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“The importance of road monitoring to develop traffic management strategies”

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Outline

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- Traffic management in Spain
- Road monitoring
- Data quality
- Conclusions

Introduction

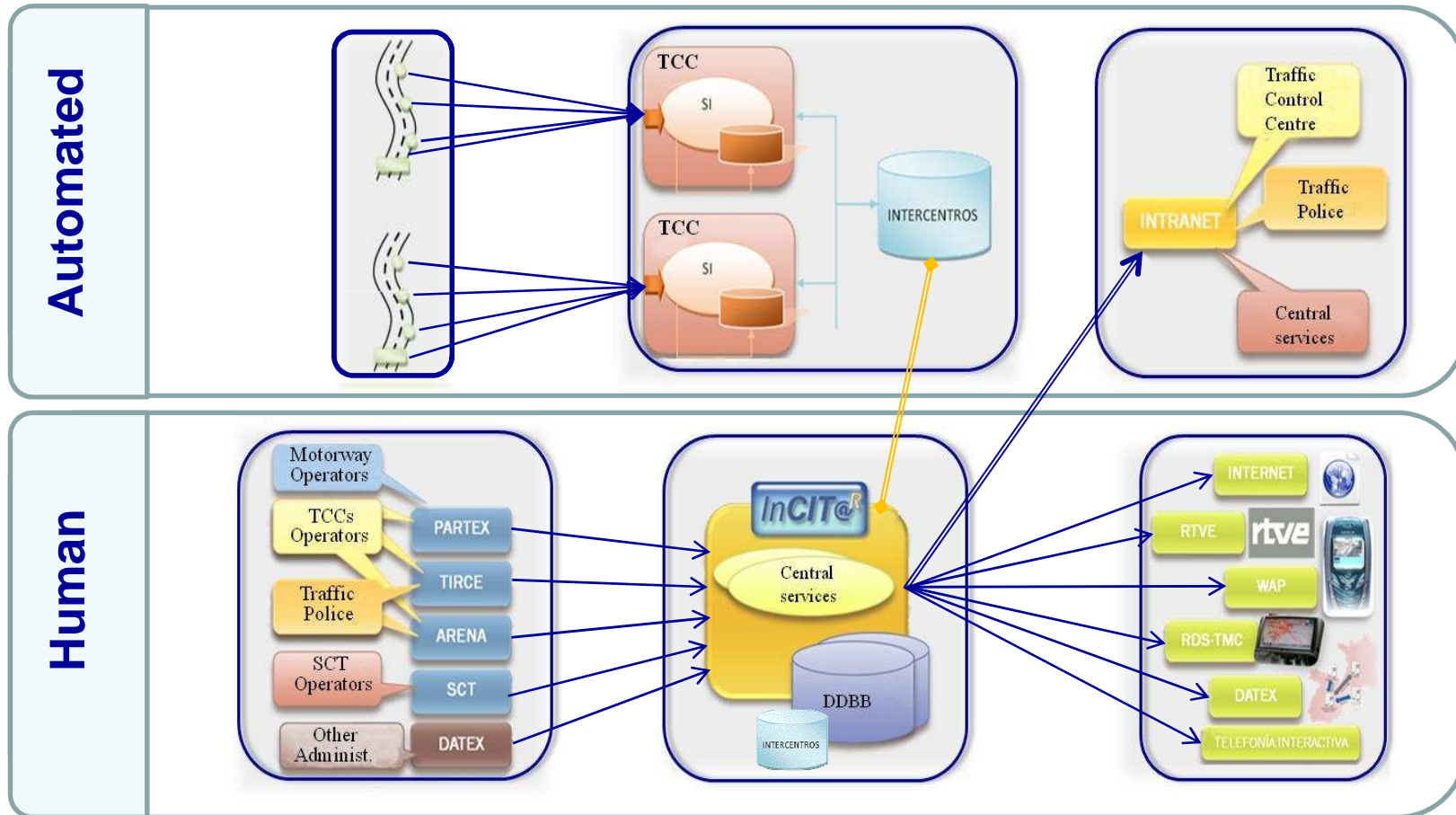
- Spanish information
 - Spanish area: more than 505.957km²
 - TERN: more than 9.000 Km
 - Main roads: 13.500 km.
 - Different important long corridors
- Traffic organizations
 - National public traffic organization:
 - **DGT**
 - 2 regional public traffic organizations:
 - **SCT & DT**



Traffic management in Spain

- **DGT TCC Structure:**
 - Coordination TCC
 - It is the main centre and contains the traffic information database.
 - It is responsible of
 - National & international actuations
 - Regional TCC:
 - It control autonomously the ITS systems installed in the roads under its competences.
 - Traffic management at regional level and in conurbations areas
 - Local TCC:
 - It share with the regional centre the control of some ITS installed inside.
 - Located in specific locations
 - They are in charge of dangerous road points.
 - The road network covered is completely integrated in the regional TCC network.

Traffic management in Spain



Traffic management in Spain

DDGT ITS Systems and services for traffic Management

- Incident detection
- Incident prevention systems
- Travel Times
- Speed control
- Ramp metering
- Dynamic lane control
- End user information systems
 - Pre-trip Information
 - On trip information
- Datex I & II
- TMP (local, regional & Cross border)

The importance of road monitoring



Key Factors

- New monitoring technologies
- New equipment
 - to deploy new systems
 - to improve the existing
 - to fill the gaps
- Data quality
- New & existing ITS systems could use current road monitoring equipment

Road monitoring and data quality

- **Data quality**
 - The success of the ITS service provision depends on the data quality.
 - Raw data are fundamental
 - If errors appears at the beginning, it is difficult to correct them at the end.
 - However,
 - Data quality is required in the whole ITS service process not only at the beginning.
 - ITS service quality depends on the quality of all processes involved in the service provision.

ITS services and data quality

- **Quality is required at different levels**

Monitoring

- Technological level (sensor, signal, cable, ...)
- Data and information (speed, density, ...)

Management

- Functional (algorithms, procedures,...)
- Operational (strategies)

End user

- Acceptance degree (behavior vs signalization)

Evaluation

- Success (Target vs expected results)

Spanish Approach

- **CTN199 SC15. Data Quality**
 - Leded by DGT
 - Focused on data quality at TCC level
 - Workgroups
 - WG 1: “Intercentros”
 - WG 2: Data analysis
 - Data reduction
 - Data reconstruction
 - Data Base insertion
 - Quality evaluation.

Conclusions

- DGT is working hardly to incorporate new technologies to develop new ITS systems and improve the existents.
- DGT uses the current ITS system installed in order to develop new ITS services to improve traffic management and control strategies to enhance **traffic flow** and increase **road safety**.

Conclusions

- One of the key aspects of ITS systems is road monitoring. It is the basic layer to develop ITS services.
- Road monitoring needs data quality in order to develop correctly this ITS services.
- Furthermore, data quality is required when TCCs exchange traffic information to develop ITS services between them.
- ITS evaluation of the systems should be carried out in all design and installation phases.



Sharing the road
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Thank you for your attention!!!

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