DATEX EXPERIENCES IN ROMANIA
GOOD AND BAD PRACTICES

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Agenda

- First DATEX I experiences
  - Bucharest Traffic Management Sistem
- DATEX II implementations in Romania
  - A1 Motorway Traffic Management Center
  - HeERO Traffic Information Link
  - TrafficGuide.ro Traffic Information System
- Good and Bad Practices
  - Detailed TrafficGuide.ro System Experiences
- Conclusions and Recommendations
DATEX I experiences

Bucharest Traffic Management System

- Traffic Studies and System Design
  2005-2006
- Tender and Implementation
  2007-2008
DATEX I experiences (cont.)

Bucharest Traffic Management System

- Adaptive Traffic Management System
  - SPOT – local micro-regulation
  - UTOPIA – global traffic plans
- PTM – integration
- DATEX I interface: input and output of Traffic Information Messages
  - NEVER used
DATEX II implementations in Romania (1)

A1 Motorway Traffic Management Center
- Traffic sensors
- Weight in motion
- Video monitoring system
- Number plates recognition
- Roadside weather forecasting stations
- VMS’s

DATEX II interfaces
- Sensor data
- Traffic Information Events
DATEX II implementations in Romania (2)

HeERO - Traffic Information Link

Harmonised eCall European Pilot

DATEX II

Network Management

Traveller Information

112 PSAP

Traffic Management Centre

Accident
DATEX II implementations in Romania (3)

TrafficGuide.ro - Traffic Information System

Traffic Data Sources
- Infotrafic
- CNADNR
- Local Auth.

Data import modules
- GIS Engine (Map Server)
- Website
- Mobile Web
- Internet Browser
- Web mobile Applications
- TMC Navigators

Traffic Information System Platform
- Data
- GIS Map
- RDS TMC Platform
- TMC Location Table

Existing modules
- FCD Module
- Manual Edit / Viewer Module

AVL Data
Ongoing DATEX Projects

- National Motorway Company
  - Regional Traffic Management Centers for Motorways
  - National DATEX II Node

- Electronic Solutions
  - Cross-border data exchange with Hungary
TrafficGuide.ro DATEX details

- DATEX implementation
  - Simple use for data exchange
    - Sensor Data
    - Traffic Events Data
  - No Subscription process

- Location reference
  - Alert-C
  - TPEG
TrafficGuide.ro - Good Experiences

- TrafficGuide.ro – DATEX II interfaces advantages
  - Easy to import data from other systems
  - Easy to export data from our system

- Store data in DB directly in DATEX format
  Good or Bad  ?!?
TrafficGuide.ro - Bad Experiences

- Store Data in DB in DATEX format
  - DATEX data format
    - Variable data structure
    - Fields depends on Event Category

```xml
<class>
  <id>SpeedManagement</id>
  <parent>NetworkManagement</parent>
  <name lang="en">Speed management</name>
  <name lang="ro">Administrarea vitezelor</name>
  <attributes>
    <attribute>
      <id>speedManagementType</id>
      <name lang="en">Speed management type</name>
      <name lang="ro">Restrictii de viteza</name>
      <type>SpeedManagementTypeEnum</type>
      <enum>true</enum>
      <values>
        <value>
          <id>speedRestrictionInOperation</id>
          <name lang="en">Speed restriction in operation</name>
          <name lang="ro">Restrictie de viteza</name>
        </value>
        <value>
          <id>activeSpeedControlInOperation</id>
          <name lang="en">Active speed control in operation</name>
          <name lang="ro">Controlul activ al vitezelor</name>
        </value>
      </values>
    </attribute>
  </attributes>
</class>
```
A part of data is stored in DB as XML format:

```xml
<xml version="1.0" encoding="UTF-8" standalone="yes">
  <constructionWorks xmlns="http://datex2.eu/schema/2/0" id="ELSO_BWVT_1385472095953" version="7">
    <situationRecordCreationTime>2013-11-26T15:21:00.000+02:00</situationRecordCreationTime>
    <situationRecordVersionTime>2014-04-10T15:56:30.517+03:00</situationRecordVersionTime>
    <probabilityOfOccurrence>0.10</probabilityOfOccurrence>
    <source>
      <sourceCountry>ro</sourceCountry>
      <sourceIdentification>CNADNR</sourceIdentification>
    </source>
    <validity>
      <validityStatus>definedByValidityTimeSpec</validityStatus>
      <validityTimeSpecification>
        <overallStartTime>2013-11-26T15:21:00.000+02:00</overallStartTime>
        <overallEndTime>2014-11-13T18:00.000+02:00</overallEndTime>
      </validityTimeSpecification>
    </validity>
    <generalPublicComment>
      <comment>
        <values>
          <value lang="ro">Lucrari reabilitare</value>
        </values>
      </comment>
    </generalPublicComment>
  </constructionWorks>
</xml>
```
TrafficGuide.ro – Drawbacks

- Traffic Platform Management Interface
TrafficGuide.ro — Drawbacks (cont.)

- Website events publishing

- DB issues
  - Filtering and searching data in DB
  - DB efficiency
TrafficGuide.ro – Workarounds

- Defining custom DATEX categories for each event type
  - Instead of one category: e.g. Road management
  - Create separate categories:
    - closed roads
    - lane restrictions
    - speed restrictions
    - weight restrictions

- Create a proxy server for Website publishing
  - Read and parse data from DB every 1 minute
  - Cache - store data for 1 minute
Conclusions

- DATEX II has many advantages for exchanging data between systems:
  - It is standardized: CEN DATEX II series - CEN/TS 16157
  - Easier to implement DATEX interfaces than proprietary interfaces with each partner
  - Support almost all types of Traffic Events and Sensor Data
  - Could be extended with custom extensions
Recommendations

- Use DATEX for interfaces between systems
- DO NOT use it to store data internally in DATEX format
The next release of DATEX DG update process is ongoing
- Include an update of the Best Practices Section

Please provide us Good or Bad Experiences from your Deployments
- Some of them will be included in the next release of DATEX DG

Feedback
- Add / update information regarding your deployments on www.datex2.eu
- Send Good and Bad Practices to sorin.dumitrescu@elsol.ro
Thank you!

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