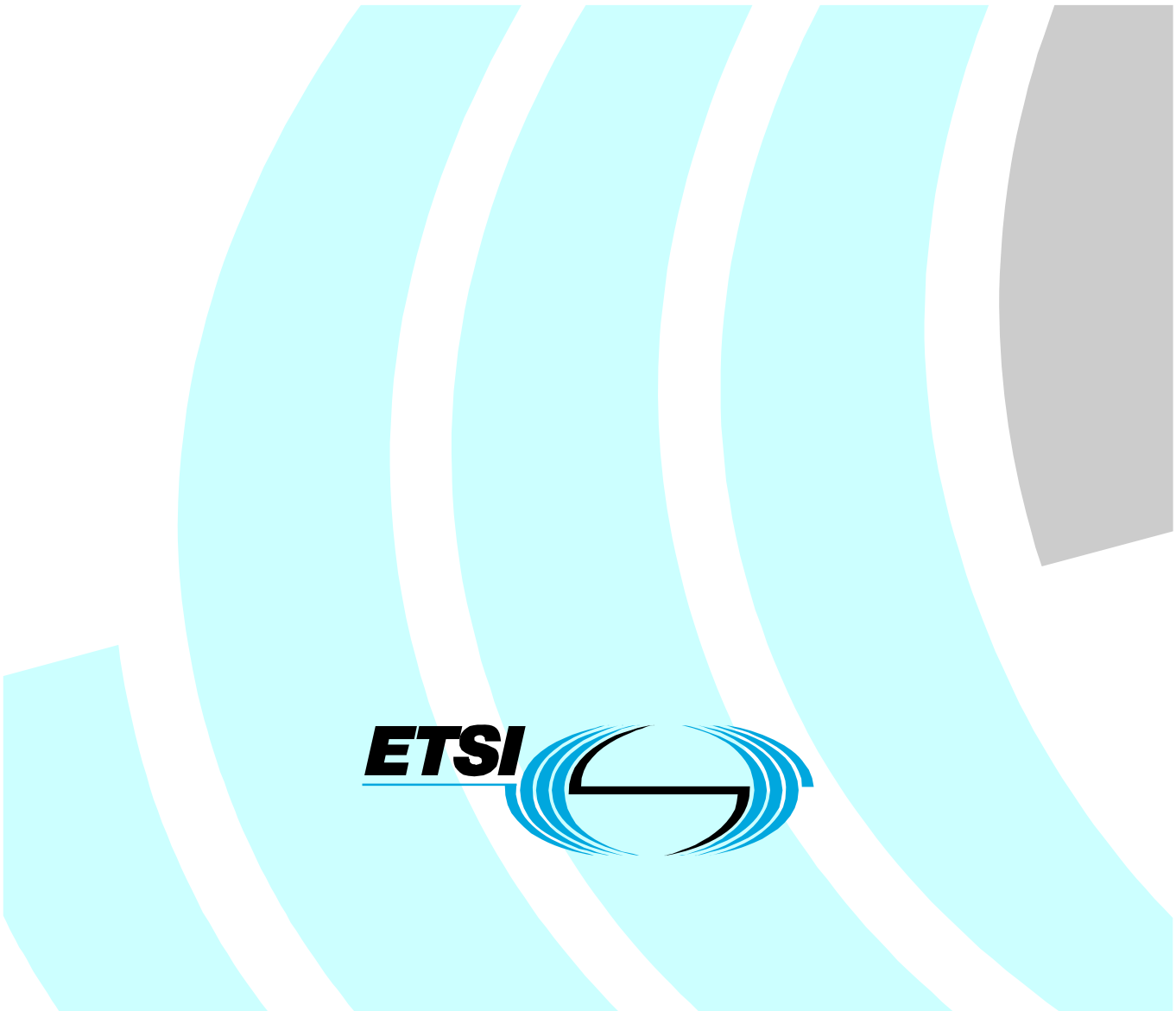
ETSI EN 303 213-4-2 V1.1.1 (2010-10)

European Standard (Telecommunications series)

Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 for a deployed non-cooperative sensor including its interfaces; Sub-part 2: Specific requirements for a deployed Surface Movement Radar sensor



Reference
DEN/AERO-00001-4-2

Keywords
air traffic management, aeronautical,
interoperability

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

Individual copies of the present document can be downloaded from:
http://www.etsi.org

The present document may be made available in more than one electronic version or in print. In any case of existing or perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF). In case of dispute, the reference shall be the printing on ETSI printers of the PDF version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status.
Information on the current status of this and other ETSI documents is available at
http://portal.etsi.org/tb/status/status.asp

If you find errors in the present document, please send your comment to one of the following services:
http://portal.etsi.org/chaircor/ETSI_support.asp

Copyright Notification

Contents

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (http://webapp.etsi.org/IPR/home.asp).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Aeronautics (AERO).

The present document has been produced by ETSI in response to European Commission mandate M/390 for the Interoperability of the European Air Traffic Management Network.

The present document has been developed in cooperation with Eurocae for compliance with the Essential Requirements of the Single European Sky Interoperability Regulation 552/2004 [i.1] and/or requirements given in implementing rules for interoperability based on the Single European Sky Interoperability Regulation.

The presumption of conformity which is linked to the full application of EN 303 213 (parts 1 to 4) can only be claimed after EN 303 213 (parts 1 to 4) has been listed in the Official Journal of the European Union as Community Specification.

General and specific requirements for presumption of conformity to SES Interoperability Regulation 552/2004 as amended by Regulation 1070/2009 are given in the normative annexes of the present document.

NOTE: Other requirements and other EU Regulations and/or Directives may be applicable to the product(s) falling within the scope of the present document.

If the present document gives no presumption of conformity, the manufacturer has to demonstrate the compliance for those essential requirements listed in the normative annexes of the present document by its own to the relevant supervisory authority.

The present document is part 4, sub-part 2 of a multi-part deliverable covering Advanced Surface Movement Guidance and Control System (A-SMGCS), as identified below:

Part 1: "Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 for A-SMGCS Level 1 including external interfaces";

Part 2: "Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 for A-SMGCS Level 2 including external interfaces";

Part 3: "Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 for a deployed cooperative sensor including its interfaces";

Part 4: "Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 for a deployed non-cooperative sensor including its interfaces ";

Sub-part 1: "Generic requirement for non-cooperative sensor";

Sub-part 2: "Specific requirements for a deployed Surface Movement Radar sensor".

Part 5: "Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive for transmitter used in multilateration equipment";

Part 6: "Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive for deployed surface movement radar sensors".

National transposition dates	
Date of adoption of this EN:	15 October 2010
Date of latest announcement of this EN (doa):	31 January 2011
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 July 2011
Date of withdrawal of any conflicting National Standard (dow):	31 July 2012

Introduction

The European Union launched the Legislation "Single European Sky" (SES) in 2002 which was adopted in 2004 and amended by Regulation (EC) No 1070/2009 [i.5].

The SES legislation is based on a framework of 4 regulations, which includes "the Interoperability Regulation" (EC 552/2004 [i.1]). The objective of the Interoperability Regulation is to ensure interoperability of the European Air Traffic Management Network (EATMN) consistent with air navigation services. Under this regulation, the use of a European Standard referenced in the Official Journal of the European Union as Community Specification (CS) is a means of compliance to the essential requirements of the Regulation and/or the relevant implementing rules for interoperability.

The present document takes into account the Council Decision 2009/320/EC endorsing the European Air Traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project [i.3].

1 Scope

The present document is applicable to deployed Surface Movement Radar sensor as a constituent of an Advanced Surface Movement Guidance and Control System in addition to EN 303 213-4-1 [2].

The present document provides a European Standard for manufacturers of the non-cooperative sensor constituent, who have to demonstrate and declare conformity for their constituent to the IOP Regulation.

Any software elements related to the software assurance level of an A-SMGCS are outside of the scope of the present document. As such the essential requirements of the Interoperability Regulation are not considered for software elements within the present document.

The present document does not give presumption of conformity related to the environmental constraints, procedure level, effect of harmful interference and civil/military coordination.

NOTE 1: For these ERs, please refer to the Air Navigation Service Provider procedures.

NOTE 2: For those parts of the essential requirements, where annexes A and SA give no presumption of conformity, please refer to the Air Navigation Service Provider procedures.

Requirements in the present document which refer to "should" statements or recommendations in the normatively referenced material (clause 2.1) are to be interpreted as fully normative ("shall") for the purpose of compliance with the present document.

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at http://docbox.etsi.org/Reference.

NOTE: While any hyperlinks included in this clause were valid at the time of publication ETSI cannot guarantee their long term validity.

2.1 Normative references

The following referenced documents are necessary for the application of the present document.

[1] EUROCAE ED-116 (ED-116 January 2004): "MOPS for Surface Movement Radar Sensor Systems for Use in A-SMGCS".

[2] ETSI EN 303 213-4-1: "Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 for a deployed non-cooperative sensor including its interfaces; Sub-part 1: Generic requirements for non-cooperative sensor".

2.2 Informative references

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] Regulation (EC) No 552/2004 of the regulation of the European Parliament and of the Council of 10 March 2004 on the interoperability of the European Air Traffic Management network (interoperability Regulation), OJ L 96, 31.03.2004 as amended by Regulation (EC) No 1070/2009.

[i.2] Regulation (EC) No 549/2004 of the European Parliament and of the Council of 10 March 2004 laying down the framework for the creation of the single European sky (the framework Regulation), OJ L 96, 31.03.2004 as amended by Regulation (EC) No 1070/2009.

[i.3] Council Decision 2009/320/EC endorsing the European Air Traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project, 30.03.2009.

[i.4] ICAO Document 9830, AN/452, Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual, First Edition, 2004.

[i.5] Regulation (EC) No 1070/2009 of the European Parliament and of the Council of 21 October 2009 amending Regulations (EC) No 549/2004, (EC) No 550/2004, (EC) No 551/2004 and (EC) No 552/2004 in order to improve the performance and sustainability of the European aviation system, OJ L 300, 14.11.2009.

[i.6] ETSI EN 303 213-1: "Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 1: Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 for A-SMGCS Level 1 including external interfaces".

[i.7] ETSI EN 303 213-2: "Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 2: Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 for A-SMGCS Level 2 including external interfaces".

[i.8] ETSI EN 303 213-3: "Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 3: Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 for a deployed cooperative sensor including its interfaces".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

A-SMGCS Level 1: A-SMGCS including a comprehensive Surveillance element capable of the location and classification of all aircraft and vehicles within the area of interest and the identification of cooperative aircraft and vehicles

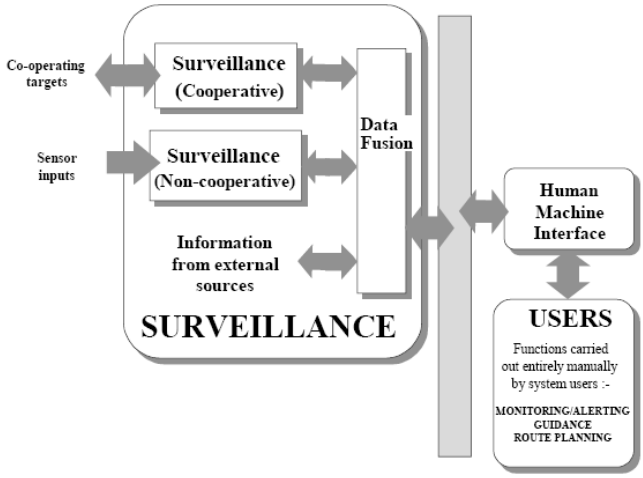


Figure 1: A-SMGCS Level 1 Functional Configuration

A-SMGCS Level 2: A-SMGCS including the capabilities of A-SMGCS Level 1 and uses the comprehensive surveillance data available to monitor the situation in the area of interest against a set of rules which will enable the system to alert the user to hazardous situations

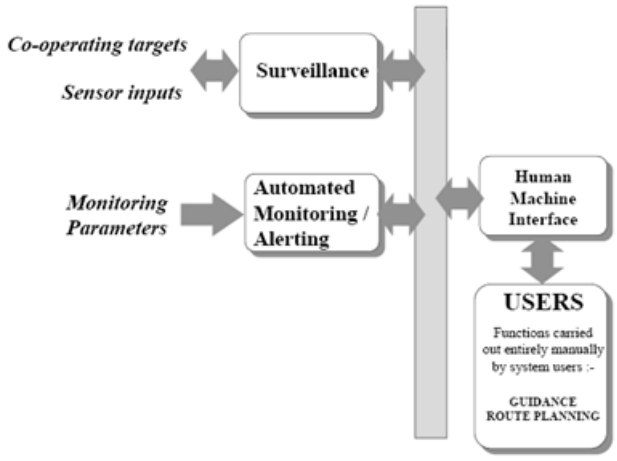


Figure 2: A-SMGCS Level 2 Functional Configuration

Advanced Surface Movement Guidance and Control Systems: systems providing routing, guidance, surveillance for the control of aircraft and vehicles in order to maintain the declared surface movement rate under all local weather conditions within the aerodrome Visibility Operational Level (AVOL) while maintaining the required level of safety

NOTE: This definition is derived from the ICAO Document 9830 [i.4].

aerodrome: defined area on land or water (including any buildings, installations, and equipment) intended to be used either wholly or in part for arrival, departure and surface movement of aircraft

NOTE: This definition is derived from the ICAO Document 9830 [i.4].

apron: defined area on a land aerodrome, intended to accommodate aircraft for purposes of loading or unloading passengers, mail or cargo, fuelling, parking or maintenance

NOTE: This definition is derived from the ICAO Document 9830 [i.4].

availability: probability that a system or an item is in a functioning state at a given point in time

classification: function which groups targets into various types (e.g. large, medium, small)

constituents: tangible objects such as hardware and intangible objects such as software upon which the interoperability of the EATMN depends

NOTE: This is the legally binding definition in the context of Single European Sky [i.2].

manoeuvring area: part of an aerodrome to be used for take-off, landing and taxiing of aircraft, excluding aprons

NOTE: This definition is derived from the ICAO Document 9830 [i.4].

movement area: part of an aerodrome to be used for take-off, landing and taxiing of aircraft, consisting of the manoeuvring area and apron(s)

NOTE: This definition is derived from the ICAO Document 9830 [i.4].

procedure: standard method for either the technical or operational use of the system, in the context of agreed and validated concepts of operation requiring uniform implementation throughout the EATMN

NOTE: This is the legally binding definition in the context of Single European Sky [i.2].

system: aggregation of airborne and groundbased constituents, as well as space-based equipment, that provides support for air navigation services for all phases of flight

NOTE: This is the legally binding definition in the context of Single European Sky [i.2].

target: aircraft, vehicle or obstacle that is displayed on a surveillance display

NOTE: This definition is derived from the ICAO Document 9830 [i.4].

update: renewal of target reports relating to all targets under surveillance

Further legally binding definitions in the context of Single European Sky are given in [i.2].

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

A-SMGCS	Advanced Surface Movement Guidance and Control Systems
ATM	Air Traffic Management
AVOL	Aerodrome Visibility Operational Level
CS	Community Specification
doa	date of announcement
dow	date of withdrawal
EATMN	European Air Traffic Management Network
EC	European Communities
EN	European Norm - (standard)
ER	Essential Requirement
EUROCAE	EUROpean organization for Civil Aviation Equipment
EUROCONTROL	EUROpean organization for the safety of air navigation
ICAO	International Civil Aviation Organization
IOP Regulation	InterOPerability Regulation
SES	Single European Sky
SMR	Surface Movement Radar

4 Requirements for implementing Surface Movement Radar (SMR) sensor for A-SMGCS Systems

This clause defines the minimum requirements for a SMR sensor of A-SMGCS System.

4.1 Design Requirements for SMR sensor for A-SMGCS Systems

4.1.1 General Requirements

The SMR sensor shall comply with the requirements as defined in EN 303 213-4-1 [2].

4.1.2 Coverage

The constituent shall have the minimum coverage as defined in ED-116 [1], clause 2.8.

4.1.3 Safety interlocks

The constituent shall comply with the requirements as defined in ED-116 [1], clause 2.14.

4.2 Built requirements for SMR sensors for A-SMGCS Systems

4.2.1 Basic conformity tests

The basic conformity tests shall comply with the requirements as defined in ED-116 [1], clause 5.3.

4.2.2 Performance tests

The performace tests shall comply with the requirements as defined in ED-116 [1], clause 5.4.

4.3 Requirements for site testing procedures for SMR sensor for A-SMGCS Systems

4.3.1 Site testing procedures

The on site testing procedures shall be performed as defined in ED-116 [1], clause 6.4.

4.4 Maintenance Requirements for SMR sensors for A-SMGCS Systems

The constituent shall comply with the maintenance requirements as defined in ED-116 [1], clause 2.21.

Annex SA (normative): Standards Annex

This annex provides a relationship between the present document and the Essential Requirements of the Single European Sky Interoperability Regulation.

The A-SMGCS SMR constituent shall comply with the Essential Requirements of the Interoperability Regulation as defined and described in the traceability matrixes of this annex (tables SA.1 and SA.2).

SA.1 Correspondence between this European Standard and the Single European Sky Interoperability Regulation for the A-SMGCS non-cooperative sensor constituent

Table SA.1: Traceability from Interoperability Regulation to clauses of the present document

(Essential) Requirements (ERs) of SES Interoperability Regulation, Annex II, Part A	Clause(s) of the present document	Qualifying remarks/Notes
ER 1 Seamless operation	4.1.2 Coverage 4.1.3 Safety interlocks 4.2.1 Basic conformity tests 4.2.2 Performance tests 4.3.1 Site testing procedures 4.4 Maintenance Requirements for SMR sensors for A-SMGCS Systems 4.5.2 Noise and vibration	
ER 2 Support for new concepts of operation		Operation is only applicable at the system level
ER 3 Safety	n/a	
ER 4 Civil-military coordination		The present document does not give presumption of conformity
ER 5 Environmental constraints	The present document does not give presumption of conformity	
ER 6 Principles governing the logical architecture of systems	n/a	
ER 7 Principles governing the construction of systems	n/a	

(Essential) Requirements (ERs) of SES Interoperability Regulation, Annex II, Part B	Clause(s) of the present document	Qualifying remarks/Notes
ER 1.1 Seamless operation of airspace management		Not covered by EN 303 213 (parts 1 to 4)
ER 2.1 Seamless operation of air traffic flow management		Not covered by EN 303 213 (parts 1 to 4)
ER 3.1.1 Seamless operation of flight data processing		Not covered by EN 303 213 (parts 1 to 4)
ER 3.1.2 Support for new concepts of operation for flight data processing		Not covered by EN 303 213 (parts 1 to 4)
ER 3.2.1 Seamless operation surveillance data processing systems	n/a	
ER 3.2.2 Support for new concepts of operation for surveillance data processing systems	n/a	
ER 3.3.1 Seamless operation of Human-machine interface systems	n/a	

(Essential) Requirements (ERs) of SES Interoperability Regulation, Annex II, Part B	Clause(s) of the present document	Qualifying remarks/Notes
ER 3.3.2 Support for new concepts of operation for Human-machine interface systems	n/a	
ER 4.1 Seamless operation of Communications systems and procedures for ground-to-ground, air-to-ground and air-to-air communications		Not covered by EN 303 213 (parts 1 to 4)
ER 4.2 Support for new concepts of operation for Communications systems and procedures for ground-to-ground, air-to-ground and air-to-air communications		Not covered by EN 303 213 (parts 1 to 4)
ER 5.1 Seamless operation of Navigation systems and procedures		Not covered by EN 303 213 (parts 1 to 4)
ER 6.1 Seamless operation of Surveillance systems and procedures		Not covered by EN 303 213 (parts 1 to 4)
ER 7.1 Seamless operation of Systems and procedures for aeronautical information services		Not covered by EN 303 213 (parts 1 to 4)
ER 8.1 Seamless operation of systems and procedures for the use of meteorological information		Not covered by EN 303 213 (parts 1 to 4)
ER 8.2 Support for new concepts of operation for systems and procedures for the use of meteorological information		Not covered by EN 303 213 (parts 1 to 4)

Table SA.2: Traceability from clauses of the present document to Interoperability Regulation

Clause(s) of the present document	(Essential) Requirements (ERs) of SES Interoperability Regulation, Annex II, Parts A and B	Qualifying remarks/Notes
4.1.1 General Requirements	ER 1 Seamless operation	
4.1.2 Coverage	ER 1 Seamless operation	
4.1.3 Safety interlocks	ER 1 Seamless operation	
4.2.1 Basic conformity tests	ER 1 Seamless operation	
4.2.2 Performance tests	ER 1 Seamless operation	
4.3.1 Site testing procedures	ER 1 Seamless operation	
4.4 Maintenance Requiremens for SMR sensors for A-SMGCS Systems	ER 1 Seamless operation	

NOTE: Other requirements and other EU Regulations and/or Directives may be applicable to the product(s) falling within the scope of the present document.

Annex A (normative): Checklist

The purpose of this annex is to provide a comprehensive traceability of evidence on constituents and system levels against sub-clauses of the Essential Requirements (ERs) of the Interoperability Regulation (EC 552/2004 [i.1]) as amended by Regulation EC 1070/2009 [i.5], analyzing keywords of these same essential requirements.

These keywords mainly address the phases of design, build, operation and maintenance of systems and constituents as well as specifically required qualities or attributes as defined in the ERs of the SES Interoperability Regulation.

The A-SMGCS SMR constituent shall comply with the Essential Requirements of the Interoperability Regulation as defined and described in the tables of this annex.

A.1 Interoperability Regulation Annex II Essential Requirements; Part A: General requirements

Table A.1

1	**ER 1 seamless operation**		
	Regulation (EC) 552/2004 [i.1] as amended by Regulation (EC) 1070/2009 [i.5] requires that: "Air traffic management systems and their constituents shall be designed, built, maintained and operated using the appropriate and validated procedures, in such a way as to ensure the seamless operation of the EATMN at all times and for all phases of flight. Seamless operation can be expressed, in particular, in terms of information sharing, including the relevant operational status information, common understanding of information, comparable processing performances and the associated procedures enabling common operational performances agreed for the whole or parts of the EATMN."		
	Keywords	**Evidence on constituent level**	**Evidence on system level**
1.1	Designed	ED-116 [1], clause 2.8 SMR coverage ED-116 [1], clause 2.9 Antenna Unit characteristics ED-116 [1], clause 2.10 Transmitter/Receiver characteristics ED-116 [1], clause 2.14 Safety interlocks ED-116 [1], clause 2.18 Noise and vibration	The present document does not give presumption of conformity
1.2	Built	ED-116 [1], clause 6.4 Basic conformity tests (Site) ED-116 [2], clause 5.3 Basic conformity tests ED-116 [2], clause 5.4 Performance tests	The present document does not give presumption of conformity
1.3	maintained	ED-116 [1], clause 2.21 Maintainability	The present document does not give presumption of conformity
1.4	Operated	Covered by EN 303 213-4-1 [2]	The present document does not give presumption of conformity
1.5	information sharing	Covered by EN 303 213-4-1 [2]	The present document does not give presumption of conformity

Table A.2

2	**ER 2 Support for new concepts of operation**		
	Regulation (EC) 552/2004 [i.1] as amended by Regulation (EC) 1070/2009 [i.5] requires that: "The EATMN, its systems and their constituents shall support, on a coordinated basis, new agreed and validated concepts of operation that improve the quality, sustainability and effectiveness of air navigation services, in particular in terms of safety and capacity. The potential of new concepts, such as collaborative decision-making, increasing automation and alternative methods of delegation of separation responsibility, shall be examined taking due account of technological developments and of their safe implementation, following validation."		
	Keywords	**Evidence on constituent level**	**Evidence on system level**
2.1	Validated concepts of operation - safety	Operation is only applicable at the system level	The present document does not give presumption of conformity
2.2	Validated concepts of operation - capacity	Operation is only applicable at the system level	The present document does not give presumption of conformity
2.3	Validated concepts of operation - quality	Operation is only applicable at the system level	The present document does not give presumption of conformity

Table A.3

3	**ER 3 Safety**			
	Regulation (EC) 552/2004 [i.1] as amended by Regulation (EC) 1070/2009 [i.5] requires that: "Systems and operations of the EATMN shall achieve agreed high levels of safety. Agreed safety management and reporting methodologies shall be established to achieve this. In respect of appropriate ground-based systems, or parts thereof, these high levels of safety shall be enhanced by safety nets which shall be subject to agreed common performance characteristics. A harmonized set of safety requirements for the design, implementation, maintenance and operation of systems and their constituents, both for normal and degraded modes of operation, shall be defined with a view to achieving the agreed safety levels, for all phases of flight and for the entire EATMN. Systems shall be designed, built, maintained and operated, using the appropriate and validated procedures, in such a way that the tasks assigned to the control staff are compatible with human capabilities, in both the normal and degraded modes of operation, and are consistent with required safety levels. Systems shall be designed, built, maintained and operated using the appropriate and validated procedures, in such a way as to be free from harmful interference in their normal operational environment."			
	Keywords	**Evidence on constituent level**	**Evidence on system level**	**Evidence at procedure level**
3.1	Design	n/a	The present document does not give presumption of conformity	The present document does not give presumption of conformity
3.2	Implementation	n/a	The present document does not give presumption of conformity	The present document does not give presumption of conformity
	Keywords	**Evidence on constituent level**	**Evidence on system level**	**Evidence at procedure level**
3.3	Maintenance	n/a	The present document does not give presumption of conformity	n/a
3.4	Operation	n/a	The present document does not give presumption of conformity	The present document does not give presumption of conformity
3.5	Human capabilities	n/a	The present document does not give presumption of conformity	The present document does not give presumption of conformity
3.6	Harmful interference	n/a	The present document does not give presumption of conformity	n/a

Table A.4

4	**ER 4 Civil-military coordination**		
	Regulation (EC) 552/2004 [i.1] as amended by Regulation (EC) 1070/2009 [i.5] requires that: "The EATMN, its systems and their constituents shall support the progressive implementation of civil/military coordination, to the extent necessary for effective airspace and air traffic flow management, and the safe and efficient use of airspace by all users, through the application of the concept of the flexible use of airspace. To achieve these objectives, the EATMN, its systems and their constituents shall support the timely sharing of correct and consistent information covering all phases of flight, between civil and military parties. Account should be taken of national security requirements."		
	Keywords	**Evidence on constituent level**	**Evidence on system level**
4.1	Flexible use of airspace	The present document does not give presumption of conformity	The present document does not give presumption of conformity
4.2	Timely sharing	The present document does not give presumption of conformity	The present document does not give presumption of conformity
4.3	National security requirements	n/a	The present document does not give presumption of conformity

Table A.5

5	**ER 5 Environmental constraints**			
	Regulation (EC) 552/2004 [i.1] as amended by Regulation (EC) 1070/2009 [i.5] requires that: "Systems and operations of the EATMN shall take into account the need to minimize environmental impact in accordance with Community legislation."			
	Keywords	**Evidence on constituent level**	**Evidence on system level**	**Evidence at procedure level**
5.1	Minimize environmental impact - ATS	n/a	The present document does not give presumption of conformity	The present document does not give presumption of conformity
5.2	Minimize environmental impact - materials	The present document does not give presumption of conformity	The present document does not give presumption of conformity	n/a

Table A.6

6	**ER 6 Principles governing the logical architecture of systems**		
	Regulation (EC) 552/2004 [i.1] as amended by Regulation (EC) 1070/2009 [i.5] requires that: "Systems shall be designed and progressively integrated with the objective of achieving a coherent and increasingly harmonized, evolutionary and validated logical architecture within the EATMN."		
	Keywords	**Evidence on constituent level**	**Evidence on system level**
6.1	Designed and progressively integrated	n/a	The present document does not give presumption of conformity

Table A.7

7	**ER 7 Principles governing the construction of systems**		
	Regulation (EC) 552/2004 [i.1] as amended by Regulation (EC) 1070/2009 [i.5] requires that: "Systems shall be designed, built and maintained on the grounds of sound engineering principles, in particular those relating to modularity, enabling interchangeability of constituents, high availability, and redundancy and fault tolerance of critical constituents."		
	Keywords	**Evidence on constituent level**	**Evidence on system level**
7.1	Modularity, interchangeability	n/a	The present document does not give presumption of conformity
7.2	High availability, Redundancy and fault tolerance	n/a	The present document does not give presumption of conformity

A.2 Interoperability Regulation Annex II Essential Requirements; Part B: Specific requirements

A.2.1 Systems and procedures for airspace management

Table A.8

1.1	**ER 1.1 Seamless operation**			
	Regulation (EC) 552/2004 [i.1] as amended by Regulation (EC) 1070/2009 [i.5] requires that: "Information relating to pre-tactical and tactical aspects of airspace availability shall be provided to all interested parties in a correct and timely way so as to ensure an efficient allocation and use of airspace by all airspace users. This should take into account national security requirements."			
	Keywords	**Evidence on constituent level**	**Evidence on system level**	**Evidence at procedure level**
1.1.1	Pre-tactical aspects of airspace availability	n/a	Not covered by EN 303 213 (parts 1 to 4)	Not covered by EN 303 213 (parts 1 to 4)
1.1.2	Tactical aspects of airspace availability	n/a	Not covered by EN 303 213 (parts 1 to 4)	Not covered by EN 303 213 (parts 1 to 4)
1.1.3	Correct and timely way		Not covered by EN 303 213 (parts 1 to 4)	Not covered by EN 303 213 (parts 1 to 4)
1.1.4	National security requirements	n/a	Not covered by EN 303 213 (parts 1 to 4)	Not covered by EN 303 213 (parts 1 to 4)

A.2.2 Systems and procedures for air traffic flow management

Table A.9

2.1	**ER 2.1 Seamless operation** Regulation (EC) 552/2004 [i.1] as amended by Regulation (EC) 1070/2009 [i.5] requires that: "Systems and procedures for air traffic flow management shall support the sharing of correct, coherent and relevant strategic, pre-tactical and tactical, as applicable, flight information covering all phases of flight and offer dialogue capabilities with a view to achieving optimized use of airspace."			
	Keywords	**Evidence on constituent level**	**Evidence on system level**	**Evidence at procedure level**
2.1.1	Strategic	n/a	Not covered by EN 303 213 (parts 1 to 4)	Not covered by EN 303 213 (parts 1 to 4)
2.1.2	Pre-tactical	n/a	Not covered by EN 303 213 (parts 1 to 4)	Not covered by EN 303 213 (parts 1 to 4)
2.1.3	Tactical	n/a	Not covered by EN 303 213 (parts 1 to 4)	Not covered by EN 303 213 (parts 1 to 4)

A.2.3 Systems and procedures for air traffic services

A.2.3.1 Flight data processing systems

Table A.10

3.1.1	**ER 3.1.1 Seamless operation** Regulation (EC) 552/2004 [i.1] as amended by Regulation (EC) 1070/2009 [i.5] requires that: "Flight data processing systems shall be interoperable in terms of the timely sharing of correct and consistent information, and a common operational understanding of that information, in order to ensure a coherent and consistent planning process and resource-efficient tactical coordination throughout the EATMN during all phases of flight. In order to ensure safe, smooth and expeditious processing throughout the EATMN, flight data processing performances shall be equivalent and appropriate for a given environment (surface, terminal manoeuvring area (TMA), en-route), with known traffic characteristics and exploited under an agreed and validated operational concept, in particular in terms of accuracy and error tolerance of processing results."		
	Keywords	**Evidence on constituent level**	**Evidence on system level**
3.1.1.1	Timely sharing	n/a	Not covered by EN 303 213 (parts 1 to 4)
3.1.1.2	Performance appropriate for environment	n/a	Not covered by EN 303 213 (parts 1 to 4)
3.1.1.3	Accuracy and error tolerance	n/a	Not covered by EN 303 213 (parts 1 to 4)

Table A.11

3.1.2	**ER 3.1.2 Support for new concepts of operation**		
	Regulation (EC) 552/2004 [i.1] as amended by Regulation (EC) 1070/2009 [i.5] requires that: "Flight data processing systems shall accommodate the progressive implementation of advanced, agreed and validated concepts of operation for all phases of flight, in particular as envisaged in the ATM MasterPlan. The characteristics of automation-intensive tools must be such as to enable coherent and efficient pre-tactical and tactical processing of flight information in parts of the EATMN. Airborne and ground systems and their constituents supporting new, agreed and validated concepts of operation shall be designed, built, maintained and operated, using appropriate and validated procedures, in such a way as to be interoperable in terms of timely sharing of correct and consistent information and a common understanding of the current and predicted operational situation."		
	Keywords	**Evidence on constituent level**	**Evidence on system level**
3.1.2.1	Airborne systems - design	Not covered by EN 303 213 (parts 1 to 4)	Not covered by EN 303 213 (parts 1 to 4)
3.1.2.2	Airborne systems - built	Not covered by EN 303 213 (parts 1 to 4)	Not covered by EN 303 213 (parts 1 to 4)
3.1.2.3	Airborne systems - maintained	Not covered by EN 303 213 (parts 1 to 4)	Not covered by EN 303 213 (parts 1 to 4)
3.1.2.4	Airborne systems - operated	Not covered by EN 303 213 (parts 1 to 4)	Not covered by EN 303 213 (parts 1 to 4)
3.1.2.5	Ground systems - design	Not covered by EN 303 213 (parts 1 to 4)	Not covered by EN 303 213 (parts 1 to 4)
3.1.2.6	Ground systems - built	Not covered by EN 303 213 (parts 1 to 4)	Not covered by EN 303 213 (parts 1 to 4)
3.1.2.7	Ground systems - maintained	Not covered by EN 303 213 (parts 1 to 4)	Not covered by EN 303 213 (parts 1 to 4)
3.1.2.8	Ground systems - operated	Not covered by EN 303 213 (parts 1 to 4)	Not covered by EN 303 213 (parts 1 to 4)

A.2.3.2 Surveillance data processing systems

Table A.12

3.2.1	**ER 3.2.1 Seamless operation**		
	Regulation (EC) 552/2004 [i.1] as amended by Regulation (EC) 1070/2009 [i.5] requires that: "Surveillance data processing systems shall be designed, built, maintained and operated using the appropriate and validated procedures, in such a way as to provide the required performance and quality of service within a given environment (surface, TMA, en-route) with known traffic characteristics, in particular in terms of accuracy and reliability of computed results, correctness, integrity, availability, continuity and timeliness of information at the control position. Surveillance data processing systems shall accommodate the timely sharing of relevant, accurate, consistent and coherent information between them to ensure optimized operations through different parts of the EATMN."		
	Keywords	**Evidence on constituent level**	**Evidence on system level**
3.2.1.1	Designed	n/a	The present document does not give presumption of conformity
3.2.1.2	Built	n/a	The present document does not give presumption of conformity
3.2.1.3	Maintained	n/a	The present document does not give presumption of conformity
3.2.1.4	Operated	n/a	The present document does not give presumption of conformity

Table A.13

3.2.2	**ER 3.2.2 Support for new concepts of operation**		
	Regulation (EC) 552/2004 [i.1] as amended by Regulation (EC) 1070/2009 [i.5] requires that: "Surveillance data processing systems shall accommodate the progressive availability of new sources of surveillance information in such a way as to improve the overall quality of service, in particular as envisaged in the ATM MasterPlan."		
	Keywords	**Evidence on constituent level**	**Evidence on system level**
3.2.2.1	Availability of new sources	n/a	The present document does not give presumption of conformity

A.2.3.3 Human-machine interface systems

Table A.14

3.3.1	**ER 3.3.1 Seamless operation**		
	Regulation (EC) 552/2004 [i.1] as amended by Regulation (EC) 1070/2009 [i.5] requires that: "Human-machine interfaces of ground air traffic management systems shall be designed, built, maintained and operated using the appropriate and validated procedures, in such a way as to offer to all control staff a progressively harmonized working environment, including functions and ergonomics, meeting the required performance for a given environment (surface, TMA, en-route), with known traffic characteristics."		
	Keywords	**Evidence on constituent level**	**Evidence on system level**
3.3.1.1	Designed	n/a	The present document does not give presumption of conformity
3.3.1.2	Built	n/a	The present document does not give presumption of conformity
3.3.1.3	Maintained	n/a	The present document does not give presumption of conformity
3.3.1.4	Operated	n/a	The present document does not give presumption of conformity

Table A.15

3.3.2	**ER 3.3.2 Support for new concepts of operation**		
	Regulation (EC) 552/2004 [i.1] as amended by Regulation (EC) 1070/2009 [i.5] requires that: "Human-machine interface systems shall accommodate the progressive introduction of new, agreed and validated concepts of operation and increased automation, in such a way as to ensure that the tasks assigned to the control staff remain compatible with human capabilities, in both the normal and degraded modes of operation."		
	Keywords	**Evidence on constituent level**	**Evidence on system level**
3.3.2.1	Human capabilities	n/a	The present document does not give presumption of conformity

A.2.4 Communications systems and procedures for ground-to-ground, air-to-ground and air-to-air communications

Table A.16

4.1	**ER 4.1 Seamless operation**		
	Regulation (EC) 552/2004 [i.1] as amended by Regulation (EC) 1070/2009 [i.5] requires that: "Communication systems shall be designed, built, maintained and operated using the appropriate and validated procedures, in such a way as to achieve the required performances within a given volume of airspace or for a specific application, in particular in terms of communication processing time, integrity, availability and continuity of function. The communications network within the EATMN shall be such as to meet the requirements of quality of service, coverage and redundancy."		
	Keywords	**Evidence on constituent level**	**Evidence on system level**
4.1.1	Designed	n/a	Not covered by EN 303 213 (parts 1 to 4)
4.1.2	Built	n/a	Not covered by EN 303 213 (parts 1 to 4)
4.1.3	Maintained	n/a	Not covered by EN 303 213 (parts 1 to 4)
4.1.4	Operated	n/a	Not covered by EN 303 213 (parts 1 to 4)
4.1.5	Quality of service, coverage, redundancy	n/a	Not covered by EN 303 213 (parts 1 to 4)

Table A.17

4.2	**ER 4.2 Support for new concepts of operation**		
	Regulation (EC) 552/2004 [i.1] as amended by Regulation (EC) 1070/2009 [i.5] requires that: "Communication systems shall support the implementation of advanced, agreed and validated concepts of operation for all phases of flight, in particular as envisaged in the ATM MasterPlan."		
	Keywords	**Evidence on constituent level**	**Evidence on system level**
4.2.1	Support the implementation	n/a	Not covered by EN 303 213 (parts 1 to 4)

A.2.5 Navigation systems and procedures

Table A.18

5.1	**ER 5.1 Seamless operation**		
	Regulation (EC) 552/2004 [i.1] as amended by Regulation (EC) 1070/2009 [i.5] requires that: "Navigation systems shall be designed, built, maintained and operated using appropriate and validated procedures in such a way as to achieve the required horizontal and vertical navigation performance, in particular in terms of accuracy and functional capability, for a given environment (surface, TMA, en-route), with known traffic characteristics and exploited under an agreed and validated operational concept."		
	Keywords	**Evidence on constituent level**	**Evidence on system level**
5.1.1	Designed	n/a	Not covered by EN 303 213 (parts 1 to 4)
5.1.2	Built	n/a	Not covered by EN 303 213 (parts 1 to 4)
5.1.3	Maintained	n/a	Not covered by EN 303 213 (parts 1 to 4)
5.1.4	Operated	n/a	Not covered by EN 303 213 (parts 1 to 4)

A.2.6 Surveillance systems and procedures

Table A.19

6.1	**ER 6.1 Seamless operation**		
	Regulation (EC) 552/2004 [i.1] as amended by Regulation (EC) 1070/2009 [i.5] requires that: "Surveillance systems shall be designed, built, maintained and operated using appropriate and validated procedures in such a way as to provide the required performance applicable in a given environment (surface, TMA, en-route) with known traffic characteristics and exploited under an agreed and validated operational concept, in particular in terms of accuracy, coverage, range and quality of service. The surveillance network within the EATMN shall be such as to meet the requirements of accuracy, timeliness, coverage and redundancy. The surveillance network shall enable surveillance data to be shared in order to enhance operations throughout the EATMN."		
	Keywords	**Evidence on constituent level**	**Evidence on system level**
6.1.1	Designed	n/a	Not covered by EN 303 213 (parts 1 to 4)
6.1.2	Built	n/a	Not covered by EN 303 213 (parts 1 to 4)
6.1.3	Maintained	n/a	Not covered by EN 303 213 (parts 1 to 4)
6.1.4	Operated	n/a	Not covered by EN 303 213 (parts 1 to 4)

A.2.7 Systems and procedures for aeronautical information services

Table A.20

7.1	**ER 7.1 Seamless operation**		
	Regulation (EC) 552/2004 [i.1] as amended by Regulation (EC) 1070/2009 [i.5] requires that: "Accurate, timely and consistent aeronautical information shall be provided progressively in an electronic form, based on a commonly agreed and standardized data set. Accurate and consistent aeronautical information, in particular concerning airborne and ground-based constituents or systems, shall be made available in a timely manner."		
	Keywords	**Evidence on constituent level**	**Evidence on system level**
7.1.1	Accurate, timely and consistent	n/a	Not covered by EN 303 213 (parts 1 to 4)
7.1.2	Standardized data set	n/a	Not covered by EN 303 213 (parts 1 to 4)

Table A.21

7.2	**ER 7.2 Support for new concepts of operation**		
	Regulation (EC) 552/2004 [i.1] as amended by Regulation (EC) 1070/2009 requires that: "Increasingly accurate, complete and up-to-date aeronautical information shall be made available and used in a timely manner in order to support continuous improvement of the efficiency of airspace and airport use."		
	Keywords	**Evidence on constituent level**	**Evidence on system level**
7.2.1	Increasingly accurate, complete and up-to-date	n/a	Not covered by EN 303 213 (parts 1 to 4)

A.2.8 Systems and procedures for the use of meteorological information

Table A.22

8.1	**ER 8.1 Seamless operation**			
	Regulation (EC) 552/2004 [i.1] as amended by Regulation (EC) 1070/2009 [i.5] requires that: "Systems and procedures for the use of meteorological information shall improve the consistency and timeliness of its provision and the quality of its presentation, using an agreed data set."			
	Keywords	**Evidence on constituent level**	**Evidence on system level**	**Evidence at procedure level**
8.1.1	Consistency and timeliness	n/a	Not covered by EN 303 213 (parts 1 to 4)	Not covered by EN 303 213 (parts 1 to 4)

Table A.23

8.2	**ER 8.2 Support for new concepts of operation**			
	Regulation (EC) 552/2004 [i.1] as amended by Regulation (EC) 1070/2009 [i.5] requires that: "Systems and procedures for the use of meteorological information shall improve the promptness of its availability and the speed with which it may be used, in order to support continuous improvement of the efficiency of airspace and airport use."			
	Keywords	**Evidence on constituent level**	**Evidence on system level**	**Evidence at procedure level**
8.2.1	Promptness, speed	n/a	Not covered by EN 303 213 (parts 1 to 4)	Not covered by EN 303 213 (parts 1 to 4)

Annex B (informative): The EN title in the official languages

Language	EN title
Bulgarian	Усъвършенствана система за ръководство наземно движение и управление (A-SMGCS). Част 4: Спецификация на Общността за прилагане на Регламент ЕС 552/2004 за оперативна съвместимост в Единно европейско небе за разгърнат несъвместен сензор, включващ неговите интерфейси. Подчаст 2: Специфични изисквания за разгърнат радарен сензор за наземно движение
Czech	Pokročilý naváděcí a řídicí systém pohybu po pojezdové ploše (A-SMGCS) - Část 4: Specifikace Společenství pro aplikaci podle předpisu EC 552/2004 o interoperabilitě v rámci Jednotného evropského nebe pro využívané nespolupracující čidlo včetně jeho rozhraní - Podčást 2: Specifické požadavky na využívané čidlo radaru pro pohyb po ploše
Danish	Avanceret styrings og kontrol system af bevægelse på jordoverfladen (A-SMGCS)—Del 4: Fællesskabets specifikation for anvendelse under Den fælles europæiske luftrums interoperabilitets regulering EC 552/2004 for en anvendt ikke-fælles føler inklusive dens grænseflader—Del 2: Specifikke krav for en anvendt radar føler for bevægelse på jordoverfladen
Dutch	Geavanceerd begeleiding- en controlesysteem voor verplaatsingen over land (A-SMGCS); Deel 4: Gemeenschappelijke specificatie voor toepassing onder de enkele Europese luchtruim interoperabiliteitsbepaling EC 552/2004 voor een opgestelde niet-coöperatieve sensor inclusief de interfaces, subdeel 2: Specifieke eisen voor een opgestelde radarsensor voor verplaatsingen over land
English	Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 for a deployed non-cooperative sensor including its interfaces; Sub-part 2: Specific requirements for a deployed Surface Movement Radar sensor
Estonian	Lennuvälja maapealse liikluse juhtimise täiustatud süsteem (A-SMGCS); Osa 4: Ühenduse Spetsifikatsioon, rakendamiseks vastavalt Ühtse Euroopa Taeva (SES) Koostalitlusvõime Määrusele EU 552/2004 süsteemi juures kasutatava mitte-kooperatiivse ehk primaarradari printsiipi kasutava sensori ja tema liideste jaoks; Alaosa 2: Erinõuded süsteemi juures kasutatava maapealse liikluse seireradari (SMR) jaoks
Finnish	Kehittyneet kenttäalueen liikenteen ohjaus- ja valvontajärjestelmät (A-SMGCS); Osa 4: Yhteisön eritelmä, jota sovelletaan yhtenäisen eurooppalaisen ilmatilan toteuttamiseksi annetun yhteentoimivuusasetuksen EY 552/2004 nojalla järjestelmän ulkopuoliselle ilmaisimelle mukaan lukien sen rajapinnat; Aliosa 2: Erityisvaatimukset kenttäalueen maanpäällisen liikenteen tutkailmaisimelle
French	Système avancé de guidage et de commande des mouvements en surface (A-SMGCS)- Partie 4 : Spécification de la Communauté en vue de l'appllication du règlement EC 552/2004 sur l'interopérabilité pour un capteur non-coopératif déployé incluant ses interfaces - Sous-partie 2 : exigences génériques pour un capteur de radar de mouvement de surface déployé
German	Erweitertes Bodenverkehrsleit- und Kontrollsystem (A-SMGCS) – Teil 4: Gemeinschaftliche Spezifikation zur Anwendung gemäß SES-Interoperabilitätsverordnung EG 552/2004 für dislozierte nicht-kooperative Sensoren einschließlich externer Schnittstellen - Teil 4-2: Besondere Anforderungen für dislozierte Rollfeldradarsensoren
Greek	Προηγμένο Σύστημα Καθοδήγησης και Ελέγχου Κίνησης Επιφανείας (A-SMGCS) – Μέρος 4: Κοινοτική Προδιαγραφή για εφαρμογή στο πλαίσιο του Κανονισμού Διαλειτουργικότητας Ενιαίου Ευρωπαϊκού Ουρανού ΕΚ 552/2004 για έναν αναπτυγμένο μη συνεργατικό αισθητήρα συμπεριλαμβανομένων των διεπαφών του – Υπομέρος 2: Είδιες απαιτήσεις για έναν αναπτυγμένο αισθητήρα Ραντάρ Κίνησης Επιφανείας
Hungarian	Felszíni mozgást ellenőrző és vezérlő továbbfejlesztett rendszer (A-SMGCS). 4. rész: Az egységes európai égbolt (Single European Sky) átjárhatóságát szabályozó EK 552/2004 rendelet alá tartozó, külső interfészeiket is tartalmazó telepített nem együttműködő érzékelő közösségi előírása. 2. alrész: A telepített felszíni mozgásérzékelő radar különleges követelményei
Icelandic	Þróuð leiðsögu- og stjórnkerfi fyrir umferð á jörðu niðri (A-SMGCS); Hluti 4: Samræmdar tækniforsendur Evrópubandalagsins skv. Reglugerð EC 552/2004 um rekstrarsamhæfi í samevrópsku loftrrými fyrir uppsetningu sjálfstæðra skynjara þ.m.t. skilfleti þeirra Undirhluti 2: Sérstakar kröfur varðandi uppsetningu skynjara í ratsjár fyrir umferð á jörðu niðri
Italian	Guida Avanzata ai Movimenti di Superficie e Sistema di Controllo (A-SMGCS); Parte 4: Specifica Comunitaria per un sensore distribuito non-cooperativo, inclusiva delle sue interfacce, per applicazioni nell'ambito del Regolamento EC 552/2004 sulla Interoperabilità nel Cielo Unico Europeo; Sotto-Parte 2: Requisiti specifici per un sensore distribuito di Radar per Movimento di Superficie
Latvian	Uzlabota kustības uz zemes vadības un kontroles sistēma (A-SMGCS); 4. daļa: Kopienas specifikācija pielietošanai ne kooperatīvam sensoram, ieskaitot tā saskarnes, saskaņā ar Vienotās Eiropas gaisa telpas savietojamības regulu EC 552/2004. 2. apakšdaļa: Īpašās prasības izvietotam kustības uz zemes radara sensoram

Language	EN title
Lithuanian	Patobulintoji antžeminio eismo valdymo ir kontrolės sistema (A-SMGCS). 4 dalis. Bendrijos specifikacija dėl bendro Europos dangaus srities sąveikos Reglamento EC 552/2004, taikoma išdėstytiems nesąveikaujantiems jutikliams, įskaitant jų sietuvus. 2 podalis: Specialieji reikalavimai, keliami išdėstytiems antžeminio eismo radarų jutikliams
Maltese	Sistema Avvanzata għall-Iggwidar u Kontroll ta' Moviment fis-Superfiċje (A-SMGCS); Parti 4: Speċifikazzjoni Komunitarja għal applikazzjoni taħt ir-Regolament Singolu Ewropew dwar Interoperabilità fl-użu tal-Ajru KE 552/2004 għal apparat li jirreġistra movimenti mhux kooperativ inklużi l-interfaces tiegħu; Sub-parti 2: Rekwiżiti speċifiċi għal apparat li jirreġistra movimenti għal Radar li jaqbad Movimenti fis-Superfiċje
Norwegian	Avansert styrings- og kontrollsystem for bakketrafikk (A-SMGCS); Del 4: Fellesskapsspesifikasjon for samvirkingsevne i samsvar med Samvirkingsforordningen (EF) nr. 552/2004 for en installert uavhengig sensor inkludert dens grensesnitt; Underavsnitt 2: Spesifikke krav til en installert bakketrafikkradar-sensor
Polish	Zaawansowany system zarządzania i kontroli ruchu naziemnego na lotnisku (A-SMGCS) - Część 4-2: Specyfikacja Wspólnoty zapewniająca spełnienie wymagań interoperacyjności Jednolitej Europejskiej Przestrzeni Powietrznej, zawartych w Przepisie EC 552/2004 dla rozmieszczonych, nie współpracujących ze sobą czujników łącznie z ich interfejsami - Specyficzne wymagania dla rozmieszczonych, radarowych czujników ruchu na płycie lotniska
Portuguese	Sistema Avançado para Guiamento e Controlo de Movimento à Superfície (A-SMGCS); Part 4: Especificações Comunitária para aplicação de acordo com o Regulamento (CE) 552/2004 do céu único europeu, não utilizando sensor cooperativo, incluindo os seus interfaces; Sub-parte 2: Requisitos específicos utilizando sensor Radar de Solo (SMR)
Romanian	Sistem avansat de comandă şi ghidare pentru deplasare pe suprafaţă (A-SMGCS). Partea 4: Specificaţie comunitară de aplicare conform regulamentului CE 552/2004 de Interoperabilitate pe Cer Unic European pentru un senzor necooperativ, inclusiv interfeţele sale. Sub-partea 2: Cerinţe generice pentru un senzor radar distribuit pentru deplasare pe suprafaţă
Slovak	Zdokonalený systém navádzania a riadenia pohybu na prevádzkových plochách (A-SMGCS). Časť 4: Špecifikácia Spoločenstva vzťahujúca sa na aplikácie podľa nariadenia ES 552/2004 o interoperabilite jednotného európskeho vzdušného priestoru pre využívaný nespolupracujúci snímač vrátane jeho rozhraní. Oddiel 2: Osobitné požiadavky na využívaný snímač radaru pre pohyb na ploche
Slovenian	Napredni sistem za vodenje in nadzor gibanja po zemlji (A-SMGCS) - 4. del: Specifikacija Skupnosti za uporabo po Uredbi ES 552/2004 o medobratovalnosti na enotnem evropskem nebu za aktivno nekooperativno zaznavalo, vključno z njegovimi vmesniki - 2. poddel: Posebne zahteve za aktivno zaznavalo radarja za površinsko gibanje
Spanish	Sistema avanzado de control y guía del movimiento en superficie (A-SMGCS). Parte 4: Especificación comunitaria para aplicación bajo el Reglamento CE/552/2004, relativo a la interoperabilidad del cielo único europeo, para un sensor no cooperativo incluyendo sus interfaces. Subparte 2: Requisitos específicos para un sensor radar de movimiento en superficie
Swedish	Avancerat lednings- och styrsystem för markrörelser (A-SMGCS-4); Del 4-2: Europeisk Norm (EN) i anslutning till "Single European Sky Interoperability Regulation" EC 552/2004 för A-SMGCS nivå 4, installerade icke samarbetande sensorer inklusive dess anpassningsenheter (interfaces), specifika krav för A-SMGCS nivå 4 "Surface Movement Radar sensor"

Annex C (informative): Bibliography

- Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity (R&TTE Directive) (OJ L 91, 07.04.1999).
- ICAO Annex 14: "Aerodrome Design and Operations, volume 1".
- ETSI EN 303 213-5: "Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 5: Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive for transmitters used in multilateration equipment".
- ETSI EN 303 213-6: "Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 6: Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive for deployed surface movement radar sensors".
- ICAO Annex 10: "Aeronautical communications".
- ICAO Document 9476: "Manual of Surface Movements and Guidance Control Systems (SMGCS)".
- ICAO Document 9830: "Advanced Surface Movement Guidance and Control Systems (A-SMGS) Manual", First Edition, 2004.
- Council Resolution of 7 May 1985 on a new approach to technical harmonization and standards, OJ C 136, 04.06.1985.
- ETSI EG 201 399: "Electromagnetic compatibility and Radio spectrum Matters (ERM); A guide to the production of candidate Harmonized Standards for application under the R&TTE Directive".
- ETSI TR 102 579: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Report providing guidance for the production of Community Specifications for application under the Single European Sky Interoperability Regulation EC 552/2004".
- EUROCONTROL 07/01/11-06 (Edition 2.0, November 12/2006): "Functional Specification for A-SMGCS Implementation Level 1".
- EUROCONTROL 06/11/27-18 (V1.1, November 2006): "Human Factor Case for A-SMGCS".
- EUROCONTROL: "European Action Plan for the Prevention of Runway Incursions".

History

Document history				
V1.1.1	December 2009	Public Enquiry	PE 20100420:	2009-12-21 to 2010-04-20
V1.1.1	August 2010	Vote	V 20101015:	2010-08-16 to 2010-10-15
V1.1.1	October 2010	Publication		