Call: HORIZON-SESAR-2025-DES-ER-03
(Digital European Sky Exploratory Research 03)

Topic: HORIZON-SESAR-2025-DES-ER-03-WA2-1

Type of Action: HORIZON-JU-RIA
(HORIZON JU Research and Innovation Actions)

Proposal number: 101290642

Proposal acronym: STRATUS

Type of Model Grant Agreement: HORIZON Lump Sum Grant

Table of contents

Proposal ID **101290642**

Acronym **STRATUS**

1 - General information

Fields marked * are mandatory to fill.

Topic	HORIZON-SESAR-2025-DES-ER-03-WA2-1	Type of Action	HORIZON-JU-RIA
Call	HORIZON-SESAR-2025-DES-ER-03	Type of Model Grant Agreement	HORIZON-AG-LS

Acronym STRATUS

Proposal title STRATUS — Safety & Transformed Resilience for high-Altitude Traffic Unified Services

Note that for technical reasons, the following characters are not accepted in the Proposal Title and will be removed: < > " &

Duration in months 30

Free keywords *ECHO Phase 3 European Concept For Higher Altitude Operations HAO Service Provider concept Space Transport Operations New Entrants Supersonic Hypersonic Suborbital HAPS*

Abstract *

STRATUS (Safety and Transformed Resilience for High-Altitude Traffic Unified Services) will define a modular and scalable framework for integrating Higher Airspace Operations (HAO) and Space Transport Operations (STO) into the European ATM framework. The focus is on the low-density airspace above conventional traffic, generally above flight level FL550. This is where high-performance supersonic and hypersonic aircraft, automated High Altitude Platform Systems (HAPS) fleets, and sub-orbital operations are expected to multiply in the coming decade.
Building on the exploratory CONOPS produced in the ECHO project, and taking into account the work now underway in ECHO2, STRATUS will expand the scope to cover a wider set of operational scenarios, vehicle types and service models. It will address the operational, functional, technical and regulatory foundations required for integration, in line with the priorities of the European ATM Master Plan for higher-airspace operations, dynamic airspace configuration, service-oriented architectures and cyber-secure digitalisation. Concentrating on the higher airspace, where traffic density is relatively low, provides the opportunity to mature and validate innovative concepts and technologies while limiting operational risk to existing ATM.
The objectives of STRATUS follow a logical progression from establishing operational demand in higher airspace, through the development of concepts and supporting frameworks, to the consideration of regulatory and other relevant implications that may influence successful implementation.

Remaining characters 419

Has this proposal (or a very similar one) been submitted in the past 2 years in response to a call for proposals under any EU programme, including the current call? ○ Yes ◉ No

Please give the proposal reference or contract number.
Previously submitted proposals should be with either 6 or 9 digits.

Administrative forms

Proposal ID **101290642**

Acronym **STRATUS**

Declarations

Field(s) marked * are mandatory to fill.

1) We declare to have the explicit consent of all applicants on their participation and on the content of this proposal. *	☒
2) We confirm that the information contained in this proposal is correct and complete and that none of the project activities have started before the proposal was submitted (unless explicitly authorised in the call conditions). *	☒
3) We declare: - to be fully compliant with the eligibility criteria set out in the call - not to be subject to any exclusion grounds under the EU Financial Regulation 2018/1046 - to have the financial and operational capacity to carry out the proposed project. *	☒
4) We acknowledge that all communication will be made through the Funding & Tenders Portal electronic exchange system and that access and use of this system is subject to the Funding & Tenders Portal Terms and Conditions. *	☒
5) We have read, understood and accepted the Funding & Tenders Portal Terms & Conditions and Privacy Statement that set out the conditions of use of the Portal and the scope, purposes, retention periods, etc. for the processing of personal data of all data subjects whose data we communicate for the purpose of the application, evaluation, award and subsequent management of our grant, prizes and contracts (including financial transactions and audits). *	☒
6) We declare that the proposal complies with ethical principles (including the highest standards of research integrity as set out in the ALLEA European Code of Conduct for Research Integrity, as well as applicable international and national law, including the Charter of Fundamental Rights of the European Union and the European Convention on Human Rights and its Supplementary Protocols. Appropriate procedures, policies and structures are in place to foster responsible research practices, to prevent questionable research practices and research misconduct, and to handle allegations of breaches of the principles and standards in the Code of Conduct. *	☒
7) We declare that the proposal has an exclusive focus on civil applications (activities intended to be used in military application or aiming to serve military purposes cannot be funded). If the project involves dual-use items in the sense of Regulation 2021/821, or other items for which authorisation is required, we confirm that we will comply with the applicable regulatory framework (e.g. obtain export/import licences before these items are used). *	☒
8) We confirm that the activities proposed do not - aim at human cloning for reproductive purposes; - intend to modify the genetic heritage of human beings which could make such changes heritable (with the exception of research relating to cancer treatment of the gonads, which may be financed), or - intend to create human embryos solely for the purpose of research or for the purpose of stem cell procurement, including by means of somatic cell nuclear transfer. - lead to the destruction of human embryos (for example, for obtaining stem cells) These activities are excluded from funding. *	☒
9) We confirm that for activities carried out outside the Union, the same activities would have been allowed in at least one EU Member State. *	☒
10) For Lump Sum Grants with a detailed budget table: We understand and accept that the EU lump sum grants must be reliable proxies for the actual costs of a project and confirm that the detailed budget for the proposal has been established in accordance with our usual cost accounting practices and in compliance with the basic eligibility conditions for EU actual cost grants (see AGA - Annotated Grant Agreement, art 6) and exclude costs that are ineligible under the Programme. Purchases and subcontracting costs must be done taking into account best value for money and must be free of conflict of interest. *	☒

The coordinator is only responsible for the information relating to their own organisation. Each applicant remains responsible for the information declared for their organisation. If the proposal is retained for EU funding, they will all be required to sign a declaration of honour.

False statements or incorrect information may lead to administrative sanctions under the EU Financial Regulation.

2 - Participants

List of participating organisations

#	Participating Organisation Legal Name	Country	Role	Action
1	EUROCONTROL - EUROPEAN ORGANISATION FOR THE SAI	Belgium	Coordinator	
2	DFS DEUTSCHE FLUGSICHERUNG GMBH	Germany	Partner	
3	ENAV SPA	IT	Partner	
4	LUFTFARTSVERKET	SE	Partner	
5	NATS (EN ROUTE) PUBLIC LIMITED COMPANY	UK	Partner	
6	ENAIRE	ES	Partner	
7	ENTE NAZIONALE PER L'AVIAZIONE CIVILE - ENAC ITALIAN	IT	Partner	
8	CONSORCIO AERODROMO AEROPUERTO DE TERUEL	ES	Partner	
9	SkyNav Europe	BE	Partner	
10	ECOLE NATIONALE DE L AVIATION CIVILE	FR	Partner	
11	C.I.R.A. CENTRO ITALIANO RICERCHE AEROSPAZIALI SCPA	IT	Partner	
12	STICHTING KONINKLIJK NEDERLANDS LUCHT - EN RUIMTE	NL	Partner	
13	INTERNATIONAL FEDERATION OF AIR TRAFFIC CONTROLL	CA	Partner	
14	INGENIERIA Y ECONOMIA DEL TRANSPORTE SME MP SA	ES	Partner	
15	CENTRO DE REFERENCIA INVESTIGACION DESARROLLO E	ES	Partner	
16	INSTITUUT VOOR INFRASTRUCTUUR, MILIEU EN INNOVATI	BE	Partner	
17	OpenUTM Ltd.	IE	Partner	
18	DEUTSCHES ZENTRUM FUR LUFT - UND RAUMFAHRT EV	DE	Partner	
19	SCEYE SPAIN S.L.	ES	Partner	
20	ANRA TECHNOLOGIES OU	EE	Partner	
21	HAPS Alliance	United States	Associated	

Administrative forms

Proposal ID **101290642**

Acronym **STRATUS**

#	Participating Organisation Legal Name	Country	Role	Action
22	UDARAS EITLIOCHTA NA HEIREANN THE IRISH AVIATION A	Ireland	Associated	

Organisation data

PIC	Legal name
999483733	*EUROCONTROL - EUROPEAN ORGANISATION FOR THE SAFETY OF AIR NAVIGATION*

Short name: EUROCONTROL

Address

Street	Rue de la Fusée 96
Town	BRUXELLES
Postcode	1130
Country	Belgium
Webpage	www.eurocontrol.int

Specific Legal Statuses

Legal person	yes
Public body	yes
Non-profit	yes
International organisation	yes
Secondary or Higher education establishment	no
Research organisation	yes

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	14/02/2022 - no
SME self-assessment	unknown
SME validation	unknown

Departments carrying out the proposed work

Department 1

Department name	Aviation Transformation Directorate	☐ not applicable
	☒ Same as proposing organisation's address	
Street	Rue de la Fusée 96	
Town	BRUXELLES	
Postcode	1130	
Country	Belgium	

Department 2

Department name	Network Manager Directorate	☐ not applicable
	☒ Same as proposing organisation's address	
Street	Rue de la Fusée 96	
Town	BRUXELLES	
Postcode	1130	
Country	Belgium	

Links with other participants

Type of link	Participant

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title Mr

Gender ○ Woman ◉ Man ○ Non Binary

First name* **Ovidiu**

Last name* **DUMITRACHE**

E-Mail* **ovidiu.dumitrache@eurocontrol.int**

Position in org. Senior Manager Research Strategy

Department Aviation Transformation Directorate

☐ Same as organisation name

☒ Same as proposing organisation's address

Street Rue de la Fusée 96

Town BRUXELLES

Post code 1130

Country Belgium

Website www.eurocontrol.int

Phone +32 2 729 30 52

Phone 2 *+xxx xxxxxxxxx*

Other contact persons

First Name	Last Name	E-mail	Phone
CM Team	EUROCONTROL	atd.ppu.cmt@eurocontrol.int	+xxx xxxxxxxxx
Pablo	HARO	pablo.haro@eurocontrol.int	+xxx xxxxxxxxx
Dragos	TONEA	dragos.tonea@eurocontrol.int	+xxx xxxxxxxxx
Fiona	MULLAN	fiona.mullan@eurocontrol.int	+xxx xxxxxxxxx

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Mr	Pablo	Haro	Man	Spain	pablo.haro@eurocontrol.int	Category B Senior resea	Team member		
Mr	Ovidiu	Dumitrache	Man	Romania	ovidiu.dumitrache@eurocontrol.int	Category B Senior resea	Leading		
Ms	Marta	FERNANDEZ CASTRILLO	Woman	Spain	marta.fernandez-castrillo@eurocontrol.int	Category C Recognised	Team member		
Mrs	Fiona	Mullan	Woman	Ireland	fiona.mullan@eurocontrol.int	Category D First stage r	Team member		
Mr	Dragos	Tonea	Man	Romania	dragos.tonea@eurocontrol.int	Category B Senior resea	Leading		
Mr	Augustin	Udrisitoiu	Man	Romania	augustin.udristioiu@eurocontrol.int	Category C Recognised	Team member		
Mr	Edgar	Reuber	Man	Germany	edgar.reuber@eurocontrol.int	Category C Recognised	Team member		
Mr	Gabor	Fugedi	Man	Hungary	gabor.fugedi@eurocontrol.int	Category C Recognised	Team member		
Mr	Octavian	FOTA	Man	Romania	octavian.fota@eurocontrol.int	Category B Senior resea	Team member		
Mrs	Lucia	Sandu	Woman	Moldova	lucia.sandu@eurocontrol.int	Category D First stage r	Team member		
Mr	Stefano	Tiberia	Man	Italy	stefano.tiberia@eurocontrol.int	Category B Senior resea	Team member		
Mrs	Aleksandra	Owoc-Berson	Woman	Poland	aleksandra.owoc-berson@eurocontrol.int	Category D First stage r	Team member		

Role of participating organisation in the project

Project management	☒
Communication, dissemination and engagement	☒
Provision of research and technology infrastructure	☒
Co-definition of research and market needs	☐
Civil society representative	☐
Policy maker or regulator, incl. standardisation body	☐
Research performer	☒
Technology developer	☐
Testing/validation of approaches and ideas	☒
Prototyping and demonstration	☐
IPR management incl. technology transfer	☐
Public procurer of results	☐
Private buyer of results	☐
Finance provider (public or private)	☐
Education and training	☐
Contributions from the social sciences or/and the humanities	☐
Other If yes, please specify: (Maximum number of characters allowed: 50)	☐

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Other achievement	*As a founding member of the SESAR Programme and Joint Undertaking, EUROCONTROL has been involved in all the phases (Definition, Development and Deployment) contributing significantly to many of its most important achievements, such as the definition and maintenance of the European ATM Master Plan, the SESAR 3 Strategic Research and Innovation Agenda and a large number of Solutions delivered in the context of the SESAR 1 and SESAR 2020.*
Dataset	*The EUROCONTROL Base of Aircraft Data (BADA) Aircraft Performance Model (APM) is a globally recognized reference database containing aircraft-specific coefficients and theoretical models used to calculate aircraft performance parameters.*
Service	*The EUROCONTROL Network Manager Operations Centre (NMOC) permanently monitors the airspace capacity against traffic load. This allows us to have an accurate picture of the current and expected European ATM network situation. To ensure the transparent and efficient operation of the network, we collect all of the real-time data generated by the network and share it with all operational partners through our Data Collection and Distribution Services (DCS and DDS).*
Service	*At the EUROCONTROL NMOC we measure, investigate and report on operational processes and activities throughout all domains relevant to Air Traffic Flow and Capacity Management. All stakeholders provide feedback on the efficiency of the flight planning and airspace data processing. We compare forecasts with the actual measured outcome in terms of delay and route extension, while taking into account performance targets. This helps us improve the performance of the European ATM Network.*

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
ECHO 2 project (Ref 101114697)	*ECHO-2 is building on the deliverables of the ECHO (European Concept of Higher airspace Operations) project, starting from the Concept of Operations, to propose validated solutions paving the way towards the operational integration of HAO in ATM.*
ECHO project (ref. SESARER4-19-2019)	*The ECHO (European Concept of Higher airspace Operations) Project aimed at delivering a comprehensive demand analysis and a comprehensive, innovative and feasible Concept of Operations enabling near term and future Higher Airspace operations in a safe and orderly manner.*

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)
NMVP	*Validation platform allowing to design and validate solutions for Network Management in a more flexible way. Validations can now be replayed across NM's backend systems (Enhanced Tactical Flow Management System, Integrated Initial Flight Plan Processing System) and the front-end systems.*

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below? (•) Yes ( ) No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
    - work-life balance and organisational culture;
    - gender balance in leadership and decision-making;
    - gender equality in recruitment and career progression;
    - integration of the gender dimension into research and teaching content;
    - measures against gender-based violence including sexual harassment.

PIC	Legal name
999936820	*DFS DEUTSCHE FLUGSICHERUNG GMBH*

Short name: DFS

Address

Street	AM DFS CAMPUS 10
Town	LANGEN
Postcode	63225
Country	Germany
Webpage	www.dfs.de

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is unknown (small- and medium-sized enterprise) for the call.

SME self-declared status	unknown
SME self-assessment	unknown
SME validation	unknown

Departments carrying out the proposed work

No department involved

Department name *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street *Please enter street name and number.*

Town *Please enter the name of the town.*

Postcode *Area code.*

Country *Please select a country*

Links with other participants

Type of link	Participant

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title Mr

Gender ○ Woman ◉ Man ○ Non Binary

First name* **Andreas**

Last name* **UDOVIC**

E-Mail* **andreas.udovic@dfs.de**

Position in org. Project Manager

Department Operational Planing

☐ Same as organisation name

☒ Same as proposing organisation's address

Street AM DFS CAMPUS 10

Town LANGEN

Post code 63225

Country Germany

Website www.dfs.de

Phone 0610370705758

Phone 2 *+xxx xxxxxxxxx*

Other contact persons

First Name	Last Name	E-mail	Phone
Alexander	SEYBOLD	alexander.seybold@dfs.de	+4961077072034
Oliver	ALBERT	oliver.albert@dfs.de	+4961077072073

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Mr	Andreas	Udovic	Man	Germany	andreas.udovic@dfs.de	Category B Senior resea	Team member		Researcher ID

Role of participating organisation in the project

Project management	☒
Communication, dissemination and engagement	☒
Provision of research and technology infrastructure	☐
Co-definition of research and market needs	☐
Civil society representative	☐
Policy maker or regulator, incl. standardisation body	☐
Research performer	☐
Technology developer	☐
Testing/validation of approaches and ideas	☒
Prototyping and demonstration	☐
IPR management incl. technology transfer	☐
Public procurer of results	☐
Private buyer of results	☐
Finance provider (public or private)	☐
Education and training	☐
Contributions from the social sciences or/and the humanities	☐
Other If yes, please specify: (Maximum number of characters allowed: 50)	☐

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Publication	• *Presentation of „Obelisk“ auf den Kongress „HAPS4ESA Workshop“, 12-14.02.2024, Leiden*
Publication	• *Article: Obelisk - Operationelles Betriebskonzept zur sicheren und effizienten Luftraumintegration von Stratosphärenplattformen, DFS-Zeitschrift „Innovation im Fokus“ publication in preparation for 2025 foreseen*

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
OBELISK	• *German national founded projetct „Obelisk Operationelles Betriebskonzept zur sicheren und effizienten Luftraumintegration von Stratosphärenplattformen“ 2019-2024*
ECHO2	• *Participation on „ECHO 2 European Concept für High Altitude Operations 2” 2023-2026*

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below? ○ Yes ◉ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
    - work-life balance and organisational culture;
    - gender balance in leadership and decision-making;
    - gender equality in recruitment and career progression;
    - integration of the gender dimension into research and teaching content;
    - measures against gender-based violence including sexual harassment.

PIC	Legal name
998197513	*ENAV SPA*

Short name: ENAV

Address

Street	VIA SALARIA 716
Town	ROMA
Postcode	00138
Country	Italy
Webpage	www.enav.it

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	28/08/2008	- yes
SME self-assessment	unknown	
SME validation	28/08/2008	- no

Departments carrying out the proposed work

Department 1

Department name	Engineering and Infrastructures	☐ not applicable
	☐ Same as proposing organisation's address	
Street	Via Appia Nuova 1491	
Town	Rome	
Postcode	00178	
Country	Italy	

Links with other participants

Type of link	Participant

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title Ms

Gender (•) Woman ( ) Man ( ) Non Binary

First name* **Ramona**

Last name* **SANTARELLI**

E-Mail* **ramona.santarelli@enav.it**

Position in org. ATM Researcher

Department Innovation and Research

☐ Same as organisation name

☐ Same as proposing organisation's address

Street Via Pietro Boccanelli, 32/34

Town Rome

Post code 00138

Country Italy

Website www.enav.it

Phone +39 06 81664013

Phone 2 *+xxx xxxxxxxxx*

Other contact persons

First Name	Last Name	E-mail	Phone
Daniele	Teotino	daniele.teotino@enav.it	+39 0681662364
Angela	Iurilli	angela.iurilli@enav.it	+39 06 81664411
Patrizia	Criscuolo	patrizia.criscuolo.1@enav.it	+xxx xxxxxxxxx

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Ms	Ramona	Santarelli	Woman	Italy	ramona.santarelli@enav.it	Category B Senior resea	Team member	EX2025D1106377	Researcher ID
Ms	Marinella	Massari	Woman	Italy	marinella.massari@enav.it	Category B Senior resea	Team member		

Administrative forms

Role of participating organisation in the project

Project management	☒
Communication, dissemination and engagement	☒
Provision of research and technology infrastructure	☐
Co-definition of research and market needs	☒
Civil society representative	☐
Policy maker or regulator, incl. standardisation body	☐
Research performer	☒
Technology developer	☐
Testing/validation of approaches and ideas	☐
Prototyping and demonstration	☐
IPR management incl. technology transfer	☐
Public procurer of results	☐
Private buyer of results	☐
Finance provider (public or private)	☐
Education and training	☐
Contributions from the social sciences or/and the humanities	☐
Other If yes, please specify: (Maximum number of characters allowed: 50)	☐

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Publication	*Cleared 06/2020 "Space Traffic Management - La futura gestione del traffico aereo nello spazio". S. Romano, L. Brucculeri, ENAV, Italy*
Publication	*Cleared 02/2025 "Navigare nel futuro, l'ascesa delle Higher Airspace Operations". R. Santarelli, Federico Ferrari, ENAV, Italy*
Publication	*Aerospace 2019, 7, 24, "U-Space Concept of Operations: A Key Enabler for Opening Airspace to Emerging Low-Altitude Operations". Cristina Barrado, Mario Boyero, Luigi Brucculeri, Giancarlo Ferrara, Andrew Hately, Peter Hullah, David Martin-Marrero, Enric Pastor, Anthony Peter Rushton and Andreas Volkert .*

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
SESAR3 ECHO2 European Concept for HAO Phase 2	*The project aims to define new operating methods to support the safe, secure, and sustainable development of civil aviation operations taking place in higher airspace. The project develops three solutions for integrating higher airspace operations in the European ATM system, focusing on Space Real Time Mission Monitoring supporting Network Operations, and the integration of HAPS, Supersonic, Hypersonic and Suborbital Operations in European ATM.*
ECHO European Concept for HAO	*The ECHO (European Concept of Higher airspace Operations) Project delivers a comprehensive demand analysis and a comprehensive, innovative and feasible Concept of Operations enabling near term and future Higher Airspace operations in a safe and orderly manner.*

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below? ○ Yes ◉ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
    - work-life balance and organisational culture;
    - gender balance in leadership and decision-making;
    - gender equality in recruitment and career progression;
    - integration of the gender dimension into research and teaching content;
    - measures against gender-based violence including sexual harassment.

PIC	Legal name
942346077	*LUFTFARTSVERKET*

Short name: LFV

Address

Street	HOSPITALSGATAN 30
Town	NORRKOPING
Postcode	602 27
Country	Sweden
Webpage	http://www.lfv.se

Specific Legal Statuses

Legal person	yes
Public body	yes
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	20/03/2014 - no
SME self-assessment	unknown
SME validation	unknown

Departments carrying out the proposed work

Department 1

Department name	LFV Research and Innovation	☐ not applicable
	☒ Same as proposing organisation's address	
Street	HOSPITALSGATAN 30	
Town	NORRKOPING	
Postcode	602 27	
Country	Sweden	

Links with other participants

Type of link	Participant

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title: Ms

Gender: (•) Woman ( ) Man ( ) Non Binary

First name*: **Lindsey**

Last name*: **MARTENEZ-HERMOSILLA**

E-Mail*: **lindsey.martenez-hermosilla@lfv.se**

Position in org.: LFV SESAR Programme- and Contribution Manager

Department: LUFTFARTSVERKET ☒ Same as organisation name

☒ Same as proposing organisation's address

Street: HOSPITALSGATAN 30

Town: NORRKOPING

Post code: 602 27

Country: Sweden

Website: www.lfv.se

Phone: +46 721 429 192

Phone 2: *+xxx xxxxxxxxx*

Other contact persons

First Name	Last Name	E-mail	Phone
Stefan	SIGGELIN	stefan.siggelin@lfv.se	+xxx xxxxxxxxx

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier

Role of participating organisation in the project

Project management	☐
Communication, dissemination and engagement	☐
Provision of research and technology infrastructure	☐
Co-definition of research and market needs	☐
Civil society representative	☐
Policy maker or regulator, incl. standardisation body	☐
Research performer	☒
Technology developer	☐
Testing/validation of approaches and ideas	☒
Prototyping and demonstration	☐
IPR management incl. technology transfer	☐
Public procurer of results	☐
Private buyer of results	☐
Finance provider (public or private)	☐
Education and training	☐
Contributions from the social sciences or/and the humanities	☐
Other If yes, please specify: (Maximum number of characters allowed: 50)	☐

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
SESAR IR1 ECHO2	*The SESAR IR1 ECHO2 project was built on the deliverables of the ECHO (European Concept of Higher airspace Operations) project. LFV participated in ECHO2 withc ATCO expertise, both with the Concept of Operations, but also as active participants of the project EXE.*

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)
LFV R&D Center	*Located at ATCC Malmö, the LFV R&D Centre is equipped with lab, simulators, and conference facilities, and is capable of conducting human-in-the-loop simulations and demonstrations. The available simulators include NARSIM (for ACC, APP, and TWR), the SAAB RTS simulator, and the UTM City platform.*

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below? (•) Yes ( ) No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
    - work-life balance and organisational culture;
    - gender balance in leadership and decision-making;
    - gender equality in recruitment and career progression;
    - integration of the gender dimension into research and teaching content;
    - measures against gender-based violence including sexual harassment.

PIC	Legal name
997542763	*NATS (EN ROUTE) PUBLIC LIMITED COMPANY*

Short name: NATS

Address

Street	4000 PARKWAY WHITELEY
Town	FAREHAM
Postcode	PO15 7FL
Country	United Kingdom
Webpage	www.nats.aero

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is unknown (small- and medium-sized enterprise) for the call.

SME self-declared status	unknown
SME self-assessment	unknown
SME validation	unknown

Departments carrying out the proposed work

Department 1

Department name	NATS (En Route) Public Limited Company (CTC)	☐ not applicable
	☒ Same as proposing organisation's address	
Street	4000 PARKWAY WHITELEY	
Town	FAREHAM	
Postcode	PO15 7FL	
Country	United Kingdom	

Links with other participants

Type of link	Participant

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title Mr

Gender ○ Woman ◉ Man ○ Non Binary

First name* **Patrick**

Last name* **GILES**

E-Mail* **patrick.giles@nats.co.uk**

Position in org. Manager, ATM Portfolio - D&B

Department NATS (En Route) Public Limited Company (CTC)

☐ Same as organisation name

☒ Same as proposing organisation's address

Street 4000 PARKWAY WHITELEY

Town FAREHAM

Post code PO15 7FL

Country United Kingdom

Website www.nats.aero

Phone *+xxx xxxxxxxxx*

Phone 2 *+xxx xxxxxxxxx*

Other contact persons

First Name	Last Name	E-mail	Phone
Alison	ROBERTS	alison.roberts@nats.co.uk	+xxx xxxxxxxxx
Matthew	GREEN	matthew.green@nats.co.uk	+xxx xxxxxxxxx
Richard	HAYWARD	richard.hayward@nats.co.uk	+xxx xxxxxxxxx
Richard	PUGH	richard.pugh@nats.co.uk	+xxx xxxxxxxxx

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Mr	Patrick	Giles	Man	United Kingdom	patrick.giles@nats.co.uk	Category B Senior resea	Leading		
Mr	Richard	Hayward	Man	United Kingdom	richard.hayward@nats.co.uk	Category C Recognised	Team member		

Role of participating organisation in the project

Project management	☐
Communication, dissemination and engagement	☒
Provision of research and technology infrastructure	☐
Co-definition of research and market needs	☐
Civil society representative	☐
Policy maker or regulator, incl. standardisation body	☐
Research performer	☒
Technology developer	☐
Testing/validation of approaches and ideas	☒
Prototyping and demonstration	☐
IPR management incl. technology transfer	☐
Public procurer of results	☐
Private buyer of results	☐
Finance provider (public or private)	☐
Education and training	☐
Contributions from the social sciences or/and the humanities	☐
Other If yes, please specify: (Maximum number of characters allowed: 50)	☐

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Other achievement	*Participation in SESAR ECHO 2 project, including leading the development of the OSED document for WP - High AItitude Platform Systems.*
Service	*Operational support to UK Ministry of Defence / US Air Force in Europe with regard to current (military) high altitude operations.*
Service	*Past operational experience of operating very high / very fast commercial airliners undertaking inter-continental flights (Concorde).*
Service	*Operational involvement in UK-based Space Launches.*

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
SESAR 3 ECHO 2	*The ECHO 2 project is further developing concepts identified in the initial ECHO Concept of Operations document. This work will be a key input to the STRATUS project as it is in the ECHO2 discussions that the need for the STRATUS project was identified.*

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below? (•) Yes ( ) No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
    - work-life balance and organisational culture;
    - gender balance in leadership and decision-making;
    - gender equality in recruitment and career progression;
    - integration of the gender dimension into research and teaching content;
    - measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
997701843	*ENAIRE*

Short name: ENAIRE

Address

Street	AVENIDA DE ARAGON S/N BLOQUE 330, PORTAL
Town	MADRID
Postcode	28022
Country	Spain
Webpage	http://www.enaire.es

Specific Legal Statuses

Legal person	yes
Public body	yes
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	14/06/1991 - no
SME self-assessment	unknown
SME validation	unknown

Departments carrying out the proposed work

Department 1

Department name	Innovation Division	☐ not applicable
	☒ Same as proposing organisation's address	
Street	AVENIDA DE ARAGON S/N BLOQUE 330, PORTAL	
Town	MADRID	
Postcode	28022	
Country	Spain	

Links with other participants

Type of link	Participant
Controls	CENTRO DE REFERENCIA INVESTIGACION DESARROLLO E INNOVACION ATM, A.I.E.

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title Mr

Gender ◯ Woman ◉ Man ◯ Non Binary

First name* **Francisco José**

Last name* **Jiménez Roncero**

E-Mail* **fjroncero@enaire.es**

Position in org. Head of Division

Department Innovation Division

☐ Same as organisation name

☒ Same as proposing organisation's address

Street AVENIDA DE ARAGON S/N BLOQUE 330, PORTAL 2 PARQUE EMPRESARIAL LAS

Town MADRID

Post code 28022

Country Spain

Website www.enaire.es

Phone +34 634 880 079

Phone 2 *+xxx xxxxxxxxx*

Other contact persons

First Name	Last Name	E-mail	Phone
Daniel	DOMINGUEZ	ddoperez@enaire.es	+xxx xxxxxxxxx
Javier	García Moreno	jgmoreno@enaire.es	+xxx xxxxxxxxx
Jorge	Vellón Benito	jvellon@e-externas.enaire.es	+xxx xxxxxxxxx

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier

Role of participating organisation in the project

Project management	☐
Communication, dissemination and engagement	☒
Provision of research and technology infrastructure	☐
Co-definition of research and market needs	☐
Civil society representative	☐
Policy maker or regulator, incl. standardisation body	☐
Research performer	☒
Technology developer	☐
Testing/validation of approaches and ideas	☒
Prototyping and demonstration	☒
IPR management incl. technology transfer	☐
Public procurer of results	☐
Private buyer of results	☐
Finance provider (public or private)	☐
Education and training	☐
Contributions from the social sciences or/and the humanities	☐
Other If yes, please specify: (Maximum number of characters allowed: 50)	☐

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
EUSTM	*EUSTM is an end-to end activity towards the definition of a future STM capability:* *· Defining the needs in terms of organisation and responsibilities, technology, policy, laws, guidelines, best practices and standards* *· Elaborating detailed specs, a preliminary design, a reference roadmap and a ROM cost analysis* *· Developing an innovative collaborative platform for exchange of information inside the team and with external stakeholders* *· Creating a community of interest on STM*
ECHO 2	*The main objective of this project is the modernisation and adaptation of the European ATM system that allows the integration of the so-called high-altitude operations or Higher Airspace Operations (HAO). These types of operations occur above flight level FL550, that is, operations above 17,000 meters, while flights usually take place around 10,000 meters.*

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below? (•) Yes ( ) No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
    - work-life balance and organisational culture;
    - gender balance in leadership and decision-making;
    - gender equality in recruitment and career progression;
    - integration of the gender dimension into research and teaching content;
    - measures against gender-based violence including sexual harassment.

PIC	Legal name
988366078	*ENTE NAZIONALE PER L'AVIAZIONE CIVILE - ENAC ITALIAN CIVIL AVIATION AUTHORITY*

Short name: ENAC IT

Address

Street	VIALE CASTRO PRETORIO 118
Town	ROMA
Postcode	00185
Country	Italy
Webpage	http://www.enac.gov.it

Specific Legal Statuses

Legal person	yes
Public body	yes
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	25/05/1997 - no
SME self-assessment	unknown
SME validation	unknown

Departments carrying out the proposed work

Department 1

Department name	Direzione Innovazione Tecnologica	☐ not applicable
	☒ Same as proposing organisation's address	
Street	VIALE CASTRO PRETORIO 118	
Town	ROMA	
Postcode	00185	
Country	Italy	

Links with other participants

Type of link	Participant

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title Dr

Gender ◯ Woman ◉ Man ◯ Non Binary

First name* **Giovanni**

Last name* **Di ANTONIO**

E-Mail* **g.diantonio@enac.gov.it**

Position in org. Director

Department Direzione Innovazione Tecnologica

☐ Same as organisation name

☒ Same as proposing organisation's address

Street VIALE CASTRO PRETORIO 118

Town ROMA

Post code 00185

Country Italy

Website *Please enter website*

Phone 00390644596618

Phone 2 *+xxx xxxxxxxxx*

Other contact persons

First Name	Last Name	E-mail	Phone
Fabrizzio	ARRU	f.arru@enac.gov.it	0039 0644596367
Alessandro	BUCCI	a.bucci@enac.gov.it	0039 0644596389

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Mr	Fabrizio	Arru	Man	Italy	f.arru@enac.gov.it	Category C Recognised	Team member		
Mr	Alessandro	Bucci	Man	Italy	a.bucci@enac.gov.it	Category C Recognised	Team member		
Mr	Giovanni	Di Antonio	Man	Italy	g.diantonio@enac.gov.it	Category A Top grade re	Leading		
Mr	Luigi	Morra	Man	Italy	l.morra@enac.gov.it	Category C Recognised	Team member		
Mr	Marco	Catalano	Man	Italy	m.catalano@enac.gov.it	Category C Recognised	Team member		

Role of participating organisation in the project

Project management	☐
Communication, dissemination and engagement	☐
Provision of research and technology infrastructure	☐
Co-definition of research and market needs	☐
Civil society representative	☐
Policy maker or regulator, incl. standardisation body	☒
Research performer	☐
Technology developer	☐
Testing/validation of approaches and ideas	☐
Prototyping and demonstration	☐
IPR management incl. technology transfer	☐
Public procurer of results	☐
Private buyer of results	☐
Finance provider (public or private)	☐
Education and training	☐
Contributions from the social sciences or/and the humanities	☐
Other If yes, please specify: (Maximum number of characters allowed: 50)	☐

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
ECHO	*ENAC (IT) was involved in the development of the ECHO CONOPS*
ECHO 2	*ENAC (IT) is currently involved in all 3 WPs and is leading WP3 of the project*

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below? (•) Yes ( ) No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
    - work-life balance and organisational culture;
    - gender balance in leadership and decision-making;
    - gender equality in recruitment and career progression;
    - integration of the gender dimension into research and teaching content;
    - measures against gender-based violence including sexual harassment.

PIC	Legal name
969410435	*CONSORCIO AERODROMO AEROPUERTO DE TERUEL*

Short name: CONSORCIO AERODROMO AEROPUERTO DE TERUEL

Address

Street	POLIGONO DE TIRO 4
Town	TERUEL
Postcode	44396
Country	Spain
Webpage	http://www.aeropuertodeteruel.com/

Specific Legal Statuses

Legal person	yes
Public body	yes
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	29/12/2006 - no
SME self-assessment	unknown
SME validation	unknown

Departments carrying out the proposed work

No department involved

Department name *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street *Please enter street name and number.*

Town *Please enter the name of the town.*

Postcode *Area code.*

Country *Please select a country*

Links with other participants

Type of link	Participant

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title Mr

Gender ◯ Woman ◉ Man ◯ Non Binary

First name* **Alejandro**

Last name* **IBRAHIM PERERA**

E-Mail* **aibrahim@aeropuertodeteruel.com**

Position in org. General Manager

Department CONSORCIO AERODROMO AEROPUERTO DE TERUEL

☒ Same as organisation name

☒ Same as proposing organisation's address

Street POLIGONO DE TIRO 4

Town TERUEL

Post code 44396

Country Spain

Website https://www.aeropuertodeteruel.com/en/

Phone +034 978617742

Phone 2 *+xxx xxxxxxxxx*

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier

Role of participating organisation in the project

Project management	☐
Communication, dissemination and engagement	☐
Provision of research and technology infrastructure	☐
Co-definition of research and market needs	☒
Civil society representative	☐
Policy maker or regulator, incl. standardisation body	☐
Research performer	☐
Technology developer	☐
Testing/validation of approaches and ideas	☒
Prototyping and demonstration	☐
IPR management incl. technology transfer	☐
Public procurer of results	☐
Private buyer of results	☐
Finance provider (public or private)	☐
Education and training	☒
Contributions from the social sciences or/and the humanities	☐
Other If yes, please specify: (Maximum number of characters allowed: 50)	☐

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Service	*Airport Management: landing, takeoff, aircraft parking.* *Aircraft maintenance, parking and recycling.* *Security and Surveillance Services.* *Maintenance service and cleaning of the facilities.* *Support to operations and Handling.* *Aviation fuel service.* *Aircraft support (ASU compressed air up to B747 type aircraft, sweeper, de-icing equipment).* *Flight tests and trials service.* *Aeronautical Meteorology Service.* *Rescue and firefighting service.* *Logistics service in industrial area.*

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
Stratoport	*Design a stratoport for fix-wing aircrafts and airship. Teruel airport with the capacity for stratospheric flight aircraft with HAPS-type airships.*

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)
Stratospheric airship hangar	*Teruel Airport Consortium has put out to tender the construction of a hangar and a production facility for stratospheric airships.*

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below? (•) Yes ( ) No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
    - work-life balance and organisational culture;
    - gender balance in leadership and decision-making;
    - gender equality in recruitment and career progression;
    - integration of the gender dimension into research and teaching content;
    - measures against gender-based violence including sexual harassment.

PIC	Legal name
870906450	*SkyNav Europe*

Short name: SkyNav Europe

Address

Street	Rue Coppens 16
Town	Brussels
Postcode	1000
Country	Belgium
Webpage	www.skynavintl.com

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	27/09/2024	- yes
SME self-assessment	27/09/2024	- yes
SME validation	unknown	

Departments carrying out the proposed work

No department involved

Department name *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street *Please enter street name and number.*

Town *Please enter the name of the town.*

Postcode *Area code.*

Country *Please select a country*

Links with other participants

Type of link	Participant

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title: Mr

Gender: ○ Woman ◉ Man ○ Non Binary

First name*: **Ben**

Last name*: **KINGS**

E-Mail*: **ben.kings@skynavintl.com**

Position in org.: Managing Director/Owner

Department: SkyNav Europe

☒ Same as organisation name

☒ Same as proposing organisation's address

Street: Rue Coppens 16

Town: Brussels

Post code: 1000

Country: Belgium

Website: https://skynavintl.com/

Phone: +31615625092

Phone 2: *+xxx xxxxxxxxx*

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Mr	Ben	Kings	Man		ben.kings@skynavintl.com	Category A Top grade re	Leading		
Mr	Duncan	Auld	Man		duncan.auld@skynavintl.com	Category A Top grade re	Leading		
Mr	Zheng	Tao	Man		zheng.tao@skynavintl.com	Category B Senior resea	Team member		
Ms	Qina	Diao	Woman		qina.diao@skynavintl.com	Category B Senior resea	Team member		
Ms	Julie	Caraga	Woman		julie.caraga@skynavintl.com	Category D First stage r	Team member		

Role of participating organisation in the project

Project management	☒
Communication, dissemination and engagement	☒
Provision of research and technology infrastructure	☐
Co-definition of research and market needs	☒
Civil society representative	☐
Policy maker or regulator, incl. standardisation body	☒
Research performer	☒
Technology developer	☐
Testing/validation of approaches and ideas	☒
Prototyping and demonstration	☐
IPR management incl. technology transfer	☐
Public procurer of results	☐
Private buyer of results	☐
Finance provider (public or private)	☐
Education and training	☐
Contributions from the social sciences or/and the humanities	☐
Other If yes, please specify: (Maximum number of characters allowed: 50)	☐

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Service	*ECHO2 subcontractor* *Participation in the ECHO2 consortium as a contractor focusing on higher airspace and space transport integration. Contributions include operational concept refinement, validation planning, stakeholder mapping, and alignment with ANSP procedures and Network functions. The work informs scalable approaches for trajectory management and airspace reservations. Includes project management and deliverable lead.*
Service	*Operational ATM experience* *Decades of global, operational Air Traffic Control experience across all ATC disciplines (Tower, Approach, Area, Oceanic) and at all function levels. Operational supervision, flow management, training, training management, safety and technical committee representation, operational procedure development, international cross-border negotiations, airspace design, safety risk assessments and environmental impact studies*
Service	*ICAO drafting and representation* *Contributed to drafting and review activities at ICAO in relation to Annex 11, Annex 10 and PANS-ATM material. Work includes requirements structuring, procedure text, and consistency checks across datasets and guidance, supporting globally harmonised ATM provisions relevant to STO and HAO integration. Leading working groups on ATM planning & implementation, development of Global ATM Operational Concept, development of Aviation System Block Upgrades*
Service	*State regulatory drafting and representation* *Several years of regulatory drafting support for a Gulf State authority, updating national civil aviation regulations, AMC/GM-style guidance and implementation procedures across ANS, operations and oversight. Emphasis on practicality, traceability and alignment with ICAO and regional provisions. Leadership of ICAO regional groups and task forces related to integration of space transport activities.*
Service	*Project Management & Leadership Expertise* *Extensive track record in project and organisational leadership, including executive roles within IFATCA (International Federation of Air Traffic Controllers' Associations). Demonstrated ability to manage complex international initiatives, coordinate diverse stakeholders, and oversee multi-million-euro budgets. Proven experience in steering strategic aviation projects, ensuring delivery of innovative outcomes aligned with European policy & industry needs*

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
SESAR ECHO / ECHO2 – HAO Integration	*Participation in ECHO and ECHO2 on higher airspace and space transport integration. Roles covered operational scenarios, requirements traceability, validation planning, stakeholder engagement and alignment with EUROCONTROL and ICAO practices for cross-border coordination and dynamic, minimal-impact airspace management.*
iNEO – Project Management Plan & Governance Appr.	*Development of a rigorous PMP and governance model for multi-partner R&D, covering schedule baselining, risk and compliance, quality assurance, and reporting. The approach underpins efficient WP coordination and is directly reusable for STRATUS WP1.*
UAE National Regulations Development Programme	*Regulatory drafting support for a Gulf State authority, updating national civil aviation regulations, AMC/GM-style guidance and implementation procedures across ANS, operations and oversight. Emphasis on practicality, traceability and alignment with ICAO and regional provisions.*

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below? (•) Yes ( ) No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
    - work-life balance and organisational culture;
    - gender balance in leadership and decision-making;
    - gender equality in recruitment and career progression;
    - integration of the gender dimension into research and teaching content;
    - measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
996375756	*ECOLE NATIONALE DE L AVIATION CIVILE*

Short name: ENAC FR

Address

Street	AVENUE EDOUARD BELIN 7
Town	TOULOUSE
Postcode	31400
Country	France
Webpage	www.enac.fr

Specific Legal Statuses

Legal person	yes
Public body	yes
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	yes
Research organisation	yes

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	27/05/2020 - no
SME self-assessment	unknown
SME validation	unknown

Departments carrying out the proposed work

No department involved

Department name *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street *Please enter street name and number.*

Town *Please enter the name of the town.*

Postcode *Area code.*

Country *Please select a country*

Department 2

Department name ENAC LAB ☐ not applicable

☒ Same as proposing organisation's address

Street AVENUE EDOUARD BELIN 7

Town TOULOUSE

Postcode 31400

Country France

Links with other participants

Type of link	Participant

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title Mr

Gender ◯ Woman ◉ Man ◯ Non Binary

First name* **Georges**

Last name* **MYKONIATIS**

E-Mail* **georges.mykoniatis@enac.fr**

Position in org. Head of Business Development for ENAC LAB

Department ECOLE NATIONALE DE L AVIATION CIVILE

☒ Same as organisation name

☒ Same as proposing organisation's address

Street AVENUE EDOUARD BELIN 7

Town TOULOUSE

Post code 31400

Country France

Website *Please enter website*

Phone +33619911108

Phone 2 *+xxx xxxxxxxxx*

Other contact persons

First Name	Last Name	E-mail	Phone
Aurelie	PEAUD	aurelie.peuaud@enac.fr	+xxx xxxxxxxxx
Florence	LAPORTERIE-DEJEAN	florence.laporterie-dejean@enac.fr	+33562259509

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Dr	Murat	Bronz	Man	France	murat.bronz@enac.fr	Category A Top grade re	Leading	0000-0002-1098-5240	Orcid ID
Dr	Rodolphe	Fremond	Man	France	rodolphe.fremond@enac.fr	Category D First stage r	Team member	0009-0008-1513-9597	Orcid ID
Prof	Daniel	Delahaye	Man	France	daniel.delahaye@enac.fr	Category A Top grade re	Leading	0000-0002-4965-6815	Orcid ID
Dr	Andreas	Guitart	Man	France	andreas.guitart@enac.fr	Category C Recognised	Team member	0000-0002-1944-2250	Orcid ID
Mr	Georges	Mykoniatis	Man	France	georges.mykoniatis@enac.fr	Category C Recognised	Leading	0000-0002-5550-579X	Orcid ID

Role of participating organisation in the project

Project management	☐
Communication, dissemination and engagement	☐
Provision of research and technology infrastructure	☒
Co-definition of research and market needs	☐
Civil society representative	☐
Policy maker or regulator, incl. standardisation body	☐
Research performer	☒
Technology developer	☐
Testing/validation of approaches and ideas	☒
Prototyping and demonstration	☐
IPR management incl. technology transfer	☐
Public procurer of results	☐
Private buyer of results	☐
Finance provider (public or private)	☐
Education and training	☒
Contributions from the social sciences or/and the humanities	☐
Other If yes, please specify: (Maximum number of characters allowed: 50)	☐

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Publication	*Andréas Guitart, Daniel Delahaye. Design of low-noise arrival and departure procedures in Paris TMA using Simulated Annealing. 2025. ?hal-05208145?*
Publication	*Nana Chu, Chenliang Zhang, Kam K.K.Ng, Daniel Delahaye. Unlocking Runway Capacity: Enhancing Efficiency through Dynamic Pairwise Aircraft Wake Separation. ATRD Symposium 2025, Eurocontrol FAA, Jun 2025, Prague (Czech Republic), Czech Republic. ?hal-05131139?*
Publication	*Zhao, J.; Wen, Z.; Mohanta, K.; Subasu, S.; Fremond, R.; Su, Y.; Kallaka, R.; Tsourdos, A. UAV Operations and Vertiport Capacity Evaluation with a Mixed-Reality Digital Twin for Future Urban Air Mobility Viability. Drones 2025, 9, 621. https://doi.org/10.3390/drones9090621*
Publication	*Raúl Sáez, Homeyra Khaledian, Xavier Prats, Andréas Guitart, Daniel Delahaye, et al.. A Fast and Flexible Emergency Trajectory Generator Enhancing Emergency Geometric Planning with Aircraft Dynamics. Fourteenth USA/Europe Air Traffic Management Research and Development Seminar (ATM2021), Sep 2021, New Orleans (virtual), United States. ?hal-03351220?*
Publication	*Hachem, M., Roos, C., Miquel, T., & Bronz, M. (2025). Improving Incremental Nonlinear Dynamic Inversion Robustness Using Robust Control in Aerial Robotics. arXiv preprint arXiv:2501.07223.*

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
ECHO	*European Concept of Higher Airspace Operations - SESAR* *A concept of operations (ConOps) for higher airspace* *https://higherairspace.eu/echo-project/*
ECHO2	*Towards the integration between ATM and Higher Altitude Operations - SESAR* *https://higherairspace.eu/echo2-project/*

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below? (•) Yes ( ) No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
    - work-life balance and organisational culture;
    - gender balance in leadership and decision-making;
    - gender equality in recruitment and career progression;
    - integration of the gender dimension into research and teaching content;
    - measures against gender-based violence including sexual harassment.

PIC	Legal name
999789768	*C.I.R.A. CENTRO ITALIANO RICERCHE AEROSPAZIALI SCPA*

Short name: CIRA

Address

Street	VIA MAIORISE
Town	CAPUA
Postcode	81043
Country	Italy
Webpage	www.cira.it

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	yes

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	25/01/2022 - no
SME self-assessment	unknown
SME validation	26/06/2008 - no

Departments carrying out the proposed work

Department 1

Department name	Cross Cutting Research Directorate	☐ not applicable
	☒ Same as proposing organisation's address	
Street	VIA MAIORISE	
Town	CAPUA	
Postcode	81043	
Country	Italy	

Links with other participants

Type of link	Participant

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title Dr

Gender ◉ Woman ○ Man ○ Non Binary

First name* **Angela**

Last name* **VOZELLA**

E-Mail* **a.vozella@cira.it**

Position in org. Deputy Head of Cross Cutting Research Directorate

Department Cross Cutting Research Directorate ☐ Same as organisation name

☒ Same as proposing organisation's address

Street VIA MAIORISE

Town CAPUA

Post code 81043

Country Italy

Website www.cira.it

Phone 00390823622723

Phone 2 *+xxx xxxxxxxxx*

Other contact persons

First Name	Last Name	E-mail	Phone
Gabriella	GIGANTE	g.gigante@cira.it	00390823623514
Francesco	NEBULA	f.nebula@cira.it	+xxx xxxxxxxxx
Lidia	TRAVASCIO	l.travascio@cira.it	+xxx xxxxxxxxx

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Dr	Francesco	Gargiulo	Man	Italy	f.gargiulo@cira.it	Category B Senior resea	Team member	https://www.researchgate.net/profile/Francesco-Gargiulo	Other ID
Dr	Francesco	Nebula	Man	Italy	f.nebula@cira.it	Category B Senior resea	Leading	0000-0002-3219-7245	Orcid ID
Dr	Angela	Errico	Woman	Italy	a.errico@cira.it	Category B Senior resea	Team member	0009-0009-3716-4096	Orcid ID

Role of participating organisation in the project

Project management	☐
Communication, dissemination and engagement	☒
Provision of research and technology infrastructure	☒
Co-definition of research and market needs	☐
Civil society representative	☐
Policy maker or regulator, incl. standardisation body	☐
Research performer	☒
Technology developer	☐
Testing/validation of approaches and ideas	☐
Prototyping and demonstration	☐
IPR management incl. technology transfer	☐
Public procurer of results	☐
Private buyer of results	☐
Finance provider (public or private)	☐
Education and training	☐
Contributions from the social sciences or/and the humanities	☐
Other If yes, please specify: (Maximum number of characters allowed: 50)	☐

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Publication	*Escarré, O. B., de Urrengoechea Cantavenera, T., Eroles, M. À. P., Gigante, G., & Gargiulo, F. (2024). Flying Like Geese: Green, Sustainable, and Efficient. Computing in science & engineering, 26(2), 54-60.*
Publication	*Gargiulo, F., Gigante, G., Escarré, O. B., & De Urrengoechea, T. (2024, July). SESAR GEESE Project Validation with CIRA Multi-Agent Simulation Facility: Preliminary Study. In 2024 15th International Conference on Information, Intelligence, Systems & Applications (IISA) (pp. 1-8). IEEE*
Publication	*Gigante, G., Palumbo, R., Pascarella, D., Pellegrini, A., Duca, G., Piera, M., & Ramos, J. (2021). Support to Design for Air Traffic Management: An Approach with Agent-Based Modelling and Evolutionary Search. International Journal of Aviation, Aeronautics, and Aerospace, 8(1).*
Publication	*Pellegrini, A., Di Sanzo, P., Bevilacqua, B., Duca, G., Pascarella, D., Palumbo, R., ... & Gigante, G. (2020). Simulation-based evolutionary optimization of air traffic management. IEEE access, 8, 161551-161570.*
Publication	*Nebula, F., Palumbo, R., Gigante, G., & Vozella, A. (2023). Digital assistant for arrival scheduling with conflict prevention capabilities. Information, 14(4), 216.*

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
ECHO2	*SESAR IR project 2023-2026* *CIRA supports: 1) by Multi Agent Validation Facility the Fast time simulation to validate at TRL4 the operational concept of integration in controlled airspace of Hypersonic/Supersonic and Suborbital vehicles 2) by developing a supporting tool*
GEESE	*SESAR IR 2023-2026* *CIRA supports by Multi Agent Validation Facility the Fast time simulation to validate at TRL4 the operational concept of WER operations in Continental Route*
ATC-TBO	*SESAR IR 2023-2026* *CIRA supports by Multi Agent Validation Facility the Fast time simulation to validate at TRL4 the operational concept of an Air TRaffic Digital assistant implementing tactical conflict resolution at higher levels of automation*
JARVIS	*SESAR IR project 2023-2026* *CIRA develops the Air Traffic Controller digital assistant implementing the tactical conflict resolution*
ECHO	*Sesar ER project 2020-2022 Operational concept for higher space operations at TRL2*

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)
Multi Agent simulation Facility	*It employs a multi-agent framework to establish a fast-time simulation environment capable of evaluating performance metrics related not only to the aircraft, but also to the agents representing human operators.*

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below? (•) Yes ( ) No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
    - work-life balance and organisational culture;
    - gender balance in leadership and decision-making;
    - gender equality in recruitment and career progression;
    - integration of the gender dimension into research and teaching content;
    - measures against gender-based violence including sexual harassment.

PIC	Legal name
999987066	*STICHTING KONINKLIJK NEDERLANDS LUCHT - EN RUIMTEVAARTCENTRUM*

Short name: NLR

Address

Street	ANTHONY FOKKERWEG 2
Town	AMSTERDAM
Postcode	1059 CM
Country	Netherlands
Webpage	www.nlr.nl

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	yes

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	31/12/2021	- no
SME self-assessment	31/12/2021	- no
SME validation	18/09/2008	- no

Departments carrying out the proposed work

Department 1

Department name	Air Traffic Management and Airports	☐ not applicable
	☒ Same as proposing organisation's address	
Street	ANTHONY FOKKERWEG 2	
Town	AMSTERDAM	
Postcode	1059 CM	
Country	Netherlands	

Department 2

Department name	Information Supremacy	☐ not applicable
	☒ Same as proposing organisation's address	
Street	ANTHONY FOKKERWEG 2	
Town	AMSTERDAM	
Postcode	1059 CM	
Country	Netherlands	

Links with other participants

Type of link	Participant

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title _____ Gender ◯ Woman ◯ Man ◯ Non Binary

First name* **Wilfred** Last name* **ROUWHORST**

E-Mail* **wilfred.rouwhorst@nlr.nl**

Position in org. Please indicate the position of the person.

Department *Name of the department/institute carrying out the work.* ☐ Same as organisation name

☐ Same as proposing organisation's address

Street *Please enter street name and number.*

Town *Please enter the name of the town.* Post code *Area code.*

Country *Please select a country*

Website *Please enter website*

Phone *+xxx xxxxxxxxx* *Phone 2* *+xxx xxxxxxxxx*

Other contact persons

First Name	Last Name	E-mail	Phone
Wissam	CHALABI	wissam.chalabi@nlr.nl	+31885113623
Alexander	HAAGSMA	alexander.haagsma@nlr.nl	+31885113394
Juriaan	KOK	juriaan.kok@nlr.nl	+31885113410
Sharon	KUIL	sharon.kuil@nlr.nl	+31885113265
Diana	PEEREBOOM	diana.peereboom@nlr.nl	+31885113023
Iris	VAN DEN BERGHE	iris.van.den.berghe@nlr.nl	+31885113934
Roland	VERCAMMEN	roland.vercammen@nlr.nl	+xxx xxxxxxxxx

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Mr	Wissam	Chalabi	Man	Sweden	wissam.chalabi@nlr.nl	Category C Recognised	Team member		
Mr	Alexander	Haagsma	Man	Netherlands	alexander.haagsma@nlr.nl	Category B Senior resea	Team member		
Mr	Juriaan	Kok	Man	Netherlands	juriaan.kok@nlr.nl	Category C Recognised	Team member		
Mr	Wilfred	Rouwhorst	Man	Netherlands	wilfred.rouwhorst@nlr.nl	Category A Top grade re	Leading		

Role of participating organisation in the project

Project management	☐
Communication, dissemination and engagement	☒
Provision of research and technology infrastructure	☒
Co-definition of research and market needs	☐
Civil society representative	☐
Policy maker or regulator, incl. standardisation body	☐
Research performer	☒
Technology developer	☐
Testing/validation of approaches and ideas	☒
Prototyping and demonstration	☒
IPR management incl. technology transfer	☐
Public procurer of results	☐
Private buyer of results	☐
Finance provider (public or private)	☐
Education and training	☐
Contributions from the social sciences or/and the humanities	☐
Other If yes, please specify: (Maximum number of characters allowed: 50)	☐

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Other achievement	*Supporting Space Traffic Management, NLR TR-2020-199, May 2020.*
Other achievement	*Space Traffic Management, Relevance and potential development opportunities, NLR TR-2021-218, May 2022.*
Software	*Re-entry Scenario Integration into NearSpace and Air Traffic Management, Software and document, NLR-TR-2024-138, 2024.*

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
Near Space	*Research to the operational integration of HAO to ATM. Running internal NLR project.*

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)
NARSIM	*Is NLR's Air Traffic Management Real-time Simulator. It is a high fidelity human-in-the-loop simulator that is used by ANSPs and research centres. The NARSIM software can be used for simulating the movements of vehicles in HAO and presentation to operators. It has a proven track record in SESAR.*

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below? (•) Yes ( ) No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
    - work-life balance and organisational culture;
    - gender balance in leadership and decision-making;
    - gender equality in recruitment and career progression;
    - integration of the gender dimension into research and teaching content;
    - measures against gender-based violence including sexual harassment.

PIC	Legal name
899059730	*INTERNATIONAL FEDERATION OF AIR TRAFFIC CONTROLLERS ASSOCIATIONS*

Short name: IFATCA

Address

Street	360 ST JACQUES SUITE 2002
Town	MONTREAL
Postcode	H2Y 1P5
Country	Canada
Webpage	www.ifatca.org

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is unknown (small- and medium-sized enterprise) for the call.

SME self-declared status	unknown
SME self-assessment	unknown
SME validation	unknown

Departments carrying out the proposed work

No department involved

Department name *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street *Please enter street name and number.*

Town *Please enter the name of the town.*

Postcode *Area code.*

Country *Please select a country*

Links with other participants

Type of link	Participant

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title Mr

Gender ◯ Woman ◉ Man ◯ Non Binary

First name* **Marc**

Last name* **BAUMGARTNER**

E-Mail* **sesar.coord@ifatca.org**

Position in org. SESAR and EASA coordinator

Department INTERNATIONAL FEDERATION OF AIR TRAFFIC CONTROLLERS ASSOCIATIONS

☒ Same as organisation name

☒ Same as proposing organisation's address

Street 360 ST JACQUES SUITE 2002

Town MONTREAL

Post code H2Y 1P5

Country Canada

Website www.ifatca.org

Phone +41792125769

Phone 2 *+xxx xxxxxxxxx*

Other contact persons

First Name	Last Name	E-mail	Phone
Eugenio	DIOTALEVI	eugenio.diotalevi@ifatca.org	+xxx xxxxxxxxx

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Mr	Marc	Baumgartner	Man	Switzerland	sesar.coord@ifatca.org	Category C Recognised	Team member	0000-0003-4443-329X	Orcid ID
Mr	Eugenio	Diatolevi	Man	Italy	eugenio.diatolevi@ifatca.org	Category D First stage r	Leading		

Role of participating organisation in the project

Project management	☒
Communication, dissemination and engagement	☒
Provision of research and technology infrastructure	☐
Co-definition of research and market needs	☐
Civil society representative	☐
Policy maker or regulator, incl. standardisation body	☐
Research performer	☐
Technology developer	☐
Testing/validation of approaches and ideas	☐
Prototyping and demonstration	☐
IPR management incl. technology transfer	☐
Public procurer of results	☐
Private buyer of results	☐
Finance provider (public or private)	☐
Education and training	☒
Contributions from the social sciences or/and the humanities	☐
Other If yes, please specify: (Maximum number of characters allowed: 50)	☐

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Publication	*IFATCA Technical Professional Manual WC 10.2.5 AUTOMATION / HUMAN FACTORS*
Publication	*IFATCA Study on High Altitude Operations (HAO), Working Paper 93 2023 leading to IFATCA policy on HAO*

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below? (●) Yes ( ) No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
    - work-life balance and organisational culture;
    - gender balance in leadership and decision-making;
    - gender equality in recruitment and career progression;
    - integration of the gender dimension into research and teaching content;
    - measures against gender-based violence including sexual harassment.

PIC	Legal name
999537568	*INGENIERIA Y ECONOMIA DEL TRANSPORTE SME MP SA*

Short name: INECO

Address

Street	PASEO DE LA HABANA 138
Town	MADRID
Postcode	28036
Country	Spain
Webpage	www.ineco.es

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	20/06/2016 - no
SME self-assessment	unknown
SME validation	unknown

Departments carrying out the proposed work

Department 1

Department name	Aerospace System Directorate	☐ not applicable
	☐ Same as proposing organisation's address	
Street	Avenida del Partenón, 2-4	
Town	Madrid	
Postcode	28042	
Country	Spain	

Links with other participants

Type of link	Participant

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title Mr

Gender ○ Woman ◉ Man ○ Non Binary

First name* **José Manuel**

Last name* **RISQUEZ FERNANDEZ**

E-Mail* **jrisquez@ineco.com**

Position in org. ATM Senior Expert

Department Aerospace System Directorate

☐ Same as organisation name

☐ Same as proposing organisation's address

Street Avenida del Partenón, 2-4

Town Madrid

Post code 28042

Country Spain

Website www.ineco.com

Phone *+xxx xxxxxxxxx*

Phone 2 *+xxx xxxxxxxxx*

Other contact persons

First Name	Last Name	E-mail	Phone
Raul	SEVILLA GONZALEZ	raul.sevilla@ineco.com	+xxx xxxxxxxxx
Paloma	MONTERO MARTIN	paloma.montero@ineco.com	+xxx xxxxxxxxx
Victor	Bustos	vbustos@ineco.com	+xxx xxxxxxxxx

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Mr	Jose Manuel	Rísquez	Man	Spain	jrisquez@ineco.com	Category B Senior resea	Leading		
Ms	Ángela	Abad	Woman	Spain	angela.abad@ineco.com	Category B Senior resea	Team member		
Ms	Paloma	Montero	Woman	Spain	paloma.montero@ineco.com	Category C Recognised	Team member		
Dr	Raúl	Sevilla	Man	Spain	raul.sevilla@ineco.com	Category A Top grade re	Team member		

Role of participating organisation in the project

Project management	☐
Communication, dissemination and engagement	☐
Provision of research and technology infrastructure	☐
Co-definition of research and market needs	☒
Civil society representative	☐
Policy maker or regulator, incl. standardisation body	☐
Research performer	☒
Technology developer	☐
Testing/validation of approaches and ideas	☒
Prototyping and demonstration	☐
IPR management incl. technology transfer	☐
Public procurer of results	☐
Private buyer of results	☐
Finance provider (public or private)	☐
Education and training	☐
Contributions from the social sciences or/and the humanities	☐
Other If yes, please specify: (Maximum number of characters allowed: 50)	☐

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Service	*INECO has contributed with a consultancy service to ENAIRE to perform a detailed ATCO task analysis in most of the ATC spanish sectors getting along this process a relevant operational and SACTA/iTEC knowledge useful for the sake of ECHO research needs*

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
ECHO 2 (GA 101114697)	*ECHO-2 builds on the deliverables of the ECHO project, starting from the Concept of Operations, to propose validated solutions paving the way towards the operational integration of HAO in ATM, on three directions: Space Launch Real Time Monitoring Module, integration of High-Altitude Platform Systems (HAPS) operations into ATM, and integration of supersonic, hypersonic and suborbital vehicles operations into ATM.*
PJ10-W2-SoI73_FCA (GA 874464)	*HP and SAF assessment of disruptive operational concepts as ECHO is. Ineco has led the HP activity within ENAIRE' exercise in teh context of FCA as well as has contributed with Fast Time simulations to support the preparartion of the RTS exercises. In addition, INECO has worked together with SAF leaders as well as ENAIRE's exercise oriented.*

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below? (•) Yes ( ) No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
    - work-life balance and organisational culture;
    - gender balance in leadership and decision-making;
    - gender equality in recruitment and career progression;
    - integration of the gender dimension into research and teaching content;
    - measures against gender-based violence including sexual harassment.

PIC	Legal name
997605619	*CENTRO DE REFERENCIA INVESTIGACION DESARROLLO E INNOVACION ATM, A.I.E.*

Short name: CRIDA

Address

Street	CALLE CAMPEZO, 1, 4º, EDIFICIO 7, PARQUE EMP
Town	MADRID
Postcode	28022
Country	Spain
Webpage	www.crida.es

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	yes

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	12/07/2022	- no
SME self-assessment	31/12/2021	- no
SME validation	unknown	

Departments carrying out the proposed work

No department involved

Department name *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street *Please enter street name and number.*

Town *Please enter the name of the town.*

Postcode *Area code.*

Country *Please select a country*

Links with other participants

Type of link	Participant
Is controlled by	ENAIRE

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title Mr

Gender ◯ Woman ◉ Man ◯ Non Binary

First name* **Pablo**

Last name* **SANCHEZ ESCALONILLA**

E-Mail* **psescalonilla@e-crida.enaire.es**

Position in org. Principal Researcher

Department CENTRO DE REFERENCIA INVESTIGACION DESARROLLO E INNOVACION ATM, A.I.E.

☒ Same as organisation name

☒ Same as proposing organisation's address

Street CALLE CAMPEZO, 1, 4º, EDIFICIO 7, PARQUE EMPRESARIAL LAS MERCEDES

Town MADRID

Post code 28022

Country Spain

Website *Please enter website*

Phone *+xxx xxxxxxxxx*

Phone 2 *+xxx xxxxxxxxx*

Other contact persons

First Name	Last Name	E-mail	Phone
Marta	Sánchez Cidoncha	mscidoncha@e-crida.enaire.es	+xxx xxxxxxxxx
Raquel	García Lasheras	rglasheras@e-crida.enaire.es	+xxx xxxxxxxxx
Jose Miguel	De Pablo Guerrero	jmdepablo@e-crida.enaire.es	+xxx xxxxxxxxx

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Ms	Raquel	Garcia Lasheras	Woman	Spain	rglasheras@e-crida.enaire.es	Category B Senior resea	Team member	0000-0001-6973-7412	Orcid ID
Mr	Pablo	Sanchez Escalonilla	Man	Spain	psescalonilla@e-crida.enaire.es	Category A Top grade re	Leading		
Mr	Juan Ruben	Vaquero Ramos	Man	Spain	jrvaquero@e-crida.enaire.es	Category D First stage r	Team member		

Role of participating organisation in the project

Project management	☐
Communication, dissemination and engagement	☐
Provision of research and technology infrastructure	☐
Co-definition of research and market needs	☐
Civil society representative	☐
Policy maker or regulator, incl. standardisation body	☐
Research performer	☒
Technology developer	☐
Testing/validation of approaches and ideas	☐
Prototyping and demonstration	☐
IPR management incl. technology transfer	☐
Public procurer of results	☐
Private buyer of results	☐
Finance provider (public or private)	☐
Education and training	☐
Contributions from the social sciences or/and the humanities	☐
Other If yes, please specify: (Maximum number of characters allowed: 50)	☐

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
ENSURE	*ENSURE is a SESAR3 IR01 project that designs and validates a standard operational interface between U-space and ATM to enable the safe integration of crewed and uncrewed aircraft. It includes a unified architecture, data model, operational methodology, and dynamic airspace configuration services to support ATC in managing mixed-traffic environments. This experience can be translated to the interface within STRATUS project*
ATC-TBO	*ATC-TBO is a SESAR 3 IR01 projects that seeks to increase the automatisation levels within ATM to manage aircraft separation. CRIDA participates in concept definition and the execution of two exercises. CRIDA will bring this knowledge on increase levels of automation to STRATUS project*

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below? (•) Yes ( ) No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
    - work-life balance and organisational culture;
    - gender balance in leadership and decision-making;
    - gender equality in recruitment and career progression;
    - integration of the gender dimension into research and teaching content;
    - measures against gender-based violence including sexual harassment.

PIC	Legal name
952649902	*INSTITUUT VOOR INFRASTRUCTUUR, MILIEU EN INNOVATIE*

Short name: IMIEU

Address

Street	EGMONTSTRAAT 11-13
Town	BRUSSEL
Postcode	1000
Country	Belgium
Webpage	www.imieu.eu

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	yes

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	28/09/2012 - no
SME self-assessment	unknown
SME validation	unknown

Departments carrying out the proposed work

No department involved

Department name *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street *Please enter street name and number.*

Town *Please enter the name of the town.*

Postcode *Area code.*

Country *Please select a country*

Links with other participants

Type of link	Participant

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title Dr

Gender ◯ Woman ◉ Man ◯ Non Binary

First name* **Frank**

Last name* **Neumann**

E-Mail* **info@imieu.eu**

Position in org. Director

Department INSTITUUT VOOR INFRASTRUCTUUR, MILIEU EN INNOVATIE

☒ Same as organisation name

☒ Same as proposing organisation's address

Street EGMONTSTRAAT 11-13

Town BRUSSEL

Post code 1000

Country Belgium

Website www.imieu.eu and www.u-lta.eu

Phone +31615438225

Phone 2 *+xxx xxxxxxxxx*

Other contact persons

First Name	Last Name	E-mail	Phone
Dr Benjamyn	Scott	b.i.scott@law.leidenuniv.nl	+31643446666

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Dr	Frank	Neumann	Man	Netherlands	info@imieu.eu	Category B Senior resea	Leading	186044495	Other ID
Dr	Benjamyn	Scott	Man	United Kingdom	b.i.scott@law.leidenuniv.nl	Category B Senior resea	Team member	0009-0000-8219-8716	Orcid ID

Role of participating organisation in the project

Project management	☐
Communication, dissemination and engagement	☒
Provision of research and technology infrastructure	☐
Co-definition of research and market needs	☒
Civil society representative	☐
Policy maker or regulator, incl. standardisation body	☐
Research performer	☐
Technology developer	☐
Testing/validation of approaches and ideas	☐
Prototyping and demonstration	☐
IPR management incl. technology transfer	☐
Public procurer of results	☐
Private buyer of results	☐
Finance provider (public or private)	☐
Education and training	☐
Contributions from the social sciences or/and the humanities	☐
Other If yes, please specify: (Maximum number of characters allowed: 50)	☐

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Other achievement	*IMIEU has founded the Technology Platform; U-LTA 'Upscaling Lighter-Than-Air Technology',with support of EU DG RTD in 2016, see also www.u-lta.eu, it includes over 20 parties involved in the development of- low-as well as high altitude LTA/ Airship platforms in the EU and Worlwide, including academia, startups and scale-ups- co-operating with Eurocontrol/EASA, working on facilitating the upscaling of LTA Technology, including HAPS*
Publication	*Scott, B.I., Custers, B.H.M. & Lahmann, H.C., (2024) Drone Regulation and A.I. Law, assessing the intersection of the EU Legal Frameworks for unmanned aircraft and artificial intelligene in, Air and Space Law, 49 (6) 565/584*
Other achievement	*Dr Scott is Member of the ICAO Secretariat Study Group on Cybersecurity Research Sub-Group on Legal Aspects*

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
Co-lead of the LTA- Task Force, at JARUS/with EASA	*The objective of this taskforce of the Jarus Main Body is to provide guidance for the adaptation of SORA 2.5/Annex F, particularly for Low altitude Lighter-Than-Air/Airship Technology, with input from developers as well as experts and the NAs*
Mbr of the HAO- Taskforce. of JARUS, lead by EASA	*The objective of this taskforce belonging to the Jarus Main Body is to come to specific guidance for the adaptation of SORA 2.5 to HAPS, both fixed wing as well as airship/balloon initiatives*
Member of WG IV/Certificaiton of AZEA	*This working group is developing a roadmap regarding the certificaiton of innovative zero-emission aviation. AZEA (the Alliance of Zero Emission Aviation) is led by EU DG DEFIS*

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below? ○ Yes ◉ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
    - work-life balance and organisational culture;
    - gender balance in leadership and decision-making;
    - gender equality in recruitment and career progression;
    - integration of the gender dimension into research and teaching content;
    - measures against gender-based violence including sexual harassment.

PIC	Legal name
873172467	*OpenUTM Ltd.*

Short name: OpenUTM

Address

Street	Mespil Business Center, Mespil House, Sussex Ho
Town	Dublin
Postcode	D04 T4A6
Country	Ireland
Webpage	https://openutm.net

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	14/02/2025 - yes
SME self-assessment	unknown
SME validation	unknown

Departments carrying out the proposed work

No department involved

Department name *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street *Please enter street name and number.*

Town *Please enter the name of the town.*

Postcode *Area code.*

Country *Please select a country*

Links with other participants

Type of link	Participant

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title: Dr

Gender: ○ Woman ◉ Man ○ Non Binary

First name*: **Dr Hrishikesh**

Last name*: **Ballal**

E-Mail*: **hb@openutm.net**

Position in org.: Managing Director

Department: OpenUTM Ltd.

☒ Same as organisation name

☒ Same as proposing organisation's address

Street: Mespil Business Center, Mespil House, Sussex House

Town: Dublin

Post code: D04 T4A6

Country: Ireland

Website: *Please enter website*

Phone: *+xxx xxxxxxxxx*

Phone 2: *+xxx xxxxxxxxx*

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Dr	Hrishikesh	Ballal	Man	Ireland	hb@openutm.net	Category B Senior resea	Leading		

Role of participating organisation in the project

Project management	☐
Communication, dissemination and engagement	☐
Provision of research and technology infrastructure	☐
Co-definition of research and market needs	☐
Civil society representative	☐
Policy maker or regulator, incl. standardisation body	☐
Research performer	☐
Technology developer	☒
Testing/validation of approaches and ideas	☐
Prototyping and demonstration	☐
IPR management incl. technology transfer	☐
Public procurer of results	☐
Private buyer of results	☐
Finance provider (public or private)	☐
Education and training	☐
Contributions from the social sciences or/and the humanities	☐
Other If yes, please specify: (Maximum number of characters allowed: 50)	☐

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Software	*OpenUTM is an open-source, standards-compliant stack for Unmanned Traffic Management (UTM), designed to help organizations build and deploy regulation-ready systems for managing drone and unmanned aircraft traffic. Its architecture is built around two core components: Flight Blender, a backend service handling Remote ID, air traffic data, geofencing, and strategic deconfliction, and Flight Spotlight, a frontend interface providing maps, timelines, flight noticeboards, and 3D visualizations.*

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below? ○ Yes ◉ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
    - work-life balance and organisational culture;
    - gender balance in leadership and decision-making;
    - gender equality in recruitment and career progression;
    - integration of the gender dimension into research and teaching content;
    - measures against gender-based violence including sexual harassment.

PIC	Legal name
999981731	*DEUTSCHES ZENTRUM FUR LUFT - UND RAUMFAHRT EV*

Short name: DLR

Address

Street	LINDER HOHE
Town	KOLN
Postcode	51147
Country	Germany
Webpage	www.dlr.de

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	yes

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	03/01/2022 - no
SME self-assessment	unknown
SME validation	28/10/2008 - no

Departments carrying out the proposed work

Department 1

Department name	Institut of Flight Guidance	☐ not applicable
	☐ Same as proposing organisation's address	
Street	Lilienthalplatz 7	
Town	Braunschweig	
Postcode	38108	
Country	Germany	

Links with other participants

Type of link	Participant

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title Mr

Gender ○ Woman ◉ Man ○ Non Binary

First name* **Sven**

Last name* **Kaltenhaeuser**

E-Mail* **sven.kaltenhaeuser@dlr.de**

Position in org. Head or Department ATM Simulation

Department Institute of Flight Guidance

☐ Same as organisation name

☐ Same as proposing organisation's address

Street Lilienthalplatz 7

Town Braunschweig

Post code 38108

Country Germany

Website dlr.de/fl

Phone +49 531 295 2560

Phone 2 *+xxx xxxxxxxxx*

Other contact persons

First Name	Last Name	E-mail	Phone
Lorenz	Losensky	lorenz.losensky@dlr.de	+49 531 295 1155
Dirk-Roger	Schmitt	dirk-roger.schmitt@dlr.de	+49 172 295 4416
Andreas	Hasselberg	andreas.hasselberg@dlr.de	+49 531 295 2427
fl	controlling	fl-controlling@dlr.de	+xxx xxxxxxxxx

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Mr	Jens	Hampe	Man	Germany	Jens.Hampe@dlr.de	Category B Senior resea	Team member	0000-0003-3105-1516	Orcid ID
Mr	Frank	Morlang	Man	Germany	Frank.Morlang@dlr.de	Category B Senior resea	Team member	0000-0003-3636-5215	Orcid ID
Mr	Tobias	Rabus	Man	Germany	tobias.rabus@dlr.de	Category D First stage r	Team member	0000-0003-1947-5447	Orcid ID
Mr	Richard	Hörder	Man	Germany	richard.hoerder@dlr.de	Category D First stage r	Team member		Orcid ID
Mr	Maximilian	Neumann	Man	Germany	Maximilian.Neumann@dlr.de	Category D First stage r	Team member		Orcid ID
Mr	Lorenz	Losensky	Man	Germany	lorenz.losensky@dlr.de	Category D First stage r	Team member	0000-0002-8762-1971	Orcid ID
Mr	Sven	Kaltenhäuser	Man	Germany	sven.kaltenhaeuser@dlr.de	Category B Senior resea	Leading	0000-0003-2085-7979	Orcid ID

Role of participating organisation in the project

Project management	☒
Communication, dissemination and engagement	☒
Provision of research and technology infrastructure	☒
Co-definition of research and market needs	☐
Civil society representative	☐
Policy maker or regulator, incl. standardisation body	☐
Research performer	☒
Technology developer	☒
Testing/validation of approaches and ideas	☒
Prototyping and demonstration	☐
IPR management incl. technology transfer	☐
Public procurer of results	☐
Private buyer of results	☐
Finance provider (public or private)	☐
Education and training	☐
Contributions from the social sciences or/and the humanities	☐
Other If yes, please specify: (Maximum number of characters allowed: 50)	☐

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Publication	*Kaltenhäuser, Sven und Klünker, Carmo und Schmitt, Dirk-Roger (2022) Interoperable data exchange for safe and efficient launch and re-entry operations in an international environment, In: Proceedings of the International Astronautical Congress, IAC. 73rd International Astronautical Congress (IAC), 18.-22. Okt. 2022, Paris, France*
Publication	*Kaltenhäuser, Sven und Hampe, Jens und Rabus, Tobias und Morlang, Frank und Losensky, Lorenz (2024) The SpaceTracks approach for an efficient Integration of Launch Operations in European Airspace. In: 1st International Symposium on Small Launchers and Spaceports. 1st International Symposium on Small Launchers and Spaceports, 2024-10-28 - 2024-10-30, Harwell, Vereinigtes Königreich. Volltext nicht online.*
Publication	*Hampe, Jens (2024) DESIGN CONSIDERATION AND EVALUATION OF A HUMAN-MACHINE INTERFACE FOR REAL-TIME MISSION MONITORING OF A LAUNCH AND RE-ENTRY COORDINATION SYSTEMS :"BUILDING A SAFE AND SECURE SUSTAINABLE SPACE". In: Proceedings of the International Space Safety Conference, 13. International Association for the Advancement of Space Safety IAASS. 13th IAASS Conference 2024, 2024-10-08 - 2024-10-10, Prague, Czech Republic. doi: 10.60575/z2gv-6w55. Volltext nicht fre*
Publication	*Stahnke, Anouk und Rabus, Tobias und Kaltenhäuser, Sven (2022) Supporting the safety and efficiency of airspace transition for launch and re-entry operations in Europe, 2nd International Conference on Flight Vehicles, Aerothermodynamics and Re-entry Missions & Engineering (FAR), 19 - 23 June 2022. Heilbronn, Germany*
Publication	*Kaltenhäuser, Sven und Hampe, Jens und Rabus, Tobias und Morlang, Frank und Losensky, Lorenz (2024) Towards Efficient Integration of Rocket Launches and Re-entry Operations in European Airspace: Development and Testing of a Launch Coordination Center. Hampe, Jens und Stahnke, Anouk (2024) Improving air and space safety through enhanced coordination with the SpaceTracks Suite microservice architecture. Journal of Space Safety Engineering. Elsevier. doi: 10.1016/j.jsse.2024.01.005. ISSN 2468-8967.*

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
ECHO Project	*European Concept of Higher Airspace Operations.* *https://higherairspace.eu/echo-project/* *Project led by EUROCONTROL with major DLR participation delivering a comprehensive demand analysis and the concept of operations (ConOps) for higher airspace to allow safe, efficient and scalable operations.The ConOps also provide the basis to identify future infrastructure needs that is required to support Higher Airspace Operations (HAO).*
DLR/FAA DEP	*DLR - FAA Data Exchange Project.* *https://www.dlr.de/content/en/articles/news/2019/04/20191025_dlr-and-us-federal-aviationadministration-are-cooperating.html* *DLR and the Office of Commercial Space Transportation of the US Federal Aviation Administration (FAA) identified the data that need to be exchanged between United States and European Air Navigation Service Providers (ANSPs) prior to, during and after a launch.*
ECHO2	*https://higherairspace.eu/echo2-project/* *The ECHO 2 Project is dedicated to enhancing air traffic management by integrating space mission monitoring for launches and re-entries within the EUROCONTROL Network Manager area. It focuses on creating operational frameworks to manage space operations, including orbital and sub-orbital trajectories, ensuring they harmonize with existing air traffic.*

DLR Launch Coordination Center (LCC) Development -	*https://www.dlr.de/en/latest/news/2021/03/20210923_dlr-is-developing-a-launch-coordination-center* *DLR's LCC integrates software-based procedures for safe, efficient space launch coordination through airspace. System includes automated planning components, real-time mission monitoring via Space Operations Dashboard, and enhanced air traffic controller interfaces.*

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	**Short description (Max 300 characters)**
Air Traffic Validation Center	*https://www.dlr.de/fl/en/desktopdefault.aspx/tabid-1140/* *DLR facilities for the validation of concepts, technologies and procedures in air traffic management. Together, these facilities are known as the Air Traffic Validation Center and are unique in Europe.*

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below? (•) Yes ( ) No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
    - work-life balance and organisational culture;
    - gender balance in leadership and decision-making;
    - gender equality in recruitment and career progression;
    - integration of the gender dimension into research and teaching content;
    - measures against gender-based violence including sexual harassment.

PIC	Legal name
870545901	*SCEYE SPAIN S.L.*

Short name: Sceye Spain

Address

Street	Suero de Quiñones 34-36
Town	Madrid
Postcode	28002
Country	Spain
Webpage	www.sceye.com

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	04/09/2025 - yes
SME self-assessment	unknown
SME validation	unknown

Departments carrying out the proposed work

No department involved

Department name *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street *Please enter street name and number.*

Town *Please enter the name of the town.*

Postcode *Area code.*

Country *Please select a country*

Links with other participants

Type of link	Participant

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title Mr

Gender ◯ Woman ◉ Man ◯ Non Binary

First name* **Alfredo**

Last name* **Serrano**

E-Mail* **as@sceye.com**

Position in org. Director of EMEA

Department SCEYE SPAIN S.L.

☒ Same as organisation name

☒ Same as proposing organisation's address

Street Suero de Quiñones 34-36

Town Madrid

Post code 28002

Country Spain

Website *Please enter website*

Phone *+xxx xxxxxxxxx*

Phone 2 *+xxx xxxxxxxxx*

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Mr	Leonard	Bouygues	Non-binary	France	lb@sceye.com	Category A Top grade re	Leading		

Role of participating organisation in the project

Project management	☐
Communication, dissemination and engagement	☐
Provision of research and technology infrastructure	☒
Co-definition of research and market needs	☒
Civil society representative	☐
Policy maker or regulator, incl. standardisation body	☐
Research performer	☒
Technology developer	☒
Testing/validation of approaches and ideas	☒
Prototyping and demonstration	☒
IPR management incl. technology transfer	☐
Public procurer of results	☐
Private buyer of results	☒
Finance provider (public or private)	☐
Education and training	☒
Contributions from the social sciences or/and the humanities	☐
Other If yes, please specify: (Maximum number of characters allowed: 50)	☐

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Publication	*Cooperative, Seamless, and Global Digital Skies for Higher Airspace (2025) - HAPS Alliance Aviation Working Group* *The Aerospace Industries Association proposes collaborative traffic management for higher airspace to manage exponential growth of UAS, supersonic, HAPS, and commercial space operations. This involves community-based rules (user-formed, CAA-approved) and operators sharing intent via service providers for conflict identification and resolution, ensuring safe and equitable global mnmgt*
Publication	*Acceptable Levels of Risks for HAPS (2024) - HAPS Alliance Aviation Working Group* *For High Altitude Platform Systems, the HAPS Alliance advocates third-party-centric risk metrics, measuring risk to ground populations and manned aircraft. This replaces inadequate platform-centric aviation metrics. The framework sets individual and collective risk limits, aligned with existing infrastructure risks (e.g.UK ALARP), enabling operators to dynamically self-manage risk by controlling operational factor*
Publication	*HAPS Operation Using Attended Autonomous Fleet Systems (2022) - HAPS Alliance Aviation Working Group* *A proposal for Collaborative Traffic Management for the Stratosphere (CTMS) for Attended Autonomous Fleet Systems. This strategy enables safe, scalable HAPS operations through automation for fleet management and M2M conflict resolution. It uses Community Based Rules (CBR) and is an exception-centric approach, where human supervisory networks manage system anomalies, not individual vehicles*
Publication	*Cooperative Operations In Higher Airspace - A Proposal (2022) - Aerospace Industries Association (AIA), Emerging Technologies Commitee (ETC), Airspace Working Group* *A national strategy for higher airspace operations is crucial due to expected exponential growth and diverse commercial aircraft. Collaborative traffic management, based on community-based rules, is proposed to address challenges from increasing demand and varied vehicle profiles. This approach aims for safe and equitable global ops*
Publication	*Adaptive Risk-Based Conflict Detection for Stratospheric Flight Operations, Air Traffic Control Associate (ATCA) - Leonard Bouygues, et al (2020)* *This paper proposes an adaptive risk-based framework for conflict deconfliction in stratospheric flight operations, using a victim-centric model (1st, 2nd, & 3rd party risk) to address challenges posed by diverse vehicle performance and risk profiles.*

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
Stratospheric Flights	*Sceye platform is the most capable LTA HAPS currently in operation. Sceye has flown successfully more than 20 missions into the stratosphere, demonstrating day-night endurance using solar power and battery storage, while keeping station over the area of operation.* *We have flown multiple payloads, including optical and hyperspectral imaging cameras, SAR, 4G telecommunications, infrasonic sensors, and aerosol particle spectrometers, validating the platform's ability to carry diverse instrument*
NASA	*Demonstrated cooperative deconfliction capabilities with other HAPS operators through NASA-led CE1.5 simulation*

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Flight Simulators	*Sceye designed and built a simulator to model the platform dynamics and trajectory. By using global weather data, the simulator can predict accurately the platform's navigation path, ascend and descent trajectories, and also model solar energy management system and internal gas dynamics.*

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below? ○ Yes ◉ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
    - work-life balance and organisational culture;
    - gender balance in leadership and decision-making;
    - gender equality in recruitment and career progression;
    - integration of the gender dimension into research and teaching content;
    - measures against gender-based violence including sexual harassment.

PIC	Legal name
888276725	*ANRA TECHNOLOGIES OU*

Short name: ANRA TECHNOLOGIES OU

Address

Street	KESKLINNA LINNAOSA JARVEVANA TEE 9
Town	TALLINN
Postcode	11314
Country	Estonia
Webpage	www.flyanra.com

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	31/12/2024	- yes
SME self-assessment	31/12/2024	- yes
SME validation	unknown	

Departments carrying out the proposed work

No department involved

Department name *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street *Please enter street name and number.*

Town *Please enter the name of the town.*

Postcode *Area code.*

Country *Please select a country*

Links with other participants

Type of link	Participant

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title _____ Gender ◯ Woman ◉ Man ◯ Non Binary

First name* **Ajay** Last name* **Modha**

E-Mail* **amodha@flyanra.com**

Position in org. Business Manager

Department ANRA TECHNOLOGIES OU ☒ Same as organisation name

☒ Same as proposing organisation's address

Street KESKLINNA LINNAOSA JARVEVANA TEE 9

Town TALLINN Post code 11314

Country Estonia

Website *Please enter website*

Phone *+xxx xxxxxxxxx* *Phone 2* *+xxx xxxxxxxxx*

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Ms	Abinaya	Kannan	Woman	Italy	akannan@flyanra.com	Category B Senior resea	Team member		
Ms	Patricia	Garcia Pastor	Woman	Spain	Pgpastor@flyanra.com	Category B Senior resea	Team member		
Dr	Ajay	Modha	Man	United Kingdom	amodha@flyanra.com	Category A Top grade re	Leading		

Role of participating organisation in the project

Project management	☐
Communication, dissemination and engagement	☒
Provision of research and technology infrastructure	☐
Co-definition of research and market needs	☒
Civil society representative	☐
Policy maker or regulator, incl. standardisation body	☐
Research performer	☒
Technology developer	☒
Testing/validation of approaches and ideas	☒
Prototyping and demonstration	☐
IPR management incl. technology transfer	☐
Public procurer of results	☐
Private buyer of results	☐
Finance provider (public or private)	☐
Education and training	☐
Contributions from the social sciences or/and the humanities	☐
Other If yes, please specify: (Maximum number of characters allowed: 50)	☐

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Software	*ANRA NOON: ANRA is an EASA certified U-space Service Provider, and ANRA NOON is an airspace management software platform for uncrewed aircraft. U-space services support the management of uncrewed aircraft operations in U-space airspace.*
Software	*ANRA's SIM tool: Provides the engine to drive a Digital Twin experience for virtual drone operations*
Software	*ANRA AAM Traffic Management tool: airspace management for Advanced Air Mobility aircraft*

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
Corus five (2025-2028)	*The project aims to extend and mature the SESAR U-space Concept of Operations for the integration of drones into controlled airspace. Building on the success of CORUS and CORUS XUAM, it is expanding the scope to cover areas currently not included such as above very low level airspace and near controlled airports. The updated ConOps will include functionalities and U3/U4 services supporting U-space integration, and propose SESAR Solutions, flight rules, and airspace structure elements.*
ASTM F38 UTM Committee Co-chair	*ANRA is the Co-chair of the ASTM Standards development organisation's F38 UTM technical committee. The committee has published several UTM standards including the F3548-21 UTM interoperability standard that is recommended in the AMC/GM for U-space regulations and the FAA rules. The committee is currently working on standards for Advanced air mobility for vertiports and eVTOL operations and is engaged with NASA on airspace management topics.*
Managing Shared Airspace (2025 - 2026)	*The project aims to implement and validate a UK Concept of Operations for UTM supported UAS operations. It seeks to operationalise an industry-driven approach for UTM services that support multiple overlapping Beyond Visual Line of Sight (BVLOS) operations within shared airspace.*

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below? ○ Yes ◉ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
    - work-life balance and organisational culture;
    - gender balance in leadership and decision-making;
    - gender equality in recruitment and career progression;
    - integration of the gender dimension into research and teaching content;
    - measures against gender-based violence including sexual harassment.

PIC	Legal name
869703941	*HAPS Alliance*

Short name: HAPS ALLIANCE

Address

Street	401 Edgewater Place, Suite 600
Town	Wakefield
Postcode	01880
Country	United States
Webpage	www.hapsalliance.org

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	30/08/2025 - yes
SME self-assessment	unknown
SME validation	unknown

Departments carrying out the proposed work

No department involved

Department name *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street *Please enter street name and number.*

Town *Please enter the name of the town.*

Postcode *Area code.*

Country *Please select a country*

Links with other participants

Type of link	Participant

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
	Andrew	Thurling	Man	United States	andy@thurling-aero.com	Category A Top grade re	Team member		

Role of participating organisation in the project

Project management	☐
Communication, dissemination and engagement	☐
Provision of research and technology infrastructure	☐
Co-definition of research and market needs	☐
Civil society representative	☐
Policy maker or regulator, incl. standardisation body	☐
Research performer	☒
Technology developer	☒
Testing/validation of approaches and ideas	☒
Prototyping and demonstration	☐
IPR management incl. technology transfer	☐
Public procurer of results	☐
Private buyer of results	☐
Finance provider (public or private)	☐
Education and training	☐
Contributions from the social sciences or/and the humanities	☐
Other If yes, please specify: (Maximum number of characters allowed: 50)	☐

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Publication	*Cooperative, Seamless, and Global Digital Skies for Higher Airspace : The purpose of the paper is to assist the aviation and aerospace global communities in understanding an industry perspective and vision for a global harmonized, cross-border, and integrated Higher Airspace Operations Traffic Management, which supports the seamless integration of highly automated operations.*
Publication	*HAPS Certification Pathways: The purpose of this document is to identify the key challenges faced by the High Altitude Platform System (HAPS) community in getting regulatory approval to start commercial operations and recommended actions that the HAPS Alliance can take to address these challenges. Operational challenges are covered only from the perspective of the potential impact they have on air vehicle performance.*
Publication	*Acceptable Levels of Risk for HAPS : This paper discusses setting acceptable levels of risk for High Altitude Platform System (HAPS). It discusses the safety metrics traditionally used in aviation are not adequate to establish target levels of safety for HAPS. Then it proposes to set acceptable levels of risk to be consistent with the risk already accepted by the exposed parties. Then it proposes a framework by which an operator self-manages the collective risk it generates.*

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below? ○ Yes ◉ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
    - work-life balance and organisational culture;
    - gender balance in leadership and decision-making;
    - gender equality in recruitment and career progression;
    - integration of the gender dimension into research and teaching content;
    - measures against gender-based violence including sexual harassment.

PIC	Legal name
927009019	*UDARAS EITLIOCHTA NA HEIREANN THE IRISH AVIATION AUTHORITY*

Short name: IAA (COOPANS)

Address

Street	D'OLIER STREET 11-12 THE TIMES BUILDING
Town	DUBLIN
Postcode	D02 T449
Country	Ireland
Webpage	www.iaa.ie

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is unknown (small- and medium-sized enterprise) for the call.

SME self-declared status	unknown
SME self-assessment	unknown
SME validation	unknown

Departments carrying out the proposed work

No department involved

Department name *Name of the department/institute carrying out the work.* ☒ not applicable

☐ Same as proposing organisation's address

Street *Please enter street name and number.*

Town *Please enter the name of the town.*

Postcode *Area code.*

Country *Please select a country*

Links with other participants

Type of link	Participant

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier

Role of participating organisation in the project

Project management	☐
Communication, dissemination and engagement	☐
Provision of research and technology infrastructure	☐
Co-definition of research and market needs	☐
Civil society representative	☐
Policy maker or regulator, incl. standardisation body	☐
Research performer	☐
Technology developer	☐
Testing/validation of approaches and ideas	☐
Prototyping and demonstration	☐
IPR management incl. technology transfer	☐
Public procurer of results	☐
Private buyer of results	☐
Finance provider (public or private)	☐
Education and training	☐
Contributions from the social sciences or/and the humanities	☐
Other If yes, please specify: (Maximum number of characters allowed: 50)	☐

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below? ○ Yes ◉ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
    - work-life balance and organisational culture;
    - gender balance in leadership and decision-making;
    - gender equality in recruitment and career progression;
    - integration of the gender dimension into research and teaching content;
    - measures against gender-based violence including sexual harassment.

Proposal ID **101290642**

Acronym **STRATUS**

3 - Budget

No	Name of Beneficiary	Country	Role	Requested grant amount	Income generated by the action	Financial contributions	Own resources	Total estimated income
1	Eurocontrol - European Organisation For The Safety Of Air Navigation	BE	Coordinator	0.00	0	0	2 550 785	2 550 785.00
2	Dfs Deutsche Flugsicherung Gmbh	DE	Partner	73 235.00	0	0	15 480	88 715.00
3	Enav Spa	IT	Partner	73 924.08	0	0	0	73 924.08
4	Luftfartsverket	SE	Partner	180 375.00	0	0	0	180 375.00
5	Nats (En Route) Public Limited Company	UK	Partner	119 684.75	0	0	0	119 684.75
6	Enaire	ES	Partner	95 975.00	0	0	0	95 975.00
7	Ente Nazionale Per L'aviazione Civile - Enac Italian Civil Aviation Authority	IT	Partner	102 268.75	0	0	0	102 268.75
8	Consorcio Aerodromo Aeropuerto De Teruel	ES	Partner	88 000.00	0	0	0	88 000.00
9	Skynav Europe	BE	Partner	253 269.75	0	0	0	253 269.75
10	Ecole Nationale De L Aviation Civile	FR	Partner	78 250.00	0	0	0	78 250.00
11	C.i.r.a. Centro Italiano Ricerche Aerospaziali Scpa	IT	Partner	53 907.50	0	0	0	53 907.50
12	Stichting Koninklijk Nederlands Lucht - En Ruimtevaartcentrum	NL	Partner	157 795.25	0	0	0	157 795.25
13	International Federation Of Air Traffic Controllers Associations	CA	Partner	63 125.00	0	0	0	63 125.00
14	Ingenieria Y Economia Del Transporte Sme Mp Sa	ES	Partner	97 575.00	0	0	0	97 575.00

15	Centro De Referencia Investigacion Desarrollo E Innovacion Atm, A.i.e.	ES	Partner	59 250.00	0	0	0	59 250.00
16	Instituut Voor Infrastructuur, Milieu En Innovatie	BE	Partner	33 462.50	0	0	0	33 462.50
17	Openutm Ltd.	IE	Partner	7 237.50	0	0	0	7 237.50
18	Deutsches Zentrum Fur Luft - Und Raumfahrt Ev	DE	Partner	153 000.00	0	0	0	153 000.00
19	Sceye Spain S.l.	ES	Partner	280 175.00	0	0	0	280 175.00
20	Anra Technologies Ou	EE	Partner	84 656.25	0	0	0	84 656.25
21	Haps Alliance	US	Associated	0.00	0	0	0	0.00
22	Udaras Eitliochta Na Heireann The Irish Aviation Authority	IE	Associated	0.00	0	0	0	0.00
	Total			2 055 166.33			2 566 265	4 621 431.33

4 - Ethics & security

Ethics Issues Table

1. Human Embryonic Stem Cells and Human Embryos			Page
Does this activity involve Human Embryonic Stem Cells (hESCs)?	◯ Yes	◉ No	
Does this activity involve the use of human embryos?	◯ Yes	◉ No	
2. Humans			**Page**
Does this activity involve human participants?	◯ Yes	◉ No	
Does this activity involve interventions (physical also including imaging technology, behavioural treatments, etc.) on the study participants?	◯ Yes	◉ No	
Does this activity involve conducting a clinical study as defined by the Clinical Trial Regulation (EU 536/2014)? (using pharmaceuticals, biologicals, radiopharmaceuticals, or advanced therapy medicinal products)	◯ Yes	◉ No	
3. Human Cells / Tissues (not covered by section 1)			**Page**
Does this activity involve the use of human cells or tissues?	◯ Yes	◉ No	
4. Personal Data			**Page**
Does this activity involve processing of personal data?	◯ Yes	◉ No	
Does this activity involve further processing of previously collected personal data (including use of preexisting data sets or sources, merging existing data sets)?	◯ Yes	◉ No	
Is it planned to export personal data from the EU to non-EU countries?	◯ Yes	◉ No	
Is it planned to import personal data from non-EU countries into the EU or from a non-EU country to another non-EU country?	◯ Yes	◉ No	
Does this activity involve the processing of personal data related to criminal convictions or offences?	◯ Yes	◉ No	
5. Animals			**Page**
Does this activity involve animals?	◯ Yes	◉ No	
6. Non-EU Countries			**Page**
Will some of the activities be carried out in non-EU countries?	◯ Yes	◉ No	
In case non-EU countries are involved, do the activities undertaken in these countries raise potential ethics issues?	◯ Yes	◉ No	
It is planned to use local resources (e.g. animal and/or human tissue samples, genetic material, live animals, human remains, materials of historical value, endangered fauna or flora samples, etc.)?	◯ Yes	◉ No	
Is it planned to import any material (other than data) from non-EU countries into the EU or from a non-EU country to another non-EU country? For data imports, see section 4.	◯ Yes	◉ No	
Is it planned to export any material (other than data) from the EU to non-EU countries? For data exports, see section 4.	◯ Yes	◉ No	
Does this activity involve low and/or lower middle income countries, (if yes, detail the benefit-sharing actions planned in the self-assessment)	◯ Yes	◉ No	
Could the situation in the country put the individuals taking part in the activity at risk?	◯ Yes	◉ No	
7. Environment, Health and Safety			**Page**

Proposal ID **101290642**

Acronym **STRATUS**

Does this activity involve the use of substances or processes that may cause harm to the environment, to animals or plants.(during the implementation of the activity or further to the use of the results, as a possible impact) ?	○ Yes	◉ No	
Does this activity deal with endangered fauna and/or flora / protected areas?	○ Yes	◉ No	
Does this activity involve the use of substances or processes that may cause harm to humans, including those performing the activity.(during the implementation of the activity or further to the use of the results, as a possible impact) ?	○ Yes	◉ No	

8. Artificial Intelligence			Page
Does this activity involve the development, deployment and/or use of Artificial Intelligence-based systems?	○ Yes	◉ No	

9. Other Ethics Issues			Page
Are there any other ethics issues that should be taken into consideration?	○ Yes	◉ No	

I confirm that I have taken into account all ethics issues above and that, if any ethics issues apply, I will complete the ethics self-assessment as described in the guidelines How to Complete your Ethics Self-Assessment ☒

Administrative forms

Proposal ID **101290642**

Acronym **STRATUS**

Ethics Self-Assessment

Ethical dimension of the objectives, methodology and likely impact

Explain in detail the identified issues in relation to:
- objectives of the activities (e.g. study of vulnerable populations, etc.)
- methodology (e.g. clinical trials, involvement of children, protection of personal data, etc.)
- the potential impact of the activities (e.g. environmental damage, stigmatisation of particular social groups, political or financial adverse consequences, misuse, etc.)

Remaining characters 5000

Compliance with ethical principles and relevant legislations

Describe how the issue(s) identified in the ethics issues table above will be addressed in order to adhere to the ethical principles and what will be done to ensure that the activities are compliant with the EU/national legal and ethical requirements of the country or countries where the tasks are to be carried out. It is reminded that for activities performed in a non-EU countries, they should also be allowed in at least one EU Member State.

Remaining characters 5000

Administrative forms

Proposal ID **101290642**

Acronym **STRATUS**

Security issues table

1. EU Classified Information (EUCI)[2]			Page
Does this activity involve information and/or materials requiring protection against unauthorised disclosure (EUCI)?	○ Yes	◉ No	
Does this activity involve non-EU countries which need to have access to EUCI?	○ Yes	◉ No	
2. Misuse			**Page**
Does this activity have the potential for misuse of results?	○ Yes	◉ No	
3. Other Security Issues			**Page**
Does this activity involve information and/or materials subject to national security restrictions? If yes, please specify: (Maximum number of characters allowed: 1000)	○ Yes	◉ No	
Are there any other security issues that should be taken into consideration? If yes, please specify: (Maximum number of characters allowed: 1000)	○ Yes	◉ No	

Security self-assessment

Please specify: (Maximum number of characters allowed: 5000)

Remaining characters 5000

[2]According to the Commission Decision (EU, Euratom) 2015/444 of 13 March 2015 on the security rules for protecting EU classified information, "European Union classified information (EUCI) means any information or material designated by an EU security classification, the unauthorised disclosure of which could cause varying degrees of prejudice to the interests of the European Union or of one or more of the Member States".

[3]Classified background information is information that is already classified by a country and/or international organisation and/or the EU and is going to be used by the project. In this case, the project must have in advance the authorisation from the originator of the classified information, which is the entity (EU institution, EU Member State, third state or international organisation) under whose authority the classified information has been generated.

[4]EU classified foreground information is information (documents/deliverables/materials) planned to be generated by the project and that needs to be protected from unauthorised disclosure. The originator of the EUCI generated by the project is the European Commission.

Proposal template Part B: technical description

STRATUS — SAFETY AND TRANSFORMED RESILIENCE FOR HIGH-ALTITUDE TRAFFIC UNIFIED SERVICES

[This document is tagged. Do not delete the tags; they are needed for processing.] #@APP-FORM-HERIAIA@#

List of participants

Participant No. *	Participant organisation name	Country
1 (Coordinator)	EUROCONTROL	Belgium (BE)
2	DFS Detusche Flugsicherung GmbH	Germany (DE)
3	ENAV SPA	Italy (IT)
4	LUFTARSVERKET	Sweden (SE)
5	NATS	United Kingdom (UK)
6	ENAIRE	Spain (ES)
7	ENAC ITALIAN CIVIL AVIATION AUTHORITY	Italy (IT)
8	CONSORCIO DEL AEROPUERTO DE TERUEL	Spain (ES)
9	SKYNAV EUROPE	Belgium (BE)
10	ECOLE NATIONALE DE L'AVIATION CIVILE	France (FR)
11	C.I.R.A. CENTRO ITALIANO RICERCHE AEROSPAZIALI SCPA	Italy (IT)
12	STICHTING KONINKLIJK NEDERLANDS LUCHT - EN RUIMTEVAARTCENTRUM	Netherlands (NL)
13	INTERNATIONAL FEDERATION OF AIR TRAFFIC CONTROLLERS' ASSOCIATIONS	Canada (CA)
14	INGENIERIA Y ECONOMIA DEL TRANSPORTE SME MP SA	Spain (ES)
15	CENTRO DE REFERENCIA INVESTIGACION DESARROLLO E INNOVACION ATM, A.I.E.	Spain (ES)
16	INSTITUUT VOOR INFRASTRUCTUUR, MILIEU EN INNOVATIE	Belgium (BE)
17	OPENUTM	Ireland (IE)

18	DEUTSCHES ZENTRUM FUR LUFT - UND RAUMFAHRT EV	Germany (DE)
19	SCEYE SPAIN	Spain (ES)
20	ANRA Technologies OU	Estonia (EE)
21	HAPS Alliance (Associated partner)	United States (US)
22	UDARAS EITLIOCHTA NA HEIREANN THE IRISH AVIATION AUTHORITY (Associated partner)	Ireland (IE)

1. Excellence #@REL-EVA-RE@#

1.1 Objectives and ambition #@PRJ-OBJ-PO@#

Project objectives

STRATUS (Safety and Transformed Resilience for High-Altitude Traffic Unified Services) will define a modular and scalable framework for integrating Higher Airspace Operations (HAO) and Space Transport Operations (STO) into the European ATM framework. The focus is on the low-density airspace above conventional traffic, generally above FL550. This is where high-performance supersonic and hypersonic aircraft, automated HAPS fleets, and sub-orbital operations are expected to multiply in the coming decade.

Building on the exploratory CONOPS produced in ECHO and taking into account the work now underway in ECHO2, STRATUS will expand the scope to cover a wider set of operational scenarios, vehicle types and service models. It will address the operational, functional, technical and regulatory foundations required for integration, in line with the priorities of the European ATM Master Plan for higher-airspace operations, dynamic airspace configuration, service-oriented architectures and cyber-secure digitalisation. Concentrating on the higher airspace, where traffic density is relatively low, provides the opportunity to mature and validate innovative concepts and technologies while limiting operational risk to existing ATM.

The objectives of STRATUS follow a logical progression from establishing operational demand in higher airspace, through the development of concepts and supporting frameworks, to the consideration of regulatory and other relevant implications that may influence successful implementation. The specific objectives are:

a) Market and stakeholder study

   Carry out an updated market and stakeholder study early in the project to establish the foundation for higher-airspace integration. The study will identify expected airspace users, including HAPS fleets, hypersonic transports, space transport operations such as orbital launches, sub-orbital flights and re-entries, and relevant military activities. It will assess expected traffic levels, operational profiles and timelines for entry into service, providing a realistic picture of higher-airspace occupancy. The results will provide the baseline for the OSED and CONOPS and ensure that subsequent work is grounded in operational reality. The study will complement the ongoing HAO market study by EASA by including space transport operations, which can have a major impact on airspace availability, and therefore this study will deliver a more comprehensive assessment of overall higher-airspace demand.

b) Higher-airspace CONOPS

   Develop an updated CONOPS describing how HAO and STO are integrated into the ATM network in practice. The CONOPS will identify the main functions required, such as trajectory exchange, conflict detection, separation, hazard area coordination and contingency response, and map them to potential services

with clearly defined interfaces. It will describe how these services interact with ANSPs, operators, military authorities and STO actors, ensuring that launches, re-entries and hazard areas are managed consistently with the wider ATM network. Building on the exploratory ECHO CONOPS, STRATUS will focus on producing an updated and innovative framework that moves beyond initial scoping and provides a structured basis for future implementation.

c) STO integration and hazard area management

Define the functions and services required for hazard area generation, promulgation, and dynamic management. This includes processes for creating and updating hazard areas, how they are exchanged with ANSPs and operators, and how they interact with 4DOZ concepts. Contingency procedures for off-nominal launches or re-entries will be addressed, together with the responsibilities of different service providers.

d) Dynamic 4-Dimensional Operating Zones for HAPS (4DOZ)

Extend the 4DOZ concept introduced in ECHO2 by explaining how these zones can operate in relation to other airspace users and how they can be integrated into higher airspace within the European ATM network. Particular attention will be given to HAPS operations, which may involve long endurance flights, large formations, or fleets with unique operational profiles. The project will specify the functions for creating, resizing and coordinating zones, describe how they can be delivered as services, and outline which providers would be responsible for their management.

e) Service architecture framework

Outline a modular, digital (Application Programming Interface (API) based), distributed architecture that supports the deployment of higher-airspace functions as interoperable services. The framework will apply zero-trust security, where no user or service is trusted by default and every interaction is authenticated, authorised and monitored. Redundancy and digital authorisation mechanisms will be built in, allowing States to maintain control of services within their jurisdiction while still supporting resilient and secure cross-border operations.

f) Integrated assurance framework

Develop a conceptual methodology that brings safety, cyber-security and resilience together in a single assurance process. The framework will show how requirements in these areas are linked, how evidence can be reused across domains, and how the approach can be exercised through expert review and small desk-based studies. The aim is to provide a practical way of checking that higher-airspace functions and services are robust without creating three separate sets of assurance work.

g) Regulatory and implementation considerations

Consider the regulatory and operational issues that will influence the implementation of higher-airspace services for all users. Areas to be considered include flight rules, licensing and supervision of new service providers, sovereignty and cross-border operations, military use of higher airspace, contingency responsibilities and environmental aspects. STRATUS will review these topics and provide commentary on their relevance to successful implementation, highlighting where regulatory developments may be needed. The findings will be reflected in an annex to the CONOPS and presented as input to inform further regulatory and implementation work.

Collectively, these objectives move beyond the initial scoping in ECHO and expand on the ongoing activities in ECHO2. Whereas ECHO established a first (comparatively narrow) CONOPS at TRL 2, STRATUS will broaden the scope and then consolidate the results back to a comprehensive TRL 2 by project close. This provides a more complete and implementation-oriented baseline for higher-airspace integration. In this way, STRATUS ensures continuity with existing SESAR work while delivering outputs that are ready to support future industrial research and the priorities of the European ATM Master Plan.

Ambition and advance beyond the state of the art

Previous SESAR work has established useful foundations for higher-airspace integration but important gaps remain. ECHO delivered an initial CONOPS at TRL 2, providing the first structured view of higher-airspace operations. ECHO2 is continuing this line of work but remains in progress and has not yet addressed service architectures, assurance methods or regulatory considerations. Other projects have contributed in related areas, including SEC-AIRSPACE on cyber security, FARO on resilience metrics, and FCDI on distributed service provision, but none have combined these elements into a coherent framework tailored for higher-airspace operations and space transport.

STRATUS advances the state of the art by:

a) Establishing a framework for network-wide consistent management of higher-airspace and space transport operations, ensuring that new entrants are integrated as part of a coherent Europe-wide system rather than through fragmented national solutions. This reflects the Master Plan ambition of a Digital European Sky that manages all users seamlessly across borders.

b) Embedding zero-trust, cyber-resilient principles into operational concepts and service architectures, consistent with the Master Plan's call for secure digitalisation of ATM services.

c) Providing flexible and dynamic airspace management through 4DOZ, adaptable to traffic mix, vehicle performance and network conditions, which directly supports the Master Plan priority on dynamic airspace configuration.

d) Enhancing resilience of higher-airspace services against disruptive events such as health crises, natural disasters, terrorism and cyber-attacks. STRATUS will explore how resilience requirements can be defined for new functions and services, building on and extending beyond previous SESAR work.

e) Creating a unified assurance methodology that brings safety, cyber security and resilience into a single process, reflecting the Master Plan priority on strengthening resilience of ATM services against physical and cyber threats.

f) Delivering an interoperable distributed architecture that supports a European network of higher-airspace services in which States retain sovereignty, but solutions can be reused across borders. This contributes to the Master Plan objective of introducing service-oriented architectures that allow scalability and harmonisation across Europe.

By consolidating these strands at TRL 2, STRATUS provides a more comprehensive and implementation-oriented baseline than any previous exploratory research. It ensures that the integration of new entrants such as HAPS, hypersonic and space transport vehicles is addressed in line with the development priorities of the European ATM Master Plan.

R&I maturity

The work will begin at TRL 1–2, building on the exploratory CONOPS delivered in ECHO. STRATUS broadens the scope to include additional vehicle types, STO interactions, hazard area management, dynamic 4DOZ, service architectures and assurance methods. This wider scope temporarily lowers maturity, and the project will consolidate these strands back to a comprehensive TRL 2 by project close.

By the end of the project, concepts, architectures and frameworks will be fully defined, documented and validated through expert review, stakeholder consultation and targeted desk-based analysis. Where appropriate, small-scale studies will be used to test specific elements such as hazard area coordination or cyber-resilience principles. No large-scale simulations or flight trials are foreseen, in line with the scope of an Exploratory Research project.

1.2 Methodology #@CON-MET-CM@# #@COM-PLE-CP@#

STRATUS begins by establishing who is expected to operate in higher airspace, through the development of operational concepts and technical frameworks, to the assessment of assurance and consideration of regulatory aspects. Each stage builds on the previous one so that by project close the results form a coherent package consolidated at TRL 2.

Initially a market and stakeholder study will be performed to establish a baseline picture of higher-airspace demand. This provides traffic expectations and operating characteristics that underpin the later concept work. On this basis STRATUS develops an updated CONOPS and OSED. These describe how higher-airspace and space transport operations can be integrated into the ATM network, define the required functions, map them to potential services, and explain how they interact with ANSPs, operators, military authorities and space transport actors. Special attention is given to STO integration and hazard area management, and to extending the 4DOZ concept from ECHO2 to show how dynamic zones can operate in relation to other higher airspace users and the European ATM network.

The project then looks at how these functions could be deployed within a modular, service-oriented architecture. This includes interoperability through digital APIs, redundancy, digital authorisation and the application of zero-trust security principles to maintain resilience in distributed and cross-border settings. A conceptual integrated assurance framework will also be developed, linking safety, cyber security and resilience into a single process. This will be reviewed by experts and exercised through desk-based studies.

Finally, STRATUS examines the regulatory and implementation aspects that could affect higher-airspace services. These considerations may include flight rules, licensing, sovereignty, contingency planning and environmental impacts. The focus will be on analysing relevance and potential effects rather than prescribing solutions.

The research is structured around two work packages that cover the exploratory and consolidation phases. Each reflects one reporting period, in line with SESAR guidance for Exploratory Research projects. This structure ensures that early definitions and scoping are completed and reviewed before more detailed frameworks are developed.

Part A (WP3, M1–M12) sets the foundation. It begins with the market and stakeholder study that establishes who is expected to operate in higher airspace in the coming decade, covering HAPS fleets, hypersonic transport, space transport operations such as orbital launches, sub-orbital flights and re-entries, and relevant military activities. This study produces traffic profiles, operating characteristics and entry-into-service timelines that serve as the baseline for the concept work.

Building on this baseline, Part A defines the operational context. It sets the vertical limits, classes and flight rules for higher airspace, identifies the main functions required for integration, and describes the actors involved. These include service providers, operators, regulators, airports, spaceports, stratoports and military authorities. The package also reviews existing ICAO, European and SESAR documentation to identify overlaps, gaps and inconsistencies.

The initial set of functional building blocks is then described. This covers surveillance, communications, navigation, mission planning, tactical planning and separation where applicable. Early models of 4DOZ are outlined, showing how dynamic zones might interact with other high-altitude users. These elements are captured in the Exploratory Research Plan, the market study and the initial OSED and CONOPS.

Part B (WP4, M13–M24) builds on these foundations and delivers the main technical results. It refines the functional building blocks and develops detailed service concepts, extending the 4DOZ models to include coordination mechanisms, contingency procedures, degraded mode operations and civil–military use.

The project then maps these functions into a high-level architecture framework. This framework applies modular, service-oriented principles, ensures interoperability through APIs, and incorporates zero-trust cyber security, redundancy, and sovereign control. The mapping of functions to services and interfaces provides a consistent basis for future technical development.

Alongside this, Part B develops a conceptual integrated assurance framework that brings safety, cyber security and resilience together in a single process. The framework is exercised through expert review and desk-based studies, demonstrating how assurance evidence could be captured once and reused across domains.

Finally, Part B considers standardisation and regulatory aspects. The concepts developed are mapped against existing ICAO, European and national regulations and standards. Areas where clarification or updates may be needed are highlighted, including sovereignty, licensing, contingency and environmental considerations. This commentary provides input for later SESAR phases and regulatory work.

The outputs of Part B include the FRD, final OSED and CONOPS, the Exploratory Research Report, an economic evaluation, and a commentary on regulatory and implementation issues.

The research is supported by WP1 on project management and by WP2 and WP5 on communication, dissemination and exploitation. These ensure that results are shared effectively and that open science and FAIR data principles are followed. They are described in more detail under Implementation.

Methodological challenges and mitigation

A key challenge for higher-airspace research is the absence of operational data. There are no mature fleets of hypersonic aircraft or routine space transport missions from Europe today, and HAPS operations remain limited. STRATUS addresses this by using a market and stakeholder study to construct realistic traffic profiles and operating characteristics. These are complemented by desk-based analysis and expert input, which together provide sufficient grounding for concept development without relying on unavailable data.

Another challenge lies in the regulatory domain. Questions of sovereignty, licensing, contingency responsibility and environmental protection are politically sensitive and outside the remit of a research project to resolve. STRATUS therefore does not attempt to prescribe solutions. Instead, it documents how these issues affect ATM integration, highlights dependencies and risks, and provides commentary that can inform future regulatory and industrial work.

The maturity level is also a constraint. STRATUS is scoped to reach TRL 2, which is appropriate for Exploratory Research. The project is not designed to deliver prototypes or flight demonstrations. Instead, validation is achieved through expert review, stakeholder consultation and small targeted studies where feasible. This ensures that results are realistic and technically sound, while leaving space for later industrial research to develop prototypes and operational trials.

Finally, integrating perspectives from operations, system architecture, cyber security and resilience introduces complexity. STRATUS mitigates this through an iterative process, where definitions established early in Part A are used to guide the service and architecture concepts in Part B. This ensures consistency across operational, technical and regulatory strands and reduces the risk of fragmentation.

Validation approach

Validation in STRATUS is tailored to the scope of an exploratory research project. The aim is to confirm that the concepts and frameworks developed are credible, feasible, and aligned with operational and regulatory realities, rather than to demonstrate them in live systems.

The primary method will be structured expert review, involving regulators, ANSPs, operators and other stakeholders with direct knowledge of higher-airspace operations. Their feedback will be used to assess whether the proposed functions, services and frameworks are consistent with operational needs and institutional constraints.

Targeted stakeholder workshops will provide additional opportunities to test assumptions and refine the outputs. These workshops will be used to present draft concepts such as hazard area management or 4DOZ coordination, and to capture reactions from operational and regulatory perspectives.

Scenario-based analysis will be applied where a more detailed check is useful, for example to explore how a dynamic zone interacts with conventional traffic or how contingency procedures might unfold in a cross-border setting. These analyses will be desk-based and scoped to remain within available resources.

No large-scale simulations or flight trials are planned, which is consistent with the scope of an Exploratory Research project. Where feasible, partial proof-of-concept studies may be carried out to illustrate specific technical ideas, and any software artefacts produced will be open-sourced to support future research.

Compliance with cross-cutting requirements

Do No Significant Harm (DNSH).

The project does not involve physical systems, prototypes, or flight trials. All activities are desk-based, relying on literature, modelling, and expert review. There are no emissions, no resource use, and no waste generated by the research itself. Environmental aspects are considered as part of the regulatory commentary, where contingency planning and space transport hazard areas are assessed in relation to airspace efficiency and environmental protection. The methodology therefore does not cause significant harm to any of the six environmental objectives of the EU Taxonomy Regulation.

Use of artificial intelligence.

STRATUS does not develop or deploy operational AI systems. References to AI-enabled analytics in the assurance framework are treated at a conceptual level only. Where relevant, the project will describe how AI could in future be made technically robust, explainable and reliable, consistent with the requirements in Horizon Europe guidance, but no AI tools will be delivered within the project.

Interdisciplinarity.

The work requires expertise across several domains: ATM operations, system and software architecture, cyber security, resilience engineering, and regulatory and institutional frameworks. The methodology integrates these strands by using a common set of baseline definitions and scenarios in Part A, which are then used to shape technical and regulatory work in Part B. This ensures that operational, technical and regulatory perspectives remain consistent.

Gender dimension.

The research activities do not involve human participants, biomedical elements, or social-behavioural data. The work focuses on operational concepts and technical frameworks. As such, there is no direct gender dimension in the research content. This is consistent with the scope of the call and the nature of the work.

Open science.

All non-sensitive outputs will be published open access. This includes deliverables such as the CONOPS, OSED, FRD, ERR, ECO-EVAL and regulatory commentary. The project will also ensure that results are shared with other projects funded under the same call, as required by the SESAR 3 JU. Research data will be managed according to FAIR principles, with a Data Management Plan delivered at Month 6 and updated during the project.

Research data management.

The main research outputs are textual (deliverables, reports, templates, reference models). Limited datasets may be generated from desk-based studies or scenario modelling. These will be small in size and primarily descriptive. Data will be stored in trusted repositories with persistent identifiers, published in open formats where possible, and licensed for reuse under Creative Commons or similar. The DMP will detail responsibilities for data quality, curation and preservation.

2. Impact #@IMP-ACT-IA@#

2.1 Project's pathways towards impact

STRATUS contributes directly to the expected outcomes of the Work Programme topic on innovative methodologies for ATM safety, security and resilience. The project delivers a set of concepts, frameworks and evaluations that together provide a consolidated TRL 2 baseline for the safe and secure integration of higher-airspace operations.

- *New methodologies for safety, cyber security and resilience*. STRATUS develops an integrated assurance framework that links these domains in a single process. The framework is validated through expert review and desk-based studies and demonstrates how evidence can be reused across domains.
- *Support for virtualised and distributed ATM architectures*. The service architecture framework defines how higher-airspace functions can be deployed as interoperable services. It applies principles such as modularity, API-based interoperability, redundancy and zero-trust security.
- *Network-wide management of higher airspace and space transport*. STRATUS delivers an updated CONOPS and OSED, incorporating hazard area management and 4DOZ. These describe how HAO and STO services interact with ANSPs, operators and military users, providing a harmonised framework for integration into the wider ATM network.
- *Regulatory and implementation insight.* Commentary on sovereignty, licensing, contingency and environmental issues is captured as an annex to the CONOPS. This provides regulators and standardisation bodies with structured input on where existing frameworks may need to evolve.
- *Market and stakeholder evidence*. The updated market study includes HAPS, hypersonic and space transport operations, complementing EASA's HAO market study by assessing the effect of STO on airspace availability. This provides a realistic picture of future demand, directly supporting the EASA Higher Airspace Operations Roadmap.

Pathways to impact

STRATUS ensures that its results are directly usable by SESAR follow-on activities and by regulators through three complementary pathways.

The first pathway concerns concept definition and validation. Operational concepts, service models and architectures will be developed with the involvement of regulators, ANSPs, operators, military representatives and service providers. Validation will be achieved through structured expert review panels, targeted workshops and scenario-based desk studies. This approach ensures that the outputs are technically credible, feasible, and consistent with institutional requirements.

The second pathway is packaging for integration. Deliverables will be presented as ready-to-use frameworks and reference material that can be incorporated into SESAR industrial projects, EASA rulemaking tasks and ICAO provisions. Each deliverable will be mapped against the development priorities of the European ATM Master Plan, including integration of new entrants, dynamic airspace configuration, secure digitalisation and resilience. STRATUS will also take into account the results of related SESAR projects that addressed these themes in other contexts.

- SEC-AIRSPACE advanced methodologies for cyber-resilience in digitalised ATM services. STRATUS builds on this work by embedding zero-trust principles and cyber-security baselines into its higher-airspace architecture.
- FARO examined evolving safety risk assessment frameworks. STRATUS incorporates these insights into its integrated assurance approach, which links safety, security and resilience.
- FCDI studied operational resilience to disruptive events. STRATUS extends this to higher airspace by developing concepts for hazard area management, off-nominal re-entries and contingency coordination.

The third pathway is stakeholder engagement and dissemination. Engagement with operational and regulatory communities throughout the project provides early buy-in and facilitates post-project uptake. Dissemination will target both European and international forums, such as ICAO panels and regional planning groups, to support harmonisation beyond the EUR Region. Open science practices will be applied to make all non-sensitive results openly available in trusted repositories, following FAIR principles, so that they can be reused by regulators, industry and future research projects.

Together, these pathways ensure that STRATUS outputs are not isolated academic results but are positioned to inform regulatory development, support SESAR industrial research, and guide future service implementation.

Expected long-term impacts (5–10 years after project end)

In the longer-term STRATUS will contribute to the implementation of the European ATM Master Plan and the Digital European Sky. Its concepts will enable scalable and resilient integration of higher-airspace and space transport operations in line with Master Plan priorities. This will support a harmonised European approach to HAO/STO integration, reduce duplication across States, and strengthen the resilience of ATM services to cyber threats, outages and cross-border disruptions. At the global level, STRATUS results are expected to influence ICAO provisions, ensuring that European practice shapes worldwide frameworks for higher-airspace operations.

Strategic economic impact

Higher airspace is today a largely unused domain with very low traffic density. This creates a unique opportunity for Europe to use it as a sandbox to trial new paradigms and technologies with limited operational risk. STRATUS contributes to de-risking these innovations, accelerating their path into mainstream ATM. A coherent European framework for higher-airspace operations will also strengthen Europe's sovereign space launch and transport capability, support a vibrant industrial ecosystem, and reduce dependence on non-European providers. In the longer term, this will reinforce European competitiveness, resilience and technological leadership, consistent with the strategic vision set out in the European ATM Master Plan and in wider EU digital and space policy.

Beneficiaries

Regulators.

EASA, national civil aviation authorities and national space regulators will benefit directly from STRATUS outputs. The project delivers structured and validated concepts such as the CONOPS, OSED and FRD, along with commentary on sovereignty, licensing, contingency management and environmental aspects. These materials provide regulators with an evidence base for future rulemaking and oversight, reducing the time and effort required to interpret novel higher-airspace activities in the absence of clear standards. By framing the issues in a consistent and operationally grounded way, STRATUS helps regulators to avoid fragmented approaches and supports alignment with the European ATM Master Plan and the EASA Higher Airspace Operations Roadmap.

ANSPs and system integrators.

Air navigation service providers and their industry partners gain from the technical frameworks produced in STRATUS. The project describes how higher-airspace functions such as trajectory management, separation, and hazard area coordination can be implemented as modular services. It also defines interfaces and architectural principles that make these services interoperable across borders. For ANSPs and system integrators this reduces development effort, lowers cost and minimises the risk of bespoke national solutions that later require re-engineering. In the medium term, these outputs provide a practical foundation for testing higher-airspace service provision in industrial research phases.

Space operators.

Operators involved in orbital launches, sub-orbital missions and re-entries will gain from clearer procedures for hazard area generation, dynamic zone coordination and contingency management. STRATUS provides a framework

that links these functions with conventional ATM, ensuring that space transport operations are integrated into the European network in a predictable and consistent way. This reduces regulatory uncertainty for spaceports and launch service providers and supports Europe's ambition to develop sovereign and competitive space transport capability.

Higher-altitude operators.

Operators of high-altitude platforms and supersonic/hypersonic transport vehicles will benefit from the definition of core functions and services that govern operations above conventional controlled airspace. STRATUS clarifies how HAPS fleets, long-endurance missions and supersonic/hypersonic vehicles interact with ATS, how separation or deconfliction is managed, and how service continuity is maintained. By capturing these elements in a harmonised CONOPS and OSED, the project reduces barriers to market entry and helps these operators plan for scalable operations in European airspace.

Traditional aviation stakeholders.

Conventional airspace users and airport operators benefit from the assurance that higher-airspace and space operations are managed in a way that does not compromise safety or predictability in lower altitudes. By defining how hazard areas and dynamic zones are coordinated with existing ATS, STRATUS ensures that impacts on general air traffic are minimised. This protects the efficiency of the ATM network while allowing new entrants to grow.

Citizens and the general public.

STRATUS ultimately benefits European citizens by ensuring that new entrants in higher airspace are integrated without compromising the safety, security or continuity of air traffic services. A resilient and cyber-secure ATM system reduces the likelihood of large-scale disruption from outages or malicious attacks. The growth of higher-airspace industries also supports new services and applications, from connectivity to earth observation, which have a direct societal benefit. By treating higher airspace as a managed and resilient part of the European network, STRATUS helps safeguard the interests of the travelling public and society at large.

The European Union as a whole.

At the strategic level, STRATUS supports the EU's goals in competitiveness, sovereignty and defence. A coherent framework for higher-airspace operations strengthens European sovereign launch and space transport capability, reduces dependence on non-European providers, and enhances Europe's role as a global standard-setter. The project supports the growth of a competitive European industry in high-altitude and space transport services, creating skilled jobs and driving innovation. It also contributes to Europe's knowledge base in space traffic management and advanced ATM, reinforcing the EU's position as a market leader in the global aerospace sector. In the defence and security dimension, STRATUS supports civil–military coordination and resilience, contributing to the protection of European infrastructure and assets.

2.2 Measures to maximise impact - Dissemination, exploitation and communication #@COM-DIS-VIS-CDV@#

As an Exploratory Research project, the value of the work lies not only in the concepts developed but in how they are transferred into later SESAR phases, regulatory processes and wider societal use. The project therefore devotes significant effort to dissemination, exploitation and communication, with a continuous programme in WP2 and a dedicated wrap-up in WP5 to ensure post-project continuity. The plan addresses multiple audiences: regulators, ANSPs, industry, standards bodies, research organisations and the wider public. It combines early stakeholder engagement, alignment with European and international policy agendas, and open science practices to ensure that STRATUS results are visible, accessible and ready for immediate reuse.

Exploitation strategy

The primary exploitation pathway for STRATUS is the uptake of its outputs in SESAR industrial research phases, EASA regulatory activities and ICAO regional and global guidance. To achieve this, STRATUS will:

- Produce deliverables in a ready-to-integrate format. CONOPS, OSED, FRD, ERR, ECO-EVAL and regulatory commentary will be drafted in line with SESAR templates and mapped to existing Master Plan work packages. They will be structured as reference documents that can be directly cited in SESAR solution projects, EASA rulemaking tasks, or ICAO panel working papers.

- Align early with implementers. Stakeholders positioned to take results forward — including ANSP technical teams, industry integrators, regulatory drafting groups and SESAR solution consortia — will be engaged throughout the project. This will ensure that STRATUS outputs are framed in a way that these implementers can use without translation or adaptation.

- Identify near-term use cases. The project will highlight specific areas where STRATUS concepts can add value immediately. Examples include cross-border coordination of hazard areas for space transport operations, the definition of minimum service levels for high-altitude service providers, and cyber-resilient design principles for distributed ATM services.

- Enable rapid reuse. Non-sensitive results will be published under open licences (Creative Commons or equivalent) to allow direct reuse by industry, regulators and other research teams. Sensitive material will be restricted but shared under SESAR JU mechanisms with linked projects.

Exploitation will also extend to education, training and research communities. STRATUS deliverables will serve as material for academic courses, simulation studies and doctoral research on ATM, cyber security and space traffic management. In this way, the project seeds knowledge that continues to support European innovation beyond the SESAR framework.

Dissemination activities

Dissemination will be structured in two stages: WP2 covers dissemination during the research phase, while WP5 ensures dedicated wrap-up and outreach in the final six months.

- Regulators and policy-makers. Targeted policy briefs will summarise the regulatory touchpoints identified in STRATUS and propose potential pathways for integration into European and international frameworks. Workshops with EASA and national authorities will discuss regulatory dependencies, sovereignty, contingency responsibilities and environmental considerations.

- Operational stakeholders. Technical briefs, interface diagrams and service concept descriptions will be delivered to ANSPs, HAOSP candidates and military coordination units. These will explain not only the concepts but also the practical implications for system development, interoperability and operations.

- Standards and R&D communities. Findings will be disseminated through ICAO panels, EUROCAE working groups, CANSO events and SESAR fora. STRATUS results will be aligned with ongoing standardisation efforts (e.g. SWIM, cyber security profiles, space traffic coordination) to maximise their utility for harmonisation.

- Wider aviation community. Accessible summaries, infographics and webinars will be produced to explain the significance of higher-airspace integration for aviation safety and resilience. This ensures that industry and the public at large understand why these developments matter and how Europe is leading the response.

Key dissemination channels include SESAR Innovation Days, ICAO EUR/NAT regional meetings, EUROCAE WG-105 (UAS/UTM), WG-122 (cyber security), and targeted international events such as the Space Traffic Management conferences. Mid-project workshops will be held to present interim results and refine them through feedback, while final promulgation events in WP5 will showcase outcomes to regulators, industry and research actors.

Communication activities

The communication strategy is designed to promote STRATUS throughout its full lifespan and beyond. It is built on three principles: visibility, accessibility and continuity.

- Core message. STRATUS demonstrates how Europe can safely and securely integrate higher-airspace operations and space transport, creating a resilient and cyber-secure foundation for the Digital European Sky.
- Public narrative. Communications will explain the societal benefits of STRATUS, including safer airspace, more resilient critical infrastructure, and new services enabled by HAO/STO (e.g. broadband connectivity, Earth observation, space launch capability).
- Tools and channels. The project will maintain a dedicated website hosting public deliverables, news updates and event registrations. Social media accounts will be used to reach wider audiences, with content tailored to industry, regulators and the general public. Periodic newsletters will provide updates to stakeholders.
- Timing. Communications will be linked to key milestones: publication of the market study, interim OSED and CONOPS, mid-project workshops, and final results in WP5. This ensures that interest peaks at moments when stakeholders can engage directly with outputs.

Communication activities will also support citizen engagement, making clear how STRATUS contributes to safer skies, stronger European resilience and the economic opportunities of space and higher airspace.

Post-project continuity

A defining feature of STRATUS is WP5, a dedicated work package for CDE wrap-up after the technical work concludes. This ensures that dissemination and exploitation continue beyond Month 24 and that outputs are not lost when the research ends. WP5 will:

- Deliver a final exploitation and impact strategy, with clear pathways for results to enter SESAR IR, EASA regulatory plans and ICAO provisions.
- Establish a repository of non-sensitive deliverables and supporting material, hosted on a trusted platform, to guarantee long-term access.
- Organise a high-visibility promulgation event to present results to regulators, ANSPs, operators, industry and research partners.
- Maintain engagement with EASA, SESAR JU, ICAO and EUROCAE working groups, ensuring STRATUS outputs continue to inform policy and technical development after project close.

By dedicating the final six months to dissemination and exploitation, STRATUS will demonstrate its commitment to delivering lasting impact, not just short-term research results.

Intellectual property, open science and data management

All partners will sign a consortium agreement defining ownership and access rights. A results ownership list will be delivered in the final periodic report. Results with exploitation value will be identified early and categorised as either open, restricted or protected.

- Open results. Deliverables such as the market study, CONOPS, OSED, FRD, ERR, ECO-EVAL and regulatory commentary will be released under open licences (Creative Commons).
- Restricted results. Materials containing sensitive information (e.g. cyber threat analysis) will be shared only under SESAR JU agreements with linked projects.
- Protected results. Where partners develop novel methods with wider commercial potential, appropriate IPR protection (copyright, trade secrets, design rights) will be considered.

The Data Management Plan (M6) will ensure all data are FAIR (findable, accessible, interoperable, reusable). Persistent identifiers will be used, datasets will be published in open formats, and all publications will be open access.

Contribution to EU policy, society and further research

STRATUS does not stop at technical deliverables: its outputs will shape the European ATM and space policy landscape. The project provides commentary that feeds into EASA rulemaking tasks, SESAR Master Plan updates, and ICAO provisions, supporting the design and adaptation of European and international policy.

For society and citizens, STRATUS improves the safety and resilience of European skies, ensuring that cyber-attacks, outages or off-nominal space events do not disrupt mobility or endanger public safety. It also underpins the growth of industries that deliver tangible benefits, such as high-altitude connectivity, scientific observation, and secure European access to space.

For the EU economy, STRATUS contributes to competitiveness and sovereignty by de-risking higher-airspace integration, supporting European launch capability and stimulating industrial innovation. By providing a sandbox for innovation in low-density airspace, STRATUS allows Europe to test and adopt new paradigms before competitors, ensuring leadership in the global aerospace sector.

For further research, STRATUS establishes a validated TRL 2 baseline that SESAR industrial phases can take forward into prototyping, large-scale validation and standardisation. Deliverables will also be made available to academia and research organisations as a basis for doctoral work, simulation studies and applied research in ATM, cyber security and space traffic management.

#§COM-DIS-VIS-CDV§#

2.3 Summary

KEY ELEMENT OF THE IMPACT SECTION

SPECIFIC NEEDS	EXPECTED RESULTS	D & E & C MEASURES
What are the specific needs that triggered this project? Global and technological developments since the creation of the original ECHO CONOPS mean that certain key concepts need to be (re) considered, in order to support the development of the HAO and STO industries, and the benefits they are expected to deliver for European citizens. Existing airspace users need to be assured that HAO and STO can be developed and exploited within European Airspace without causing excessive disruption to their operations.	*What do you expect to generate by the end of the project?* An agreed Concept of Operations, updated from that produced by ECHO 1 and considering the various developments since. This includes the report on EASA's Opinion on ECHO 1 following consultation of Member States and Industry Stakeholders, published in June 2025.	*What dissemination, exploitation and communication measures will you apply to the results?* A dedicated project website will act as the central hub for public information, deliverables, and news. Mid-project stakeholder workshops will present interim results and gather feedback. End of project promulgation events will present outcomes and promote adoption. STRATUS will engage with target audiences through SESAR events, ICAO EUR/NAT meetings, EUROCAE working groups, industry conferences, and webinars. During the project period, the STRATUS team will identify exploitation pathways and potential users of project results, to ensure that communications and dissemination methods are effective, and lead to the path to exploitation

#§IMP-ACT-IA§#

TARGET GROUPS	OUTCOMES	IMPACTS
Who will use or further up-take the results of the project? Who will benefit from the results of the project? European State Regulators (Space and Airspace) EASA Potential HAO and STO operators (both civil and military) European citizens and businesses who will make use of the services offered by HAO and STO operators.	*What change do you expect to see after successful dissemination and exploitation of project results to the target group(s)?* European Regulators, Airspace Users and Service Providers will have a clearer view of the future operating concept for Higher Airspace Operations and Space Launch / Return. ICAO will understand what activities are necessary at global level to enable effective and efficient HAO and STO at the anticipated numbers, without creating excessive levels of disruption to existing airspace users. Research Organisations and Manufacturing Industry will have a better understanding of the concepts and equipment which will need more detailed technical development. Clean-sheet HAO technology baseline. A documented concept and interface set that allows HAO to adopt advanced digital CNS, automation and coordination services without legacy retrofit constraints, while defining clear transition rules for climb and descent through conventional airspace.	*What are the expected wider scientific, economic and societal effects of the project contributing to the expected impacts outlined in the respective destination in the work programme?* The scientific community will have an updated concept to help them identify areas requiring further detailed research. Potential providers/users of space transportation / higher airspace services will have a clearer idea of the path to commercial/personal exploitation of these capabilities – in the longer term leading to a viable new industry sector. Technology leapfrogging by design. By treating HAO as a clean-sheet environment above FL550, the project specifies architectures that can use modern communications, navigation and surveillance, high-automation decision support and data-centric coordination that would be impractical to mandate fleet-wide below due to retrofit costs and backward-compatibility constraints. Spillover benefits to the network. Clear HAO–ATM interface requirements and transition procedures enable safe mixed operations and create a pathway for selective downstream adoption in lower airspace where benefits justify change, reducing long-term technical debt.

3. Quality and efficiency of the implementation #@QUA-LIT-QL@# #@WRK-PLA-WP@#

3.1 Work plan and resources

The STRATUS work plan is designed to deliver a coherent TRL 2 baseline for the safe and resilient integration of higher-airspace operations. The structure follows SESAR 3 JU guidance for Exploratory Research, with a focus on two research work packages aligned to the two reporting periods, supported by management and CDE activities. This ensures that the project progresses in a logical sequence, allows for interim review of early concepts, and devotes sufficient resources to dissemination and exploitation.

The plan is organised into five work packages:

- **WP1 – Project Management (M1–M30)**. Covers coordination, reporting, financial and quality management, and includes delivery of the Project Management Plan and Data Management Plan.
- **WP2 – Communication, Dissemination and Exploitation (M1–M24)**. Provides continuous engagement with stakeholders and early dissemination of results, ensuring alignment with SESAR, EASA and ICAO activities.
- **WP3 – STRATUS Research Activity, Part A (M1–M12)**. Establishes the baseline. It delivers the market and stakeholder study, definitions of actors and functions, and the initial OSED and CONOPS.
- **WP4 – STRATUS Research Activity, Part B (M13–M24)**. Builds on WP3 results. It develops service concepts, the architecture framework, the integrated assurance methodology and regulatory commentary. Outputs include the FRD, final OSED and CONOPS, the ERR, ECO-EVAL and implementation commentary.
- **WP5 – CDE Wrap-Up (M25–M30)**. Ensures post-research impact. It delivers the final exploitation and impact strategy, open-science compliance report and a final promulgation event to hand over results to regulators, SESAR industrial phases and standards bodies.

The work plan is structured to reflect the exploratory nature of the project: Part A focuses on scoping and establishing foundations, while Part B consolidates and extends the results into frameworks that are ready for uptake. WP2 and WP5 provide a strong CDE framework, ensuring that outputs are visible, accessible and integrated into the European ATM Master Plan and EASA HAO Roadmap. WP1 provides governance and quality assurance across the project.

This structure ensures efficiency: each work package corresponds to a substantial body of work with clear objectives and deliverables, and resources are concentrated in WP3 and WP4 where the technical work is carried out. The plan also ensures continuity, with CDE activities running throughout and a dedicated final phase to maximise impact beyond the lifetime of the project.

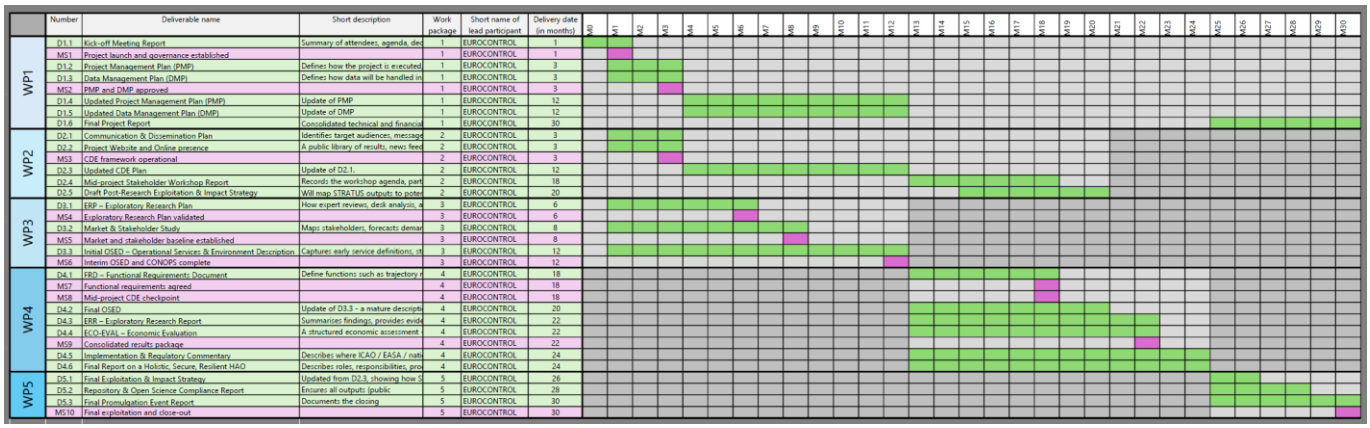
Inter-relations between work packages

The work plan is designed to follow a clear progression from scoping to consolidation, with continuous management and dissemination. The dependencies between work packages are straightforward and ensure that results are delivered in a coherent and timely manner.

- WP3 (Part A) sets the foundations for the project. It produces the market and stakeholder study, defines actors and functions, and delivers the initial OSED and CONOPS. These outputs provide the baseline material needed for subsequent work.
- WP4 (Part B) builds directly on WP3. The initial concepts, functions and services defined in Part A are refined and expanded into service concepts, the architecture framework, the assurance methodology and regulatory commentary. The FRD, final OSED and CONOPS, ERR and ECO-EVAL represent the consolidated technical outputs of the project.

- WP2 (CDE) runs in parallel with WP3 and WP4, ensuring that interim and final results are disseminated as they are produced. WP2 also collects feedback from stakeholders, feeding it back into WP3 and WP4 to refine definitions and concepts.
- WP1 (Management) provides coordination, quality assurance and reporting throughout the project, and also delivers the Project Management Plan and Data Management Plan to ensure consistency in both technical and administrative aspects.
- WP5 (CDE Wrap-Up) begins once the technical research has been completed in WP4. It ensures that the outputs are not only finalised but also positioned for uptake, through the final exploitation and impact strategy, open-science compliance, and a closing promulgation event.

In Gantt terms, WP1 runs across the full project duration. WP2 overlaps with WP3 and WP4 to ensure communication and dissemination during both technical phases. WP3 is focused in the first reporting period (M1–M12), WP4 in the second (M13–M24). WP5 is dedicated to the final six months (M25–M30).



	Number	Deliverable name	Short description	Work package	Short name of lead participant	Delivery date (in months)
WP1	D1.1	Kick-off Meeting Report	Summary of attendees, agenda, dec	1	EUROCONTROL	1
	MS1	Project launch and governance established		1	EUROCONTROL	1
	D1.2	Project Management Plan (PMP)	Defines how the project is executed	1	EUROCONTROL	3
	D1.3	Data Management Plan (DMP)	Defines how data will be handled in	1	EUROCONTROL	3
	MS2	PMP and DMP approved		1	EUROCONTROL	3
	D1.4	Updated Project Management Plan (PMP)	Update of PMP	1	EUROCONTROL	12
	D1.5	Updated Data Management Plan (DMP)	Update of DMP	1	EUROCONTROL	12
	D1.6	Final Project Report	Consolidated technical and financial	1	EUROCONTROL	30
WP2	D2.1	Communication & Dissemination Plan	Identifies target audiences, message	2	EUROCONTROL	3
	D2.2	Project Website and Online presence	A public library of results, news feed	2	EUROCONTROL	3
	MS3	CDE framework operational		2	EUROCONTROL	3
	D2.3	Updated CDE Plan	Update of D2.1.	2	EUROCONTROL	12
	D2.4	Mid-project Stakeholder Workshop Report	Records the workshop agenda, part	2	EUROCONTROL	18
	D2.5	Draft Post-Research Exploitation & Impact Strategy	Will map STRATUS outputs to pote	2	EUROCONTROL	20
WP3	D3.1	ERP – Exploratory Research Plan	How expert reviews, desk analysis, a	3	EUROCONTROL	6
	MS4	Exploratory Research Plan validated		3	EUROCONTROL	6
	D3.2	Market & Stakeholder Study	Maps stakeholders, forecasts dema	3	EUROCONTROL	8
	MS5	Market and stakeholder baseline established		3	EUROCONTROL	8
	D3.3	Initial OSED – Operational Services & Environment Description	Captures early service definitions, st	3	EUROCONTROL	12
	MS6	Interim OSED and CONOPS complete		3	EUROCONTROL	12
WP4	D4.1	FRD – Functional Requirements Document	Define functions such as trajectory r	4	EUROCONTROL	18
	MS7	Functional requirements agreed		4	EUROCONTROL	18
	MS8	Mid-project CDE checkpoint		4	EUROCONTROL	18
	D4.2	Final OSED	Update of D3.3 - a mature descripti	4	EUROCONTROL	20
	D4.3	ERR – Exploratory Research Report	Summarises findings, provides evide	4	EUROCONTROL	22
	D4.4	ECO-EVAL – Economic Evaluation	A structured economic assessment	4	EUROCONTROL	22
	MS9	Consolidated results package		4	EUROCONTROL	22
	D4.5	Implementation & Regulatory Commentary	Describes where ICAO / EASA / nati	4	EUROCONTROL	24
	D4.6	Final Report on a Holistic, Secure, Resilient HAO	Describes roles, responsibilities, pro	4	EUROCONTROL	24
WP5	D5.1	Final Exploitation & Impact Strategy	Updated from D2.3, showing how S	5	EUROCONTROL	26
	D5.2	Repository & Open Science Compliance Report	Ensures all outputs (public	5	EUROCONTROL	28
	D5.3	Final Promulgation Event Report	Documents the closing	5	EUROCONTROL	30
	MS10	Final exploitation and close-out		5	EUROCONTROL	30

This simple and logical structure minimises dependencies, reduces risks of delay, and ensures that each stage of the project builds cleanly on the previous one.

3.2 Capacity of participants and consortium as a whole #@CON-SOR-CS@# #@PRJ-MGT-PM@#

The STRATUS consortium has been deliberately assembled to provide the full range of expertise needed to address the challenges of integrating higher-airspace operations and space transport into the European ATM system. The work requires not only technical innovation but also operational credibility, regulatory insight, and strong dissemination. The consortium reflects this balance, combining organisations with extensive ATM operational experience, recognised regulatory competence, deep technical expertise in architectures and cyber-security, established academic and research institutions, and specialists in communication and stakeholder engagement.

The project's objectives cannot be achieved by a narrow group of partners. Instead, STRATUS relies on a multidisciplinary and interdisciplinary team that covers the operational, technical, regulatory, research, and societal dimensions of the problem. The consortium is structured to ensure that each of these dimensions is represented, while avoiding duplication and ensuring efficiency. The combined capacity of the team ensures that results will be technically credible, aligned with operational constraints, feasible for regulatory uptake, and communicated effectively to the relevant communities.

Breadth of expertise

The consortium provides a broad spread of expertise, covering all areas required for STRATUS:

- Operational expertise. Several partners have long experience in air navigation service provision and day-to-day ATM operations. They provide the knowledge required to judge whether new concepts are realistic, safe, and capable of integration into the network. This ensures that STRATUS outputs are firmly grounded in operational reality rather than theoretical models.

- Technical and systems expertise. Research centres and engineering partners bring competence in designing modular, service-oriented architectures, applying cyber-resilience and zero-trust principles, and modelling interoperability in distributed environments. This capability is essential to developing the architecture and assurance frameworks required in STRATUS.

- Regulatory and policy expertise. Partners with backgrounds in civil aviation authorities, international organisations, and regulatory processes contribute the experience needed to understand how concepts can be translated into standards, rulemaking material, and guidance. They provide the link between technical research and the regulatory processes that will ultimately implement the results.

- Academic and research expertise. Universities and research institutions ensure methodological rigour and bring the ability to review international state of the art. They provide the systems thinking needed to link operational, technical, and policy domains, and ensure compliance with open science and FAIR data principles.

- Stakeholder engagement and communication. Specialist organisations within the consortium contribute the capability to plan and execute effective dissemination, engagement, and exploitation strategies. This includes organising workshops, developing outreach materials, and ensuring that project outputs reach the relevant European and international forums.

Complementarity of roles

The consortium is structured to ensure that each work package is led by a partner with recognised expertise in the relevant domain. Project management is supported by partners with experience in coordinating European research. The communication, dissemination and exploitation activities are led by partners with strong networks and outreach experience. The two main research work packages are supported by a balance of operational, technical, and research expertise, ensuring that definitions and concepts developed in Part A are expanded into service models, architectures and assurance frameworks in Part B. The wrap-up phase is supported by organisations with experience in exploitation and regulatory alignment, ensuring that results are visible and accessible after the project closes.

This complementarity avoids duplication and ensures that all aspects of the project are covered by the most appropriate expertise. The project benefits from the credibility of established operational and regulatory organisations, the innovation of technical and research partners, and the reach of communication specialists.

Capacity to deliver

Collectively, the consortium has demonstrated the ability to deliver results at the scale and scope required for STRATUS:

- Extensive participation in European ATM research and development, including previous SESAR exploratory and industrial projects, which ensures familiarity with SESAR methodologies, deliverable structures, and validation approaches.

- Direct involvement in ICAO and EASA activities, ensuring that STRATUS outputs will be aligned with current international initiatives and can be fed directly into ongoing regulatory and standardisation processes.

- Access to operational data, modelling facilities, simulation environments, and in some cases infrastructure such as airports and spaceports, ensuring that the work is grounded in practical realities.

- Experience in developing concepts to TRL 2–3 maturity, validated through expert review, scenario-based analysis, and structured stakeholder consultation.

- Established networks across the ATM and aerospace communities, including regulators, ANSPs, operators, industry associations, and standards bodies. These connections ensure that STRATUS results will reach the communities that can take them forward into implementation.

Cross-cutting dimensions

The consortium also brings together expertise across cross-cutting areas. Social sciences and human factors are addressed through partners with operational and human-centred expertise, ensuring that concepts are not only technically sound but also institutionally and socially acceptable. Open science practices are embedded in the project through academic partners with strong records in FAIR data management and open access. Gender aspects are considered in the composition of teams and in recruitment policies, even though the research content itself does not involve gender analysis.

Geographic and international reach

The consortium spans a broad set of European States, ensuring that diverse operational environments and regulatory regimes are represented. This supports the goal of developing harmonised concepts that are valid across Europe. The presence of international partners extends the reach of the project to the global level, ensuring alignment with ICAO processes and supporting interoperability with non-European systems. This geographic and institutional spread maximises the chances that STRATUS results will be not only relevant to Europe but also influential worldwide.

#§CON-SOR-CS§# #§PRJ-MGT-PM§#

Tables for section 3.1

Table 3.1a: List of work packages

Work package No	Work Package Title	Lead Participant No	Lead Participant Short Name	Person-Months	Start Month	End month
WP1	Project Management	1	EUROCONTROL	30	M1	M30
WP2	Communication, Dissemination, & Exploitation	1	EUROCONTROL	18	M1	M24
WP3	STRATUS Research Activity, Part A	20	EUROCONTROL	154.53	M1	M12
WP4	STRATUS Research Activity, Part B	20	EUROCONTROL	120.78	M13	M24
WP5	CDE Wrap-up	1	EUROCONTROL	10.50	M25	M30

Table 3.1b: Work package description

For each work package:

Work package number	WP1
Work package title	Project Management & Coordination

Objectives

WP1 provides the governance, coordination, and quality assurance framework that ensures STRATUS is delivered on time, within scope, and in line with SESAR 3 JU requirements for Exploratory Research. Its objectives are to:

a) Establish and operate a governance structure that supports clear decision-making, effective communication, and timely conflict resolution.

b) Manage all contractual, administrative, and financial aspects of the Grant Agreement, including all mandatory reporting to SESAR 3 JU.

c) Monitor progress against the approved Project Management Plan (PMP) and Data Management Plan (DMP), ensuring risks are tracked and corrective action taken when required.

d) Deliver all mandatory SESAR milestones and reviews on schedule, including the ERP and ERR.

e) Apply structured quality assurance to ensure all project outputs meet SESAR JU evaluation and open science standards.

Description of work

WP1 runs for the full 30 months of the project and covers governance, reporting, quality assurance, risk management, and contractual/financial administration.

Governance and coordination

The governance structure rests on three layers. The *Project Management Board* (PMB), chaired by EUROCONTROL and including all partners, meets quarterly to review overall progress, confirm resource use, address risks, and approve major deliverables. Monthly *Work Package Lead* (WPL) meetings, chaired by the Coordinator, monitor technical progress, manage interdependencies, and resolve emerging issues. An Advisory Board (AB), composed of external stakeholders such as Launch & Re-entry Operators, national regulators, and defence/space organisations, meets twice (midway and close to project end) to provide independent feedback and ensure alignment with broader European initiatives. Governance and coordination activities require about 8 PM across the project.

Project Management Plan (PMP)

EUROCONTROL produces the PMP at Month 3, consolidating inputs from WP leaders and partners. It defines governance roles, reporting flows, risk and quality processes, communication and document control, and incorporates the baseline schedule in the SESAR reporting platform. The PMP is updated at Month 12 to reflect any changes. Preparation and review require around 2 PM in total.

Data Management Plan (DMP)

EUROCONTROL also leads the DMP, due in Month 3 and updated in Month 12. It specifies how STRATUS outputs are handled in line with FAIR principles, covering formats, metadata, repositories, preservation, and access rights. All partners participate in the process with document control, while technical partners contribute information on expected data types. Around 2 PM are allocated to this activity.

Reporting and reviews

WP1 coordinates the preparation of all mandatory SESAR 3 JU and Horizon Europe reviews. EUROCONTROL consolidates inputs from WP leaders into technical and financial reports at M12 and M24. Although not deliverables, these reports require significant effort (~10 PM). At project close, EUROCONTROL prepares the Final Project Report (D1.6) with partner contributions, consolidating results, financials, lessons learned, and updated exploitation and dissemination planning. This requires around 2 PM across the consortium.

Risk management

EUROCONTROL maintains the project risk register, opened at the kick-off meeting. Risks are updated monthly at WPL meetings, with escalation of high-priority risks to the PMB. All partners contribute to identifying and monitoring risks. Around 1 PM are assigned to this activity.

Quality assurance

All deliverables undergo a two-stage review: an independent technical review by a non-authoring partner, followed by a compliance review by EUROCONTROL. This ensures consistency with SESAR templates, Horizon standards, and PMP criteria. Reviews are scheduled at least two weeks before submission. The QA process requires about 2 PM across the project.

Financial and administrative management

EUROCONTROL monitors resource allocation under the lump-sum model, tracks person-months and deliverable completion, and prepares consolidated financial statements. Partners provide quarterly inputs on effort and resource use. At M30, EUROCONTROL oversees submission of the Final Project Report and archiving of all documentation. This requires around 2 PM in total.

Role of participants

- EUROCONTROL (Coordinator): leads WP1, chairs the PMB, prepares the PMP and DMP, consolidates reports, manages financial and contractual compliance, and ensures quality control.
- Advisory Board: external input at mid-term and project close to ensure alignment with wider European and international frameworks.

Work package number	WP2
Work package title	Communication, Dissemination & Exploitation

Objectives

WP2 ensures that STRATUS results are visible, accessible, and positioned for adoption by SESAR follow-on projects, regulators, and international bodies. Its objectives are to:

a) develop and maintain a communication and dissemination framework that ensures project visibility from the outset;
b) provide targeted engagement with regulators, ANSPs, operators, standards bodies, and other stakeholders to build early buy-in;
c) prepare interim and final exploitation strategies that map STRATUS outputs to SESAR and regulatory priorities;
d) ensure compliance with Horizon Europe open science and FAIR principles, so that all non-sensitive results are accessible and reusable;
a) deliver structured stakeholder workshops and promulgation events to validate concepts and maximise impact.

Description of work

WP2 runs from Month 1 to Month 24 and is led by EUROCONTROL and supported by all partners for outreach, content development, and event organisation. A follow-up package (WP5) ensures continuity of dedicated CDE work during the final six months.

The work begins with the preparation of the Communication & Dissemination Plan (D2.1), delivered at Month 3. This document defines the communication strategy, identifies target audiences, sets key messages, and establishes performance indicators. It includes an editorial calendar, event plan, and alignment with SESAR JU branding requirements. About 2 PM are allocated across the consortium for this deliverable.

In parallel, the project website and online presence (D2.2) are established by Month 3. The website functions as a public repository of results, news updates, event announcements, and non-confidential deliverables, and is linked to the SESAR JU portal. This activity requires around 1 PM for setup and ongoing updates.

The plan is updated at Month 12 (Updated CDE Plan, D2.3) to reflect progress, stakeholder feedback, and adjustments in dissemination strategy. This ensures the project remains visible and aligned with evolving SESAR priorities. The update is concise but requires coordination, with about 1 PM allocated.

A central activity is the Mid-project Stakeholder Workshop (D2.4), held around Month 18. Organised by EUROCONTROL, this event presents the interim CONOPS and OSED to regulators, ANSPs, military representatives, and service providers. The workshop collects structured feedback on the concepts, which is then fed into WP3 and WP4 work. The Workshop Report records participants, discussions, and how feedback is integrated into Part B. Organising and documenting the workshop requires around 5–6 PM in total, reflecting the need for preparation, facilitation, and reporting.

WP2 also produces the Draft Post-Research Exploitation & Impact Strategy (D2.5) at Month 20. This maps STRATUS outputs to potential users and adoption pathways, highlights standardisation hooks, and identifies areas requiring further R&D. It positions the results for continuation in SESAR industrial projects, EASA regulatory roadmaps, and ICAO provisions. About 4–5 PM are allocated across the consortium for this deliverable.

Throughout WP2, dissemination takes place via multiple channels. Partners present results at SESAR events, ICAO EUR/NAT meetings, EUROCAE working groups, and targeted industry conferences. Academic partners prepare scientific publications, while operational partners contribute to professional forums. Public outreach is maintained through infographics, social media updates, and newsletters. This continuous activity ensures that STRATUS maintains visibility across its stakeholder community.

WP2 accounts for around 15 PM of effort in total. This is proportionate for an ER project and justified by the need to build awareness and uptake of the project's outputs well before the final phase. WP5 then extends this effort to cover post-research exploitation and dissemination, ensuring continuity beyond Month 24.

Role of participants

- EUROCONTROL (Lead): drafts the CDE Plan, manages the website and branding, leads exploitation strategy, coordinates open science compliance, stakeholder engagement and workshops; provide content for the website and other communications; support the exploitation strategy; ensure alignment with SESAR JU dissemination obligations; contribute through conferences, publications and participation in workshops.

Work package number	WP3
Work package title	STRATUS Research Activity, Part A

Objectives

WP3 establishes the operational and analytical baseline for STRATUS. Its objectives are to:

a) produce an Exploratory Research Plan (ERP) that sets out the validation strategy for an ER project at TRL2, including expert reviews, stakeholder consultation, and scenario-based desk studies;

b) conduct an updated market and stakeholder study to provide a realistic forecast of demand for higher-airspace services, explicitly complementing the EASA HAO Market Study by extending the scope to Space Transport Operations (STO) and military use of higher airspace;

c) prepare an Initial Operational Services and Environment Description (OSED) that defines actors, functions, baseline scenarios, and interactions, forming the reference point for the CONOPS and technical frameworks developed in Part B;

d) establish the baseline assumptions for service models and architecture, describing how key functions could in future be deployed as modular services with interoperable interfaces, ensuring consistency between operational concepts and the distributed architecture framework refined in WP4;

e) identify candidate areas for proof-of-concept demonstration, where small, targeted exercises could be designed in Part B to illustrate the feasibility of innovative approaches.

Description of work

WP3 runs during the first 12 months of STRATUS and provides the foundation for the project's technical, operational, and regulatory outputs. It is led by EUROCONTROL. All partners contribute through data provision, expert knowledge, and structured review.

The Exploratory Research Plan (ERP, D3.1), due at Month 6, sets out how validation will be carried out in the project. While no large-scale trials or simulations are foreseen, the ERP ensures a structured validation pathway appropriate for TRL2. It defines the methods for:

- Expert reviews, specifying the criteria for selecting domain specialists from ANSPs, regulators, operators, and industry, and the format of review panels.
- Stakeholder workshops, which will provide structured opportunities to present draft concepts (e.g. early OSED scenarios, preliminary service models) and collect targeted feedback.
- Desk-based scenario analysis, including "what-if" case studies for HAPS operations, STO launches/re-entries, and mixed-traffic environments.

The ERP also specifies evidence capture: how comments, risks, and validation results are recorded, and how they feed into deliverables. Core preparation requires ~6–7 PM across the consortium. Further effort of around 8 PM will include background research, structured workshops, expert reviews, iterative drafting, and direct partner input.

The Market and Stakeholder Study (D3.2), delivered at Month 8, is a key differentiator for STRATUS. It provides a forward-looking picture of who will operate in higher airspace, when, and at what scale. It explicitly complements the EASA HAO Market Study, which focuses primarily on HAPS and high-performance aircraft, by adding Space Transport Operations (STO) (orbital launches, sub-orbital transport, re-entries) and military activity, both of which are critical for airspace availability but under-represented in current studies.

The study will:

- Compile demand forecasts for HAPS fleets (communications, ISR, scientific), hypersonic/supersonic transports, STO missions, and military operations.
- Define operational profiles, including flight durations, altitudes, trajectories, and hazard area footprints.
- Assess entry-into-service timelines, drawing on manufacturer announcements, regulatory filings, and industry roadmaps.
- Identify expected service requirements, such as separation assurance, hazard area coordination, trajectory exchange, and cyber-resilient communications.

By merging civilian, commercial, military, and STO perspectives, the study delivers a more realistic composite picture of higher-airspace occupancy. This picture becomes the baseline for the OSED and CONOPS. Core preparation requires ~8–10 PM, with significant partner consultation and structured review utilising around 16 PM.

The Initial OSED (D3.3), delivered at Month 12, builds on the ERP and market study to describe the operational environment, functions, and stakeholder interactions. It defines:

- Actors: ANSPs, high-altitude service providers, operators (HAPS, hypersonic, STO), regulators (aviation and space), military stakeholders, and infrastructure entities such as airports, spaceports, and stratoports.
- Functions: surveillance, communications, navigation, mission and tactical planning, conflict detection, separation (where needed), hazard area generation, and contingency response.
- Scenarios: routine HAPS flights, hypersonic transport corridors, STO launches/re-entries, and mixed environments with multiple HAO users.

The OSED also introduces the first mapping of functions into potential service models. For example, hazard area generation might be described both as an ANSP-led function and as a candidate modular service that can be published via an API. Similarly, conflict detection can be described as both an operator responsibility and a function that could be exposed by a higher-airspace service provider. These mappings provide the conceptual bridge between operational definitions in WP3 and the distributed architecture explored in WP4. Core preparation and internal review of the OSED require ~12–15 PM across the consortium, with ~28 PM allocated to background research, workshops, expert reviews, and any required iterative drafting.

To ensure coherence, WP3 reviews existing ICAO, European, and SESAR documentation (including ECHO and ECHO2 outputs) and explicitly records where STRATUS extends the scope. This avoids duplication and ensures that STRATUS provides added value in areas not yet addressed, such as STO integration, dynamic 4DOZ operation, and integrated safety–security–resilience assurance. These cross-cutting tasks will require ~20 PM across the consortium.

Role of participants

- EUROCONTROL (Lead): coordinates WP3, drafts ERP, consolidates inputs, leads Market and Stakeholder Study, ensures complementarity with EASA HAO Market Study, contributes to ERP drafting.
- SCEYE: ensures coverage of HAPS and novel operational profiles.
- SkyNav: ensures International & SESAR alignment, supports validation methodology, and reviews technical assumptions for service models.
- Other partners: contribute data, review deliverables, and provide expertise on STO, military, UAS, regulation, and system architecture.

Work package number	WP4
Work package title	STRATUS Research Activity, Part B

Objectives

Work Package 4 consolidates the outputs of Part A and develops the main technical and regulatory deliverables of STRATUS. Its objectives are to:

a) produce a Functional Requirements Document (FRD) that defines the detailed requirements for higher-airspace integration functions and their delivery as services;
b) finalise the OSED to provide a mature and validated description of actors, functions, services, and scenarios;
c) deliver an Exploratory Research Report (ERR) that summarises findings, assesses progress against objectives, and captures lessons learned;
d) perform an economic evaluation (ECO-EVAL) to examine costs, benefits, and incentives associated with higher-airspace services;
e) prepare an Implementation & Regulatory Commentary that analyses how the proposed concepts interact with existing ICAO, EASA, and national frameworks;
f) integrate all results into a *Final Report on a Holistic, Secure, and Resilient HAO framework*, ensuring coherence across operational, architectural, assurance, and regulatory strands.

Description of work

WP4 runs from Month 13 to Month 24 and represents the consolidation phase of STRATUS. It is led by EUROCONTROL, with other partners contributing according to their expertise. The total effort is ~100 PM, reflecting its role as the core work package for delivering STRATUS outputs.

The first major deliverable is the Functional Requirements Document (D4.1), due in Month 18. Building on the initial OSED, the FRD specifies the detailed requirements for key functions such as trajectory exchange, conflict detection, separation (where needed), hazard area generation and management, and contingency response. Requirements are expressed in terms of inputs, outputs, performance indicators, and interfaces. Special attention is given to dynamic 4-Dimensional Operating Zones (4DOZ) for HAPS, STO integration, and interoperability with conventional ATM services. Drafting is led by EUROCONTROL with contributions from ANSP and other relevant partners to ensure alignment with SESAR standards. Around 25 PM are allocated to this deliverable, reflecting the need for detailed modelling and iterative review.

By Month 20, the Final OSED (D4.2) is delivered. This updates and consolidates the initial OSED, incorporating feedback from stakeholders, results from the market study, and refined functional definitions from the FRD. The final OSED provides a comprehensive description of the actors, services, functions, and scenarios needed for higher-airspace integration. It clarifies the roles of ANSPs, HAOSP candidates, operators, regulators, and military stakeholders, and integrates STO operations and hazard area coordination more explicitly than in Part A. Preparation of the Final OSED requires ~45 PM across the consortium, reflecting its importance as a cornerstone reference for future SESAR and regulatory work.

While STRATUS does not conduct validation in the sense of large-scale simulations or flight trials, WP4 will identify specific components of the concepts that can be subjected to limited proof-of-concept activities. These small, targeted exercises will be used to illustrate the feasibility of novel or challenging ideas, such as new approaches to hazard area management, innovative 4DOZ coordination mechanisms, or alternative cyber-resilience methods for distributed architectures. Where feasible, prototype tools or models may be produced at conceptual level and shared openly to demonstrate how the research could be applied in practice. These activities do not constitute validation in the SESAR sense but provide tangible evidence that the concepts proposed are workable and merit continuation in later SESAR industrial research phases.

The Exploratory Research Report (ERR, D4.3) is delivered at Month 22. It synthesises all findings from STRATUS, assesses them against the project's objectives, and documents gaps and lessons learned. The ERR includes evidence from expert reviews, workshops, and desk-based studies, providing a clear picture of what has been achieved at TRL2 and where further industrial research is required. Around 32 PM are assigned to this activity, covering drafting, consolidation, and review.

Also at Month 22, the Economic Evaluation (D4.4) is delivered. This assesses the likely costs and benefits of higher-airspace integration, examining stakeholder incentives and possible business models for service provision. It uses qualitative and quantitative methods, drawing on demand forecasts from the market study and functional requirements from the FRD. EUROCONTROL leads the analysis, supported by other partners, with ~10 PM of effort.

The Implementation & Regulatory Commentary (D4.5) is produced at Month 24. This commentary maps STRATUS concepts against existing ICAO, EASA, and national frameworks, and highlights where updates or clarifications may be needed. It covers sovereignty, licensing and supervision of new service providers, contingency responsibilities, and environmental considerations. Importantly, it does not prescribe solutions but provides evidence-based commentary on relevance and potential impacts for implantation. Drafting is led by EUROCONTROL with inputs from regulators in the consortium. Around 15 PM are allocated.

Finally, WP4 delivers the Final Report on a Holistic, Secure, and Resilient HAO (D4.6) at Month 24. This report integrates the operational, technical, assurance, and regulatory strands into a single consolidated package. It describes roles, responsibilities, procedures, contingency arrangements, and information flows in a coherent framework. The report ensures that STRATUS outputs can be directly taken forward into SESAR industrial research or regulatory processes. This deliverable requires ~17 PM across the consortium.

Role of participants

- EUROCONTROL(Lead): coordinates WP4, leads drafting of FRD, Final OSED, ERR and Final Holistic Report, ensures operational realism. Ensures methodological alignment with SESAR standards.
- All partners: provide inputs, review drafts, and participate in expert review of all WP4 deliverables.

Work package number	WP5
Work package title	CDE Wrap-Up

Objectives

WP5 ensures that the results of STRATUS continue to deliver impact after the research phase is complete. Its objectives are to:

a) consolidate and finalise the exploitation and impact strategy, positioning STRATUS outputs for uptake in SESAR industrial projects, regulatory frameworks, and standardisation processes;

b) ensure that all public deliverables, datasets, and artefacts are archived in trusted repositories and compliant with Horizon Europe open science and FAIR requirements;

c) organise and deliver a final programme of dissemination and promulgation activities, including a major public event, to ensure visibility across Europe and internationally;

d) mobilise the entire consortium during the final six months to focus on active dissemination, both internally within their organisations and externally through industry forums, ensuring that STRATUS results are carried into the operational and regulatory community.

Description of work

WP5 runs during the last six months of STRATUS and extends the CDE activities initiated in WP2. It is led by EUROCONTROL, devoting resources to dissemination across their networks and stakeholder communities.

The Final Exploitation & Impact Strategy (D5.1, M26) consolidates the draft from WP2 and integrates the results of WP3 and WP4. It maps STRATUS outputs to SESAR follow-on projects, EASA rulemaking priorities, ICAO provisions, and EUROCAE standardisation groups. It also outlines adoption pathways for ANSPs, operators, and regulators, and identifies barriers that require further R&I.

At Month 28, the Repository & Open Science Compliance Report (D5.2) ensures that all project outputs, including deliverables, datasets, and supporting artefacts, are archived in trusted repositories with persistent identifiers and licensed for re-use. Technical partners provide correctly formatted data and models, while academic partners ensure FAIR compliance. This guarantees that STRATUS results remain accessible to the research and regulatory community long after project close.

The final phase culminates in the Promulgation Event and Report (D5.3, M30). This high-profile event, hosted with support from SESAR JU, presents the consolidated STRATUS outputs, including the OSED, CONOPS, FRD, assurance framework, and regulatory commentary, to regulators, ANSPs, operators, standards bodies, and international observers. The event is designed not as a one-way presentation but as a forum for dialogue, encouraging stakeholders to commit to carrying the results forward. The accompanying report documents agenda, participation, outcomes, and evidence of impact.

In parallel with these formal deliverables, intensive dissemination and communication activities include internal dissemination within relevant organisations (e.g. regulatory partners briefing their rulemaking units, ANSPs presenting to operational divisions, research partners embedding outputs into academic curricula) and external promotion at industry and policy events. Partners will actively present STRATUS results at conferences such as ICAO regional planning meetings, EUROCAE working groups, industry forums, professional conferences such as IFATCA, and SESAR events, as well as at targeted national workshops. This ensures that the outputs are visible in the exact communities that will use them.

Planning for WP5 has accounted for ~6 PM. By design, WP5 is not a passive close-out phase but a concentrated campaign to anchor STRATUS results in the SESAR, EASA, ICAO, and industry communities.

Role of participants

- EUROCONTROL (Lead): coordinates WP5, prepares exploitation strategy, manages repository compliance, organises final event, ensure open science compliance, co-organise the final event, and actively disseminate STRATUS results in the final six months internally and externally (conferences, standards bodies, regulatory fora) to maximise visibility and uptake.

Table 3.1c: List of Deliverables

Number	Deliverable name	Short description	Work package number	Short name of lead participant	Type	Dissemination level	Delivery date (in months)
D1.1	Kick-off Meeting Report	Summary of attendees, agenda, decisions taken, action points, and initial risk identification	WP1	EUROCONTROL	R	PU	1
D1.2	Project Management Plan (PMP)	Defines how the project is executed, monitored, controlled, and closed. The reference document for all project control.	WP1	EUROCONTROL	R	PU	3
D1.3	Data Management Plan (DMP)	Defines how data will be handled in line with FAIR principles. Covers all technical documents, models, and software artefacts.	WP1	EUROCONTROL	DMP	PU	3
D1.4	Updated Project Management Plan (PMP)	Update of PMP	WP1	EUROCONTROL	R	PU	12
D1.5	Updated Data Management Plan	Update of DMP	WP1	EUROCONTROL	DMP	PU	12
D1.6	Final Project Report.	Consolidated technical and financial report, integrating results, impacts, and updated exploitation / dissemination plans.	WP1	EUROCONTROL	R	PU	30
D2.1	Communication & Dissemination Plan	Identifies target audiences, messages, channels, KPIs, and how the project will ensure visibility and uptake of results. Will include an editorial calendar, planned events, and alignment with SESAR JU branding rules	WP2	EUROCONTROL	R	PU	3
D2.2	Project Website and Online presence	A public library of results, news feeds, event announcements, contact details, and non-confidential deliverables, linked from the SESAR JU portal	WP2	EUROCONTROL	DEC	PU	3

D2.3	Updated CDE Plan	Update of D2.1.	WP2	EUROCONTROL	R	PU	12
D2.4	Mid-project Stakeholder Workshop Report	Records the workshop agenda, participants, and feedback gathered. Captures stakeholder input on the interim CONOPS and OSED, and how that feedback is integrated into the project's second phase	WP2	EUROCONTROL	R	PU	18
D2.5	Draft Post-Research Exploitation & Impact Strategy	Will map STRATUS outputs to potential users, identify adoption barriers and standardisation hooks, and outline follow-on research needs.	WP2	EUROCONTROL	R	PU	20
D3.1	ERP – Exploratory Research Plan	How expert reviews, desk analysis, and scenario workshops will be conducted, what evidence will be collected, and how interim deliverables will be validated.	WP3	EUROCONTROL	R	PU	6
D3.2	Market & Stakeholder Study	Maps stakeholders, forecasts demand, and identifies service needs and implementation timelines. Updates earlier EASA and SESAR work to reflect the evolving high-altitude market.	WP3	EUROCONTROL	R	PU	8
D3.3	Initial OSED – Operational Services & Environment Description	Captures early service definitions, stakeholder roles, and baseline scenarios, feeding into Part B where they are refined and finalised.	WP3	EUROCONTROL	R	PU	12
D4.1	FRD – Functional Requirements Document	Define functions such as trajectory negotiation, conformance monitoring, separation where required, and cybersecurity principles, with clear KPIs and interface requirements.	WP4	EUROCONTROL	R	PU	18
D4.2	Final OSED	Update of D3.3 - a mature description of actors, services, and interactions across high-altitude operations.	WP4	EUROCONTROL	R	PU	20

D4.3	ERR – Exploratory Research Report	Summarises findings, provides evidence against objectives, identifies lessons learned, and documents gaps for future research.	WP4	EUROCONTROL	R	PU	22
D4.4	ECO-EVAL – Economic Evaluation	A structured economic assessment - a qualitative analysis of likely benefits and costs, stakeholder incentives, and potential business models.	WP4	EUROCONTROL	R	PU	22
D4.5	Implementation & Regulatory Commentary	Describes where ICAO / EASA / national frameworks may need updating, highlights sovereignty and contingency issues, and notes environmental considerations	WP4	EUROCONTROL	R	PU	24
D4.6	Final Report on a Holistic on Secure, Resilient HAO	Describes roles, responsibilities, procedures, contingency arrangements, and information flows.	WP4	EUROCONTROL	R	PU	24
D5.1	Final Exploitation & Impact Strategy	Updated from D2.3, showing how STRATUS anticipates the project's results to be taken forwards by the stakeholder community.	WP5	EUROCONTROL	R	PU	26
D5.2	Repository & Open Science Compliance Report	Ensures all outputs (public deliverables, datasets, software) are archived properly and accessible	WP5	EUROCONTROL	R	PU	28
D5.3	Final Promulgation Event Report	Documents the closing dissemination activity, with agenda, participants, outcomes, and evidence of impact.	WP5	EUROCONTROL	R	PU	30

Table 3.1d: List of milestones

Milestone number	Milestone name	Related work package(s)	Due date (in month)	Means of verification
1	Project launch and governance established	WP1	1	Kick-off Meeting Report (D1.1)
2	PMP and DMP approved	WP1	3	PMP (D1.2), DMP (D1.3)
3	CDE framework operational	WP2	3	Communication & Dissemination Plan (D2.1), Website online (D2.2)
4	Exploratory Research Plan validated	WP3	3	ERP (D3.1)
5	Market and stakeholder baseline established	WP3	8	Market & Stakeholder Study (D3.2)
6	Interim OSED and CONOPS complete	WP3	12	Initial OSED (D3.3), Initial CONOPS draft
7	Functional requirements agreed	WP4	18	FRD (D4.1)
8	Mid-project CDE checkpoint	WP4	18	Mid-Project Stakeholder Workshop Report (D2.4)
9	Consolidated results package	WP2	22	ERR (D4.3), ECO-EVAL (D4.4)
10	Final exploitation and close-out	WP5	30	Final Exploitation Strategy (D5.1), Promulgation Event Report (D5.3)

Table 3.1e: Critical risks for implementation #@RSK-MGT-RM@#

Description of risk (indicate level of (i) likelihood, and (ii) severity: Low/Medium/High)	Work package(s) involved	Proposed risk-mitigation measures
Market study – not sufficient sources. (Low likelihood, Medium severity)	WP3	Offset with academic input and triangulate using industry roadmaps, regulatory filings, and expert judgement.
Lack of attendees at stakeholder promulgation events. (Medium likelihood, High severity)	WP2 / WP5	Ensure sufficient advance promotion, targeted invitations to key individuals, and offer hybrid formats to maximise participation.
Limited regulator engagement. (Medium likelihood, High severity)	WP2 / WP3 / WP4	Early involvement of EASA and national authorities via Advisory Board and targeted workshops; leverage SESAR/ICAO networks.
Divergent national positions on sovereignty and cross-border operations. (Medium likelihood, Medium severity)	WP4	Capture differences explicitly in regulatory commentary; frame outputs as options/evidence rather than consensus prescriptions.
Scope creep across vehicle types (HAPS, hypersonic, STO, military). (Medium likelihood, Medium severity)	WP3 / WP4	Maintain strict link to TRL 2 scope; prioritise SESAR Master Plan-relevant concepts; document excess material as future research needs.
Partner coordination challenges in large consortium (20+ partners). (Medium likelihood, Medium severity)	WP1	Regular PMB and WPL meetings; clear deliverable ownership; two-stage QA reviews by non-authoring partners and Coordinator.
Insufficient data for traffic forecasts (immature HAPS/space transport markets). (Medium likelihood, Medium severity)	WP3	Use multiple sources and expert judgement; transparently document uncertainties and assumptions.
Overlap with other SESAR/EASA studies (risk of duplication). (Low likelihood, Medium severity)	WP3 / WP4	Continuous alignment with ECHO2, EASA HAO study, SEC-AIRSPACE etc.; Advisory Board monitoring to ensure complementarity.
Underestimation of cross-cutting complexity (safety, cyber, resilience integration). (Low likelihood, High severity)	WP3 / WP4	Iterative approach across work packages; early baseline definitions; independent expert reviews to validate integration.

#§RSK-MGT-RM§#

Table 3.1f: Summary of staff effort

	WP1	WP2	WP3	WP4	WP5	Total Person-Months per Participant
1 EUROCONTROL	30,00	18,00	78,00	24,00	8,00	158,00
2 DFS			1,76	2.56		4,32
3 ENAV			4,07	4,02		8,09
4 LUFTARTSVERKET			7,00	7,00		14,00
5 NATS			2,50	4,20		6,70
6 ENAIRE			1,50	2,70		4,20
7 ENAC *(IT)*			3,20	7,80		11,00
8 CONSORCIO AERODROMO AEROPUERTO DE TERUEL			7,00	7,00		14,00
9 SkyNav Europe			11,20	11,50		22,70
10 ENAC *(FR)*			5,00	4,00		9,00
11 CIRA			2,00	4,00		6,00
12 NLR			4,60	6,00		10,60
13 IFATCA			2,00	5,00		7,00
14 INECO			5,30	6,00		11.30
15 CRIDA			2.80	2.80		5.60
16 IMIEU			0,60	0,70		1,30
17 OpenUTM				1,20		1,20
18 DLR			5,00	7,00		12,00
19 Sceye Spain			6,00	7,80	2,00	15,80
20 ANRA Technologies OU			5,00	5,50		10,50
21 HAPS Alliance (Associated partner)						
22 IAA (Associated partner)						
Total Person Months	30,00	18,00	154,53	120,78	10,50	333,81

Should this tender be successful EUROCONTROL, as part of the consortium, will participate in the project actions without requesting funding. EUROCONTROL will, however, fully engage in the project and in particular is committed to providing the effort, contributions to deliverables and to other activities as set out in this tender and in the accompanying administrative forms."

Table 3.1g: 'Subcontracting costs' items

16/IMIEU		
	Cost (€)	**Description of tasks and justification**
Subcontracting	18.900,00	IMIEU will subcontract some tasks within WP3 &WP4 to **The International Institute of Air and Space Law** of the University of Leiden.

Table 3.1h: 'Purchase costs' items (travel and subsistence, equipment and other goods, works and services)

Not applicable.

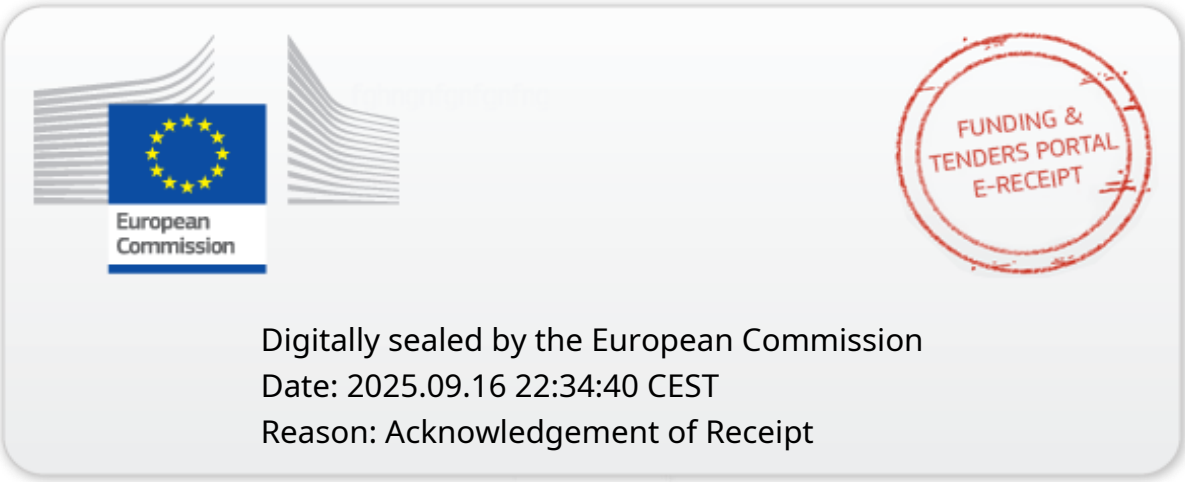
Table 3.1i: 'Other costs categories' items (e.g. internally invoiced goods and services)

Not applicable.

Table 3.1j: 'In-kind contributions' provided by third parties

Not applicable.

#§QUA-LIT-QL§# #§WRK-PLA-WP§#



This electronic receipt is a digitally signed version of the document submitted by your organisation. Both the content of the document and a set of metadata have been digitally sealed.

This digital signature mechanism, using a public-private key pair mechanism, uniquely binds this eReceipt to the modules of the Funding & Tenders Portal of the European Commission, to the transaction for which it was generated and ensures its full integrity. Therefore a complete digitally signed trail of the transaction is available both for your organisation and for the issuer of the eReceipt.

Any attempt to modify the content will lead to a break of the integrity of the electronic signature, which can be verified at any time by clicking on the eReceipt validation symbol.

More info about eReceipts can be found in the FAQ page of the Funding & Tenders Portal.

(https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/support/faq)