AOP13 — Automated Assistance to Controller for Surface Movement Planning and Routing

Download Progress Report

The A-SMGCS Routing service provides the generation of taxi routes, with the corresponding estimated taxi time for planning considerations. Taxi routes may be modified by the controller before being assigned to aircraft and vehicles. These routes shall be available in the flight data processing system. Taxi times are continuously updated as the aircraft is operating on the airport surface.

The A-SMGCS Routing shall calculate the most operationally relevant route which permits the aircraft to go from stand to runway, from runway to stand or any other surface movement.

The controller working position shall allow the controller to manage surface route modification and creation if deemed necessary.

The flight data processing system shall be able to receive planned and cleared routes assigned to aircraft and vehicles and manage the status of the route for all concerned aircraft and vehicles.

Traffic will be controlled through the use of appropriate procedures allowing the issuance of information and clearances to traffic.

The A-SMGCS Routing Service should provide to external systems the estimated taxi-out time (EXOT) for aircraft as long as they are before pushback, if benefit provided compared to already existing A-CDM. External systems such as A-CDM might benefit from more accurate taxi times in order to enhance the pre-departure sequencing by providing accurate target take-off times (TTOT).

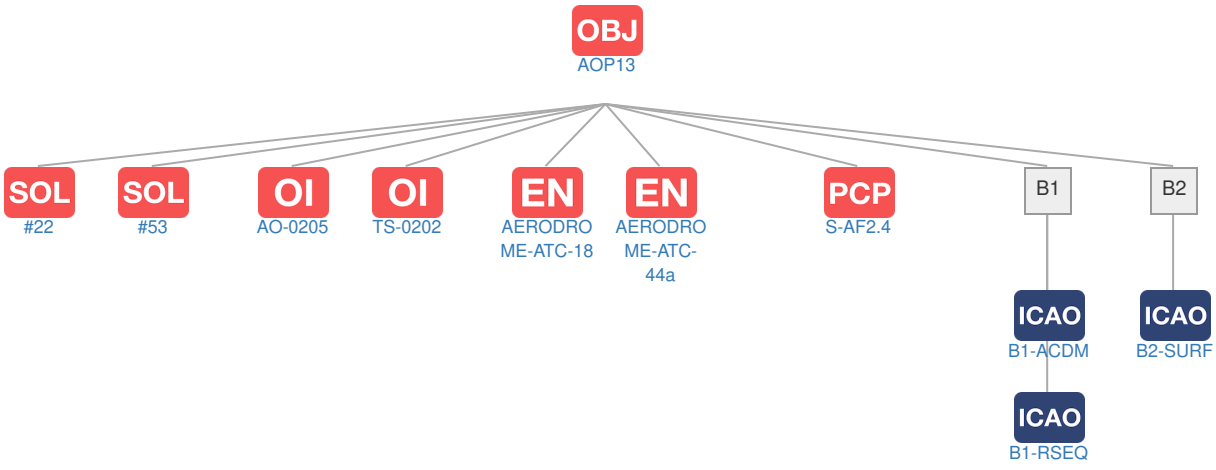
NOTE: For this objective, there is no requirement for the use of datalink for providing clearances to the pilot or vehicle driver (e.g. D-Taxi).

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.

Edition	2022
Stakeholders	Regulator / Air Navigation Service Provider
Type	SESAR
Scope	Airport
Status	Active

Context

Related Elements



Applicability Area(s) and Timescales

Applicability Area: See list of airports in MP Level 3 Implementation Plan - Annexes

Timescales	From	By	Applicable to
Initial operational capability	01-01-2016	-	Applicability Area
Full operational capability	-	31-12-2025	Applicability Area

Links to ATM Master Plan Level 2

OI Operational Improvment Steps

Code	Title	IOC	FOC	Related Elements
AO-0205	Automated Assistance to Controller for Surface Movement Planning and Routing	31-12-2021	31-12-2025	SOL OI EN OBJ DS PCP ICAO
TS-0202	Pre-Departure Sequencing supported by Route Planning	31-12-2019	31-12-2023	SOL OI EN OBJ DS ICAO

EN Enablers

Code	Title	IOC	Related Elements
AERODROME-ATC-18	Interfacing between DMAN and Routing module	31-12-2019	STK OI DS
AERODROME-ATC-44a	Departure sequence updated taking into account surface management information	31-12-2018	STK OI PCP

SOL Links to SESAR Solutions

Code	Title	Program	Related Elements
#22	Automated Assistance to Controller for Surface Movement Planning and Routing	SESAR1	SOL OI OBJ DS EOC PCP ICAO
#53	Pre-Departure Sequencing supported by Route Planning	SESAR1	SOL OI OBJ DS EOC ICAO

PCP Links to PCP ATM Sub-Functionalities

Code	Title	Related Elements
S-AF2.4	Automated Assistance to Controller for Surface Movement Planning and Routing	SOL OI EN OBJ ICAO

ICAO Block Modules

Designator		Title	Related Elements
B1			
	B1-ACDM	Optimized Airport Operations through A-CDM Total Airport Management	SOL OI OBJ PCP
	B1-RSEQ	Improved Airport operations through Departure, Surface and Arrival Management	SOL OI OBJ PCP
B2			
	B2-SURF	Optimized Surface Routing and Safety Benefits (A-SMGCS Level 3-4 and SVS)	SOL OI OBJ PCP

References

Applicable legislation
None
Applicable ICAO Annexes and other references
None
Deployment Programme 2022
-
Operating Environments
Airport

Expected Performance Benefits

Safety	Improved through increased controllers' situational awareness for all ground movements and potential conflicts resolution.
Capacity	Increased availability of taxiway resources and reduced total taxi time by ground movements. Improved traffic flow on the aerodrome's manoeuvring area.
Operational efficiency	Reduced fuel consumption due to reduced taxi time and reduced number of stops while taxiing.
Cost efficiency	-
Environment	Reduced environmental impact by reducing fuel consumption and then CO2 emissions.
Security	-

Stakeholder Lines of Action

Code	Title	From	By	Related Enablers
REG01	Coordination and final official approval of procedures by the local regulator is required	01-01-2016	31-12-2025	
ASP01	Upgrade ATS systems to support automated assistance to air traffic controllers for surface movement planning and routing	01-01-2016	31-12-2025	EN
ASP02	Ensure the planning and routing function is used to optimise pre-departure sequencing	01-01-2021	31-12-2025	EN
ASP03	Implement operational procedures implementing automated assistance to air traffic controllers for surface movement planning and routing	01-01-2016	31-12-2025	
ASP04	Develop, and deliver as necessary, a safety assessment of the changes imposed by the implementation of automated assistance to air traffic controllers for surface movement planning and routing	01-01-2016	31-12-2025	
ASP05	Train all operational personnel concerned in the use of automated assistance for surface movement planning and routing	01-01-2016	31-12-2025	

Supporting Material

Title	Related SLoAs
EUROCONTROL - Integrated Tower Working Position (ITWP) Baseline HMI Description - V1.0 / 10/2020 https://www.eurocontrol.int/publication/integrated-tower-working-position-itwp-human-machine-interface-hmi-description	ASP01
EUROCONTROL - SPEC-171 - EUROCONTROL Specification for Advanced-Surface Movement Guidance and Control System (A-SMGCS) Services - Edition 2.0 / 04/2020 https://www.eurocontrol.int/publication/eurocontrol-specification-smgcs-services	ASP01, ASP02, ASP03, ASP05
SJU - SESAR Solution 22: Data Pack for automated assistance to controller for surface movement planning and routing https://www.sesarju.eu/sesar-solutions/automated-assistance-controller-surface-movement-planning-and-routing	ASP01, ASP03, ASP04, ASP05, REG01
SJU - SESAR Solution 53: Data Pack for Pre-Departure Sequencing Supported by Route Planning https://www.sesarju.eu/sesar-solutions/pre-departure-sequencing-supported-route-planning	ASP02

Consultation & Approval

Working Arrangement in charge	Airport Operations Team (AOT)
Outline description approved in	-
Latest objective review at expert level	05/2018
Commitment Decision Body	Provisional Council (PC)
Objective approved/endorsed in	09/2016
Latest change to objective approved/endorsed in	-