



Specification Framework

The specification framework will supply a definition of:

1. What is included in a EuroRoadS content (core European road data) and
2. How EuroRoadS content is transferred between content and information providers.



These specifications will enable a uniform and efficient data transfer between producers of road data and providers of information and services for end users. To accomplish this, it is essential to agree in a couple of areas:

- A common understanding of the road network domain and issues of interest within that domain.
- A common “road network language”. Without a common language it is not possible to communicate. This language needs to be of an appropriate formality and as unambiguous as possible. This is the EuroRoadS Road Network Information Model. We also need to define a clear “mapping” between the real world features and the concepts in the information model. This is the EuroRoadS Specification of European Road Data.
- All data that is available through EuroRoadS will be published on a metadata server. When data is actually exchanged, there is a need to declare and describe the content of the exchanged data. The metadata necessary for EuroRoadS will be defined in the Metadata Catalogue.
- A common definition on how we use data structures to represent the various concepts defined by the road network information model in a data exchange situation is defined by the EuroRoadS Data Exchange model. This document also specifies some rules for how a data user could specify the content of the exchanged data. The EuroRoadS Data Exchange Format defines a specific EuroRoadS XML schema according to GML.

Content

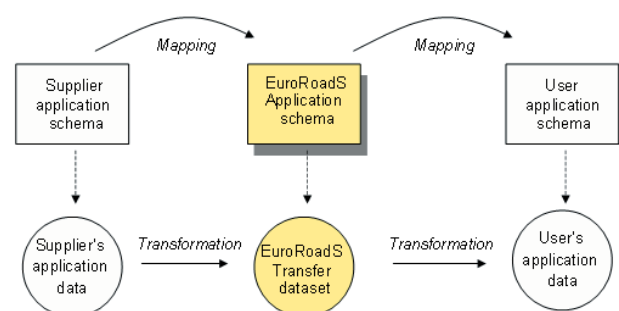
The specification framework consists of:

- a road network information model that defines road network feature types and a method for relating attributes and features to the network,
- a definition of core European road data within the proposed structure. This specifies a basic level of data content proposed to be provided to the European market,
- a Specification of a data exchange model and format together with a metadata catalogue, showing the characteristics and coverage of the accessible information. The data exchange model and format will support exchange of complete data sets and incremental updates,
- a terminology catalogue including definitions of road data related words used in the different specifications.

These specifications can be implemented in an interface solution, supporting an easy access to European road data defined as above.

Road network information model

The road network information model expresses the various road data concepts in a formalized way using application schema rules from ISO 19100 in order to create a “unified and harmonized road data language”. Using these rules means in practice to create application schemas using the UML language defining classes that represent the various concepts from the EuroRoadS domain. This is fundamental for exchanging data.



EuroRoadS exchange format

Existing road data arrangements across Europe are highly variable, EuroRoadS will specify harmonized ways to represent road data. Therefore, when providing data in EuroRoadS format, each content provider will need to transform their data according to the EuroRoadS representation. Data users may also need to transform data received, in the EuroRoadS format, according to their own data model.

The aim is to facilitate exchange of data between EuroRoadS and GDF and RADEF, as well as other formats.

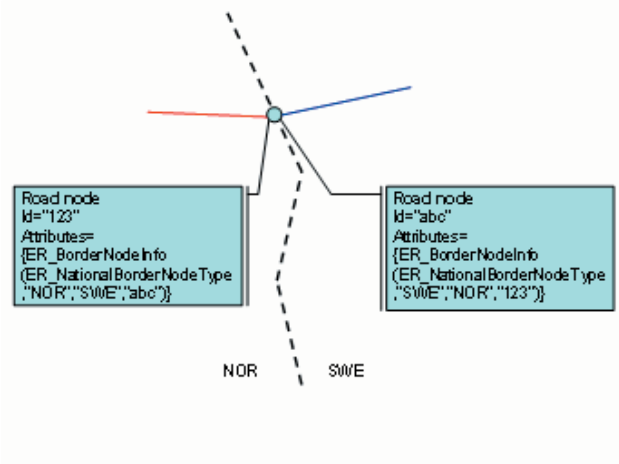
Core European road data

EuroRoadS is focused on core European road data. The definition of core European road data specifies a basic level of data content that is expected to be needed for the European market. Core road data can be seen as comprising the minimum requirements for a “road data infrastructure”, when:

- functioning as reference data, to which other kinds of information may be linked,
- serving many different kinds of applications (as common denominator and integrator between different data suppliers and product and service providers),
- containing information of specific interest for the public sector in its role to support efficient transportation, traffic safety, to handle environmental and social planning etc,
- being part of the European Spatial Data Infrastructure and thereby, for example, being easily linked to other kinds of reference information, such as geographical names, administrative units and addresses,
- covering (the entire) Europe,
- providing a structure stable over time – even if data content changes frequently,
- having specific interest for applications needing cross border (pan-European) data.

EuroRoadS defines core European road data in three groups:

1. **mandatory** – data that must be supplied by the EuroRoadS exchange format regardless of the application to be supported – e.g. geometry, UUID/GUID (Universal Unique Identifier/Global Unique Identifier), functional road class, traffic importance, form of way, road type,
2. **optional** – data that can be supplied by the EuroRoadS exchange format regardless of the application to be supported – e.g. address, border node information etc.
3. **conditional** – data needed for a specific application area – e.g. data needed for navigation.



Data exchange

The data exchange specification defines how the real world objects represented by concepts in the information model are expressed in a data format. The same data format should apply regardless of the data source of the conversion tools used. GML – Geography Markup Language – is prescribed for exchanging EuroRoadS data. There should be a clear connection between the information model classes and the various XML elements specifying the data structures for EuroRoadS data.

Contact

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