

SESAAR		Active							APT	
AOP04.1		Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance Service (former ICAO Level 1)								
REG	ASP	MIL	APO	USE	INT	IND	NM	MET	AIS	USP

Subject matter and scope

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.

Applicability Area(s) & Timescale(s)

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	

References

European ATM Master Plan

Ol step -	<a href="#">[AO-0201]-Ground Controller Situational Awareness in all Weather Conditions</a>									
	Enablers -	AERODROME -ATC-04	AERODROME -ATC-28	AERODROME -ATC-36	PRO-201a					
Ol step -	<a href="#">[AO-0201-A]-Enhanced Ground Controller Situational Awareness in all Weather Conditions with ADS-B</a>									
	Enablers -	A/C-48a	AERODROME -ATC-57 AOP11.2	AERODROME -ATC-59						
Ol step -	<a href="#">[POI-0071-SUR]-ADS-B Surveillance of aircraft in flight and on the airport surface</a>									
	Enablers -	CTE-S03b								
Ol step -	<a href="#">- No Ol Link -</a>									
	Enablers -	CTE-S02b	CTE-S04b							

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-
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Essential Operational Changes

Airport and TMA performance
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SESAAR Solution

#110 - ADS-B surveillance of aircraft in flight and on the surface, #70 - Enhanced Ground Controller Situation Awareness in all Weather Conditions
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ICAO GANP - ASBUs

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SURF-B0/2	Comprehensive situational awareness of surface operations
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Deployment Programme

- none -	
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European Plan for Aviation Safety

MST.029	Implementation of SESAR Runway safety solutions
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Operating Environments

Airport
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Stakeholder Lines of Action (SLoAs)

SloA ref.	Title	From	By
AOP04.1-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
AOP04.1-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
AOP04.1-REG03	Publish A-SMGCS Surveillance procedures (including transponder operating procedures) in national aeronautical information publications	01/01/2007	31/12/2010
AOP04.1-REG04	Approve A-SMGCS Surveillance implementations for operation	DELETED	
AOP04.1-ASP01	Install required surveillance equipment	01/01/2007	01/01/2021
AOP04.1-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
AOP04.1-ASP03	Implement approved A-SMGCS operational procedures at airports equipped with A-SMGCS	01/01/2007	01/01/2021
AOP04.1-APO01	Install required surveillance equipment	01/01/2007	01/01/2021
AOP04.1-APO02	Equip Ground Vehicles	01/01/2007	01/01/2021
AOP04.1-APO03	Train ground vehicle drivers	01/01/2007	01/01/2021
AOP04.1-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	
AOP04.1-INT01	Coordinate amendments to the related ICAO documentation to include A-SMGCS (Surveillance Service - ICAO Level 1) procedures	FINALISED	

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

Detailed SLoA Descriptions

AOP04.1-REG01	Mandate the carriage of required aircraft equipment to enable location and identification of aircraft on the movement area (including military aircraft, as appropriate)	From:	By:
		01/01/2007	31/12/2010
Action by:	State Authorities		
Description & purpose:	Mandate the equipage of aircraft operating into airports equipped with A-SMGCS Surveillance with the necessary systems to provide their position and identity to the A-SMGCS Surveillance system.		

AOP04.1	Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance Service (former ICAO Level 1)		
Supporting material(s):	<p>EUROCAE - ED-116 - Minimum Operational Performance Specification for Surface Movement Radar Sensor Systems for Use in A-SMGCS 01/2004  Url : <a href="http://boutique.eurocae.net/catalog/index.php">http://boutique.eurocae.net/catalog/index.php</a></p> <p>EUROCONTROL - SPEC-171 - EUROCONTROL Specification for Advanced-Surface Movement Guidance and Control System (A-SMGCS) Services - Edition 2.0 / 04/2020  Url : <a href="https://www.eurocontrol.int/publication/eurocontrol-specification-smgcs-services">https://www.eurocontrol.int/publication/eurocontrol-specification-smgcs-services</a></p> <p>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 552/2004 - Ver. 2.1.1 / 06/2020  Url : <a href="http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp">http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</a></p> <p>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 552/2004 - Ver. 2.1.1 / 06/2020  Url : <a href="http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp">http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</a></p> <p>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 application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 2.1.1. / 09/2020  Url : <a href="http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp">http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</a></p> <p>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 Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 2.1.1 / 09/2020  Url : <a href="https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?WKI_ID=58962&amp;curlItemNr=1&amp;totalNrItems=1&amp;optDisplay=10&amp;qSORT=HIGHVERSION&amp;qETSI_ALL=&amp;SearchPage=TRUE&amp;qETSI_NUMBER=303+213%2D4%2D2&amp;qINCLUDE_SUB_TB=True&amp;qINCLUDE_MOVED_ON=&amp;qSTOP_FLG=&amp;qKEYWORD_BOOLEAN=&amp;qCLUSTER_BOOLEAN=&amp;qFREQUENCIES_BOOLEAN=&amp;qSTOPPING_OUTDATED=&amp;butSimple=Search&amp;includeNonActiveTB=FALSE&amp;includeSubProjectCode=&amp;qREPORT_TYPE=SUMMARY">https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?WKI_ID=58962&amp;curlItemNr=1&amp;totalNrItems=1&amp;optDisplay=10&amp;qSORT=HIGHVERSION&amp;qETSI_ALL=&amp;SearchPage=TRUE&amp;qETSI_NUMBER=303+213%2D4%2D2&amp;qINCLUDE_SUB_TB=True&amp;qINCLUDE_MOVED_ON=&amp;qSTOP_FLG=&amp;qKEYWORD_BOOLEAN=&amp;qCLUSTER_BOOLEAN=&amp;qFREQUENCIES_BOOLEAN=&amp;qSTOPPING_OUTDATED=&amp;butSimple=Search&amp;includeNonActiveTB=FALSE&amp;includeSubProjectCode=&amp;qREPORT_TYPE=SUMMARY</a></p> <p>ICAO - Doc 9830 - Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual - Edition 1 / 12/2004  Url : <a href="http://www.icao.int/publications/Pages/catalogue.aspx">http://www.icao.int/publications/Pages/catalogue.aspx</a></p> <p>EUROCAE - ED-117 Revision - A MOPS for Mode S Multilateration Systems for Use in Advanced Surface Movement Guidance and Control Systems (A-SMGCS)  Url : <a href="https://eshop.eurocae.net/eurocae-documents-and-reports/ed-117a/">https://eshop.eurocae.net/eurocae-documents-and-reports/ed-117a/</a></p> <p>EUROCAE - ED-87E - MASPS for A-SMGCS including Airport Safety Support Service Routing Service and Guidance Service - April 2022 / 04/2022  Url : <a href="https://www.eurocae.net/news/posts/2022/may/ed-87e-masps-for-a-smgcs-including-airport-safety-support-service-routing-service-and-guidance-service/">https://www.eurocae.net/news/posts/2022/may/ed-87e-masps-for-a-smgcs-including-airport-safety-support-service-routing-service-and-guidance-service/</a></p>		
Finalisation criteria:	1 - Mandate to equip the aircraft operating into the airports equipped for A-SMGCS Surveillance with necessary systems to provide position and identity to A-SMGCS Surveillance system has been issued by the regulator. 2 - Airworthiness certificate has been issued by the regulator for aircraft equipped with A-SMGCS Surveillance capabilities. 3 - Transponder operating procedure published in AIP.		
AOP04.1-REG02	Mandate the carriage of required vehicle equipment to enable location and identification of vehicles on the manoeuvring area	From: 01/01/2007	By: 31/12/2010
Action by:			
Description & purpose:	Mandate the equipage of vehicles operating on the manoeuvring area of airports equipped with A-SMGCS Surveillance with the necessary systems to provide their position and identity to the A-SMGCS Surveillance system.		

AOP04.1	Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance Service (former ICAO Level 1)		
<b>Supporting material(s):</b>	<p>EUROCAE - ED-116 - Minimum Operational Performance Specification for Surface Movement Radar Sensor Systems for Use in A-SMGCS 01/2004  Url : <a href="http://boutique.eurocae.net/catalog/index.php">http://boutique.eurocae.net/catalog/index.php</a></p> <p>EUROCONTROL - SPEC-171 - EUROCONTROL Specification for Advanced-Surface Movement Guidance and Control System (A-SMGCS) Services - Edition 2.0 / 04/2020  Url : <a href="https://www.eurocontrol.int/publication/eurocontrol-specification-smgcs-services">https://www.eurocontrol.int/publication/eurocontrol-specification-smgcs-services</a></p> <p>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 552/2004 - Ver. 2.1.1 / 06/2020  Url : <a href="http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp">http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</a></p> <p>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 552/2004 - Ver. 2.1.1 / 06/2020  Url : <a href="http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp">http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</a></p> <p>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 application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 2.1.1. / 09/2020  Url : <a href="http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp">http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</a></p> <p>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 Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 2.1.1 / 09/2020  Url : <a href="https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?WKI_ID=58962&amp;curlItemNr=1&amp;totalNrItems=1&amp;optDisplay=10&amp;qSORT=HIGHVERSION&amp;qETSI_ALL=&amp;SearchPage=TRUE&amp;qETSI_NUMBER=303+213%2D4%2D2&amp;qINCLUDE_SUB_TB=True&amp;qINCLUDE_MOVED_ON=&amp;qSTOP_FLG=&amp;qKEYWORD_BOOLEAN=&amp;qCLUSTER_BOOLEAN=&amp;qFREQUENCIES_BOOLEAN=&amp;qSTOPPING_OUTDATED=&amp;butSimple=Search&amp;includeNonActiveTB=FALSE&amp;includeSubProjectCode=&amp;qREPORT_TYPE=SUMMARY">https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?WKI_ID=58962&amp;curlItemNr=1&amp;totalNrItems=1&amp;optDisplay=10&amp;qSORT=HIGHVERSION&amp;qETSI_ALL=&amp;SearchPage=TRUE&amp;qETSI_NUMBER=303+213%2D4%2D2&amp;qINCLUDE_SUB_TB=True&amp;qINCLUDE_MOVED_ON=&amp;qSTOP_FLG=&amp;qKEYWORD_BOOLEAN=&amp;qCLUSTER_BOOLEAN=&amp;qFREQUENCIES_BOOLEAN=&amp;qSTOPPING_OUTDATED=&amp;butSimple=Search&amp;includeNonActiveTB=FALSE&amp;includeSubProjectCode=&amp;qREPORT_TYPE=SUMMARY</a></p> <p>ICAO - Doc 9774 - Manual on Certification of Aerodromes - Edition 1 / 12/2001  Url : <a href="https://store.icao.int/">https://store.icao.int/</a></p> <p>ICAO - Doc 9830 - Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual - Edition 1 / 12/2004  Url : <a href="http://www.icao.int/publications/Pages/catalogue.aspx">http://www.icao.int/publications/Pages/catalogue.aspx</a></p> <p>EUROCAE - ED-117 Revision - A MOPS for Mode S Multilateration Systems for Use in Advanced Surface Movement Guidance and Control Systems (A-SMGCS)  Url : <a href="https://eshop.eurocae.net/eurocae-documents-and-reports/ed-117a/">https://eshop.eurocae.net/eurocae-documents-and-reports/ed-117a/</a></p> <p>EUROCAE - ED-87E - MASPS for A-SMGCS including Airport Safety Support Service Routing Service and Guidance Service - April 2022 / 04/2022  Url : <a href="https://www.eurocae.net/news/posts/2022/may/ed-87e-masps-for-a-smgcs-including-airport-safety-support-service-routing-service-and-guidance-service/">https://www.eurocae.net/news/posts/2022/may/ed-87e-masps-for-a-smgcs-including-airport-safety-support-service-routing-service-and-guidance-service/</a></p>		
<b>Finalisation criteria:</b>	<p>1 - Mandate to equip the vehicles operating on the manoeuvring area of the airports equipped with A-SMGCS Surveillance with necessary systems to provide position and identity to A-SMGCS surveillance system has been issued by the regulator.</p> <p>2 - Operating certificate has been issued by the regulator for the vehicles equipped with A-SMGCS Surveillance capabilities.</p>		
<b>AOP04.1-REG03</b>	<b>Publish A-SMGCS Surveillance procedures (including transponder operating procedures) in national aeronautical information publications</b>	From: 01/01/2007	By: 31/12/2010
<b>Action by:</b>	<b>State Authorities</b>		
<b>Description &amp; purpose:</b>	Incorporate the agreed and validated A-SMGCS Surveillance operating procedures into national aeronautical information publications.		

AOP04.1	Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance Service (former ICAO Level 1)		
<b>Supporting material(s):</b>	<p>EUROCAE - ED-116 - Minimum Operational Performance Specification for Surface Movement Radar Sensor Systems for Use in A-SMGCS 01/2004  Url : <a href="http://boutique.eurocae.net/catalog/index.php">http://boutique.eurocae.net/catalog/index.php</a></p> <p>EUROCONTROL - SPEC-171 - EUROCONTROL Specification for Advanced-Surface Movement Guidance and Control System (A-SMGCS) Services - Edition 2.0 / 04/2020  Url : <a href="https://www.eurocontrol.int/publication/eurocontrol-specification-smgcs-services">https://www.eurocontrol.int/publication/eurocontrol-specification-smgcs-services</a></p> <p>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 552/2004 - Ver. 2.1.1 / 06/2020  Url : <a href="http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp">http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</a></p> <p>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 552/2004 - Ver. 2.1.1 / 06/2020  Url : <a href="http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp">http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</a></p> <p>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 application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 2.1.1. / 09/2020  Url : <a href="http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp">http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</a></p> <p>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 Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 2.1.1 / 09/2020  Url : <a href="https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?WKI_ID=58962&amp;curlItemNr=1&amp;totalNrItems=1&amp;optDisplay=10&amp;qSORT=HIGHVERSION&amp;qETSI_ALL=&amp;SearchPage=TRUE&amp;qETSI_NUMBER=303+213%2D4%2D2&amp;qINCLUDE_SUB_TB=True&amp;qINCLUDE_MOVED_ON=&amp;qSTOP_FLG=&amp;qKEYWORD_BOOLEAN=&amp;qCLUSTER_BOOLEAN=&amp;qFREQUENCIES_BOOLEAN=&amp;qSTOPPING_OUTDATED=&amp;butSimple=Search&amp;includeNonActiveTB=FALSE&amp;includeSubProjectCode=&amp;qREPORT_TYPE=SUMMARY">https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?WKI_ID=58962&amp;curlItemNr=1&amp;totalNrItems=1&amp;optDisplay=10&amp;qSORT=HIGHVERSION&amp;qETSI_ALL=&amp;SearchPage=TRUE&amp;qETSI_NUMBER=303+213%2D4%2D2&amp;qINCLUDE_SUB_TB=True&amp;qINCLUDE_MOVED_ON=&amp;qSTOP_FLG=&amp;qKEYWORD_BOOLEAN=&amp;qCLUSTER_BOOLEAN=&amp;qFREQUENCIES_BOOLEAN=&amp;qSTOPPING_OUTDATED=&amp;butSimple=Search&amp;includeNonActiveTB=FALSE&amp;includeSubProjectCode=&amp;qREPORT_TYPE=SUMMARY</a></p> <p>ICAO - Doc 9774 - Manual on Certification of Aerodromes - Edition 1 / 12/2001  Url : <a href="https://store.icao.int/">https://store.icao.int/</a></p> <p>ICAO - Doc 9830 - Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual - Edition 1 / 12/2004  Url : <a href="http://www.icao.int/publications/Pages/catalogue.aspx">http://www.icao.int/publications/Pages/catalogue.aspx</a></p> <p>EUROCAE - ED-117 Revision - A MOPS for Mode S Multilateration Systems for Use in Advanced Surface Movement Guidance and Control Systems (A-SMGCS)  Url : <a href="https://eshop.eurocae.net/eurocae-documents-and-reports/ed-117a/">https://eshop.eurocae.net/eurocae-documents-and-reports/ed-117a/</a></p> <p>EUROCAE - ED-87E - MASPS for A-SMGCS including Airport Safety Support Service Routing Service and Guidance Service - April 2022 / 04/2022  Url : <a href="https://www.eurocae.net/news/posts/2022/may/ed-87e-masps-for-a-smgcs-including-airport-safety-support-service-routing-service-and-guidance-service/">https://www.eurocae.net/news/posts/2022/may/ed-87e-masps-for-a-smgcs-including-airport-safety-support-service-routing-service-and-guidance-service/</a></p>		
<b>Finalisation criteria:</b>	1 - Agreed and validated procedures have been incorporated into national aeronautical information publication (AIP). 2 - Transponder operating procedure published in AIP.		
<b>AOP04.1-ASP01</b>	<b>Install required surveillance equipment</b>	From: 01/01/2007	By: 01/01/2021
<b>Action by:</b>	<b>ANS Providers</b>		
<b>Description &amp; purpose:</b>	Install all the surveillance equipment and related systems as specified in the specifications for A-SMGCS Surveillance, in order to enable aerodrome controllers to locate and identify aircraft and vehicles on the manoeuvring area (in co-operation with Airport operators, as appropriate). Such equipment must include both non-cooperative sensors (e.g. SMR) and co-operative sensors (e.g. Mode S Multilateration, ADS-B).		

<b>AOP04.1</b>	<b>Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance Service (former ICAO Level 1)</b>		
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<b>Supporting material(s):</b>	<p>EUROCAE - ED-116 - Minimum Operational Performance Specification for Surface Movement Radar Sensor Systems for Use in A-SMGCS 01/2004          Url : <a href="http://boutique.eurocae.net/catalog/index.php">http://boutique.eurocae.net/catalog/index.php</a></p> <p>EUROCONTROL - SPEC-171 - EUROCONTROL Specification for Advanced-Surface Movement Guidance and Control System (A-SMGCS) Services - Edition 2.0 / 04/2020          Url : <a href="https://www.eurocontrol.int/publication/eurocontrol-specification-smgcs-services">https://www.eurocontrol.int/publication/eurocontrol-specification-smgcs-services</a></p> <p>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 552/2004 - Ver. 2.1.1 / 06/2020          Url : <a href="http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp">http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</a></p> <p>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 552/2004 - Ver. 2.1.1 / 06/2020          Url : <a href="http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp">http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</a></p> <p>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 application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 2.1.1. / 09/2020          Url : <a href="http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp">http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</a></p> <p>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 Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 2.1.1 / 09/2020          Url : <a href="https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?WKI_ID=58962&amp;curItemNr=1&amp;totalNrItems=1&amp;optDisplay=10&amp;qSORT=HIGHVERSION&amp;qETSI_ALL=&amp;SearchPage=T RUE&amp;qETSI_NUMBER=303+213%2D4%2D2&amp;qINCLUDE_SUB_TB=True&amp;qINCLUDE_MOVED_ON=&amp;qSTOP_FLG=&amp;qKEYWORD_BOOLEAN=&amp;qCLUSTER_BOOLEAN=&amp;qFREQUENCIES_BOOLEAN=&amp;qSTOPPING_OUTDATED=&amp;butSimple=Search&amp;includeNonActiveTB=F ALSE&amp;includeSubProjectCode=&amp;qREPORT_TYPE=SUMMARY">https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?WKI_ID=58962&amp;curItemNr=1&amp;totalNrItems=1&amp;optDisplay=10&amp;qSORT=HIGHVERSION&amp;qETSI_ALL=&amp;SearchPage=T RUE&amp;qETSI_NUMBER=303+213%2D4%2D2&amp;qINCLUDE_SUB_TB=True&amp;qINCLUDE_MOVED_ON=&amp;qSTOP_FLG=&amp;qKEYWORD_BOOLEAN=&amp;qCLUSTER_BOOLEAN=&amp;qFREQUENCIES_BOOLEAN=&amp;qSTOPPING_OUTDATED=&amp;butSimple=Search&amp;includeNonActiveTB=F ALSE&amp;includeSubProjectCode=&amp;qREPORT_TYPE=SUMMARY</a></p> <p>ICAO - Doc 9830 - Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual - Edition 1 / 12/2004          Url : <a href="http://www.icao.int/publications/Pages/catalogue.aspx">http://www.icao.int/publications/Pages/catalogue.aspx</a></p> <p>EUROCAE - ED-117 Revision - A MOPS for Mode S Multilateration Systems for Use in Advanced Surface Movement Guidance and Control Systems (A-SMGCS)          Url : <a href="https://eshop.eurocae.net/eurocae-documents-and-reports/ed-117a/">https://eshop.eurocae.net/eurocae-documents-and-reports/ed-117a/</a></p> <p>EUROCAE - ED-87E - MASPS for A-SMGCS including Airport Safety Support Service Routing Service and Guidance Service - April 2022 / 04/2022          Url : <a href="https://www.eurocae.net/news/posts/2022/may/ed-87e-masps-for-a-smgcs-including-airport-safety-support-service-routing-service-and-guidance-service/">https://www.eurocae.net/news/posts/2022/may/ed-87e-masps-for-a-smgcs-including-airport-safety-support-service-routing-service-and-guidance-service/</a></p>		
<b>ATM Master Plan relationship:</b>	<p><a href="#">[AERODROME-ATC-04]-ANSP Civil ATS Aerodrome service providers (incl. Civil AMS Apron Management Service)</a></p> <p><a href="#">[AERODROME-ATC-28]-Surface movement control workstation equipped with initial tools for Aerodrome Control Service</a></p> <p><a href="#">[AERODROME-ATC-36]-Airport surveillance data processing and distribution upgraded to store and forward flight plan data</a></p> <p><a href="#">[AERODROME-ATC-59]-Enhanced Surveillance data processing on Airport Surface (APT)</a></p> <p><a href="#">[CTE-S02b]-Surface Movement Radar</a></p> <p><a href="#">[CTE-S03b]-ADS-B station for RAD and APT surveillance</a></p> <p><a href="#">[CTE-S04b]-Airport Multilateration (MLAT)</a></p>		
<b>Finalisation criteria:</b>	1 - Surveillance equipment that meets required performance specifications have been installed.		
<b>AOP04.1-ASP02</b>	<b>Train aerodrome control staff in the use of A-SMGCS Surveillance in the provision of aerodrome control service</b>	<b>From:</b> 01/01/2007	<b>By:</b> 01/01/2021
<b>Action by:</b>	<b>ANS Providers</b>		
<b>Description &amp; purpose:</b>	Train aerodrome controllers in the use of A-SMGCS Surveillance tools and procedures (including phraseology) in accordance with agreed training requirements.		
<b>Supporting material(s):</b>	<p>EUROCONTROL - SPEC-171 - EUROCONTROL Specification for Advanced-Surface Movement Guidance and Control System (A-SMGCS) Services - Edition 2.0 / 04/2020          Url : <a href="https://www.eurocontrol.int/publication/eurocontrol-specification-smgcs-services">https://www.eurocontrol.int/publication/eurocontrol-specification-smgcs-services</a></p> <p>EUROCONTROL - ATCO Rating Training - Training Plans: Aerodrome Training - Annex B: Detailed Training Plans - Edition 1.0 / 03/2004          Url : <a href="https://trainingzone.eurocontrol.int">https://trainingzone.eurocontrol.int</a></p>		



<b>AOP04.1</b>	<b>Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance Service (former ICAO Level 1)</b>		
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<b>Finalisation criteria:</b>	1 - Controllers' training has been completed in accordance with agreed training requirements and programme.		
<b>AOP04.1-ASP03</b>	<b>Implement approved A-SMGCS operational procedures at airports equipped with A-SMGCS</b>	<b>From:</b> 01/01/2007	<b>By:</b> 01/01/2021
<b>Action by:</b>	<b>ANS Providers</b>		
<b>Description &amp; purpose:</b>	Develop and apply agreed and validated A-SMGCS Surveillance procedures as an integral part of the aerodrome control service.		
<b>Supporting material(s):</b>	EUROCONTROL - SPEC-171 - EUROCONTROL Specification for Advanced-Surface Movement Guidance and Control System (A-SMGCS) Services - Edition 2.0 / 04/2020 Url : <a href="https://www.eurocontrol.int/publication/eurocontrol-specification-smgcs-services">https://www.eurocontrol.int/publication/eurocontrol-specification-smgcs-services</a>		
<b>ATM Master Plan relationship:</b>	<a href="#">[PRO-201a]-Procedures linked to Improvement of Surveillance on the Manoeuvring Area on and around the Runway</a>		
<b>Finalisation criteria:</b>	1 - Implementation of the procedures at airports equipped with A-SMGCS Surveillance has been completed. 2 - Harmonised application of transponder operating procedures consistent with the equipment in use.		
<b>AOP04.1-APO01</b>	<b>Install required surveillance equipment</b>	<b>From:</b> 01/01/2007	<b>By:</b> 01/01/2021
<b>Action by:</b>	<b>Airport Operators</b>		
<b>Description &amp; purpose:</b>	Install all the surveillance equipment and related systems as specified in the functional specifications for A-SMGCS, in order to enable aerodrome controllers to locate and identify aircraft and vehicles on the manoeuvring area (in co-operation with ANS provider, as appropriate). Such equipment must include both non-cooperative sensors (e.g. SMR) and co-operative sensors (e.g. Mode S Multilateration, ADS-B).		
<b>Supporting material(s):</b>	EUROCAE - ED-116 - Minimum Operational Performance Specification for Surface Movement Radar Sensor Systems for Use in A-SMGCS 01/2004 Url : <a href="http://boutique.eurocae.net/catalog/index.php">http://boutique.eurocae.net/catalog/index.php</a> EUROCONTROL - SPEC-171 - EUROCONTROL Specification for Advanced-Surface Movement Guidance and Control System (A-SMGCS) Services - Edition 2.0 / 04/2020 Url : <a href="https://www.eurocontrol.int/publication/eurocontrol-specification-smgcs-services">https://www.eurocontrol.int/publication/eurocontrol-specification-smgcs-services</a> 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 552/2004 - Ver. 2.1.1 / 06/2020 Url : <a href="http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp">http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</a> 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 552/2004 - Ver. 2.1.1 / 06/2020 Url : <a href="http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp">http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</a> 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 application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 2.1.1. / 09/2020 Url : <a href="http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp">http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</a> 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 Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 2.1.1 / 09/2020 Url : <a href="https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?WKI_ID=58962&amp;curlItemNr=1&amp;totalNrItems=1&amp;optDisplay=10&amp;qSORT=HIGHVERSION&amp;qETSI_ALL=&amp;SearchPage=TRUE&amp;qETSI_NUMBER=303+213%2D4%2D2&amp;qINCLUDE_SUB_TB=True&amp;qINCLUDE_MOVED_ON=&amp;qSTOP_FLG=&amp;qKEYWORD_BOOLEAN=&amp;qCLUSTER_BOOLEAN=&amp;qFREQUENCIES_BOOLEAN=&amp;qSTOPPING_OUTDATED=&amp;butSimple=Search&amp;includeNonActiveTB=FALSE&amp;includeSubProjectCode=&amp;qREPORT_TYPE=SUMMARY">https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?WKI_ID=58962&amp;curlItemNr=1&amp;totalNrItems=1&amp;optDisplay=10&amp;qSORT=HIGHVERSION&amp;qETSI_ALL=&amp;SearchPage=TRUE&amp;qETSI_NUMBER=303+213%2D4%2D2&amp;qINCLUDE_SUB_TB=True&amp;qINCLUDE_MOVED_ON=&amp;qSTOP_FLG=&amp;qKEYWORD_BOOLEAN=&amp;qCLUSTER_BOOLEAN=&amp;qFREQUENCIES_BOOLEAN=&amp;qSTOPPING_OUTDATED=&amp;butSimple=Search&amp;includeNonActiveTB=FALSE&amp;includeSubProjectCode=&amp;qREPORT_TYPE=SUMMARY</a> ICAO - Doc 9830 - Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual - Edition 1 / 12/2004 Url : <a href="http://www.icao.int/publications/Pages/catalogue.aspx">http://www.icao.int/publications/Pages/catalogue.aspx</a> EUROCAE - ED-117 Revision - A MOPS for Mode S Multilateration Systems for Use in Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Url : <a href="https://eshop.eurocae.net/eurocae-documents-and-reports/ed-117a/">https://eshop.eurocae.net/eurocae-documents-and-reports/ed-117a/</a> EUROCAE - ED-87E - MASPS for A-SMGCS including Airport Safety Support Service Routing Service and Guidance Service - April 2022 / 04/2022 Url : <a href="https://www.eurocae.net/news/posts/2022/may/ed-87e-masps-for-a-smgcs-including-airport-safety-support-service-routing-service-and-guidance-service/">https://www.eurocae.net/news/posts/2022/may/ed-87e-masps-for-a-smgcs-including-airport-safety-support-service-routing-service-and-guidance-service/</a>		

AOP04.1		Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance Service (former ICAO Level 1)	
ATM Master Plan relationship:	<a href="#">[AERODROME-ATC-04]-ANSP Civil ATS Aerodrome service providers (incl. Civil AMS Apron Management Service)</a> <a href="#">[AERODROME-ATC-28]-Surface movement control workstation equipped with initial tools for Aerodrome Control Service</a> <a href="#">[AERODROME-ATC-36]-Airport surveillance data processing and distribution upgraded to store and forward flight plan data</a> <a href="#">[AERODROME-ATC-59]-Enhanced Surveillance data processing on Airport Surface (APT)</a>		
Finalisation criteria:	1 - Surveillance equipment that meets agreed performance specifications has been installed.		
AOP04.1-APO02	Equip Ground Vehicles	From: 01/01/2007	By: 01/01/2021
Action by:	Airport Operators		
Description & purpose:	Ensure vehicles operating on the manoeuvring area of airports equipped with A-SMGCS Surveillance are equipped with the necessary systems as specified in the functional specifications for A-SMGCS, to provide their position and identity to the A-SMGCS Surveillance system.		
Supporting material(s):	EUROCONTROL - SPEC-171 - EUROCONTROL Specification for Advanced-Surface Movement Guidance and Control System (A-SMGCS) Services - Edition 2.0 / 04/2020 Url : <a href="https://www.eurocontrol.int/publication/eurocontrol-specification-smgcs-services">https://www.eurocontrol.int/publication/eurocontrol-specification-smgcs-services</a>		
Finalisation criteria:	1 - Vehicle equipment that meets required performance specifications has been installed.		
AOP04.1-APO03	Train ground vehicle drivers	From: 01/01/2007	By: 01/01/2021
Action by:	Airport Operators		
Description & purpose:	Ensure drivers of vehicles operating on the manoeuvring area of airports equipped with A-SMGCS Surveillance are trained in the operation of equipment associated with A-SMGCS Surveillance.		
Supporting material(s):	EUROCONTROL - SPEC-171 - EUROCONTROL Specification for Advanced-Surface Movement Guidance and Control System (A-SMGCS) Services - Edition 2.0 / 04/2020 Url : <a href="https://www.eurocontrol.int/publication/eurocontrol-specification-smgcs-services">https://www.eurocontrol.int/publication/eurocontrol-specification-smgcs-services</a>		
Finalisation criteria:	1 - Vehicle drivers have been trained and authorized.		
AOP04.1-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	From: 01/01/2004	By: 01/01/2021
Action by:	Airspace Users		
Description & purpose:	Perform the training of aircrew in the use of aircraft equipment and procedures in accordance with A-SMGCS Surveillance.		
Supporting material(s):	EUROCONTROL - Mode S Transponder in an Airport/A-SMGCS Environment - Edition 1.1 / 05/2005 Url : <a href="https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs">https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs</a>		
Finalisation criteria:	1 - Procedures for use of correct Mode-S transponder setting for enabling co-operative A-SMGCS detection on the movement area have been incorporated in the pilot ab-initio and recurrent training programmes		
AOP04.1-INT01	Coordinate amendments to the related ICAO documentation to include A-SMGCS (Surveillance Service - ICAO Level 1) procedures	From: 01/11/2004	By: 31/12/2011
Action by:	EUROCONTROL Agency		
Description & purpose:	Obtain the incorporation of A-SMGCS (Surveillance Service - ICAO Level 1) related procedures (including phraseology) into ICAO documentation.		
Finalisation criteria:	1 - Proposed A-SMGCS Level 1 procedures have been adopted by ICAO and published in ICAO documents (i.e. Doc. 4444, and/or Doc. 7030).		



