Connecting Europe Facility (CEF)

Call for proposals

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

(CEF-T-2023-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

Contents

0. Introduction

This is a call for proposals 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 CEF Transport Work Programme 2021-2027[2] and will be managed by the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('Agency').

Topics under this call are linked[3] to other CEF Transport calls: (CEF-T-2023-CORECOEN, CEF-T-2023-COMPCOEN, CEF-T-2023-COMPGEN, CEF-T-2023-COREGEN, CEF-T-2023-SAFEMOBCOEN, CEF-T-2023-SAFEMOBGEN, CEF-T-2023-SIMOBCOEN, CEF-T-2023-SUSTMOBGEN). The grants under both calls will be managed as linked projects.

The call covers the following **topics**:

– CEF-T-2023-SIMOBGEN-ERTMS-UNITS: ERTMS – unit contribution

– CEF-T-2023-SIMOBGEN-ITS-WORKS: ITS – studies, works or mixed

– CEF-T-2023-SIMOBGEN-RIS-WORKS: RIS – studies, works or mixed

– CEF-T-2023-SIMOBGEN-EMSWe-WORKS: EMSWe – studies, works or mixed

– CEF-T-2023-SIMOBGEN-VTMIS-WORKS: VTMIS – studies, works or mixed

– CEF-T-2023-SIMOBGEN-eFTI-WORKS: eFTI – studies, works or mixed

– CEF-T-2023-SIMOBGEN-DATA-WORKS: Data – studies, works or mixed

– CEF-T-2023-SIMOBGEN-NEWTECH-WORKS: New technologies and innovation – studies, works or mixed

– CEF-T-2023-SIMOBGEN-REMIB-WORKS: Removing interoperability barriers- studies, works or mixed

– CEF-T-2023-SIMOBGEN-SESAR-DSDU-WORKS: SESAR digital sky demonstrators for a greener, more scalable and resilient ATM – works

– CEF-T-2023-SIMOBGEN-SESAR-CP-WORKS: SESAR Common Project One implementation projects – works

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[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(2023) 4886 of 25.7.2023 amending Implementing Decision C(2021) 5763 final 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-2023-SIMOBGEN-SESAR-OP-WORKS: Other ATM Projects – 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 one topic.

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

NOTE: The term 'project' used in this call, the application form and other documents is synonymous to the term 'action' used in the CEF Regulation 2021/1153.

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.

In the context of the evaluation and selection of proposals, the assessment of the award criterion "Priority and urgency" will, where relevant, also take into account:

• the new situation created by Russia's 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.

In addition, under this call, the improvement of the transport infrastructure resilience, in particular the additional investments to adapt/upgrade the intended infrastructure to climate change, natural disasters and/or cyber security threats, can also be part of the project proposal, if relevant for the project.

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

SESAR's Digital European Sky Programme is structured into three main Research & Innovation (R&I) phases (Exploratory Research, Industrial Research and Validation, and Digital Sky Demonstrators) underlying the SESAR projects development phase. Its objective is to deliver air traffic management (ATM) solutions through a pipeline of innovation addressing the thematic defined in the Strategic Research and Innovation Agenda (SRIA)[4]. This pipeline aims to achieve readiness for deployment in operations of operational and technological solutions through the Technology Readiness Levels (TRL).

The establishment of large-scale Digital Sky Demonstrators (DSD) offers a viable means to build confidence and a bridge from research, through industrialisation, to implementation. As such, the DSDs will be closely connected to the standardisation and regulatory activities and will provide a platform for a critical mass of "early movers". DSDs will take place in live operational and cross-border environments (when required) demonstrating services, technologies and standards necessary to deliver the Digital European sky. This should 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 efficiency. Typically, these activities will target **TRL-8** with actual systems completed and "mission qualified" through test and demonstration in an operational environment (ground or airborne). The DSDs shall identify the potential need for synchronised deployment involving different stakeholder groups.

The DSDs contribute to establishing Europe as the most efficient and environmentally friendly sky to fly in the world. The demonstrators will contribute to achieving the objective of net-zero greenhouse gas emissions by 2050 set by the European Green Deal, in line with the EU's commitment to global climate action under the Paris Agreement. To this end, the demonstrators shall aim at putting in place a set of operational measures and technological innovations to improve the fuel efficiency of flights, reduce CO_2 and non-CO_2 emissions, reduce aircraft noise impact and improve air quality at and around the airports.

Furthermore, they enable a more flexible, scalable, resilient, safe and secure ATM that can withstand disruptions in the aviation system through a phased but substantial progress on the deployment of the future European airspace architecture (according to the AAS TP) and contribute to the digital transformation of air navigation service provision. This requires changes on the way services are provided, with a view to delivering the capacity needed by airspace users and building a state-of-the-art, scalable and resilient system that will remain at least as safe as today.

To achieve the Digital European Sky (Phase D of the European ATM Master Plan[5]), nine research and innovation flagships have been identified in the SRIA with their underlying R & I needs/challenges. The SRIA presents the strategic R&I roadmaps for the years 2021 to 2027 to deliver on the implementation of the Digital European Sky

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[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)

[5]   SESAR Joint Undertaking | European ATM Master Plan 2020 (sesarju.eu)

(i.e. fully scalable ATM/ANS 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 ATM/ANS to become more scalable, economically sustainable, environmentally efficient and predictable.

The DSD under this call contribute to five SRIA research and innovation flagships, namely: **aviation green deal**, **connected and automated ATM** (e.g. SESAR solutions aiming at a gradual transition towards higher levels of automation), **Air-ground integration and autonomy, Capacity on demand and dynamic airspace** and **virtualisation and cybersecure data-sharing** (e.g., virtual centres and ATM data service providers). They also contribute to completing key objectives under the Airspace Architecture Study Transition Plan (AAS TP)[6]. The DSDs may address the following elements:

- GBAS deployment leading to environmental benefits for airports and TMA

- Trajectory based operations (TBO) enabling aviation green deal

- Long-haul flights SWIM-enabled in-flight trajectory optimisation

- Greener ATM operations at European airports

- Scalable and resilient network management operations

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 guidance to project coordinators and their teams on 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-2023-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 and facilitate interoperable railway traffic in EU.

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:

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[6] SESAR Joint Undertaking | Airspace Architecture Study - Transition Plan (sesarju.eu)

- compliant with Commission Implementing Regulation (EU) 2023/1695[7], and with Directive (EU) 2016/797[8] and Directive (EU) 2016/798[9] of the European Parliament and of the Council or subsequent versions;
- at least baseline 3 (B3) compliant - the set of specifications #2 or #3 in table A2.2 or A2.3 of the Annex to Regulation (EU) 2016/919 as amended by Implementing Regulation (EU) 2019/776[10], or subsequent versions;
- introduce modularity at the interoperability constituent level as specified in Annex 1 Table B3 of Commission Implementing Regulation (EU) 2023/1695[7];
- 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[11].

Support for retrofitting will be limited to vehicles which have been put into operation before 31/12/2020. Support will not be given to fitment of new vehicles.

Projects covering interlocking and/or GSM-R works as a stand-alone project shall demonstrate a link with ETCS deployment on the railway lines in subject.

Where relevant, ERTMS projects should be coordinated with 5G corridors deployment. Investments in GSM-R need at least to study and take into account the future upgradability to FRMCS[12].

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[7] Commission Implementing Regulation (EU) 2023/1695 of 10 August 2023 on the technical specification for interoperability relating to the control-command and signalling subsystems of the rail system in the European Union and repealing Regulation (EU) 2016/919

[8] 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)*.

[9] Directive (EU) 2016/798 of the European Parliament and of the Council of 11 May 2016 on railway safety (recast) *(OJ L 138, 26.5.2016, p. 102).*

[10] 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

[11] Decision authorising the use of unit contributions to support the deployment of ERTMS, electric vehicles recharging infrastructure and the retrofitting of noisy wagons under CEF Transport – 22 July 2021, https://transport.ec.europa.eu/system/files/2021-07/2021-07-22-ertms-af-noise.pdf

[12] FRMCS- Future Railway Mobile Communication System, a 5G based railway communication system being developed by UIC and the railway and telecommunication sectors. For more information please see the EU-Rail Joint Undertaking System Pillar report on next steps for FRMCS: https://rail-research.europa.eu/wp-content/uploads/2023/08/20230718-FRMCS-report-final.pdf

CEF-T-2023-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 Systems for road (ITS):

- projects related to the deployment and/or upgrade of ITS infrastructure and services in compliance with 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). This also includes the upgrade of eCall Public safety answering points for receiving and handling eCall, and the upgrade of National Access Points taking into account the recommendations of the CEF projects NAPCORE and Data4PT.

- projects related to deployment of cooperative ITS (C-ITS). Projects must 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"). In addition:
    - C-ITS deployments should ensure compatibility with the specifications developed by the C-ROADS platform and interoperability with existing C-ITS stations deployed in accordance to those specifications;
    - C-ITS deployments should be in line with Security Certificate Policy for deployment and Operation of European C-ITS;
    - The project should demonstrate cooperation with the C-Roads Platform.

Priority may be given to proposals that involve implementation in several EU countries.

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

Where relevant, projects should take into account the innovative new technologies and solutions in the fields of smart applications for transport resulting from Horizon Europe activities as well as the re-use of the European Digital Building Blocks[13].

Intelligent Transport Systems 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 must be submitted under the topic CEF-T-2023-SIMOBGEN-DATA-WORKS.

ITS projects can be located on the Core Network and/or on the Comprehensive Network. In case the application covers certain road sections outside the TEN-T network, applicants have to justify their need and demonstrate their positive effects for the TEN-T network.

CEF-T-2023-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)[14], inland single window, inland port community systems, and other relevant vessel traffic management systems.

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

Where relevant, the projects should take into account the innovative new technologies and solutions in the fields of smart applications for transport resulting from Horizon Europe activities as well as the re-use of the European Digital Building Blocks[15].

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

CEF-T-2023-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, studies and/or works related to the following projects will be supported:

- Projects supporting the implementation of the European Maritime Single Window environment (EMSWe)[16].

Where relevant, the projects should take into account the innovative new technologies and solutions in the fields of smart applications for transport resulting

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[13] https://ec.europa.eu/digital-building-blocks/wikis/display/DIGITAL/Digital+Homepage

[14] Directive 2005/44/EC of the European Parliament and of the Council of 7 September 2005 on harmonised river information services (RIS) on inland waterways in the Community *(OJ L 255, 30.9.2005, p. 152)*.

[15] https://ec.europa.eu/digital-building-blocks/wikis/display/DIGITAL/Digital+Homepage

[16] As defined in the Regulation (EU) 2019/1239 establishing a European Maritime Single Window environment *(OJ OJ L 198, 25.7.2019, p. 64)*.

from Horizon Europe activities as well as the re-use of the European Digital Building Blocks[17].

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

CEF-T-2023-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) for maritime transport, maritime port community systems, and relevant customs information systems.

Investments in automation of port superstructure, e.g., automated gates will not be supported, as these are not considered as part of a maritime community system.

Where relevant, the projects should take into account the innovative new technologies and solutions in the fields of smart applications for transport resulting from Horizon Europe activities as well as the re-use of the European Digital Building Blocks[18].

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

CEF-T-2023-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, and
- Projects supporting further interoperability and interconnectivity between the eFTI environment and the different ICT systems and platforms used for recording and processing regulatory information as provided for in other Union transport legislation.

Where relevant, the projects should take into account the innovative new technologies and solutions in the fields of smart applications for transport resulting

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[17]   https://ec.europa.eu/digital-building-blocks/wikis/display/DIGITAL/Digital+Homepage

[18]   https://ec.europa.eu/digital-building-blocks/wikis/display/DIGITAL/Digital+Homepage

from Horizon Europe activities as well as the re-use of the European Digital Building Blocks[19].

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

CEF-T-2023-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 European data spaces, projects supporting the digitalisation of processes for the creation, collection, management, sharing and dissemination of transport, traffic and travel data for all modes.

Projects should aim to increase data availability and enable the interoperability of data for transport safety, urban vehicle access regulations, collaborative logistics and multimodal travelling.

The created digital databases must be publicly available to relevant stakeholders, in particular for mobility and traffic management purposes and the implementation of sustainable urban mobility indicators (SUMI).

Where relevant, the projects should take into account the innovative technologies and solutions in the fields of smart applications for transport resulting from Horizon Europe activities, as well as the re-use of the European Digital Building Blocks[20].

CEF-T-2023-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 the deployment of new technologies and innovation, including automation (such as studies for the digital automatic coupling), integrated infrastructure capacity and traffic management, enhanced transport services, modal integration notably with Multimodal Digital Mobility Services and Platforms

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[19] https://ec.europa.eu/digital-building-blocks/wikis/display/DIGITAL/Digital+Homepage

[20] https://ec.europa.eu/digital-building-blocks/wikis/display/DIGITAL/Digital+Homepage

(including Mobility as a Service - MaaS), in accordance with Article 9(2), point (b)(iv), of the CEF Regulation[21].

Where relevant, projects should take into account the innovative technologies and solutions resulting from Horizon Europe activities, while aiming at deploying mature innovative solutions as well as the re-use of the European Digital Building Blocks[22].

CEF-T-2023-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 (EU) 2016/797, including automatic gauge facilities in rail freight traffic in accordance with Article 9(2), point (b)(v) of the CEF Regulation.

This topic supports upgrade of existing information systems, or development of new information systems, provided that their main objective is to establish compliance with the relevant TAF/TAP TSI (Technical Specifications for Interoperability relating to Telematics Applications for Freight/Passenger Services) in railway sector. This needs to be clearly described and proven in the application.

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

CEF-T-2023-SIMOBGEN-SESAR-DSDU-WORKS: SESAR digital sky demonstrators for a greener, more scalable and resilient ATM – works

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, works related to DSDs addressing the 5 areas related to the key R&I flagships listed below will be supported. Proposals are not requested to address all the elements under these areas. Applicants are free to select certain elements within the areas:

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[21] Except for the alternative fuels which are supported by the Alternative Fuels Infrastructure Facility.

[22] https://ec.europa.eu/digital-building-blocks/wikis/display/DIGITAL/Digital+Homepage

1. GBAS demonstrations leading to environmental benefits for airports and TMAs

Deploying GBAS for CAT II and III operations in European airports and TMAs can unlock substantial environmental benefits such as reduced noise and CO_2 emissions by improving precision approach, landing and departure in all-weather operations conditions, thereby increasing operational efficiency and capacity. The technology can enable a number of enhanced green procedures e.g. RNP to GLS landing procedures, curved approaches, variable approach glide slopes and/or multiple runway aiming points, etc.

The demonstrations must build on the work done by SESAR solution 55 "Precision approaches using GBAS CAT II/III" and solution PJ.14-W2-79a "GBAS GAST D extended scope" (for adverse ionospheric conditions and conditions outside the mid latitudes, i.e. high and low latitude issues, large and complex airport environments). The DSD may also address the benefits that can be derived from GBAS expanded service volume (ESV) and increased Dmax requested by airspace users beyond 23 nautical miles. The demonstrations must address certification aspects beyond GPS augmentation only (i.e. GBAS GAST-D) by including processing signals from European Navigation Satellite capabilities (Galileo and/or EGNOS V2). This must enable Cat III landings along with sufficient consideration of reversion scenarios to Cat II (i.e. can similar to the approach applied in AAL-2 for GAST-C (SESAR solution #119 "GLS CAT II operations using GBAS GAST-C", processing signals from the European satellite Systems (Galileo / EGNOS V2 signals)). This can be considered as an intermediate step towards the DFMC (dual frequency multi-constellation) developments to increase robustness compared to SFSC (single frequency single constellation). These demonstrations must bring valuable operational experience that can be fully reused for future DFMC GBAS Galileo operational implementation in terms of procedures, design, safety case, training and ops approval.

The demonstrator must consider:

- GBAS Ground stations Cat III processing with signals from the European Satellite Systems with Cat II Reversion Scenarios (EGNOS V2 to TRL8 and Galileo to TRL6).
- Prepare certification for GBAS Cat III Ground Stations processing signals from the European Satellite Systems (EGNOS V2 to TRL8 and Galileo to TRL6).
- A minimum number of 100+ GBAS Cat III landings using GBAS Cat III Ground Stations processing signals from the European Satellite Systems (EGNOS V2 to TRL8 and Galileo to TRL6) must be demonstrated with GAST-D equipped aircraft conducting Cat. III (with reversion to Cat II) to TRL8. The demonstration must if available, additionally take the opportunity to demonstrate the integration of European Satellite Capabilities within GBAS Cat III avionics using Galileo to TRL6;
- As reversion scenario for Cat. III, the scope may also cover the demonstration of the potential benefits of GAST-C equipped aircraft (for Cat. II operations supported by a GAST-D ground station).
- Fast-track standardisation activities to allow for the installation of GBAS GAST-D station processing signals from the European Satellite Systems at selected airports.
- Appropriate engagement with the European Union Aviation Safety Agency (EASA) on the certification aspects must be duly considered.

This DSD requires Air Navigation Service Providers' (ANSP) and Airspace Users' (AU) participation, the equipage of sufficient aircraft (minimum 20) with GBAS GAST-D to enable periods of runway allocation for this service and the installation of an GBAS GAST D ground station processing signals from the European Satellite Systems at the selected airports. The demonstration must target 10 but address at a minimum 6 European airports in different states that could benefit from CAT III implementation.

The demonstration activities represent the opportunity to advance and in particular to include the ATC dimension, in the deployment of the following enhanced green approach procedures that have been researched under SESAR: **PJ.02-W2-14.2 "second runway-aiming point (SRAP)", PJ.02-W2-14.3 "increased second glide slope (ISGS)", PJ.02-W2-14.5 "increased glide slope to a second runway aiming point (IGS-to-SRAP**). These procedures aim at reducing the aviation environmental impact (e.g. noise, fuel consumption, CO_2 emissions, etc.) on the airport neighboring communities.

Regarding PJ.02-W2-14.2 and PJ.02-W2-14.5, which cover SRAP, due consideration should be given to the landing distance when using an aiming point further down the runway since these solutions only work on sufficiently long runways.

Within the opportunity of demonstrating enhanced green approach procedures:

- Proposals shall avoid duplicating the scope of DSD-01a 'HERON' project;
- The DSD must quantitatively assess the environmental benefits of these new procedures. The demonstration must ensure a minimum number of flights to demonstrate the benefits of the SESAR solutions under scope.
- The proposals must take into consideration the results and recommendations provided by the SESAR VLD 'DREAMS', in particular the need to better consider the ATC dimension (i.e. acceptability and feasibility aspects). In addition, the proposals must adequately address safety aspects (e.g., risk of confusion for pilots, etc.) and ensure the required engagement from the European Union Aviation Safety Agency (EASA).
- The DSD scope may include two optional technical enablers that can facilitate these new procedures (e.g., during the approach to an unfamiliar airport in bad weather conditions): energy management and flare assistant.

2. Trajectory based operations enabling the aviation green deal

Trajectory based operations (TBO) is an ICAO and global strategic operational goal, which can be summarised as enabling a fully collaborative environment where each flight trajectory is shared, maintained and used by all the concerned actors during all phases of flight. The objective of TBO is to provide benefits across multiple key performance areas, in particular environmental sustainability. TBO developments need to be coordinated at the global level through ICAO. All TBO demonstrations should report their results to the relevant ICAO panels, which are ATMRPP, ATM Operations Panel and Communications Panel.

Initial TBO applications are already being deployed under Common project one (CP1)[23] (e.g. flight and flow - information for a collaborative environment (FF-ICE) release 1 in the network TBO domain and initial trajectory information sharing via the extended projected profile (EPP) in the ATC TBO domain); while building on CP1, the TBO demonstrators' objectives reach beyond and aim at addressing the following key aspects of TBO:

- The demonstrators must address the operational benefits of ATS-B2 beyond CP1 scope (e.g. ED-228 rev. B), with a focus on the environmental benefits, based for

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[23] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021R0116

example on facilitating airline's preferred trajectory using the top-of-descent TOD information or enhanced vertical clearances delivered via R/T or CPDLC.

- In terms of performance assessment, the demonstrators must:
  o Assess the potential of using EPP to measure inefficiencies due to early descent, which are not captured by CDO/CCO metric time-in-level-segments, potentially considering the difference between the actual and FMS TOD, EPP variability, etc.
  o Perform an environmental impact assessment of the concepts under demonstration
  o Assess the impact of the demonstrated concepts on human performance for flight dispatchers, controllers and pilots, including the assessment of the impact on workload
  o Perform a full assessment of the safety aspects and provide recommendations for further deployment, in particular in the area of training;
  o Quantify the increased data traffic because of aircraft downlinking ADS-C reports and the impact on A/G datalink e.g. VDLM2 load

- Demonstrators may address the envisioned operational and technical capabilities described in FF-ICE release 2, which focuses on strategic operations of the execution phase of flight (e.g. once the flight is in execution, the trajectory may need to change – for example - due to weather hazards, crossing traffic, and procedures at the destination airport). The demonstration must address the collaborative process for agreeing the change between ground actors (FOC, NM, ANSPs); where the change is not the consistent with the clearance held by the aircraft, the demonstration must include the delivery of the clearance to the flight deck via voice and/or CPDLC. The demonstrators' objective is to contribute to develop the world-wide ICAO TBO FF-ICE release 2 concept and identify potential provision amendments and implementation guidance required for global, harmonized implementation of FF-ICE release 2.

- The demonstrators may address the uplink of closed trajectory revisions instead of using a vector and resume voice instruction in en-route airspace. The controller amends the flight-planning trajectory, changing its horizontal shape, while keeping the aircraft in a closed-loop clearance. If necessary, the controller could initiate a coordination with neighbouring sectors to ensure the acceptance of the new trajectory. This will deliver benefits in terms of reduced ATCO workload, and consequently increases ATC capacity allowing more efficient trajectories (SESAR solution PJ.10-02a1 'Integrated tactical and medium conflict detection & resolution (CD&R) services and conformance monitoring tools for En-Route and TMA').

- The demonstration may address the implementation of ICAO descend-via procedures, in combination with the re-cruise flight management system (FMS) function and the EPP downlink. The focus of the demonstration will be on addressing the ground and airborne challenges in order to allow the widespread adoption of descend-via procedures in Europe and the adoption of the re-cruise concept in order to mitigate the negative impact on the environment of early descent clearances. This demonstration builds on the SESAR Optimized Descent Profiles demonstration.

Proposals shall avoid duplication with the scope of the DSD-1a HERON project.

3. Long-haul flights SWIM-enabled in-flight trajectory optimisation

The scope addresses the demonstration of the environmental benefits enabled by SWIM –compliant information exchange in the particular context of the in-flight optimisation of the trajectory of long-haul flights with an FF-ICE flight plan (SESAR solution PJ.18-02c "eFPL distribution to ATC"). The objective is to deploy (target

TRL8) initial use cases to allow the AU to request from the ATM system a strategic revision of the trajectory of an airborne flight with the aim of reducing the environmental impact of the flight, e.g. in response to updated weather information. The demonstrator must include the whole process, from the original request from the airline's flight operations centre (FOC) to ATCM to the delivery of the clearance to the cockpit via CPDLC and its on-board implementation. For oceanic flights, demonstrators may leverage available satellite networks, which allow oceanic flights to be tracked more accurately while remaining a safe distance apart. This represents an opportunity to design more flexible and efficient flight trajectories (e.g., better following favourable tailwinds and avoid headwinds) and therefore reducing aviation emissions. The long-haul flights are an opportunity to address FF-ICE release 2 operational and technical capabilities allowing the revision and update of the flight plan during the execution phase. This demonstration should report its results to the relevant ICAO panels, which are ATMRPP, ATM Operations Panel and Communications Panel.

The oceanic flights may take the opportunity to bring to TRL8 (including certification) the airborne capabilities (station-keeping avionics and/or the aircraft-to-aircraft communications) required to support the wake energy retrieval ATM concept under development in the SESAR Industrial Research programme. Appropriate engagement with EASA on the certification aspects must be duly considered. The new airborne capabilities (already at TRL6 level) will be demonstrated in one or more airliners representative of long-haul operations. The demonstration must collect data on the environmental benefits and on the human performance impacts considering flight dispatchers, controllers and flight crew. Wake-energy retrieval demonstration results should be reported to the relevant ICAO panels (ATMRPP, ATM Operations Panel and ATM Communications Panel).

4. Greener ATM operations at European airports

This area addresses the introduction of a series of environmental indicators in the daily operation of an airport in the execution phase, triggering and influencing operational decisions. The environmental indicators must consider those used in the performance plans, but could also include additional local indicators if needed. This build on the work performed by SESAR solution PJ.04-W2-29.3 "Environmental performance management" that has shown the feasibility of introducing in the airport operations plan (AOP) an environmental dashboard that is monitored from the mid-term/short-term planning phase (D-1) and improves collaborative decision-making process in the APOC. The monitoring of the airport environmental performance can trigger the implementation of potential solutions to reduce the airport impact on noise and emissions near the airport. These potential solutions include: use of cameras and machine learning/artificial intelligence to optimise turn-around operations, reduce emissions applying green taxiing techniques (e.g., single engine taxiing, engine-off taxi-out and taxi-in, sustainable taxiing vehicles, auxiliary engines, etc.), link landside and airside processes to increase predictability of operations, improve on-time performance and use of resources such as parking stands, etc. The main targeted airports are large and very large airports and medium hub airports with daily or weekly DCB & capacity issues resulting in a decreased environmental performance, but the solution could also be applicable to medium hub airports that encounter regular capacity shortfalls or can propagate delays in the network.

The scope also addresses airport related solutions delivered by SESAR that could bring substantial benefits in reducing fuel consumptions and CO_2 emissions. The demonstrator must include at least three European airports, quantify the CO_2 emissions saved during the demonstration and provide a quantification of the prospective yearly savings. Activities related to green taxi must consider the previous work undertaken in SESAR e.g. ALBATROSS, PJ.02-W2 in this area.

5. Scalable and resilient network management operations

This area brings together a number of SESAR solutions aiming at improving network management operations e.g., on traffic flow management, flight planning and AU fleet management and airport operations management and their connection with the network. The demonstrator requires the participation of NM, airports, ANSPS and AUs (including military) and must ensure the required engagement from EASA and the National Supervisory Authorities (NSAs). These solutions, which have been validated independently within previous SESAR programme(s), are now ready to progress together towards TRL8:

- The seamless integration of dynamic airspace configurations and integrated network management ATC planning (INAP) (PJ.09-W2-44 "dynamic airspace configurations (DAC)"). This includes the demonstration of new capabilities on: enhanced traffic prediction, spots detection, traffic analysis and measures monitoring, improved catalogue of DCB measures, what-if/what-else, complexity and uncertainty assessment, automated/ artificial intelligence (AI)-driven digital NMOC functions, integration of complexity, ATCO workload and ATCO availability within the sector configuration optimisation process, etc.
- New operating methods for the development of mission trajectory (MT) in the context of DAC, thus improving collaboration between civil and military ATM actors. The integrated military ATM demand evolves through trajectory lifecycle and local collaborative decision-making (CDM). This covers the integration of dynamic mobile areas (DMA) of type 1 and type 2 design principles for airspace reservation (ARES) into both of the MT development and DAC processes and the dynamic coordination between wing operation centre (WOC) and local DAC actors (PJ.07-W2-40 "initial 4D MT development with integrated DMA types 1 and 2 supported by automation and dynamic civil-military CDM")

- The extension of the AUs' ability to influence the sequence of arrivals whilst the flights are in pre-departure phase. AUs provide UDPP prioritisation in a harmonised format via a single entry point, with the aim to allow the NM and other ATM stakeholders to utilise the AU prioritisation for the resolution of capacity-constrained situations on arrivals (PJ.07-W2-39 "Collaborative framework managing delay constraints on arrivals").

- Provision of enriched DCB information like protection hotspots, which NMF can declare to protect an airspace from undesired rerouted flights. The protection hotspot information is provided to the AU, mainly in the context of what-if functions, to be used prior to their decision to change a flight plan. In addition, to support trajectory negotiation processes, the AU can provide to NMF information about critical flights of the fleet before any DCB measure is allocated and for which DCB delay is particularly costly and should be avoided (pro-active flight delay criticality indicator (FDCI)) (PJ.07-W2-38 "Enhanced integration of AU trajectory definition and network management processes").

The following airport related SESAR solutions are also in scope for this demonstrator:

- For very-large/large airports + medium-hub airports (SESAR solution PJ.04-W2-28.3 "connected large airports"). The objective is to demonstrate the benefits of anticipating the exchange of airport departure planning information (DPI) messages with the NM based on the operational information. Whenever it is possible, DPI messages can be sent earlier than nowadays (i.e. based in actual flight events instead of the current A-CDM time rules). If this solution is addressed, the demonstrator must include at least three European airports within this category), and provide an estimation of the network capacity gains and their

corresponding environmental benefits (due to avoided vertical and/or horizontal re-routing).

- For regional airports, which are not included in the CP1 regulation (SESAR solution PJ.04-W2-28.1 "connected regional airports"). The demonstrator aims at improving connectivity between regional airports and NM. The provision of DPI messages to NM based on target times and a reduced set of CDM milestones implemented and calculated in a quasi-automatic fashion will allow the integration of these airports in the network without the need for airline / ground handler inputs, thereby increasing the precision and availability of data. The demonstrator must include at least five European airports within this category, and provide an estimation of the network capacity gains and their corresponding environmental benefits (due to avoided vertical and/or horizontal re-routing).

The objective is also to improve airport performance and resilience under MET conditions through the pro-active assessment, monitoring and management of the impact of meteorological events on the airport operations (SESAR solutions PJ.04-W2-29.2a "Management of airport performance under MET conditions at very-large/large and medium-hub airports" and PJ.04-W2-29.2b "Monitoring of airport performance under MET conditions at medium/small airport").

The Airspace Architecture Study (AAS)[24] clearly highlighted the lack of flexibility in the sector configuration capabilities at pan-European level. This is caused by the close coupling of ATM service provision to the ATS systems and operational procedures, preventing air traffic from making use of cloud-based data service provision. To ensure sustainable air traffic growth, it is necessary to speed up the modernisation of the air infrastructure to offer more capability and capacity, making it more resilient and adaptable to future traffic demand.

A more flexible use of external data services, considering data properties and access rights, would allow the infrastructure to be rationalised, reducing the related costs. It will enable data- sharing, foster a more dynamic airspace management and ATM service provision, allowing ATSUs to improve capacity in portions of airspace where traffic demand exceeds the available capacity. It furthermore offers options for the contingency of operations and the resilience of ATM service provision.

The scope includes the demonstration of the **delegation of ATC services based on Virtual Centre** (PJ.10-W2-93 "Delegation of ATM services provision amongst ATSUs") e.g. supporting the implementation of dynamic airspace configurations (DAC), increasing efficiency and resilience of the ATC service thanks to better use of resources across ATSU borders.

The scope also addresses the demonstration of **new ATS business 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[25]**.** In the framework of the European Commission study, ATM data services have been defined as services that provide ANSPs, airspace users, airports and other operational stakeholders with information on the intended movement of each aircraft, or variations therefrom, and with current information on the actual progress of each aircraft, based on operational data received from surveillance (SUR), aeronautical information services (AIS), meteorological services (MET), network functions and any

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[24] SESAR Joint Undertaking | Airspace Architecture Study - Full (sesarju.eu)

[25] European Commission study number MOVE/E3/SER/2018-580/SI2.813340

other relevant operational data. The objective of the demonstration is to deploy a new service delivery model for existing services (e.g. consolidation of FDPSs) and/or the deployment of new services using the new model (e.g. deployment – with target TRL8 – of TRL6-mature SESAR solutions like PJ.10-W2-96 ASR 'Automatic speech recognition' using the triangle architecture).

The focus of the demonstrations is to complete TRL8 for SESAR solutions that provide quantifiable benefits to environmental sustainability (reduced impact of aviation on the climate and/or reduced impact on airport neighbouring communities in terms of noise and local air quality). The demonstrator must provide an estimation of the ATC capacity gains and the corresponding environmental benefits (through avoided vertical and horizontal re-routing) and confirm the benefits validated during industrial research activities. The performance benefits must be expressed when applicable in terms of existing KPIs under the performance scheme.

CEF-T-2023-SIMOBGEN-SESAR-CP-WORKS: SESAR Common Project One implementation projects – works

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, works related to 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 Programme[26] will be supported.

This Call for Proposals addresses the short-term implementation needs stemming 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 the contribution to network performance, focussing on the SESAR Deployment Programme 'Families' that mostly contribute to network performance improvements, to digitalisation and to the objectives of the European Green Deal.

Implementation projects (Article 10 of Commission Implementing Regulation (EU) No 409/2013) related to any of the following sub-functionalities defined in the Annex of the Commission Implementing Regulation (EU) 2021/116 of 1/02/2021 will be supported under this topic:

a) ATM sub-functionality on AMAN / DMAN integration

b) ATM sub-functionality on airport operations plan, limited to the Extended Airport Operations Plan

c) ATM sub-functionality on AOP/NOP integration

d) ATM sub-functionality on meteorological information exchange

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[26] The SESAR Deployment Programme 2022 edition.

e) ATM sub-functionality on cooperative network information exchange

f) ATM sub-functionality on flight information exchange (Yellow profile)

The SESAR Deployment Manager[27] must be the coordinator of each of the projects submitted 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.

If selected, it is essential that the proposed projects fully implement the above-mentioned sub-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.

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[27] SESAR Deployment Manager: https://www.sesardeploymentmanager.eu/

CEF-T-2023-SIMOBGEN-SESAR-OP-WORKS: Other ATM Projects – works and 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, works and mixed projects will be supported relating to projects that implement Communications, Navigation and Surveillance (CNS) ground and airborne infrastructure, routes and procedures that mandated under Commission Implementing Regulations (EC) No 29/2009 (DLS Regulation), (EC) No 1207/2011 (SPI Regulation) and (EU) 2018/1048 (PBN Regulation) limited to the domains listed below and that are not addressed by the Common Project One (Commission Implementing Regulation (EU) 2021/116).

The DLS and SPI Regulations are planned to be transposed to the EASA Regulatory framework by September 2023.

1. Performance Based Navigation (PBN Regulation)

Projects in this domain must implement PBN routes and procedures, in accordance with the requirements of the PBN Regulation, whose deadline for implementation is 6 June 2030. Projects must cover one or both of the following topics:

a) TMA airspace optimisation, implementing SIDS and STARS using required PBN specifications as an integral part of the airspace re-design project to reduce emissions in line with sustainability goals and increase efficiency. Airspace optimisation should enable decommissioning of ground navigation infrastructure to improve cost-efficiency without compromising safety and security. The deployment of ground navigation infrastructure and costs for decommissioning ground infrastructure are not eligible for funding.

Actions 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 airspace re-design to improve performance in terms of capacity, safety, cost efficiency and environment.

b) Equipping aircraft (retrofit or forward fit[28]) with:

- SBAS capable avionics able to make operational use LPV procedures;

- Avionics able to make operational use of RNP1/RNAV 1 SIDs and STARs.

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,

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[28] For forward-fitting, applicants must ensure that all conditions stipulated in the Grant Agreement for the eligibility of costs must be met.

the limitations imposed by the log on list). The avionics upgrades should be included in the list of deployment recommendations/ implementation projects[29] for operators established by the Datalink Support Group[30]. 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.

VDL-2 link is used simultaneously by ATC and AOC (Airline Operational Control) services and applications. AOC communication constitutes a major part of bandwidth usage and ATC applications, such as CPDLC or ADS-C/EPP, are more demanding with regard to safety and technical performance. The volume of AOC data that is sent over VDL-2 is continuously growing and this link could be saturated in the coming years due to lack of bandwidth. A 'VDL-2 capacity crunch' could occur in some sectors of the core area in 2027-2030 timeline. In this context, projects may include the implementation of avionics or ground systems upgrades to optimise/reduce the use VDL-2 link by AOC traffic by offloading non-time critical data to off-the-shell technologies when aircraft are on the ground.

Actions to deploy datalink technologies other than VDL-2 (e.g. SATCOM, LDACS, etc.) to support ATC and AOC operations are not eligible for funding in this call.

3. ADS-B (SPI Regulation)

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

In order to enable synchronised implementation, **these projects must include**:

a) Operational use of ADS-B data within its surveillance infrastructure to achieve an optimal combination of ground surveillance infrastructure by air navigation service providers. The projects should enable decommissioning existing radar infrastructure and therefore must include a plan for decommissioning the existing surveillance infrastructure.

and

b) Equipping aircraft with avionics with 'ADS-B out' 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 (e.g. by decommissioning radars that are maintained to provide service to non-ADS-B equipped aircraft).

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[29] https://ext.eurocontrol.int/WikiLink/images/8/89/Datalink_Deployment_Actions_-_Recs_for_Operators.pdf

[30] The Datalink Support Group (DSG) was established jointly by the Network Manager, EASA and SDM. It 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. The 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

Projects must be proposed by consortia grouping service providers and airspace users not mandated under the scope of SPI Regulation, operating within the same local environment.

The projects must include the decommissioning plan, to be implemented within the duration of the action, of legacy infrastructure thus demonstrating the engagement of stakeholders for rationalisation.

The deployment or upgrade of radars and WAM systems are not eligible for funding. The costs for decommissioning infrastructure are not eligible for funding.

General Requirements for 'Other ATM Projects'

Applicants are encouraged to team up and submit a single proposal also for the PBN and Datalink CNS projects. Consortia are encouraged to include all relevant operational stakeholders and manufacturers under a common coordinator.

Funding will not be awarded for projects that implement deployments that, 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 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.

Decommissioning activities must be included and implemented within the duration of the action. Failure to complete the decommissioning work for PBN and ADS-B projects within the duration of the action will lead to a 10% reduction of the corresponding grant.

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 the entire indicative call budget.

4. Timetable and deadlines

Timetable and deadlines (indicative)	
Call opening:	26 September 2023
Deadline for submission:	30 January 2024 – 17:00:00 CET (Brussels)

Evaluation:	February - June 2024
Information on evaluation results:	July 2024
GA signature:	September - October 2024

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 WP/calculator

  − activity reports of last year (unless exempted from operational capacity check; *see section 7)*[31]

  − list of previous projects (key projects for the last 4 years) *(template available in Part B)*[32]

  − timetable/Gantt chart

  − agreement of the concerned[33] Member State (letter of support)

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[31] 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.

[32] 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.

[33] Letters of support are signed by the Member State or third country associated to CEF programme benefitting from the project.

— environmental compliance file[34] (for works, for studies with physical interventions and for studies without physical interventions.

For applications concerning projects subject to an EIA[35], you may include a summary of the climate proofing process in the Portal Submission System under "*Other Annexes"*.

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)

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[34] The environmental compliance file must be submitted for all applications, with the exception of proposals submitted to the CEF-T-2023-SIMOBGEN/COEN-ERTMS UNITS topics. The declarations accompanying the file must be submitted in addition, when applicable, and do not replace the environmental compliance file.

For studies projects without physical interventions and works projects that do not affect significantly the environment, the ECF must be uploaded by ticking the box of 'project type', and including in the comments boxes for each question 'not applicable'. The works projects that do not affect significantly the environment concern applications for Single European Sky ATM Research (SESAR), Intelligent Transport Systems (ITS), VTMIS, RIS, telematics application systems, solutions to improve accessibility for persons with reduced mobility, and vessels and rail rolling stock retrofitting.

[35] If the key steps for the EIA (i.e. an environmental impact assessment report prepared by the project promoter and consultations carried out under the EIA Directive) have been completed before 18 January 2023, it is not required to provide information on the climate proofing process of the infrastructure. It is however recommended to use such Guidance where possible.
If the key steps for the EIA have been completed after 18 January 2023, the applications are under the obligation to submit the information on the climate proofing process, taking into account the Commission Notice: [Technical guidance on the climate proofing of infrastructure in the period 2021-2027, C(2021)5430 of 29 July 2021.](#)

- 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 Programme ([list of participating countries](#)^[OBJ])

Project applications located in associated third countries are eligible for funding in the present calls under the conditions set out in Article 8(1) of the TEN-T Regulation (EU) N° 1315/2013 and Articles 5(2) and 9(2) of the CEF Regulation (EU) 2021/1153.

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.

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 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 persons[36].

EU bodies — EU bodies 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)[37] and entities covered by Commission Guidelines No [2013/C 205/05](#)[38])*. 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

Not Applicable

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.

Geographic location (target countries)

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

Duration

See section 10.

Project budget

Project budgets (maximum grant amount) of any amount 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, international organisations and current CEF1 and CEF2 beneficiaries 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 participate[39]:

- 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 misconduct[40] (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)

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[39]   See Articles 136 and 141 of EU Financial Regulation 2018/1046.

– 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)

– guilty of irregularities within the meaning of Article 1(2) of EU Regulation 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 rejected if it turns out that[41]:

– 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 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

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[40] 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.

[41] See Article 141 EU Financial Regulation 2018/1046.

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*.

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 will be 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:

1. **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)

2. **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)

3. **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 proposed for the completed project (5 points)

4. **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)

5. **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. A retroactive starting date can be granted exceptionally for duly justified reasons but never earlier than the proposal submission date.

The foreseen duration of the works and mixed[42] 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 31.12.2028.

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 from the MAP-IT tool regarding 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

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 costs 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)*.

For SESAR related topics:

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)*.

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[42] 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.

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

1. For the topic related to the SESAR Digital Sky Demonstrators: **CEF-T-2023-SIMOBGEN-SESAR-DSDU-WORKS**:
   - maximum **50%** for the costs of works and maximum **70%** for the costs of works in outermost regions.
2. For the SESAR topic related to Common Project One: **CEF-T-2023-SIMOBGEN-SESAR-CP-WORKS**:
   - maximum **50%** for the costs of works and maximum **70%** for the costs of works in outermost regions.

3. For the SESAR topic related to Other Projects: **CEF-T-2023-SIMOBGEN-SESAR--OP-WORKS**:
a) PBN projects:
   - Maximum **50%** for the costs of studies
   - Maximum **70%** for the costs of works in outermost regions
   - Maximum **50%** for the costs of works to equip aircraft
   - Works to optimise TMA airspace may be funded up to **30%** of the costs. However, they may be funded up to:
      o **40%**, if the project includes the **decommissioning of the ground infrastructure**;
      o **40%**, if the project includes the **synchronisation with aircraft equipage**;
      o **50%,** if the project includes **decommissioning and synchronisation with aircraft equipage.**

b) Datalink projects:

   Maximum **50%** for the costs of studies and works to equip aircraft and **70%** for the costs in outermost regions.

c) ADS-B projects:

   Maximum **50%** for the costs of studies and works to deploy and make operational use of ADS-B and **70%** for the costs 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 topic:

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 Works in outermost regions
- 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 cost[43] : Yes
- subcontracting costs:
  - country restrictions for subcontracting costs: Yes, subcontracted work must be performed in the eligible countries or target countries
- travel and subsistence unit cost[44]: 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

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[43] 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).

[44] 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).

> − 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

⚠ Please be aware that in case of significant changes to the circumstances that have an impact on the project budget, you may be asked to request an amendment to reduce the maximum grant amount. If you do not comply with this request, we may have to terminate the grant and reduce it from our side *(see art 32)*.

⚠ Similarly, you may be asked to request an amendment to reduce the maximum grant amount, 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)*.

For ERTMS Topic:

Budget categories for this call[45]:

- − 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:

- − the unit grant amount must be calculated in accordance with the methodology set out in the unit decision and using the calculator provided (if any)

- − 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)*.

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[45]   Decision of 22 July 2021 authorising the use of unit contributions to support the deployment of ERTMS, electric vehicles recharging infrastructure and the retrofitting of noisy wagons under the Connecting Europe Facility (CEF) – Transport Sector.

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 to 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 action, 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 action*

 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, 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

- [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 questions[46] no later than two weeks before the submission deadline. Questions received after 16 January 2024 will not be answered.

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

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[46] 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 action 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 action 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 action, 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 produce 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 actions). Outside such Synergies actions, any given action may receive only ONE grant from the EU budget and cost items may under NO circumstances be declared to two different EU actions.

- **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 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.