Strategic Deployment Objectives (SDOs)

Supporting Material – December 2024

EUROPEAN PARTNERSHIP

Co-funded by
the European Union

How to read

Link to MP2020 ESSENTIAL OPERATIONAL CHANGES (EOCS)

STRATEGIC DEPLOYMENT OBJECTIVE ID AND LOGO

SDO 1

ATP
Airport and TMA performance

STAKEHOLDERS who have to invest in DEPLOYMENT ACTION(s)

DEPLOYMENT ACTION (S)

OPERATING ENVIRONMENTS where DEPLOYMENT ACTIONS should be implemented

SDO 1 – Alerts for reduction of collision risks on taxiways and runways

Action #	Deployment Actions*	SESAR Solution(s)/ Elements	NM CONOPS 2029	Within current regulatory framework	Start of investment in RP4 timeframe	STAKEHOLDERS: ANSP	AU	AO	NM	MIL	USSP	CISP	VERTIPORT Operator	Drone/UAS Operator	OPERATING ENVIRONMENT: AIRPORT	TMA	EN-ROUTE	NETWORK
1.1	**Adapt airport ground safety nets** to extend conflicting ATC clearances (CATC) to the entire aerodrome movement area, to enlarge the set of Conformance monitoring (CMAC) alerting functions and to provide integrated occupancy/ conflict status of a runway.	PJ.02-W2-21.1		H		●									●			

SESAR SOLUTION INFORMATION

Maturity information

- SESAR Solution TRL6 COMPLETED (accessible in SESAR catalogue)
- SESAR Solution IN THE PIPELINE FOR DELIVERY (final references will be updated when delivered at TRL6 and made available in the SESAR catalogue)

Link to NM CONOPS

- SESAR Solution CONTRIBUTES TO NM CONOPS

EASA Regulatory overview

- V – The SESAR Solution can be implemented within current Regulatory Framework
- S – THE SESAR Solution REQUIRES SOFT LAW UPDATE
- H – THE SESAR Solution REQUIRES HARD LAW UPDATE
- TBC – To be confirmed (SESAR Solution IN THE PIPELINE FOR DELIVERY)

Start of investment in RP4 timeframe?

- V – Implementation action can START in RP4

STRATEGIC DEPLOYMENT OBJECTIVES
(see chapter 5 of European master plan)

SDO 1

ALERTS FOR REDUCTION OF COLLISION RISKS ON TAXIWAYS & RUNWAYS

SDO 2

OPTIMISING AIRPORT AND TMA ENVIRONMENTAL FOOTPRINT

SDO 3

DYNAMIC AIRSPACE CONFIGURATION

SDO 4

INCREASED AUTOMATION SUPPORT

SDO 5

TRANSFORMATION TO TRAJECTORY-BASED OPERATIONS (TBO)

SDO 6

VIRTUALISATION OF OPERATIONS

SDO 7

TRANSITION TOWARDS HIGH PERFORMANCE OF AIR-GROUND CONNECTIVITY (MULTILINK)

SDO 8

SERVICE-ORIENTED DELIVERY MODEL (DATA-DRIVEN AND CLOUD-BASED)

SDO 9

CNS OPTIMISATION, MODERNISATION AND RESILIENCE

SDO 10

ENABLE INNOVATIVE AIR MOBILITY (IAM) & DRONE OPERATIONS

SDO 1 – Alerts for reduction of collision risks on taxiways and runways

Action #	Deployment Actions*	SESAR Solution(s)/ Elements	NM CONOPS 2029	Within current regulatory framework	Start of Investment in RP4 timeframe	STAKEHOLDERS									OPERATING ENVIRONMENT			
						ANSP	AU	AO	NM	MIL	USSP	CISP	VERTIPORT Operator	Drone/UAS Operator	AIRPORT	TMA	EN-ROUTE	NETWORK
1.1	**Adapt airport ground safety nets** to extend conflicting ATC clearances (CATC) to the entire aerodrome movement area, to enlarge the set of Conformance monitoring (CMAC) alerting functions and to provide integrated occupancy/ conflict status of a runway.	PJ.02-W2-21.1		H		●									●			

KEY

- SOLUTION TRL6 COMPLETED
- SOLUTION IN THE PIPELINE FOR DELIVERY
- CONTRIBUTES TO HIGH-LEVEL NETWORK CONOPS 2029

- YES, IF WITHIN THE CURRENT REGULATORY FRAMEWORK
- SOFT LAW UPDATE
- HARD LAW UPDATE
- TO BE CONFIRMED

- YES, IF THE IMPLEMENTATION ACTION STARTS IN RP4

* **DISCLAIMER:** THE DEPLOYMENT ACTION ID DOES NOT PROVIDE ANY SENSE OF DEPLOYMENT ORDER OR PRIORITY.

ATP
Airport and TMA performance

iN
ATM interconnected network

SDO 2 – Optimising airport and TMA environmental footprint

Action #	Deployment Actions*	SESAR Solution(s)/ Elements	NM CONOPS 2029	Within current regulatory framework	Start of Investment in RP4 timeframe	STAKEHOLDERS: ANSP	AU	AO	NM	MIL	USSP	CISP	VERTIPORT Operator	Drone/UAS Operator	OPERATING ENVIRONMENT: AIRPORT	TMA	EN-ROUTE	NETWORK
2.1	Implement **collaborative management of regional airports and their integration with Network Manager (NM)** by sharing departure planning information (also shared between NM and airspace users).	PJ.04-W2-28.1 PJ.04-W2-28.2 PJ.09-03-02	■ ■ ■	S TBC ✓	✓	●	●	●	●	○ AU					●	●	●	●
2.2	Implement solutions **for better integrate large / very large airports and the network** via enhanced AOPs-NOP tactical, pre-tactical and strategic planning and AOP to AOP collaborative planning process.	FastNET 0346 FastNET 0347	■ ■	TBC TBC		●	●	●	●						●			●
2.3	Implement **environmental performance management at airports** and solutions to reduce the airport impact on emissions (single engine taxiing, engine-off taxiing through use of sustainable taxiing vehicles).	PJ.04-W2-29.3	■	TBC		●	●	●							●			
2.4	Implement capabilities to better **manage arrival constraints between various extended arrival management (E-AMAN) units** in cross-border environments and to better integrate the out-of-area inbound flights.	PJ.25-01 PJ.25-02	■ ■	✓ ✓	✓	●	●								●	●	●	●

* **DISCLAIMER:** THE DEPLOYMENT ACTION ID DOES NOT PROVIDE ANY SENSE OF DEPLOYMENT ORDER OR PRIORITY.

KEY

- SOLUTION TRL6 COMPLETED
- SOLUTION IN THE PIPELINE FOR DELIVERY
- CONTRIBUTES TO HIGH-LEVEL NETWORK CONOPS 2029
- ✓ YES, IF WITHIN THE CURRENT REGULATORY FRAMEWORK
- S SOFT LAW UPDATE
- H HARD LAW UPDATE
- TBC TO BE CONFIRMED
- ✓ YES, IF THE IMPLEMENTATION ACTION STARTS IN RP4

ATP
Airport and TMA performance

iN
ATM interconnected network

sesar JOINT UNDERTAKING

SDO 2 – Optimising airport and TMA environmental footprint

Action #	Deployment Actions*	SESAR Solution(s)/ Elements	NM CONOPS 2029	Within current regulatory framework	Start of Investment in RP4 timeframe	STAKEHOLDERS: ANSP	AU	AO	NM	MIL	USSP	CISP	VERTIPORT Operator	Drone/UAS Operator	OPERATING ENVIRONMENT: AIRPORT	TMA	EN-ROUTE	NETWORK
2.5	Implement **optimised descent operations using merge to point and advanced approach procedures** (i.e. second runway-aiming point (SRAP), increased second glide slope (ISGS), increased glide slope to a second runway aiming point (IGS-to-SRAP)), which aim to reduce the aviation environmental impact (e.g., noise, fuel consumption, CO2 emissions, etc.) on the airport neighbouring communities.	PJ.02-W2-14.2 PJ.02-W2-14.3 PJ.02-W2-14.5 #11		H H H H		●	●	●		○ AU					●	●	●	
2.6	Implement **new capabilities to increase airport runway capacity both on arrivals and departures** based on wake turbulence separations based on static aircraft characteristics, required surveillance performance (RSP) and runway occupancy time (ROT) characterisation of the leader aircraft.	PJ.02-01-01 PJ.02-01-02 PJ.02-01-04 PJ.02-01-06 PJ.02-03 PJ.02-08-03 PJ.02-W2-14.6a	■	H H H H H H TBC		●	●	●							●	●		

KEY
- SOLUTION TRL6 COMPLETED
- SOLUTION IN THE PIPELINE FOR DELIVERY
- CONTRIBUTES TO HIGH-LEVEL NETWORK CONOPS 2029

- YES, IF WITHIN THE CURRENT REGULATORY FRAMEWORK
- (S) SOFT LAW UPDATE
- (H) HARD LAW UPDATE
- TBC TO BE CONFIRMED

YES, IF THE IMPLEMENTATION ACTION STARTS IN RP4

* **DISCLAIMER:** THE DEPLOYMENT ACTION ID DOES NOT PROVIDE ANY SENSE OF DEPLOYMENT ORDER OR PRIORITY.

dA
Fully dynamic and optimised airspace

SDO 3 – Dynamic airspace configuration

Action #	Deployment Actions	SESAR Solution(s)/ Elements	NM CONOPS 2029	Within current regulatory framework	Start of Investment in RP4 timeframe	STAKEHOLDERS									OPERATING ENVIRONMENT			
						ANSP	AU	AO	NM	MIL	USSP	CISP	VERTIPORT Operator	Drone/UAS Operator	AIRPORT	TMA	EN-ROUTE	NETWORK
3.1	Implement higher levels of granularity and dynamicity in **airspace configurations**, adjusted to traffic demand and military needs for airspace reservations, enabling cross-border **coordination between all civil and military actors**.	PJ.09-W2-44	■	H		●	●		●	ANSP AU							●	●
3.2	Implement **mission trajectory and dynamic mobile areas (DMAs) of type 1 and type 2** using the improved operational air traffic flight plan (iOAT FPL) into dynamic airspace configuration processes in medium to short-term ATM planning phase supporting military airspace requirements.	PJ.07-03 PJ.07-W2-40	■ ■	H H		●	●		●	ANSP AU							●	●

KEY

- ● SOLUTION TRL6 COMPLETED
- ● SOLUTION IN THE PIPELINE FOR DELIVERY
- ■ CONTRIBUTES TO HIGH-LEVEL NETWORK CONOPS 2029

- ✓ YES, IF WITHIN THE CURRENT REGULATORY FRAMEWORK
- (S) SOFT LAW UPDATE
- (H) HARD LAW UPDATE
- (TBC) TO BE CONFIRMED

✓ YES, IF THE IMPLEMENTATION ACTION STARTS IN RP4

* **DISCLAIMER:** THE DEPLOYMENT ACTION ID DOES NOT PROVIDE ANY SENSE OF DEPLOYMENT ORDER OR PRIORITY.

dA
Fully dynamic and optimised airspace

vS
Virtualisation of service provision

SDO 4 – Increased automation support

Action #	Deployment Actions*	SESAR Solution(s)/ Elements	NM CONOPS 2029	Within current regulatory framework	Start of Investment in RP4 timeframe	STAKEHOLDERS									OPERATING ENVIRONMENT			
						ANSP	AU	AO	NM	MIL	USSP	CISP	VERTIPORT Operator	Drone/UAS Operator	AIRPORT	TMA	EN-ROUTE	NETWORK
4.1	Implement **sector team configurations,** which in specific airspace configurations include the **combination of one planning ATCO to two tactical/executive ATCOs in En-Route / eTMA environment**.	● **PJ.10-01a1**	■	✓	✓	●											●	
4.2	Implement **automatic speech recognition (ASR), user profile management system (UPMS) and attention guidance (AG)** to provide higher automation environment to support the ATCO role.	● **PJ.10-W2-96 AG** ● **PJ.10-W2-96 UPMS** ● **PJ.10-W2-96 ASR**		H ✓ H		●										●	●	

KEY

- ● SOLUTION TRL6 COMPLETED
- ● SOLUTION IN THE PIPELINE FOR DELIVERY
- ■ CONTRIBUTES TO HIGH-LEVEL NETWORK CONOPS 2029

- ✓ YES, IF WITHIN THE CURRENT REGULATORY FRAMEWORK
- S SOFT LAW UPDATE
- H HARD LAW UPDATE
- TBC TO BE CONFIRMED

✓ YES, IF THE IMPLEMENTATION ACTION STARTS IN RP4

* **DISCLAIMER:** THE DEPLOYMENT ACTION ID DOES NOT PROVIDE ANY SENSE OF DEPLOYMENT ORDER OR PRIORITY.

iN
ATM interconnected network

TBO
Trajectory-based operations

SDO 5 – Transformation to trajectory-based operations (TBO)

Action #	Deployment Actions*	SESAR Solution(s)/ Elements	NM CONOPS 2029	Within current regulatory framework	Start of Investment in RP4 timeframe	STAKEHOLDERS: ANSP	AU	AO	NM	MIL	USSP	CISP	VERTIPORT Operator	Drone/UAS Operator	OPERATING ENVIRONMENT: AIRPORT	TMA	EN-ROUTE	NETWORK
5.1	Implement **enhanced conflict detection and resolution (CD&R) support tools by using aircraft-derived data** (i.e. extended projected profile (EPP)) supported by the full implementation of ATS-B2 and high-resolution wind models.	PJ.18-W2-53B	■	✓	✓	●	●									●	●	
5.2	Implement multi-element clearances using **controller pilot data link communications (CPDLC) with lateral and vertical data link clearances** and increased ground automation tools (e.g. CD&R tools) and trajectory prediction supporting the **earlier detection and resolution of potential conflicts**.	ATC-TBO 0468 ATC-TBO 0469	■ ■	TBC TBC		●	●			ANSP AU						●	●	
5.3	Implement a **dynamic route availability document (RAD)** to allow the dynamic management of restrictions based on traffic evolutions, better integration of letters of agreement (LoAs) between ATC centres and NM and the provision of preliminary flight plans by Airspace Users. This will feed dynamic network constraints publications initiated the day before operations, to optimise the environmental performance of the network.	#201	■	S	✓	●	●		●							●	●	●
5.4	Implement **airspace user capabilities to provide, through the user-driven prioritisation process (UDPP), their preferences and priorities** and influence ATFM arrival regulations.	PJ.07-W2-39 PJ.07-02	■ ■	✓ TBC	✓		●	●	●						●			●

* **DISCLAIMER:** THE DEPLOYMENT ACTION ID DOES NOT PROVIDE ANY SENSE OF DEPLOYMENT ORDER OR PRIORITY.

KEY

- ● SOLUTION TRL6 COMPLETED
- ● SOLUTION IN THE PIPELINE FOR DELIVERY
- ■ CONTRIBUTES TO HIGH-LEVEL NETWORK CONOPS 2029
- ✓ YES, IF WITHIN THE CURRENT REGULATORY FRAMEWORK
- (S) SOFT LAW UPDATE
- (H) HARD LAW UPDATE
- TBC TO BE CONFIRMED
- ✓ YES, IF THE IMPLEMENTATION ACTION STARTS IN RP4

iN
ATM interconnected network

TBO
Trajectory-based operations

SDO 5 – Transformation to trajectory-based operations (TBO)

Action #	Deployment Actions*	SESAR Solution(s)/ Elements	NM CONOPS 2029	Within current regulatory framework	Start of Investment in RP4 timeframe	STAKEHOLDERS									OPERATING ENVIRONMENT			
						ANSP	AU	AO	NM	MIL	USSP	CISP	VERTIPORT Operator	Drone/UAS Operator	AIRPORT	TMA	EN-ROUTE	NETWORK
5.5	Implement interaction tools supporting the full integration of the flight operations centre (FOC) into the ATM network process, and the flight delay criticality concept, to **better integrate airspace user priorities in flow management decisions**.	PJ.07-W2-38	■	✓	✓	●	●		●							●	●	●
5.6	Exploit **new FF-ICE/R1 trajectory services** beyond the CP1 services (which are just the filing and trial services) to improve the completeness and accuracy of traffic load calculation and advanced network performance capabilities.	ISLAND 0331 NETWORK-TBO 0440	■ ■	TBC TBC		●	●	●	●	ANSP AU					●	●	●	●
5.7	Implement seamless ATC-ATC coordination and sharing with NM of the ATC-ATC exchanges, encompassing more complex coordination dialogues implying negotiation between controllers across ACC boundaries.**	PJ.18-02b NETWORK-TBO 0442	 ■	S TBC	✓	●			●	ANSP						●	●	●

KEY

- SOLUTION TRL6 COMPLETED
- SOLUTION IN THE PIPELINE FOR DELIVERY
- CONTRIBUTES TO HIGH-LEVEL NETWORK CONOPS 2029

- YES, IF WITHIN THE CURRENT REGULATORY FRAMEWORK
- SOFT LAW UPDATE
- HARD LAW UPDATE
- TO BE CONFIRMED

- YES, IF THE IMPLEMENTATION ACTION STARTS IN RP4

* **DISCLAIMER:** THE DEPLOYMENT ACTION ID DOES NOT PROVIDE ANY SENSE OF DEPLOYMENT ORDER OR PRIORITY.

** NOTE THE SESAR DEPLOYMENT MANAGER'S ACTION TO BUILD CONSENSUS ON ATC-ATC INTEROPERABILIRY IS ON-GOING.

SDO 6

dA
Fully dynamic and optimised airspace

vS
Virtualisation of service provision

SDO 6 – Virtualisation of operations

Action #	Deployment Actions*	SESAR Solution(s)/ Elements	NM CONOPS 2029	Within current regulatory framework	Start of Investment in RP4 timeframe	STAKEHOLDERS: ANSP	AU	AO	NM	MIL	USSP	CISP	VERTIPORT Operator	Drone/UAS Operator	OPERATING ENVIRONMENT: AIRPORT	TMA	EN-ROUTE	NETWORK
6.1	Implement **virtual centres to enable decoupling of the ATM data service provider (ADSP) and ATSU through service interfaces that support new ways of dynamic ATS delegation** (e.g. contingency delegation, night delegation (scheduled), fixed time delegation (scheduled), or "on-demand").	PJ.10-W2-93 ISLAND 0332 IFAV3 0377	■ ■	✓ TBC TBC	✓	●				ANSP						●	●	
6.2	Implement multiple remote tower module (MRTM) **flexible and dynamic allocation of different MRTMs accommodated within a remote tower centre (RTC)** that allows the ATCO to maintain situational awareness for two or more small airports. It **includes the implementation of low-cost surveillance service for supporting remote tower operations**.	PJ.05-02 PJ.05-W2-35 PJ.14-W2-84b		✓ ✓ S	✓	●		●		ANSP AO					●			

KEY

- SOLUTION TRL6 COMPLETED
- SOLUTION IN THE PIPELINE FOR DELIVERY
- CONTRIBUTES TO HIGH-LEVEL NETWORK CONOPS 2029

- YES, IF WITHIN THE CURRENT REGULATORY FRAMEWORK
- SOFT LAW UPDATE
- HARD LAW UPDATE
- TO BE CONFIRMED
- YES, IF THE IMPLEMENTATION ACTION STARTS IN RP4

* **DISCLAIMER:** THE DEPLOYMENT ACTION ID DOES NOT PROVIDE ANY SENSE OF DEPLOYMENT ORDER OR PRIORITY.

CNS
CNS infrastructure and services

SDO 7 – Transition towards high performance of air-ground connectivity (multilink)

Action #	Deployment Actions*	SESAR Solution(s)/ Elements	NM CONOPS 2029	Within current regulatory framework	Start of Investment in RP4 timeframe	STAKEHOLDERS: ANSP	AU	AO	NM	MIL	USSP	CISP	VERTIPORT Operator	Drone/UAS Operator	OPERATING ENVIRONMENT: AIRPORT	TMA	EN-ROUTE	NETWORK
7.1	Implement **future air-ground communications network infrastructure, which supports multilink capability** and complete mobility between different data links.	**PJ.14-W2-77**		S	✓	●	●			ANSP AU					●	●	●	●
7.2	Implement **SatCom class B**, which enables data and voice communication services using existing satellite technology systems in oceanic, remote, polar, and progressively continental airspace.	**#109**	■	S	✓	●	●			ANSP						●	●	
7.3	Implement **VDL-M2 successor** (e.g. **terrestrial data link system** L-band-digital aeronautical communication system (LDACS), data link for ATM and AOC operations over commercial communication systems (hyper-connected ATM), and s**atellite communications** for both continental and remote/oceanic regions.	**PJ.14-W2-107** **FCDI 0339** **FCDI 0341**	■ ■ ■	TBC TBC TBC		●	●	●		AU					●	●	●	●

SDO is linked to the activities of the CNS Programme Manager who will deliver a CNS Evolution Plan detailing how the SDO will be implemented

KEY
- SOLUTION TRL6 COMPLETED
- SOLUTION IN THE PIPELINE FOR DELIVERY
- CONTRIBUTES TO HIGH-LEVEL NETWORK CONOPS 2029
- ✓ YES, IF WITHIN THE CURRENT REGULATORY FRAMEWORK
- S SOFT LAW UPDATE
- H HARD LAW UPDATE
- TBC TO BE CONFIRMED
- ✓ YES, IF THE IMPLEMENTATION ACTION STARTS IN RP4

* **DISCLAIMER:** THE DEPLOYMENT ACTION ID DOES NOT PROVIDE ANY SENSE OF DEPLOYMENT ORDER OR PRIORITY.

iN
ATM interconnected network

dS
Digital AIM and MET services

vS
Virtualisation of service provision

SDO 8 – Service-oriented delivery model (Data-driven and cloud-based)

Action #	Deployment Actions*	SESAR Solution(s)/ Elements	NM CONOPS 2029	Within current regulatory framework	Start of Investment in RP4 timeframe	STAKEHOLDERS: ANSP	AU	AO	NM	MIL	USSP	CISP	VERTIPORT Operator	Drone/UAS Operator	OPERATING ENVIRONMENT: AIRPORT	TMA	EN-ROUTE	NETWORK
8.1	Implement the new service-oriented delivery model (data-driven and cloud-based) covering all phases of flight and enabling: • open ATM patterns enabling integration of components provided by various system providers to facilitate multi-vendor solutions using open platforms and interfaces. • decoupling of service and infrastructure layers through cloud computing (including the various system components). • a cloud-native architecture of components with standardised and open interfaces that can be deployed on commodity cloud technologies.	PJ.14-W2-101 PJ.18-04a PJ.16-03 PJ.10-W2-93A ISNAP 0418 VITACY 0386 VITACY 0387 VITACY 0388	■ ■ ■ ■ ■ ■ ■	S H H H TBC TBC TBC TBC		●			●	ANSP					●	●	●	●

KEY

- SOLUTION TRL6 COMPLETED
- SOLUTION IN THE PIPELINE FOR DELIVERY
- CONTRIBUTES TO HIGH-LEVEL NETWORK CONOPS 2029

- YES, IF WITHIN THE CURRENT REGULATORY FRAMEWORK
- (S) SOFT LAW UPDATE
- (H) HARD LAW UPDATE
- (TBC) TO BE CONFIRMED

YES, IF THE IMPLEMENTATION ACTION STARTS IN RP4

* **DISCLAIMER:** THE DEPLOYMENT ACTION ID DOES NOT PROVIDE ANY SENSE OF DEPLOYMENT ORDER OR PRIORITY.

SDO 9 – CNS optimisation, modernisation and resilience

Action #	Deployment Actions*	SESAR Solution(s)/ Elements	NM CONOPS 2029	Within current regulatory framework	Start of investment in RP4 timeframe	STAKEHOLDERS									OPERATING ENVIRONMENT			
						ANSP	AU	AO	NM	MIL	USSP	CISP	VERTIPORT Operator	Drone/UAS Operator	AIRPORT	TMA	EN-ROUTE	NETWORK
9.1	Implement a secured surveillance functionality that enables detection and, when possible, mitigation of security threats that could affect the surveillance chain.	PJ.14-W2-84c		H		●				○ ANSP					●	●	●	
9.2	Implement minimum operational network (MON).	N/A		✓	✓	●			●	○ ANSP						●	●	●
9.3	Rationalise instrument landing systems (ILS) and implement efficiency measures/methods for more cost-effective maintenance of ILS, providing link between ICAO Doc. 8071 and national CNS provision.	N/A			✓	●			●	○ ANSP						●		●
9.4	Optimise surveillance, leveraging terrestrial and space-based information.	N/A			✓	●			●							●	●	●

SDO is linked to the activities of the CNS Programme Manager who will deliver a CNS Evolution Plan detailing how the SDO will be implemented

* **DISCLAIMER:** THE DEPLOYMENT ACTION ID DOES NOT PROVIDE ANY SENSE OF DEPLOYMENT ORDER OR PRIORITY.

KEY

- SOLUTION TRL6 COMPLETED
- SOLUTION IN THE PIPELINE FOR DELIVERY
- CONTRIBUTES TO HIGH-LEVEL NETWORK CONOPS 2029

- YES, IF WITHIN THE CURRENT REGULATORY FRAMEWORK
- (S) SOFT LAW UPDATE
- (H) HARD LAW UPDATE
- TBC TO BE CONFIRMED

- YES, IF THE IMPLEMENTATION ACTION STARTS IN RP4

CNS
CNS infrastructure and services

U-s
U-space services

M3
Multimodal mobility and integration of all airspace users

sesar JOINT UNDERTAKING

SDO 10 – Enable innovative air mobility (IAM) and drone operations

Action #	Deployment Actions*	SESAR Solution(s)/ Elements	NM CONOPS 2029	Within current regulatory framework	Start of Investment in RP4 timeframe	STAKEHOLDERS: ANSP	AU	AO	NM	MIL	USSP	CISP	VERTIPORT Operator	Drone/UAS Operator	OPERATING ENVIRONMENT: AIRPORT	TMA	EN-ROUTE	NETWORK
10.1	Implement system support and procedures to integrate instrument flight rules (**IFR) RPAS and IAM in airspaces A to C, which are required to have detect and avoid (DAA) systems that perform at least as well as TCAS II** (traffic alert and collision avoidance system) **and see and avoid**.	**PJ.13-W2-115** **IRINA 0379**	■	H TBC		●	●			ANSP AU Drone/UAS Operator				○		●	●	
10.2	Implement **foundational (U1) and initial (U2) U-space services** as established by the regulatory framework for U-Space (Commission Implementing Regulation (EU) 2021/664).	**U1 Services** **U2 Services**		✓	✓						●	●		○	VERY LOW-LEVEL AIRSPACE (VLL)			
10.3	Implement a **common ATM-U-space interface and dynamic airspace reconfiguration service** to help ATC actors in charge of airspace reconfigurations to increase safety, keeping crewed and uncrewed aircraft segregated within the designated U-space airspace.	**ENSURE 0394** **ENSURE 0395**		TBC TBC		●	●	●		ANSP AU AO	●	●		○	● **	●	●	
10.4	Implement **simultaneous non-interfering (SNI) operations** (e.g. parallel, or convergent point-in-space (PinS) procedures*)* **and capabilities** (i.e. GNSS and the RNP navigation specification) allowing airspace users (e.g. rotorcraft, VTOL-capable aircraft, etc.) to operate to and from airports, vertiports and TMAs without conflicting other traffic or requiring runway slots.	**PJ.01-06** **PJ.02-05**		H H		●	●	●					○	○	● **	●		

KEY

- SOLUTION TRL6 COMPLETED
- SOLUTION IN THE PIPELINE FOR DELIVERY
- CONTRIBUTES TO HIGH-LEVEL NETWORK CONOPS 2029

- YES, IF WITHIN THE CURRENT REGULATORY FRAMEWORK
- SOFT LAW UPDATE
- HARD LAW UPDATE
- TO BE CONFIRMED
- YES, IF THE IMPLEMENTATION ACTION STARTS IN RP4

* **DISCLAIMER:** THE DEPLOYMENT ACTION ID DOES NOT PROVIDE ANY SENSE OF DEPLOYMENT ORDER OR PRIORITY.

** AIRPORT OPERATING ENVIRONMENT INCLUDES WHEN APPLICABLE VERTIPORT