

CP1		Active							APT	
ATC19		AMAN/DMAN Integration								
REG	ASP	MIL	APO	USE	INT	IND	NM	MET	AIS	USP

## Subject matter and scope

Integrated Arrival and Departure management aims at increasing airport and TMA throughput, resilience and predictability by improved co-ordination between En-Route/Approach, local ATC and airports.

DMAN provides optimum departure sequence based on information provided by airport operator, airlines and ATC.

Similarly, AMAN calculates the optimum arrival flow to the airport. Integration of runway sequence, respecting AMAN and DMAN constraints, allows for optimum utilisation of runway.

Where this integration interferes with the 180 nautical miles (or shorter distance as indicated in Implementation Objective ATC15.2 – Arrival Management Extended to En-route Airspace Family 1.1.1) requirement for extended AMAN, the system has to be tuned to allow as large horizon as possible.

System requirements:

- Integration of departure and arrival flows are done by integrating existing AMAN and DMAN functions where runways are operated in mixed mode.
- AMAN and DMAN systems shall be able to share data to be included in their planning algorithms calculating arrival and departure flows.
- The integration of AMAN and DMAN must be based on the optimised pre-departure sequence and interfaces with airport CDM systems.
- Controller Working Position (CWP) needs to support the display of AMAN/DMAN overlapping sequences.

**NOTE FOR MILITARY AUTHORITIES:** It is the responsibility of each military authority to review this Objective IN ITS ENTIRETY and address each of the SLoAs that the military authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SLoAs which identify actions EXCLUSIVE to military authorities.

## Applicability Area(s) & Timescale(s)

<b>Applicability Area 1</b> (CP1 Airports)	See list of Airports in the Eurocontrol Implementation Plan And Report (EIPAR) - Annexes
<b>Applicability Area 2</b> (Non-CP1 Airports)	See list of Airports in the Eurocontrol Implementation Plan And Report (EIPAR) - Annexes

Timescales:	From:	By:	Applicable to:
Initial Operational Capability	01/01/2021		Applicability Area 1 + Applicability Area 2
Full Operational Capability / Target Date		31/12/2027	Applicability Area 1 + Applicability Area 2

## References

### European ATM Master Plan

OI step -	<a href="#">[TS-0308]-Flow based Integration of Arrival and Departure Management</a>								
Enablers -	AERODROME -ATC-09a	AERODROME -ATC-50	APP ATC 161						

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective Objective covering the enabler	WXYZ-003	Not covered in the Implementation Plan
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### Applicable legislation

Regulation (EU) 2021/116 on the establishment of the Common Project One
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### Essential Operational Changes

Airport and TMA performance
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### SESAR Solution

#54 - Flow based Integration of Arrival and Departure Management
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<b>ATC19</b>	<b>AMAN/DMAN Integration</b>
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### ICAO GANP - ASBUs

RSEQ-B2/1	Integration of arrival and departure management
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### Deployment Programme

1.2.1	AMAN/DMAN Integration
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### European Plan for Aviation Safety

- none -	
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### Operating Environments

Airport
Terminal Airspace

## Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
ATC19-ASP01	Couple AMAN and DMAN systems	01/01/2021	31/12/2027
ATC19-ASP02	Establish Bilateral Agreements	01/01/2021	31/12/2027
ATC19-ASP03	Upgrade CWP to incorporate the information from integrated AMAN/DMAN	01/01/2021	31/12/2027
ATC19-ASP04	Safety assessment	01/01/2021	31/12/2027
ATC19-ASP05	Training	01/01/2021	31/12/2027
ATC19-ASP06	Operational use	01/01/2021	31/12/2027
ATC19-APO01	Upgrade system to incorporate AMAN/DMAN information	01/01/2021	31/12/2027
ATC19-APO02	Establish Bilateral Agreements	01/01/2021	31/12/2027
ATC19-APO03	Safety assessment	01/01/2021	31/12/2027
ATC19-APO04	Training	01/01/2021	31/12/2027
ATC19-APO05	Operational use	01/01/2021	31/12/2027

Description of finalised and deleted SLoAs is available on the eATM Portal @ [https://www.eatmportal.eu/working/depl/essip\\_objectives](https://www.eatmportal.eu/working/depl/essip_objectives)

## Expected Performance Benefits

<b>Safety:</b>	-
<b>Capacity:</b>	-
<b>Operational Efficiency:</b>	Contribution to Predictability; increase in resilience.
<b>Cost Efficiency:</b>	-
<b>Environment:</b>	The coupling of AMAN with DMAN has been shown to save departure fuel and improve local air quality due to a reduction in the taxi-out time during peak traffic (up to 7% savings in taxi-out fuel)
<b>Security:</b>	-

## Detailed SLoA Descriptions

ATC19-ASP01	Couple AMAN and DMAN systems	From:	By:
		<b>Applicability Area 1:</b> 01/01/2021	<b>Applicability Area 1:</b> 31/12/2027
<b>Action by:</b>	<b>ANS Providers</b>		
<b>Description &amp; purpose:</b>	Arrival Management (AMAN) and Departure Management (DMAN) systems must be coupled and must support co-ordination between ACC/APP, local ATC and airports. The AMAN must set-up gaps (Arrival Free Intervals) which must be filled by the DMAN allocating departures in the AFIs.		
	<a href="#">Note :This SLoA needs to be synchronised between ANSPs and AOs.</a>		
<b>Supporting material(s):</b>	SDM - Standardisation and Regulation support to CP1 deployment 2021, Deliverable D1.1.1 07/2021 Url : <a href="https://www.sesardeploymentmanager.eu/publications/deployment-programme">https://www.sesardeploymentmanager.eu/publications/deployment-programme</a>		
<b>ATM Master Plan relationship:</b>	<a href="#">[APP ATC 161]-Enhance AMAN to support Flow based Integration of Arrival and Departure Management</a>		
<b>Finalisation criteria:</b>	1 - AMAN and DMAN have been coupled and the AMAN gaps (AFIs) are filled by DMAN.		
ATC19-ASP02	Establish Bilateral Agreements	From:	By:

<b>ATC19</b>	<b>AMAN/DMAN Integration</b>
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		<b>Applicability Area 1:</b> 01/01/2021	<b>Applicability Area 1:</b> 31/12/2027
<b>Action by:</b>	<b>ANS Providers</b>		
<b>Description &amp; purpose:</b>	Establish Bilateral agreements between the stakeholders and airports involved for AMAN/DMAN operational procedures and data exchanges.		
	<a href="#">Note :This SLoA needs to be synchronised between ANSPs and AOs.</a>		
<b>Supporting material(s):</b>	SDM - Standardisation and Regulation support to CP1 deployment 2021, Deliverable D1.1.1 07/2021 Url : <a href="https://www.sesardeploymentmanager.eu/publications/deployment-programme">https://www.sesardeploymentmanager.eu/publications/deployment-programme</a>		
<b>ATM Master Plan relationship:</b>	<a href="#">[AERODROME-ATC-09a]-Flow based Improvement of operational orchestration among arrival / departure management and surface management services</a>		
<b>Finalisation criteria:</b>	1 - Bilateral agreements are concluded		
<b>ATC19-ASP03</b>	<b>Upgrade CWP to incorporate the information from integrated AMAN/DMAN</b>	<b>From:</b> <b>Applicability Area 1:</b> 01/01/2021	<b>By:</b> <b>Applicability Area 1:</b> 31/12/2027
<b>Action by:</b>	<b>ANS Providers</b>		
<b>Description &amp; purpose:</b>	Upgrade CWP to enable display and management of the data coming from integrated AMAN/DMAN.		
<b>Supporting material(s):</b>	SDM - Standardisation and Regulation support to CP1 deployment 2021, Deliverable D1.1.1 07/2021 Url : <a href="https://www.sesardeploymentmanager.eu/publications/deployment-programme">https://www.sesardeploymentmanager.eu/publications/deployment-programme</a>		
<b>ATM Master Plan relationship:</b>	<a href="#">[AERODROME-ATC-50]-Advanced Airport Tower Controller Working Position (A-CWP)</a>		
<b>Finalisation criteria:</b>	1 - The system has been upgraded.		
<b>ATC19-ASP04</b>	<b>Safety assessment</b>	<b>From:</b> <b>Applicability Area 1:</b> 01/01/2021	<b>By:</b> <b>Applicability Area 1:</b> 31/12/2027
<b>Action by:</b>	<b>ANS Providers</b>		
<b>Description &amp; purpose:</b>	The safety assessment of the changes must be developed and delivered to the competent authority.		
	<a href="#">Note :This SLoA needs to be synchronised between ANSPs and AOs.</a>		
<b>Supporting material(s):</b>	SDM - Standardisation and Regulation support to CP1 deployment 2021, Deliverable D1.1.1 07/2021 Url : <a href="https://www.sesardeploymentmanager.eu/publications/deployment-programme">https://www.sesardeploymentmanager.eu/publications/deployment-programme</a>		
<b>Finalisation criteria:</b>	1 - Safety assessment has been developed and delivered to the competent authority		
<b>ATC19-ASP05</b>	<b>Training</b>	<b>From:</b> <b>Applicability Area 1:</b> 01/01/2021	<b>By:</b> <b>Applicability Area 1:</b> 31/12/2027
<b>Action by:</b>	<b>ANS Providers</b>		
<b>Description &amp; purpose:</b>	All relevant staff must be duly trained		
<b>Supporting material(s):</b>	SDM - Standardisation and Regulation support to CP1 deployment 2021, Deliverable D1.1.1 07/2021 Url : <a href="https://www.sesardeploymentmanager.eu/publications/deployment-programme">https://www.sesardeploymentmanager.eu/publications/deployment-programme</a>		
<b>Finalisation criteria:</b>	1 - Training has been completed		
<b>ATC19-ASP06</b>	<b>Operational use</b>	<b>From:</b> <b>Applicability Area 1:</b> 01/01/2021	<b>By:</b> <b>Applicability Area 1:</b> 31/12/2027
<b>Action by:</b>	<b>ANS Providers</b>		
<b>Description &amp; purpose:</b>	AMAN/DMAN integration is ready for operational use once the procedures are in place, the systems have been upgraded, the safety assessment has been delivered and approved, and the training has been completed.		
<b>Finalisation criteria:</b>	1 - AMAN/DMAN integration is operational and put into service		
<b>ATC19-APO01</b>	<b>Upgrade system to incorporate AMAN/DMAN information</b>	<b>From:</b> <b>Applicability Area 1:</b> 01/01/2021	<b>By:</b> <b>Applicability Area 1:</b> 31/12/2027
<b>Action by:</b>	<b>Airport Operators</b>		
<b>Description &amp; purpose:</b>	Upgrade systems to be able to receive, process and use the information coming from the integrated AMAN/DMAN system.		
	<a href="#">Note :This SLoA needs to be synchronised between ANSPs and AOs.</a>		
<b>Supporting material(s):</b>	SDM - Standardisation and Regulation support to CP1 deployment 2021, Deliverable D1.1.1 07/2021 Url : <a href="https://www.sesardeploymentmanager.eu/publications/deployment-programme">https://www.sesardeploymentmanager.eu/publications/deployment-programme</a>		

<b>ATC19</b>	<b>AMAN/DMAN Integration</b>
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<b>Finalisation criteria:</b>	1 - The system has been upgraded.		
<b>ATC19-APO02</b>	<b>Establish Bilateral Agreements</b>	<b>From:</b> <b>Applicability Area 1:</b> 01/01/2021	<b>By:</b> <b>Applicability Area 1:</b> 31/12/2027
<b>Action by:</b>	<b>Airport Operators</b>		
<b>Description &amp; purpose:</b>	Establish Bilateral agreements between the stakeholders and airports involved for AMAN/DMAN operational procedures and data exchanges		
	<a href="#">Note :This SLoA needs to be synchronised between civil and military ANSPs and AOs.</a>		
<b>Supporting material(s):</b>	SDM - Standardisation and Regulation support to CP1 deployment 2021, Deliverable D1.1.1 07/2021 Url : <a href="https://www.sesardeploymentmanager.eu/publications/deployment-programme">https://www.sesardeploymentmanager.eu/publications/deployment-programme</a>		
<b>Finalisation criteria:</b>	1 - Bilateral agreements are concluded		
<b>ATC19-APO03</b>	<b>Safety assessment</b>	<b>From:</b> <b>Applicability Area 1:</b> 01/01/2021	<b>By:</b> <b>Applicability Area 1:</b> 31/12/2027
<b>Action by:</b>	<b>Airport Operators</b>		
<b>Description &amp; purpose:</b>	The safety assessment of the changes must be developed and delivered to the competent authority.		
	<a href="#">Note :This SLoA needs to be synchronised between ANSPs and AOs.</a>		
<b>Supporting material(s):</b>	SDM - Standardisation and Regulation support to CP1 deployment 2021, Deliverable D1.1.1 07/2021 Url : <a href="https://www.sesardeploymentmanager.eu/publications/deployment-programme">https://www.sesardeploymentmanager.eu/publications/deployment-programme</a>		
<b>Finalisation criteria:</b>	1 - Safety assessment has been developed and delivered to the competent authority.		
<b>ATC19-APO04</b>	<b>Training</b>	<b>From:</b> <b>Applicability Area 1:</b> 01/01/2021	<b>By:</b> <b>Applicability Area 1:</b> 31/12/2027
<b>Action by:</b>			
<b>Description &amp; purpose:</b>	All relevant staff must be duly trained		
<b>Supporting material(s):</b>	SDM - Standardisation and Regulation support to CP1 deployment 2021, Deliverable D1.1.1 07/2021 Url : <a href="https://www.sesardeploymentmanager.eu/publications/deployment-programme">https://www.sesardeploymentmanager.eu/publications/deployment-programme</a>		
<b>Finalisation criteria:</b>	1 - Training has been completed		
<b>ATC19-APO05</b>	<b>Operational use</b>	<b>From:</b> <b>Applicability Area 1:</b> 01/01/2021	<b>By:</b> <b>Applicability Area 1:</b> 31/12/2027
<b>Action by:</b>	<b>Airport Operators</b>		
<b>Description &amp; purpose:</b>	AMAN/DMAN information is ready for operational use once the the systems have been upgraded, bilateral agreements are in place, the safety assessment has been delivered and approved, and the training has been completed.		
<b>Finalisation criteria:</b>	1 - AMAN/DMAN information are operational and put into service		

