



# National Road Data Base

**ISO and CEN Standardization work**

Trond Hovland

NPRA



# Agenda

- Short general information on NRDB
- ISO TC211 and TC204
- CEN and domestic standards
- Status and Summing-Up

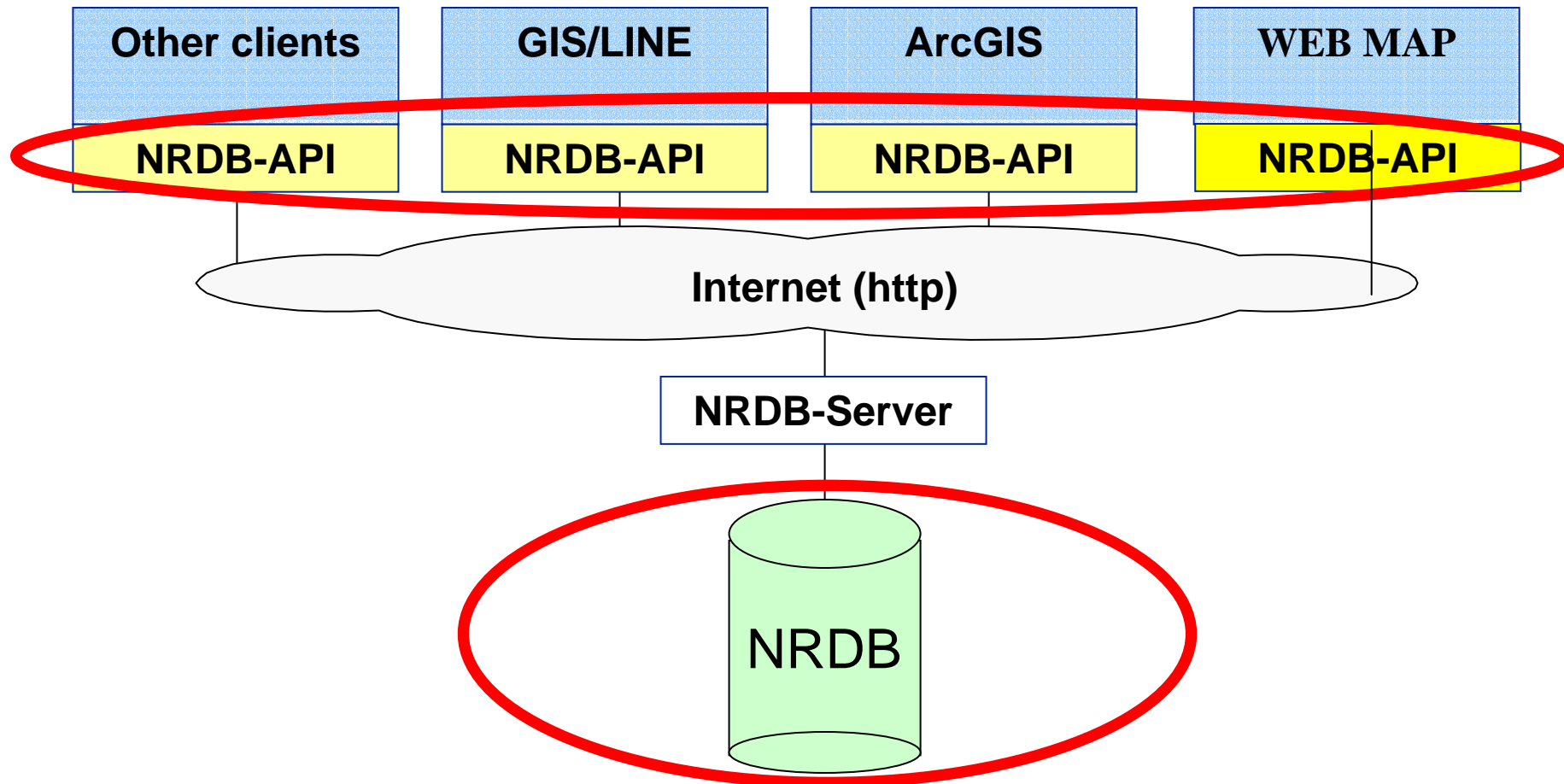


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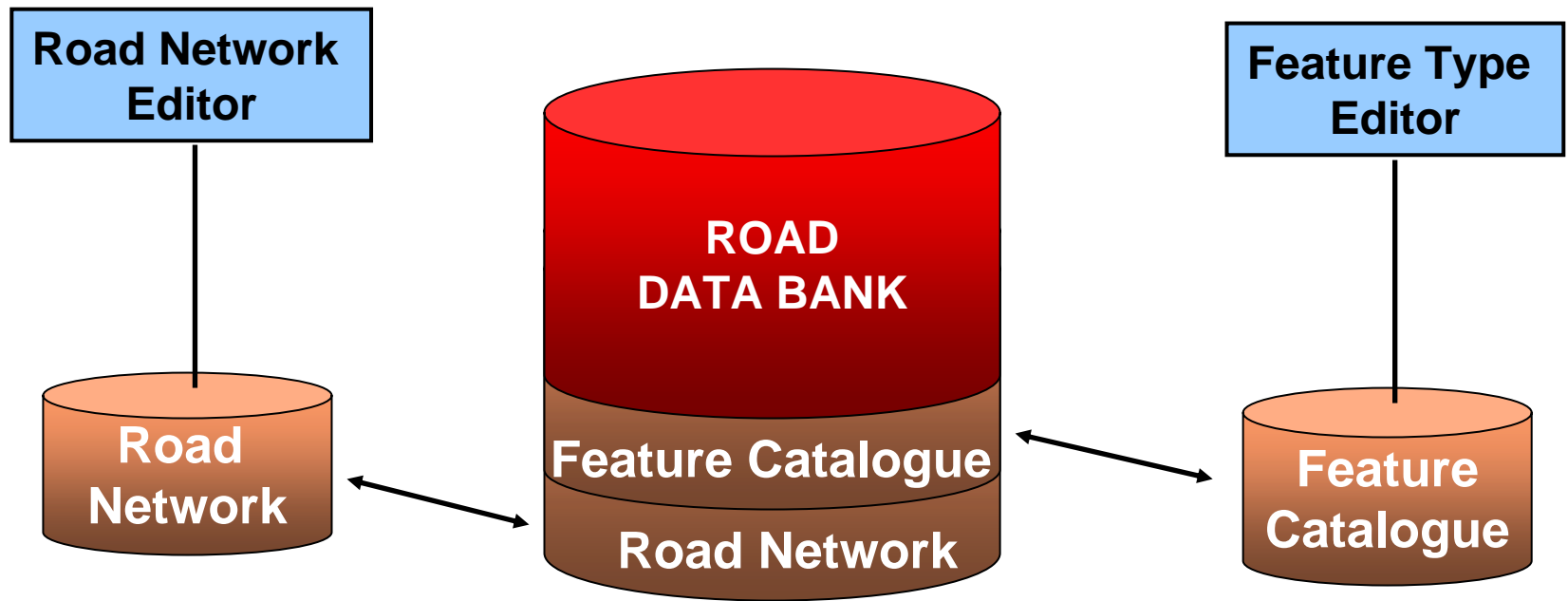
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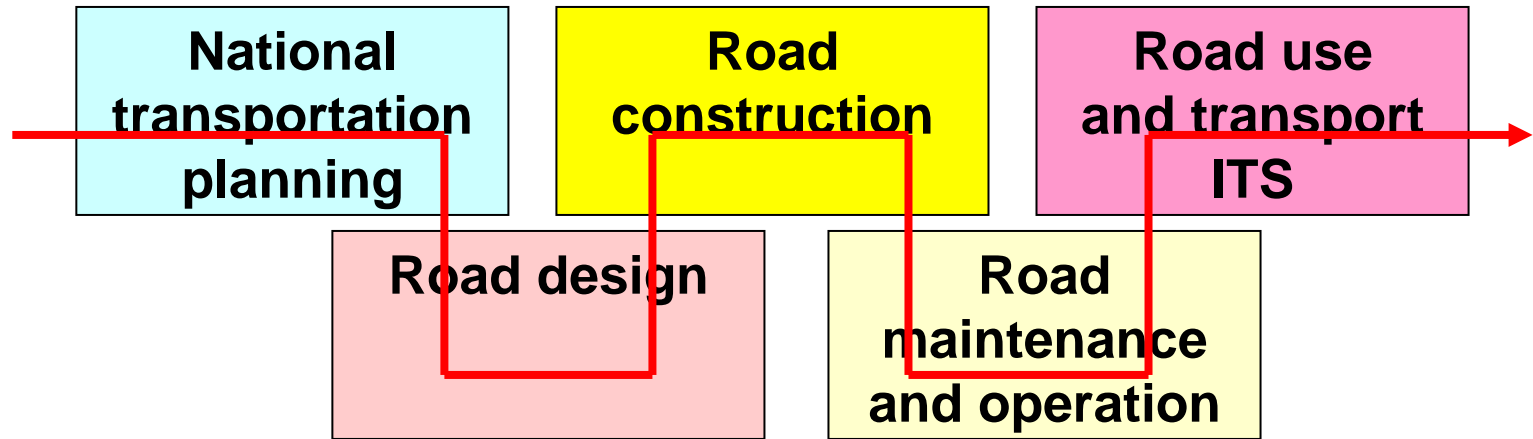
# Short general information on NRDB



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# Short general information on NRDB



**Road Network Model and Feature Catalogue Model**

**Standardization (ISO/CEN and national bodies)**

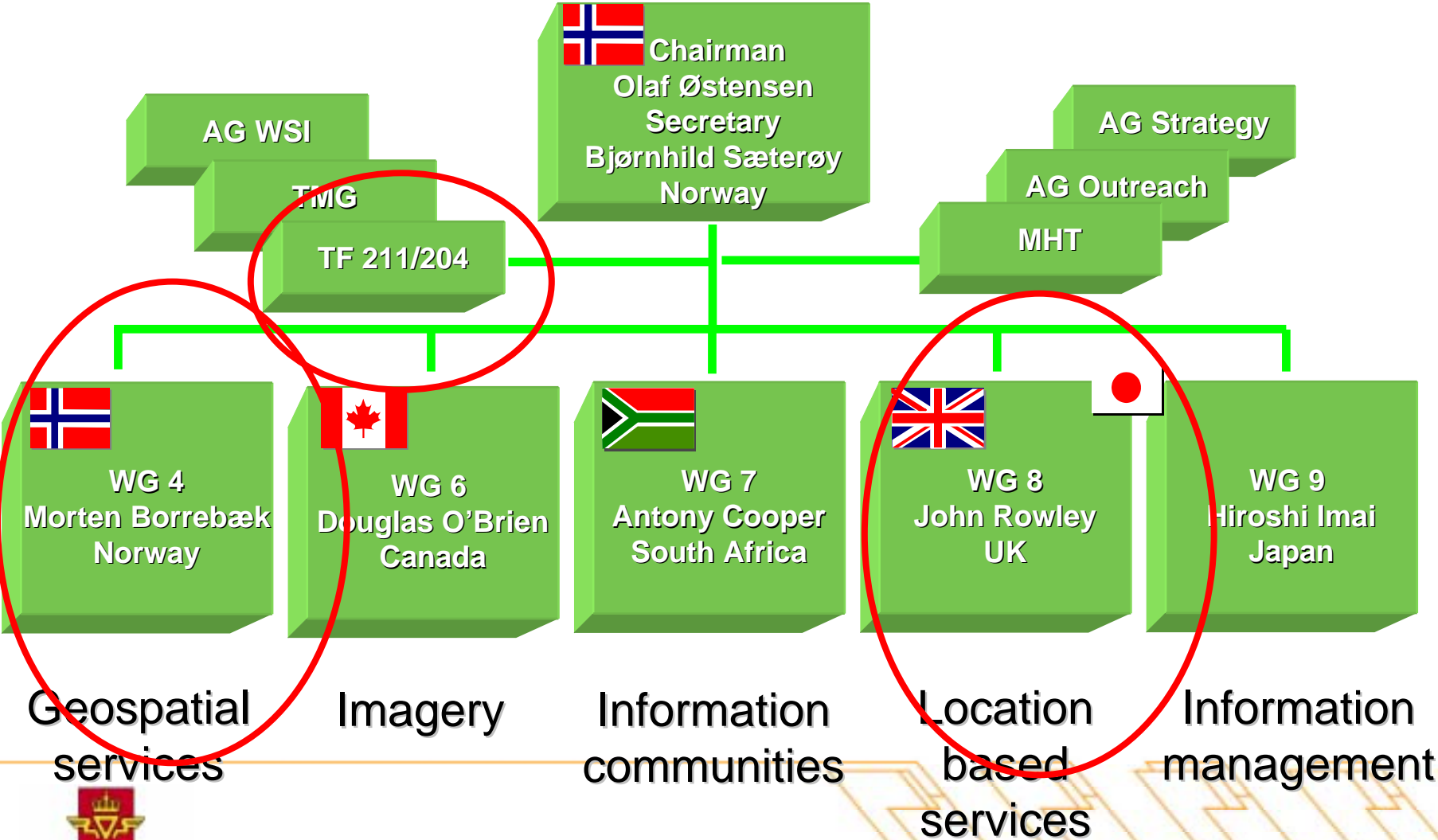


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# ISO/TC 211 organization





# ISO/TC 211 Standards

## ISO TC211: Geographical Information

Color legend:  
**DIS**, **FDIS**, **IS**

- ISO 6709:1983, Standard representation of latitude, longitude and altitude for geographic point locations
- ISO 19101 - Reference model
- ISO 19102 – Overview - deleted
- **ISO/TS 19103 - Conceptual schema language**
- **ISO 19104 - Terminology**
- ISO 19105 - Conformance and testing
- **ISO 19106 - Profiles**
- ISO 19107 - Spatial schema
- ISO 19108 - Temporal schema
- **ISO 19109 - Rules for application schema**
- ISO 19110 - Feature cataloguing methodology
- ISO 19111 - Spatial referencing by coordinates
- ISO 19112 - Spatial referencing by geographic identifiers
- ISO 19113 - Quality principles
- ISO 19114 - Quality evaluation procedures
- ISO 19115 - Metadata
- **ISO 19116 - Positioning services**
- **ISO 19117 – Portrayal**
- **ISO 19118 - Encoding**
- **ISO 19119 - Services**
- ISO/TR 19120 - Functional standards + new rev
- **ISO/TR 19121 Imagery and gridded data**
- ISO/TR 19122 - Qualifications and certification of personnel
- ISO 19123 - Schema for coverage geometry and functions
- **ISO/RS 19124 - Imagery and gridded data components**
- **ISO 19125 - Simple feature access – Part 1-3**
- ISO 19126 - Profile - FACC Data Dictionary
- ISO 19127 - Geodetic codes and parameters
- **ISO 19128 - Web Map Server Interface**
- ISO 19129 - Imagery, gridded and coverage data framework
- ISO 19130 - Sensor and data model for imagery and gridded data
- ISO 19131 - Data product specification
- ISO 19132 - Location based services possible standards
- ISO 19133 - Location based services tracking and navigation
- ISO 19134 - Multimodal location based services for routing and navigation
- ISO 19135 - Procedures for registration of geographic information items
- ISO 19136 – Geography Markup Language (GML)
- ISO 19137 - Generally used profiles of the spatial schema and of similar important other schemas



# TC/211 standards used in NRDB

<b>19109</b>	<b>Rules for application schema</b>	<b>FC, DM</b>
<b>19110</b>	<b>Feature catalogue methodology</b>	<b>FC</b>
<b>19107</b>	<b>Spatial schema</b>	<b>Topology</b>
19108	Temporal schema	History
19111	Direct referencing	Coordinates
19112	Indirect referencing	LRS
19115	Metadata	Meta
19118	Encoding, XML	
19136	Geography mark-up language, GML	Encoding
19132	LBS - framework	
19133	Tracking and Navigation	Topology
19134	Multimodal LBS..	



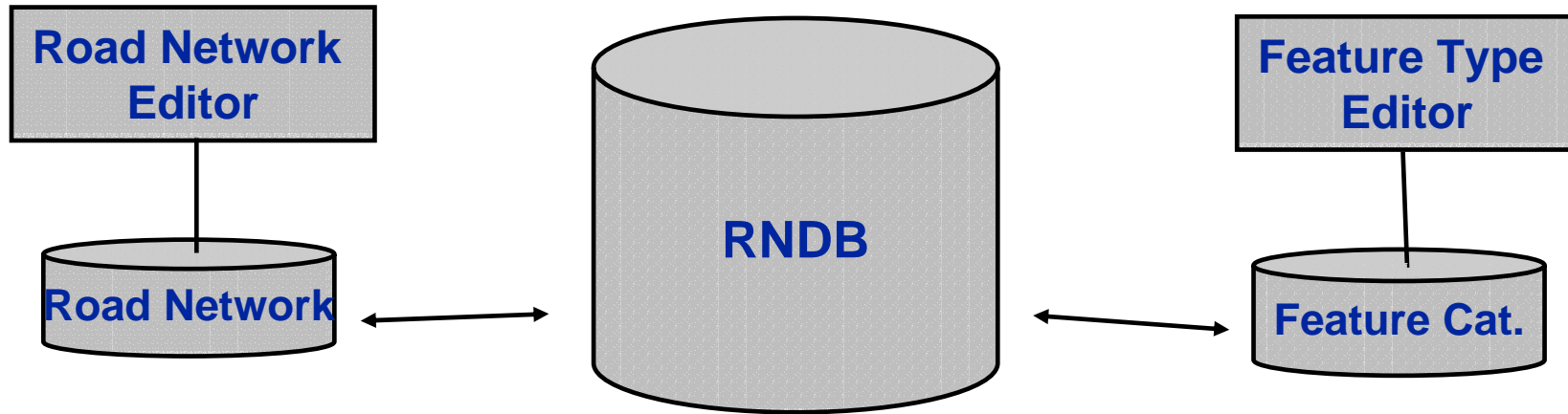
# TC/204 standards used in NRDB

## ISO TC204: Intelligent Transportation System (ITS)

- GDF (Geographic Data Files)      FC, Topology, Encoding
- TMC/RDS      LRS
  
- NWIP, LRS      LRS
- Calm (new)      LRS, Topology



# TC/211 standards used in NRDB

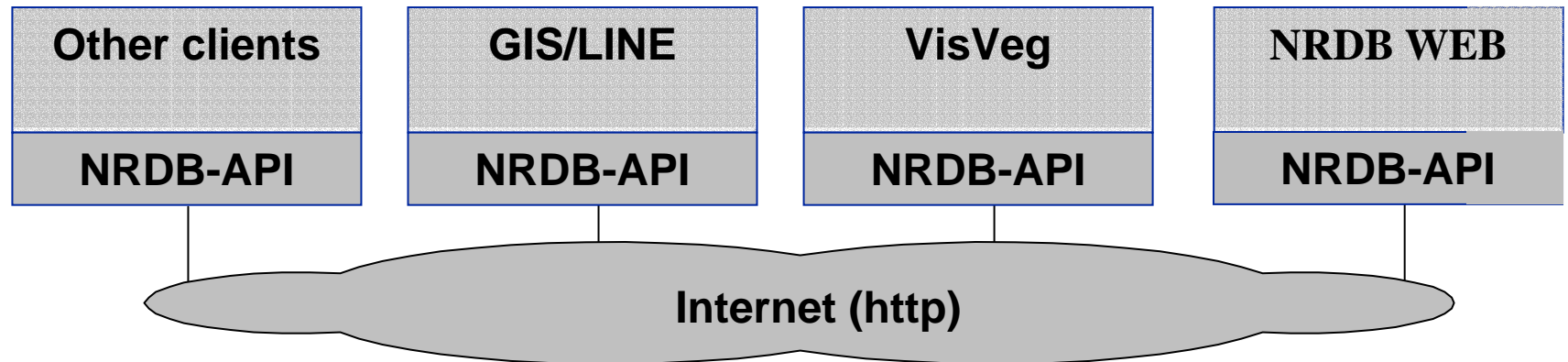


19107 Spatial schema  
19108 Temporal schema

19109 Rules for application schema  
19110 Feature catalogue methodology



# TC211/TC204 standards used in NRDB



19133 Tracking and Navigation

19134 Multimodal LBS..

19118 Encoding, XML

19136 Geography mark-up language, GML

GDF Geographic Data Files

TMC/RDS



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# CEN and domestic standards

CEN TC287 Geographic Information, an overview:

- 1992 : The TC was established
- It developed a number of Env's (suggested standards)
- 1998/99: The task was taken over by ISO TC211 and the CEN TC went officially dormant 2000-08-09
- 2003 : The TC was revived to adopt the emerging TC211 standards.
- Future: Avoid double work and support INSPIRE and EuroRoads



# CEN and domestic standards

## CEN TC287 and consequences for Norway

- ISO-standards will be adopted or profiled into CEN-standards
- The CEN-standards will become domestic standards.

It is important to participate:

- To influence the process
- To prepare the appropriate community in Norway



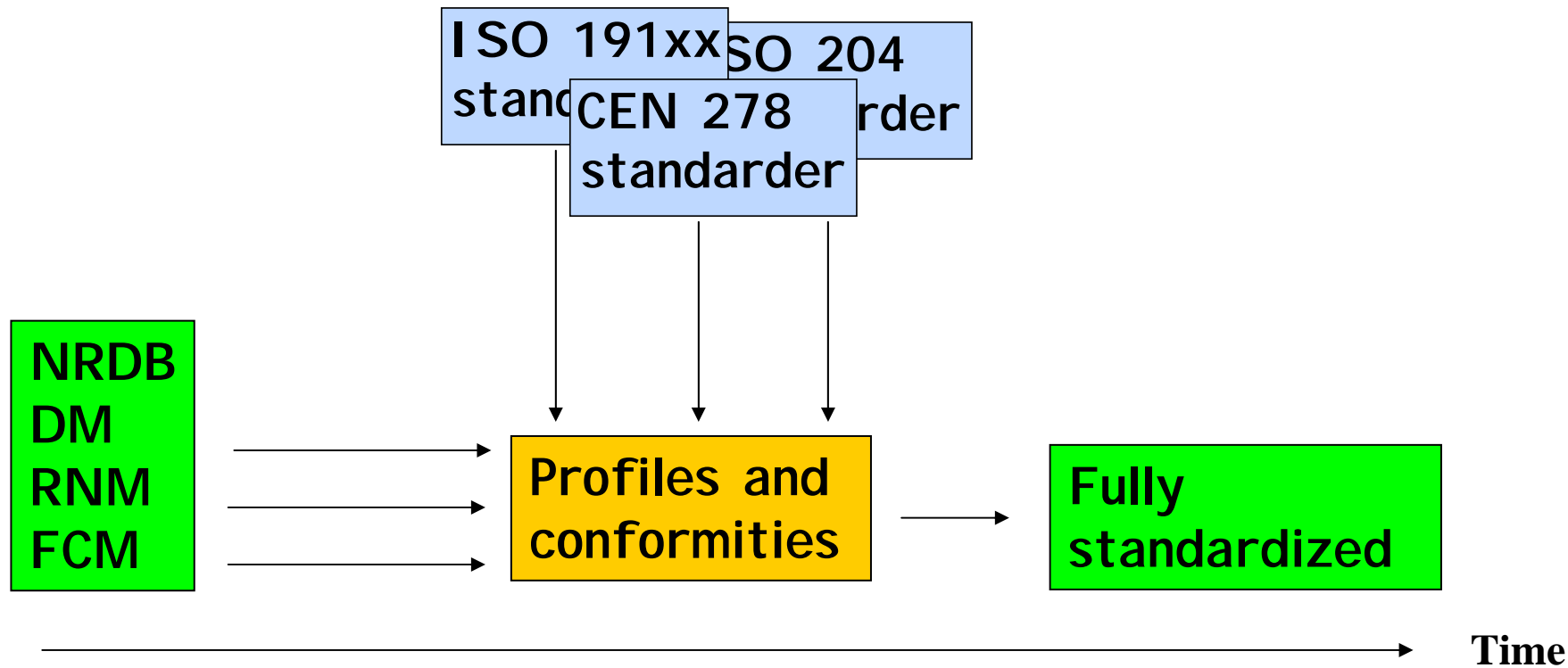


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# Status and Summing-Up



# Status and Summing-Up

## Why Standardize?

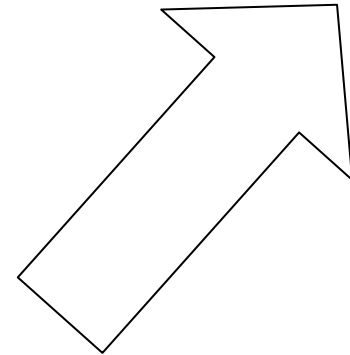
- Get the modeling process started
- Open solution – provide interoperability

## Why participate?

- Get information and gain/increase competence
- Exercise influence
- It is very rewarding

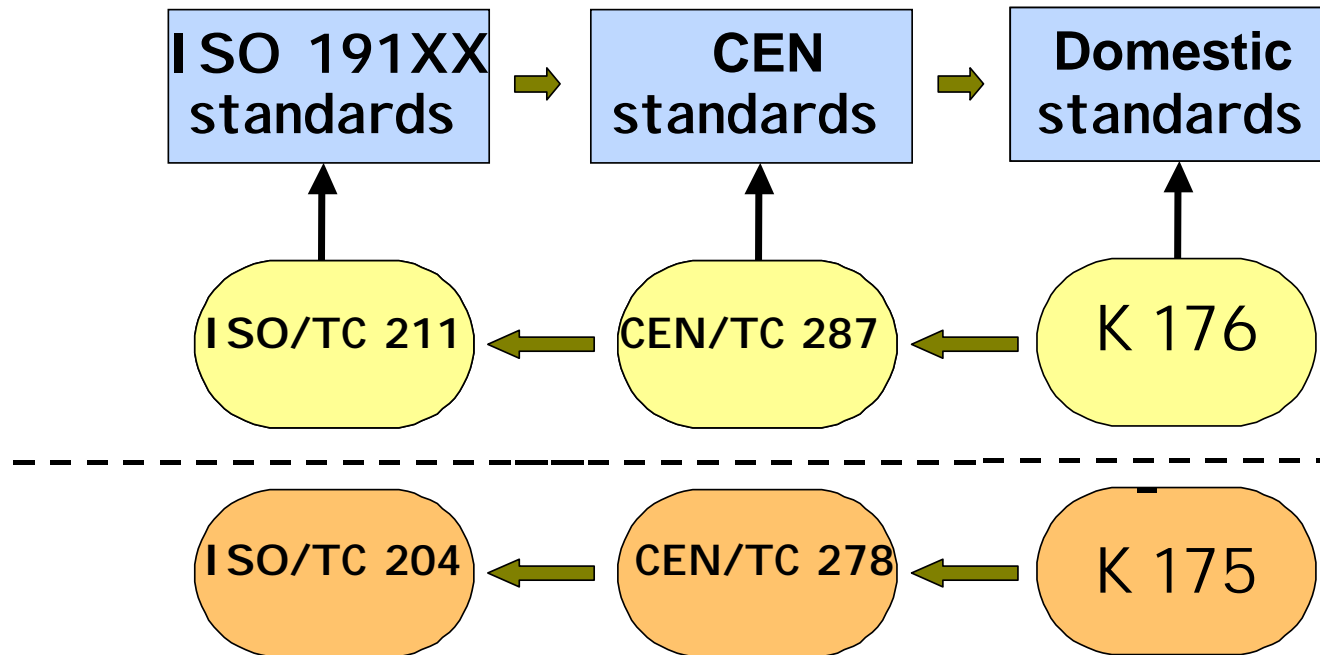


Finland + Norway = Good results!



# Status and Summing-Up

## Geographic Information/Geomatics



## Intelligent Transportation Systems

