SESAR INFO DAY
Call CEF-SESAR-2018-1: U-space call

2nd February 2018

SESAR JOINT UNDERTAKING

Founding Members

EUROPEAN UNION EUROCONTROL

WELCOME ADDRESS

Peter Hotham, SESAR Joint Undertaking

2nd February 2018

Founding Members

SESAR AND THE EU AVIATION STRATEGY

SESAR ATM MODERNISATION VISION

OUR VISION

With SESAR, the future of air traffic management is characterised by:

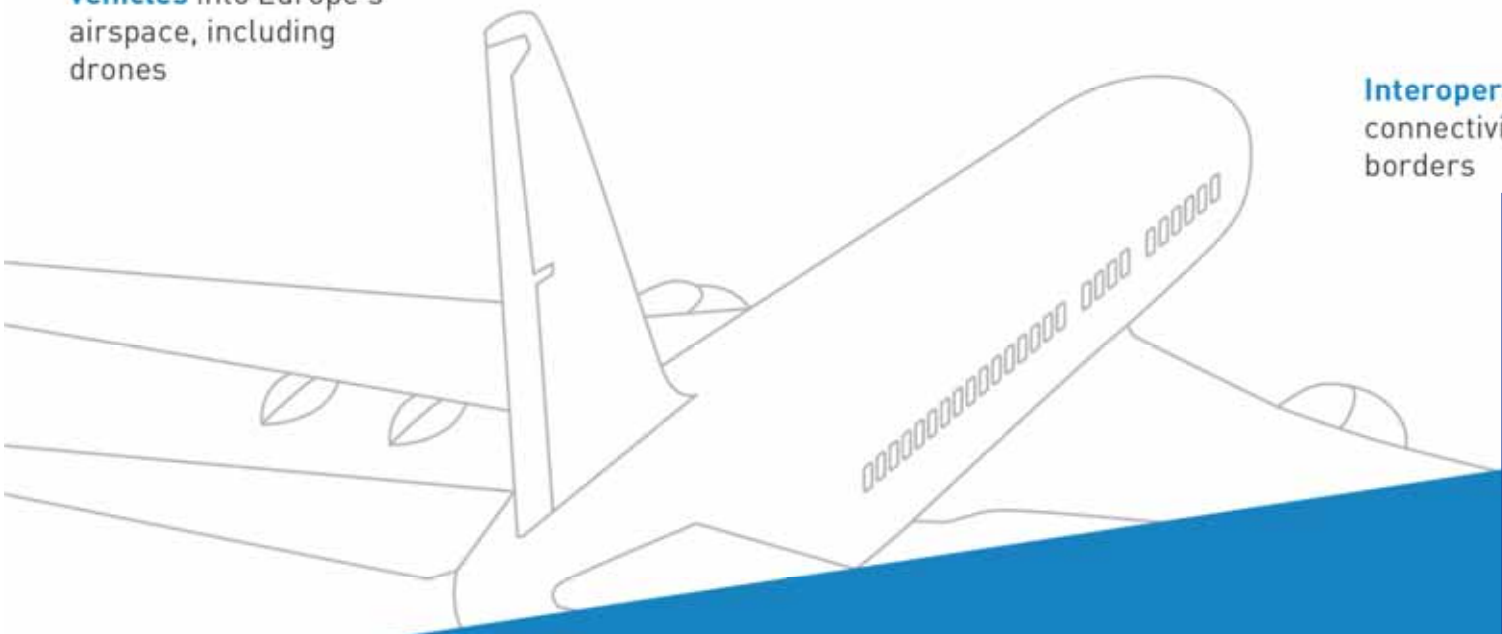
Increased **virtualisation**, regarding provision of services irrespective of the location of physical infrastructure

Integration of all vehicles into Europe's airspace, including drones

Flight-centric operations, so airlines can fly their preferred routes

Improved information sharing, creating an intranet of services and applications accessible by all aviation stakeholders

Interoperable systems, allowing connectivity of systems across borders



MASTER PLANNING FOR RESULTS & GLOBAL INTEROPERABILITY

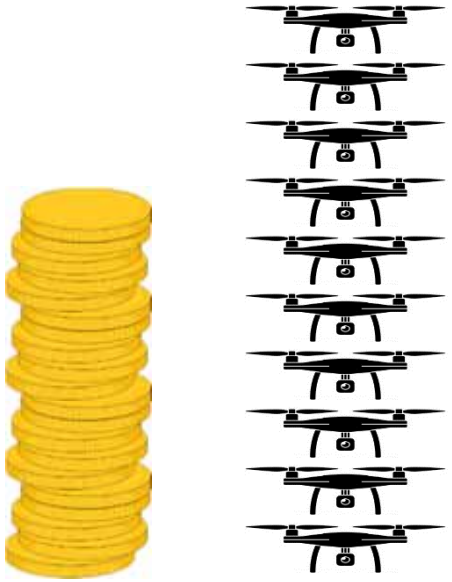
Why U-Space?

SIGNIFICANT VALUE AT STAKE FOR EUROPE

U-Space enabled — Uses in rural, low level context

Value	Airtime
~€6.5B	~20M Hrs

U-Space enabled — Uses in populated, low level context



Value	Airtime
~€4B	~250M Hrs

Uses in controlled & uncontrolled airspace

Value	Airtime
~€4B	~7M Hrs

70% of the value can only be fully unlocked with U-Space

“A DIGITAL SKY”: THE NECESSARY NEXT STEP TO BUILD AN INFRASTRUCTURE SUITED FOR TRAFFIC EXPANSION

Today airspace is occupied mainly by traditional manned aviation

Traditional piloted airplanes and rotorcrafts with limited connectivity

Tomorrow, Digital Aviation infrastructure to enable all air operations

Connected airplanes and rotorcrafts, drones, urban air mobility and air taxi and services

Thousands of aircrafts in the sky

Hundred of thousands of connected flying devices in the sky

Adaptation of current system is not an option to continue the aviation success story (from an industrial, innovation and sovereignty point of view)

Source: Pictures from Airbus, Uber

Call CEF-SESAR-2018-1: U-space Technical specifications

U-SPACE POLICY PRIORITIES

Koen de Vos, European Commission

2nd February 2018

Founding Members

Starting a drone business in Europe by 2019

DG MOVE
Brussels, SJU, 2 February 2018

@BuIc_EU

Mobility and Transport

Make a drone business by 2019

Helsinki declaration

Confirmed the commitment to safe, secure, green drone operations that also respect privacy; and open the EU drones services market by 2019; by work on:

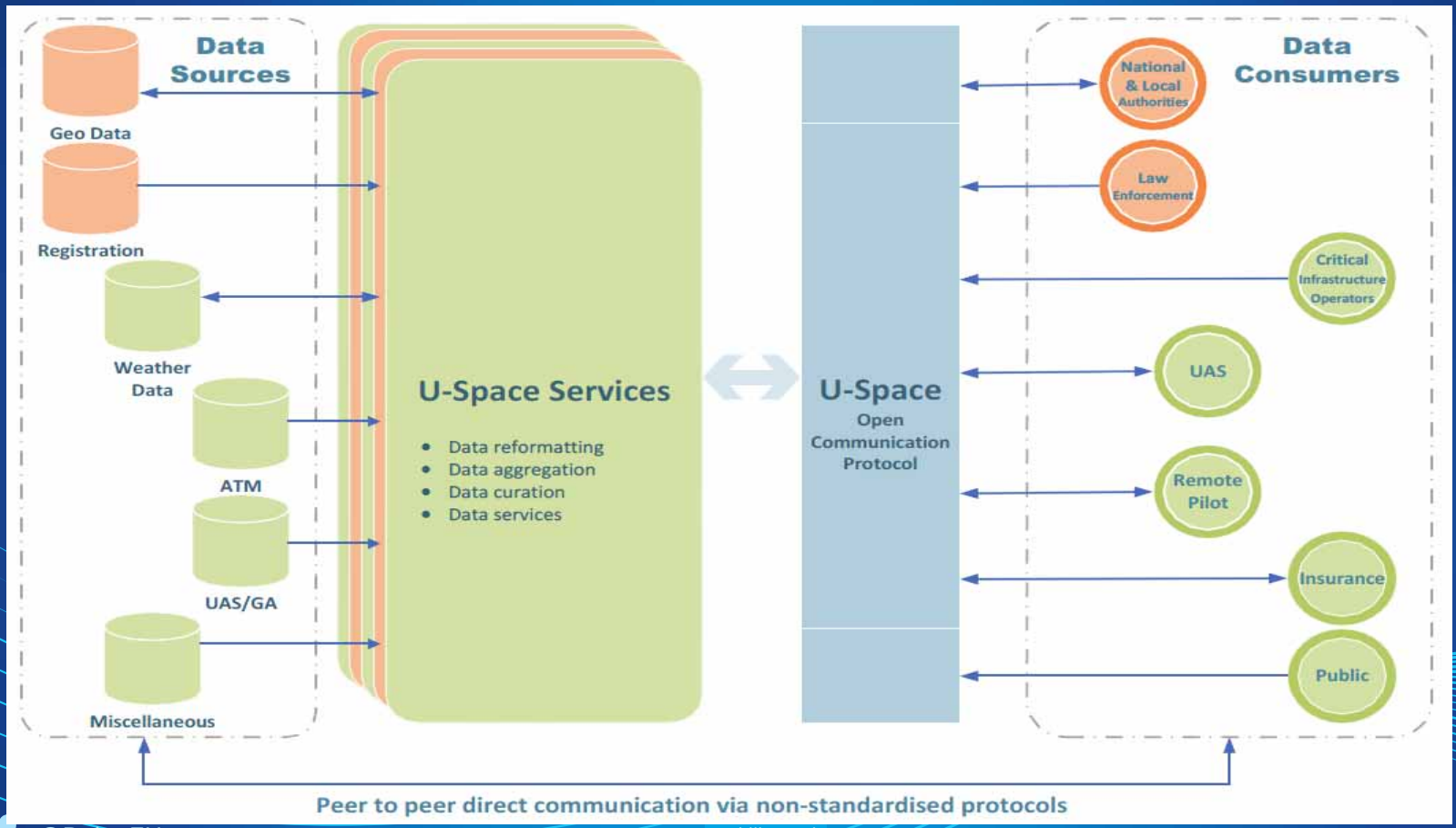
1. **Legal requirements** for operations, airspace and U-Space services;
2. **Hands-on experience** in demonstrators
3. **Casting of** such experience through an effective standard setting process.

Creating an EU Drone Ecosystem

	Drone rules	Drone airspace rules	U-Space
	(Airworthiness, Competence, Operations)	(Types of airspace and modalities)	(Access to airspace)
Principles	EP and Council EASA regulation	EP and Council EASA regulation (or SES)	EP and Council EASA regulation (or SES)
Detailed rules	Commission Regulation (Prototype rule)	Commission Regulation (SERA)	Commission Regulation (tbd)
Compliance	Standards / AMC	Standards / AMC	Standards / AMC
	Operation Centric Approach	Adapt to local characteristics	Fair access to airspace

European Commission

Schematic overview U-Space



U-Space demonstrators

- SESAR funded projects – focus on integration efforts of more automated drones in more complex operations – results by 2019-2020 – SJU leads
- Smart Cities funded projects – focus on drones in wider transport chain - results by 2019-2020 – EC leads
- EU demonstrator network – focus on gaining regulatory experience on the basis of **private/public partnerships** with clear business needs to speed up opening market – **results now** – EC leads with EASA

Thank you

Brussels 2 February 2018

@BuIc_EU

Mobility and Transport

SESAR PROGRAMME OVERVIEW

Ludovic Legros
Programme Manager, SESAR Joint Undertaking

2nd February 2018

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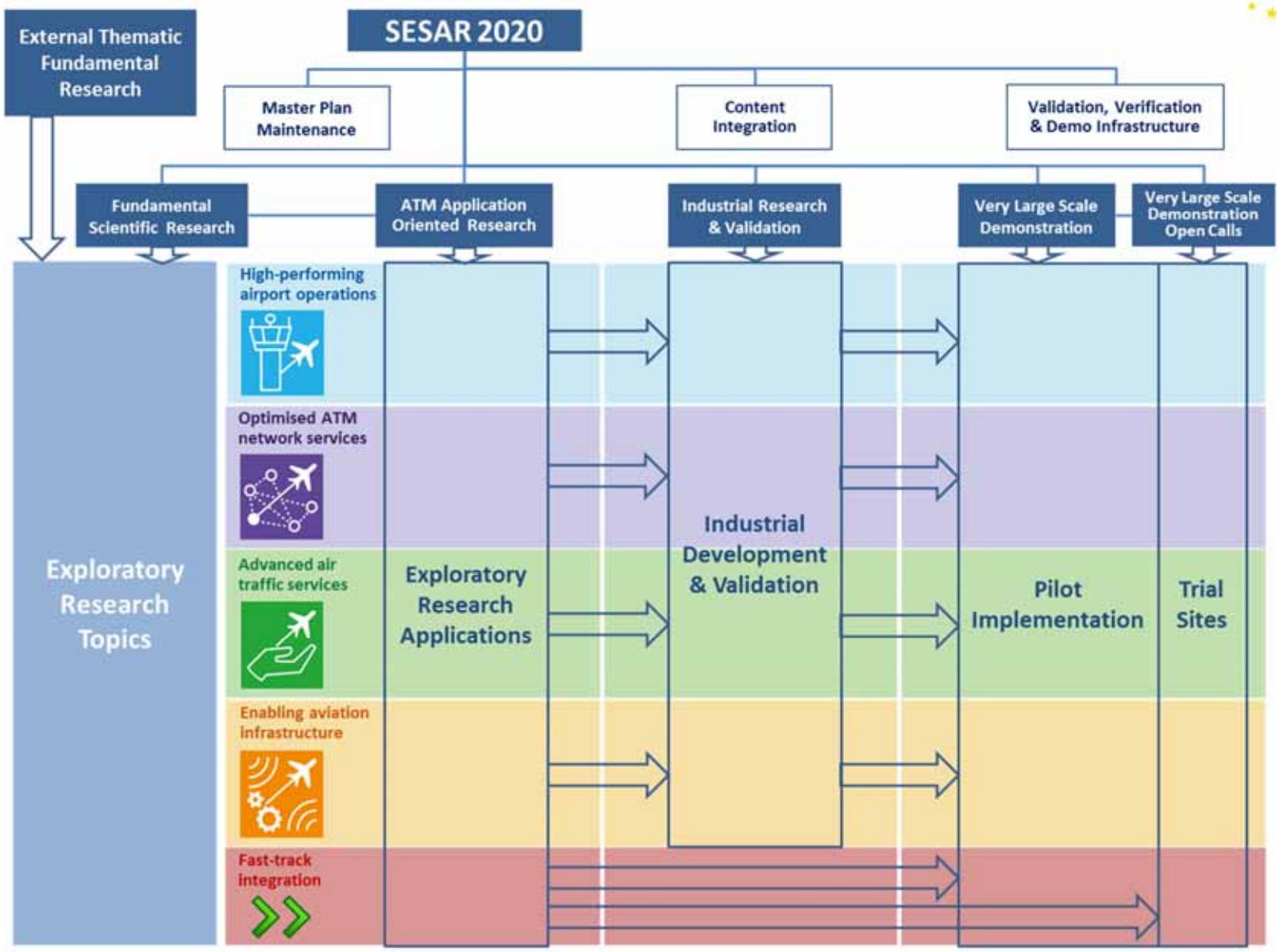
SESAR 2020 - PIPELINE TO INNOVATION



SESAR PROGRAMME

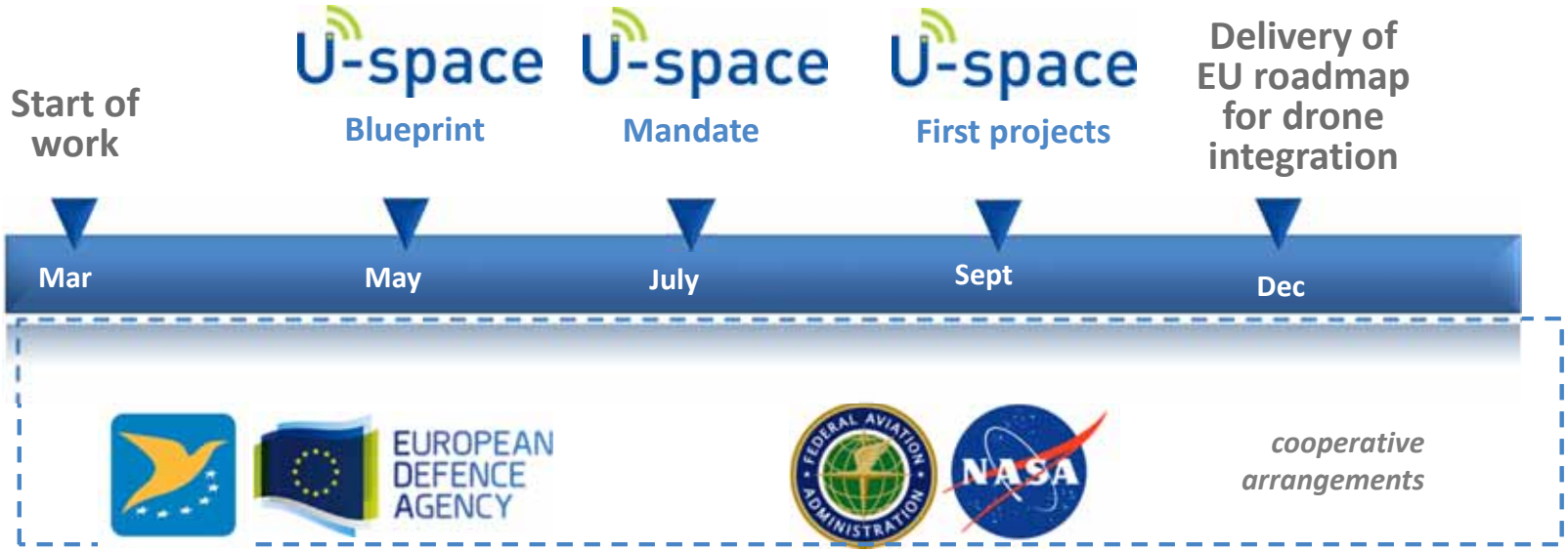
Building on the expertise of SESAR, the European Commission entrusts the SESAR JU with the preparation, launch and evaluation of a call for proposal addressing its U-space vision, as well as with the management of subsequently signed grant agreements.

The European Commission has requested the execution of a number of large scale demonstrations for the U-space services that support the management of drone operations in the context of growing autonomy of drones and growing traffic density.

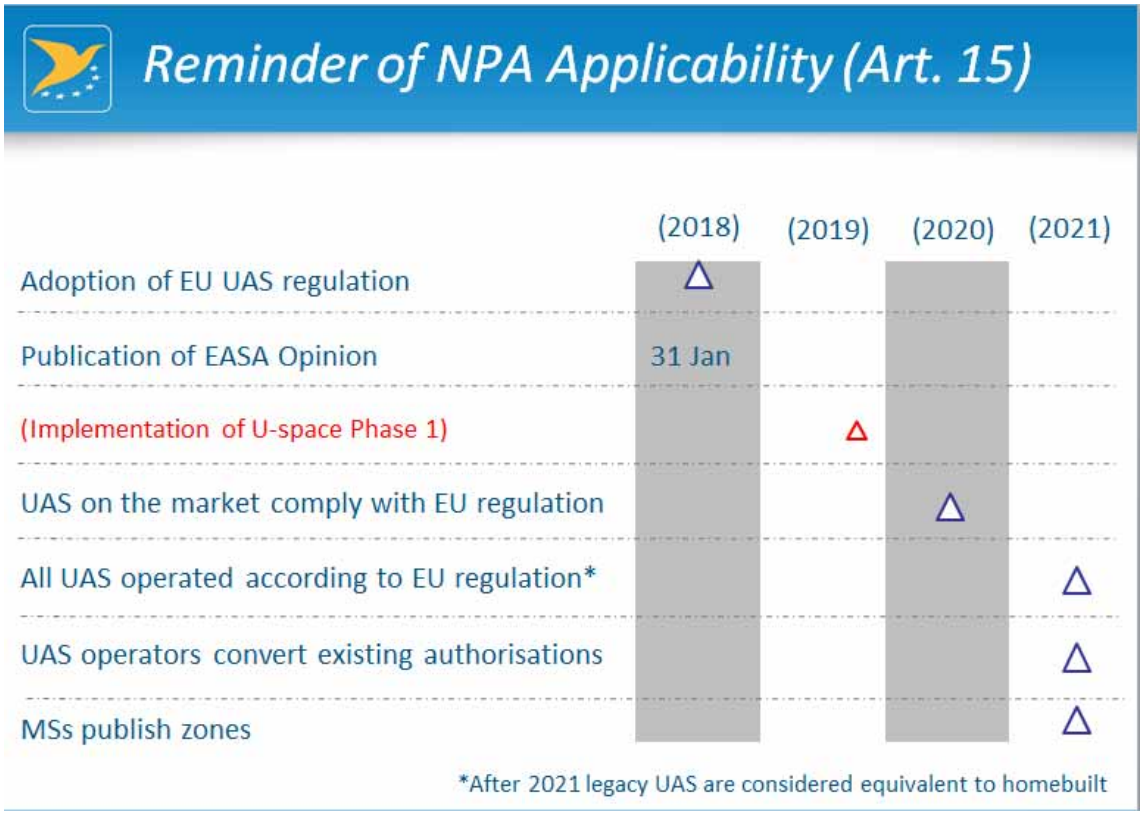
The coordination by the SESAR JU, as an integral part of a wider SESAR programme, assures that U-space services will support wider airspace configurations in use by Air Traffic Control as well as deliver in accordance with the U-space Blueprint.

ACHIEVEMENTS IN 2017…

- Blueprint and EU roadmap for drone integration delivered
- Working groups established involving all key stakeholders
- Launch of first U-space activities & projects



LINK TO STANDARDISATION & REGULATION



The EASA NPA is about U1 services and drones.

There is a need to develop:

- Requirements on U-space service providers,
- Requirements on services regarding the environment in support of U2.

SESAR R&D activities are expected to identify recommendations regarding future standardisation & regulation.

THE SESAR R&D PIPELINE

- SESAR programme aims to deliver tangible R&D results.
- For U-space, the objective is to ensure U2/U3 (services, capabilities, architecture and standards) can be deployed in consistency with the drone roadmap.

- To do so, SESAR projects
  - demonstrate their contribution to the U-space services and/or capabilities;
  - ensure all pieces of information coming from the different projects can be integrated into a single and usable architecture;
  - coordinate and share information in the programme; and
  - ensure good dissemination and communication with the external world.

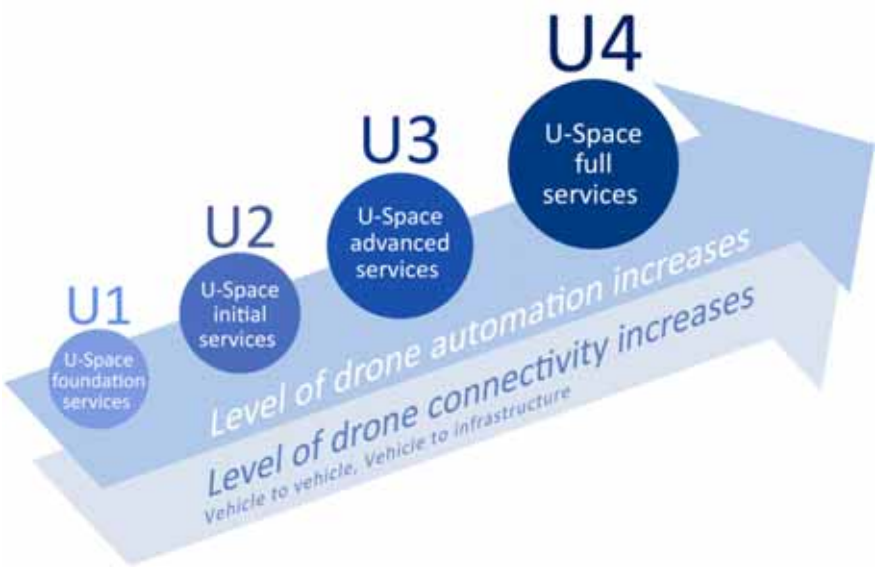
WHAT'S IN THE PIPELINE FOR U-SPACE?

Shorter cycles of "exploring and testing" will be central to SESAR's new way of working from now on !

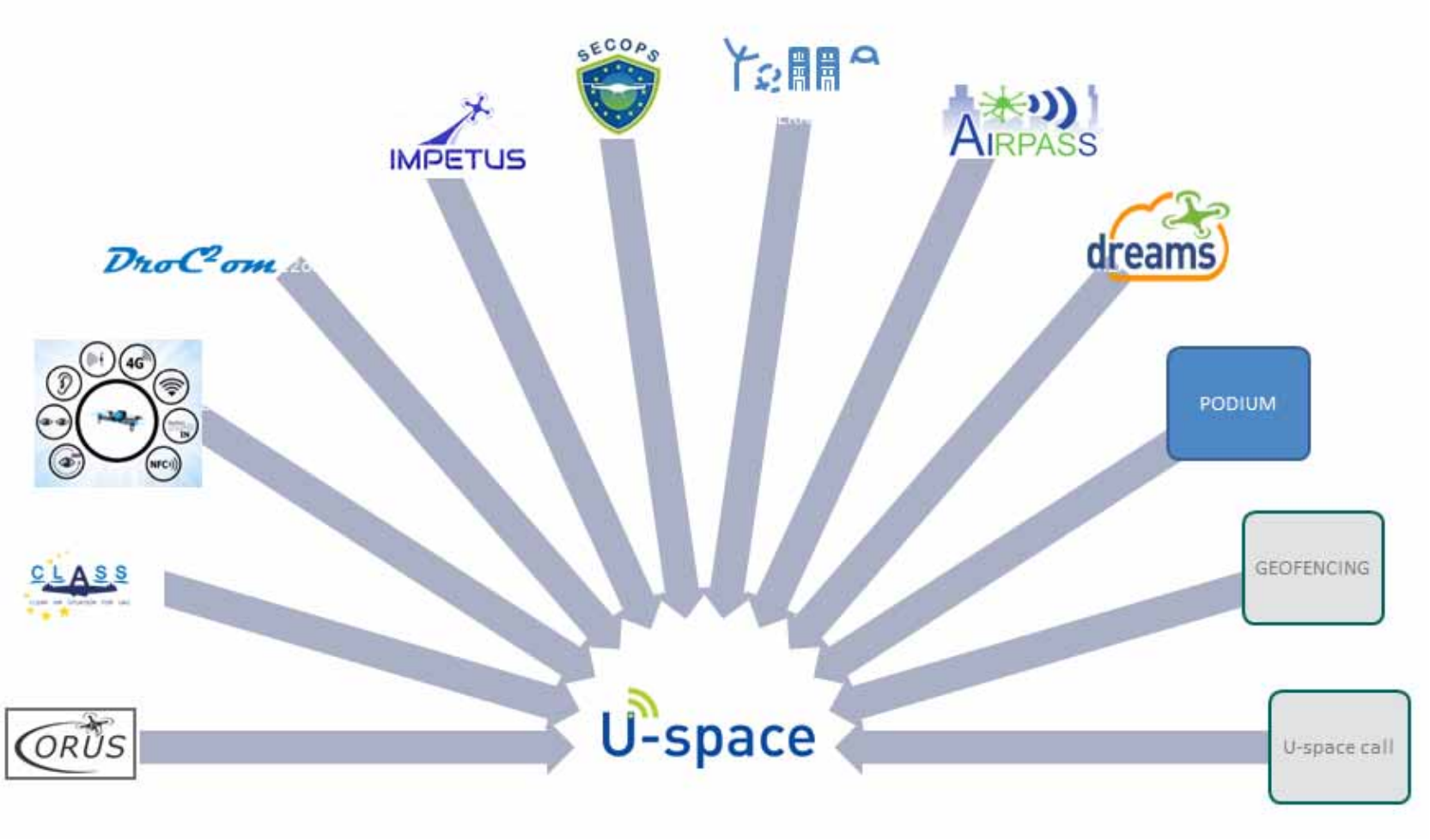
SESAR U-SPACE PROJECTS

- **2017 – exploring U3/U4**
  - U-space concept definition (1)
  - Higher level of automation (1)
  - Ground based technology (2)
  - Datalink (1)
  - Drone information management (2)
  - Security & Cyber-resilience (1)
  - Aircraft systems (1)

- **2018 - demonstrating U2**
  - U-space large scale demo (1)
  - Geofencing (1)
  - *U-space call*



U-SPACE & SESAR PROJECTS



ON-GOING SESAR PROJECTS 1/2

U-space concept of operations

Concept of Operations for EuRopean UTM Systems (CORUS) aims to establish a concept of operations (CONOPs) for U-space. The project explores nominal situations for managing the drone traffic in Europe and especially addresses drone operations in the vicinity of airfields and controlled airspace and for transfer between controlled and non-controlled airspaces.

Datalink

Drone Critical Communications (DroC2om) aims to design a hybrid architecture that combines cellular and satellite networks. This solution would ensure reliable and safe operations for drones using U-space services.

Drone information management

Information Management Portal to Enable the inTegration of Unmanned Systems (IMPETUS) explores how to develop a cloud-based server-less environment that can respond to multiple users with diverse business models including integration with manned traffic management systems.

DRone European AIM Study (DREAMS) is focused on solutions for the drone aeronautical information management. Operational and technical aspects, environmental scenarios, technologies, safety and security impact are analysed in order to identify possible U-space data service providers (e.g. airspace structure, terrain, obstacles and weather) and required facilities.

Security & cyber-resilience

An Integrated Security Concept for Drone Operations (SECOPS) addresses resistance of drones against unlawful interference, protection of third parties and integration of geo-fencing technology. The project investigates technological options for both airborne and ground elements, considering legal, regulatory and social aspects as well.

ON-GOING SESAR PROJECTS 2/2

Ground based technology

Technological European Research for RPAS in ATM (TERRA) aims to define the performance requirements associated with U-space, and to identify the technologies (existing and new) which could meet these requirements. This encompasses interaction with manned aviation.

CLear Air Situation for uaS (CLASS) focuses on the tracking and surveillance service of U-space. It explores the combination of technologies in a way that data coming from the surveillance of both cooperative and non-cooperative vehicles are merged to enable conflict detection and resolution, and protection of restricted areas (such as airports).

Higher levels of automation

Sense and avoid technology for small drones (PercEvite)- aims to develop a sensor, communication, and processing suite to increase the level of drone automation in the detection of cooperative and non-cooperative obstacles on ground and flying.

Aircraft systems

Advanced Integrated R_{PAS} Avionics Safety Suite (Airpass) will examine the range of technologies on-board the drone itself (i.e. D&A systems for cooperative and non-cooperative traffic, autopilot systems and CNS systems, including safety mechanisms as geo-fencing) that are needed, or that need to be developed, in order to implement U-space operations.

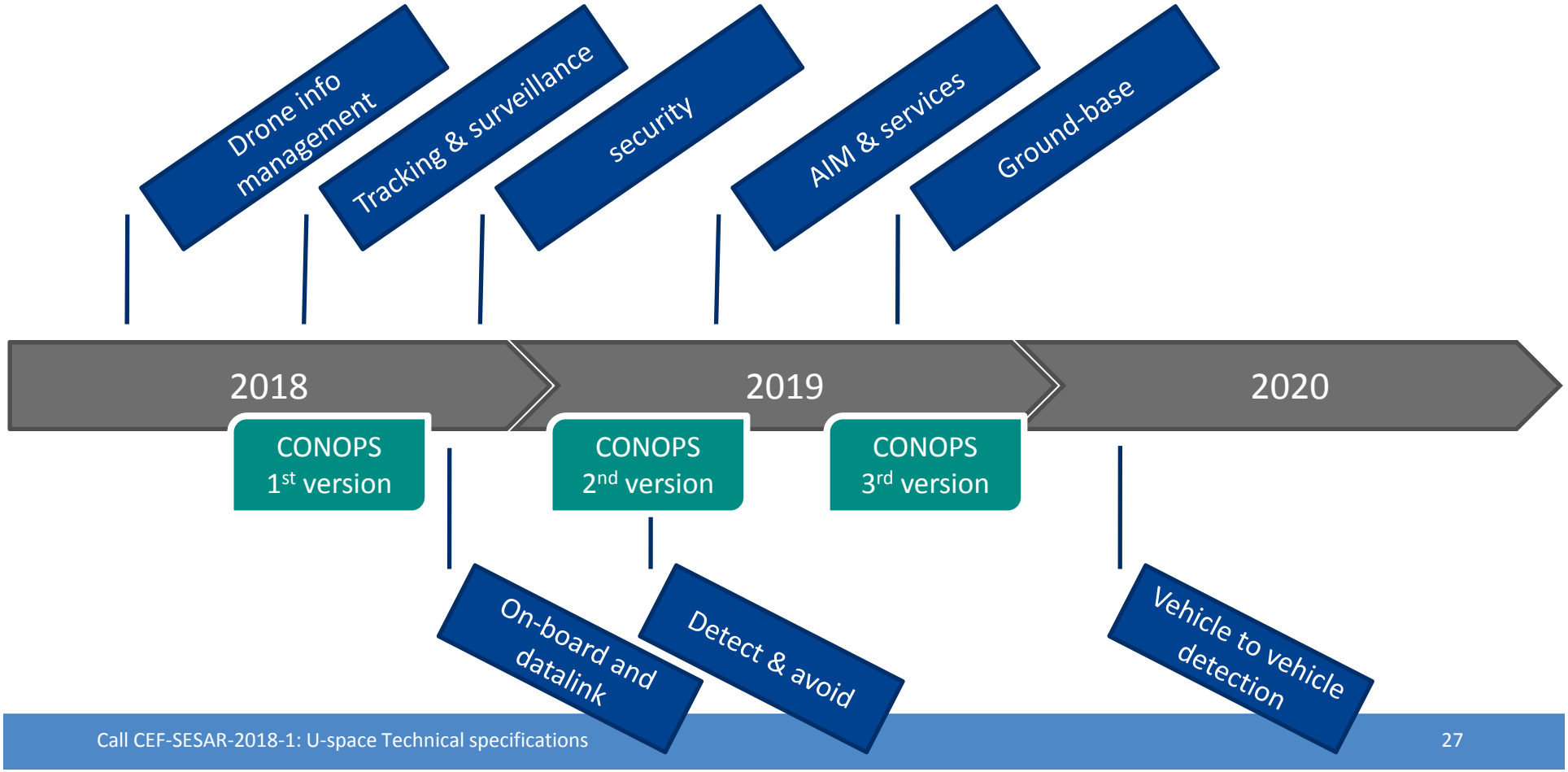
Demonstrator

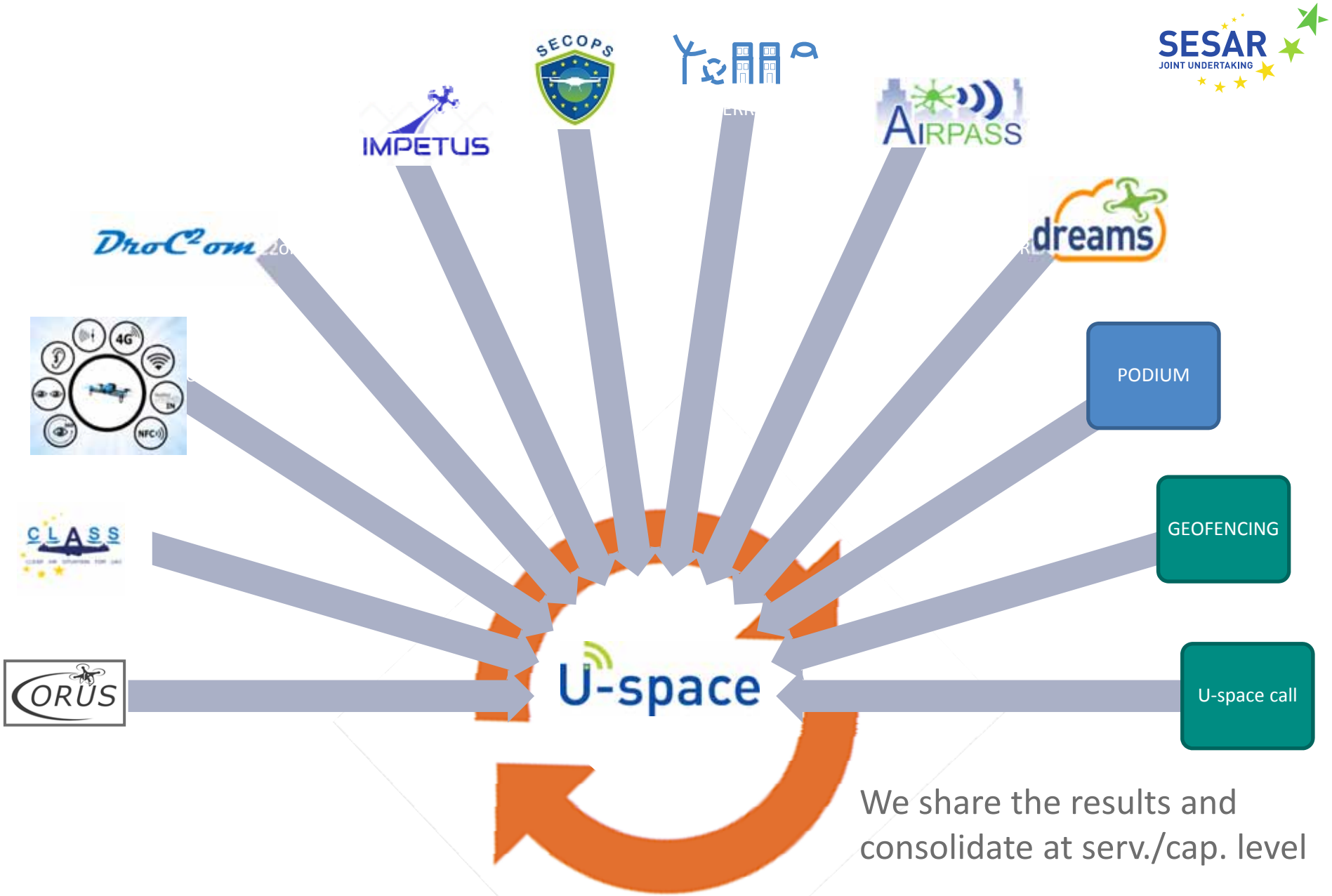
Podium

Proving Operations of Drones with Initial UTM (PODIUM) will perform four complementary large-scale demonstrations – with over 185 drone flights - in Denmark, France, and in the Netherlands. U-space solutions will be demonstrated for visual line of sight (VLOS) and beyond visual line of sight (BVLOS) drone flights. The scope covers operations in rural and urban areas, in the vicinity of airports, in uncontrolled and controlled airspace, and in mixed environments with manned aviation.

SESAR DEVELOPS U-SPACE

More than 100 technical deliverables including operational & technical requirements, recommendations, demonstration and dissemination reports, all contributing to the U-space concept development




SESAR
JOINT UNDERTAKING
IMPETUS
SECOPS
AIRPASS
DroC2om
dreams
4G
NFC
CLASS
ORUS
U-space
PODIUM
GEOFENCING
U-space call
We share the results and
consolidate at serv./cap. level

QUESTIONS AND ANSWERS

COFFEE BREAK

Founding Members

U-SPACE CALL TECHNICAL SPECIFICATIONS

Peter Hotham
Deputy Executive Director, SESAR Joint Undertaking

2nd February 2018

SESAR JOINT UNDERTAKING

Founding Members

CALL CEF-SESAR-2018-1: U-SPACE

OBJECTIVE & MEANS:

To comprehensively prepare and de-risk a rapid deployment of U-space initial services (U2) as outlined in the U-space Blueprint.

(U2 provides the initial set of key services building on the foundation services (U1) by adding game-changing improvements enabling initial beyond visual line-of-sight operations (BVLOS) in rural, urban and sub-urban environments and facilitating the processes for authorisations for some drone operations)

Actions selected as a result of this call shall qualify as Studies under CEF and include 'Pilot activities'.

Pilot activities of a Study may include the deployment of a certain type of infrastructure or technology but on a limited scale and at a reasonable price and with the objective of testing and validating the viability of the innovative actions proposed for future scale up and roll out.

The Actions will provide, through the studies conducted, the basis for initiating a wide scale roll-out of U-space U2 services in Europe in a safe and harmonized fashion.

CALL CEF-SESAR-2018-1:
EXPECTED OUTCOME & IMPACT

The SJU expects to co-finance between 5 and 10 proposals leading to the establishment of between 5 and 10 sites undertaking pilot activities located in five (5) different EU Member States.

(exact number, up to a maximum of five (5) member States, will depend on the applications received and the results of the evaluation)

Each site will support one or more U-space operator configuration and demonstrations, where pilot activities will include the demonstration of U-space U2 urban services.

The demonstration of U-space urban services may connect to sub-urban and rural services with either two or more U-space service providers providing the drone traffic management services in a shared airspace or Urban U-space, and a framework for urban traffic management of drones.

CALL CEF-SESAR-2018-1:
AVAILABLE BUDGET

The total budget available for the co-financing of actions is estimated at **9.500.000 EUR.**

Applicants are encouraged to submit applications for actions with a total requested EU contribution of no less than 1.000.000 EUR per grant.

The maximum EU contribution per project (action) will be 2.000.000 EUR

The SJU reserves the right not to award grants up to the available budget.

U-SPACE CALL TECHNICAL SPECIFICATIONS

David Bowen
Chief ATM, SESAR JU

2nd February 2018

SESAR JOINT UNDERTAKING

Founding Members

EUROPEAN UNION EUROCONTROL

TECHNICAL OBJECTIVES AND IMPACT

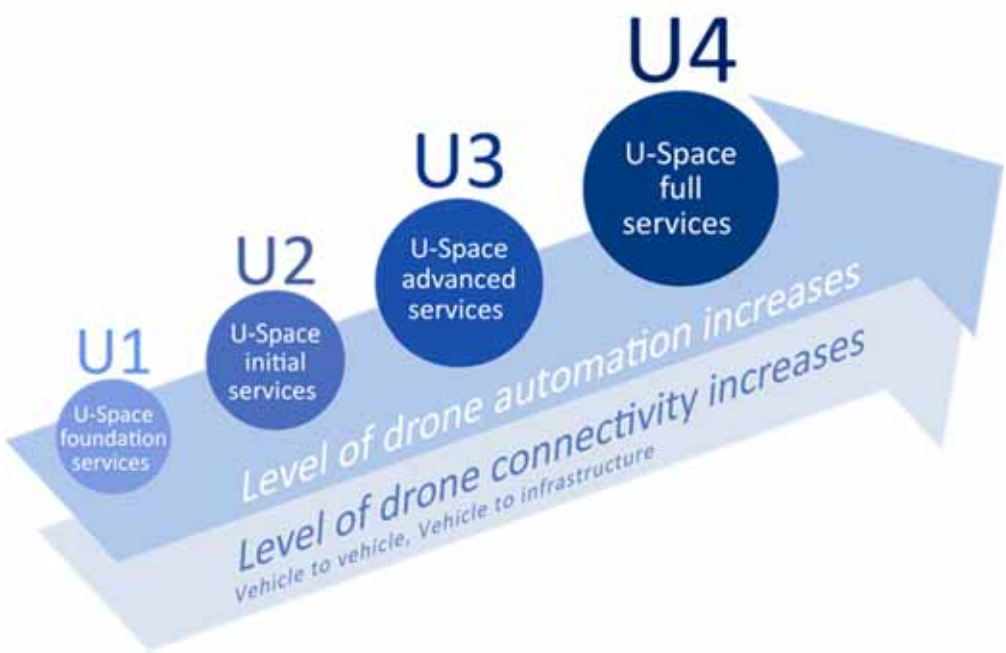
The scope of each Action shall focus on U-space U2 while not excluding additional applications of the U3 and U4 services.

Provide **significant and tangible outcomes** to prepare harmonised deployment of U2 services in Europe at the latest by 2022.

Provide **evidence on the safety**, as well as **operation and technical impact** of U2 services to ease wide-scale roll-out in Europe.

THE U-SPACE CONCEPT:
REMINDER OF U-SPACE INITIAL SERVICES (U2)

U2 provides the initial set of key services building on the foundation services (U1) by enabling initial beyond visual line-of-sight operations (BVLOS) in rural, urban and sub-urban environments and facilitating the processes for authorisations for some drone operations



SPECIFIC CHALLENGES

The challenge for each Action is to demonstrate as a minimum the U-space U2 framework in which automated services will be implemented in a **safe and efficient** way in particular in **urban areas**.

To achieve this, each Action will **demonstrate, in a live-flying environment**, at least the set of U-space initial services (U2) on the top of foundation services (U1); this being provided to **multiple drone operators** for drone operations in all environments (including urban).

SPECIFIC OBJECTIVES

- Ensure an **adequate level of safety for all airspace users and people on the ground** as of the beginning of its operational deployment;
- Ensure **the identification of the performance requirements** attached to these services (e.g. in terms of accuracy, latency, range, integrity, availability, continuity…);
- Assess (where applicable) the **adequacy of existing systems, solutions or services**;
- Identify any **applicable performance gaps** and provide recommendations on how they could be addressed;
- Ensure efficiency of the U-space system by using procedures and processes targeting **preparation and actions before the flight** (e.g. de-confliction at planning level, procedural interface with ATC);
- Facilitate **access to airspace** to drone operators and **enable BVLOS operations** as well as initial operations in urban and sub urban environments;
- Identify the needs for **standardisation** as well as for **harmonised rules** and procedures to enable harmonised and safe U-space operations across Europe;
- Address requirements linked to **security (including cybersecurity), privacy and environment**;
- **Accommodate specific operational constraints** and fulfil specific requirements linked to the mission and the operating environment.

TECHNICAL REQUIREMENT STRUCTURE

The requirements are gathered into **three layers** as follows:

- The first layer is the common basis, which lists the **minimum requirements to be met by all actions**;
- The second layer addresses **two focus areas for demonstrations** which are the prioritised topics to be addressed as part of the demonstration activities . Each Action shall address **at least one** focus area but are encouraged to address both.
- The third layer addresses options which applicants may consider to include one or more of these options in their proposal to help show the preparedness for more advanced U-space services (U3-U4).

FIRST LAYER: THE COMMON BASIS (1/3)

Actions shall include one or more flying demonstrations with several clearly identified objectives:

a) Demonstrations shall occur in a **real-life environment**; using actual or emulated non-segregated airspace.

b) Demonstrations shall include both types of operations **BVLOS and VLOS**

c) The drones used for the demonstration(s) shall be **partly or fully automated**.

d) Demonstrations shall **include U1 services** and assess their compatibility with U2 services.

e) Demonstrations shall include at **least U-space U2 core services** and associated drone capabilities.

f) Demonstrations shall include **realistic missions** corresponding to anticipated business opportunities.

g) Demonstrations shall include at **least 5 drones operating simultaneously** in the same geographical area.

h) …

FIRST LAYER: THE COMMON BASIS (2/3)

Demonstration objectives continued:

h) Demonstrations shall target at least one of the following two scenarios:

Scenario 1: include simultaneously a minimum of two U-space services providers providing different services in the same geographical area.

Scenario 2: include simultaneously, one U-space services provider providing all services in one site and demonstration of cross border operations to a different site with a different U-space services provider. Demonstration of two sites inter-operating over a defined common cross border area using different U-space services providers.

i) Demonstrations shall include:

- two or more drone operators, and
- the use of drones from two or more different manufacturers.

FIRST LAYER: THE COMMON BASIS (3/3)

All Actions shall include a series of trials to de-risk the flying demonstrations or/and to gather evidence to support recommendations or performance requirements.

All Actions shall include a plan to ensure adequate participation / involvement of national civil authority in charge of delivering authorisations for drone operations, and other relevant authorities (national or local) to implement the demonstrations.

All Actions shall coordinate with other projects resulting from this call, and deliver the relevant material required for securing future regulatory provisions and standards for U2 deployment.

SECOND LAYER: FOCUS AREAS FOR DEMOS

There are **two focus areas** to be considered for this call. Each Action shall address at least one focus area and projects may choose to address both:

- Focus area 1: Two or more U-space service providers providing the drone traffic management service in a shared airspace
  Actions shall include at least the following capabilities: sharing of information and data, management of strategic de-confliction, management of changes and updates during the flight, as well as consideration of standardisation and regulatory needs.
- Focus area 2: Urban U-space, a framework for urban traffic management of drones
  Actions shall include at least the following considerations: urban airspace design, airspace management, emergency management service and risk assessment.

THIRD LAYER: OPTIONS (1/2)

These options help show the suitability of the U2 as a migration path to more advanced services.

Demonstration activities may include one (1) or more of the following options:

i. Demonstrations of some **U-space enhanced services** (U3)
ii. Drone operations in **controlled airspace** especially close to airports (including **airspace design** and **procedural interface with ATC**);
iii. Inclusion of operations performed by **sport aviation/general aviation or rotorcraft** in the flying demonstrations;
iv. Inclusion of **leisure drone users** in demonstration activities to show that the general public can pursue their hobbies in this shared environment, and also benefit from U-space services;
v. Inclusion of a new and/or **innovative communication data link**;
vi. …

THIRD LAYER: OPTIONS (2/2)

vi. Demonstration of **synergies** with European Innovation Partnership on Smart Cities and Communities (EIP-SCC) and/or between at least two of the sectors covered by CEF regulation;

vii. Use of **Vehicle to Infrastructure communication** as the ability for drones to share information with infrastructure components;

viii. Use of **Vehicle to Vehicle communication** as the ability for drones to communicate information to each other;

ix. Use of **Detect and Avoid**, as the ability for drones to detect cooperative and non-cooperative conflicting traffic, or other hazards, and take the appropriate action to comply with the applicable rules of flight.

QUESTIONS AND ANSWERS

LUNCH

LEGAL & FINANCIAL QUESTIONS

Founding Members

CALL SUBMISSION AND EVALUATION PROCEDURE

Manuela Alfé, SESAR Joint Undertaking

2nd February 2018

Founding Members

CALL FOR PROPOSALS CONCERNING 'PROJECTS OF COMMON INTEREST' UNDER THE CONNECTING EUROPE FACILITY IN THE FIELD OF TRANS-EUROPEAN TRANSPORT NETWORK

- Call identifier: CEF-SESAR-2018-1 U-Space
- Deadline: 15 May 2018 at 11.30am (Brussels time)
- Total budget available: 9.500.000 EUR
- Max EU contribution per project: 2.000.000 EUR
  - (minimum: 1.000.000 EUR)
- Call material available at: http://www.sesarju.eu/procurement

TIMETABLE

Call deadline

15 May 2018

Evaluation

June-July 2018

Information to applicants

by September 2018

Grant agreements

From September 2018

NO-NEGOTIATION PRINCIPLE

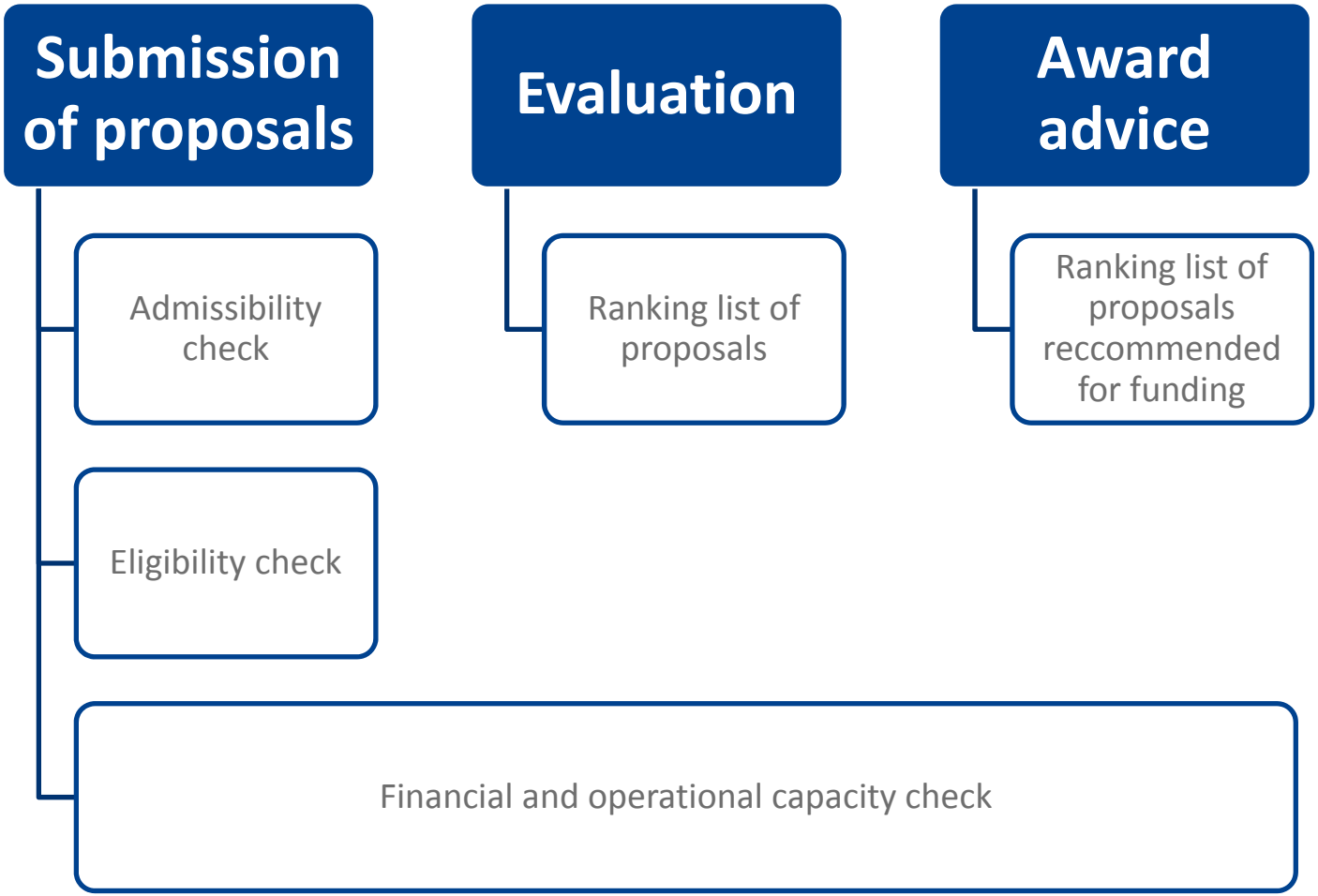
What does this mean for the evaluation of proposal?

- **The experts evaluate each proposal as submitted**
  not on its potential if certain changes were to be made
- **If they identify shortcomings (other than minor ones and obvious clerical errors), the experts must reflect those in a lower score for the relevant criterion**
- **They explain the shortcomings, but do not make recommendations**
  i.e. do not suggest additional partners, additional work packages, resources cut…
- **Proposals with significant shortcomings must not receive above-threshold scores**
- **Any proposal with scores above the thresholds will be ranked, supported by evidence**
- **Ranked proposals will be presented to an award Committee who make a recommendation for funding**

Significant shortcomings =
weaknesses that would prevent the project from achieving its objectives; or resources being seriously over-estimated

Successful applicants are invited to address minor shortcomings

THE EVALUATION PROCESS



ADMISSIBILITY CRITERIA CHECK

- Applications sent before the deadline (submission date)
- In writing, using the application form (see Annex II)
- In English

Recommendations for submission

- *Applicants are encouraged to use a delivery service offering a tracking option of the sent items*
- *Applicants are strongly encouraged to send an email to info-call@sesarju.eu, informing the SJU of the name/title of their proposal and confirmation of its submission.*

ELIGIBILITY CRITERIA CHECK – ELIGIBLE APPLICANTS

Member State(s)
Or
A **consortium** of public or private undertakings or bodies **with the agreement** of all the EU Member State(s) concerned.

→ At least 1 member of the consortium shall be established in an EU MS

→ The application must contain the agreement of the EU MS where the activities will be performed

Third countries may participate **IF**
1) THEIR PARTICIPATION IS NECESSARY and
2) IN THE CONSORTIUM THERE IS AT LEAST 1 Hosting EU MS ENTITY

→ The application must contain a declaration from an EU partner on why participation is NECESSARY
If funding is to be considered then declaration must justify contribution is INDISPENSIBLE

***Nota bene for British applicants/entities forming the consortium**: Eligibility criteria must be complied with for the entire duration of the grant. If the United Kingdom withdraws from the EU during the grant without concluding an agreement with the EU ensuring in particular that British applicants/entities forming the consortium continue to be eligible, British applicants/entities forming the consortium will cease to receive EU funding (while continuing, where possible, to participate) or be required to leave the project on the basis of Article II.16.3.1(a) of the grant agreement.*

Eligibility criteria check – eligible activities

Proposals shall include **all the elements** listed in the common basis layer **and at least one focus area** from the second layer;

The choice of focus area(s) and options must be clearly stated in the application form

A proposal may address both focus areas from the second layer;
It may also include one or more options.

TIMETABLE:
1) full demonstration activities performed within their host EU Member State by **August 2019**
2) deliver an initial study report, in September 2019
3) Deliver a final study report in January 2020

All activities must have an exclusive focus on civil applications

SELECTION CRITERIA CHECK (SECTION 8 CFP)

FINANCIAL CAPACITY

Financial stability and sufficient source(s) of funding to maintain their activity throughout the duration of the grant and to participate in its funding.

Supporting docs:

- Declaration on honour +
- Profit&loss account **or** business plan (for new entities) **or** financial table in application form +
- Audit report (for grants >750.000EUR)

OPERATIONAL CAPACITY

Applicants must have the professional competencies as well as appropriate qualifications necessary to complete the proposed action.

Supporting docs:

- Declaration on honour +
- CV or description of people invovled
- Activity report(s)
- A list of previous projects
- Description of technical equipment
- **Letter of support from NSA**

AWARD CRITERIA AND SCORING TABLE

RELEVANCE

MATURITY

IMPACT

QUALITY

Criteria	Relevance	Maturity	Impact	Quality
Weight (%)	20	20	30	30
Threshold per criterion (n/5)	3	3	3	3
Overall pass threshold (n/100)	70			

Scoring scheme will be on a 50 point scale using the standard European Commission 5 point schema.

SUBMISSION PROCEDURE (SECTION 14 CFP)

Applications must be submitted in the correct form, duly completed and dated.

- 2 paper copies (one original clearly identified as such, plus one copy).
- 1 electronic copy (in pdf format) submitted on a memory stick/USB key.

Applications must be clear and concise, perfectly legible so that there can be no doubt as to words and figures, include continuous page numbering, and assembled in a coherent fashion (e.g. bound or stapled).

It is recommended that the proposals are submitted in environmentally friendly way, e.g. double side printing, limiting attachments to what is required in this call for proposal (i.e. no additional material) and avoiding plastic folders and binders.

Applications must be sent to the following address:

SESAR Joint Undertaking

Grant Management team

Avenue de Cortenbergh, 100

B-1000 Brussels

BELGIUM

TIPS FOR SUBMISSION

- **Read carefully all call documents**
- Start early and don't forget about the deadline
- Completing an application is time consuming, especially for first time applicants and multi-applicant proposals
- Several documents require an external contribution:

a) Contact the relevant EU Member State ministry and

competent authorities at an early stage

-> National procedures/deadlines may be in place to endorse CEF Transport applications

b) Contact the relevant entity(ies) providing the Letter of Support to agree on a timeline and on the information needed

- **Use the checklist in the Application form to make sure that you did not forget anything**
- **Avoid last-minute submission**

QUESTIONS

To be sent to:

info-call@sesarju.eu

Deadline for submitting questions: 28/04/2018

PROGRAMME MANAGEMENT REQUIREMENTS FOR U-SPACE STUDIES

Serge Bagieu, Programme Management, SESAR Joint Undertaking

2nd February 2018

SESAR JOINT UNDERTAKING

Founding Members

EUROPEAN UNION EUROCONTROL

LIST OF TOPICS COVERED

Programme Management Requirements for awarded Grants

1. STUDY Plan
2. Coordination Meetings
3. Usage of SJU collaboration Portal
4. Communication, Dissemination and Exploitation Plans
5. Submission & Assessment of Deliverables
6. SESAR 2020 Research & Demonstration Pipeline
7. Reporting
8. Additional Requirements
9. Key Milestones

STUDY PLAN (1)

- The Study Plan is the first contractual deliverable
- It will provide additional details but shall never contradict the Grant Agreement
  - The GA will remain the contractual reference

- The Study Plan will be delivered by February 2019
  - Following approval from all project beneficiaries
  - For acceptance by the SJU Programme Manager

STUDY PLAN (2)

The Study Plan will elaborate further on some parts of the GA, addressing in particular :

- Executive Summary
- Introduction (including Scope & Objectives of the project)
- Detailed Organisation (role allocations to named individuals)
- GA Tables (with calendar dates) and Gantt Chart (+MS Project file)
- Management Plan processes
- Risk and Issues Management Plan (+ refined Risks identification)
- Communication Plan
- Dissemination & Exploitation Plan
- Safety Plan, Security Plan (as applicable)
- References (SESAR + GA references)

COORDINATION MEETINGS

- The First Coordination Meeting
  - Meeting with the SJU to take place as soon as possible after grant signature
- The Project Close-out is organized at the end of the final reporting period, following the submission of :
  - All deliverables, including the Final Study Report
  - Aimed at assessing if the Project achieved its objectives
- The Project Gate (ER/IR or VLD Gate)
  - Co-located with the Project Close-out
  - Aimed at assessing the achieved maturity and the project readiness to move to the next stage

USE OF SJU COLLABORATION PORTAL

All SESAR 2020 projects will have the obligation to use the SJU Collaboration Portal for all project related activities:

- Submission of project contractual deliverables
- Financial Reports
- Continuous Reporting (on Deliverables, Milestones, Risk & Issues, etc)
- Requests for Changes and Amendments

Detailed guidance will be provided by SJU at the First coordination meeting

COMMUNICATION, DISSEMINATION AND EXPLOITATION PLANS

They are required for:

- Ensuring awareness within the consortia about project progress and results

- Disseminating outside the consortia the key results (approach, technologies, etc.) generated during the project's lifetime

- Plan the Exploitation of the project results, in order to facilitate their successful handover to the Stakeholders

Each Action shall develop and implement a robust communication plan as each SESAR labelled U-space platform should be considered as the global "vitrine" for European leadership in U-Space. The key headline to articulate the communication plan is "seeing is believing".

SUBMISSION & ASSESSMENT OF DELIVERABLES

All deliverables will be handed over for SJU assessment by uploading them on SJU Collaboration Portal.

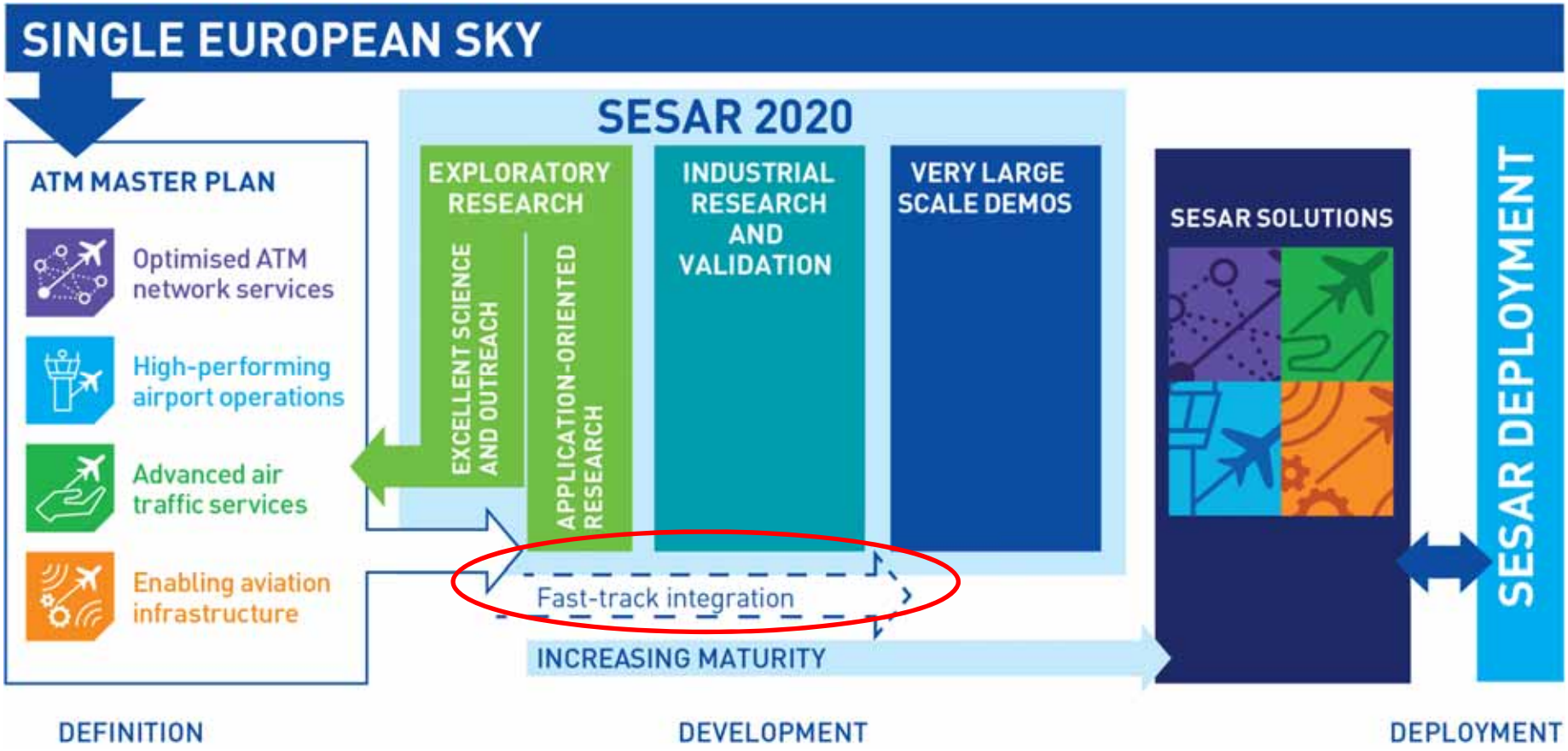
The SJU aims to evaluate a deliverable within **60 days** from delivery.

Following the SJU assessment of a deliverable, the status will be defined on the SJU Collaboration Portal as :

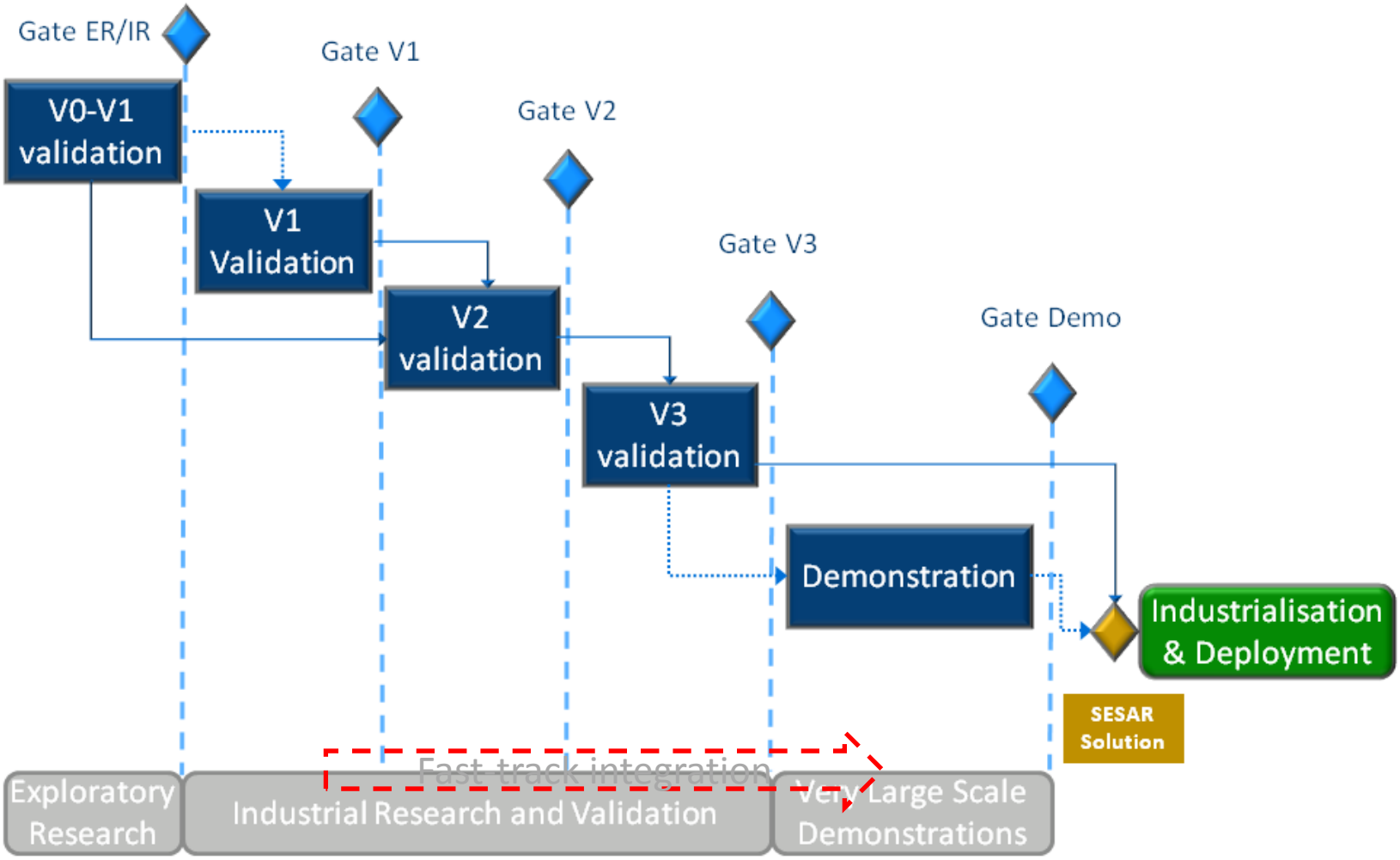
- **Accepted** (No Reservation)
- **Re-opened** (Reservations) : the project is requested to re-submit this deliverable based on the provided Assessment Report.
- **Rejected** (Critically deficient) : In this case the project is not expected to resubmit an improved version of the deliverable. There will be implications for the eligible cost of the grant execution.

The status of the deliverable acceptance will be considered in the related Action closure activities.

U-SPACE STUDY IN SESAR R&D PIPELINE



ER/IR AND VLD GATES WITHIN SESAR R&D PIPELINE



PREPARATION TO THE ACTION CLOSEOUT & GATE MEETING

A **Study Report** will be delivered as an input to the Project Gate and Closeout meeting, in two steps respectively:

- Initial study Report – for demonstration activites
- Final Study Report – for all Study activities

It will cover all activities performed by the Action

It will be used to discuss the transition to subsequent development stages including a self-assessment of the TRL (Technology Readiness Level) achieved at the end of the Action.

A template will be delivered by the SJU

The Study Report is an incremental delivery, done in accordance with the Milestones

FINAL STUDY REPORT

The Study Report will provide:

An overview of the project scope and objectives

The achieved results and main conclusions, including

- a self-assessment of the TRL (Technology Readiness Level) achieved at the end of the project, supporting the claimed project readiness to transfer its results to the next R&I phase
- Common requirements for the harmonised deployment of U-space in Europe
- Recommendations on rules & standards needs for the setup of appropriate rulemaking framework

The performed communication and dissemination actions

The Exploitation and follow-up activities proposed for the next stage of the R&I lifecycle

The socio-economic impact of the project

Project logos, diagrams, photographs and videos illustrating its work (if available)

SPECIFICITIES FOR ACTIONS (1/4)

Safety requirements

Actions and their Studies should follow the following safety guidance to facilitate approval with the support of EASA:

- SESAR Safety Reference material (SESAR Safety Reference Material, Guidance to Apply the SESAR Safety Reference Material);
- Proof of concept (Final Guidance Material to Execute Proof of Concept).

The Proof of Concept is a dedicated guidance stemming from Safety methodology.

- It is a confidence building exercise that comes in addition to the traditional validation required prior to certification and implementation of new concepts or new technologies.
- It has to be distinguished from operational live trials since it brings a new dimension of the validation: early operations with a significant scale environment.
- It consists in an early operation of the SESAR Solutions making use of pre-operational or operational products (airborne and ground) in a real operational environment.

SPECIFICITIES FOR ACTIONS (2/4)

Safety requirements (continued)

The use of pre-operational products can be envisaged, opening the door for tailored design solutions and tailored certification processes to support the demonstration. But in all cases, full compliance against relevant regulation has to be shown.

For the sake of convenience, EASA can facilitate the coordination of Study approvals and Authorities involvement with the different Aviation Authorities (NAAs, NSAs CAAs):

- Identifying specific applicable Study requirements, means of compliance and guidance material
- Facilitating coordination between the relevant Authorities during the different phases of the Study, in particular during the preparation and the approval.

SPECIFICITIES FOR ACTIONS (3/4)

Link to standardisation and regulatory activities

The airborne and ground systems should be based on existing standards and regulatory framework where applicable. In the case an update or amendments are envisaged to the standard or the regulation, the project should coordinate with the relevant standardisation body (e.g. EUROCAE, EASA, ICAO) and provide feedback and any relevant material (e.g. study report) to the involved relevant group.

Efforts

In addition to the resources required for the execution of the Study activities, a need to support relevant coordination activities (e.g. input to standardisation bodies, link with regulatory authorities/EASA) should be identified and planned.

SPECIFICITIES FOR ACTIONS (4/4)

For each Action awarded, the contractual deliverables are :

- a publishable Study Plan, to be delivered at T0+3 or by the latest February 2019;
- a publishable Study Report to be delivered in January 2020 (2 months before the project administrative closure).

FIXED MILESTONES

Milestone Ref.	Title	Latest Date
1	Submission of Study Plan	February 2019
2	Completion of demonstration activities – flying.	August 2019
3	Submission of initial Study Report (demonstration activities)	September 2019
4	Submission of final Study Report	January 2020
5	Administrative closure meeting	March 2020

Thank you very much
for your attention!

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