ROADIDEA
Data Collection

René Kelpin
German Aerospace Centre,
Institute for Transport Research

15th International Road Weather Conference,
Quebec City / Canada February 6th 2010
Objectives of data work package

• Provision & mediation of data necessary for implementation of project pilots

• Comprises:
  • Data source investigation in Europe (Traffic & Weather)
  • Data integration
  • Definition of data format for project archive
  • Setup of Data Mediation platform
WP2 Tasks overview

- Task 2.1 Data source identification
- Task 2.2 New types of data needs
- Task 2.3 Integration of data
- Task 2.4 Uniform data archive
- Task 2.5 Data mediation
Task 1: data sources

- Identification of available data sources in Europe
- Preliminary storage in EPrints archive
- GoogleMaps visualisation

![Bar chart showing data sources by country]

- Croatia: 1
- Germany: 4
- Finland: 25
- Hungary: 4
- Italy: 5
- Netherlands: 1
- Slovenia: 1
- Sweden: 1
- Other: 11
- Unknown: 5
Task 2/3: data needs/integration

- Data needs for project pilots and ideas after first innovation seminar
- Description of data integration efforts
Task4: data format

- Descriptive elements identified for pilots & ideas
- Some existing formats determined (DATEX, GML, TransXML, ...) and partly implemented (dwGML, DublinCore)
- ROADIDEEA XML format defined
Task 4: Data Format

<table>
<thead>
<tr>
<th>Name</th>
<th>Needed data</th>
<th>ROADIDEA-XML covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pulp Friction</td>
<td>Road weather Data</td>
<td>✓</td>
</tr>
<tr>
<td>Gothenburg</td>
<td>Various road traffic counting</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Road weather</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Airport weather</td>
<td>✓</td>
</tr>
<tr>
<td>Port</td>
<td>Ship schedules and port logistics</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Port traffic counts</td>
<td>✓</td>
</tr>
<tr>
<td>Fog</td>
<td>Satellite data</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>In-Situ observations</td>
<td>✓</td>
</tr>
<tr>
<td>Cross Border Weather</td>
<td>Weather alerts, road weather alerts and</td>
<td>✓</td>
</tr>
<tr>
<td>Alerts</td>
<td>observations</td>
<td>✓</td>
</tr>
<tr>
<td>Mobile Phones as Sensors</td>
<td>Cell phone tracking</td>
<td>✓</td>
</tr>
<tr>
<td>MyRoute Mobile Pocket</td>
<td>Road traffic observations</td>
<td>✓</td>
</tr>
<tr>
<td>Guide</td>
<td>Weather (Current &amp; Forecasted)</td>
<td>✓</td>
</tr>
<tr>
<td>MyTravel Toilet TomTom</td>
<td>Facilities and points of interest</td>
<td>X</td>
</tr>
<tr>
<td>In-Vehicle Information</td>
<td>Can bus vehicle data</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Road traffic counting</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Road weather</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Airport weather</td>
<td>✓</td>
</tr>
<tr>
<td>EUROADMAP</td>
<td>Road Grid weather</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Airport weather</td>
<td>✓</td>
</tr>
<tr>
<td>EYEARN</td>
<td>Friction data/CAM bus data</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Vehicle positions</td>
<td>✓</td>
</tr>
<tr>
<td>Traffic Forecast Models</td>
<td>Road traffic statistics</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Road weather</td>
<td>✓</td>
</tr>
<tr>
<td>FREEDATA</td>
<td>General</td>
<td>✓</td>
</tr>
<tr>
<td>RTFM</td>
<td>Acceptance, usability, economics</td>
<td>X</td>
</tr>
<tr>
<td>StayHome</td>
<td>Road transport service data</td>
<td>✓</td>
</tr>
</tbody>
</table>
Task5: data mediation

- Main target of data work package
- Implementing main findings of preceding WP2 tasks
- Gothenburg Pilot is mediation demo case
• Input scheme

Data Input Mediation converts raw data into ROADIDEA XML

ROADIDEA Input Mediation Scheme

- Dictionary archive
- ROADIDEA XML template
- EPrints data archive
Output scheme

ROADIDEA Output Mediation Scheme

- GUI
- Data Output Mediation converts and/or answers user data requests
- EPrints data archive
- XML formatted data request
- XML formatted data response
- API
- pre-formatted XML data request
- Web implementation as JAVA front end
- Piloted Mediation Application
Conclusion

• Data mediation concluded & piloted

• Problem:
  Partly weak or unclear data availability

• European implementation of general ITS services impossible by now

• Recommendation for ITS data catalogue

• European data issue obtained public awareness
Questions?

René Kelpin
rene.kelpin@dlr.de