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STN P	**Rozhranie služieb pre informácie v reálnom čase týkajúce sa prevádzkovania verejnej dopravy (SIRI) Časť 7: Európsky profil informácií pre pasažiera v reálnom čase**	**STN P CEN/TS 15531-7** 01 8533

Service Interface for Real Time Information (SIRI) - Part 7: Passenger Real-Time Information European Profile

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 10/25

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English Version

Service Interface for Real Time Information (SIRI) - Part 7: Passenger Real-Time Information European Profile

Serviceschnittstelle für Echtzeitinformationen (SIRI) - Europäisches Profil für Echtzeitinformationen von Reisenden

This Technical Specification (CEN/TS) was approved by CEN on 30 June 2025 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

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

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European foreword

This document (CEN/TS 15531-7:2025) has been prepared by Technical Committee CEN/TC 278 “Road transport and traffic telematics”, the secretariat of which is held by NEN.

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This document presents a Real-time Passenger Information European Profile of the European Technical Specification known as SIRI. SIRI provides a framework for specifying communications and data exchange protocols for organizations wishing to exchange Real-time Information relating to public transport operations.

SIRI is presented in eight main parts:

- context and framework, including background, scope and role, normative references, terms and definitions, symbols and abbreviations, business context and use cases (CEN/TS 15531-1);
- the mechanisms to be adopted for data exchange communications links (CEN/TS 15531-2);
- data structures for a series of individual application interface modules (CEN/TS 15531-3):
    - Production Timetable (SIRI-PT);
    - Estimated Timetable (SIRI-ET);
    - Stop Timetable (SIRI-ST);
    - Stop Monitoring (SIRI-SM);
    - Vehicle Monitoring (SIRI-VM);
    - Connection Timetable (SIRI-CT);
    - Connection Monitoring (SIRI-CM);
    - General Message (SIRI-GM).

Additional documents are used for additional functional services, to date these are:

- Facilities Monitoring (SIRI-FM) (CEN/TS 15531-4);
- Situation Exchange (SIRI-SX): The SIRI Situation & Incident Exchange service is used to exchange information messages between identified participants in a standardised structured format suitable for travel information services. It enables messages to be sent and to be revoked. Messages are assigned validity periods in addition to the actual content (CEN/TS 15531-5).
- Control Actions (SIRI CA) to exchange the detailed description of the Control Actions as operated by AVMS (CEN/TS 15531-6).
- European Passenger Information Profile Real-Time – EPIP-RT (this document)

The XML schema can be downloaded from https://github.com/SIRI-CEN/SIRI, along with available guidance on its use, example XML files, and case studies of national and local deployments. The SIRI-FM service is included in version 1.3 of the schema onwards.

It is recognised that SIRI is not complete as it stands, and it is designed such that it can be extended over the coming years. Further work is directed by a SIRI Management Group which exists at European level, based on the composition of SG7.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

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

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to announce this Technical Specification: 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.

Introduction

Public transport services rely increasingly on information systems to ensure reliable, efficient operation and widely accessible, accurate passenger information.

Well-defined, open interfaces have a crucial role in improving the economic and technical viability of Public Transport Information Systems of all kinds. Using standardised interfaces, systems can be implemented as discrete pluggable modules that can be chosen from a wide variety of suppliers in a competitive market, connecting diverse systems, rather than as monolithic proprietary systems from a single supplier. Interfaces also allow the systematic automated testing of each functional module, vital for managing the complexity of increasing large and dynamic systems. Furthermore, individual functional modules can be replaced or evolved, without unexpected breakages of obscurely dependent function.

The SIRI framework is a European Technical Specification that provides a specification for a number of functional interfaces that allow public transport data of specific types to be exchanged readily using structured interfaces.

Profiles – a Rationale

Standards are by their nature and definition, consensus documents. In the case of the CEN and ISO standards, and more particularly in the field of traffic applications, these are established at an international level, with a significant number of different stakeholders involved in their development and discussion. This means that CEN and ISO standards take into account requirements that are far beyond many local implementations of such standards. Implementing a standard for a complex data model (such as that for transport) represents a significant investment, so care is taken to achieve a comprehensive and well abstracted solution and standards are written to have with the longest possible life and stability.

These factors tend to result in standards documents being large and detailed, consequently requiring significant effort to read and understand – and this is certainly the case for Transmodel and NeTEx. It may also be difficult to see how the standard can best applied in practice, since there are many subtle choices to make out of all the possibilities and there is insufficient space to include extensive examples in the formal documentation.

Another cause of complexity is that standards such as NeTEx and SIRI (since they were developed to harmonise different national standards), include features and options whose purpose is to ensure compatibility with the different systems developed in specific countries. For example, SIRI includes services dedicated to the advanced management of connection guarantees, as implemented in the German VDV standard, but used only in a few countries such as Switzerland and Germany; NeTEx also includes features to help compatibility with practices peculiar to particular countries, such as are found in the French NEPTUNE, British TransXChange, Swedish NOPTIS, etc. standards.

In addition, local or national specificities may require the specific use of a specific data sets and specific identifier systems for particular information. For example, the UK has a national system for the identification of stops (NaPTAN), which is naturally required to be used within NeTEx and SIRI exchanges, but which is not relevant for other European countries except in a few cross-border services.

Finally, some elements proposed by the standards are optional and relevant only for a particular business context: so that it needs to be decided if these items are relevant for a particular implementation or not.

A profile is intended to address some of the above issues by offering a predefined set of choices for use in specific context, and setting out additional explicit rules that help to simplify implementation.

Additionally, a profile can be accompanied by the definition of specific testing procedures to assess the conformance of the implemented solution with the profile.

A profile remains fully compliant with the standard; it merely implements a subset, using a well-defined code system.

From a practical point of view, profiles can be seen as a set of implementation guidelines; instead of having to face the challenge of analysing the whole standard, discovering the relevant parts for a given application, and then adjusting optional values and parameters for the intended application, a profile can be specified to address the needs of a particular application and then used for any subsequent similar initiatives.

The European Real-Time Passenger Information Profile (EPIP-RT)

This profile focuses on information relevant for feeding passenger information services, it therefore excludes operational information that is not relevant for this purpose. It is designed to complement the NeTEx European Passenger Information Profile (EPIP - FprCEN/TS 16614-4) that focuses on scheduled information.

Typical use cases for the Real-Time Passenger Information Profile are:

- provision of real-time updates to a journey planner, i.e. to previously planned network and journey data.
- provision of data to real-time printing/visualisation tools.
- provision of data to a mapping tool to show the movements of vehicles on a map (possibly interactive).
- Ability to follow up arrival and departure times.

The profile has been designed to be as concise as possible and to focus on the data elements needed to fulfil the EC's *Priority action (b) of ITS-Directive*.

- This means that features specific to a particular country will in general not be included (the profile is designed to be sharable across Europe, and data sets compliant with it are expected to be usable by any SIRI conformant passenger information system in Europe).
- Each country may also define a further national SIRI Profile (for internal use nationally), extending the European profile and providing additional information.
- In the interests of simplicity, a number of the more complex features specific to certain modes have also been omitted from the formal profile, for example boarding position on train platforms.

Practical value

An European profile for exchanging uniform real-time data is valuable for:

- Legislative bodies and National Access Points (NAP) for public transport data
    - To efficiently collect all real-time data from each data provider, ensure consistency of data, and increase data quality
    - To facilitate multimodal information systems
    - To implementing national and international journey planning solutions
    - To publicize business neutral information to interested parties
- Public transport operators
    - To use available data in their own journey planning-, ticketing-, and information systems, offering improved service to their customers
- Travellers
    - To present relevant, and up-to-date, high-quality journey suggestions and ticketing
- Third party service providers
    - To minimizing costs related to supporting exchange formats, and to contribute to continued growth of standardized public transport data exchange

Data consistency and Quality

One of the goals of a profile is to simplify and enhance interoperability. However, mere syntactic compliance with the EPIP-RT profile alone will not guarantee interoperability; the data being exchanged must

also be of good quality -- that is, complete and self-consistent as data -- and correspond to the external reality it is meant to be describing.

The profile therefore also includes a set of consistency and quality checking rules. Following these rules will not, of course, necessarily guarantee the absolute quality of any dataset (nor will it validate the data against the real-world), but will prevent many of the basic quality issues that are commonly encountered. A number of rules may be controlled automatically-- for example, it is possible to check that a SERVICE JOURNEY has MONITORED CALLs for each stop, and that these are plausibly spaced -- but other quality measures cannot necessarily be checked. For example, the lack of a CALL name can be detected, as can the use of a duplicate, but not whether it is actually the correct one in use in the real-world.

SIRI versions

The EPIP-RT is specified for the revised version 2.1 of SIRI, issued in 2021. It may also be used with the previous versions of SIRI, issued from 2009, though certain elements are of course lacking.

If recourse to the SIRI specification is needed, it is strongly recommended that the 2.1 version is used as it contains numerous clarifications and corrections to the previous documents.

1 Scope

This document is a profile of EN resp. CEN/TS 15531 series. It focuses on information relevant to feed passenger information services fulfilling the expectation of the ITS Directive Delegated Regulation (EU-wide Multimodal Travel Information Services, Commission Delegated Regulation (EU) 2017/1926 MMTIS DR , amended by Regulation (EU) 2024/490).

SIRI is dedicated to the exchange of Real Time data, complementing NeTEx which is dedicated to the exchange of scheduled data. Both are based on Transmodel (EN 12986 series). SIRI supports information exchange of relevance to public transport services for passenger information and AVMS systems.

As for most data exchange standards, defining subsets of data and dedicated rules for some specific use case is of great help for implementers and for the overall interoperability. This subset is usually called profile and this profile targets passenger information as only use case.

This profile is also designed to complement the NeTEx EPIP profile with real time information, and is therefore named EPIP-RT: both profiles are well articulated and can be uses seamlessly (at national level in NAPs -National Access Points- or at any local level where both scheduled and real time information are consistently provided).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 15531-1:2022, *Public transport - Service interface for real-time information relating to public transport operations - Part 1: Context and framework*