ERA-NET ROAD
Coordination and Implementation of Road Research in Europe

Outputs from past transnational calls

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Output from...

- PBSA
- Maintenance backlog
- SRO 1 Road Safety
- SRO 3 Climate change
- SRO 4 Asset Management
ENR SRO1
“Safety at the Heart of Road Design”
2nd cross-border funded joint programme

ONGOING
All updated information on www.eranetroad.org
Safety at the Heart of Road Design

Improve Road Safety by increasing the awareness and acceptance of road authorities

- Development of evaluation tools
- Assessment of forgiving road (FR) safety measures
- Comparison and implementation of approaches of self-explaining roads (SER)
Safety at the Heart of Road Design
(ENR SRO1) January 2009 – December 2011

- **11 funding partners** in the PEB with AT as Programme Manager (SE is PEBchair)
- AT, BE, FI, HU, IE, DE, NL, NO, SI, SE, UK
- Total budget in **EUR 1.650.000**
- Research budget: **EUR 1,485 million**

- **Call open** from 06.03.-27.04.2009
- **18 proposals** were submitted
- **5 projects were selected**
  (final research budget **EUR 1,484 million**)
• **ERASER**: common approach to SER

• **RISMET**: evaluation tool for SER

• **SPACE**: focus on speed adaptation (SER)

• **IRDES**: evaluation tool and guidelines for FR

• **EuRSI**: automated roadside mapping (FR)
Evaluations to Realise a common Approach to Self-Explaining European Roads

- **Partner:** NL, DE, AT, UK, SE; **Budget:** EUR 287,280
- **Duration:** 24 Months (01/2010 - 12/2011)

Fundamental knowledge on Self-Explaining Roads will be compared and evaluated.

First step focuses on road users' ability to **recognise and understand** road categories.

Second step implements the results in a **decision support tool** for Road Authorities.

The output will include a **checklist** and **practical guidelines with design elements** for Road Authorities.

ongoing – reports so far on [www.eranetroad.org](http://www.eranetroad.org)
Easy identification of (potentially) unsafe locations in the road network.

Calculate potential benefits and potential effects on aspects like driver behaviour.

Based on output of the project: RIPCORD-ISEREST.

The output will include an evaluation tool for Road Authorities.
Speed Adaptation Control by Self Explaining Roads
- **Partner**: SE, UK, BE, CZ, IE, AT, BE; **Budget**: EUR 314.730
- **Duration**: 24 Months (01/2010 - 12/2011)

It focuses on self explaining roads, identifying parameters and validation through **driving simulation**.

Estimate and evaluate **potential safety benefits** and register **change in driver behaviour** and why changes occur.

Determine **speed adaptation** and **situational awareness**.

The output will include a tool to identify unsafe or non-explaining areas, **technical notes** and a **final report** for Road Authorities.

ongoing - reports so far on www.eranetroad.org
Improving Roadside Design to forgive Human Errors

- **Partner:** IT, AT, SE, FR; **Budget:** EUR 267.710
- **Duration:** 24 Months (09/2009 - 09/2011)

Covers a broad range of **Forgiving Roadsides** and will achieve an evaluation tool along with practical solutions to make roadsides more forgiving.

The output will include a **evaluation tool** and a uniform **guideline on forgiving roadsides** for Road Authorities.

**Deliverable 1** State of the art report on existing tools for the design of forgiving roadsides - **alignment with CEDR TG Safety**

ongoing - reports so far on www.eronetroad.org
European Road Safety Inspection

- **Partner:** IE, NL, AT, UK, IE; **Budget:** EUR 280,000
- **Duration:** 18 Months (10/2009 - 03/2011)

Project proposal focuses on forgiving road sides and methods of evaluation using innovative **automated mapping systems** for the identification of hazards.

Exploring **risk assessment** approach and testing **independent validation** of the system.

The output will include a **mobile route-corridor mapping system** for Road Authorities.

ongoing - reports so far on www.eranetroad.org
• **Kick-Off** in Malmö 03.02.2009

• **Joint Meeting** at CEDR TG Road Safety meeting in Budapest 4.3.2010

• **Final Conference** in Stockholm 13.01.2012

• **Final Programme Report** in March

• Results useful for many countries
ENR SRO3
“Road Owners Getting to Grips with Climate Change”
1st cross-border funded joint programme

FINISHED
All updated information on www.eranetroad.org
Programme Objectives

Road Owners Getting to Grips with Climate Change

• Provide Road Administrations with tools to **identify and prevent problems** with road infrastructure **due to climate change**
  • Risk Analysis and Risk Management
  • Climate Impact on Road Infrastructure
  • Mapping and classifying vulnerable structures
  • Climate change scenarios
  • Adapting design rules and specifications
Road Owners Getting to Grips with Climate Change (ENR SRO3) June 2008 – May 2011

• 11 funding partners in the Programme Executive Board with Sweden as Programme Manager (AT PEBchair)

• AT, DK, ES, FI, DE, IE, NL, NO, PL, SE, UK, max. research budget: EUR 1,5 million

• Call open from 22.03.-12.05.2008

• 19 proposals were submitted

• 4 projects were selected (finally research budget EUR 1,2 million !!!)
Project Overview

- **RIMAROCC**: Risk Analysis and Risk Management
- **IRWIN**: Adapting design rules and specifications
- **P2R2C2**: Climate Impact on Road Infrastructure
- **SWAMP**: Mapping and classifying vulnerable structures
Risk Management for Roads in Climate Change

- **Partner**: SE, FR, NL, NO; **Budget**: EUR 366,000
- **Duration**: 22 Months (10/2008 - 09/2010)

Develop **common method** of risk management with regard to climate change

**Improvement of existing methods;**

**Adaptation measures** in the road infrastructure

The **Handbook** covers 7 steps that are compatible with existing methods (in line with ISO 31000)

The Risk analysis method was used in SWAMP

**Reports on** www.eranetroad.org
**Project: IRWIN**

Improved local Road Winter Index to assess maintenance needs adaptation costs in climate

- **Partner:** FI, SE; **Budget:** EUR 320.000
- **Duration:** 14 Months (11/2008 - 12/2009)

Develop an improved local **Road Winter Index**

**Data base** for future road condition scenarios

**Evaluate** some factors

**Reports on** www.eranetroad.org
• **Pavement Performance and Remediation Requirements following Climate Change**
  – **Partner**: UK, SI, NO, FI; **Budget**: EUR 214,000
  – **Duration**: 18 Months (02/2009 - 08/2010)

Develop an **advice tool** for road owners

**Avoidance of loss** of pavement performance

Reports on [www.eranetroad.org](http://www.eranetroad.org)
Storm Water Prevention - Methods to predict damage from the water stream in and near road pavements

- **Partner:** DK, SE; **Budget:** EUR 289,000
- **Duration:** 20 Months (10/2008 - 06/2010)

Develop **Guidelines** for finding places in existing network (so called “Blue Spots”)

Define **necessary initiatives** to be undertaken

Reports on www.eranetroad.org
• **Kick-Off** in Copenhagen 13.03.2008

• **Joint Meeting** at Climate Change Conference in Oslo 31.3./1.4.2009

• **Final Conference** in Cologne 9.12.2010

• **Final Programme Report** is finish

• **Results are used in NO, NL, FI**
ENR SRO4

“Effective Asset Management meeting future Challenges”
The purpose of the programme ERA-NET ROAD SRO4 is to improve the management of the European road network.

Methods and procedures, which optimise road network management performance from a technical, economic and sustainability point of view, are to be identified and developed.

The management of a road network involves a wide range of areas including engineering, economics, civil engineering, traffic management, safety, information technologies, and many more.

This programme is looking for a holistic approach that will encompass the management of a road network in its entire service life “from cradle to grave”.

Launching of ENR SRO4 programme:

- In most European states quite a bit of research has been done in the field of management of road infrastructure
- Common strategies for implementation are missing
- The ENR SRO4 programme was to provide solutions

The programme has four main goals according to individual themes:

A  Meeting stakeholders’ requirements and expectations
B  Understanding asset performance
C  Development of suitable Key Performance Indicators for the future
D  Framework for optimised asset management
September 2009 – Vienna (Strategic research opportunity workshop):

- Representatives of NRAs from 13 European states
- Three main issues were presented:
  - Cross asset optimization
  - Advanced asset controlling
  - Environmental management
- As a result of the workshop, a draft of the document DoRN ENR SRO4 was designed
December 2009 – Copenhagen (Kick-off meeting):

- PEB establishment by nominating members & deputies
- The document Collaboration agreement was designed, in which partners committed to financial contributions
- The Danish Road Directorate (DRD) took over the leadership of the programme and with other partners prepared the call according to the main research themes from the DoRN
- 20 offers received, were reviewed and evaluated by each member, results presented at the next PEB meeting
April 2010 – Kopenhagen:

- evaluation of submitted offers and selection of the projects to be financed through SRO4 programme
- nominated and appointed »project managers«, responsible for monitoring selected projects and reporting to PEB
October 2010 – London:

- selected projects were officially presented to PEB:
  A: SABARIS, EXPECT
  B: HEROAD
  C: SBAKI, EVITA
  D: ASCAM, PROCROSS

- signing of contracts with contractors of individual projects
- agreement about progress reporting on projects
- until January 2011 all projects successfully started
Programme budget

Financial assets according to programme goals

Financial contributions by Individual countries

Total sum of collected funds amounts to 2.85 million EUR

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Simply do it.