INSPIRE Data as base for the National Transport Planning

Workshop “Use of INSPIRE data: past experiences and scenarios for the future”

Warsaw, 27-28 November 2018
A little bit of context

- INSPIRE GRI-TN main milestones
- HERMES project
- Spanish National Transport & Infrastructure Innovation Plan 2018-2020

Use of GRI-TN dataset

- Expected use
- Additional tasks
- Advantages of using GRI-TN dataset
- Challenges
A little bit of context

INSPIRE GRI-TN (Spanish dataset): main milestones

HERMES Project

National Transport & Infrastructures Innovation Plan 2018-2020
2006

**Cartociudad project starts**

- Collaborative project lead by IGN
- Continuous road network with marker points
- Urban mapping and toponymy
- Post codes
- Census districts and tracts
A little bit of context

INSPIRE TN Data: main milestones (production)

National Map  
1:25000

Cartociudad  
1:1000-1:10.000
INSPIRE TN Data: main milestones (production)

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2014
Cartociudad - 1st version released
Published through open and free web services, compliant with the OGC standards, and implemented according to the ISO and INSPIRE frameworks
A little bit of context

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GRI TN project kicks off
- 3D transport network compliant with INSPIRE requirements
- 5 transport modes (rail, road, aerial, maritime and cable) and their connections.
- By integration of IGN data and data provided by the main national and regional transport authorities and stakeholders.
A little bit of context

INSPIRE TN Data: main milestones (production)

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**GRI TN - 1st version released**
In compliance with the INSPIRE Directive regarding data model, metadata and web services.

**March 2017**

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INSPIRE TN Data: main milestones (production)

GRI TN - 1st version released

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March 2017

1111 airports
469 maritime ports
INSPIRE TN Data: main milestones (production)

GRI TN - 1st version released
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March 2017

- 2801 rail stations
- 18944 railway kilometers
- 166871 road kilometers
- 17377 high capacity road kilometers
A little bit of context

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March 2017
Since March 2017
- Maintenance
- Continuous improvement
- Adaptation to users' needs

A little bit of context
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INSPIRE TN Data: main milestones (cases of use)

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A little bit of context
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End of 2017
HERMESIS project
Goal

Develop a **multimodal cross-wise information system** to improve the efficiency of the Ministry of Fomento in carrying out its **functions**:

- **develop policies** regarding national scope transport infrastructures, **monitor** their execution and to **evaluate** their results
- accomplish the **requirements** of the TransEuropean Network of Transport (**TEN-T**) 
- accomplish the **requirements** of the **CEF** (Connecting Europe Facilities) funding.
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End of 2017
HERMES project

2018-2020
National Transport and Infrastructure Innovation Plan

A little bit of context
What it is

A cross-cutting plan that aims to set the joint roadmap and a framework of common initiatives for the coming years, integrating and coordinating the activity of the Ministry of Fomento and the main national transport stakeholders with regard to innovation, fostering collaboration and cooperation, and encouraging the creation of synergies.
Major strategic areas

- **E1 - User Experience** (from both its physical and digital perspectives) as key need
- **E2 - Smart Platforms** (to gather and articulate the information from different services and infrastructures) as the foundation in which the other three axes should rest
- **E3 - Smart Routes**, supported by cross-cutting platforms and predictive systems
- **E4 - Energy Efficiency and Sustainability** of transport services and infrastructures
Major strategic areas: lines in which GRI-TN data are involved

- **E1 - User Experience** (from both its physical and digital perspectives) as key need
- **E2 - Smart Platforms** (to gather and articulate the information from different services and infrastructures) as the foundation in which the other three axes should rest
- **E3 - Smart Routes**, supported by cross-cutting platforms and predictive systems
  - **E3L2: Modelling and Forecasting**
    - E3L2-2 - Pilot project on a predictive transport demand model
- **E4 - Energy Efficiency and Sustainability** of transport services and infrastructures
Use of GRI-TN dataset

Expected use

Additional tasks to meet the project requirements

Benefits for the user / advantages of the dataset

Data sustainability and challenges
Use of the GRI-TN dataset

Expected use: spatial data to feed the information systems

Geometries
- 3D data
- Positional accuracy > 5 m
- Network topology

Attributes
- Ownership of the infrastructures
- Status (in construction / in use / out of service)
- Elements linked to the codes used by each infrastructure owner
Use of the GRI-TN dataset

Additional tasks to meet the project requirements

- **Simplification** of roads geometries, for some purposes
- **Additional quality control** regarding some of the attributes
- Change from traditional segmentation to linear referencing model
Advantages of the dataset

- Total national coverage
- Intermodality
- Homogeneity (based on well-defined criteria during production and quality control processes)
- Continuous update from official sources (linked to stakeholders’/owners’ data).
- Continuous data quality improvement and quality control information
- Thorough knowledge of the data model and to the nature of the transport related geospatial data -> capability to adapt to the users’ needs

Photo by Diego Santos on Unsplash
Use of the GRI-TN dataset

Data sustainability and challenges

No dataset is sustainable if it has no cases of use

Things that aren't worth being used are condemned to disappear

Therefore, the main challenge is to be able to provide accurate updated information useful for citizens and companies, and to listen to current/potential users to adapt our data as society requires.
## Use of GRI-TN data

### Data sustainability and challenges

<table>
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<tr>
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<th>Improve update frequency</th>
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| 1 |  - Set procedures to allow **ongoing integration** of data updates provided by stakeholders and infrastructure owners and data users  
   - Improve the **efficiency** regarding the **internal processes** needed to deliver updated data to users |

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<thead>
<tr>
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<th>Improve quality</th>
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| 2 |  - Optimize quality checks (**meta-quality**)  
   - Develop **new methodologies** (ML, IA)  
   - **Focus** on the aspects of special interest / impact for stakeholders / owners / citizens. |

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<tr>
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<th>Adapt our data as society demands</th>
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| 3 |  - Successfully answer/solve to the **citizens’ requests** and **complaints**.  
   - Continuously **sound out** the existence / creation of **projects** where our data can be of use  
   - Develop new **services** that, using our dataset, can solve a certain need.  
   - Close **collaboration** with other official organisms (emergencies, traffic, etc) |
Thank you.

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