

FEHRL



Strategic European Road Research Programme



FEHRL Background

- **18 years as the European Centre of Excellence in Road Research**
- **Formed as the organisation of European National Road Research Centres**
- **Currently consists of 30 institutes – all with a public service orientation – employing over 5,000 staff**
- **Facilitates cooperative research projects for European Commission, European Road Directorates and others**

FEHRL's objectives

Through research collaboration, FEHRL's main objectives are to:

- Provide scientific input to European and national government policy on highway engineering and road transport matters.
- Create and maintain an efficient and safe road network in Europe.
- Increase innovation in European road construction and road-using industries.
- Improve the energy efficiency of highway engineering and operations.
- Protect the environment and improve quality of life.



Setting the Road Research programme 1993-2007

In 1993, FEHRL published its first document describing a Strategic European Road Research Programme (SERRP).

In 1996, SERRP II was published as the research agenda for 1999-2004.

Published in 2001, after consultation with Road Directors and Industry, SERRP III set out FEHRL's research agenda for 2002 -2007.

Common elements in all three documents included; design, construction, operation, safety and environment

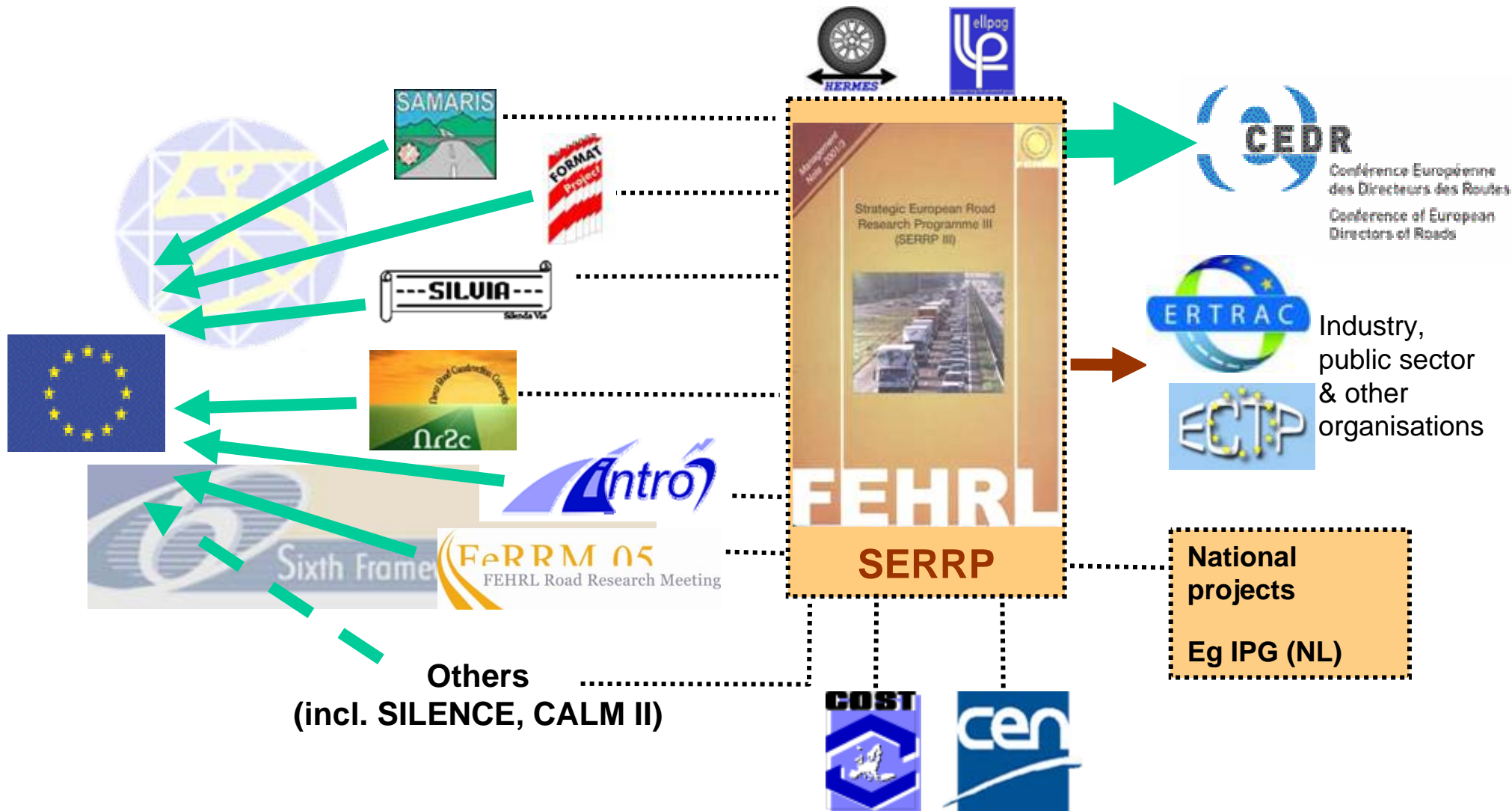
FEHRL's research programme

The Strategic European Road Research Programme (SERRP IV) considers four themes.

- Mobility, Transport & Infrastructure
- Energy, Environment & Resources
- Safety & Security
- Design & Production

The programme combines internal projects, collaborative projects with industry, individual national projects and EC projects.

SERRP (Strategic European Road Research Programme)



SERRP Instruments

- FEHRL Research Area Teams
- FEHRL Working Groups
- EC Framework RTD projects
- EC Study contracts
- CEDR-FEHRL projects
- COST Actions
- Joint Industry-FEHRL projects

FEHRL's 4 SERRP themes

1. Mobility & Transport

- *Optimising capacity*
- *Efficient goods transport*
- *Urban mobility*

2. Safety & Security

- *Preventive road engineering*
- *Impact mitigation & post-crash*
- *Road transport system security*

3. Energy, Environment & Resources

- *Energy consumption*
- *Pollution and environmental Control*
- *Noise and vibration abatement*
- *Sustainable construction*

4. Design & production

- *Implementation of innovation*
- *Flexibility of production & maintenance*
- *Lifetime resource use*

Mobility, Transport & Infrastructure

Optimising capacity

Efficient goods transport

Urban mobility

Optimising capacity

- **More efficient road maintenance techniques**
 - Infrastructure monitoring and maintenance management systems
 - Maintenance of secondary network
- **New forms of cooperation between private and public sectors. Methods to evaluate costs, benefits and risks.**
- **Efficient pricing tools, dynamic road pricing and electronic fee collection**
- **Dedicated lanes**
 - for freight and “light” infrastructure for cars.
 - Systems for high-speed bus and taxi corridors
 - Effectiveness of separate lanes for road operations
 - Automated highways: systems for platooned vehicles

Energy, Environment & Resources



Energy consumption

Pollution and environmental control

Noise and vibration abatement


Sustainable construction

Noise and vibration abatement

Noise still is an essential societal problem and transportation is seen as the primary source.

Facing a continued increase in freight and passenger transport the adverse effects of noise must be reduced.

- > Make full use of noise reduction potentials
- > Take measures at the source – at the contact surface of tyre and road
- > Optimise the whole system of tyre and road surface



**Preventive Road Engineering and
road design
Impact mitigation
Road transport system security**

Preventive road engineering

- Standards, measurement & testing
- Preparing for change
 - e.g. climate change, ageing population, etc
- Road markings, signing and signals
- Self-explaining roads (& tunnels)
- Infrastructure for all road users
 - including Traffic calming
- Winter maintenance
- Better surfaces



Design & Production



The diagram illustrates a road construction process. At the top, three circular insets show cross-sections of different road layers: a top layer with a blue and orange interface, a middle layer with orange and blue stripes, and a bottom layer with orange and grey stripes. Below these, a road surface is shown with a dashed white line. Four large red arrows point downwards from the road surface to a series of grey rectangular blocks arranged in a row on a green grassy field. The text 'Implementation of innovation' is overlaid on the road surface, 'Flexible production' is overlaid on the red arrows, and 'Lifetime resource use' is overlaid on the grey blocks.

Implementation of innovation

Flexible production

Lifetime resource use



Implementation of innovation

- **Vehicle-Tyre/road interaction studies**
- **Simulation tools and models for life-cycle assessment**
- **Pilot scale assessment tools**
- **High-speed diagnostic testing**
- **Performance-based specifications**
- **New forms of contracting**

FEHRL will build on FP6 & other projects

Mobility & Transport issues



Environmental issues



Safety issues



FEHRL will build on FP6 & other projects

Design & Production issues



Cross-cutting issues



Indicative topics for FP7

e.g.

- Intelligent Highways
- Infrastructure construction and monitoring
- Skidding resistance
- Noise and vibration
- Pollution mitigation
- Worker safety

Summary

- Road infrastructure related research is a core component of the European transport research system
- The members of FEHRL and their partners are prepared to continue to contribute to the targets of a sustainable transport system for Europe