OBJ AOP04.1 — Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance Service (former ICAO Level 1)

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Implement A-SMGCS Surveillance Service (former ICAO Level 1) which consists of an airport surface surveillance system that provides the Controller with the position and automatic identity of:

- All suitably equipped aircraft on the movement area;
- All suitably equipped vehicles on the maneuvering area.

A-SMGCS Surveillance data may be used to replace visual observation as required, in accordance with ICAO EUR Doc 7030, chapter 6.5.6 (approved March 2009), and as the basis of controller decision making. Traffic will be controlled through the use of appropriate procedures allowing the issuance of information and clearances to traffic on the basis of A-SMGCS Surveillance data.

Apron management units, airlines and other interested parties may also benefit from the provision of A-SMGCS Surveillance data.
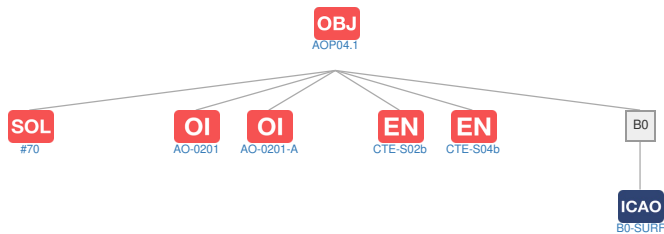
A-SMGCS Surveillance is a prerequisite for A-SMGCS Runway Monitoring and Conflict Alerting (RMCA former ICAO Level 2) as the first element of A-SMGCS Airport Safety Support service.

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 / Airport Operator / Airspace Users / International Organisations and Regional Bodies
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	01-01-2007	-	Applicability Area
Full operational capability	-	31-12-2020	Applicability Area

Links to ATM Master Plan Level 2

OI Operational Improvment Steps

Code	Title	IOC	FOC	Related Elements
AO-0201	Ground Controller Situational Awareness in all Weather Conditions	31-12-2006	31-12-2010	OI EN OBJ ICAO
AO-0201-A	Enhanced Ground Controller Situational Awareness in all Weather Conditions with ADS-B	31-12-2020	31-12-2024	SOL OI EN OBJ DS ICAO

EN Enablers

Code	Title	IOC	Related Elements
CTE-S02b	Surface Movement Radar	31-12-2007	STK OI EN OBJ ⚙
CTE-S04b	Airport Multilateration (MLAT)	31-12-2007	STK OI EN OBJ DS ⚙

SOL Links to SESAR Solutions

Code	Title	Program	Related Elements
#70	Enhanced Ground Controller Situation Awareness in all Weather Conditions	SESAR1	OI OBJ DS EOC ICAO

Source: European ATM Portal - **Report produced:** 09-04-2024 - **Date refresh:** 28-09-2023   Page 1 of 3

EATMA data version: EATMA V12.1 - **ATM Master Plan data set version:** Dataset 19 Public - **MP L3 Edition:** MP L3 Plan 2022

PCP Links to PCP ATM Sub-Functionalities

Code	Title	Related Elements
No record found		

ICAO Block Modules

Designator	Title	Related Elements
B0		
B0-SURF	Improved Runway Safety (A-SMGCS Level 1-2 and Cockpit Moving Map)	OI OBJ

References

Applicable legislation
None
Applicable ICAO Annexes and other references
ICAO Annex 10 - Telecommunications
ICAO Annex 14 - Aerodromes
Deployment Programme 2022
-
Operating Environments
Airport

Expected Performance Benefits

Safety	Through improved situational awareness of the controller, especially during periods of reduced visibility and darkness.
Capacity	Traffic throughput notably increased in low visibility conditions.
Operational efficiency	More efficient control of surface traffic.
Cost efficiency	-
Environment	Reduction in fuel burn and emissions.
Security	-

Stakeholder Lines of Action

Code	Title	From	By	Related Enablers
REG01	Mandate the carriage of required aircraft equipment to enable location and identification of aircraft on the movement area (including military aircraft, as appropriate)	01-01-2007	31-12-2010	
REG02	Mandate the carriage of required vehicle equipment to enable location and identification of vehicles on the manoeuvring area	01-01-2007	31-12-2010	
REG03	Publish A-SMGCS Surveillance procedures (including transponder operating procedures) in national aeronautical information publications	01-01-2007	31-12-2010	
REG04	Approve A-SMGCS Surveillance implementations for operation	DELETED		
ASP01	Install required surveillance equipment	01-01-2007	01-01-2021	EN
ASP02	Train aerodrome control staff in the use of A-SMGCS Surveillance in the provision of aerodrome control service	01-01-2007	01-01-2021	
ASP03	Implement approved A-SMGCS operational procedures at airports equipped with A-SMGCS	01-01-2007	01-01-2021	EN
APO01	Install required surveillance equipment	01-01-2007	01-01-2021	EN
APO02	Equip Ground Vehicles	01-01-2007	01-01-2021	
APO03	Train ground vehicle drivers	01-01-2007	01-01-2021	
USE01	Update aircrew training manual to include procedures for use of correct Mode-S transponder setting for enabling cooperative A-SMGCS detection on the movement area	FINALISED		
INT01	Coordinate amendments to the related ICAO documentation to include A-SMGCS (Surveillance Service - ICAO Level 1) procedures	FINALISED		

Source: European ATM Portal - **Report produced:** 09-04-2024 - **Date refresh:** 28-09-2023
EATMA data version: EATMA V12.1 - **ATM Master Plan data set version:** Dataset 19 Public - **MP L3 Edition:** MP L3 Plan 2022

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Supporting Material

Title

ETSI - EN 303 213-1 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 1: A-SMGCS Level 1 including external interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2
http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp

ETSI - EN 303 213-3 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 3: Deployed cooperative sensor including its interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 5
http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp

ETSI - EN 303 213-4-1 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Deployed non-cooperative sensor including its interfaces; Sub-part 1: Generic requirements for non-cooperative sensor; Community Specification for applic
http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp

ETSI - EN 303 213-4-2 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Deployed non-cooperative sensor including its interfaces; Sub-part 2: Specific requirements for a deployed Surface Movement Radar sensor; Community S
https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?
WKI_ID=58962&curItemNr=1&totalNrItems=1&optDisplay=10&qSORT=HIGHVERSION&qETSI_ALL=&SearchPage=TRUE&qETSI_NUMBER=303+213%2D4%2D2&qINCLUDE_SUB_TB=True&qINCLUDE_MOVED_ON=&qSTOP_FLG=&qKEYWORD_BOOLE

EUROCAE - ED-116 - Minimum Operational Performance Specification for Surface Movement Radar Sensor Systems for Use in A-SMGCS 01/2004
http://boutique.eurocae.net/catalog/index.php

EUROCAE - ED-117 Revision - A MOPS for Mode S Multilateration Systems for Use in Advanced Surface Movement Guidance and Control Systems (A-SMGCS)
https://eshop.eurocae.net/eurocae-documents-and-reports/ed-117a/

EUROCAE - ED-87E - MASPS for A-SMGCS including Airport Safety Support Service Routing Service and Guidance Service - April 2022 / 04/2022
https://www.eurocae.net/news/posts/2022/may/ed-87e-masps-for-a-smgcs-including-airport-safety-support-service-routing-service-and-guidance-service/

EUROCONTROL - ATCO Rating Training - Training Plans: Aerodrome Training - Annex B: Detailed Training Plans - Edition 1.0 / 03/2004
https://trainingzone.eurocontrol.int

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

ICAO - Doc 9774 - Manual on Certification of Aerodromes - Edition 1 / 12/2001
https://store.icao.int/

ICAO - Doc 9830 - Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual - Edition 1 / 12/2004
http://www.icao.int/publications/Pages/catalogue.aspx

Consultation & Approval

Working Arrangement in charge	Airport Operations Team (AOT)
Outline description approved in	-
Latest objective review at expert level	04/2012
Commitment Decision Body	Provisional Council (PC)
Objective approved/endorsed in	03/2003
Latest change to objective approved/endorsed in	07/2014