DATEX II User Forum
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Deployment Issues in Information Chains, the Dutch Experience

Agenda

- **The Dutch experience: NDW**

- **Roles of partners**

- **Information chains**

- **Successes and hurdles to overcome**
  - **Use of DATEX II in day-to-day operation**
  - **Traffic Information and Location Referencing**
  - **Local Traffic Engineers: changes in mindset required**

- **Conclusion**

NDW – National Data Warehouse for Traffic Information
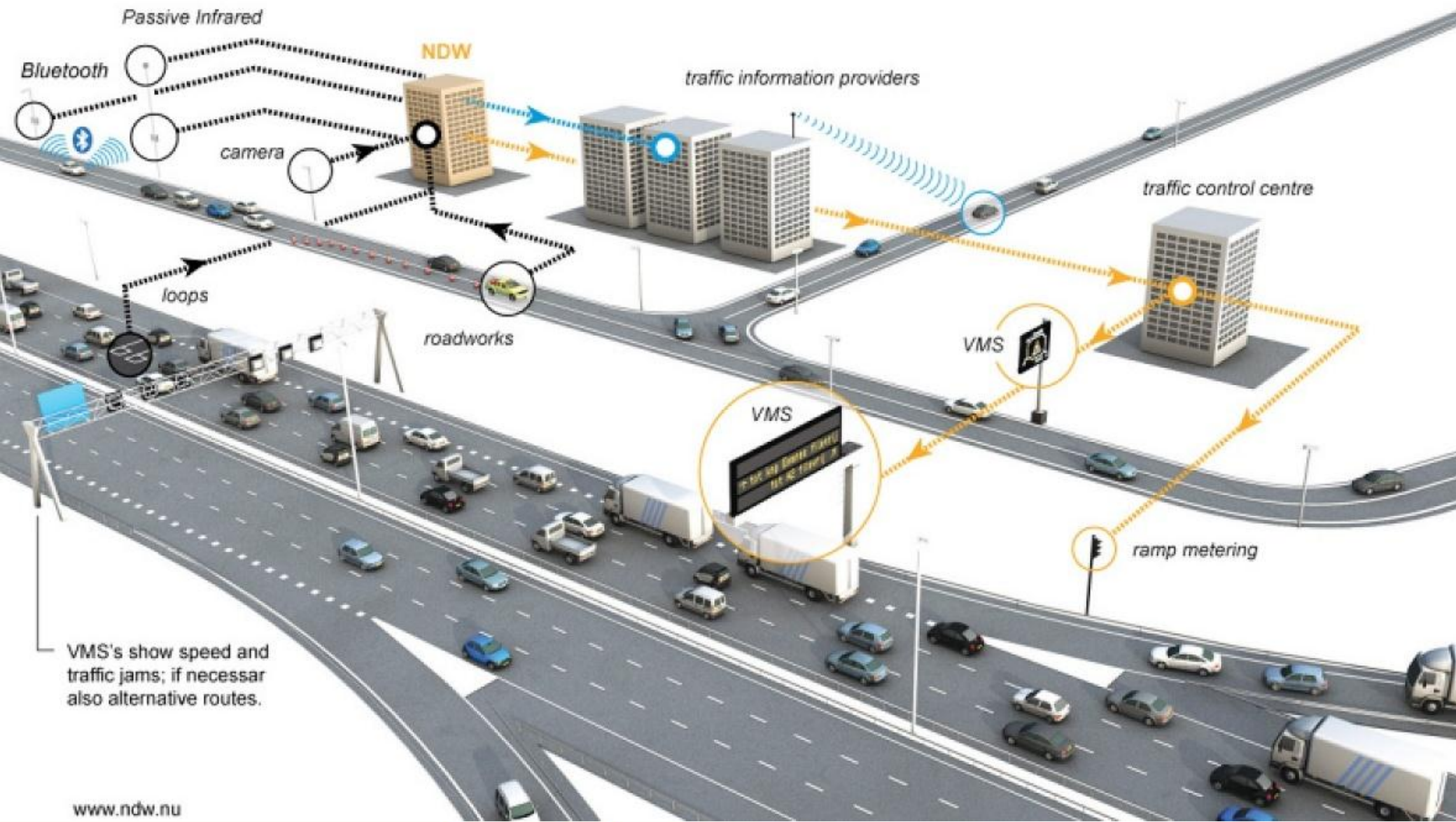
- **<also see Gerben Hoogeboom's 2010 presentation>**
- **Main ideas of NDW:**
  - There are more traffic data available than used
  - Bring all traffic data together in one national database
  - Make all data available for all data providers, traffic information service providers and researchers with less than 2 minutes delay
  - Install detectors where the coverage is poor
- **17 participating authorities**
  - National Road Authority (Rijkswaterstaat – RWS)
  - 5 provinces
  - 4 large municipalities and 7 metropolitan areas
- **2 private partners (after European tender)**
- **Currently about 5000 km covered, this year +1000 km**
- **About 30,000 detection points in use**

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- **Traffic data**
  - Intensities
  - Spot speeds
  - Realized travel times
  - Estimated travel times
  - Vehicle length categories

- **Status data**
  - Road works
  - Incidents
  - Bridge status (open/closed) - to be added this year
  - Dynamic lane status (open/closed) - to be added this year

- **Historical data**
  - All data from the past (selected)

Passive Infrared

Bluetooth

NDW

camera

traffic information providers

loops

roadworks

traffic control centre

VMS

VMS

ramp metering

VMS's show speed and traffic jams; if necessar also alternative routes.

www.ndw.nu

- **Internal Data Providers (IDP)**
  - RWS, provinces, municipalities
  - Data for data
  - Deliver their data as DATEX II files
  - Near real time

- **External Data Providers (EDP)**
  - Private partners, selected by an European tender
  - Paid to deliver traffic data (i.e. as service), not for equipment
  - NL divided in 3 areas, ARA (ARS T&TT) won 2, D4T won one
  - Combine their own data with the data of IDPs
  - Deliver the combined data to NDW as one DATEX II file per area

- **ARS T&TT also produces data for several Internal Data Providers**

- **Traffic Management**
  - **Authorities (Traffic Control Centres)**

- **Traffic Information**
  - **Authorities (VMS)**
  - **Service providers (via internet, radio, television, RDS/TMC ..)**

- **Traffic Statistics**
  - **Authorities (Infrastructural planning)**

- **Traffic Research**
  - **Universities, Traffic Research Institutes**

- **From data provider to NDW**
  - Many organisations produce data
  - Many types of detectors (loops, camera's, Bluetooth, passive IR ..)
  - Various data qualities
  - Only DATEX II is accepted

- **From NDW to data users**
  - Many organisations use data
  - Only DATEX II is used to make data available to users

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- **Successes**
  - Converting traffic data to DATEX II by data providers didn't give any major problems, so may be considered a big success (apart from the hurdles in the next sheets)
  - Traffic information service providers were the first to use the NDW DATEX II information - they experienced small problems, mainly because of location referencing
  - Use of DATEX II for traffic management purposes needed a lot of attention because errors cannot be allowed – use in traffic control centres only after location data was thoroughly checked
  - Use of historical data is recently made possible and will give a boost to traffic research because of the easy availability of (almost) all Dutch traffic data in one place

- **Location and route referencing showed to be the largest hurdle**
  - **Different interpretation of location references**
    - Many providers → NDW
    - NDW → many users
    - Many options to disagree
  - **In particular problems with routes in urban areas**
- **Automated processing does not always give the same results**
- **Mapping locations and routes to different maps may give other results (in particular in urban areas) – these problems are often hard to find without specific tools**
- **Interpretation of some tags also gave differences**

- **Use of (historical) data in DATEX format for infrastructure planning is not trivial**
- **Traffic engineers are used to specific detector output**
  - Manufacturer specific format
  - Location often referenced indirectly by device ID
  - Lanes often referenced indirectly by channel ID
  - Tools made to deal with these specific data
- **Traffic engineers sometimes expect data that NDW doesn't supply (yet) and DATEX II doesn't support (yet)**
  - Example: intensities per speed bin and length category
- **Traffic engineers have to get used to DATEX data**
  - There is a steep learning curve to understand in particular location referencing (motorways: easy, urban: hard)
  - Size of data is often problematic for irregular users
- **Change in mindset is required**

- **Use of DATEX II for data exchange over the complete chain is a large success**
  - Data providers adapted easily
  - Large traffic information service providers have dealt easily with change to DATEX II data streams
  - Traffic management has adapted after strict checking

- **Smaller end users have difficulties in adapting**
  - Location and route referencing give most problems
  - Interpretation of tags not always correct
  - The volume of data often cannot be handled

- **Helping end users to cope with DATEX II is essential for successful deployment**
  - For a stable foundation of a national traffic data warehouse like NDW, the support of all end users is essential

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