

ILNAS

Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

ILNAS-EN ISO 13141:2024

Electronic fee collection - Localization augmentation communication for autonomous systems (ISO 13141:2024)

Perception de télépéage -
Communications d'augmentation de
localisations pour systèmes autonomes
(ISO 13141:2024)

Elektronische Gebührenerhebung -
Kommunikation zur genauen
Ortsbestimmung für autonome Systeme
(ISO 13141:2024)

03/2024



National Foreword

This European Standard EN ISO 13141:2024 was adopted as Luxembourgish Standard ILNAS-EN ISO 13141:2024.

Every interested party, which is member of an organization based in Luxembourg, can participate for FREE in the development of Luxembourgish (ILNAS), European (CEN, CENELEC) and International (ISO, IEC) standards:

- Participate in the design of standards
- Foresee future developments
- Participate in technical committee meetings

<https://portail-qualite.public.lu/fr/normes-normalisation/participer-normalisation.html>

THIS PUBLICATION IS COPYRIGHT PROTECTED

Nothing from this publication may be reproduced or utilized in any form or by any mean - electronic, mechanical, photocopying or any other data carries without prior permission!

ILNAS-EN ISO 13141:2024

EUROPEAN STANDARD **EN ISO 13141**

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2024

ICS 35.240.60; 03.220.20

Supersedes EN ISO 13141:2015

English Version

**Electronic fee collection - Localization augmentation
communication for autonomous systems (ISO
13141:2024)**

Perception de télépéage - Communications
d'augmentation de localisations pour systèmes
autonomes (ISO 13141:2024)

Elektronische Gebührenerhebung - Kommunikation
zur genauen Ortsbestimmung für autonome Systeme
(ISO 13141:2024)

This European Standard was approved by CEN on 8 October 2023.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents	Page
European foreword.....	3

ILNAS-EN ISO 13141:2024 - Preview only Copy via ILNAS e-Shop

European foreword

This document (EN ISO 13141:2024) has been prepared by Technical Committee ISO/TC 204 "Intelligent transport systems" in collaboration with Technical Committee CEN/TC 278 "Intelligent transport systems" the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2024, and conflicting national standards shall be withdrawn at the latest by September 2024.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 13141:2015.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 13141:2024 has been approved by CEN as EN ISO 13141:2024 without any modification.



ILNAS-EN ISO 13141:2024

**International
Standard**

ISO 13141

**Electronic fee collection —
Localization augmentation
communication for autonomous
systems**

*Perception de télépéage — Communications d'augmentation de
localisations pour systèmes autonomes*

**Second edition
2024-02**



COPYRIGHT PROTECTED DOCUMENT

© ISO 2024

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	2
3 Terms and definitions	3
4 Abbreviated terms	4
5 Application interface architecture	5
5.1 General.....	5
5.2 Services provided.....	5
5.3 Attributes.....	6
5.4 Contract and toll context.....	6
5.5 Use of lower layers.....	6
5.5.1 Supported DSRC communication stacks.....	6
5.5.2 The use of the CEN DSRC stack.....	7
6 Conformance	7
6.1 Conformance requirements.....	7
6.2 Conformance statement.....	7
6.3 Conformance evaluation and testing.....	7
7 Functions	7
7.1 General.....	7
7.2 Functional requirements.....	7
7.2.1 Minimum supported transaction details.....	7
7.2.2 Initialising communication.....	8
7.2.3 Writing of data.....	8
7.2.4 Termination of communication.....	8
7.3 Security.....	8
7.3.1 General.....	8
7.3.2 Authentication of RSE — Access credentials.....	9
7.3.3 Authentication of LAC Data.....	9
8 Attributes	9
8.1 General.....	9
8.2 Data regarding location reference.....	10
8.3 Operational data.....	11
8.4 OBE contractual data.....	11
8.5 Security-related data.....	12
9 Transaction model	12
9.1 General.....	12
9.2 Initialisation phase.....	13
9.2.1 General structure.....	13
9.2.2 LAC application-specific contents of the BST.....	13
9.2.3 LAC application-specific contents of the VST.....	13
9.3 Transaction phase.....	13
Annex A (normative) LAC data type specifications	14
Annex B (normative) PICS proforma for the data elements in the attribute	15
Annex C (informative) ETSI/ES 200 674-1 communication stack usage for LAC applications	23
Annex D (informative) IR communication usage for LAC applications	26
Annex E (informative) ARIB DSRC communication stack usage for LAC applications	27
Annex F (informative) LAC transaction example	29