



EasyWay



DATEXII Experience in Portugal

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Armis

DATEX II User Forum
20/21 March 2012 – Stockholm

- Portuguese Organization and Requirements
- OpenRoads Platform
- DATEX II Infrastructure Extensions



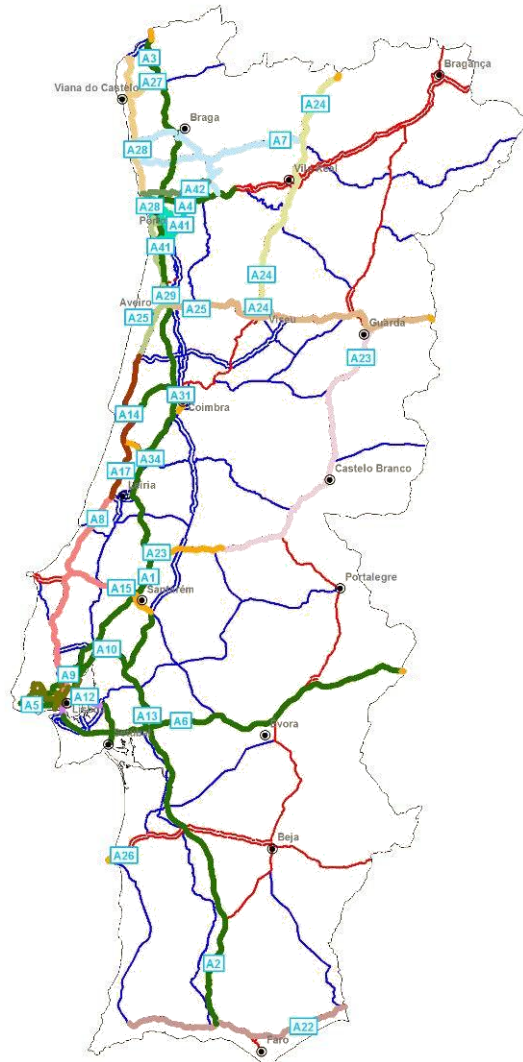
The Institute for the Road Infrastructure, is a public institution endowed with administrative autonomy.

It's activity is supported by the Ministry of Economy and Employment, under supervision and tutelage of the Minister.



InlR's main task is to supervise and oversee the management and operation of the road network, monitoring compliance with laws and regulations and concession agreements, to ensure the completion of the National Road Plan and ensure the efficiency, equity, quality and safety of infrastructure as well as users' rights.

Today's Portuguese map of Road Operators



To achieve InIR's mission, we have to:

- 1. Gather and analyse huge amounts of information**
- 2. Supervise and manage concessions**
- 3. Act promptly!**



To achieve InIR's mission, we have to:

1. Gather and analyse huge amounts of information

TRAFFIC DATA

(Traffic flow, Traffic status, Traffic concentration, others)

INCIDENTS

(Accidents, Obstructions, Roadwork's, others)

QUALITY OF INFRASTRUCTURE

(Pavements, Signals, Road Marks, others)

(Pavements, signals, Road Marks, others)

QUALITY OF INFRASTRUCTURE



To achieve InIR's mission, we have to:

2. Supervise and manage concessions

AVAILABILITY OF ROADS

(Safety, Accessibility, Circulation)

OPERATING INDICATORS

(Incidents, Accidents Rate, Roads Works, others)

QUALITY OF INFRASTRUCTURE

(Pavements, Signals, Road Marks, others)

(Pavements, Signals, Road Marks, others)

QUALITY OF INFRASTRUCTURE



To achieve InIR's mission, we have to:

3. Act promptly!

DATEX II

Allows collecting information, with assurance and reliability.

InIR INFORMS THE OPERATORS

The availability of the road and any necessary improvement to the road network

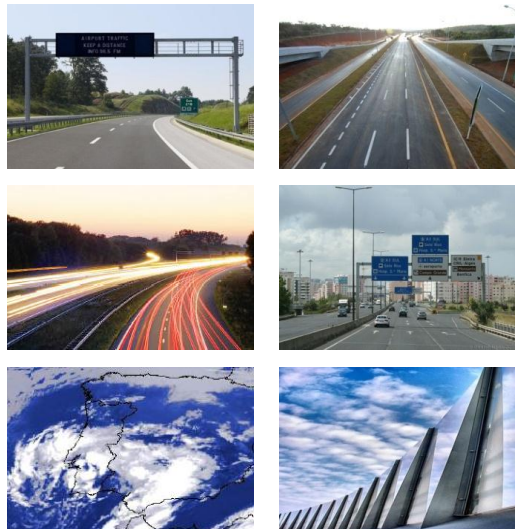


How do we pull this off?

We systemized the way information is gathered **according to the type of road and contract information.**

As regulator InIR produced a **Glossary** describing the methodology, concepts and the information to be collected:

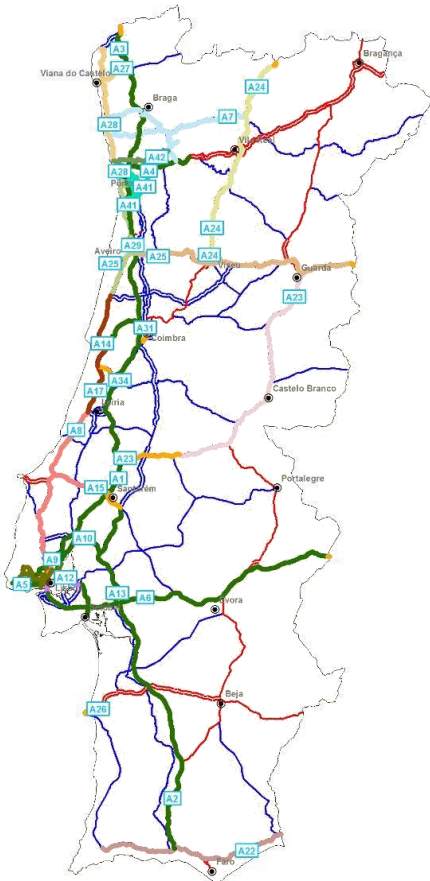
- Situations (DATEX II Profile)
- Measures (DATEX II Profile)
- Infrastructure Quality Measures (DATEX II Extension)



How can ITS and EasyWay help InIR?



STAGE 1



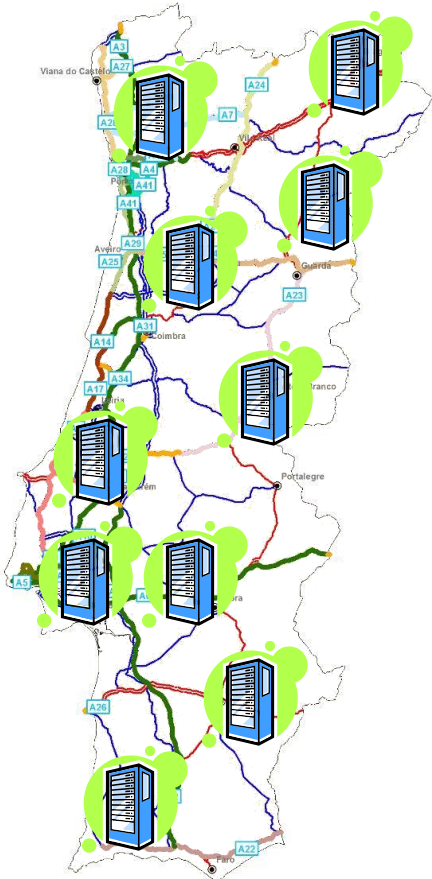
Gather information (Using DATEX II)

MEASURES
(Traffic flow, Traffic status, Traffic concentration, other)
SITUATIONS
(Accidents, Obstructions, Roadwork's, other)
QUALITY INFRASTRUTURE MEASURES
(Pavements, Signals, Road Marks, other)

How can ITS and EasyWay help InIR?



STAGE 2



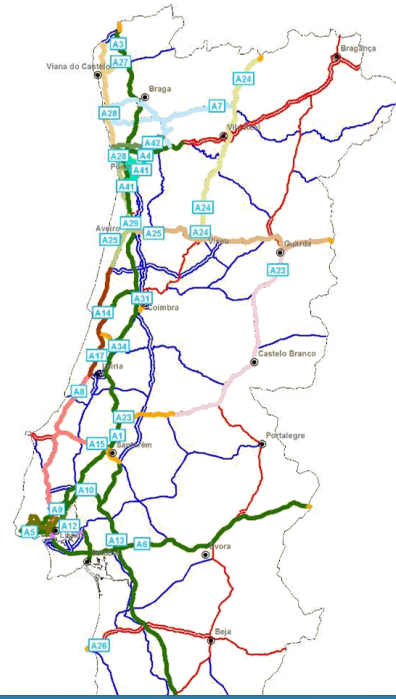
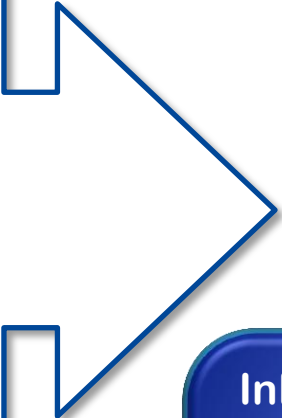
Process and produce multiple analysis and indicators... Build a national DW



How can ITS and EasyWay help InIR?

STAGE 3

Report



InIR INFORM THE OPERATORS ABOUT:

- The availability of the road and the impact on the financial contract
- Any necessary improvements to the road network

What have we done?



Control and monitor the information received using DATEXII

OpenRoads Data Control Center ▶ Home Page

DW - Open Roads ▾ Data Control Center ▾ Search... Update Data

Data Control Center

Parametrization Data Management **Monitoring**

2012 ▾ JAN FEB **MAR** APR MAY JUN JUL AUG SEP OCT NOV DEC

		Ascendi					Euroscut	AE's Marão
		Costa de Prata ascendi 16-02-2012	Beiras Litoral e Alta ascendi 16-02-2012	Grande Porto ascendi 16-02-2012	Grande Lisboa ascendi 17-02-2012	Concessão Norte ascendi 16-02-2012	Norte Litoral 01-03-2012	Túnel do Marão 28-02-2012
Operation								
Situations		✗ ⚠	✗ ⚠	✗ ⚠	✗ ⚠	✗ ⚠	✗ ⚠	✗ ⚠
Infrastructure Quality								
Pavements	Wheel Path Route Depth	✗	✗	✗	✓	✗	✗	✗
	Longitudinal Superficial Irregularity	✗	✗	✗	✓	✗	✗	✗
	Friction Coefficient	✗	✗	✗	✓	✗	✓	✗
	Superficial Fissuration	✗	✗	✗	✗	✗	✗	✗
	Superficial Texturr	✗	✗	✗	✓	✗	✗	✗
Safety Guards	Conformity	✓	✗	✓	✓	✓	✗	✗
Illumination	Availability Percentage	✗	✗	✗	✓	✗	✓	✗
Road Markings	Retroflection Coefficient							
	Daily Illuminattion	✗	✗	✗	✗	✗	✗	✗
	Skid Resistance							
	Cleaning							

Analyse and explore the information by extracting Indicators and Reports

Quality Control

Situations | Pavements | Safety guard | Illumination | Road Markings | Vertical Signs | Telecommunications | Telematic

2011 | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | **DEC**

Beiras Litoral e Alta

- A25
- Concessão Norte
 - A11
 - A42
 - A7
- Costa de Prata
 - A17
 - A25
 - A29
 - A44
- Grande Lisboa
 - A16
- Grande Porto
 - A4
 - A41
 - A42
 - VR1
- Norte Litoral
 - A27
 - A28

Situations

	Dec 2010	Dec 2011	Var.	%
Accidents	37	18	-19	-51,35
Force Majeure	2	2	0	0
General obstruction	-	-	-	-
Animal presence obstruction	-	-	-	-
Environmental Obstruction	-	-	-	-
Equipment damage obstruction	5	-	-	-
Vehicle obstruction	43	47	+4	+9,3
Construction works	-	-	-	-
Maintenance works	23	118	+95	+413,04
Situations	110	185	+75	+68,18

Situation Evolution

Line chart showing Situation Evolution from Jan to Dec for Dec 2011 and Dec 2010. The Y-axis ranges from 0 to 250. Dec 2011 (blue line) shows a peak in November, while Dec 2010 (orange line) shows a peak in October.

Friction Coefficient

Bar chart showing Friction Coefficient by Road Sections. The Y-axis ranges from 0 to 0,8. A green horizontal line indicates the Standard at approximately 0,3. Data series include 2012-03-01, 2012-03-31, and 2011-03-01.

Friction Coefficient by Lane Type

	Months			
Central Lane		-	-	-
Left	0,53	-	-	-
Slow	-	-	-	-
Friction Coefficient	0,55	-	-	-



Analyse the impact of availability on the financial contract

OpenRoads Availability Home Page

DW - Open Roads Data Control Center Search... Update Data

Availability Evaluation

2011 JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV **DEC**

Availability Report	Ascendi						Euroscut		AE's Marão			
	Costa de Prata 16-02-2012	Beiras Litoral e Alta 22-02-2012	Grande Porto 16-02-2012	Grande Lisboa 17-02-2012	Concessão Norte 22-02-2012	Norte Litoral 01-03-2012	Túnel do Marão 01-03-2012					
Deductions												
Acessibility	€ 0,00	€ 0,00	€ 0,00	€ 0,00	€ 0,00	€ 0,00	€ 0,00	€ 0,00	€ 0,00	€ 0,00	€ 0,00	€ 0,00
Safety	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00
Circulation	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00
Total	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00	€ 999.999,00
Penalties												
Plafond	99.000,00	99.000,00	99.000,00	99.000,00	99.000,00	99.000,00	99.000,00	99.000,00	99.000,00	99.000,00	99.000,00	99.000,00
Balance	99.000,00	99.000,00	99.000,00	99.000,00	99.000,00	99.000,00	99.000,00	99.000,00	99.000,00	99.000,00	99.000,00	99.000,00
Total	-	-	-	-	-	-	-	€ 0,00	€ 0,00	-	-	€ 0,00
Total												
Annual Payment	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00
Amount Receivable	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00
Annual Forecast	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00	€ 99.999.999,00

Explore the information

The screenshot displays the OpenRoads interactive map interface. At the top left, the 'OpenRoads' logo is visible next to the text 'Mapa Interativo > Home Page'. Below this, there are navigation elements including 'DW - Open Roads', 'Data Control Center', a search bar with the text 'Procurar neste site...', and an 'Atualizar Dados' button. On the right side, there are icons for 'Gosto' and 'Etiquetas e Notas'. The main map area shows a road network around the Lisbon region, with various road types (A, IC, N) and labels for cities like Loures, Amadora, and Odivelas. A data popup window is open over a road segment, displaying the following information:

- Marcas Rodoviarias
- IP7: Entrecampos - Radial de Benfica (km 8,6) (Sentido Decrescente, Eixo)
- Data Medição: 24-09-2010
- Coefficiente Retroreflexão**
- Valor: 146,00
- Valor Padrão: CoeficienteRetroreflexao > 150

At the bottom right of the map area, the 'inir' logo is present. The text 'Dados do mapa ©2012 Google, Tele Atlas' is also visible.



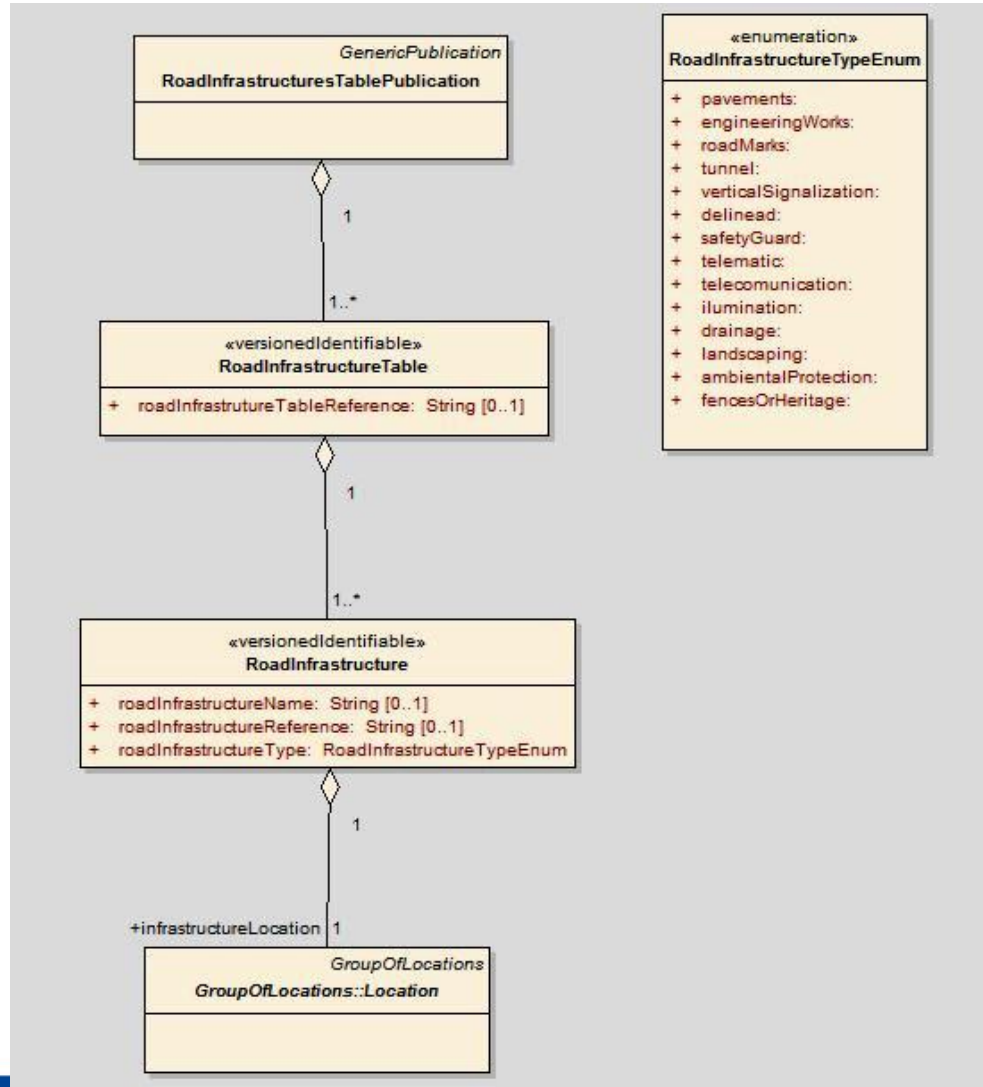
How OpenRoads was set:

1. Was defined a methodology and a Glossary of the concepts and processes
2. It was adopted the DATEX II protocol for collecting information
 1. Defined a profile over Situation and Measure Publication
 2. Created new extension for infrastructure Publication
3. The road operators were linked using DATEX II
4. InIR supports its activity of supervising the concessions using the OpenRoads system

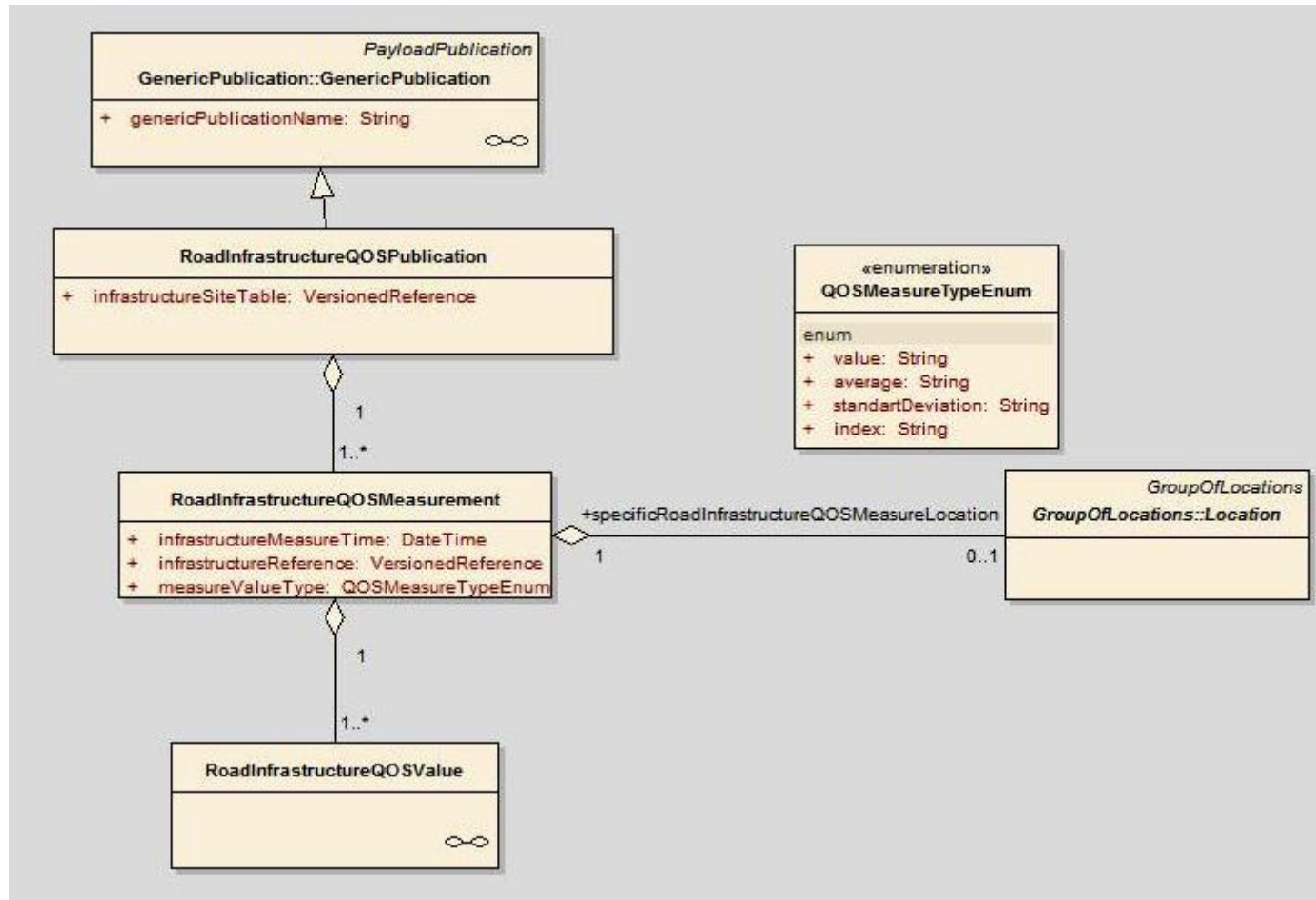
DATEX II Infrastructure extensions *(Available on the DATEX2 Website)*

- Road Infrastructure Table Publication – Catalogue of road infrastructures
- Road Infrastructure Quality of Service Publication – Measures of QoS for the infrastructure catalogue

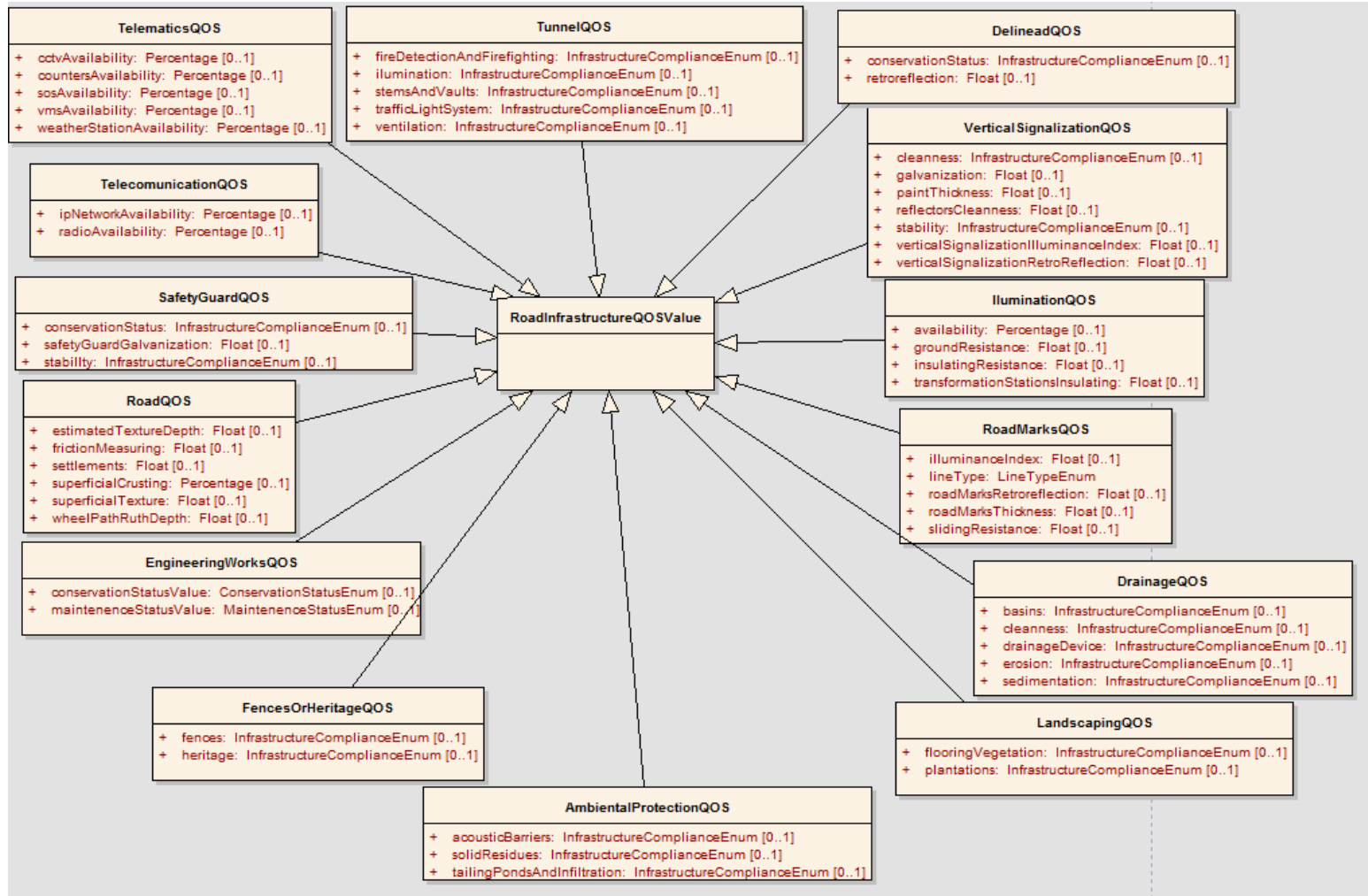
Road Infrastructure Table Publication



Road Infrastructure QoS Measure Data



Road Infrastructure QoS Measure Data



quinta-feira, 15 de Março de 2012



Thanks

