last year
- list of previous projects (key projects for the last 4 years).

Additional supporting documents may be requested, if needed to confirm the operational capacity of any applicant.

Public bodies, Member State organisations and international organisations are exempted from the operational capacity check.

Exclusion

Applicants which are subject to an **EU exclusion decision** or in one of the following **exclusion situations** that bar them from receiving EU funding can NOT participate¹⁸:

- bankruptcy, winding up, affairs administered by the courts, arrangement with creditors, suspended business activities or other similar procedures (including procedures for persons with unlimited liability for the applicant's debts)
- in breach of social security or tax obligations (including if done by persons with unlimited liability for the applicant's debts)
- guilty of grave professional misconduct¹⁹ (including if done by persons having powers of representation, decision-making or control, beneficial owners or persons who are essential for the award/implementation of the grant)
- committed fraud, corruption, links to a criminal organisation, money laundering, terrorism-related crimes (including terrorism financing), child labour or human trafficking (including if done by persons having powers of representation, decision-making or control, beneficial owners or persons who are essential for the award/implementation of the grant)
- shown significant deficiencies in complying with main obligations under an EU procurement contract, grant agreement, prize, expert contract, or similar (including if done by persons having powers of representation, decision making- or control, beneficial owners or persons who are essential for the award/implementation of the grant)

¹⁸ See Articles 136 and 141 of EU Financial Regulation [2018/1046](#).

¹⁹ Professional misconduct includes: violation of ethical standards of the profession, wrongful conduct with impact on professional credibility, false declarations/misrepresentation of information, participation in a cartel or other agreement distorting competition, violation of IPR, attempting to influence decision-making processes or obtain confidential information from public authorities to gain advantage.

- guilty of irregularities within the meaning of Article 1(2) of Regulation No [2988/95](#) (including if done by persons having powers of representation, decision making- or control, beneficial owners or persons who are essential for the award/implementation of the grant)
- created under a different jurisdiction with the intent to circumvent fiscal, social or other legal obligations in the country of origin or created another entity with this purpose (including if done by persons having powers of representation, decision making- or control, beneficial owners or persons who are essential for the award/implementation of the grant).

Applicants will also be refused if it turns out that²⁰:

- during the award procedure they misrepresented information required as a condition for participating or failed to supply that information
- they were previously involved in the preparation of the call and this entails a distortion of competition that cannot be remedied otherwise (conflict of interest).

8. Evaluation and award procedure

The proposals will have to follow the **standard submission and evaluation procedure** (one-stage submission + one-step evaluation).

An **evaluation committee** assisted by independent outside experts will assess all applications. Proposals will first be checked for formal requirements (admissibility, and eligibility, *see sections 5 and 6*). Proposals found admissible and eligible will be evaluated against the operational capacity and award criteria (3 phases: individual evaluation, consensus phase and panel review) and then ranked according to their scores (*see sections 7 and 9*).

For proposals with the same score a **priority order** will be determined according to the following approach:

1. Score obtained under the 'Priority and urgency' criterion
2. Score obtained under the 'Maturity' criterion
3. Score obtained under the 'Catalytic effect' criterion
4. Score obtained under the 'Impact' criterion
5. Score obtained under the 'Quality' criterion.

All proposals will be informed about the evaluation result (**evaluation result letter**). Successful proposals will be invited for grant preparation; the other ones will be rejected.

 No commitment for funding — Invitation to grant preparation does NOT constitute a formal commitment for funding. We will still need to make various legal checks before grant award: *legal entity validation, financial capacity, exclusion check, etc.*

²⁰ See Article 141 EU Financial Regulation [2018/1046](#).

Grant preparation will involve a dialogue in order to fine-tune technical or financial aspects of the project and may require extra information from your side. It may also include adjustments to the proposal to address recommendations of the evaluation committee or other concerns. Compliance will be a pre-condition for signing the grant.

If you believe that the evaluation procedure was flawed, you can submit a **complaint** (following the deadlines and procedures set out in the evaluation result letter). Please note that notifications which have not been opened within 10 days after sending are considered to have been accessed and that deadlines will be counted from opening/access (see also [Funding & Tenders Portal Terms and Conditions](#)). Please also be aware that for complaints submitted electronically, there may be character limitations.

9. Award criteria

The **award criteria** for this call are as follows:

- **Priority and urgency:** evaluating correspondence of the proposal with the sectoral policy objectives and priorities, measuring its EU added-value and where applicable assessing the possible synergies with other sectors (5 points)
- **Maturity:** assessing the maturity of the project in the project development. The criterion will measure, among others: the readiness/ability of the project to start by the proposed start date and to complete by the proposed end date, the status of the contracting procedures and of the necessary permits, and information on the financial availability needed to complement the CEF investment (5 points)
- **Quality:** evaluating the soundness of the implementation plan proposed, both from the technical and financial point of view, the architecture and design approach, the organisational structures put in place (or foreseen) for the implementation, the risk analysis, the control procedures and quality management and the communication strategy. Moreover, when applicable, it will also assess the information related to the maintenance strategy for the completed project (5 points)
- **Impact:** assessing, when applicable, the economic, social and environmental impact, including the climate impact, and other relevant externalities. This criterion may be substantiated by a Cost Benefit Analysis (CBA) or, in the absence of such tool, other forecast of end-user take-up, in which case the evaluation will look at the soundness, comprehensiveness, and transparency of the analysis as well as proposed means to monitor its impact. Moreover, when applicable, the criterion will assess, among others, the innovation and digitalisation, safety and interoperability and accessibility aspects of the proposal, as well as its cross-border dimension, effect/contribution to the network territorial accessibility (5 points)
- **Catalytic effect:** evaluating the effect of the EU financial assistance on the realisation of the project, for instance by overcoming a financial gap generated by insufficient commercial viability, high upfront costs or the lack of market finance, increasing the capacity to mobilise differentiated investments sources, improving the quality of the project or accelerating the overall investment plan (5 points).

Award criteria	Minimum pass score	Maximum score
Priority and urgency	3	5
Maturity	3	5
Quality	3	5
Impact	3	5
Catalytic effect	3	5
Overall (pass) scores	15	25

Maximum points: 25 points.

Individual thresholds per criterion: 3/5, 3/5, 3/5, 3/5 and 3/5 points.

Overall threshold: 15 points.

Proposals that pass the individual thresholds AND the overall threshold will be considered for funding – within the limits of the available budget (i.e. up to the budget ceiling). Other proposals will be rejected.

10. Legal and financial set-up of the Grant Agreements

If you pass evaluation, your project will be invited for grant preparation, where you will be asked to prepare the Grant Agreement together with the EU Project Officer.

This Grant Agreement will set the framework for your grant and its terms and conditions, in particular concerning deliverables, reporting and payments.

The Model Grant Agreement that will be used (and all other relevant templates and guidance documents) can be found on [Portal Reference Documents](#).

Starting date and project duration

The project starting date and duration will be fixed in the Grant Agreement (*Data Sheet, point 1*). Normally the starting date will be after grant signature. Retroactive application can be granted exceptionally for duly justified reasons— but never earlier than the proposal submission date.

for SESAR Digital Sky Demonstrators projects only

The maximum project duration of the Digital Sky Demonstrators (topic CEF-T-2022-SIMOBGEN-SESAR-DSDU-WORKS: SESAR-DEMONSTRATORS HLA – works as well as topic CEF-T-2022-SIMOBGEN-SESAR-DSDA-WORKS: SESAR-DEMONSTRATORS VCA – works) shall be 3 years.

For all other topics except SESAR Digital Sky Demonstrators:

The foreseen duration of the works and mixed²¹ projects should be 4-5 years maximum. For studies projects it should be 2-3 years maximum. In both cases, the end date set in the Grant Agreement will not be later than 31.12.2027.

During implementation of the projects, if duly justified, extensions may be granted through an amendment to the Grant Agreement.

Milestones and deliverables

The milestones and deliverables for each project will be managed through the Portal Grant Management System and will be reflected in Annex 1 of the Grant Agreement.

Beneficiaries will also be invited to check and update information network allocation and output indicators.

Form of grant, funding rate and maximum grant amount

The grant parameters (*maximum grant amount, funding rate, total eligible costs, etc*) will be fixed in the Grant Agreement (*Data Sheet, point 3 and art 5*).

Project budget (maximum grant amount): The grant awarded may be lower than the amount requested.

For all topics except ERTMS and SESAR:

 Please be aware that you may be asked to request an amendment to reduce the grant awarded if your project encounters major delays during the project implementation. If you do not comply with this request, we may have to terminate the grant (*see art 32*).

The grant will be a budget-based mixed actual cost grant (actual costs, with unit cost and flat-rate elements). This means that it will reimburse ONLY certain types of costs (eligible costs) and costs that were *actually* incurred for your project (NOT the *budgeted* costs). For unit costs and flat-rates, you can charge the amounts calculated as explained in the Grant Agreement (*see art 6 and Annex 2 and 2a*).

The costs will be reimbursed at the funding rates fixed in the Grant Agreement:

- maximum **50%** for the costs of studies,
- maximum **50%** for the cost of works,
- maximum **70%** for the costs of works in outermost regions (with the exception of the RIS and REMIB topics).

Grants may NOT produce a profit (i.e. surplus of revenues + EU grant over costs). For-profit organisations must declare their revenues and, if there is a profit, we will deduct it from the final grant amount (*see art 22.3*).

Moreover, please be aware that the final grant amount may be reduced in case of non-compliance with the Grant Agreement (*e.g. improper implementation, breach of obligations, etc*).

²¹ The total duration for mixed proposals should not be longer than 4-5 years whilst the study components within these projects should be completed within 2-3 years.

For SESAR:

For SESAR related topics:

 Please be aware that you may be asked to request an amendment to reduce the grant awarded if your project encounters major delays during the project implementation. If you do not comply with this request, we may have to terminate the grant (see art 32).

The grant will be a budget-based mixed actual cost grant (actual costs, with unit cost and flat-rate elements). This means that it will reimburse ONLY certain types of costs (eligible costs) and costs that were *actually* incurred for your project (NOT the *budgeted* costs). For unit costs and flat-rates, you can charge the amounts calculated as explained in the Grant Agreement (see art 6 and Annex 2 and 2a).

The costs will be reimbursed at the funding rates fixed in the Grant Agreement:

1. For the two topics related to the SESAR Digital Sky Demonstrators: **CEF-T-2022-SIMOBGEN-SESAR-DSDU-WORKS** and **CEF-T-2022-SIMOBGEN-SESAR-DSDA-WORKS**:
 - maximum **50%** of the eligible costs for works and maximum **70%** of the eligible costs for works in outermost regions.
2. For the SESAR topic related to Other Projects: **CEF-T-2022-SIMOBGEN-SESAR-DSD-OP-WORKS**:
 - Works for airborne equipment, design of airspace, publication of routes and procedures, maximum **50%** of the eligible costs;
 - Works for ground infrastructure:
 - o maximum **30%** of the eligible costs for works;
 - o or, maximum **40%** of the eligible costs for works, if in addition to the deployment of new types of infrastructure, the Project also includes the decommissioning of existing ground infrastructure;
 - o or, maximum of **40%** of the eligible costs for works, if the Project also includes synchronisation of the deployment of airborne and ground components;
 - o or, maximum **50%** of the eligible costs for works, if the Project includes both decommissioning of existing ground infrastructure and synchronisation of deployment of airborne and ground components;
 - o maximum **70%** of the eligible costs for works in outermost regions.
3. For the SESAR topic related to Common Project One: **CEF-T-2022-SIMOBGEN-SESAR-DSD-CP-WORKS**:
 - maximum **50%** of the eligible costs for works and maximum **70%** of the eligible costs for works in outermost regions.

Grants may NOT produce a profit (i.e. surplus of revenues + EU grant over costs). For-profit organisations must declare their revenues and, if there is a profit, we will deduct it from the final grant amount (see art 22.3).

Moreover, please be aware that the final grant amount may be reduced in case of non-compliance with the Grant Agreement (e.g., improper implementation, breach of obligations, etc).

For ERTMS:

The grant will be a unit grant. This means that it will reimburse a fixed amount per unit, based on unit costs, unit contributions or financing not linked to costs.

Budget categories and cost eligibility rules

The budget categories and cost eligibility rules are fixed in the Grant Agreement (*Data Sheet, point 3, art 6 and Annex 2*).

For all topics except ERTMS:

 Please be aware that project management costs (including related tasks, such as consortium-internal progress meetings, project reporting etc) should not exceed 10% of total costs for the project. Costs exceeding this limit will be rejected during grant preparation.

Budget categories for this call:

- A. Personnel costs
 - A.1 Employees,
 - A.2 Natural persons under direct contract,
 - A.3 Seconded persons
 - A.4 SME owners and natural person beneficiaries
- B. Subcontracting costs
- C. Purchase costs
 - C.1 Travel and subsistence
 - C.2 Equipment
 - C.3 Other goods, works and services
- D. Other cost categories
 - D.1 Financial support to third parties
 - D.2 Studies
 - D.3 Synergetic elements
 - D.4 Work in outermost regions (not applicable for projects related to 'removing interoperability barriers' and 'RIS')
- E. Indirect costs

Specific cost eligibility conditions for this call:

- personnel costs:
 - average personnel costs (unit cost according to usual cost accounting practices): Yes
 - SME owner/natural person unit cost²² : Yes
- subcontracting costs:

²² Commission [Decision](#) of 20 October 2020 authorising the use of unit costs for the personnel costs of the owners of small and medium-sized enterprises and beneficiaries that are natural persons not receiving a salary for the work carried out by themselves under an action or work programme (C(2020)7715).

- country restrictions for subcontracting costs: Yes, subcontracted work must be performed in the eligible countries or target countries
- travel and subsistence unit cost²³: No (only actual costs)
- equipment costs: full cost
- other cost categories:
 - costs for financial support to third parties: not allowed
 - studies: Yes
 - synergetic elements: Yes (only for 'works' Projects, not for 'studies')
 - works in outermost regions: Yes
 - land purchases: No
- indirect cost flat-rate: 0% of the eligible direct costs (categories A-D, except volunteers costs and exempted specific cost categories, if any)
- VAT: VAT is NOT eligible
- other:
 - in-kind contributions for free are allowed, but cost-neutral, i.e. they cannot be declared as cost
 - project websites: communication costs for presenting the project on the participants' websites or social media accounts are eligible; costs for separate project websites are not eligible
 - eligible cost country restrictions: Yes, only costs for activities carried out in eligible countries or target countries are eligible
 - other ineligible costs: Yes, costs related to purchase of land

For ERTMS:

- A. Contributions for on-board ERTMS
 - A.1 Retrofitting
 - A.2 Upgrade
 - A.3 Fitment
- B. Contributions for track-side ERTMS
 - B.1 Deployment
 - B.2 Upgrade

Specific cost eligibility rules for this call:

- eligible cost country restrictions: Yes, only costs/contributions for activities carried out in eligible countries or target countries are eligible

Reporting and payment arrangements

The reporting and payment arrangements are fixed in the Grant Agreement (*Data Sheet, point 4 and art 21 and 22*).

²³ Commission [Decision](#) of 12 January 2021 authorising the use of unit costs for travel, accommodation and subsistence costs under an action or work programme under the 2021-2027 multi-annual financial framework (C(2021)35).

After grant signature, you will normally receive a **prefinancing** to start working on the project. The amount will be established based on the grant type or estimated project duration at the time of grant signature and will vary between 25% and 50%. The prefinancing will be paid 30 days from entry into force/financial guarantee (if required – whichever is the latest).

There will be one or more **interim payments** (with detailed cost reporting). This does not apply for ERTMS.

In addition, you will be expected to submit one or more progress reports not linked to payments.

Payment of the balance: At the end of the project, we will calculate your final grant amount. If the total of earlier payments is higher than the final grant amount, we will ask you (your coordinator) to pay back the difference (recovery).

All payments will be made to the coordinator.

 Please be aware that payments will be automatically lowered if one of your consortium members has outstanding debts towards the EU (granting authority or other EU bodies). Such debts will be offset by us – in line with the conditions set out in the Grant Agreement (*see art 22*).

Please also note that you are responsible for keeping records on all the work done and the costs units declared.

Prefinancing guarantees

If a prefinancing guarantee is required, it will be fixed in the Grant Agreement (*Data Sheet, point 4*). The amount will be set during grant preparation and it will normally be equal or lower than the prefinancing for your grant.

The guarantee should be in euro and issued by an approved bank/financial institution established in an EU Member State. If you are established in a non-EU country and would like to provide a guarantee from a bank/financial institution in your country, please contact us (this may be exceptionally accepted, if it offers equivalent security).

Amounts blocked in bank accounts will NOT be accepted as financial guarantees.

Prefinancing guarantees are formally NOT linked to individual consortium members, which means that you are free to organise how to provide the guarantee amount (*by one or several beneficiaries, for the overall amount or several guarantees for partial amounts, by the beneficiary concerned or by another beneficiary, etc*). It is however important that the requested amount is covered and that the guarantee(s) are sent to us in time to make the prefinancing (scanned copy via Portal AND original by post).

If agreed with us, the bank guarantee may be replaced by a guarantee from a third party.

The guarantee will be released at the end of the grant, in accordance with the conditions laid down in the Grant Agreement.

Certificates

Depending on the type of project, size of grant amount and type of beneficiaries, you may be requested to submit different certificates. The types, schedules and thresholds for each certificate are fixed in the Grant Agreement (*Data Sheet, point 4 and art 24*).

Liability regime for recoveries

The liability regime for recoveries will be fixed in the Grant Agreement (*Data Sheet point 4.4 and art 22*).

For beneficiaries, it is one of the following:

- limited joint and several liability with individual ceilings – *each beneficiary up to their maximum grant amount*
 - unconditional joint and several liability – *each beneficiary up to the maximum grant amount for the project*
- or
- individual financial responsibility – *each beneficiary only for their own debts.*

In addition, the granting authority may require joint and several liability of affiliated entities (with their beneficiary).

Provisions concerning the project implementation

Security rules: *see Model Grant Agreement (art 13 and Annex 5)*

IPR rules: *see Model Grant Agreement (art 16 and Annex 5):*

- rights of use on results: Yes

Communication, dissemination and visibility of funding: *see Model Grant Agreement (art 17 and Annex 5):*

- communication and dissemination plan: No
- additional communication and dissemination activities: Yes

Specific rules for carrying out the project: *see Model Grant Agreement (art 18 and Annex 5):*

- Member State information: Yes
- specific rules for digital infrastructure projects: No
- specific rules for ATM common projects: No
- durability: Yes
- specific rules for blending operations: No

Other specificities

n/a

Non-compliance and breach of contract

The Grant Agreement (chapter 5) provides for the measures we may take in case of breach of contract (and other non-compliance issues).



For more information, see [AGA – Annotated Grant Agreement](#).

11. How to submit an application

All proposals must be submitted directly online via the Funding & Tenders Portal Electronic Submission System. Paper applications are NOT accepted.

Submission is a **2-step process**:

a) **create a user account and register your organisation**

To use the Submission System (the only way to apply), all participants need to [create an EU Login user account](#).

Once you have an EULogin account, you can [register your organisation](#) in the Participant Register. When your registration is finalised, you will receive a 9-digit participant identification code (PIC).

b) **submit the proposal**

Access the Electronic Submission System via the Topic page in the [Search Funding & Tenders](#) section (or, for calls sent by invitation to submit a proposal, through the link provided in the invitation letter).

Submit your proposal in 3 parts, as follows:

- Part A includes administrative information about the applicant organisations (future coordinator, beneficiaries, affiliated entities and associated partners) and the summarised budget for the proposal. Fill it in directly online
- Part B (description of the project) covers the technical content of the proposal. Download the mandatory word template from the Submission System, fill it in and upload it as a PDF file
- Annexes (*see section 5*). Upload them as PDF file (single or multiple depending on the slots). Excel upload is sometimes possible (with the xlsx file extension), depending on the file type.

The proposal must keep to the **page limits** (*see section 5*); excess pages will be disregarded.

Documents must be uploaded to the **right category** in the Submission System otherwise the proposal might be considered incomplete and thus inadmissible.

The proposal must be submitted **before the call deadline** (*see section 4*). After this deadline, the system is closed and proposals can no longer be submitted.

Once the proposal is submitted, you will receive a **confirmation e-mail** (with date and time of your application). If you do not receive this confirmation e-mail, it means your proposal has NOT been submitted. If you believe this is due to a fault in the Submission System, you should immediately file a complaint via the [IT Helpdesk webform](#), explaining the circumstances and attaching a copy of the proposal (and, if possible, screenshots to show what happened).

Details on processes and procedures are described in the [Online Manual](#). The Online Manual also contains the links to FAQs and detailed instructions regarding the Portal Electronic Exchange System.

12. Help

As far as possible, ***please try to find the answers you need yourself***, in this and the other documentation (we have limited resources for handling direct enquiries):

- [Online Manual](#)
- FAQs on the Topic page (for call-specific questions in open calls)
- [Portal FAQ](#) (for general questions)

- call information on the [CINEA website](#).

Please also consult the Topic page regularly, since we will use it to publish call updates.

Contact

For individual questions on the Portal Submission System, please contact the [IT Helpdesk](#).

Non-IT related questions should be sent to the following email address: CINEA-CEF-TRANSPORT-CALLS@ec.europa.eu. Please submit your questions²⁴ no later than two weeks before the submission deadline. Questions received after 5 January 2023 will not be answered.

Please indicate clearly the reference of the call and topic to which your question relates (*see cover page*).

²⁴ Interested applicants are invited to see first if a question is already answered from the existing FAQs published on the [Funding & tenders \(europa.eu\)](#) portal.

13. Important



IMPORTANT

- **Don't wait until the end** — Complete your application sufficiently in advance of the deadline to avoid any last minute **technical problems**. Problems due to last minute submissions (*e.g. congestion, etc.*) will be entirely at your risk. Call deadlines can NOT be extended.
- **Consult** the Portal Topic page regularly. We will use it to publish updates and additional information on the call (call and topic updates).
- **Funding & Tenders Portal Electronic Exchange System** — By submitting the application, all participants **accept** to use the electronic exchange system in accordance with the [Portal Terms & Conditions](#).
- **Registration** — Before submitting the application, all beneficiaries, affiliated entities and associated partners must be registered in the [Participant Register](#). The participant identification code (PIC) (one per participant) is mandatory for the Application Form.
- **Consortium roles** — When setting up your consortium, you should think of organisations that help you reach objectives and solve problems.

The roles should be attributed according to the level of participation in the project. Main participants should participate as **beneficiaries** or **affiliated entities**; other entities can participate as associated partners, subcontractors, third parties giving in-kind contributions. **Associated partners** and third parties giving in-kind contributions should bear their own costs (they will not become formal recipients of EU funding).

- **Coordinator** — In multi-beneficiary grants, the beneficiaries participate as consortium (group of beneficiaries). They will have to choose a coordinator, who will take care of the project management and coordination and will represent the consortium towards the granting authority. In mono-beneficiary grants, the single beneficiary will automatically be coordinator.
- **Affiliated entities** — Applicants may participate with affiliated entities (i.e. entities linked to a beneficiary which participate in the project with similar rights and obligations as the beneficiaries, but do not sign the grant and therefore do not become beneficiaries themselves). They will get a part of the grant money and must therefore comply with all the call conditions and be validated (just like beneficiaries); but they do not count towards the minimum eligibility criteria for consortium composition (if any).
- **Associated partners** — Applicants may participate with associated partners (i.e. partner organisations which participate in the project but without the right to get grant money). They participate without funding and therefore do not need to be validated.
- **Consortium agreement** — For practical and legal reasons it is recommended to set up internal arrangements that allow you to deal with exceptional or unforeseen circumstances (in all cases, even if not mandatory under the Grant Agreement). The consortium agreement also gives you the possibility to redistribute the grant money according to your own consortium-internal principles and parameters (for instance, one beneficiary can reattribute its grant money to another beneficiary). The consortium agreement thus allows you to customise the EU grant to the needs inside your consortium and can also help to protect you in case of disputes.

- **Balanced project budget** — Grant applications must ensure a balanced project budget and sufficient other resources to implement the project successfully (e.g. *own contributions, income generated by the project, financial contributions from third parties, etc.*). You may be requested to lower your estimated costs, if they are ineligible (including excessive).
- **No-profit rule** — Grants may NOT give a profit (i.e. surplus of revenues + EU grant over costs). This will be checked by us at the end of the project.
- **No double funding** — There is a strict prohibition of double funding from the EU budget (except under EU Synergies projects). Outside such Synergies projects, any given project may receive only ONE grant from the EU budget and cost items may under NO circumstances declared to two different EU projects.
- **Completed/ongoing projects** — Proposals for projects that have already been completed will be rejected; proposals for projects that have already started will be assessed on a case-by-case basis (in this case, no costs can be reimbursed for activities that took place before the project starting date/proposal submission).
- **Combination with EU operating grants** — Combination with EU operating grants is possible, if the project remains outside the operating grant work programme and you make sure that cost items are clearly separated in your accounting and NOT declared twice (see [AGA — Annotated Model Grant Agreement, art 6.2.E](#)).
- **Multiple proposals** — Applicants may submit more than one proposal for *different* projects under the same call (and be awarded a funding for them).
Organisations may participate in several proposals.
BUT: if there are several proposals for *very similar* projects, only one application will be accepted and evaluated; the applicants will be asked to withdraw one of them (or it will be rejected).
- **Resubmission** — Proposals may be changed and re-submitted until the deadline for submission.
- **Rejection** — By submitting the application, all applicants accept the call conditions set out in this this Call Document (and the documents it refers to). Proposals that do not comply with all the call conditions will be **rejected**. This applies also to applicants: All applicants need to fulfil the criteria; if any one of them doesn't, they must be replaced or the entire proposal will be rejected.
- **Cancellation** — There may be circumstances which may require the cancellation of the call. In this case, you will be informed via a call or topic update. Please note that cancellations are without entitlement to compensation.
- **Language** — You can submit your proposal in any official EU language (project abstract/summary should however always be in English). For reasons of efficiency, we strongly advise you to use English for the entire application.

- **Transparency** — In accordance with Article 38 of the [EU Financial Regulation](#), information about EU grants awarded is published each year on the [Europa website](#).

This includes:

- beneficiary names
- beneficiary addresses
- the purpose for which the grant was awarded
- the maximum amount awarded.

The publication can exceptionally be waived (on reasoned and duly substantiated request), if there is a risk that the disclosure could jeopardise your rights and freedoms under the EU Charter of Fundamental Rights or harm your commercial interests.

- **Data protection** — The submission of a proposal under this call involves the collection, use and processing of personal data. This data will be processed in accordance with the applicable legal framework. It will be processed solely for the purpose of evaluating your proposal, subsequent management of your grant and, if needed, programme monitoring, evaluation and communication. Details are explained in the [Funding & Tenders Portal Privacy Statement](#).