

# **Upgraded Toolkit**

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the ERA-NET ROAD II Programme,

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### 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 has 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 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 were to initiate two joint calls and to write an update of the ERA-NET ROAD toolkit (Deliverable 4 in ENR1) based on the experience of initiating two more calls.

This **TOOLKIT** is the heritage of the knowledge gathered since end of 2005. It is based on the ENR-toolkit (Deliverable 4 of ERA-NET ROAD 1), which was used and improved while performing the 2 Calls in ENR2. For this final version of the TOOLKIT we excluded those parts of the ENR-toolkit that were just suggested but not really used and put in our latest findings and experience in transnational collaboration.

The TOOLKIT now contains recommendations and suggestions of how to coordinate the identification of research topics of common interest, how to manage cross-border funded joint activities and how to disseminate the results. In the Annex 2 to this TOOLKIT several documents we used in the past are provided on CD and on an internal internet platform (by CEDR) with digital templates for upcoming activities (workshops, announcements, contracts, reports...).

The TOOLKIT is based on three procedures:

- The **Coordination Procedure**: identifying research needs of common interest
- The **Management Procedure**: performing the call and managing the projects
- The **Dissemination Procedure**: making the results ready for implementation

Finally it will be possible to keep the joint research activities going,

if we trust, understand and commit!



## Table of content

E	Executive summary				
Та	able o	of cont	ent	6	
1	Int				
	1.1	.1 Introducing the Procedures			
	1.2	Intro	oducing the Tools	12	
	1.2	2.1	Tools of the Coordination Procedure		
1.2.2			Tools of the Management Procedure		
	1.2	2.3	Tools of the Dissemination Procedure		
2	Th	The Coordination Procedure			
	2.1	.1 Success factors		13	
	2.1	1.1	Trust	14	
	2.1	1.2	Understand	14	
	2.1	1.3	Commit	15	
	2.2	The	players of the Coordination Procedure		
	2.3	lder	ntification of trans-national research topics	17	
	2.4	2.4 Recommendations for the use of Coordination Procedure Tools			
	2.4.1		Road Research Access Facility		
	2.4	4.2	Questionnaires		
	2.4	4.3	Thematic Workshops		
3	Th	ie Mar	nagement Procedure		
	3.1	The	players of the Management Procedure		
	3.2	Join	t research activities with cross-border funding		
	3.3	Imp	ortant Issues: Some Decisions		
	3.3.1		Each NRA contributes a minimum share per objective per year		
	3.3	3.2	Repayment of funds		
	3.3	3.3	Transparency		
	3.4	Rec	commendations for the use of Management Procedure Tools	25	
	3.4.1		Description of Research Needs (DoRN)		
	3.4	4.2	Collaboration Agreement (CA)		
	3.4	4.3	Guide for Applicants (GFA)		
	3.4	4.4	Announcement	27	
	3.4	4.5	Application Form (AF)		
	3.4	4.6	Selection Procedure		
	3.4	4.7	Model Contracts for Services		

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	3.4.	8	RfP-Form	. 27
	3.4.9		Progress Report	. 27
4	The Dise		semination Procedure	. 28
4	.1	Rec	commendations for the use of Dissemination Procedure Tools	. 29
	4.1.	1	Final Conference	. 29
	4.1.2		Programme Report	. 29
	4.1.	3	Communication Plan	. 29
5	Con	clusi	ions and recommendations	. 30
5	.1	Fina	al Conclusions	. 30
5	.2	Fina	al Recommendations	. 30
5	.3	Nex	t steps	. 31
Annex 1: Ov			erview of when to use the TOOLKIT	. 32
Ann	iex 2	: CD	with templates (.doc, .pdf, .ppp, .xls)	. 33

### 1 Introduction to the updated TOOLKIT

Since 2005 the ERA-NET ROAD project developed and tested ways to coordinate and jointly fund trans-national research activities. All the experience we gathered is collected in this TOOLKIT. It is about three basic questions that can be asked continuously:

First you have to know WHY you like to collaborate trans-nationally. Then you have to define WHAT is the research topic of common interest. Next you choose HOW to organise that trans-national collaboration. And finally you have to ask again WHY the results should be used trans-nationally and why the collaboration should continue.

To give an overview of the TOOLKIT, it is described by its basic elements: the three procedures (Coordination, Management, Dissemination) and the related tools.



Figure 1: The scheme of the updated TOOLKIT



The TOOLKIT is based on three success factors: **trust**, **understand and commit**. Around that central theme the TOOLKIT gives the opportunity to stay flexible on the scope of research needs and provides tools to collaborate on different levels. The TOOLKIT addresses the collaboration of funding sources to initiate Joint Research Programmes. In ERA-NET ROAD those funding sources are the National Road Administrations (NRA) with national research programmes.

- **WHY** shall NRA's initiate Joint Research Programmes or Joint Research Projects? Because, together the NRA's have bigger research budgets, they get a wider choice of research providers and it facilitates an exchange of knowledge, experience and results and a better and wider dissemination and implementation. If quality is maximised and national costs are minimised, the consequence is better value for money.

#### - WHAT are trans-national research topics of common interest?

To identify research topics that are of trans-national interest the TOOLKIT introduces the **Coordination Procedure** with an 4-step-approach to identify research needs of transnational interest. The provided tools to define such topics are the Road Research Access Facility (RRAF), templates for questionnaires, reviews and workshop programmes. In ENR2 this was developed further by establishing a model structure within the the CEDR Technical Group Research (TGR). The result of the Coordination Procedure is the identification of trans-national research topics of common interest. It is the decision to collaborate.

- **HOW** shall the NRA's collaborate?

The **Management Procedure** of the TOOLKIT offers a model of collaboration that was already successfully used four times. It describes what to do in seven steps from the problem to the solution. When a topic of trans-national interest is identified, the funding NRA's establish a Programme Executive Board (PEB), which owns the Programme. It consists of one representative of each *participating NRA*. PEB members are experts in the topic of the Programme. The result of the Management Procedure is a successful collaboration on conducting trans-national research projects and its results. The provided tools are templates for Description of Research Needs (DorRN), Collaboration Agreements (CA), Guides for Applicants (GfA), Application Forms (AF), Selection Criteria, model contracts and progress reports. It is mainly governance.

And then it continues to ask:

- WHY shall the NRA's continue to collaborate?

To make a jointly funded research programme a success, it is necessary to make the results known and implement them nationally. The **Dissemination Procedure** of the TOOLKIT offers different methods to communicate the results to the experts in the NRAs, to the strategic level (CEDR TG Research) and to the policy level (CEDR EB/GB). The provided tools are the templates for a final programme conference, a final programme report and a communication plan.

All the tools (templates of the documents) will also be available on CD (.doc, .pdf and ppt) and on the ERA-NET ROAD website – as an annex to this TOOLKIT.

### 1.1 Introducing the Procedures

When answering the "WHY-question" positively, the NRA's decide to collaborate transnationally and to initiate joint research to gain the benefits of trans-national collaboration. Working together jointly effectively with several countries, one can distinguish three procedures, which are interdependent and interactive. The procedures are introduced here, but are described in detail in the following chapters.

#### The Coordination Procedure (WHAT to do?)

The Coordination Procedure introduces the approach on how to identify Research Needs of transnational interest, the "players", the financing and how to achieve the three success factors (trust, understand, commit). The approach on Research Needs takes four steps after you identified a problem or research topic:

- 1. Check if there is an existing solution to your research need. If yes, do not initiate a project.
- 2. If not, check if it is on European agenda. If yes, initiate a project funded by the EC.
- 3. If not, check if it is on trans-national agenda. If yes, initiate a project or programme funded trans-nationally.
- 4. If not, if it is only on a national agenda. Initiate a national project or programme.



Research Needs that should be funded trans-nationally are addressed by the TOOLKIT. The "players" to use the TOOLKIT are basically the National Road Administrations (NRA). The NRA's delegate strategic research managers to the CEDR Technical Group Research (TGR). A sub-group of TGR, the Transnational Programme Meeting (TPM) was established to identify the concrete topics that are of common interest. The financing has to be considered at an early stage. The NRA's should at least earmark in time some, research budget for trans-national activities. The earmarked budgets are allocated to the most interesting projects or programmes identified by the Coordination Group Research. To achieve that in a good atmosphere, it is described how to establish trust, common understanding and commitment, the three key factors, on all levels of responsibility.

The result of the Coordination Procedure is the identification of trans-national research topics of common interest.

#### The Management Procedure (HOW to do it?)

The Management Procedure introduces a Model of Collaboration and Seven Steps to Solutions. When a topic of trans national interest is identified, the involved NRA's establish a Programme Executive Board (PEB). The funding is actually a cross-border funding, a "real common pot".

Once, the PEB is established, the Common Obligation Programme Model follows the Seven Steps to Solutions: objectives, budget, call, selection, contracting, evaluation, and payment:

The NRA's have agreed on a topic and generic objectives of a trans-national joint research programme and nominated a participant for the Programme Executive Board (PEB) and agree on the Programme Management (PM), who is in charge of the administration of the programme. Each PEB-member makes a budget reservation and agrees on the budget frame for the programme. The PM then conducts an open call for proposals. The PEB selects the most appropriate proposed projects according to commonly predefined selection criteria. The PM awards the contracts to the jointly selected projects.

The PEB evaluates the reports and results of the selected projects. At the end of a project and at certain project phases the PM pays the contractor and then the PEB-members pay their share to the PM. Finally the involved NRA's have equal ownership of the results.

The result of the Management Procedure is a successful collaboration on initiating and conducting trans-national research projects.

#### The Dissemination Procedure (WHY to do it?)

The Dissemination Procedure spreads the results on three different levels. The Expert Level addresses the people who are responsible to finally implement the results to daily business, to the roads. They are the target group for all the deliverables and reports that come out of the single projects. The Strategic Level addresses the people, who take strategic decision on the research needs. The need to have an detailed overview, they are target group for the Final Programme Report. The High Level addresses the Road Directors and their deputies. They need brief information, like Executive Summaries, to know that there is benefit from the transnational collaboration and that they can use and benefit from the results.

The result of the Dissemination Procedure is wide spread knowledge that makes NRAs ready to implement the research results.

#### Fazit

Summing up the interrelations of the three Procedures, the output of the Coordination Procedure is the definition of trans-national research topics. After deciding to take forward one of the topics, the Management Procedure begins and a PEB is established following the Model of Collaboration. The outputs of the Management Procedure are the results of the selected projects and the Final Programme Report. Finally the output of the programme is disseminated on three levels, following the Dissemination Procedure.



### 1.2 Introducing the Tools

The provided tools of the ENR toolkit are templates for necessary documents or programmes for different types of workshops. (Templates and examples can be found at the Annex CD.)

#### **1.2.1 Tools of the Coordination Procedure**

- **RRAF:** (Road Research Access Facility) to define Strategic Research Opportunities and to get an overview of ongoing, finished and planned research activities. (see <u>http://rraf.info/</u> and ENR2 Deliverable 2.2 for details)
- **Questionnaire** to find common interest in trans-national topics and to make joint priority lists. Depending on the subject the questionnaires should be sent to the responsible officers in the NRA's. Prioritisation should guarantee high-level commitment.
- **Thematic-Workshop** to define objectives of research needs and establish. It is important that the participants have expertise and a mandate to commit working hours when defining the description of research needs for a programme. This type of workshop facilitates focused work.

#### **1.2.2 Tools of the Management Procedure**

- **Description of Research Needs** is a document that describes the objectives of a joint research programme in a generic way. It is the annex of a Collaboration Agreement and base for a call for proposals.
- **Collaboration Agreement** is a document that defines the participating parties, the roles and responsibilities of the parties, the financial obligation and the budget frame, the duration, the language and the currency of the research activity, the ownership of IPR and results and regulates the collaboration of the parties.
- **Guide for Applicants** is an aid for research providers to answer the call for proposals. It is a guideline to submit projects.
- **Announcement:** the call for proposals of this Programme is published in the Supplement to the Official Journal of the European Union (OJ S series).
- **Application Form** is the form the research providers have to use when submitting projects.

Selection criteria are proposed to be used for evaluation and selection.

- **Model Contracts** are examples how a contract for trans-national research projects can look like.
- **RfP-Forms ("Request for Payment**") are sent to the NRAs to obtain their share of the budget frame according to the budget plan. Payments from the Parties will be placed in a custodial account from which the projects are paid.
- **Progress Report** is a periodic report to the PEB and TGR giving an overview of the state of the play.

#### **1.2.3 Tools of the Dissemination Procedure**

- Final Conference is a conference where the results of the projects are presented and discussed by experts.
- **Programme Report** is a report based on the proceedings of the final conference and proposing an implementation plan.
- **Communication Plan** is a plan that identifies target groups and messages to disseminate the results of the projects in an efficient way.

### 2 The Coordination Procedure

This chapter deals with what to do to ensure good conditions for coordination, whereas the next chapter (Management Procedure) deals with how to manage the collaboration programmes and projects, achieved from this.

In order to demonstrate the procedure towards good coordination, we will begin with introducing 1) the key factors with examples of some of the suggestions we propose to achieve trust, common understanding and commitment, 2) the players of the process and finally 3) touch the identification of topics of common interest.

### 2.1 Success factors

The success of the ERA-NET ROAD co-operation is based on three factors:

#### Trust

#### Understand

#### Commit

To succeed in a common trans-national programme it is essential that these factors are established and accepted at all levels responsible for the programme

- Top management
- Programme Management
- Project personnel
- Front end users (for implementation of results, practical demonstration projects)

We will emphasize the importance of not only focusing on the project members, but also the key management personnel (decision makers). The implementation of the results should be discussed in an early phase. For each R&D project the implementation phase should be analysed. For some projects front end users should be involved in the R&D phase, and necessary agreements for testing and utilisation in actual demonstration projects should be made.



#### 2.1.1 Trust

It takes time to establish trust, and trust is the key factor for common understanding and commitment. Therefore it is important to take advantage of already established networks. In a common strategic R&D programme there could be great benefits in using the CEDR network with their top management meetings (e.g. Road Directors meeting in CEDR Governing Board) and the technical group system (e.g. CEDR Technical Group Research meetings) as the administrative basis for the R&D programme work.

This network has been active, and has already established trust, and mutual knowledge of the different countries competence and specialities. This will make it easier to choose the right partners for different projects to take advantage of each countries special competence and interests. If trust is developed on the top management level, it is easier to eliminate administrative barriers, and to make the necessary decisions within the involved bodies' responsibility. It also makes it easier to obtain a common attitude towards stakeholders and the political decision level.

There are different techniques developed for establishing trust through social contact in early project phases, but our impression is that regular common meetings with focus on technical and strategic matters in a good social atmosphere are crucial for establishing confidence and trust. The R&D matters should therefore be on the schedule for information and discussions in the top management meetings. A research project having members from several countries frequently contains people who have not met before. Working closely together means that some time will be spent in 'getting to know each other' and in establishing a working team. This process may take a long time; perhaps months or sometimes such groups may come to a common understanding very quickly.

The research group normally has contact through meetings. When commencing a project, the first meetings should concentrate on establishing social relations between the participants. A short 'round the table' presentation at the first meeting is not enough. This is because nobody can remember what has been said and the one who speaks frequently forgets to give important information about him or her. Even very personal information like marriage, children, single, and so forth, may help build mutual understanding between participants.

A suggestion may be that each participant writes a short description of themselves and his or her work, special interests and hobbies a few days before the first meeting. Such information may be very important in establishing trust. People who share the same leisure activities will often work well together in widely different fields. Another suggestion is to pair up participants; they interview each other and then present each other to the project group. To spend time together outside the meeting room, in a common dinner, a technical tour or short sightseeing, may be well worth both time and money. The leaders of research groups are often under pressure, real or false, and it is tempting to 'be efficient' and start the meeting with a ten minute presentation round and then get on with it. Most research projects will in all probability benefit greatly by establishing a solid basis of trust as early as possible, admittedly simpler in theory than in practice.

#### 2.1.2 Understand

The top management's commitment and mutual respect is important to establish common understanding, that will be crucial for the result of a common programme or project, and will often make seemingly formal barriers of less importance than originally considered. The top management must also be aware of what decisions the involved bodies have full operational control of. They must also have a common understanding of their own and other nations' specialities, and take full advantage of this in the common programme. On project level there could be lessons to learn from the techniques that are developed in the partnering concept on traditional construction projects, and systemize the techniques for use in R&D projects (start meeting, evaluation meetings, improvement processes, and maybe even routines for conflict handling).

Common understanding of the content and challenges of the research projects is probably best achieved by each participant explaining their understanding of the project, and proposing how to proceed. Again, time has to be spent on this process to avoid problems later on. It cannot be taken for granted that the group understands the often very different traditional national research approaches of other participants, not to mention individual approaches. The members of each project should have knowledge of the total programme, what is included, the main objectives, main phases and milestones and the participants. Members of a sub project should have good knowledge of the main project and the common programme. Participants in one particular research project should, as far as possible, have high competence in the actual research area. They also need strong backing from their own organisation.

#### 2.1.3 Commit

Systematic work based on trust and understanding will also make it easier to establish the necessary commitment for the common programme and projects. It is important to involve key personnel in the projects at an early phase, focus on the main objectives for the project, and discuss the benefits of the project. It is also important to analyse different barriers, and define the bottlenecks. An analysis like this will often clarify that barriers can be eliminated if there is necessary commitment among the key personnel.

The participants in a research group will have various levels of commitment to the work ahead. The previous two points of trust and common understanding have a strong bearing on this issue, and a very important point is the backing and following up from the participant's employer in the home country. Reporting back to the employer (not only success stories) will form a very important alliance and also give the researcher a certainty that his or her views will be both read and appreciated.

Commitment can roughly be divided into two types: positive and negative. Positive commitment is where the researcher really believes in both the project and the methods. Negative commitment is where one follows the plan, participates at meetings, writes reports, but does not voice opinions or suggests anything to upset the project.

Another key factor is human capacity. It seems to be of frequent occurrence that there is not enough time to do what was planned or expected. This means that although you have succeeded in obtaining the best people to work on the project, it will have little effect if sufficient time is unavailable. It is therefore crucial to develop an activity diagram, including milestones and a time schedule at the beginning of the project. This may help the researcher and others to establish what amount of work and time is necessary to reach the expected results. We will emphasize the importance, as early as possible in any project, to define the end result as clearly as possible and what it should look like: written reports, multi media presentations, flyers etc to be presented during the final meeting. Also decide where and when the final meeting should take place, make it a special occasion!



### 2.2 The players of the Coordination Procedure

The process for strategic alignment of research across ENR partners is called the *ERA-NET ROAD Coordination Procedure*. This *procedure* identifies and defines several roles and actors. A structured process takes as input the national programmes and yields an output of collaboration opportunities.

The process involves the following players:

- National Road Administration (NRA),
- CEDR Governing Board (GB) and Executive Board (EB)
- CEDR Technical Group Research (TGR),
- TGR Transnational Programme Meeting (TPM)
- TPM Secretariat (TPMS)
- Technical Experts (national and in CEDR Project Groups)

The **National Road Administrations (NRA)** provide the input to the process based on their national research agendas and existing programmes. Every NRA formulates its programmes and projects with regard to national problems, research themes of Europe-wide interest, as well as the possibility of the subjects being of trans-national significance.

The **CEDR Governing Board (GB) and Executive Board (EB)** is the High Level Group of the Road Directorates in CEDR.

The **CEDR Technical Group Research (TGR)** is constituted by programme managers of the NRAs and is going to do the thematically appraisal of programmes and projects. TGR represents two levels of management: the strategic level and the operational level.

The **TGR Transnational Programme Meeting (TPM)** is a sub-group of TGR, which is responsible for transnational research activities.

The **TPM Secretariat (TPMS)** is the body that permanently is responsible for keeping the Coordination Procedure running and facilitating the TPM.

The **Technical Experts** from the NRAs or related organisations are going to be frequented in terms of the technical feasibility of a particular problem. They are invited to participate in Thematic Workshops, Task Forces or are nominated to be member in a Programme Executive Board (PEB).

The **Task Force** is a group of experts, which participated in the thematic Workshop and agreed to prepare the Description of Research Needs.

### 2.3 Identification of trans-national research topics

Due to different systems of financing and timeframes of budgeting and programming within the different Ministries - the 'mother departments' of the NRA's – financing is one of the big barriers of trans-national collaboration. Especially in this case, as we talk about financing of projects through budget owned by the NRA's (and not about EU- or otherwise financed projects). To overcome those problems with different fiscal years and different timelines in the national procurement procedures, the TOOLKIT was developed.

To identify and realize road research collaboration opportunities, it is necessary to understand the research agenda's of all partners. In order to realize collaboration opportunities, it is necessary for road administrations to have a long-term view of their research needs. This will enable them to identify opportunities for collaboration and to have strategic funding available at the appropriate time and with the appropriate financial approvals to realise these opportunities.

TPM reviews options for potential calls. The members agree to aim at publishing a call and establish a timeline. The first step for the outline programme for the new call is to submit it to a CEDR EB meeting to prepare the definitive list of topics to be approved by the CEDR GB at their upcoming meeting.

TPM consequently devises a detailed timetable process, split into two stages:

#### Stage 1: Questionnaire consultation

Stage one is for TGR members to consult within their own NRA to review a 'long list' (based on the RRAF) of potential topics, to establish whether there was anything missing and to add any new areas of interest or priority for their NRA. CEDR TGR TPM circulates the 'long list' for review by NRAs, to make these additions and identify duplications. TGR members return their 'long lists' with new topic proposals and additional information.

#### Stage 2: Identification of possible themes for a call

In stage two, NRAs are asked to score the updated list of topics, give indicative funding commitments and indicate availability of their staff to participate in future task force groups.

TPM circulates the updated list of topics for NRAs to score priorities, indicate funding commitment and availability for participating in the Task Force. Other CEDR technical groups are also consulted to ensure duplication is avoided. TPM then collates responses, and proposes themes for the upcoming call to submit to CEDR EB. This is reviewed and endorsed by TGR, who are informed of the deadlines in advance so that they could nominate deputies if necessary.

As it is not convenient or cost-effective to organise too many meetings, TPM relies on questionnaires and email consultations as much as possible to collect data from NRAs and to submit proposals for their validation. In order to avoid overburdening its members, TGR takes great care to alert them to future requests in advance, so that they can prepare to collate information from their colleagues such as their NRA research programme managers.

Much effort is put to minimize overlap, although there is a big risk of it. One reason for this is that calls are too frequent. If there is a call every year, the experts who are preparing the next one do not necessarily know what was there in the previous call. They might be different people, and often are. Moreover, there are plenty of other research programs running parallel, and nobody can be aware of everything. This needs to be considered!



#### Further steps: review by CEDR's GB

To enable CEDR's GB to consider whether a call shall be prepared on behalf of CEDR, the further steps are as follows:

**Step 1.** The Thematic Workshop is organised in order to start fine-tuning the technical requirements and narrow down the research needs of an upcoming call.

Technical experts from NRAs are invited to join, since they are best positioned to have a vision of their NRAs' research needs. Appropriate CEDR groups will be invited to join in as well. The Thematic Workshop leads to a temporary Task Force whose mission is to write the call specifications (Descriptions of Research Needs - DoRNs).

**Step 2.** TGR presents a report to the CEDR GB, for directors to review the definitive list of topics and to confirm the mandate to TGR. This report is based on the discussions held and decisions made by the CEDR EB before and may incorporate additional information about the technical content of the themes.

**Step 3.** If CEDR's GB confirms that a call should be prepared by TGR, the NRAs are asked to commit funding for the call and technical experts to participate in the Programme Executive Board (PEB).

**Step 4.** Preliminary information about the call is made public so that research providers can start making arrangements, set up consortia etc in order to get ready to answer the call when it is formally published.

**Step 5.** When adequate funding has been mobilised (min. 5 NRAs participate with at least  $50.000 \in \text{per year}$ ) and when the DoRN are ready, the call will be ready to proceed. The call will be managed by the funding NRAs themselves, regrouped under a structure called the Programme Executive Board (PEB). The PEB will be chaired (Programme Executive Chair) by one of those NRAs that take part in the funding of the call. They appoint a Programme Manager, who is funded and tasked with placing the call, organising the evaluation of the proposals, negotiating the contracts with research providers and then administratively managing the projects.

With the Kick-Off Meeting of the new PEB the Coordination Procedure ends and the Management Procedure starts.

### 2.4 Recommendations for the use of Coordination Procedure Tools

#### 2.4.1 Road Research Access Facility

- The identification of research topics of common interest in ERA-NET ROAD was taken care of by the certain Work Packages. Such a body is needed for the coordination procedures. It is important to have a permanent group being responsible to maintain the RRAF.
- The RRAF should be the input to the TPM and workshops **identifying common interest** to a possible call. It is recommended to arrange a Workshop at the TPM e.g. once a year to get the possibility to find common research topics.
- The RRAF is just as good as its content. Each NRA is responsible to update their national input to make it a useful instrument.

### 2.4.2 Questionnaires

- Do not make the questionnaires too long and avoid duplicating questions about topics of interest and priorities.
- When sending the questionnaire, consider also asking for basic willingness to provide experts for the Task Force, the Programme Executive Board (PEB) or even for taking the Programme Management.
- When asking to do the Programme Management, this is based on the experience in the ERA-NET ROAD project the Common Obligation Programme Model is recommended for trans-national programmes. Common Obligation is a way to really have cross-border funded projects and it has been proved feasible.

### 2.4.3 Thematic Workshops

- In the Thematic Workshops participants elaborate the common research needs on a topic in separate working groups (5-10 persons each). It is essential that the NRAs nominate appropriate participants and have good workshop facilities to create a good spirit of co-operation. This step of the Coordination Procedure is the most essential one, due to the definition of the common research needs of the road research programmes.
- It is important that the NRA's nominate proper participants (technical experts) and to have good workshop facilities to create a good atmosphere to achieve trust, understanding and commitment.
- When facilitating the workshop, keep focused on its objective: Narrow down the topic that was agreed by NRAs and identify their research needs and prepare the input for the Description of Research Needs. Do not allow to add new themes or to broaden the topics.
- At the beginning, give a brief introduction and overview about what the topic is, how the topic was identified and how the call will be managed. Then give time to the participants at the get-together dinner to start creating trust.
- With the knowledge from the evening presentations, you can start in the morning with group work A – to identify research needs. Do this in 2-3 groups and let them present their ideas before lunch. Sum up the group work input on slides, so everybody can see it.
- After lunch group work B is done in the same groups. The task is to take the research needs and write in a structured way objectives, problems and expected outcomes for each (or the most important) research needs. The groups again present their results.
- Use the coffee break and lunch break to find potential members and the leader of the Task Force. Their actual work is just 2-3 working days in a defined period of about 5-6 weeks.

### **3** The Management Procedure

The Coordination Procedure ends with the decision to collaborate on a certain trans-national research topic of common interest. The Management Procedure begins with the establishment of a Project Executive Board (or Programme Executive Board) that is formalised with the signature of the Collaboration Agreement.

The Management Procedure describes how to collaborate when initiating a trans-national project or programme. It is based on the three key success factors: trust, understand and commit and provides a well tested Model of Collaboration for cross-border funded joint programmes.

### 3.1 The players of the Management Procedure

The procedure involves the following players:

- Programme Executive Board (PEB),
- Programme Executive Board Chair (PEC)
- Programme Management (PM)
- PEB Project Contact (PPC)
- Project Coordinator (PC)

**Programme Executive Board (PEB)** is the owner of the Programme. It is established by the Parties and consists of one representative of each Party. Each Party has one vote in the PEB and appoints one **PEB member** who holds the mandate within the PEB and one **PEB deputy** who is kept informed permanently and who will stand in if the PEB member is not available. PEB members shall be experts in the topic of the Programme.

The **Programme Executive Board Chairman (PEC)** is nominated and approved by the PEB. The PEC is the scientific chair of the PEB and chairs the meetings of the PEB. The PEC is also responsible to reporting and disseminating the results (progress, reports and results) of the joint programme to CEDR Technical Group Research (TGR).

**Programme Management (PM)** means responsibility for the commencement and execution of the joint research programme and for the day-to-day carrying out of the joint research programme. The PM executes the call for proposals, awards the contracts according to the PEB decision and manages the Programme until the final payment is done.

**PEB Project Contact (PPC)** is the PEB member responsible for scientific guidance of a selected project on behalf of the PEB. The PPC is nominated and approved by the PEB. He/She supports the PM in the negotiations with the PC and has content responsibility for the project.

**Project Coordinator (PC)** is the leader of the project consortium submitting a project in response to the Call for proposals. The PC is the primary contact for the consortium and all negotiations are carried out through the PC. It is the responsibility of the PC to act on behalf of the consortium and to keep the consortium informed at all stages of the project, from negotiation to project completion. The contract is between the PM and the PC.

### 3.2 Joint research activities with cross-border funding

If NRA's define trans-national research topics of common interest, and decide to collaborate and to jointly fund all research providers, this is cross-border funding, basically a so called "common pot". The only difference between a real common pot and the "Common Obligation Models" from the ENR toolkit is, that NRA's give a financial obligation when making the budget plans for the research projects and pay later on request and on deliverable.

#### Benefits of the cross-border funding:

The Programme Management (PM) has the advantage that the other PEB members are financially supporting its stake in the programme or project, and it has the benefit of having a team that supports project monitoring at the overseeing level. On the other hand, there is less work for the non-managing PEB members, since they do not have to do the procurement (call for proposals or call for tenders) and they do not have day-to-day administrative responsibilities. The Collaboration Agreement between the partners is with other NRA's, not with researchers.

The cross-border funded Models comply fully with current practice, because the PM uses its national law and regulations. Payments are made on deliverables at certain stages of the projects and based upon an agreement between the partners. A broader dissemination is guaranteed, if that is part of the project. As a minimum every participating country would disseminate the results nationally.

#### Basic issues to be considered (recommendations)

- The fiscal years of the participating NRA's have to be taken into account when making the final budget plans for the selected projects.
- Difficulties with thresholds and national legal restrictions can be avoided, when making an open call in the OJ-S.
- In trans-national activities it should be clear stated that all budgets and costs should include VAT (depends on the national legislation of the Programme Management). To compare projects on the quality-price-ratio also costs exclusive VAT have to be provided.
- The costs of the PM to manage and organise the programme and the meetings, should be covered by the financial contribution of each country e.g. 5% of the total budget.
- Even if NRA's financial contributions to the project or programme budget differ, they should have equal mandate in the PEB and voting rights.
- Ownership of the results should be shared equally between the NRA's. The goal is joint ownership of Intellectual Property Rights (IPR).
- At the beginning of the projects and at midterm the PEB should organise Joint Meetings, where the project coordinators present their projects.



#### The Common Obligation Programme Model

The collaboration according to the Common Obligation Model starts with the decision of some NRAs to collaborate on a certain topic for a joint research programme (see Coordination Procedure). 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 Management (PM) and a PEB Chair (PEC) and sign the 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.

At the PEB meetings every 6 months, the Progress Report is presented to the PEB. The Progress Report contains:

- An overview of the content, the objectives and the participants of the project
- A report about the actions that were taken (e.g. meetings...), during the reporting period
- A cost budget follow-up table
- And the results so far in relation to the objectives.

The results so far then are assessed versus the objectives by using a traffic light scheme. If the Progress Report is approved by the PEB, the national funds are released.



Figure: 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 Programme Level. The tools provided in the TOOLKIT are listed as well.

7 steps	Common Obligation Project/Programme Model - What to do?	Tools				
Objectives	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? On programme level 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.	Description of Research Needs				
Budget	To formalise the collaboration all participating NRAs sign a Collaboration Agreement (CA) that describes all responsibilities within and outside the project or programme. Programme ownership is formalised in a Programme Executive Board (PEB) made up by one member from each participating NRA. One NRA takes the Programme Management (PM) and has the programme responsibility. Another becomes PEB chairman (PEC) and chairs the PEB meetings. PM and PEC are approved at the kick-off meeting of the PEB. The programme is financed jointly, so each NRA commits a fixed budget. NRAs are responsible for making the budget available following a request from the PM.	Collaboration Agreement				
Call	A <b>call for proposals</b> is performed to find the most appropriate projects to meet the objectives of the programme.	Announcement				
Selection	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.	Selection Procedure				
Contracting	The PM makes the contracts with the jointly selected research providers following its national law and regulations. The research providers are formally responsible to the PM. The work in the project consortium is regulated in a collaboration agreement.	National Procedures of the PM Model Contract				
Evaluation	The research provider presents deliverables and final results to the PEB. The PEB jointly approves the results and reports. On 6-monthly base a progress report is produced.	Progress Reports				
Payment	The funds flow according to the programme budget plan. The PM 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 PM following a request for payment. The participating NRAs become undivided joint owners of information and results of the different projects. The results are published.	National Procedures of the PM RfP-Form				

Table: Tasks and features of Common Obligation Model

road CR net

### 3.3 Important Issues: Some Decisions

#### 3.3.1 Each NRA contributes a minimum share per objective per year

The objectives of a call 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 e.g. 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.

Participating countries		Budget per NRA			_	_	
		Total 3 years	p.a.	01	O2	O3	O4
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	
Total p.a			1.000.000	250.000	450.000	150.000	150.000
Total 3 years		3.000.000		750.000	1.350.000	450.000	450.000

#### Example:

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.

However, it became good practice in the work of the PEBs that all decisions were taken commonly and also common agreement could be achieved in the discussions. This is based on the good working atmosphere following "trust, understand and commit".

#### 3.3.2 Repayment of funds

At the end of a programme, after all projects have been paid, the final conference and the final programme report have been finished and have been paid and after all the administrative costs have been reimbursed, and there is still some money left in the common pot, there are 3 options for the NRAs (the TGR representative) to decide:

#### 1. Back to the funder.

The money is transferred back to the NRAs account and usually goes back to the national budget.

#### 2. To one of the on-going calls

The money is transferred to the common pot of an on-going programme. This means the PM pays on behalf of a NRA and the NRA pays less for one of the instalments.

#### 3. To the CEDR bank-account.

The money is transferred to a common pot within CEDR.

Anyway, in all 3 cases the money "stays national" and the NRA representatives have to decide which option to take.

### 3.3.3 Transparency

The development of the DoRN is very sensitive. Between the Thematic WS and the preannouncement of the call (the DoRN is published) the details of developing the DoRN are classified. Organisations Member of the Task Force are not eligible to submit proposals at all!

If a research provider who submits a proposal is part of the same legal entity as one of the Parties or is a PEB member, the related Party or PEB member is excluded from the Phase of Evaluation, but remains participant in the PEB and contributes to the Budget Plan. He/She returns to the PEB after the selection is completed.

### 3.4 Recommendations for the use of Management Procedure Tools

At the first joint call for proposals initiated by ERA-NET ROAD, all participants contributed an equal share. In future programmes the financial contribution might differ.

It is now recommended that the **participation** within a joint call costs a minimum of EUR 150.000 per objective of a call topic. It was also decided to undertake and perform a call when a minimum of 5 NRAs are participating in one topic call.

It is important at an early stage to identify the optimal key person and country to do the management of the programme. The **Programme Management** is based on national rules and regulations of the managing country. The Road Research Programmes are usually based on the European Public Procurement Directive (EPPD) and the exception clause for R&D. Therefore it is possible to undertake cross-border funding. Every European country interprets the EPPD differently and adapts it to its national laws. So, it is recommended to find the optimal country with the most flexible interpretation of EPPD. Also, the optimal human capital entrusted with ENR procedures and neutral position is recommended.



A variety of methods were used. The nature of the projects so far, allowed the tender documents to be generic and focussed on results. The PEB and the PM finalise the documents to be used for the calls. The ENR toolkit offers templates for relevant documents.

### 3.4.1 Description of Research Needs (DoRN)

- In the introduction the reason for the joint research programme is explained and the overall goal is described
- The DoRN should present 3-4 objectives that are aiming at the common goal of the programme.
- Each objective is defined with a problem description, the expected outcome and how the NRAs would benefit from that output.
- Finally the NRAs will allocate budgets to the objectives (min. 50.000 EUR/year) and the applicants need to address the objectives with their projects.
- The DoRN also contains a list of current European activities and results of projects. This shows the state of the art of previous funded projects (FP6, FP7, ERA-NET ROAD,...).
- After the DoRN is also approved by the PEB, it becomes part of the Guide for Applicants.

### 3.4.2 Collaboration Agreement (CA)

- On behalf of the PEB, the PL finalises. The agreements which were negotiated and which will soon be ready are good templates for future Agreements. The time for the signature process shall be considered.
- The Collaboration Agreement shall be sufficient for the participating NRAs as the signed official document within the trans-national cross-border funded research programme. The Collaboration Agreement is based on the success factors "Trust. Understand. Commit." and the national law of the PM.
- The financial contribution model focusing on one or more objectives of the call topic is recommended to use for further Calls. Details of the financial contribution model are in D1.2 and D1.4. It 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. The prepayments of the financial contribution amounts should be proportional (eg. 40/30/30% of financial contribution budget).

### 3.4.3 Guide for Applicants (GFA)

- The Guide for Applicants contains 2 parts: the first is identically the same as the content of the Description of Research Needs. The second gives an overview about the call characteristics (time schedule, criteria, budget...)
- The GfA also contains information about the submission of proposals (according to the national law of the Programme Management), the selection procedure and contact data of the Programme Management.
- It is recommended to publish Frequently Asked Questions (FAQ) with answers about a month before the call closes.



#### 3.4.4 Announcement

- The time schedule of an open call in the Supplement of the Official Journal of the European Union (OJ-S) has to be considered in an early stage.
- A two page information about the call should be distributed to all PEB members (or all CEDR members) to be published to the national research communities.

### 3.4.5 Application Form (AF)

- The Application Form is based on the national law and regulation of the Programem Management.
- The AF should include some overview information about name, duration, budget and partners of the project, a project summary, a detailed working description (with work packages and time schedules), the expected results with the transnational benefit, a list of Milestones, a list of deliverables and a dissemination plan.
- Furthermore the consortium is described: The key persons with contact data, CVs and their role for the proposal.

#### 3.4.6 Selection Procedure

- An essential part of the tender documents were the selection criteria of tendering parties or project proposals and the selection procedure. A variety of criteria were used, the weights were different, and the calculation forms were diverse. The TOOLKIT offers templates for relevant criteria and well-proven procedures.

#### 3.4.7 Model Contracts for Services

- The Programme Management will use their national templates translated in English.
- It is recommended to publish the Model Contract together with the Guide for Applicants, when opening the call.

#### 3.4.8 RfP-Form

- The Request for Payment is a formal way of asking the PEB members to contribute their annual shares.
- It is recommended to check the contact data before you send the RfP.

### 3.4.9 Progress Report

- The Progress Report gives an overview of the PEB (NRAs and names of experts), its meetings and the financial situation (how much has been contributed and what is scheduled) and about the projects progress and financial situation.
- The project descriptions contain the name, duration, budget and partners of the project, the expected outcome, a brief overview of the progress and the meetings so far and a table of deliverables with due dates and actual delivery dates.

### 4 The Dissemination Procedure

Dissemination of results and progress will be done on three levels:

- The **Expert Level**: this is the most detailed level. Target group are the experts of the NRAs, those people who have to work with the results. They will read the reports and results in detail. The Programme Executive Board represents this level.
- The **Strategic Level**: this is the overview level. Target group are the research programme managers, who need to have an strategic overview of what research needs the NRA has. They will read the Progress Reports. The CEDR TG Research represents this level.
- The **Policy Level**: this is the most generic level. Target group are the Road Directors and their deputies. This level is where decisions are taken in which direction the research shall go. They will read brief information in CEDR internal reports. The CEDR EB and GB represent this level.



Figure Overview of the three levels to disseminate project results

The Programme Executive Board (PEB) consist nominated experts from National Road Administrations (NRAs). These experts are evaluating, selecting and monitoring the projects of a Joint Call and have close contact to the project consortia. Therefore, they can interfere and steer the projects into the research programme and NRAs objectives on expert level. The PEB is communicating and disseminating the results to the NRAs bottom up and also to CEDR TGR, the strategic body. CEDR TGR and its sub-group CEDR TGR TPM are identifying topics of common interest. CEDR TGR is a strategic body and also disseminates the results to the NRAs and to the CEDR GB.

CEDR GB (high level group and members of NRAs) should also decide on the policy level of the implementation of these results. This is a top down approach of promoting the results into the NRAs. This process is now in first stage and it is recommended to define further to get a dissemination of the successful project results and the implementation into the NRAs. Both approaches of bottom up and top down are needed to implement the project results into NRAs, because every NRA is structured differently and of various cultural issues. Moreover, the CEDR Technical Groups (CEDR TGs) should be involved into the process, as it is as an example in the "Road Safety"-programme, where the communication between PEB and CEDR TG Safety is working. It is a learning process and this section gives an outlook how to proceed further.

### 4.1 Recommendations for the use of Dissemination Procedure Tools

### 4.1.1 Final Conference

- The conference will be used as a platform to present the findings and recommendations of the finished projects, and will play a key part in the dissemination of these projects. It is important that the projects produce practical outputs that can be applied across Europe, and this event will be important in facilitating understanding of this work across the funding member states. The results are presented and thoroughly discussed in experts groups to produce input for the final report.

### 4.1.2 Programme Report

The purpose of the final report is to produce a succinct document that brings together the findings and recommendations from the finished projects, and illustrates how road authorities can implement the recommendations from each of the projects in an efficient manner. In preparing the report, it is important that synergies between the finished projects and their recommendations are identified and highlighted.

### 4.1.3 Communication Plan

- The communication plan, thus, will focus on the dissemination of the main messages, both on programme level (the collaboration, the joint findings and implications/opportunities) and project level (the research results, methods and suggestions).
- The communication and implementation will take place as a process, where the project managers and the project coordinators are responsible for assisting in conveying the results that underlines the synergies and success of the AM work.
- The main idea is to provide the right information and access to results to our primary target audience (the NRAs), while at the same time share our knowledge and experiences with the international research community.
- The tools to do so will be written and oral presentations, newsletters and articles, as well as two final reports; a technical report, done by a Technical Advisor and a popular report, done by a communication consultant.

### 5 Conclusions and recommendations

The ENR-Toolkit has been used for 4 cross-border funded joint programmes since 2008. Using the developed procedures we were able to finance 31 projects with a total volume of about 10 Million Euros. One of the lessons learnt from ERA-NET ROAD is that it is essential to disseminate the progress and the outputs of the funded projects and to make information available for members and for other interested stakeholders. These projects are funded because they answer CEDR needs; the links between the needs and the projects has therefore to be made very clear.

### 5.1 Final Conclusions

We have learned a lot from what others have learned in the past five years. The testing of the framework, either within existing collaborations or within new collaborations has found its way into this deliverable as a TOOLKIT. The TOOLKIT is an instrument, not a goal in itself, to further stimulate that working in a European project should be as 'normal' as working in a national project. It can help improve the quality of research, exchange of knowledge, reduce duplication of research and thus benefit from international best practices. WP1 has helped developing Trust, Understanding and Commitment between NRA's. Cooperation models have successfully been developed, research priorities have been identified and severall Programme Calls have been made. Proper use of this TOOLKIT will show that trans-national collaboration is beneficial. But a culture change is needed when one wants to think transnational first and national second. We still have a lot to learn and need to keep translating lessons into tools to be used by people working in European projects.

### 5.2 Final Recommendations

- People working in European projects do have negative experiences especially if it comes to the project governance aspects of cooperation. It does hinder the willingness to cooperating again. Crucial is that these people get the possibility to have a positive experience in European cooperation. This TOOLKIT developed for and by them, should make that possible.
- When you think trans-national first, it takes time to establish trust, and trust is the key factor for common understanding and commitment. Therefore it is important to take advantage of already established networks. There are different techniques developed for establishing trust through social contact in early project phases, but our impression is that regular common meetings with focus on technical and strategic matters in a good social atmosphere are crucial for establishing confidence and trust.
- This TOOLKIT is just an instrument. We recommend a realistic approach for each and every NRA to adopt it in a suitable manner within existing procurement procedures. One man's knowledge could be another man's confusion, so best practices within one NRA do not necessarily have to work the exact same way in another NRA. Dissemination of Road Research must be strengthened.
- It should be considered in the future, if calls are too frequent, and maybe too big and ambitious. NRA's do not have enough time to implement the results, if there is too many calls of similar topics which are partially overlapping. At least the broad focus of each call should be very different from each other, not to e.g. initiate asset management related research each and every year, but more carefully think long-term.

A strategic research road map is needed.



### 5.3 Next steps

In the future CEDR TGR TPM will take over to keep the procedures going. This means that it should maintain the Coordination Procedure that start from the ground up with a careful analysis of NRA's national strategic agendas. It should also develop systematic processes that will encourage NRAs to look at each other's' research projects, share outputs on finished projects and pool resources when appropriate. CEDR TGR TPM will also need to keep track of all the commonalities that it will have enabled as well as the savings they will have made possible at the level of NRAs' research budgets.

When the PEBs take over the Management Procedure, CEDR TGR TPM still will need to keep in touch with the Dissemination Procedure.

Finally it will be possible to keep the joint research activities going,

if we trust, understand and commit!

### Annex 1: Overview of when to use the TOOLKIT

	Time (months)	Action	ΤοοΙ	Who?
	-12/-9	Collect ideas for potential trans-national topics	RRAF	TPMS
<b>_</b>	-8	Choose high potentials		TPM
Coordination Procedure	-8	Ask for priorities for trans- national activities	Questionnaire	TPMS to EB/GB
oc	-5	Narrow the topic	Thematic WS	TPMS, Experts
Coo	-4	Define Research Needs	Description of Research Needs	Task Force
	-3	Ask for commitment (experts and budget)		TPMS to EB/GB
	-2	Establish PEB (Kick-Off) and sign the CA	Collaboration Agreement	PEB, PM
	-2	Prepare the Call	Guide for Applicants	РМ
	0	Open the Call	Announcement	РМ
	+3	Close the Call	Application Form	PM
		Evaluation of projects		PEB
e	+5	Selection of projects	Selection	PEB
gur	+6/+7	Start the projects	Contracts	PM
Management Procedure	6 monthly	Monitor the projects	Progress reports	PEB, contractor
Ĕ	6 monthly	Report to TPM	Progress reports	PM to TPM
	regularly	Approve deliverables		PEB
	regularly	Release funds to projects		PM to contractor
	once per year	Request for payments	RfP-Form	PM to PEB
	+18/+30	Finish Projects		Contractors
	+32	Final Payments, End of PEB		PM, PEB, TPM
atio ure	+30	Present results to Experts	Final Programme Conference	PEB, contractors
Disseminatio n Procedure	+32	Present results to TPM	Final Programme Report	PEB to TPM, EB/GB
Dis: n P	regularly	Disseminate Results	Communication Plan	PEB, TPM

TPM	Transnational Programme Meeting	TPMS	TPM Secretariat
EB/GB	CEDR Executive Board/Governing Board	Experts	from NRAs relevant experts
Task Force	experts writng the DoRN	PEB	Programme Executive Board
PM	Programme Management	contractor	successful applicants



### Annex 2: CD with templates (.doc, .pdf, .ppp, .xls)

#### Table of content of the annex2:

TOOLKIT:

#### 01\_Coordination

- 11\_RRAF
- 12\_Questionnaire
- 13\_Thematic WS

#### 02\_Management

- 21\_Objectives\_DoRN
- 22\_Budget\_CA
- 23\_Call\_GfA\_AF
- 24\_Announcement
- 25\_Application Form
- 26\_Evaluation\_MPR
- 26\_Selection
- 27\_Contracting
- 28\_Payment

#### 03\_Dissemination

- 31\_Final Conference
- 32\_Programme Report
- 33\_Communication Plan