

TNI	Geografické informácie Analýza geopriestorových noriem na podporu bezproblémovej navigácie vo vnútornom a vonkajšom priestore (ISO/TR 19175: 2025)	TNI CEN ISO/TR 19175 01 9373
------------	---	--

Geographic information - Gap analysis of geospatial standards for indoor-outdoor seamless navigation (ISO/TR 19175:2025)

Táto technická normalizačná informácia obsahuje anglickú verziu CEN ISO/TR 19175:2025, ISO/TR 19175:2025.

This Technical standard information includes the English version of CEN ISO/TR 19175:2025, ISO/TR 19175:2025.

Táto technická normalizačná informácia bola oznámená vo Vestníku ÚNMS SR č. 09/25

141079



Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2025

Slovenská technická norma a technická normalizačná informácia je chránená zákonom č. 60/2018 Z. z. o technickej normalizácii v znení neskorších predpisov.

TECHNICAL REPORT

CEN ISO/TR 19175

RAPPORT TECHNIQUE

TECHNISCHER REPORT

June 2025

ICS 35.240.70; 33.070.40

English Version

Geographic information - Gap analysis of geospatial standards for indoor-outdoor seamless navigation (ISO/TR 19175:2025)

Information géographique - Analyse des écarts des normes géospatiales pour la navigation continue intérieure-extérieure (ISO/TR 19175:2025)

Geoinformation - Lückenanalyse von Geoinformationsstandards für barrierefreie Navigation (ISO/TR 19175:2025)

This Technical Report was approved by CEN on 6 June 2025. It has been drawn up by the Technical Committee CEN/TC 287.

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

CEN ISO/TR 19175:2025 (E)

Contents	Page
European foreword.....	3

European foreword

This document (CEN ISO/TR 19175:2025) has been prepared by Technical Committee ISO/TC 211 "Geographic information/Geomatics" in collaboration with Technical Committee CEN/TC 287 "Geographic Information" the secretariat of which is held by BSI.

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.

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.

Endorsement notice

The text of ISO/TR 19175:2025 has been approved by CEN as CEN ISO/TR 19175:2025 without any modification.



Technical Report

ISO/TR 19175

Geographic information — Gap analysis of geospatial standards for indoor-outdoor seamless navigation

*Information géographique — Analyse des écarts des normes
géospatiales pour la navigation continue intérieure-extérieure*

**First edition
2025-06**

ISO/TR 19175:2025(en)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2025

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

ISO/TR 19175:2025(en)**Contents**

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms, definitions and abbreviated terms	1
3.1 Terms and definitions	1
3.2 Abbreviated terms	3
4 Indoor-outdoor seamless navigation	4
4.1 Overview	4
4.2 Indoor navigation.....	4
4.3 Issues for indoor-outdoor seamless navigation.....	5
4.4 Requirements for indoor-outdoor seamless navigation	5
5 Conceptual architecture for indoor-outdoor seamless navigation	6
5.1 Overview	6
5.2 Use case development	7
6 Gap analysis	10
6.1 Overview	10
6.2 Indoor-Outdoor Map Specification for Indoor-Outdoor Navigation.....	11
6.3 Guide for the integration of indoor and outdoor data for indoor-outdoor navigation	12
6.4 Data Model of Indoor-Outdoor Positioning References.....	12
6.5 Guide for context information exchange for indoor-outdoor seamless navigation	13
7 Applications examples of indoor-outdoor seamless navigation	13
8 Summary and Recommendation	14
Bibliography	15

ISO/TR 19175:2025(en)**Foreword**

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 211, *Geographic Information/Geomatics*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 287, *Geographic information*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

ISO/TR 19175:2025(en)**Introduction**

With the spread of nomadic and mobile devices such as smart phones, and the rapid expansion of indoor spaces, many of the services and facilities related to the transport system have become accessible to indoor spaces. Consequently, indoor-outdoor seamless navigation is becoming more important as an extension of existing navigations. For indoor or outdoor navigation, there are several standardization activities which could improve interoperability of data and services.

Geographic information — Gap analysis of geospatial standards for indoor-outdoor seamless navigation

1 Scope

The objective of this document is to analyse gaps in geospatial standards for indoor-outdoor seamless navigation. This document is intended to be used by designers, developers and providers of outdoor or indoor navigation services.

This document:

- a) specifies the concepts for the indoor-outdoor seamless navigation;
- b) outlines conceptual architecture and scenarios (or use-cases) for indoor-outdoor seamless navigation;
- c) analyses the gap of the current geospatial standards for implementing the indoor-outdoor seamless navigation;
- d) highlights standardization items to be proceeded to get more interoperability.

2 Normative references

There are no normative references in this document.

koniec náhľadu – text ďalej pokračuje v platenej verzii STN