



Conférence Européenne
des Directeurs des Routes

Conference of European
Directors of Roads

Trends of transport infrastructure development: challenges of today and tomorrow

Steve Phillips, CEDR Secretary-General

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*Infrastructure (noun) the basic **physical and organisational structures** and facilities (e.g. buildings, roads, power supplies) needed for the operation of a society or enterprise.*

Trends of transport infrastructure development: **challenges of today and tomorrow**

Who is CEDR?

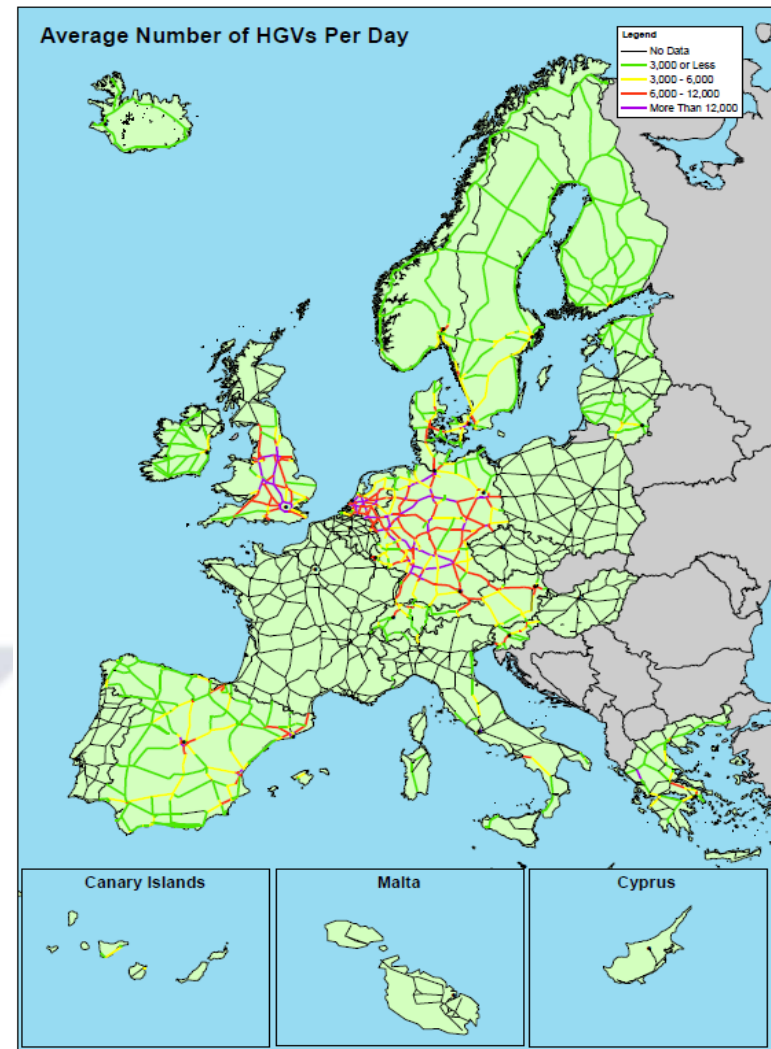
*"CEDR is an organisation of European national road administrations that promotes Excellence in the Management of Roads"
(CEDR Mission)*



Why a network of CEDR?

NRAs connected by;

- *Physical links*
- *Traffic and travel info*
- *Vehicle standards*
- *EU Legislation*
- *EU Standards*
- *Performance expectations*
- *Changing environment and expectations*



CEDR's Strategic Focus Areas



1. Digitalisation & innovation



2. Environment and resilience



3. Safety, Operations, Mobility & performance

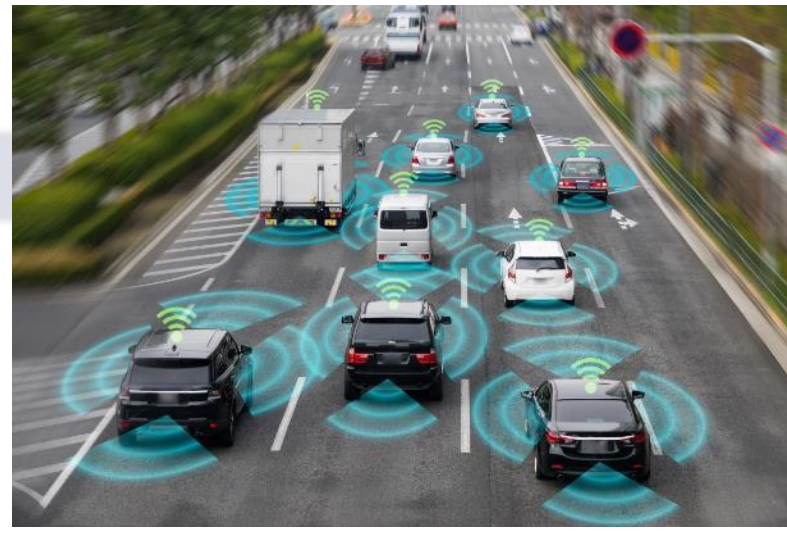


4. Resources and Asset Management



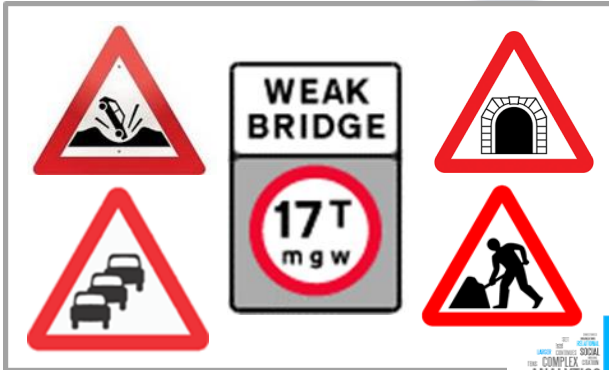
5. Regulations and harmonisation

New challenges and opportunities



Common NRA 'opportunities'

Maintenance & ageing infrastructure



Connectivity & Digitilisation



Climate change & resilience



Intermodal transport



Liveability & Health



Finance & Procurement

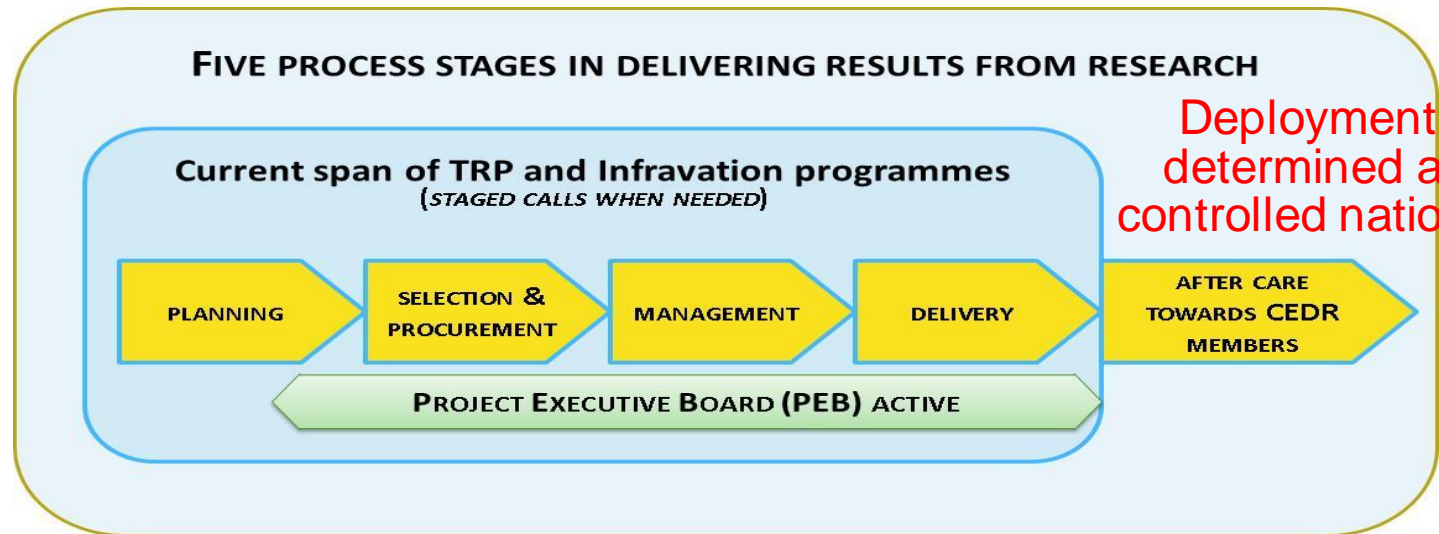


“Innovation is a part of the CEDR strategic objective *‘to help NRAs to keep ahead of the curve, anticipate future trends and prepare them to face new challenges’*

and that innovation will shape NRAs' future core business as well as the legislation that frames their activities.’ ”

CEDR Governing Board, 2018

Structured approach for deployment



- **Statistics – benchmarking of KPIs**
- **Procurement**
 - **Pre-Commercial Procurement (PCP) & Public Procurement of Innovative solutions (PPI)**
 - **CHARM – Common Highways Agency Rijkswaterstaat Model**
 - » Advanced Distributed Network Management & Advanced Traffic Predictions
 - » Support of Co-operative ITS Functions
 - **V-CON – Virtual Construction for Roads**
 - » Application of BIM
- **Standardisation**
 - Greater cooperation with CEN and industry
 - Alignment of relevant research

Common agenda based on 4 challenges

The challenges are:

1. Improve safety of **THE existing road infrastructure**
2. **Speeds** in harmony with road infrastructure
3. Improve safety of **vulnerable road users**
4. Evaluation and deployment of **intelligent transport systems**

Best Practice for Cost-Effective Road Safety Infrastructure Investments



Full Report

April 2008

Urgency of decarbonisation



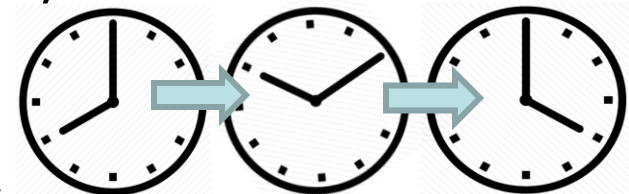
Too little time for major rebuilding of corridors

Urgency (and technology) now challenges the modal-shift paradigm.



In logistics, 'just in time' means *just in time*, not 'as fast as possible'.

Need connectivity to support reliability improvements that enable 'slow steaming'





DATEX II

But exchange of information is only a first step in corridor management

The phases



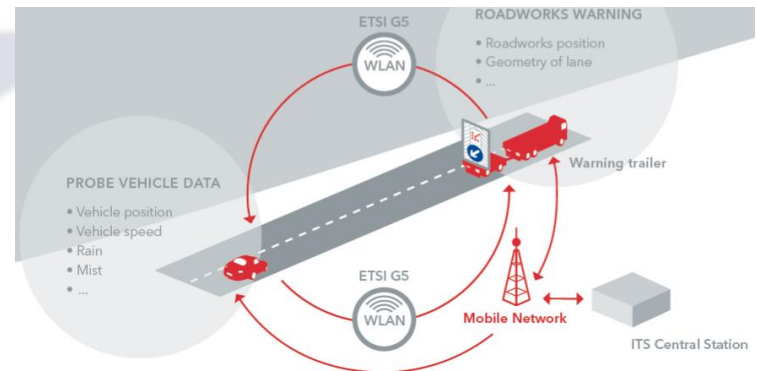
1. Pre-development and proof-of-concept

- with road works safety trailers in Hesse around Frankfurt/M.,
- within the Austrian project ECO-AT, and
- by extension of Dutch Test-site DITCM

2. Deployment of Road Works Warning and Probe Vehicle Data in the Cooperative ITS Corridor (NL - DE - AT)

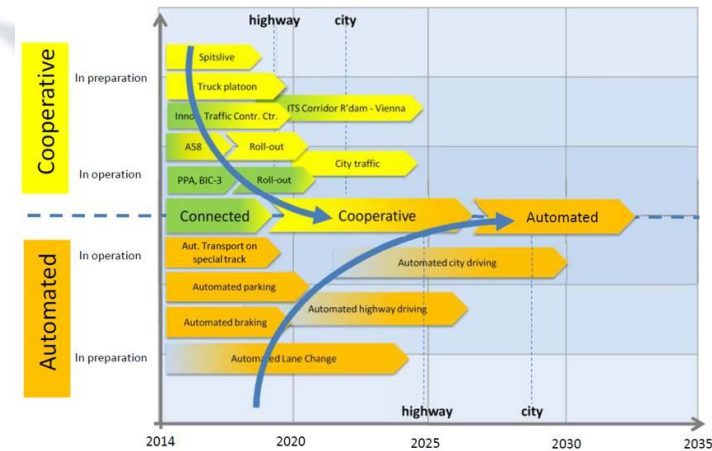


3. Nationwide deployment

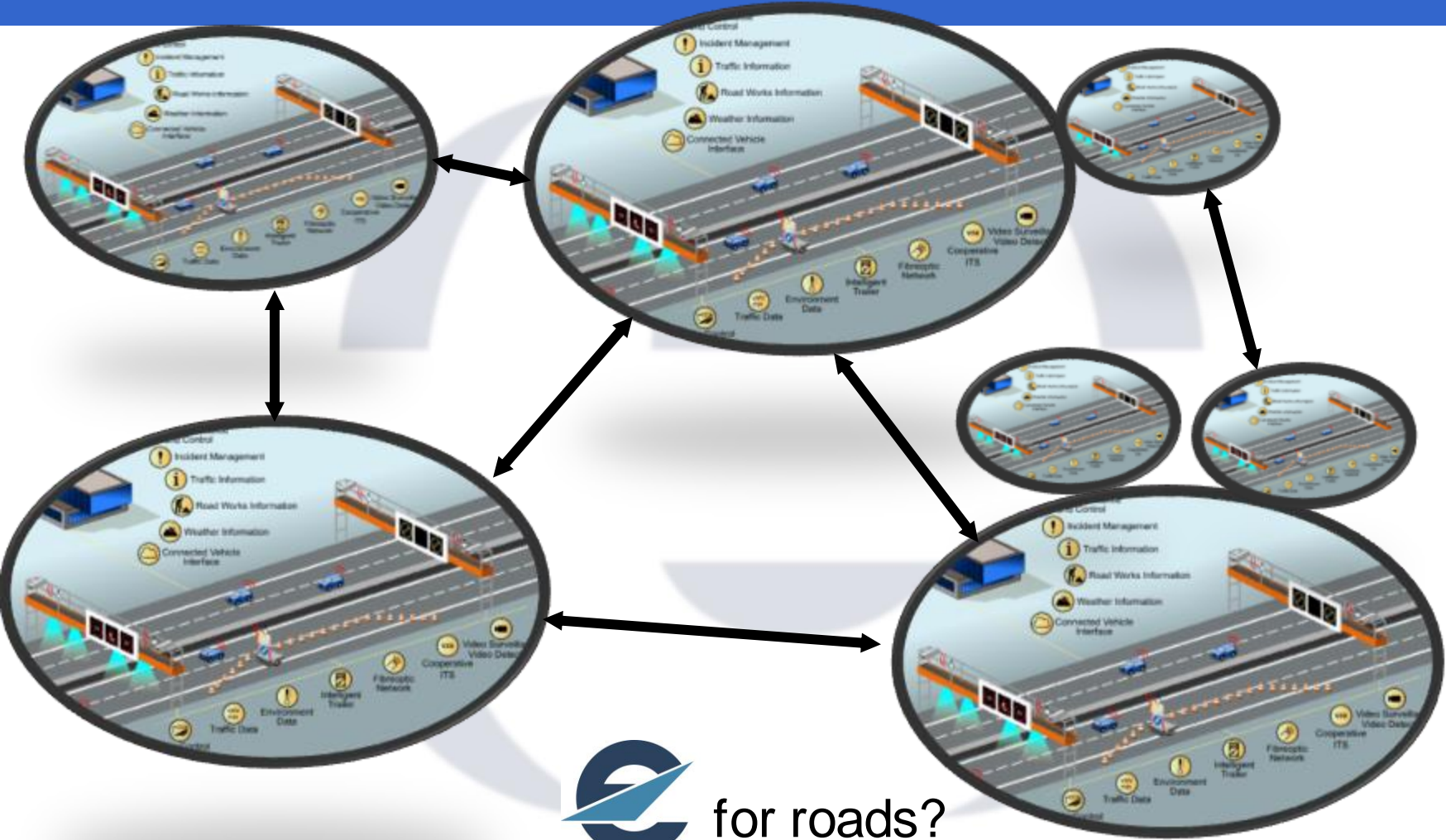


Connected & Automated Mobility

- Increasingly important politically
- From cooperative ITS to connected automation
 - Challenge to Infra-managers in very near future
 - Benefits – safety, efficiency, sustainability
- Major cultural change
 - cooperation with key stakeholders (e.g. vehicle manufacturers, telecom & IT industry)
 - Importance of worldwide in addition to EU cooperation
 - new roles for the Infra-managers at national and EU level
- Key challenges and opportunities for NRAs
 - Service to vehicle industry or responsible to society?



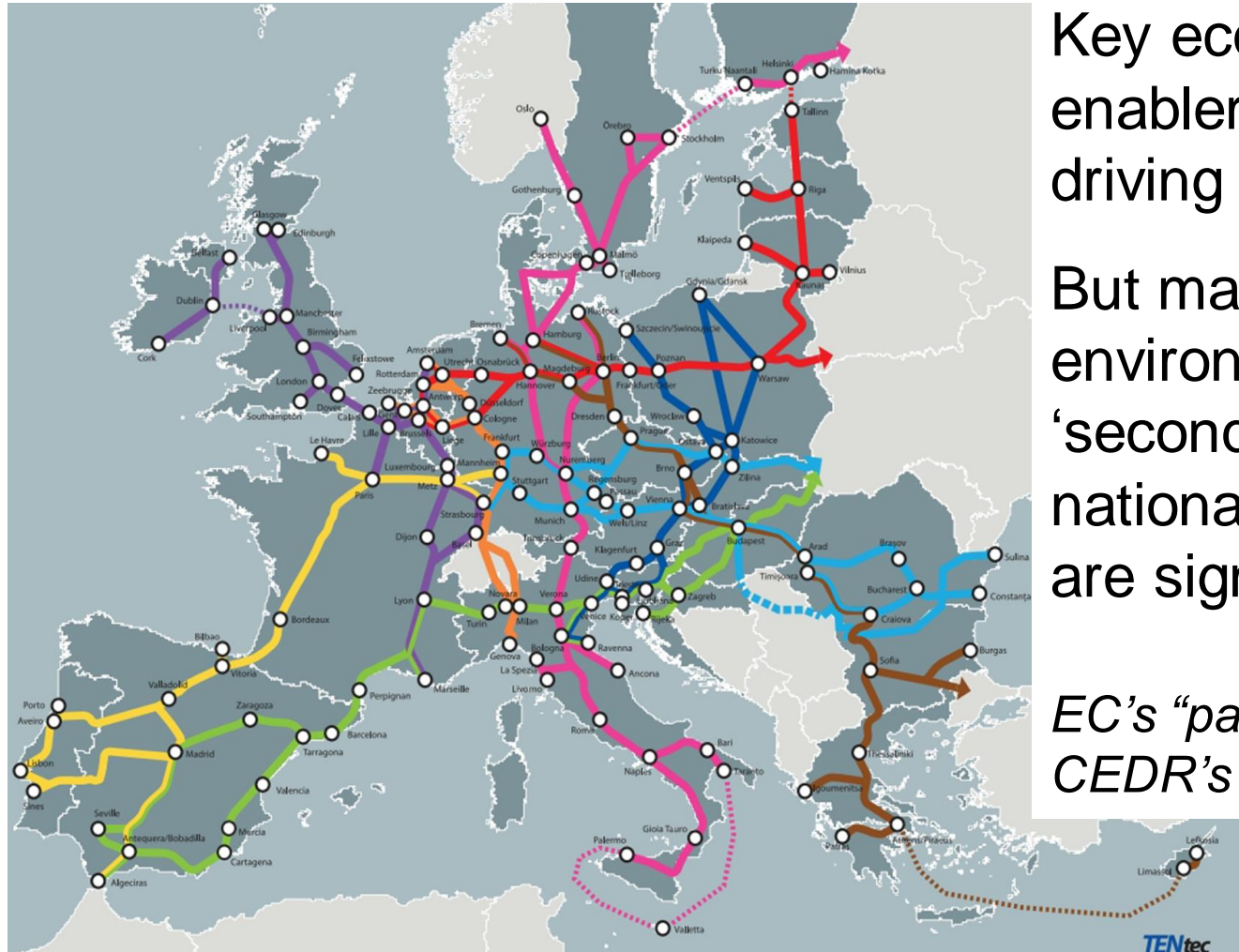
Corridor management



for roads?

EUROCONTROL

Significance of EU corridors



Key economic and societal enablers. ‘Gold’ standard - driving overall standards.

But many safety/ environmental concerns on ‘secondary’ networks & national/regional differences are significant.

EC’s “patchwork” is sometimes CEDR’s “subsidiarity”

Trends of transport infrastructure development: challenges of today and tomorrow.

- Societal and technology drivers
- NRA roles, structures and resources
 - EU and regional cooperation models
- Delivering the 'infrastructure' society needs