

SESAAR	Active					LOC		
ATC19	Enhanced AMAN-DMAN integration							
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

Integrated Arrival and Departure management aims at increasing predictability and resilience at an airport by improved co-ordination between ACC/APP and TWR controllers. Arrival and Departure flows to the respective runway are integrated by setting up fixed arrival departure sequencing pattern for defined periods. The successive pattern shall be agreed between ATSUs with the support of a tool considering arrival and departure demand for the RWY(s) concerned. Departure flow to the runway is managed by pre-departure sequencing (integrating route planning) while arrival flow to the runway is managed by arrival metering. Procedures for adjusting the Arrival and Departure sequence shall remain unchanged compared to the previous operating method of just using AMAN and DMAN work independently .

The integration of the two systems is achieved as follows:

- AMAN and DMAN systems shall be coupled and shall provide with an integrated and shared view on the planned arrival and departure flow (and sequence pattern) to the relevant TWR and APP COWPs.
- Coupled AMAN/DMAN shall operate in a master/slave configuration; the AMAN setting-up gaps (Arrival Free Intervals) to be filled by the DMAN.

This integration shall rely on a stable and optimised pre-departure sequence supported by an enhanced DMAN as described in PCP sub AF 2.1 and 2.2.

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)

Applicability Area (Subject to local needs)	Austria, Belgium, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Lithuania, Luxembourg, Netherlands, Serbia, Slovenia, Turkey, United Kingdom		
Timescales:	From:	By:	Applicable to:
Dummy date-for Analytics module only	31/05/2019		Applicability Area
Dummy date-for Analytics module only		01/01/2030	Applicability Area

References

European ATM Master Plan

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

-none-

ICAO GANP ? ASBUs

B2-RSEQ	Linked AMAN/DMAN
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Deployment Programme

- none -

European Plan for Aviation Safety

- none -

Operating Environments

Airport Terminal Airspace

ATC19	Enhanced AMAN-DMAN integration
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
ATC19-ASP01	Couple AMAN and DMAN systems		
ATC19-ASP02	Integrate surface movement processing system with DMAN		
ATC19-ASP03	Upgrade CWP to incorporate the information from integrated AMAN/DMAN		
ATC19-ASP04	Develop safety assessment of the changes		
ATC19-ASP05	Train the controllers in the use of integrated Arrival and Departure Management		
ATC19-INT01	Promulgate AMCs to ensure a harmonised application of the functional system, including roles and responsibilities		

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	No
Capacity:	No
Operational Efficiency:	Contribution to Predictability; increase in resilience.
Cost Efficiency:	No
Environment:	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)
Security:	No

Detailed SLoA Descriptions

SLoA ref.	Title	From:	By:
ATC19-ASP01	Couple AMAN and DMAN systems	-	-
Action by:	ANS Providers		
Description & purpose:	<p>Arrival Management (AMAN) and Departure Management (DMAN) systems shall be coupled in a master/slave configuration and shall support co-ordination between ACC/APP and TWR controllers. The AMAN acting as the master is setting-up gaps (Arrival Free Intervals) which shall be filled by the DMAN allocating departures in the AFIs.</p> <p>Changes must be synchronised between the ANSP units (TWR, APP and ACC) providing services to the airport / runway.</p> <p>Integration between ANSP and Airport systems may be required at each deployment location depending on the ownership arrangement.</p>		
Supporting material(s):	SJU - SESAR Solution 54: Data pack for Flow based integration of arrival and departure management Url : https://www.sesarju.eu/sesar-solutions/flow-based-integration-arrival-and-departure-management		
ATM Master Plan relationship:			
Finalisation criteria:	1 - AMAN and DMAN have been coupled in a master/slave configuration. 2 - The AMAN gaps (AFIs) are filled by DMAN.		

SLoA ref.	Title	From:	By:
ATC19-ASP02	Integrate surface movement processing system with DMAN	-	-
Action by:	ANS Providers		
Description & purpose:	<p>The integration of AMAN and DMAN shall rely on a stable and optimized pre-departure sequence The aircraft operator provides DMAN with an accurate Target off Block Times (TOBT) via its AOCC or via airport's CDM interface. This provides accurate Target Start-Up Approval Times (TSATs), reliable enough to allow the Controller to adhere to the pre-departure sequence.</p> <p>The integration will enable flow-based improvement of operational management of the traffic among AMAN, DMAN and surface management services, at airports with RWYs used for both arriving and departing flights.</p>		
Supporting material(s):	SJU - SESAR Solution 54: Data pack for Flow based integration of arrival and departure management Url : https://www.sesarju.eu/sesar-solutions/flow-based-integration-arrival-and-departure-management		

ATC19	Enhanced AMAN-DMAN integration		
ATM Master Plan relationship:			
Finalisation criteria:	1 - The system for surface movement processing has been integrated with DMAN		
ATC19-ASP03	Upgrade CWP to incorporate the information from integrated AMAN/DMAN	From: -	By: -
Action by:	ANS Providers		
Description & purpose:	Upgrade CWP to enable display and management of the data coming from integrated AMAN/DMAN.		
Supporting material(s):	SJU - SESAR Solution 54: Data pack for Flow based integration of arrival and departure management Url : https://www.sesarju.eu/sesar-solutions/flow-based-integration-arrival-and-departure-management		
ATM Master Plan relationship:			
Finalisation criteria:	1 - The system has been upgraded.		
ATC19-ASP04	Develop safety assessment of the changes	From: -	By: -
Action by:	ANS Providers		
Description & purpose:	The tasks to be done are as follows: - Conduct hazard identification, risk assessment in order to define safety objectives and safety requirements mitigating the risks; - Develop safety assessment; - Deliver safety assessment to the NSA, if new standards are applicable or if the severity class of identified risks is 1 or 2. This safety assessment shall be based on fully validated/recognised method.		
Supporting material(s):	SJU - SESAR Solution 54: Data pack for Flow based integration of arrival and departure management Url : https://www.sesarju.eu/sesar-solutions/flow-based-integration-arrival-and-departure-management		
Finalisation criteria:	1 - The safety argument for all changes, generated by the deployment of this functionality, has been delivered to the NSA.		
ATC19-ASP05	Train the controllers in the use of integrated Arrival and Departure Management	From: -	By: -
Action by:	ANS Providers		
Description & purpose:	Train the controllers in the responsibilities and actions that should be taken in relation to use of integrated AMAN-DMAN supporting APP and TWR operations (" Flow based Integration of Arrival and Departure Management")		
Supporting material(s):	SJU - SESAR Solution 54: Data pack for Flow based integration of arrival and departure management Url : https://www.sesarju.eu/sesar-solutions/flow-based-integration-arrival-and-departure-management		
Finalisation criteria:	1 - The training plans have been updated and a training package has been developed 2 - The concerned personnel has been trained		
ATC19-INT01	Promulgate AMCs to ensure a harmonised application of the functional system, including roles and responsibilities	From: -	By: -
Action by:	EASA		
Description & purpose:	Establish and promulgate AMCs to ensure a harmonised application of the functional system, including roles and responsibilities		
Finalisation criteria:	1 - The procedures for use of Enhanced AMAN-DMAN integration have been promulgated		