TEM/HEEP Area V 2011 Annual Meeting

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Ministry of Transport
Czech Republic

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Map of Europe
Czech Republic – Road and Motorway network

Total road network length: 55 583 km
Road network density: 70.4 km per 100 km²

Area: 78 866 km²
Total motorway and expressway network length:

1165 km completed
(2180 km planned)
Czech Republic – Road traffic intensity (2010)
Intelligent Transportation Systems on motorways and roads in Czech Republic:

ITS services:
- for drivers and passengers
  - traffic info – MIS, RDS-TMC, GPS, TV, radio, internet
- for infrastructure administrators
  - maintenance, traffic control, monitoring
- for contract carriers (haulers)
  - optimal route planning, logistics, long-distance diagnostics
- for public administration
  - transport monitoring, infrastructure funding
- for emergency service
  - rescue coordination, accident prevention
1. Motorway information system (MIS)

Consists traffic information system built up on motorway network, which collects data from separate telematic components, transfers them to superordinate systems and reversely to controlling components.

- System components:
  - Backbone optical cable
  - SOS phones – communication modules
    - located approximately every 2 km
  - Communication points
  - Charge up points
  - Socket points for ITS systems
2. Information portals

Provides:

- Common transportation informations
- Up-to-date traffic conditions
  - ETA, accidents, traffic jams ...
- Up-to-date weather conditions
- Partial detour guidance
- Emergency information
- Various traffic signs
3. Variable traffic sign system

Linear traffic control
Optimal traffic control using variable traffic sign system achieves the increase of safety, traffic flow and carrying capacity.

- System components:
  - restrictive LED signs
    - Speed limit
    - Overtaking restriction
  - warning LED signs
    - roadworks ...
  - traffic detectors
4. Alert meteorological system

Variable LED meteo traffic sign
usually placed at the side of the road gives to
traffic participants up-to-date weather
information and also information about the
road and air temperatures.

- System components:
  - warning traffic signs (meteo)
    - Glazed frost, Skid danger
    - added distance length
  - temperature board
  - road meteorological station
5. Camera monitoring system

Rotary and fixed cameras usually placed next to the road provides current visual information to road maintenance, emergency service, National Traffic Information Centre and traffic participants

- System components:
  - Camera
  - Infrared lamp
  - Distribution system
  - Communication system
6. Automatic traffic counters (ATC)

**ATC**

are road furnitures located in traffic nodes used to detect and monitor traffic characteristics (intensity, etc.)

- System components:
  - Analyzing unit
  - Sensors (induction loops, radars, microwaves, etc.)
  - Distribution system
  - Communication system
7. Weigh-In-Motion (WIM)

System is designed to record vehicle weights and axle weights in motion. System components consists of detection cameras to recognize registration plates and ATC.

- System components:
  - Analyzing unit
  - Scale bars
  - Induction loops and ATC
  - Camera system
  - Distribution system
  - Communication system
8. Examples of other telematic systems

- Detour guidance
- Navigation systems
- Localization systems
- Infosystem RDS-TMC (radio data system – traffic message channel)
- Electronic toll system
- Road feeder traffic regulation
- Vehicle – Road interaction
9. National Traffic Information Centre

- Realized by Directorate of Roads – placed in Ostrava
- Connected to emergency service elements
- Collects traffic data from all usable sources
- Provides complex traffic information
- Operates RDS-TMC
- Remotely controls all the infoportals on motorways
- On-line traffic information – www.dopravniinfo.cz
Traffic info web site
Traffic info web site
Traffic info web site
Traffic info web site
10. Main telematic projects in use

- Linear traffic control system on D1 motorway
  - Infoportals, cameras and detectors

- Test of control and supervise systems on D8 motorway – euroregional project CONNECT
  - Infoportals, cameras, detectors, estimate time of arrival calculation, Weigh-in-motion, alert weather system

- Telematic system on České Středohoří mountain range bypass
  - Infoportals, cameras, detectors, estimate time of arrival calculation on detour routes

- Telematic system on R35 expressway
  - Infoportals, cameras, alert weather system
### Telematic systems table

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<thead>
<tr>
<th>Unit</th>
<th>Placement</th>
<th>Number of units</th>
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<tr>
<td>Cameras</td>
<td>Motorways</td>
<td>120</td>
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<tr>
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<td>Expressways</td>
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<td>Infopratals</td>
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<td>Digital system MIS-SOS</td>
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<td>Alert weather system (meteo)</td>
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<tr>
<td></td>
<td>Roads</td>
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11. Telematic projects under construction and planned

- Motorways and Expressways
  - In the new road infrastructure constructions are planned telematic systems according to EC recomendation and Transport policy of Czech Republic plan.

**Under construction:**
- Linear traffic control system on Prague Outer Ring Road
  - Infoportals, Linear traffic control portals, cameras, detectors
- R6 Expressway
  - MIS, infoportals, cameras, ATC and alert meteo system

**Planned:**
- Add alert weather system and camera monitoring systems on all motorway and expressway network
- Add infoportals on D5 motorway
Thank you for your attention

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