PCP	Removed		ECAC+
FCM06	**Traffic Complexity Assessment**		
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**	**NM**	**MET**	**AIS**	**USP**

Subject matter and scope

The traffic load management tool addressed by SESAR OI step CM-0101 (Automatic support for traffic load density management) is the predecessor of traffic complexity tools. The traffic complexity tools continuously monitor sector demand and evaluate traffic complexity (by applying predefined complexity metrics) according to a predetermined qualitative scale. The predicted complexity coupled with traffic demand enables ATFCM to take timely action to adjust capacity, or request the traffic profile changes in coordination with ATC and airspace users.

The rigid application of ATFCM regulations based on standard capacity thresholds as the pre-dominant tactical capacity measure needs to be replaced by a close working relationship between ANSPs and Network Manager, which would monitor both the real demand, the effective capacity of sectors having taken into account the complexity of expected traffic situation.

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 1	
Applicability Area 2	

Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2015		Applicability Area 1
Full operational capability		01/01/2022	Applicability Area 1 + Applicability Area 2

References

European ATM Master Plan

OI step -	[CM-0101]-Automated Support for Traffic Load (Density) Management						
	Enablers -	ER APP ATC 124					

OI step -	[CM-0103-A]-Automated Support for Traffic Complexity Assessment						
	Enablers -	ER APP ATC 93	NIMS-37	PRO-220a	PRO-220b	SWIM-APS-03a	SWIM-APS-04a	SWIM-INFR-05a	SWIM-NET-01a

OI step -	[IS-0102]-Improved Management of Flight Plan After Departure						
	Enablers -	NIMS-02 FCM03, FCM06.1	NIMS-20	PRO-005			

OI step -	- No OI Link -						
	Enablers -	NIMS-20					

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

Applicable legislation

Regulation (EU) No 677/2011 laying down detailed rules for the implementation of air traffic management (ATM) network functions and amending Regulation (EU) No 691/2010
Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

Essential Operational Changes

- none -

SESAR Solution

#19 - Automated support for Traffic Complexity Detection and Resolution

ICAO GANP - ASBUs

FCM06	Traffic Complexity Assessment

- none -	

Deployment Programme

- none -	

European Plan for Aviation Safety

- none -	

Operating Environments

En-Route
Network
Terminal Airspace

Stakeholder Lines of Action (SLoAs)

SloA ref.	Title	From	By
FCM06-ASP01	Implement Local Traffic Load Management tool	01/01/2015	01/01/2022
FCM06-ASP02	Receive, process and integrate ETFMS Flight Data (EFD)	01/01/2015	01/01/2022
FCM06-ASP03	Implement Local Traffic Complexity tools and procedures	01/01/2018	01/01/2022
FCM06-NM01	Provide EFD to the local traffic complexity tools	01/01/2015	01/01/2022
FCM06-NM02	Improved trajectory in NM systems	01/01/2015	01/01/2022
FCM06-NM03	Network Traffic Complexity Assessment	01/01/2015	01/01/2022

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

Expected Performance Benefits

Safety:	The better ATCO workload predictability via deployment of the traffic complexity assessment tool will lead to safety gains. Enhancement also through reduction in controller workload.
Capacity:	Increased through the better resource utilisation to enhance productivity and reduce controller workload.
Operational Efficiency:	Increased through use of more optimal routes leading to fuel saving and lower CO_2 emissions.
Cost Efficiency:	-
Environment:	Reductions in emissions through use of more optimal routes.
Security:	-

Detailed SLoA Descriptions

FCM06-ASP01	Implement Local Traffic Load Management tool	From: Applicability Area 1: 01/01/2015	By: Applicability Area 1: 01/01/2022
Action by:	**ANS Providers**		
Description & purpose:	The automated tools shall support the continuous monitoring of the traffic loads per network node (sector, waypoint, route, route-segment) according to declared capacities and provide support to the local resource management.		
ATM Master Plan relationship:	[ER APP ATC 124]-Basic Resource Management and Planning Tools.		
Finalisation criteria:	1 - Tools supporting local traffic load management are implemented and available for operational use		
FCM06-ASP02	**Receive, process and integrate ETFMS Flight Data (EFD)**	From: Applicability Area 1: 01/01/2015	By: Applicability Area 1: 01/01/2022
Action by:	**ANS Providers**		
Description & purpose:	The local FDPS to receive, process and integrate EFD provided by NM in the local traffic complexity assessment tool. This activity is needed in order to supplement the local traffic count with the flight plan data from ETFMS.		
Supporting material(s):	SJU - SESAR Solution 19: Data Pack for automated support for traffic complexity detection and resolution		
	Url : https://www.sesarju.eu/sesar-solutions/automated-support-traffic-complexity-detection-and-resolution		
	EUROCONTROL - Flight Progress Messages (FPM) document - 2.501 / 03/2019		
	Url : https://www.eurocontrol.int/publication/flight-progress-messages-fpm-document		
ATM Master Plan relationship:	[NIMS-20]-Provision, reception and processing of ATFCM flight progress messages		

FCM06	Traffic Complexity Assessment

Finalisation criteria:	1 - Reception, processing and integration of EFD message has been implemented.		
FCM06-ASP03	**Implement Local Traffic Complexity tools and procedures**	From: **Applicability Area 1:** 01/01/2018	By: **Applicability Area 1:** 01/01/2022
Action by:	**ANS Providers**		
Description & purpose:	Local traffic Complexity assessment tolls shall receive process and integrate EFD provided by NM.		
Supporting material(s):	SJU - SESAR Solution 19: Data Pack for automated support for traffic complexity detection and resolution Url : https://www.sesarju.eu/sesar-solutions/automated-support-traffic-complexity-detection-and-resolution		
ATM Master Plan relationship:	[ER APP ATC 93]-Enhance Resource Management and Planning Tools to use Traffic Complexity Assessment. [PRO-220a]-ATC Procedures related to Detection and Resolution of Complexity, Density and Traffic Flow Problems [PRO-220b]-FCM procedures to describe how detection and resolution of complexity, density or traffic flow issues are managed.		
Finalisation criteria:	1 - The local traffic complexity tools and procedures are implemented documented and in operational use.		
FCM06-NM01	**Provide EFD to the local traffic complexity tools**	From: **Applicability Area 1:** 01/01/2015	By: **Applicability Area 1:** 01/01/2022
Action by:	**NM**		
Description & purpose:	Provide the EFD data to the local FDPSs.		
Supporting material(s):	SJU - SESAR Solution 19: Data Pack for automated support for traffic complexity detection and resolution Url : https://www.sesarju.eu/sesar-solutions/automated-support-traffic-complexity-detection-and-resolution EUROCONTROL - Flight Progress Messages (FPM) document - 2.501 / 03/2019 Url : https://www.eurocontrol.int/publication/flight-progress-messages-fpm-document		
ATM Master Plan relationship:	[NIMS-20]-Provision, reception and processing of ATFCM flight progress messages		
Finalisation criteria:	1 - Provision of EFD to ANSPs.		
FCM06-NM02	**Improved trajectory in NM systems**	From: **Applicability Area 1:** 01/01/2015	By: **Applicability Area 1:** 01/01/2022
Action by:	**NM**		
Description & purpose:	The NM systems adaptation activities (specifications, development and deployment) deal with improving the quality of the planned trajectory, thus enhancing flight planning and complexity assessment. They address the following functions: - Operational deployment of EFPL - Processing of ATC information - Processing of OAT FPL information - Support to mixed mode operations		
Supporting material(s):	SJU - SESAR Solution 19: Data Pack for automated support for traffic complexity detection and resolution Url : https://www.sesarju.eu/sesar-solutions/automated-support-traffic-complexity-detection-and-resolution		
ATM Master Plan relationship:	[NIMS-21a]-Initial Flight Planning management enhanced to support 4D for Step 1 [NIMS-35]-Flight Planning management sub-system enhanced to process improved OAT flight plans		
Finalisation criteria:	1 - NM scenario management tools and procedures are implemented, documented and in operational use		
FCM06-NM03	**Network Traffic Complexity Assessment**	From: **Applicability Area 1:** 01/01/2015	By: **Applicability Area 1:** 01/01/2022
Action by:	**NM**		
Description & purpose:	Implementation of scenario management tools in support of traffic complexity management in the pre-tactical phase. This tool is built on the planned trajectory information and allows t simulate options optimising the use of available capacity. It is intended to support NM operations by identifying the possible mitigation strategies to be applied at network or local level, in coordination with FMPs and airspace users. In addition there is a need to develop a procedure related to implementation of traffic count methodologies that do not impact trajectory calculation.		
Supporting material(s):	SJU - SESAR Solution 19: Data Pack for automated support for traffic complexity detection and resolution Url : https://www.sesarju.eu/sesar-solutions/automated-support-traffic-complexity-detection-and-resolution		
ATM Master Plan relationship:	[NIMS-37]-Basic Complexity assessment tools [PRO-220b]-FCM procedures to describe how detection and resolution of complexity, density or traffic flow issues are managed.		
Finalisation criteria:	1 - NM scenario management tools and procedures are implemented, documented and in operational use		