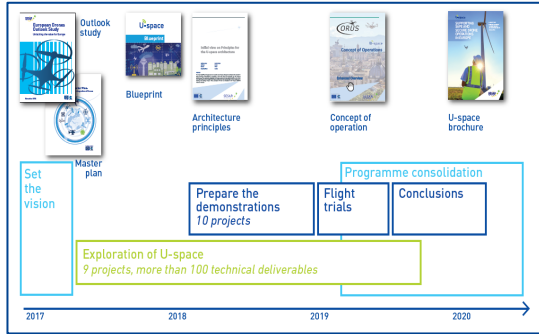


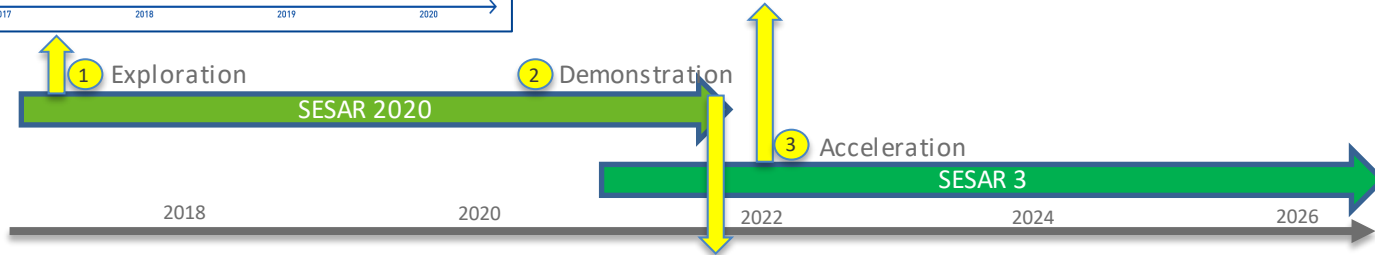
SESAR 3 Joint Undertaking: Safe operation of VTOL and UAS in urban environment

Robin GARRITY, *SESAR 3 JU*,
10 March – Airspace World, Geneva

Delivering results and preparing for the future



- **Digital Sky Demonstrator (TRL8)** – 3 Projects (32,3MM€ - 15,2MM€)
 - Deployment of functional ecosystem
- **Digital European Sky _ *Fast Track*** (TRL7) – 5 Projects (54,3MM – 35MM€)
 - UAM Accommodation (Vertiport, Transition crewed/uncrewed operations)
 - U-space / ATC collaborative interface
 - U-space/UAM Conflict management
- **Exploratory Research (TRL1/2)** – 3 Projects (6MM€ - 4MM€)



European U-space **ConOps v4.0** - extended to UAM - delivered Q1/2023

	Experts	Live flights	SMEs	R&D Community	Entities	Projects
Batch 1	800+	186	65+	11	125	19
Batch 2 (partial)	750+	650+	39	31	154	17

Now

- Research-oriented with ER and VLDs projects
- Developing prototypes
- Communicate with the local authorities

DSD

- Business-oriented
- Deploying functional ecosystem
- Work with local authorities

Future

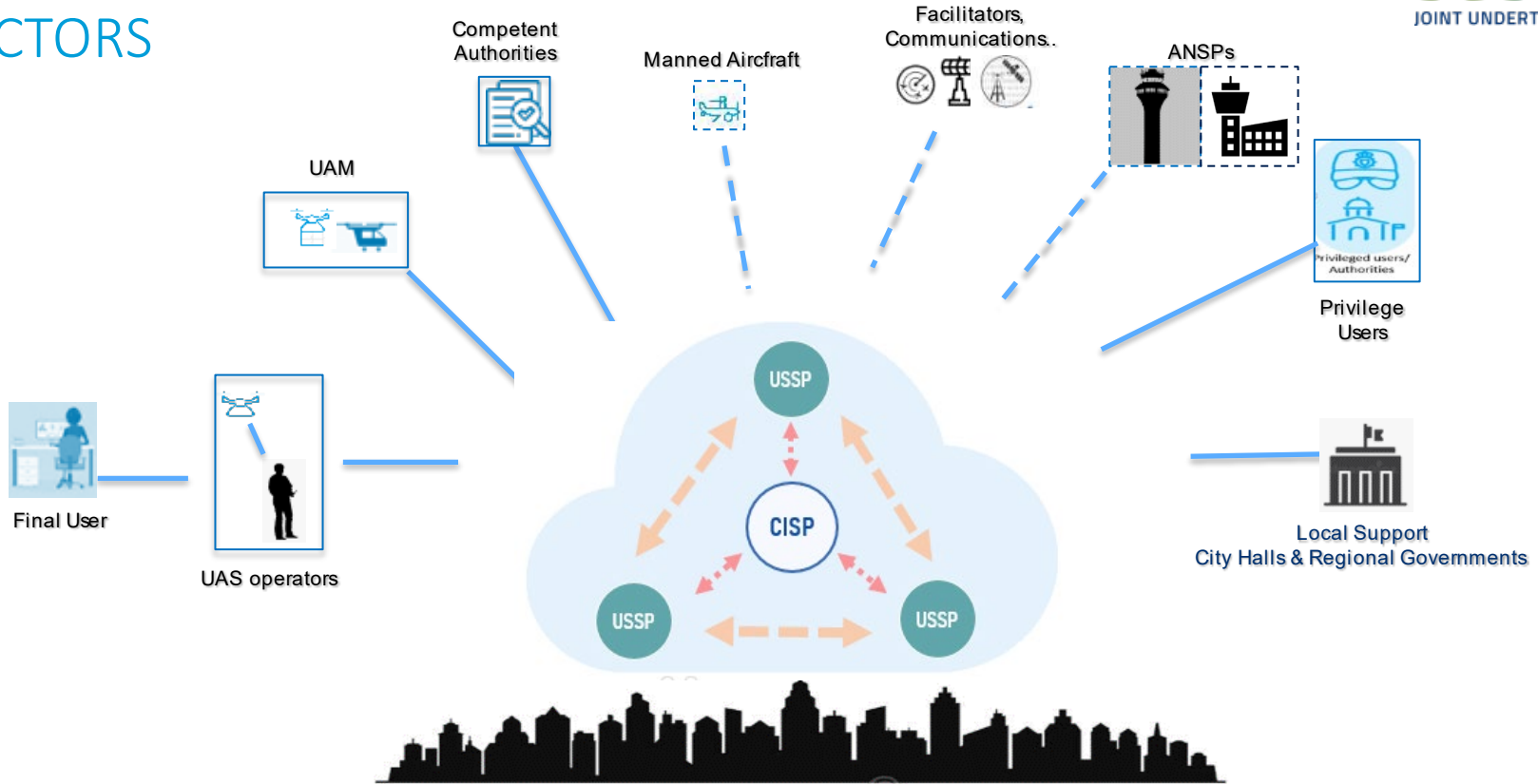
- Exploitation-oriented
- Full operational ecosystem
- Guidance material with solid Reg & Standards



UAM Accommodation

U-ELCOME

ACTORS

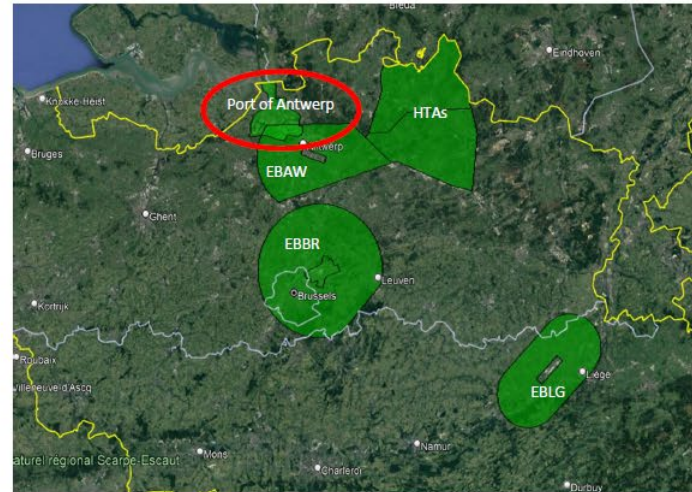


BURDI

BURDI Project assumptions

- Concept of operations / assumptions
 - A centralised CIS → CISP, skeys
 - A USSP providing U-space services within uncontrolled and controlled airspaces → SkeyDrone

- Geographical scope and incremental approach of the deployment
 - **PHASE 1 (Q2 to Q4 2023)** : Early adopter area (Port of Antwerp-Bruges), testing U-space systems (initially, CISP and USSP not certified), limited to BURDI's drone operators when U-space airspace will be active.
 - **PHASE 2 (Q3 2023 to Q2 2024)** : Early adopter areas in new environments (controlled and uncontrolled airspaces), extensive flights gradually open to other drone operators, CISP and USSP certified provided U-space services
 - **PHASE 3 (Q3 2024 to Q2 2025)** : U-space airspaces open to all drone operators for additional data gathering



U-space / UAM Conflict Management

SPATIO (U-SPACE SEPARATION MANAGEMENT)

- Advanced Strategic Conflict Resolution (SCR) service and interdependencies with the Dynamic Capacity Management (DCM) service
- Dynamic Capacity Management (DCM) service for U-space
- Tactical Conflict Resolution (TCR) service
- Classification of U-space airspace according to the separation and capacity management needs

SAFIR-READY

(SAFE AND FLEXIBLE INTEGRATION OF ADVANCED U-SPACE SERVICES)

- **Mission readiness capability to economically execute ad hoc BVLOS operations**
 - Develop capacity management and automated detection and avoidance (DAA) capabilities for operations in dense areas
 - Very high levels of automation, connectivity and digitalisation for both the drones and the U-space system

U-space / ATC Integration

ENSURE

(ATM / U-space Interface & Airspace Reconfiguration Service)

- **ATM - U-space Interface**

- Achieve full integration of ATM and U-space systems, by refining and completing the definition of the common ATM U-space interface and identifying new working areas with impact on the already started common interface.

- **Dynamic Airspace Reconfiguration**

- Develop the complete service mentioned in U-space regulation, necessary to establish the operating methodology and develop the standard interface to help ATC actors in charge of airspace reconfigurations to request airspace reconfiguration changes.

SESAR3 Digital European Sky Programme Benefits

