

---

**Napredni sistem za vodenje in nadzor gibanja po zemlji (A-SMGCS) - 4. del:  
Specifikacija Skupnosti za aktivno nekooperativno zaznavalo, vključno z njegovimi  
vmesniki - 2. poddel: Posebne zahteve za aktivno zaznavalo radarja za površinsko  
gibanje**

Advanced Surface Movement Guidance and Control System (A-SMGCS) - Part 4:  
Community Specification for a deployed non-cooperative sensor including its interfaces -  
Sub-part 2: Specific requirements for a deployed Surface Movement Radar sensor

**Ta slovenski standard je istoveten z: ETSI EN 303 213-4-2 V2.0.1 (2020-06)**

**ICS:**

03.220.50	Zračni transport	Air transport
49.090	Oprema in instrumenti v zračnih in vesoljskih plovilih	On-board equipment and instruments

**oSIST prEN 303 213-4-2 V2.0.1:2020**      **en**

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

Full standard:  
<https://standards.iteh.ai/catalog/standards/sist/d65230d9-8fb0-4b81-9669-a2ab300d45f5/osist-pren-303-213-4-2-v2.0.1-2020>

# Draft ETSI EN 303 213-4-2 V2.0.1 (2020-06)



**Advanced Surface Movement Guidance and  
Control System (A-SMGCS);  
Part 4: Community Specification for a deployed  
non-cooperative sensor including its interfaces;  
Sub-part 2: Specific requirements for a deployed  
Surface Movement Radar sensor**

---

**Reference**REN/ERM-TGAERO-66

---

---

**Keywords**aeronautical, air traffic management,  
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**

---

The present document can be downloaded from:

<http://www.etsi.org/standards-search>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the prevailing version of an ETSI deliverable is the one made publicly available in PDF format at [www.etsi.org/deliver](http://www.etsi.org/deliver).

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

<https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx>

If you find errors in the present document, please send your comment to one of the following services:

<https://portal.etsi.org/People/CommiteeSupportStaff.aspx>

---

**Copyright Notification**

---

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.

The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2020.

All rights reserved.

**DECT™**, **PLUGTESTS™**, **UMTS™** and the ETSI logo are trademarks of ETSI registered for the benefit of its Members.

**3GPP™** and **LTE™** are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

**oneM2M™** logo is a trademark of ETSI registered for the benefit of its Members and of the oneM2M Partners.

**GSM®** and the GSM logo are trademarks registered and owned by the GSM Association.

# Contents

Intellectual Property Rights .....	5
Foreword.....	5
Modal verbs terminology.....	6
1 Scope .....	7
2 References .....	7
2.1 Normative references .....	7
2.2 Informative references.....	8
3 Definition of terms, symbols and abbreviations.....	9
3.1 Terms.....	9
3.2 Symbols.....	9
3.3 Abbreviations .....	10
4 Requirements for implementing Surface Movement Radar (SMR) sensor for A-SMGCS Systems .....	10
4.0 General .....	10
4.1 Design Requirements for SMR sensor for A-SMGCS Systems .....	10
4.1.1 General Requirements.....	10
4.1.2 Coverage.....	10
4.1.3 Safety interlocks .....	10
4.2 Built requirements for SMR sensors for A-SMGCS Systems .....	10
4.2.1 Basic conformity tests.....	10
4.2.2 Performance tests.....	10
4.3 Requirements for site testing procedures for SMR sensor for A-SMGCS Systems .....	11
4.3.1 Site testing procedures .....	11
4.4 Maintenance Requirements for SMR sensors for A-SMGCS Systems .....	11
<b>Annex A (normative): Regulation EU 2018/1139 Essential Requirements mapping and Checklist .....</b>	<b>12</b>
A.1 Correspondence between the present document and the relevant Essential Requirements of Annex VIII of Regulation EU 2018/1139.....	12
A.2 Mapping of requirements for the A-SMGCS Surveillance Service to the relevant Essential Requirements of Annex VIII, chapters 2.6 and 3 of Regulation EU 2018/1139.....	14
<b>Annex B (informative): SES Interoperability Regulation Essential Requirements mapping and Checklist .....</b>	<b>19</b>
B.1 Correspondence between the present document and the Essential Requirements of the Interoperability Regulation as amended by Regulation (EC) 1070/2009.....	19
B.2 Interoperability Regulation Annex II Essential Requirements; Part A: General requirements.....	21
B.3 Interoperability Regulation, Annex II Essential Requirements, Part B: Specific requirements.....	25
B.3.0 Introduction .....	25
B.3.1 Systems and procedures for airspace management.....	26
B.3.2 Systems and procedures for air traffic flow management .....	26
B.3.3 Systems and procedures for air traffic services .....	27
B.3.3.1 Flight data processing systems.....	27
B.3.3.2 Surveillance data processing systems .....	28
B.3.3.3 HMI systems.....	29
B.3.4 Communications systems and procedures for ground-to-ground, air-to-ground and air-to-air communications .....	30
B.3.5 Navigation systems and procedures .....	30
B.3.6 Surveillance systems and procedures .....	31
B.3.7 Systems and procedures for aeronautical information services.....	31
B.3.8 Systems and procedures for the use of meteorological information.....	32

**Annex C (informative): Bibliography.....33**  
History .....34

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**  
Full standard:  
<https://standards.iteh.ai/catalog/standards/sist/d65230d9-8fb0-4b81-9669-a2ab300d45f5/osist-pren-303-213-4-2-v2.0.1-2020>

---

# Intellectual Property Rights

## Essential patents

IPRs essential or potentially essential to normative deliverables 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 (<https://ipr.etsi.org/>).

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.

## Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

---

# Foreword

This draft European Standard (EN) has been produced by ETSI Technical Committee Electromagnetic compatibility and Radio spectrum Matters (ERM), and is now submitted for the combined Public Enquiry and Vote phase of the ETSI standards EN Approval Procedure.

The presumption of conformity which is linked to the full application of ETSI EN 303 213 (parts 1 to 4, 7, 8) can only be claimed after ETSI EN 303 213 (parts 1 to 4, 7, 8) has been listed in the Official Journal of the European Union as Community Specification.

General requirements for presumption of conformity to Regulation (EU) 2018/1139 [i.6] 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.

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 A-SMGCS surveillance service including external interfaces";
- Part 2: "Community Specification for A-SMGCS airport safety support service";
- Part 3: "Community Specification for a deployed cooperative sensor including its interfaces";
- Part 4: "Community Specification for a deployed non-cooperative sensor including its interfaces";**
  - Sub-part 1: "Generic requirements for non-cooperative sensor";
  - Sub-part 2: "Specific requirements for a deployed Surface Movement Radar sensor";**
- Part 5: "Harmonised Standard for access to radio spectrum for Multilateration (MLAT) equipment";
- Part 6: "Harmonised Standard for access to radio spectrum for deployed surface movement radar sensors";
- Part 7: "Community Specification for A-SMGCS routing service";
- Part 8: "Community Specification for A-SMGCS guidance service".

<b>Proposed national transposition dates</b>	
Date of latest announcement of this EN (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	6 months after doa

---

## Modal verbs terminology

In the present document "shall", "shall not", "should", "should not", "may", "need not", "will", "will not", "can" and "cannot" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

"must" and "must not" are **NOT** allowed in ETSI deliverables except when used in direct citation.

**iTeh STANDARD PREVIEW**  
 (standards.iteh.ai)  
 Full standard:  
<https://standards.iteh.ai/catalog/standards/sist/d65230d9-8fb0-4b81-9669-a2ab300d45f5/osist-pren-303-213-4-2-v2.0.1-2020>



---

# 1 Scope

The present document is applicable to deployed non-cooperative SMR sensor as a constituent of an Advanced Surface Movement Guidance and Control System (A-SMGCS).

NOTE 1: Generic requirements for a non-cooperative sensor are defined in ETSI EN 303 213-4-1 [1].

The present document provides a European Standard for manufacturers, Air Navigation Service Providers and/or Airport Operators, who have to demonstrate and declare compliance of their systems and constituents to the Essential Requirements (ERs) of Annex VIII of Regulation EU 2018/1139 [i.6].

NOTE 2: The ERs in Annex VIII of Regulation EU 2018/1139 [i.6] covered by the present document are outlined in Table A.1.

NOTE 3: Although the ERs of the SES Interoperability Regulation [i.1] have been repealed with effect from 11 September 2018 [i.6], a mapping of the requirements for the A-SMGCS Surveillance Service to this same regulation [i.1] is provided in Annex B.

Any software elements related to the software assurance level of an A-SMGCS are out of scope of the present document. As such the ERs of Regulation EU 2018/1139 [i.6] are not considered for software elements within the present document.

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

NOTE 4: For these ERs, the Air Navigation Service Provider will need to provide supplementary compliance within their Interoperability Technical Files.

The present document does not give presumption of conformity to any current interoperability Implementing Rules (IRs).

NOTE 5: Currently there are no relevant Implementing Rules for A-SMGCS.

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 if they are unambiguously referred to from the present document.

The reference to particular requirements is done either by citing the unambiguous requirement number or range of numbers (e.g. "[REQ 30.] to [REQ 35.]" ) or, if no requirement numbers are available, by indicating the paragraph and clause of the reference material where the requirement can be found.

NOTE 6: Other requirements and other EU Regulations and/or Directives may be applicable to the product(s) falling within the scope of the present document.

---

## 2 References

### 2.1 Normative 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 referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <https://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.

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

[1] ETSI EN 303 213-4-1: "Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Community Specification for a deployed non-cooperative sensor including its interfaces; Sub-part 1: Generic requirements for non-cooperative sensor".

[2] EUROCAE ED-116 (January 2004): "Minimum Operational Performance Specification for Surface Movement Radar Sensor Systems for Use in A-SMGCS".

NOTE: Available at <https://eshop.eurocae.net/eurocae-documents-and-reports/ed-116/>.

[3] EUROCAE ED-87 revision D (June 2019): "Minimum Aviation System Performance Specification for Advanced Surface Movement Guidance and Control Systems (A-SMGCS)".

NOTE: Available at <https://eshop.eurocae.net/eurocae-documents-and-reports/ed-87d/>.

## 2.2 Informative 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 referenced document (including any amendments) applies.

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

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 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] Void.

[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] Regulation (EU) No 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91.

## 3 Definition of terms, symbols and abbreviations

### 3.1 Terms

For the purposes of the present document, the terms given in EUROCAE ED-87D [3] and the following apply:

**Advanced Surface Movement Guidance and Control System (A-SMGCS):** system providing as a minimum Surveillance and which can include Airport Safety Support, Routing and Guidance to aircraft and vehicles in order to maintain the airport throughput under all local weather conditions whilst maintaining the required level of safety.

NOTE: This definition is derived from EUROCAE ED-87D [3].

**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 the system will operate satisfactorily at a given point in time when used under stated conditions in an ideal support environment

NOTE: This definition is derived from EUROCAE ED-87D [3].

**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

**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

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

**target:** aircraft, vehicle or other obstacle, whose image is displayed on a surveillance display

NOTE: This definition is derived from EUROCAE ED-87D [3].

**update:** renewal of Target Reports relating to all Targets under Surveillance

NOTE: This definition is derived from EUROCAE ED-87D [3].

### 3.2 Symbols

Void.