



# Report on Joint Call 2010

Deliverable 1.2

April 2010



This report is a result from ERA-NET ROAD II  
- a project funded by the European Commission within  
the Seventh Framework Programme (2007-2013)





Project No. 235474  
Project acronym: ENR2  
Project title: ERA-NET ROAD II

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

Instrument: Coordination Action  
Thematic Priority: Transport

**Deliverable 1.2 – Report on Joint Call 2010**

Due date of deliverable: 30.04.2010  
Actual submission date: 03.05.2010

Start date of project: 01.05.2009

Duration: 30.4.2011

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Project funded by the European Commission within the Seventh Framework Programme (2007-2013) – Dissemination Level: Public

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Version no.: 1.1

Date of publishing: May 2010

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Deliverable no.: 1.2

Project no.: 235474

Project title: ERA-NET ROAD II

Instrument: Coordination Action

## Executive summary

ERA-NET ROAD II aims to strengthen the European Research Area in road research by coordinating national and regional road research programmes and policies.

The first ERA-NET ROAD project, which was funded under the Sixth Framework Programme, made considerable progress towards the networking of road research programmes across Europe. ERA-NET ROAD focused on information exchange between national owners of road research programmes and definition and preparation of joint activities.

ERA-NET ROAD II will build on this work, focusing on implementation of joint activities and funding of joint trans-national research. As owners of road research programmes, the partners in ERA-NET ROAD II will ensure that coordination between the owners of the national and regional road research programmes from both within and outside the Consortium is broadened and deepened. They will pave the way towards achieving an expenditure of 10% of their research budgets on trans-nationally funded collaborative research by 2013. They will also liaise with other public and private stakeholders in transport research programming in Europe and encourage collaboration with non-European research programmes. At the end of the project a permanent structure will have been established that will take forward the trans-national coordination of road research programmes after completion of the project and be self-sustaining.

The ERA-NET ROAD II (ENR2) Work Package 1 (WP1) Tasks are to identify areas of common interest and to implement Joint Calls. The ENR2 trans-national and cross-border funded call on “Effective Asset Management meeting Future Challenges” was launched on 29<sup>th</sup> January 2010. This call closed on 12<sup>th</sup> March 2010.

At the ENR2 Network Steering Group (NSG) meeting in Paris in May 2009, it was decided that the first ENR2 Joint Call was to be dedicated to one of the Strategic Research Opportunities (SRO) identified in ERA-NET ROAD I (ENR). A Questionnaire was sent out to the ENR2 members, mainly National Road Administrations (NRAs) concerning the national interest and priority for the remaining SROs in ENR. Based on the NRAs priorities, the ENR2 NSG approved the common research topic on “Asset Management” in July 2009.

Aim and scope on the topic asset management were then developed at a collaborative research planning expert workshop, held in Vienna on 28 - 29<sup>th</sup> September 2010. A Task Force was set up to define a joint research programme based upon the outputs from the Vienna workshop. Within four weeks, at the end of October the Task Force reported the Description of Research Needs (DoRN) to the WP1 Leader. It was then decided to take forward the joint research programme, entitled “Effective Asset Management meeting Future Challenges”.

Upon a request in November 2009, thirteen NRAs committed to participate in the European trans-national joint research programme over its planned 3 year duration (May 2010 to June 2013). A commitment from each NRA comprised a statement that budgeted funds were available amounting on the financial contribution model (see 3.1.1 Decision on Financial Contribution and Annex IV). Also a Programme Executive Board (PEB) Member and deputy were appointed

The PEB was formally set up by the PEB Kick-Off meeting in Denmark in December 2009. The first task for the PEB was to agree and sign up to a Collaboration Agreement (CA). A template from ENR was used. This document is the firm contract between participating NRAs. The Description of Research Needs (DoRN), entitled “Effective Asset Management meeting Future Challenges”, is appended to the Collaboration Agreement.

Once set up, the PEB took over the responsibility from ENR2 for the programme management. The Programme Leadership was taken by Denmark, Danish Road Directorate, who agreed not to participate in the call, as a supplier (in accordance with ENR agreed principles). The first action by the PEB was to arrange a call for research project proposals at the end of January 2010. The call was launched on the 29<sup>th</sup> January 2010 through the Supplement to the Official Journal of the European Union (OJ S series). The call closed on 12<sup>th</sup> March 2010 and 20 project proposals were submitted. The PEB jointly evaluated at the SRO4 PEB Selection Meeting on 8th-9th April 2010 the submitted 20 project proposals and selected 7 projects for contract negotiations. The call documents (*Description of Research Needs, Application Form* and *Guide for Applicants*) are included in ENR2 WP1 Deliverable 1.1 Joint Calls as well as posted on the ERA-NET ROAD II webpage ([www.eranetroad.org](http://www.eranetroad.org)).

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## 1 Introduction

The objective of ERA-NET ROAD II Work package 1 (WP1) is to initiate a cross-border funded trans-national road research programme, to identify and to implement Joint Calls. The first Call in WP1 was opened in January 2010 with 13 participating National Road Administrations (NRAs) from different countries and a budget of EUR 2,85 Mio. When the call for proposals closed, 20 project proposals were received. To achieve this, the ENR-toolkit, developed in ERA-NET ROAD (ENR), was used.

Advantage can be taken of the lessons learnt from the first two calls initiated by ENR. The same methodology that was used to achieve these first two calls was used again. The methodology is described in the *Deliverable 13/14, Chapters 3.4 to 3.8*.

Thus, the way towards the call for a programme comprised the following steps:

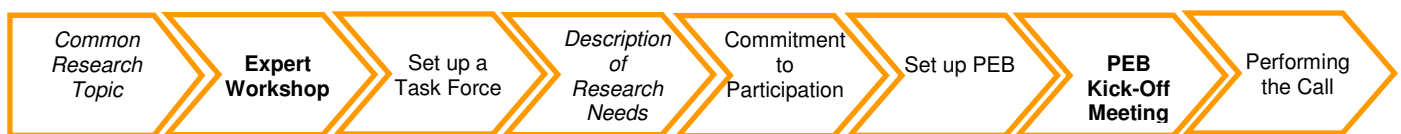


Figure 1 ENR Methodology (Deliverable 13/14) to proceed towards the ENR2 Call

To initiate a trans-national Joint Call a Common Research Topic is identified and approved by the ENR2 Network Steering Group (NSG). During an expert workshop the common research needs are defined. A neutral Task Force is set up by experts from NRAs who are responsible for defining the Description of Research Needs. NRAs are requested for commitment to participate within the Programme. A Programme Executive Board (PEB) is set up by participating NRAs and a PEB Kick-Off Meeting is undertaken to perform the Call.

## 1.1 Trans-national research programme with cross-border funding

If NRAs define trans-national research topics of common interest, and decide to collaborate and to jointly fund a research programme, this is cross-border funding. The collaboration models have been brought together in the form of the ERA-NET ROAD toolkit (see Annex I). The “Common Obligation Model” enables NRAs to give a financial obligation when making the budget plans for the research projects and pay later upon request and upon delivery.

## 1.2 Time Schedule for the Call in January 2010

Table 1 Time Schedule of the Joint Call 2010

When?	Who?	What?
19 <sup>th</sup> May 2009	ENR2 Network Steering Group (NSG)	Decision on topic 2010 based on ENR work
June 2009	ENR2 NSG	Request for Declaration of Interest for the four different SROs
16 <sup>th</sup> July 2009.	ENR2 NSG	Approval of Common Topic
28 <sup>th</sup> - 29 <sup>th</sup> September 2009	Nominated Experts from National Road Administrations (NRAs)	SRO Workshop to narrow down the common interest and set up a relevant Task Force.
October 2009	Task Forces	Work on Description of Research Needs (DoRN).
November 2009	National Road Administrations	DoRN sent to each NRA with a <b>formal request</b> for final commitment to participate in the planned joint funded trans-national research programme and the open call that will follow.
December 2009	Programme Executive Board (PEB)	arrange an open joint funded trans-national call for project proposals in January 2010
17 <sup>th</sup> December 2009	PEB Kick-Off Meeting	Finalisation of Call Documents
29 <sup>th</sup> January 2010	Programme Leader (PL) DRD, Denmark	Open Call
12 <sup>th</sup> March 2010	PL, PEB	Closing of the Call
8 <sup>th</sup> - 9 <sup>th</sup> April 2010	PEB Selection Meeting	evaluate and select which project proposals to award
May 2010	PEB	Contracting

## 2 Defining the Research Needs

The Description of Research Needs (DoRN) is the final document appended to the Collaboration Agreement. It will be presented to all NRAs and is the basis for NRAs decision to collaborate on the cross-border funded Research Programme. The DoRN describes the objectives and common research needs of the NRAs on the Call topic.

### 2.1 Deciding on a Common Research Topic

First step was to define a common research topic for the Joint Call in January 2010. At the Network Steering Group (NSG) meeting in Paris on 19<sup>th</sup> of May 2009 it was approved to base a common topic on the work already done in ERA-NET ROAD I (ENR). In ENR there were 7 Strategic Research Opportunities (SRO) identified (SROs described in Deliverable 13/14, Chapter 4.3.) and two Joint Programmes have been successfully conducted by ENR:

- 2008: SRO3 “Road Owners Getting to Grips with Climate Change”
- 2009: SRO1 “Safety at the Heart of Road Design”

In June 2009 a Request for Declaration of Interest for the four different SROs was sent to the NRAs participating in ERA-NET ROAD II to express their priorities between the four remaining SROs for further development in ENR2:

- SRO4 – Effective Asset Management Meeting Future Challenges
- SRO5 – Financing and Procurement Concepts Promoting Innovation
- SRO6 – Road Pricing and Charging to Meet Societal Needs
- SRO7 – Emerging Technologies Underpinning the Service Provider Role

Each NRA was expected to declare its interest by using **one of the following scores for each SRO topic**:

1. No interest to participate in the SRO Workshop.
2. Will participate in the SRO Workshop, but will not participate in any Task Force set up.
3. Will participate in the SRO Workshop, and will check if appropriate officers are available to participate in Task Force set up.
4. Will participate in the SRO Workshop, and appropriate officers are available to participate in Task Force set up.
5. Will participate in the SRO Workshop, and appropriate officers are available to be Task Force Leaders.

The results of the Questionnaire are shown in the Table 2 below. Ten NRAs sent back the questionnaire and from five NRAs the results of the Questionnaire in 2008 were used. The NRAs expressed their priorities between the remaining SROs and the results were approved by the NSG of ENR2 on 16<sup>th</sup> July 2009. So, a common research topic for the next call was decided on “SRO4 - Effective Asset Management Meeting Future Challenges”.

Table 2 Results of the Questionnaire 2009 on a common research topic for the Joint Call 2010

	SRO4	SRO5	SRO6	SRO7
<b>total</b>	<b>55</b>	<b>29</b>	<b>34</b>	<b>29</b>
AT	5	1	3	3
SE	3	3	2	2
FR	4	3	3	4
IE	4	2	3	2
FI	4	3	3	1
UK	3	1	1	
BE	3	2	3	2
HU	4	2	3	1
NO	4	3	2	1
DK	4	1	2	3
NL (2008)	4	2	3	4
DE (2008)	3	3	1	1
CH (2008)	3	1	3	3
SI (2008)	4	1	1	1
PL (2008)	3	1	1	1
LI				

## 2.2 SRO4 Expert Workshop in Vienna

The common research topic for the call 2010 was approved and a more thorough definition of joint research needs on asset management, i.e. aim and scope, was then developed at a collaborative research planning workshop, held in Vienna on 28<sup>th</sup>-29<sup>th</sup> September 2009.

The workshop task was to discuss and narrow down the tentative programme (based on the thematic input to the Workshop developed by WP1 see Annex II), their objectives and expected outcomes and to set up a specific Task Force to develop a Description of Research Needs (DoRN).



Photograph 1 – SRO4 Workshop 28/29 September 2009 in Vienna (Katharina Krysztofiak)

NRAs from ENR2 and members of CEDR were invited to appoint their experts on Asset Management to join group discussions at the Workshop.

25 experts on Asset Management from 13 countries - Austria, Belgium, Denmark, Finland, France, Germany, Hungary, Ireland, The Netherlands, Norway, Slovenia, Sweden and United Kingdom, actively discussed and defined the topic in the two-day Workshop in Vienna. The workshop was divided into 3 groups; two groups worked on “*Asset Optimisation*” and one group on “*Asset Advanced Controlling*”. Day 1 dealt with the collection and definition

of Joint Research Needs, based on the question “*What are the Research Needs of the National Road Administrations?*”. Day 2 was defined by the output of Day 1 for the Task Force.

### 2.3 Task Force Set Up

The Workshop achieved its objectives with well defined input for the Description of Research Needs (DoRN) and a common agreement on objectives and expected outcomes for the research programme.

A Task Force set up with Ireland as the Task Force Leader (Albert Daly), comprised members from Denmark, Germany, Finland, The Netherlands, Sweden and United Kingdom. The Task Force developed the workshop input to the DoRN and formulated a joint research programme based upon the output from the workshop within four weeks. A detailed work schedule was set up for the Task Force, see Table 3 below.

Table 3 Task Force Work Programme

Monday, 5.10.2009	1st Draft from Leader to Task Force (TF)
Friday, 9.10.2009	Comments & Input from TF to Leader
Friday, 16.10.2009	2nd Draft from Leader to TF
Wednesday, 21.10.2009	Comments & Input from TF to Leader
<b>Monday, 26.10.2009</b>	<b>Final Draft from Leader to WP1 and TF</b>

It was then decided to take forward the joint research programme, entitled “Effective Asset Management meeting Future Challenges”.

### 2.4 Description of Research Needs (DoRN)

The aim of the Joint Research Programme “Effective Asset Management meeting Future Challenges” is to improve the management of the European road network by identifying and developing methods and procedures which optimise performance from a technical, economic and sustainability point of view. The management of a road network involves a wide range of areas including engineering, economics, social development, civil engineering, traffic management, safety, information technology, and many more. It is important that a holistic approach is adopted encompassing the whole service life “from cradle to grave” in order to maximise the potential benefits of these important national assets.

The programme is based on the following four objectives which are described below:

- A: Meeting stakeholders’ requirements and expectations
- B: Understanding asset performance
- C: Development of suitable Key Performance Indicators (KPIs) for the future
- D: Framework for optimised asset management

Under each heading a number of expected outputs have been defined in the DoRN (see *Deliverable 1.1, January 2010*).

The final DoRN was presented to all Workshop participants and all NRAs participating in ENR2 for them to decide on the collaboration on the Trans-national Joint Research Programme SRO4. The NRAs who are participating in the Joint Call established a Programme Executive Board (PEB) in December 2009 (see Section 3).

### 3 Commitment to participation in SRO4

The collaboration according to the Common Obligation Programme Model starts with the decision of NRAs (ENR2 countries, non ENR2 countries) to collaborate on the joint research programme SRO4. In November 2009 at the NSG meeting in Vilnius, 13 National NRAs committed to participate in the SRO4 trans-national joint research programme “Effective Asset Management meeting Future Challenges” over its planned 3 year duration. It will start in May 2010 and end in June 2013.

The participating NRAs forming the ENR2 SRO4 PEB are as follows:

Table 4 SRO4 Participating National Road Administrations

<b>BELGIUM (BE)</b>	Agency for Roads and Traffic (AWV)	<a href="http://wegen.vlaanderen.be">wegen.vlaanderen.be</a>
<b>DENMARK (DK)</b>	Ministry of Transport, Danish Road Directorate (DRD)	<a href="http://www.vejdirektoratet.dk">www.vejdirektoratet.dk</a>
<b>FINLAND (FI)</b>	Finnish Transport Agency (FTA)	<a href="http://www.liikennevirasto.fi">www.liikennevirasto.fi</a>
<b>FRANCE (FR)</b>	MEEDDM, Ministère de l'Écologie, de l'Énergie, du Développement durable et de la Mer	<a href="http://www.developpement-durable.gouv.fr">www.developpement-durable.gouv.fr</a>
<b>GERMANY (DE)</b>	Federal Ministry of Transport, Building and Urban Affairs (BMVBS)	<a href="http://www.bmvbs.de">www.bmvbs.de</a>
<b>IRELAND (IE)</b>	National Roads Authority (NRA)	<a href="http://www.nra.ie">www.nra.ie</a>
<b>LITHUANIA (LT)</b>	Lithuanian Road Administration under the Ministry of Transport and Communications (LRA)	<a href="http://www.lra.lt">www.lra.lt</a>
<b>NETHERLANDS (NL)</b>	Ministerie van Verkeer en Waterstaat (Rijkswaterstaat)	<a href="http://www.rws.nl">www.rws.nl</a>
<b>NORWAY (NO)</b>	Norwegian Public Roads Administration (NPRA)	<a href="http://www.vegvesen.no">www.vegvesen.no</a>
<b>SLOVENIA (SI)</b>	Slovenian Roads Agency (DRSC) Motorway Company in the Republic of Slovenia (DARS)	<a href="http://www.drsc.si">www.drsc.si</a> <a href="http://www.dars.si">www.dars.si</a>
<b>SWEDEN (SE)</b>	Swedish Road Administration (SRA)	<a href="http://www.vv.se">www.vv.se</a>
<b>SWITZERLAND (CH)</b>	The Federal Roads Office (FEDRO)	<a href="http://www.astra.admin.ch">www.astra.admin.ch</a>
<b>UNITED KINGDOM (UK)</b>	Department for Transport, Highways Agency (HA)	<a href="http://www.highways.gov.uk">www.highways.gov.uk</a>

### 3.1 Financial Contribution Models

In the ERA-NET ROAD II Description of Work we have committed to a Joint Call in January 2010 to provide a total budget of EUR 3 million from national road research budgets (NRA budgets). At the NSG meeting in Paris on 19<sup>th</sup> May 2009 the question of different financial contributions from participating NRAs to the joint programmes was discussed, due to the different amounts of their national research budgets.

WP1 was responsible for developing a model for financial contributions for the Joint Calls in ENR2. Therefore, ENR2 NSG members were asked in summer 2009 for comments on approaches for different financial contributions and an update of their actual annual research budgets. They were also asked for their potential level of financial support. The following documents were circulated:

- questionnaire with two suggested financial contribution models (see Annex III)
- excel sheet to provide an update of your national road research budget (see Annex IV)

Based on the responses of the ENR2 NSG members, WP1 provided a more detailed suggestion for different financial contributions for the ENR2 Joint programmes.

In parallel WP1 compared the funding mechanism of CEDR, as the possible organisation taking over the ENR2 role. Each participating NRA in CEDR contributes every year with an amount based on the GDP of its country. The CEDR funding mechanism was examined by WP1. The conclusion was that the funding mechanism does not fit into the ENR cross-border funding model.

Based on the answers to the questionnaire, WP1 developed three approaches for financial contributions to ENR2 calls (see Annex V).

#### 3.1.1 Decision on a Financial Contribution Model

The NSG members considered the funding model for different contributions. **Approach C – “Each NRA contributes a minimum share per objective per year”** was approved by the ENR2 NSG at their meeting in Vilnius on 19<sup>th</sup> November 2009.

Approach C means, that the Asset Management programme is based on four objectives (O1, O2, O3, O4). The objectives are specified in the *Description of Research Needs* (DoRN) and in the *Guide for Applicants of the Call for Proposals* (more details in *Deliverable 1.1., January 2010*). The applicants have to explicitly address at least one of the four objectives with their submitted project proposals.

All ENR members who participate in the programme have the opportunity to commit on one or more of the four objectives with a budget contribution of EUR 50.000 per year (total EUR 150.000 for 3 years) for each objective. That means 50.000 EUR per objective per year for each NRA. Each NRA has the opportunity to participate in one, two, three or four objectives. *Section 4.1 Funding on the Call* shows the financial contributions of the NRAs.

After that decision NSG members were also asked about their financial commitment to the Joint Programme SRO4 “Effective Asset Management meeting Future Challenges”.

























### 3.2 SRO4 Programme Executive Board (PEB)

The collaboration according to the Common Obligation Programme Model starts with the decision of NRAs (ENR2 countries, non ENR2 countries) to collaborate on the joint research programme. The programme ownership is formalised by the Programme Executive Board (PEB) made up of delegates of the participating NRAs. They agree on a Programme Leader (PL), who is responsible for the programme management and a PEB Chairman (PEC). The SRO4 PL and PEC is the Danish Road Directorate. The PEB sign a Collaboration Agreement (CA) in which several items (roles and responsibilities, committed amount of funding, duration, language, and the ownership of IPR and project results) are described. The objectives for the joint research programme are set out in the Description of Research Needs (DoRN) that is annexed to the CA.

The Programme Executive Board (PEB) was formally set up by the ERA-NET ROAD II WP1 Team at its Kick-Off meeting in Copenhagen on 17<sup>th</sup> December 2009.

The PEB Members and their Deputies are listed in the table below:

Table 5 Programme Executive Board (PEB) dated 03/05/2010

Country	PEB Member	Deputy PEB Member
Belgium 	Margo Briessinck (AWV) 	Pieter De Winne 
Switzerland 	Andreas Gantenbein (FEDRO)	To be confirmed 
Germany 	Roland Weber (BAST)	Gudrun Golkowski 
Denmark 	Jan Jansen (DRD)	Helge Skovbjerg 
Finland	Vesa Männistö (Finnra)	Tuomas Toivonen 
France 	Christian Cremona (MEEDDM)	Dominique Pierroux (MEEDDM)
Ireland	Tom Casey (NRA)	Albert Daly (NRA) 
Lithuania	Dr Arunas Rutka (LRA)	Dr Audrius Vaitkus (Vilnius Gediminas Technical University) 
The Netherlands 	Jenne van der Velde (RWS)	Jasper Schavemaker (RWS)
Norway	Helen Riddervold (NPRA)	Even Sund (NPRA) 
Sweden 	Ulla Ericson (VAGVERKET)	Missing 
Slovenia 	Ljiljana Herga (DRSC) 	Andrej Zajec (DRSC) Bojan Leben (ZAG) 
United Kingdom	Ramesh Sinhal (HA) 	To be confirmed 

### 3.3 Programme Executive Board Kick-Off meeting

The ENR2 SRO4 Programme Executive Board (PEB) Kick-Off Meeting for the cross-border funded research programme “Effective Asset Management meeting Future Challenges” was held in Copenhagen at the office of the Danish Road Directorate on 17<sup>th</sup> December 2009. This meeting was the first PEB meeting for the Joint Call 2010.



Photograph 2: SRO4 PEB Leadership Danish Road Directorate in Copenhagen

Once the PEB was set up, it took over the responsibility from ERA-NET ROAD II for future research collaboration activities arising from the joint research programme. This was done at the PEB Kick-Off Meeting. ENR experience and the tools already developed in ENR were used and helpful at the PEB Kick-Off meeting as well as during the whole call process.

A number of documents needed to be finalised before the opening of the call at the end of January 2010 and were discussed at the PEB Kick-Off meeting:

- Adaptation of the Collaboration Agreement (CA)
- Discussion of Description of Research Needs (DoRN)
- Updating Guide for Applicants (GfA)
- Application Form (AF)

The following tasks and responsibilities, which are also defined within the Collaboration Agreement, were agreed at the PEB kick-off meeting:

Table 6 PEB tasks and responsibilities

What?	Who?
Setting the objectives of the SRO4 Call from the DoRN	PEB
Deciding on the Budget Frame using the financial collaboration model	PEB
Evaluation and selection of the project proposals	PEB
Monitoring of the selected projects	PEB
Call for proposals	PL
Contracting selected proposals	PL
Payment of the instalments to project coordinators	PL

It was also decided that PEB member NRAs can be part of the SRO4 project consortia putting in a proposal, unless they have been part of writing up the Description of Research Needs (DoRN).

### **3.4 Adaptation of the Collaboration Agreement**

The Final Collaboration Agreement (CA) for the *ENR2 SRO4 Call "Effective Asset Management meeting Future Challenges"* is based on the wording and layout of the *ENR SRO1 "Safety at the Heart of Road Design" Programme*. The Collaboration Agreement defines and describes the responsibilities between the Parties, i.e. the participating NRAs and legal aspects on the call itself.

The Collaboration Agreement is based on trust, common understanding and commitment and on Danish law. It is signed by the authorised representatives of the Parties.

The Description of Research Needs is an Annex to the Collaboration Agreement and is an integral part thereof.

The estimated value of this trans-national joint research programme is EUR 950.000 per year. The total budget for the three years is EUR 2,85 million. Considering 7% overheads (5% for coordination, organisation and administration work of the PL and the PEC; 2% for unforeseen cost) the total amount of the research budget for the call for proposals is EUR 2.65 million for 3 years.

The CA follows for most parts the wording and structure of the CA of the ENR SRO1 Programme; only the procedure and selection criteria differ slightly. In previous calls PEB had been asked (in different ways) to give some weight to the proposals reflecting national interest. In discussion with the Danish Road Administration's (DRA) legal adviser this had to be omitted for transparency reasons. The exact wording for the description of evaluation criteria (team, content and price) also had to be slightly changed, because of a recent EU court case reflecting that consortium and proposals should focus on the ability and quality of the team to implement a project rather than its previous experiences. See Section 5.1. for details of the Selection Criteria.

## **4 Performing the Call for proposals**

The Call of the third cross-border funded Research Programme in ENR2 SRO4 opened on 29<sup>th</sup> January 2010 and closed on 12<sup>th</sup> March. There was a Pre-announcement and an Announcement in the Supplement of the Official Journal of the European Union. The Total Budget for the Joint Call is EUR 2,85 Mio (Excluding the 7% administration fee, the funding budget is EUR 2,65 Mio) provided by 13 NRAs from different countries. 20 project proposals were submitted from 20 countries.

### **4.1 Funding of the Call**

Funding of the ENR2 calls is part of the Network Steering Group (NSG) agenda. At NSG meeting in Vilnius in November 2009 final commitment (in principle) was sought for the ENR2 SRO4 *"Effective Asset Management meeting Future Challenges" Programme*. 13 countries signed up for it and Denmark took the Programme Leadership for opening the call. By the Kick-Off meeting in Copenhagen on 17<sup>th</sup> December 2009, the PEB membership was established and the commitment in EUR given by the members to the following objectives:

- A: Meeting stakeholders' requirements and expectations
- B: Understanding asset performance
- C: Development of suitable Key Performance Indicators (KPIs) for the future
- D: Framework for optimised asset management

Contributions at that time added up to 3 Mio EUR for 3 years. Unfortunately the following week one member reduced its contribution to a smaller amount. The budget as it stands on

2<sup>nd</sup> March 2010 and as included in the Collaboration Agreement is copied in below. The figures include 7% of administration fees. The PEB members have the authority to reallocate their own funding to another objective within this framework, depending on incoming proposals.

The national financial contributions to the budget plan are agreed as follows per year (2010/2011/2012):

Table 7 National financial contributions per year

in EUR	Total per year	Objective A	Objective B	Objective C	Objective D
<b>PEB member</b>	<b>950.000</b>	<b>250.000</b>	<b>350.000</b>	<b>100.000</b>	<b>250.000</b>
BE	50.000		50.000		
CH	50.000				50.000
DE	100.000		50.000	50.000	
DK (PL)	50.000	50.000			
FI	50.000		50.000		
FR	50.000				50.000
IE	50.000				50.000
LT	50.000		50.000		
NL	150.000	50.000	50.000	50.000	
NO	50.000	50.000			
SE	100.000	50.000			50.000
SI	50.000		50.000		
UK	150.000	50.000	50.000		50.000

Total contribution:

Table 8 Total financial contribution over three years

in EUR	Total	Objective A	Objective B	Objective C	Objective D
<b>PEB member</b>	<b>2.850.000</b>	<b>750.000</b>	<b>1.050.000</b>	<b>300.000</b>	<b>750.000</b>
BE	150.000		150.000		
CH	150.000				150.000
DE	300.000		150.000	150.000	
DK (PL)	150.000	150.000			
FI	150.000		150.000		
FR	150.000				150.000
IE	150.000				150.000
LT	150.000		150.000		
NL	450.000	150.000	150.000	150.000	
NO	150.000	150.000			
SE	300.000	150.000			150.000
SI*	150.000		150.000		
UK	450.000	150.000	150.000		150.000

\* Slovenian PEB member gets financial contributions from 2 organisations: DRSC and DARS each contributing 25.000 EUR p.a. for 3 years Programme Duration

## 4.2 Open the SRO4 Joint Call

On behalf of the Programme Executive Board (PEB), the Programme Leader (PL), Danish Road Directorate launched the SRO4 call on 29<sup>th</sup> January 2010. A Preannouncement was made in December 2009 and announced in the Supplement to the Official Journal of the European Union (ID: 2010-010076,) on 25<sup>th</sup> January 2010. The Design Contest Notice is included in the *Deliverable 1.1. 2010 Joint Call (January 2010)*. It was also posted on the TED website<sup>1</sup> until 12<sup>th</sup> March 2010. It is titled (by TED): DK-Hedehusene: research and development services and related consultancy services.

This open call for proposals was conducted as a contest, according to the national law and regulation of the Programme Leader, Denmark. The research programme is exempted from Directive 2004/18/EC according to Article 16, f, in the Directive. The contest was, however, carried out in accordance with the basic principles of procurement.

PEB PL and PEB members finalised at the end of January the SRO4 call documents. The full text of this call for proposals (*Description of Research Needs*), together with the *Application Form* and a *Guide for Applicants*, can be found on the ERA-NET ROAD webpage ([www.eranetroad.org](http://www.eranetroad.org)) as well as in the *Deliverable 1.1, January 2010*.

The ERA-NET ROAD website is the main Call website, though announcements have been made on both the Danish Road Directorates website <http://www.vejdirektoratet.dk> (both in English and Danish), as well as the FEHRL's website: <http://www.fehrl.org/>. Some of the PEB NRAs might have added news items on their websites too.

## 4.3 Results of the Call

At 13:00 on 12<sup>th</sup> March 2010 the SRO4 Call closed. 20 full proposals were submitted and all fulfilled the eligibility criteria (details of eligibility criteria see Section 5). All 20 project proposals were circulated to the PEB members in the afternoon together with the evaluation instructions for the evaluation and selection procedure (following the Guide for Applicants and structure of the Application Form). The Deadline for evaluation was 1<sup>st</sup> April 2010.

In the Table below, the details - acronym, consortium, partner and the project budget - of the project proposals are described. Apart from 2 proposals (CESAN and PROCROSS) which are led by Hungary and Austria, all consortium leaders came from SRO4 PEB countries. The SRO4 PEB countries are mostly involved within the project proposals. However, nine of the countries represented in the project proposals are not in the ENR2 SRO4 PEB and six countries are not even ENR2 members. In total 20 different countries are playing a part in the consortia which have between 2 and 7 members.

Figure 2 shows the frequency of countries on project proposals. Different organisations from the United Kingdom are involved in 15 project proposals. Slovenia (9 proposals), followed by Austria and The Netherlands (each 8 proposals) are on the next position. Croatia, Hungary, Italy, Poland, Portugal, Serbia and Slovakia submitted one proposal each

<sup>1</sup>[http://ted.europa.eu/Exec?DataFlow=N\\_one\\_doc\\_access.dfl&Template=TED/N\\_one\\_result\\_detail\\_curr.htm&docnumber=2010025009&docId=25009-2010&StatLang=EN](http://ted.europa.eu/Exec?DataFlow=N_one_doc_access.dfl&Template=TED/N_one_result_detail_curr.htm&docnumber=2010025009&docId=25009-2010&StatLang=EN)

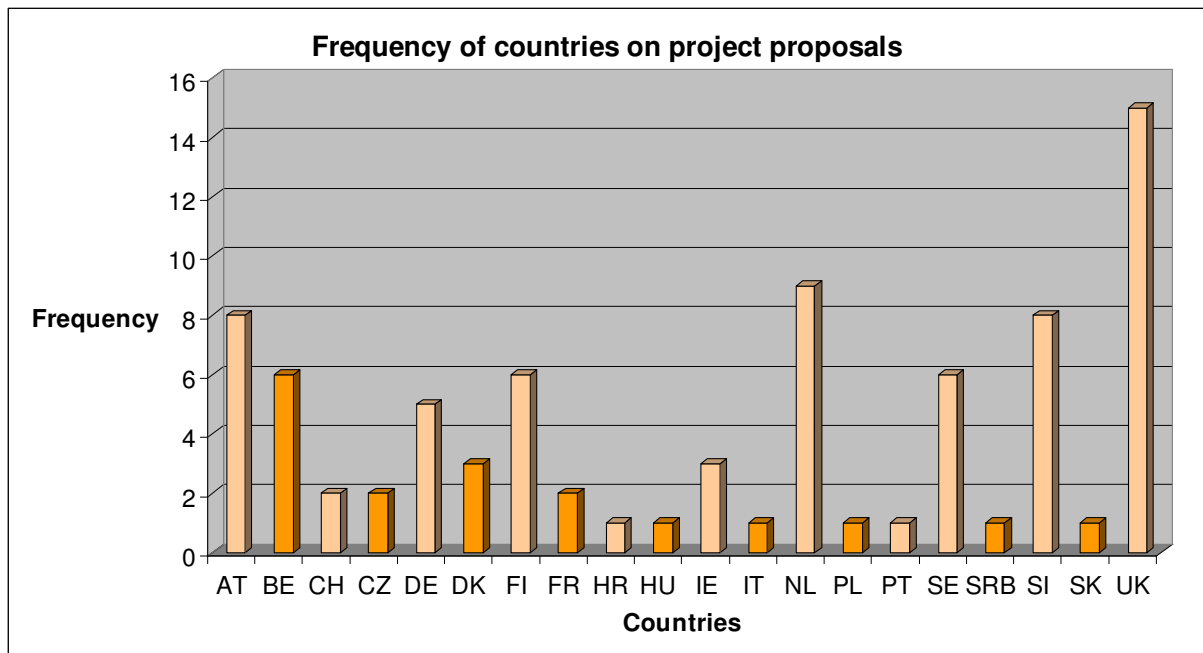


Figure 2 Frequency of countries on project proposals

Three project proposals contribute towards the objective *A Meeting stakeholders' requirements and expectations*, four towards objective *B Understanding asset performance*, five towards objective *C Development of suitable Key Performance Indicators (KPIs) for the future* and 6 towards objective *D Framework for optimised asset management*. Two proposals did not categorise into one of the four objectives.

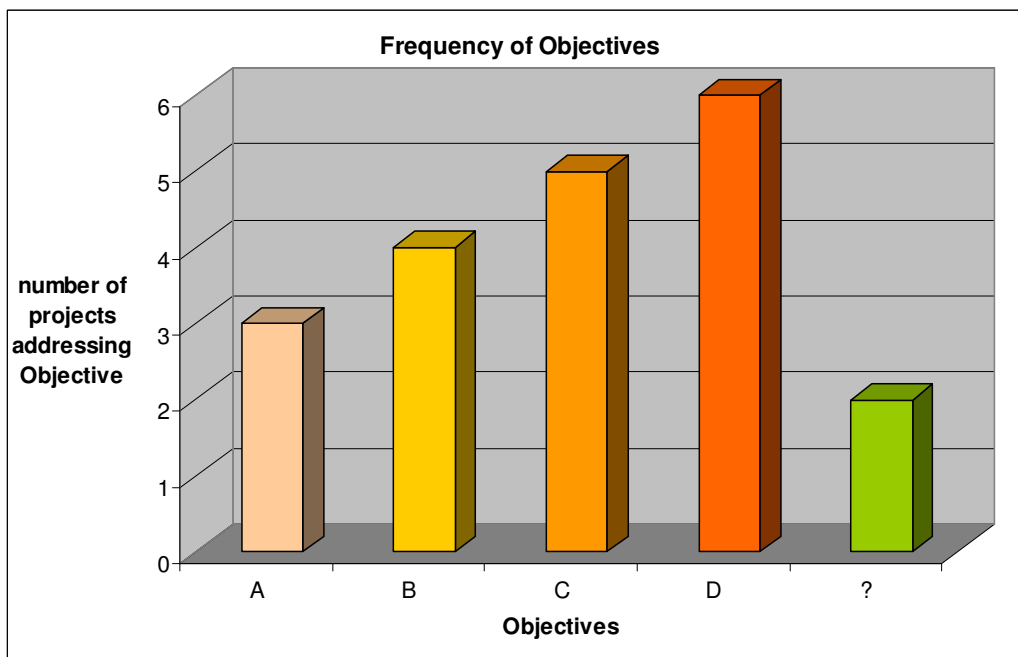


Figure 3 Frequency of Objectives

The total project proposals costs account for more than EUR 6,6 mio and the project costs average about EUR 333.000 per project proposal. For more details, see table 9 below:

Table 9 ENR2 SRO4 Project Proposals

objective	Acronym	Number of partners	Lead country	Total Costs (incl. VAT)	Duration	Person Months	Costs PM (KEUR)	Countries involved in resp. proposals
?	SBAKI	2	United Kingdom	150.000	15	9,758	15,37	UK, DK
?	PAMS	2	United Kingdom	350.000	18	21,39	16,36	UK, DK
A	EXPECT	5	United Kingdom	402.000	21	26,5	15,17	UK, AT, BE, NL, SE
A	SABARIS	5	Netherlands	339.000	24	21	13,81	NL (2), CH, FR, BE
A	MEETING STK..	3	United Kingdom	256.000	8,5	9,85	22,03	UK (2), NL
B	FLORENCE	4	Finland	403.000	14	52	6,33	FI, SE (2), SI
B	MOSAIC	4	Finland	450.000	18	16,3	22,88	FI (2), UK, NL
B	HEROAD	6	Sweden	450.000	24	31,6	14,24	SE, UK, BE (2), SI, AT
B	MOTT MACDONALD	4	United Kingdom	449.000	20	20,65	18,01	UK (2), DK, SI
C	SAMKER	2	United Kingdom	281.000	18	13,5	20,81	UK, IE
C	EVITA	7	France	349.000	24	31,1	9,39	FR, AT, UK, SI (2), SRB, PT
C	SINGLE MARKET	4	Finland	135.000	8	4	27,75	FI (2), DE, SE
C	DIPIRI	5	Germany	476.000	24	48,5	8,23	DE (2), IE NL, UK
C	FRAME	5	Germany	324.000	24	27	12,00	DE, NL, CH, AT (2)
D	CESAM	6	Hungary	326.000	24	50	5,40	HU, AT, PL, CZ, SK, SI
D	PRSC-TEST BENCH	2	Finland	199.000	13	10	16,40	FI, NL
D	PASPA	3	Belgium	139.000	12	10,25	13,56	BE, UK, CZ
D	ASCAM	6	Netherlands	376.000	18	30,9	10,23	NL, SE, HR, AT, SI, BE
D	PROCROSS	4	Austria	403.000	24	21,8	15,41	AT, IE, DE, SI
D	ARMS	3	United Kingdom	408.000	10	27	12,81	UK (2), IT
<b>Total</b>				<b>6.665.000</b>	<b>18</b>	<b>24</b>		<b>20 countries</b>

All submitted project proposals are eligible for further evaluation and selection. The content of the project proposals

## 5 Project selection and the way ahead

The cross-border funded research Programme ENR2 SRO4 “Effective Asset Management meeting Future Challenges” has 20 submitted project proposals. In April 2010, the evaluation and selection phase with the SRO4 PEB was done.

The PEB jointly evaluated at the SRO4 PEB Selection Meeting on 8th-9th April 2010 the submitted 20 project proposals and finally selected 7 projects for contract negotiations covering the ENR2 SRO4 objectives (A: Meeting stakeholders’ requirements and expectations, B: Understanding asset performance, C: Development of suitable Key Performance Indicators (KPIs) for the future, D: Framework for optimised asset management).

These projects will commence in June 2010 and the contract phase has started in May 2010. All Applicants will be informed about their result of the evaluation and get feedback to their project whether they were selected or not. Further details to the selected projects will be given at the ERA-NET ROAD website ([www.eranetroad.org](http://www.eranetroad.org)) in summer 2010 after the contracts have been awarded.

To conclude, this joint-funded and trans-national research programme demonstrates what will come in the future. Research will be based on a common agenda, common financing and common activities. These will comprise to launch calls, evaluate project proposals, control findings and disseminate results as well as to implement them.

### 5.1 Evaluation and Selection of project proposals

The evaluation and selection procedure for the SRO4 joint call for proposals consists of an approach in three phases (Application, Evaluation and Selection). After the call closed the PL checked the proposals against the eligibility criteria. If a project proposal was not eligible, it would be excluded from the evaluation and selection procedure. In the SRO4 cross-border funded programme all 20 submitted project proposals are eligible for further evaluation.

All ENR2 SRO4 PEB members have received from the PL all 20 submitted application forms with appendices for evaluation. The PEB evaluated each project proposal by 1<sup>st</sup> April. The final selection was agreed at the PEB project selection meeting on 8<sup>th</sup> and 9<sup>th</sup> April 2010 in Copenhagen.

The PEB deals with all projects of all objectives. PEB members have responsibility and a vote, but only within the objective they committed to. Each PEB member evaluates and selects project proposals for the objectives funded by his/her NRA. The influence of each participating NRA during the selection process is limited to the project proposals in the committed objective.

#### 5.1.1 Project Selection Procedure

The selection procedure for the joint call for proposals will consist of an approach in three phases:

**Phase 1 (Application):** The call is announced and opened in the Supplement of the Official Journal of the European Union and the Danish Road Directorate invites organisations to hand in full proposal(s) by taking into account the national rules and regulations of Denmark.



**Phase 2 (Evaluation):** Evaluation of the eligible project proposals is carried out by experts of the Parties, the PEB members, applying the defined evaluation criteria. Project proposals are scored on the evaluation criteria (team, content and price - as defined below) using a scale of 1 to 10 (1=very poor; 10= excellent). The average scoring then represents the quality of the project proposal. The threshold of Scoring is 7 points to qualify for further evaluation.

**Phase 3 (Selection):** Final discussion and agreement on a *Joint Priority List* for each of the four objectives taken place within the PEB. PEB members have the authority to reallocate their own funding to another objective, depending on incoming proposals. Some adjustment might be needed reflecting trans-national interest or in case of duplication of projects. For each objective, the final decision and responsibility lies with its funding PEB members.

At the PEB Kick-Off meeting it was proposed and agreed that everybody (each PEB member has one vote) rates ALL the incoming proposals. At the project selection meeting the SRO4 Programme Leader (PL) will present both a joint list giving the full picture of interest from all members to see the rating from the whole group and then for each objective when only using the paying partners ratings. If there are any differences between the two lists, it is the funding members that make the final decision.

After reviewing the proposals, some PEB members might also wish to reallocate their funding and a new iteration is then needed. This will be done at the selection meeting. It was decided that the experience from this process should be shared with the ENR2 NSG for future calls as this division of objectives and contributing partners is new to the ENR2 procedures.

According to the agreed *Joint Priority List* the PEB selected the most appropriate projects. The selected projects together are to equally address all the Programme objectives. The maximum number of projects that can be selected is determined by the size of the budget frame. All applicants will get feedback after the selection phase.

### 5.1.2 Eligibility Criteria

The PEB Kick-Off meeting agreed and also described in the ENR2 SRO4 Collaboration Agreement the following **eligibility criteria**:

- The use of the **Application Form** for the proposal of this joint call for proposals is obligatory (“ENR SRO4 Application Form.doc”).
- Only applicants from **independent legal entities established in Europe** are eligible.
- Applications must be submitted by a Project Coordinator of a consortium of at **least two independent legal entities** (including the coordinator) from different countries in Europe. A maximum 75% of the workload can be assigned to one partner.
- The management structure must be appropriate and adequately resourced to carry out the proposed activities.. A project consortium requires a **Consortium Agreement** between the project partners. The purpose is to clarify:
  - Technical Provisions (tasks of the partners, project schedule, etc)
  - Managerial Provisions (co-ordinator, responsibilities, etc)
  - Financial Provisions (financial plan, payments, costs, etc)
  - General Provisions (duration, communication, dissemination, etc)
- Organisations that were involved in the preparation of the Description of Research Needs (DoRN) of this programme (members of the “Task Force” as written on the cover of the DoRN) and the PL are **not allowed** to submit proposals.

### 5.1.3 Evaluation Criteria for project proposals

The substance of eligible project proposals will be assessed by the PEB members on the basis of the following three evaluation criteria:

**1) Team (30%)**

- Description of the organisation of the project (see Consortium Agreement above) for the purpose of an effective fulfilment of the contract.
- Competencies of the team members including CVs for the purpose of an effective fulfilment of the contract.

**2) Content (55%)**

- Quality of the proposal in terms of objectives, relevance, activities, and deliverables.
- Methodology for reaching the objective of the project.
- Implementation of expected results.
- Added value for the user of the results and European-level impact of the results and dissemination activities.
- Relevant and achievable deliverables and milestones to ensure the scientific quality and relevance of the project.

**3) Price (15%)**

- Value for money taking into account unit prices and total cost of the project.

## 5.2 Time Schedule of SRO4

At the ENR2 SRO4 PEB Kick-Off meeting on 17<sup>th</sup> December 2009 the following time schedule was decided:

Table 10 Time Schedule of the ENR2 SRO4 PEB

When?	What?
12 <sup>th</sup> March 2010	Call closed
12 <sup>th</sup> March – 1 <sup>st</sup> April 2010	Evaluation of proposals by PEB members
8 <sup>th</sup> -9 <sup>th</sup> April 2010	ENR2 PEB Selection Meeting
15 <sup>th</sup> April 2010	Evaluation Phase finalised
From 1 <sup>st</sup> May 2010	Contracting Phase starts
Autumn/Winter 2010/2011	ENR2 SRO4 Inception Meeting
Winter/Spring 2011	ENR2 SRO4 Joint Meeting

## 6 Lessons Learned, Conclusions and Recommendation

In ENR two cross-border funded research programmes (ENR SRO3 and ENR SRO1) were successfully implemented and now in ENR2 the third Joint Call SRO4 has started. Trans-national collaboration brings more benefits to the NRAs than procuring research projects alone:

- Easy access to international best-practice and exchange of knowledge.
- Wider choice of suppliers and improved quality of research projects.
- Reduced duplication of research projects, due to coordination.
- Better value for money, due to shared costs and wider choice of suppliers

The successful implementation of these programmes has been due to the trust and commitment developed between partners and more experience has been gained along the way. ERA-NET ROAD has helped to develop the trust, understanding, and commitment between all NRAs. The SRO4 Joint Call was based on the procedures developed in ERA-NET ROAD (ENR), namely the ENR-Toolkit (see Annex I). It includes three procedures (Coordination, Management and Monitoring Procedure) with models for the trans-national co-operation and special tools that have been tested on several pilot projects and two cross-border funded programmes initiated by ENR. Moreover, the advantage and the lessons learned from the first two calls initiated in ENR were implemented within the SRO4 Joint Call. The same methodology (*Deliverable 13/14, Chapters 3.4 to 3.8.*) was used to achieve the best practise during the process.

Getting 13 countries to commit to the cross-border funded research programme SRO4 “Effective Asset Management meeting Future Challenges” with close to EUR 3 Mio in collaborative funding shows a growing interest in trans-national collaboration, and a belief that “together we can achieve more”. This goal has only been reached by the will, the attendance and the efforts of each NRA. Another main part was the identification of a common research topic “asset management”, firstly identified at the Workshops developing the seven Strategic Research Opportunities initiated by ENR and then specified within the ENR2 WP1 Workshop in Vienna, September 2009. It shows the concept on the topic asset management is a high priority to NRAs in Europe - who are dealing with budgets and whole life costs every day for their own road network.

More specific conclusions and recommendations, which can be looked upon as important guidelines for future trans-national research collaboration, are:

- A central factor for the success of trans-national research collaboration is the **pro-active announcement** of the call within the community of all the PEB participating countries as well as non-participating countries.
- A **pre-announcement** and an announcement in the Official Journal of the European Union of the call were made. Also, the ENR2 website published the SRO4 call with all provided call documents. It is also recommended to publish the link of the announcement of the Call on the Official Journal of the EU.
- Much attention should be paid to creating a **promotion and dissemination** process to make information on the call itself, on the project reports and the outcome of the projects visible to the community.
- **Identification of a key person** within the ENR-Toolkit, who is the authorized person to the public (NRAs as well as researchers or other persons) to answer questions of the call, promoting and disseminate the call.

- The ENR-Toolkit with its templates for the three procedures should be standardised and published on the ENR website. Furthermore, **frequently asked questions (FAQs)** should be visible on the website.
- The financial contribution model focusing on one or more objectives of the call topic is a good method to get a wide range of knowledge on one specific topic as well as to increase the number of participating countries within the PEB. This **financial model** is flexible enough during the selection process of the projects, depending on the quality of projects coming in, the allocation of objectives (A,B,C,D), to get the best value for money and avoid duplication.
- Inclusion in the Collaboration Agreement of a paragraph **clarifying the reporting** of the output of the projects from the PEB.
- Inclusion in the Collaboration Agreement of a clause stipulating that PEB members, who have submitted a project proposal are unable to participate in the **review and selection** of proposals.
- Questions to the contract appeared after selection phase. It is recommended - to avoid questions and disappointments of researchers - to clarify what contract (service or research contract) will be implemented. A **template of the final contract** (including VAT questions) to the coordinators of financed projects should be annexed in the Collaboration Agreement as well as in the Guide for Applicants.
- The CA follows for most parts the wording and structure of the CA of the ENR SRO1 Programme, only the procedure and selection criteria **differ slightly**. In previous calls the PEB had been asked (in different ways) to give some weight to the proposals reflecting national interest. In discussion with the Danish Road Administration's (DRA) legal adviser this had to be omitted for transparency reasons. The exact wording for the description of evaluation criteria (team, content and price) also had to be slightly changed, because of a recent EU court case reflecting that consortium and proposals should focus on the ability and quality of the team to implement a project rather than its previous experiences.
- Early identification and **clarification of involvement of partners not from Europe**. A clear final decision of the NSG for the next call 2011 is needed. Also the identification of problems occurring with non European countries is essential and should be communicated to the WP1 as early as possible.
- Number of incoming proposals shows that Asset Management not only has the focus of the NRAs but also of the **research community**.

Regarding the outcome of the preparation and administration of the Call in ENR2 so far, the participating NRAs can summarise that trans-national collaboration is definitely beneficial. As the problems and challenges are not unique to any nation, neither are the solutions. The SRO4 call under the ERA-NET ROAD II programme is benefiting from the previous two joint-funded calls including their standards, templates, ENR-Toolkit and the experience gained from open international calls for research proposals. Most PEB members were new to the ERA-NET ROAD system, but with the templates and the good leadership and assistance of the WP1 Leader, the process went relatively smoothly.

For the next cross-border funded Research Programme the work from ENR2 Work Package 3 Structuring on Road Research will be the basis for the next collaborative topic. The Coordination Procedure from the ENR-Toolkit will be more specified for trans-national research topics. The time schedule used for the ENR2 SRO4 call will be used again. The lessons learnt from SRO4 will be adapted within the other documents to publish and publicise calls.

## Annex I: ERA-NET ROAD Toolkit

The ENR-toolkit was developed by ENR to achieve and support the 'trans-national research programmes, which are strategically planned and trans-nationally funded'. The ENR-toolkit is underpinned by four fundamental questions: Why?, What?, How? and When?:

- First you have to know WHY you want to collaborate trans-nationally.
- Then you have to define WHAT the research topic of common interest is.
- Next you choose HOW to organise that trans-national collaboration.
- And finally you decide on WHEN results have to be available for progress monitoring and evaluation of the research projects.

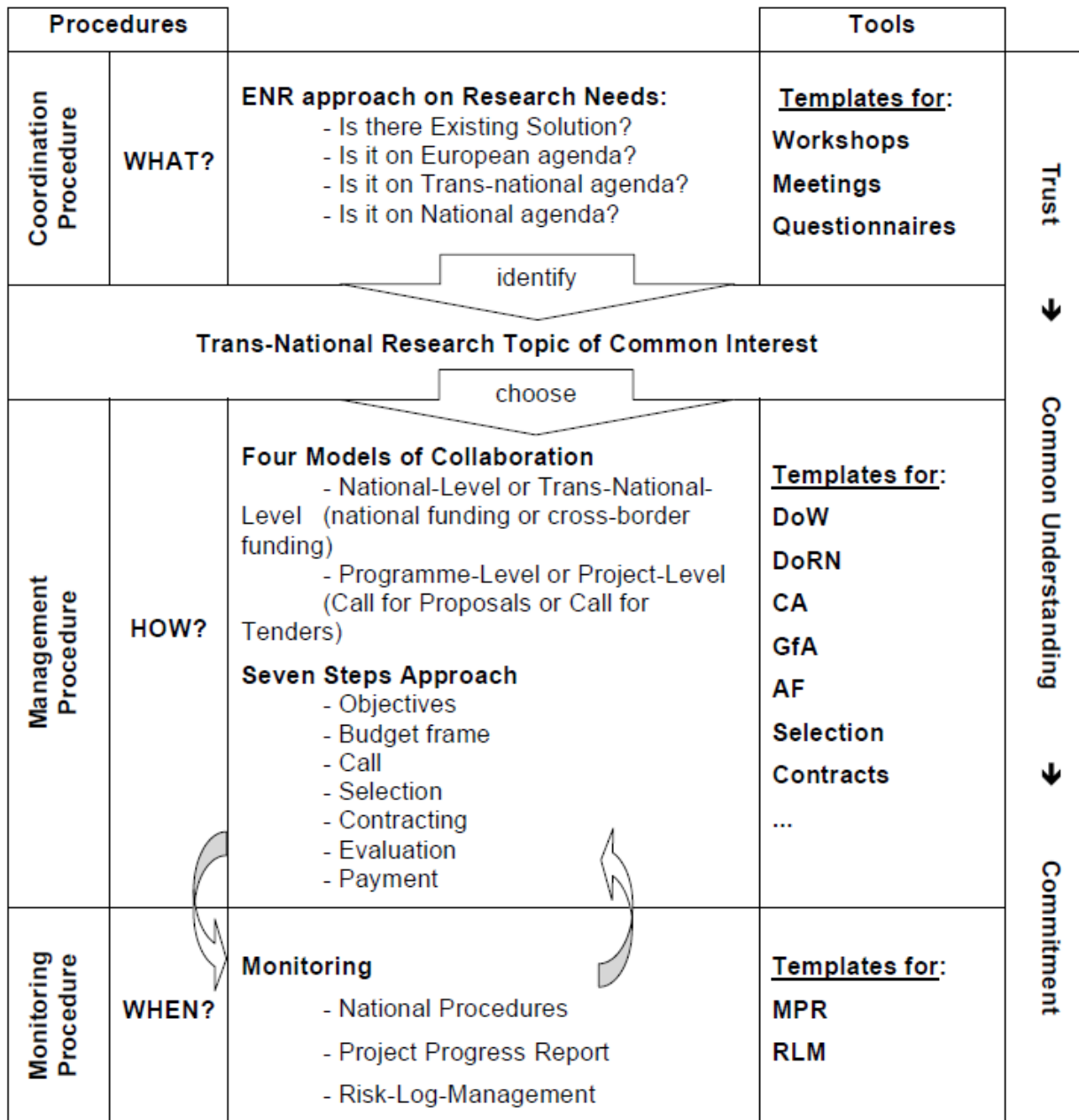
The ENR-toolkit can be described by its basic elements: the three procedures, the four models of collaboration, the seven steps to solutions and the tools (more details about the ENR-toolkit are available in its Deliverable 4 Final Report consolidating model procedures, practices and rules developed).

The ENR-toolkit is based on:

Trust, Common Understanding and Commitment,

and addresses the collaboration of funding sources to initiate trans-national Research Projects or Programmes, and within its "Management Procedure" provides collaboration models and is used in the undertaking of joint research activities.

Figure IV: The scheme of the “ENR-toolkit”



## Models of Collaboration

The Management Procedure introduces four models of collaboration:

- on National-Level or on Transnational Level
- Project-Level or Programme Level

When a topic of trans-national interest is identified, a decision on the type of financing of the activity has to be done. The financing can be either at the national level (national funding) or at the trans-national level (cross-border funding/common pot). On National level funds stay national and the money does not cross borders. In ENR it emerged very soon that cross-border funding is more efficient which resulted in developing trans-national collaborative research. ENR is one of the few ERA-NETs in the 6<sup>th</sup> Framework Programme, where the primary objective was to achieve trans-national programmes that were trans-nationally funded. Cross-border funding is based in ENR on the Common Obligation Model, described in the following sections. Furthermore, the scope in ENR can either be at the project level (call for tenders) or at the programme level (call for proposals).

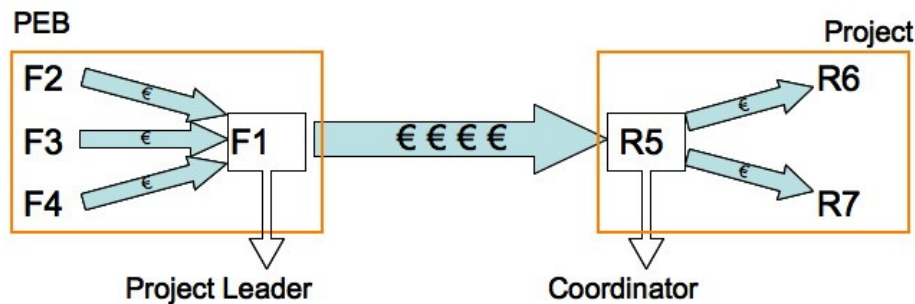
The following chapter describes the Management procedure in more detail.

### Common Obligation Project Model

The collaboration according to the Common Obligation Project Model starts with the decision of some NRAs (ENR countries, non ENR countries) to collaborate on a defined joint research project. The project ownership is formalised by the Project Executive Board (PEB) made up of delegates from the participating NRAs. They agree on a Project Leader (PL), who is responsible for the project management, and sign a Collaboration Agreement (CA) in which several items (roles and responsibilities, committed amount of funding, duration, language, and the ownership of IPR and project results) are regulated. The objectives of the joint research project are set out in the Description of Work (DoW) that is annexed to the CA. Each PEB member makes a budget reservation for the common obligation pot and agrees on the project budget plan. The PEB members pay their contribution share to the PL and the PL pays the contractors. The participating NRAs become undivided joint owners of information, results and IPR of the project.

Table I.XI: Characteristics of the Common Obligation Project Model

Model	Common Obligation Project Model
Scope	NRA's collaborate on <b>project level</b> and define objectives in a Description of Work (DoW) to make a <b>restricted call for tenders</b>
Funds	<b>Cross-border funding.</b> Any research provider who wins the tender is paid by the Project Leader, who requests and receives payments from the other PEB members
Recommended calls	Beneath threshold (€137.000 excl. VAT): restricted call
Roles & Responsibilities	<p><b>Programme Executive Board (PEB)</b> is a board at the expert-level with one responsible officer from each funding NRA (<b>project ownership</b>).</p> <p><b>Programme Leader (PL)</b> is one of the PEB members who has the responsibility for the organisation, administration and procurement of the project (<b>project management</b>).</p> <p><b>Contractors</b> are the research providers who are contracted to do the research.</p> <p><b>Coordinator</b> is the leading researcher of a consortium.</p>



1, 2, 3 etc...different countries

F...funding NRA's

R...research providers

Figure V: How funds flow in the Common Obligation Project Model

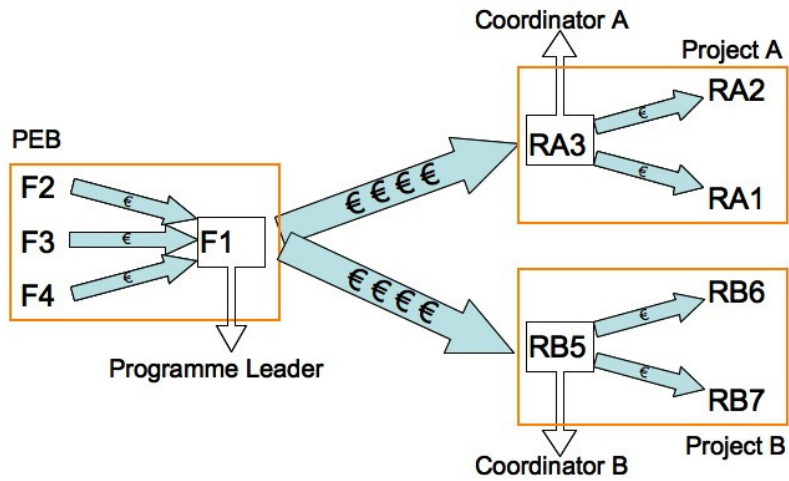
### Common Obligation Programme Model

The collaboration according to the Common Obligation Model starts with the decision of some NRAs (ENR countries, non ENR countries) to collaborate on a certain topic for a joint research programme. The objectives for the joint research programme are set out in the Description of Research Needs (DoRN). The programme ownership is formalised by the Programme Executive Board (PEB) made up of delegates of the participating NRAs. They agree on a Programme Leader (PL), who is responsible for the programme management, and a PEB Chairman (PEC) and sign a Collaboration Agreement (CA) in which several items (roles and responsibilities, committed amount of funding, duration, language, and the ownership of IPR and project results) are regulated. The PEB members jointly agree on the budget that is contributed by each participating NRA. The PEB contributes their share to the PL and the PL pays the contractors. The PEB members become undivided joint owners of information, results and IPR of the projects that were selected.

Table II.XII: Characteristics of the Common Obligation Programme Model

Model	Common Obligation Programme Model
Scope	NRA's collaborate on programme level and define objectives in a Description of Research Needs (DoRN) to make a call for proposals
Funds	<b>Cross-border funding.</b> Any contractor is paid by the Programme Leader, who requests and receives payment from the other PEB members
Recommended calls	Open call for proposals (performed as "design contest")
Roles & Responsibilities	<p><b>Programme Executive Board (PEB)</b> is a board at the expert-level with one responsible officer from each funding NRA (<b>programme ownership</b>).</p> <p><b>Programme Leader (PL)</b> has the responsibility for the administration and procurement of the programme (<b>programme management</b>).</p> <p><b>Programme Executive Chair (PEC)</b> chairs the PEB meetings</p> <p><b>Project Manager (PM)</b> are PEB members from the same country as the projects coordinators. They support the PL in negotiations and monitoring</p> <p><b>Contractors</b> are the research providers who do the contracted research.</p> <p><b>Coordinator</b> is the leading researcher of a consortium.</p>





1, 2, 3 etc...different countries

F...funding NRA's

R...research providers

Figure VI: How funds flow in the Common Obligation Programme Model

## The Seven Steps Approach

Seven Steps from the identification of research needs to the delivery of a project within the project and programme model were identified. The table describes the tasks and features of each step in each Common Obligation Model on Project and Programme Level. The tools provided in the ENR-toolkit are listed as well.

Table III.XIII: Tasks and features of Common Obligation Model

7 steps	Common Obligation Project/Programme Model - What to do?	Tools
Objectives	<p>The 1<sup>st</sup> step is to <b>define the expected outcome</b>, the purpose of the research. What objectives shall be achieved? What is the research need?</p> <p>On <u>project level</u> objectives are defined in more detailed in the DoW to make clear what outcome is expected of the project. Thus the researchers can make a bid how they would realise the tendered project.</p> <p>On <u>programme level</u> the objectives are more generic within the DoRN, they just give an idea of what is the expected outcome, so the researchers can propose projects that meet the objectives.</p>	<p>Description of Work</p> <p>Description of Research Needs</p>
Budget Frame	<p>To formalise the collaboration all participating NRAs sign a Collaboration Agreement (CA) that describes all responsibilities within and outside the project or programme.</p> <p>Project/Programme ownership is formalised in a Project/Programme Executive Board (PEB) made up by one member from each participating NRA. One NRA takes the Project/Programme Leadership (PL) and has the project/programme responsibility. Another becomes PEB chairman (PEC) and chairs the PEB meetings.</p> <p>PL and PEC are approved at the kick-off meeting of the PEB. The project/programme is financed jointly, so each NRA commits a fixed budget. NRAs are responsible for making the budget available following a request from the PL.</p>	<p>Collaboration Agreement</p>
Call	<p>Depending on the scope of the activity (project or programme level) a call has to be made. Either a <b>call for tender</b> to find the most suitable research provider to perform the project or a <b>call for proposals</b> to find most appropriate projects to meet the objectives.</p>	<p>Call for Tender/ Proposals</p>
Selection	<p>The PEB agrees on the procedure and criteria for selection of project proposals and jointly selects the most suitable research provider or appropriate projects. All Applicants are informed about the result of the evaluation and get feedback to their project whether they were selected or not.</p>	<p>Selection Procedure</p>
Contracting	<p>The PL makes the contracts with the jointly selected research providers following its national law and regulations. The research providers are formally responsible to the PL.</p>	<p>National Procedures of the PL</p>
Evaluation	<p>The monitoring of the progress and the evaluation of the results follows the Monitoring Procedure from the ENR toolkit. The research provider presents reports and final results to the PEB. The PEB jointly approves the results and reports.</p>	<p>Monitoring Procedure</p>
Payment	<p>The funds flow according to the programme budget plan. The PL pays the research provider at certain stages on delivering the corresponding report after they have been approved by the PEB. The PEB members provide their contributions to the PL following a request for payment. The participating NRAs become undivided joint owners of information and results of the different projects. The results are published.</p>	<p>National Procedures of the PL</p>

## Annex II: Input on Asset Management for the Expert Workshop

### SRO4 “Effective Asset Management Meeting Future Challenges”

A challenge for the 21<sup>st</sup> century

Workshop Input to be discussed

#### Goal:

Today’s asset management processes aim more and more to a holistic approach focusing on optimized solutions from financial, engineering and environmental point of view:

- **Cross asset optimization** should be used to distribute the available maintenance budget to the different assets on an objective basis
- **Advanced asset controlling** guarantees a sustainable maintenance management process to fulfill the requirements from the road users, operators and road owners point of view
- **Environmental management** as a part of the asset management process should help to minimize the negative effects on neighbors, users, the nature, etc.

#### Explanatory text:

The high importance of the European road infrastructure as a basis for the European economy is strongly affected by a high number of new challenges at the beginning of the 21<sup>st</sup> century. Due to this fact the management of road assets became more and more important and will cause increasing efforts to hold up the high quality of the European road networks today, tomorrow and in the near future.

Especially the allocation of the maintenance budget between the different assets, the controlling of the requirements according to condition, availability and efficiency, and finally the environmental impact of the road infrastructure and its management processes are central questions for a future oriented asset management.

The solutions for the problems in future should be found in the past, in the present, and in a wider horizon of engineers, managers, decision and policy makers.

#### ad) Cross Asset Optimization

At the moment the different assets (pavements, structures, road furniture, etc.) will be assessed individually in the management process in many road administrations around the world and brought together after finding individual optimum solutions. The optimum solution from financial, engineering and environmental point of view for the total asset are affected by the importance of each single (sub)asset. The key-word “cross asset optimization” implies procedures and methods which focus on a holistic approach which aims at a higher efficiency of budget allocation on strategic level.

Possible outcome:

- Interactions between different road (sub)assets in the management process
- Main objectives and target functions for a holistic cross asset approach

- Parameters to describe the whole asset from the financial, engineering and environmental point of view
- Methods and procedures for cross asset optimization

#### **ad) Advanced Asset Controlling**

An advanced controlling of the different assets of the road infrastructure becomes more and more importance. Especially the increasing requirements for the high-level roads focus on an intensified controlling and management process. Beside the collection of data of the road assets itself (inventory, condition, loadings, etc.) information about the efficiency of maintenance works and activities and the availability of the assets should be included in the controlling process.

Possible outcome:

- Principles and methods of asset controlling on public and private roads
- Definition of asset controlling process and its task
- Key parameters for the assessment of the efficiency of maintenance works
- Requirements for integrated Management Information System
- ...

#### **ad) Environmental Management**

To take the environmental demands of the road infrastructure into consideration means to minimize the negative effects on neighbors, users, the nature, etc. New technologies and methods for the measurement and assessment of environmental effects as well as the provision of adequate treatments must be developed, tested in practice, and implemented into the systems. Asset Management will add up to “Environmental Management”.

Possible outcome:

- Assignment and definition of environmental areas in the asset management process (noise, pollution, etc.)
- Environmental performance indicators for the road infrastructure
- Assessment of environmental impacts in the management process (life-cycle-cost analysis)
- Requirements for the definition of environmentally friendly maintenance treatments, measures and strategies
- ...

Source:

- ) ENR Asset Management Workshop (Warsaw, February 2007)
- ) 7. Forschungsrahmenprogramm
- ) COST354 - Performance Indicators for Road Pavements – Final Report (July, 2008)
- ) 3rd European Pavement and Asset Management Conference (2008, Coimbra, Portugal)

## ANNEX III: Questionnaire on Financial Contribution Model

### Survey: Different Financial Contributions to joint programmes

There is a variety of annual national road research budgets of the National Road Administrations (NRA) from app. EUR 0,5 million to EUR 50 million. That means, the same amount of financial contribution to the total budget of a joint programme is a very different percentage of the national research budget. To achieve the ambitious total budgets for our joint programmes we need to establish a model with different financial contributions.

As a finding and recommendation of ERA-NET ROAD, beside the unequal shares, all participating Parties in the Programme Executive Board (PEB) should have equal rights and responsibilities and also intellectual property rights are equal. An equal basis is the core resource for the success of a joint programme, a common view and consensus on the programme objectives is imperative, as well the approval of selection of projects by all Parties.

REMEMBER the benefit of collaboration:

The approach to our joint programmes is, that you get additional money from the participating partners to a research topic that you are interested in (and that you might have done alone otherwise)!

Following benefits could be identified in our previous collaborations: Partners getting valuable results from the projects, access to knowledge and research, paying a smaller contribution comparing with the outcome.

We discussed different approaches to different contributions in WP1 and we would like to introduce two of them to you and ask for your comments and input:

Approach A) Each NRA contributes as much as the topic of the programme is worth to it.

Approach B) Each NRA is categorized according to its national road research budget and contributes a minimum share according to the agreed categories.

### Question to Approach A:

Imagine the topic is "SRO4 - Effective Asset Management Meeting Future Challenges" as it was described so far. If you would participate, how much can you possibly contribute to the programme? (this is no commitment yet, it is an indication!)

Your possible contribution per year (for 2010/2011/2012): \_\_\_\_\_

Your comments: \_\_\_\_\_

**Question to Approach B:**

In WP1 we came to a “**1/3/6 model**” based on annual research budget: partners in the 2<sup>nd</sup> category contribute three time and 3<sup>rd</sup> category six time the contribution of 1<sup>st</sup> category. We have defined a draft table with the 3 categories based on a minimum annual contribution of EUR 50.000 for 1<sup>st</sup> category:

Table IV.XIV: 1/3/6 model based on annual research budget

	<b>National Budget per year</b>	<b>Yearly instalment</b>	<b>Total budget (3 years)</b>
1	< 3 Mio	€ 50.000 minimum per year	€ 150.000
2	3 to 10 Mio	€ 150.000 minimum p.a.	€ 450.000
3	> 10 Mio	€ 300.000 minimum p.a.	€ 900.000

Finally we have to agree at the next NSG meeting in November on such a budget-frame for the call in January 2010. (Could also be other rates (1/3/10 or 1/5/10)...please give your comments)

The base of this approach is your annual national research budget. Enclosed you will find an overview of the research programmes budgets, which were collected in February 2006 (see also ENR Deliverable 1, page 39ff).

Based on the figures of 2006 this approach means, your expected contribution would be:

Category 1 (EUR 50.000 per year): CH, PL, AT, SI

Category 2 (EUR 150.000 per year): FI, DE, NO,

Category 3 (EUR 300.000 per year): UK, NL, SE

Please update and add the table of the research programme budgets of all participating countries (see .xls). with your actual annual national research budget and allocate yourself to a category.

Would you agree with your category? YES/NO

Your comments: \_\_\_\_\_

## Annex IV: Questionnaire on Road Research Budgets

Table V.XV: Questionnaire on Road Research Budgets, July 2009

	name of programme	value		duration		funding							payment					
		total value/programme	value/project	projects/year	months/project	federal budget	regional budget	ministry budget	co-financing	own budget	state budget	others	start of project	certain stages	end of project	progress	others	pay on delivery
UK	Highways Agency Knowledge Programme	13.7 Mil. €/a	no limit	110	12 to 36		x							x	x			
NL	Innovation Programme Noise (IPG)	54 Mil. €	several mio €	10	12 to 24		x	x						x	x			x
	Innovation Programme Air Quality (IPL)	20 Mil. €	several mio €	10	12 to 24		x	x						x	x			x
	Roads to the Future (WNT)	7 Mil. €/a		10	12 to 24					x				x	x			
SE	RDD Programme 2004-2013	26 Mil. €/a	no limit	200	24		x	x						x				
DE	Research Programme Road Construction	4-4,5 Mil. €/a	mostly <150,000 €/a 10,000-250,000 €	40 to 50	18; 6 to 36		x							x	x			
NO	High Risk Groups in Road Traffic	1,5 Mil. €	no limit	2 to 5	12 to 36					x						x		
	Data Protection and Privacy Indications in Road Safety	0,9 Mil. €	no limit	1 to 3	up to 36					x						x		
	Freight Transport and logistics	2,4 Mil. €	no limit	2 to 6	6 to 36					x						x		x
	Development Expertise within Road Maintenance	2,4 Mil. €	no limit	2 to 5	3 to 24					x						x		x
	ITS towards 2020	2,5 Mil. €	no limit	2 to 8	6 to 36					x						x		x
	SMART Salt Use	2,2 Mil. €	no limit	2 to 5	12 to 36					x						x		x
	Modern Tunnels	2,4 Mil. €	no limit	2 to 6	12 to 36					x						x		x
	Sustainable Urban Transport	2,4 Mil. €	no limit	4 to 7	12 to 36					x						x		x
	Climate and Transport	2,9 Mil. €	no limit	4 to 8	6 to 36					x						x		x
CH	Safety of the Road Transport System	645,000€/a	65.000,00 €	2	36 to 60	x		x						x			x	
AT	National Road Safety Fund	1,5-2 Mil. €/a	2,000 - 100,000 €	50	6 to 18		x							x				
	National Road Research	1,2-1,5 Mil. €/a	2,000 - 100,000 €	30	12 to 24		x							x				
PL	Road Data Bank	95.000,00 €	95.000,00 €		12 and more					x				x				
	Bridge Management System	40.000,00 €	40.000,00 €		12					x				x				
	Pavement Management System	86.500,00 €	86.500,00 €		12 and more					x				x				
	Manual of Economic Effectiveness evaluation	58.000,00 €	58.000,00 €		12					x				x				

<b>SI</b>	D&R programme of the DRSC	380,000€/a	30,000 € 200,000 €	20 to 30	12 to 36	x											x	x			x
<b>DK</b>																					
<b>FR</b>																					
<b>HU</b>	National Road Research Programme	700,000 €/a	25,000- 100,000 €	10 to 20	12 to 36												x				x
<b>IE</b>																					
<b>LI</b>																					
<b>BE-Flanders</b>	Research programme Mobility and Public Works	249.500,00	249.500,00		12 and more												x				x
<b>FI</b>	The Four-Year road R&D Programme*	3.5 Mil. €/a	25,000 € - 250,000 €	some 60	12 to 18												x				x



## ANNEX V: Different Approaches to Financial Contributions

Eight NRAs of different countries provided information to the questionnaire. The outcome of the questionnaire led to establish three different approaches to financial contributions in a joint programme. In the following section the three different approaches A, B and C to funding models are described:

### Approach A

**Each NRA contributes as much as the topic of the programme is worth to it**

NRAs will be questioned, if they are interested into the programme and how much the NRA can contribute to the programme in total and per year.

Possible contributions per year for 2010/2011/2012 (data from the survey in summer 2009):

Table VI.XVI: Outcome of Questionnaire – Approach A

Country	EUR p.a.
BE	50.000
DE	100.000
FI	50.000
HU	50.000
NO	150.000
PL	0 (in 2010) / 50.000 / 50.000
SI	50.000 to 80.000
UK	120.000

**Approach B**

**Each NRA is categorised according to its national road research budget and contributes a minimum share according to the agreed categories.**

**“1/3/6 model”**

The model is based on annual research budgets from the countries. Countries from category 1 contribute with 50.000 EUR per year, 150.000 in total. Countries in the 2nd category contribute three times of category 1, that means 150.000 EUR per year and 450.000 EUR in total. Countries belonging to the 3rd category have to pay six times the contribution of 1st category. That is 300.000 EUR per year and in total about 900.000 EUR.

See the defined draft table with the 3 categories based on a minimum annual contribution of EUR 50.000 per year for 1st category:

Table VII.XVII: Questionnaire – Approach B

	<b>National Budget per year</b>	<b>Yearly instalment</b>	<b>Total budget (3 years)</b>
1	< 3 Mio	€ 50.000 minimum per year	€ 150.000
2	3 to 10 Mio	€ 150.000 minimum p.a.	€ 450.000
3	> 10 Mio	€ 300.000 minimum p.a.	€ 900.000

For instance 9 countries collaborate in SRO4, 5 countries contribute with 50.000 EUR p.a., as belonging to category 1, 3 countries with 150.000 EUR p.a. and one country with 300.000 EUR p.a.

Table VIII.XVIII: Questionnaire – Approach B example

<b>Category</b>	<b>countries</b>	<b>p.a./ per country</b>	<b>p.a./ countries</b>	<b>Total for 3 years</b>
<b>Category 1</b>	5 AT, BE, HU, IE, SI	50.000	250.000	750.000
<b>Category 2</b>	3 FI, DE, NO	150.000	450.000	1.350.000
<b>Category 3</b>	1 NL	300.000	300.000	900.000
	<b>9</b>	<b>Total</b>	<b>1.000.000</b>	<b>3.000.000</b>

**Approach C**

**Each NRA contributes a minimum share per objective per year**

The programme SRO4 “Effective Asset Management meeting Future Challenges” is based on **four objectives (O1, O2, O3, O4)**. The objectives are specified in the Description of Research Needs (DoRN) and in the Guide for Applicants of the Call for Proposals. The applicants will explicit address one of the four objectives with their submitted project proposals.

All ENR members who participate in the programme have the opportunity to commit on one or more of the four objectives with a budget contribution of EUR 50.000 per year (total EUR 150.000 for 3 years) for **each objective**.

That means 50.000 EUR per objective per year for each NRA. Each NRA has the opportunity to participate in one, two, three or four objectives.

Table IX.XIX: Questionnaire – Approach C

Participating countries		Total Budget per NRA		O1	O2	O3	O4
		p.3 years	p.a.				
1	BE	150.000	50.000	50.000			
2	DE	150.000	50.000				50.000
3	DK	300.000	100.000	50.000	50.000		
4	FR	300.000	100.000	50.000	50.000		
5	HU	150.000	50.000		50.000		
6	FI	300.000	100.000	50.000	50.000		
7	NL	600.000	200.000	50.000	50.000	50.000	50.000
8	NO	150.000	50.000		50.000		
9	SE	450.000	150.000		50.000	50.000	50.000
10	SI	150.000	50.000		50.000		
11	UK	300.000	100.000		50.000	50.000	
<b>Total p.a</b>			<b>1.000.000</b>	<b>250.000</b>	<b>450.000</b>	<b>150.000</b>	<b>150.000</b>
<b>Total p.3years</b>		<b>3.000.000</b>		<b>750.000</b>	<b>1.350.000</b>	<b>450.000</b>	<b>450.000</b>

In this example there are 11 NRAs participating in the PEB. 5 NRAs are interested in just one objective, paying EUR 50.000 p.a., 4 NRAs are interested in two objectives, paying EUR 100.000 p.a., 1 NRA is interested in three objectives, paying EUR 150.000 p.a. and 1 NRA is interested in all four objectives, paying 200.000 EUR p.a.

The PEB deals with all projects of all objectives. But only within the objective they committed to, PEB members have responsibility and a vote. Each PEB member evaluates and selects project proposals of the objective, which is funded by his/her NRA. The influence of each participating NRA during the selection process is limited to the project proposals in the committed objective.

Finally all results of the projects shall be public and shared equally within the whole PEB.





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