

# Report on the Targeted Workshop 2 “Environmental improvements through vehicle technology”

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## List of content

### Summary

<b>1. General introduction</b> .....	<b>1</b>
1.1 ERA-NET TRANSPORT work plan and the role of WP3.....	1
1.2 Follow-up activities.....	2
1.3 Structure of the report.....	2
<b>2. General information</b> .....	<b>3</b>
2.1 The agenda.....	3
2.2 List of participants.....	4
<b>3. Sub- topic sessions</b> .....	<b>7</b>
3.1 Objectives of the sub-topic sessions.....	7
3.2 Sub-topic session on “Cleaner vehicle cluster“.....	7
3.2.1 List of participants .....	7
3.2.2 Proposals and suggestions .....	7
3.2.3 Key words of the discussion.....	9
3.2.4 Potential themes for cooperation identified during the sub- topic session.....	10
3.4 Sub-topic session on “alternative fuel and propulsion system cluster”.....	10
3.4.1 List of participants .....	10
3.4.2 Themes for cooperation identified during the sub-topic session .....	13
3.5 Sub-Topic session on noise cluster .....	13
3.5.1 Lists of participants.....	13
3.5.2 Presentations of national ongoing research programs.....	14
3.5.4 Debate on potential topics for cooperation and forms of cooperation foreseen.....	15
3.5.5 Pre-selection of the potential themes for cooperation .....	15
3.5.6 Potential themes for cooperation identified during the sub- topic session.....	16
<b>4. TWS2 final results and conclusions</b> .....	<b>17</b>
4.1 Selection/confirmation of themes, contents, leaders and participating countries.....	17
4.2 Follow-up on TWS2 .....	19
4.2.1 The discussion on the follow-up of TWS2 and on the implementation of TWS2 activities .....	19
4.2.2 Discussion on the forms of cooperation .....	19
4.2.3 Discussion on difficulties related to time schedule .....	20
<b>5. Annex – List of Documents</b> .....	<b>21</b>



## Summary

The ERA-NET TRANSPORT (ENT) research programme is a joint effort of 11 European countries (Austria, Belgium, Germany, Denmark, Finland, France, Netherlands, Norway, Poland, Sweden and United Kingdom) to promote efficient trans-national research cooperation in the field of transport. Until now transport research and networks have been seen from a national perspective.

In 2004 ENT identified potential areas for trans-national co-operation based on the actual research programmes within the participating countries.

The ERA-NET TRANSPORT work plan foresees that a Targeted Workshop, bringing together European programs managers, will be organised on each of these potential areas for cooperation.

The first targeted workshop (TWS1) took place in Paris on November 29-30 2004 on the theme: *"ITS and Reliability in Passenger Transport"*.

TWS1 was organized by ENT Work package 3 (WP3), which is composed by the French Ministry of transport public works, spatial planning, tourism and the sea and ISTED

During TWS1, the following 7 topics for cooperation have been selected:

- ECall "Plus" / Service platform
- Traffic data interface library
- Real-time data collection: overview of sensor research
- Business models for data collection and use (data ownership, role of public sector...): focus on real time data + multimodal issues
- Trans-national architecture for multimodal information
- Incident management in public transport (e.g. for elderly and impaired people)
- Real-time data handling: modelling and short-term forecasting

Following on TWS1, four action groups have been implemented with the support of ENT WP3:ENT1 on "ECall "plus" / Service Platform"

- ENT2 on "Real-time data collection: overview of sensor research"
- ENT3 on "Trans-national architecture for multimodal information"
- ENT4 on "Business models for data collection and use (data ownership, role of public sector...): focus on real time data + multimodal issues"

A new action group was created following a specific Workshop on "Maritime Safety" in Stockholm:

- ENT5 on "Maritime Safety – Survivability:

**The second Targeted Workshop took place in Paris, on June 13<sup>th</sup> and 14<sup>th</sup> 2005, on the theme: *Environmental improvements through vehicle technology.***

The preparation of this meeting was principally based on the results of the ENT Exploratory Workshop (EWS1) organized by ENT Work Package 2 (WP2) on this theme.

EWS1 took place in Clermont-Ferrand (France) on May 15<sup>th</sup> to 17<sup>th</sup> 2005, and three potential themes for cooperation were selected for TWS2:

- Cleaner vehicle cluster
- Alternative fuel and propulsion systems cluster
- Noise cluster

Following on EWS1 and in order to prepare TWS2 to be held on June 2005, all the ERA-NET TRANSPORT members were asked by WP3 to indicate:

- the potential themes for cooperation in ENT that they foresee in the domain of "Environmental improvements through vehicle technology" classified according the three above-mentioned sub-topics
- the relevant participants for the targeted workshop from their country (2 to 4 persons by Country)

The results of their contributions are available in annex in the document "*Cooperation foreseen by participants sent before TWS2*"

On the basis of EWS1 results and of these data, WP3 organised the second ENT targeted workshop (TWS2), on the theme: "Environmental improvements through vehicle technology".

During TWS2, for each of the three potential themes for cooperation identified during the EWS1, 2 topics for cooperation were selected:

- Cleaner vehicle cluster:
  - Aims, Criteria and indicators for environmental performance "ecolabelling" – type rating
  - Policy tools to influence vehicle purchasing behaviour (inc. benchmark on countries)
- Alternative fuel and propulsion systems cluster
- Alternative fuel and sustainable vehicle technology for an European strategy
- Joint demonstration projects of alternative propulsion systems and fuels
- Noise cluster
  - Improved understanding on noise effects
  - Quiet areas

For each theme one or two leaders were identified and ENT partners expressed their interest for these topics for cooperation.

Hereafter, a chart summarizing the TWS2 participants' expressions of interest for the selected themes and the leaders of these themes for cooperation:

# 1. General introduction

## 1.1 ERA-NET TRANSPORT work plan and the role of WP3

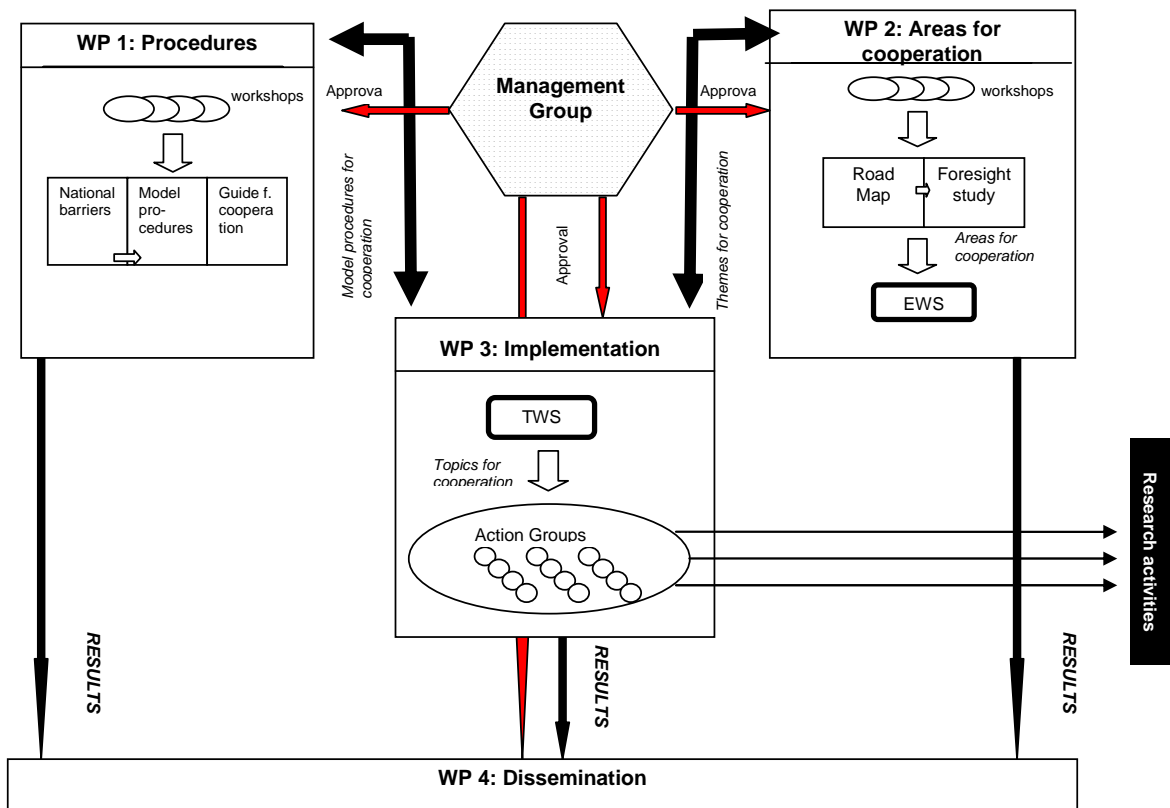
ERA-NET TRANSPORT aims at developing a European vision on transport research and developing cooperation between national transport research programmes for the short term and transnational cooperation in research programming for the mid and long term.

The objective of Work Package 3 in the ENT is the implementation of cooperation and coordination activities.

WP3 main results are:

- The Targeted Workshops
- Definition of specified topics for cooperation
- Inauguration of action groups (national program managers)
- Support action groups in setting up effective cooperation and coordination activities
- Test model procedures and guide for cooperation (WP1)

Hereafter, a chart summarizing the ENT work plan:



## **1.2 Follow-up activities**

This report is a basis for the implementation of action groups on the themes for potential cooperation selected during TWS2.

For each theme one or two leaders have been identified and the corresponding state-of-the-art in each of the ENT partner countries has been asked for after TWS2 in order to start cooperating actions from October 2005.

The formalities:

- The Management Group will formally decide on which action groups should be implemented.
- The selected action groups will then formally start the cooperation activities with the support of WP3.
- A chairman will be selected for each action group to be responsible for the technical content of the activity.
- The work plan will be decided in each case.
- For each action group, a Memorandum of Understanding will be developed and signed by the participating countries in order to start the implementation of the trans-national research activity.

## **1.3 Structure of the report**

In the next chapter, general information on TWS2 will be presented, e.g. an agenda, list of participants, etc.

Chapter three summarizes the content, the discussions and the results of the TWS2 three sub-topics sessions which have been held during TWS2 first day (June 13<sup>th</sup> 2005, from 2pm to 6.15pm), on the themes:

- Cleaner vehicle cluster
- Alternative fuel and propulsion systems cluster
- Noise cluster

Chapter four summarizes the discussions of the TWS2 second day plenary session (June 14<sup>th</sup> from 9.30 am to 12.30 am), which has concluded TWS2, and the results and the conclusions of TWS2.

## 2. General information

### 2.1 The agenda

TWS2 first meeting day was held on “La Grande Arche” – Paroi Sud (south pile) – Meeting Room n°1 - third floor.

No.	Start	Item	By
1	10.30	Welcome of participants	WP3 (ISTED)
2	11.00	Welcome address	WP3 (DRAST / ISTED)
3	11.10	Presentation of ERA-NET TRANSPORT	SEC
4	11.30	Cooperation in ERA-NET TRANSPORT and levels of cooperation	WP1 and SEC
5	11.40	Results of Exploratory Workshop 2 (EWS2) / Input	WP2
6	12.15	Questions and Answers session	All
	12.45	<i>Lunch</i>	
7	14.00	Parallel sub sessions: Cleaner cars cluster Alternative fuel and propulsion systems cluster Noise cluster	All
8	17.30	<i>Sum up – Question and Answer session</i>	WP3
10	18.30	End of TWS2 day 1	
11	20.00	Common dinner	<i>All</i>

**TWS2 second meeting day was held on “La Tour Atlantique” (Atlantique tower) - twentieth floor / Address: 1, place de la Pyramide – 92911 Paris la Défense**

No.	Start	Item	By
12	9.30	Resuming of work	WP3
13	9.40	Detailed reports from the 3 sub sessions: Cleaner cars cluster Alternative fuel and propulsion systems cluster Noise cluster	WP3 + SEC
14	10.10	Selection/confirmation of: <ul style="list-style-type: none"> <li>• Themes</li> <li>• Contents</li> <li>• Levels of cooperation</li> <li>• Leaders</li> <li>• Dates for first TWS2 action group meetings (<i>provisional</i>)</li> </ul>	All
15	12.30	Conclusion	SEC
16	12.45	End of the meeting	

## 2.2 List of participants

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### 3. Sub- topic sessions

#### 3.1 Objectives of the sub-topic sessions

The aims of the sub-sessions are to:

- Identify the technical topics for the activity:
- Topics where trans-national cooperation provides added value
- Topics with limited funding in each country
- Topics with limited research environment in each country
- 
- Get a first indication of the relevant way to organize the activity:
- Merge ongoing activities
- Identify a new project
- Identify a new program

#### 3.2 Sub-topic session on “Cleaner vehicle cluster“

##### 3.2.1 List of participants

Name	Country	Organisation
Nick BARTER	UK	Department for Transport
Franck CHARMAISON (moderation)	France	ISTED
Jouko KINNUNEN	Finland	Motiva Oy
Juhani LAURIKKO	Finland	VTT process
Stéphanie VINCENT LYK-JENSEN	Denmark	Danish Transport Research Institute
Sylvie NIESSEN	France	Ministry for Infrastructure , Transport, Housing, Tourism and the sea
Thilo PETRI	Germany	TÜV Management Systems GmbH
Hilde Van DONGEN	Belgium	Belgian Science Policy
Ad Van OMMEN	Netherlands	Ministry of Transport, Public Works and Water Management

Please find enclosed in annex (PP cooperation foreseen by participants sent before TWS2 holding) the list of the proposals made by the participants prior to the meeting.

##### 3.2.2 Proposals and suggestions

#### France

France just had a call for proposals in April. Therefore France will have some projects in this area soon (title of call: clean and energy saving vehicle). Maybe these projects can be clustered with other European ones, but this has to be settled later. The projects will be funded by the new national research agency (ADEME – national agency for energy management and environment). There would be a problem for participation on the budget, because the agency has its financial autonomy that cannot be influenced by the Ministry.

They have 4 topics for the call for proposals (Please find enclosed in annex the document: and the document: *PP/ Call for proposal Predit France « Energy and environmental impacts»*):

- Thermic motorization
- Electric and hybrid engines
- Auxiliary improvement
- Noise

*Green Trucks*: DRAST is very interested in this topic. Especially heavy trucks are the focus (more than 60t). This is a project mainly for constructors. But other stakeholders should be included as well.

All the big countries that are important and interested in this field should participate in such a project to be funded with participation of the EU in FP 7. France is interested in a comprehensive project, but maybe it is not possible to place it in FP7. The commission does not support more than one big project (no funding in ERTRAC FP7). If it will not be possible to approach this topic within FP7 it should be addressed in ERA-NET.

### The Netherlands

There are 4 topics which are to be proposed by the NL, mainly inventories and harmonisation measures:

- 1. Inventory and harmonisation of government measures to stimulate Market Introduction of *Hybrid Vehicles*. The technology is already there also in Europe but there is still no market for that in Europe.
- 2. *Light weight Vehicle construction* should be stimulated through government measures.
- 3. Measures and Inventories to *make trucks greener*.
- 4. Consumer based rating methodologies for a cleaner car ecolabelling system that includes both GHG's and AQ factors (also common eco label).

An example for a government measure is the tax approach of the NL. The government will offer reduced taxes on the hybrid model Toyota Prius to facilitate the market introduction of that environmentally friendly car.

There is a doubt if markets in the member states can be harmonized because the frameworks and conditions are too different (different taxes, different market shares of car producers etc.). Inventories of course are possible and desirable.

Finland agrees with most of the topics. It would be interested to look at nat. markets where certain measures work out already and transfer these ideas to other countries where the introduction can be considered as well. Especially interesting would be to learn about the decisive factors for success and the transferability on these. There is a huge interest especially among Scandinavian Countries. A lot is done already.

Industry could do better if there was an advantage or an incentive.

It has to be acknowledged that nowadays emissions and consumption are decoupled completely.

GB has a pilot scheme on Eco-labels and therefore it is interested on this theme as well.

Belgium does not see the possibility for harmonization of policy measures throughout Europe.

Finland: Other incentives like little giveaways (economic incentives) are already in use e.g. in Sweden. E.g. free parking for ethanol cars and other "green" cars.

### Finland

Finland presented the following themes (see also: PP/ cleaner car cluster - ERA-NET TWS2 Topics Finland.doc):

- Measures & technologies to lower energy consumption (incl. common procedures for assessing real-world / in-use energy consumption (and exhaust emissions) from heavy vehicles)
- Information gathering and diffusion related to environmental impact of passenger cars / heavy goods vehicles / busses for the purpose of public dissemination to consumers and targeted approach to key decision-makers in public and private sector
- Energy Audit Procedure for Logistic Chain
- Management of the whole fuel chain (pathway) from production to consumption
- Management of the whole fuel chain (pathway) from production to consumption
- Strengthening information exchange between programs on hydrogen
- Development of "Biomass to liquids" (BTL) technologies
- Noise abatement through advances in road surface & tyre (and stud) design and materials (with low or no impact on particulate emissions)
- (positive) impact of noise abatement on energy consumption

### Denmark

Denmark is working on market potential of renewable energy cars (biofuel and hybrid). The country has a very good stock of data on that. Idea: find out on the preferences of consumers and on the reasons. They want to start on this in October already, project should last until 2009 or so.

### UK

No presentation

### Belgium

The new transport research programme has not been approved yet. There will be a focus on the issue of environment. The specification is not quite clear yet. Hilde sees a lot of possible interest aspects in the already presented aspects. However, one can not say what is going to be the definite themes yet.

### Germany

No presentation

#### *3.2.3 Key words of the discussion*

- Awareness
- Ecolabelling
- Policy tools to influence consumer behaviour
- Harmonisation/Transferability
- Purchase of new vehicle
- Environmental rating/performance
- Incentives
- Short term/long term

- Performance measurements/indicators/standards
- Specific case of heavy vehicles
- Specific case of private cars
- Comparison of CO<sup>2</sup> levels
- Assessment/Criteria for environmental assessment
- Overall cost benefits
- Benchmark on countries with/without car industry
- 

#### *3.2.4 Potential themes for cooperation identified during the sub- topic session*

- Policy tools to influence vehicle purchasing behaviour (incl. benchmark on countries)
- Aims, criteria and indicators for environmental performance “eco labelling”-type rating
- Sustainable Distribution

### **3.4 Sub-topic session on “alternative fuel and propulsion system cluster”**

#### *3.4.1 List of participants*

<b>Surname</b>	<b>Country</b>	<b>Organisation</b>
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<b>Oliver ALTHOFF (moderator)</b>	Germany	TÜV Management Systems GmbH
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<b>Bernhard KOONEN</b>	Germany	TÜV Management Systems GmbH
<b>Trond KRAKENES</b>	Norway	Norwegian Ministry of Transport and Communications
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<b>Nilgün PARKER</b>	Germany	Bundesministerium für Verkehr, Bau und Wohnungswesen
Matthew Edward <b>WHITE</b>	UK	Department for Transport

Please find enclosed in annex (PP/ Proposals for cooperation in the field of TWS2 sub session on “alternative fuel and propulsion systems” sent by participants before

the Workshop) the list of proposals based on the proposals sent to WP3 before TWS2 which has been presented to this sub-session participant

A chart summarizing the potential themes for cooperation studied during the sub-topic session on “alternative fuel and propulsion system cluster” and the national expressions of interest on these themes:

Proposal	Interested countries							
	FI	DE	NL	AT	FR	UK	NO	DK
<b>Pre-selected topics for discussion in plenum</b>								
Coordination & Joint research into market potential of vehicle related sustainable technologies (alternative fuels and propulsion systems) to arrive at a <b>European strategy</b> . Finding out the most promising technologies and fuels. Overall goal is the increase of competitiveness and environmental improvement.	x	<b>X</b>	x	x	<b>X</b>	x	x	X
<i>Information &amp; Knowledge Exchange</i>								
<b>Joint demonstration projects</b> of alternative propulsion systems and fuels, including hybrids and bio fuels.	(x)	x	<b>X</b>	<b>X</b>		x	x	
<b>Biofuels</b> : air quality emissions in combination with particulate traps and DENOX filters. How to get cars to accept higher blends of biofuels (coord. Of research)  (Joint projects)	x		x			x	x	
Research (study) into the bridge function of <b>natural gas</b> for the use of <b>hydrogen</b> as a transport fuel			x	x			x	
<b>Not selected proposals</b>								
	<b>Interested countries</b>							
	<b>FI</b>	<b>DE</b>	<b>NL</b>	<b>AT</b>	<b>FR</b>	<b>UK</b>	<b>NO</b>	<b>DK</b>
<i>Development of <b>biomass</b> to liquid technology (I.Ex. + Joint projects)</i>	x						x	x
<i>Life-cycle assessment of biofuels from novel crops eg <i>iatropha</i></i>			x			x		x
<i><b>Hybrid</b> vehicles. Technological development. Workshop/seminar for Inf. Exch.</i>		x				x		
<b>Hydrogen</b>								
<i>Strengthening of I. Ex on <b>hydrogen</b> programs</i>	x							
<b>hydrogen</b> cost/benefit of CCS compared to conventional fuel pathways for energy production	Discussion led to the result that the relation to the transport issue is not strong enough. A coverage by specific ERA-NETS on hydrogen (HYCO) could be more suitable.							
How to develop big scale production of <b>hydrogen</b> without having emissions (CCS) (Joint research activitoes)	Discussion led to the result that the relation to the transport issue is not strong enough. A coverage by specific ERA-NETS on hydrogen (HYCO) could be more suitable.							

	FI	DE	NL	AT	FR	UK	NO	DK
<b>hydrogen:</b> cost/benefit related to mixing in hydrogen into the NG grid (Joint projects)			x				x	
<b>Proposal</b>	<b>Interested countries</b>							
	FI	DE	NL	AT	FR	UK	NO	DK
<b>Bio fuels</b>								
<b>Bio-gas-</b> research into cost-effective measures to integrate into a national gas transport infrastructure. (Joint projects)			X					
<b>Bio-gas</b> joint research into the most cost-effective ways of producing bio-gas from animal manure and human waste. (Joint projects)			X					
<b>Biofuels-</b> more cost-effective production. Find more competitive ways to produce biofuels. – next generation bio-fuels (Joint research activities)	Discussion led to the result that the relation to the transport issue is not strong enough. A coverage by specific ERA-NETS on bio-fuels could be more suitable.							
<b>Fuel Cell</b>								
Development of a <b>fuel cell</b> as auxiliary power unit (APUs), (or other promising market near lines) – (Joint R&D projects)				x				
Development of <b>fuel cell</b> components (electrodes, high/low-temperature FC, etc.) - (R+D projects) (Joint R&D projects)								x
<b>Demonstration projects</b>								
<b>Demonstration projects</b> comprising the whole system (production+transport) (Joint research activities)				x				
<b>Further ideas</b>								
Management of <b>fuel chain</b> (I. Exch)	X							
<b>Fuel storage</b> systems - (R+D projects) (Joint R&D projects)				x			x	
<b>Covered by previous proposals</b>								
<i>Energy transition scenarios</i>						x		x
Analysis of controversies of alternative fuels. Identify existing contradictions and organising a debate.						x		

x = Country is interested in participation

**X** = Country is interested in participation and offers to take the lead

### 3.4.2 Themes for cooperation identified during the sub-topic session

This sub-session has ended after a discussion on whether hydrogen themes should be taken up or whether it should be left to the ERA-NET HYCO, which deals solely with hydrogen research.

The main conclusions of the discussion are:

- Projects are too expensive to have double work on that. On the other hand it is important to have influence on vital topics from the transport perception and not to leave it to other ERA-NET.
- Once the themes are selected one should take up contact with the other relevant ERA-NET and sort out who is doing what and explore the possibilities of cooperation on that.

The results of the “alternative fuel and propulsion systems cluster” have been presented by Oliver ALTHOFF.

The potential themes for cooperation in ERA-NET TRANSPORT identified by the participants of this sub-session were:

- Sustainable vehicle technology for an European Strategy
- Joint demonstration projects of alternative propulsion systems and fuels.
- Biofuels: air quality emission in combination with particulate traps and Denox filters.
- Study on the bridge function of natural gas for the use of hydrogen as a transport fuel.

## 3.5 Sub-Topic session on noise cluster

### 3.5.1 Lists of participants

Name	Country	Organisation	E-mail
<b>Hans BENDTSEN</b>	Denmark	Danish Road Research Institute	<a href="mailto:hbe@vd.dk">hbe@vd.dk</a>
<b>Susanne KRAWACK (moderator)</b>	Denmark	TetraPlan	<a href="mailto:SK@tetraplan.dk">SK@tetraplan.dk</a>
<b>Mathieu GOETZKE</b>	France	Ministry for Transport, Construction, Tourism, And the Sea	<a href="mailto:mathieu.goetzke@equipement.gouv.fr">mathieu.goetzke@equipement.gouv.fr</a>
<b>Alain MICAS</b>	France	ISTED	<a href="mailto:alain.micas@i-carre.net">alain.micas@i-carre.net</a>
<b>Jörg HEINZELMAN</b>	Germany	BMBF	<a href="mailto:peterjoerg.heinzelmann@bmbf.bund.de">peterjoerg.heinzelmann@bmbf.bund.de</a>
<b>Marta JACKOWSKA</b>	Poland	Silesian University of Technology	<a href="mailto:transmec@mail.polsl.katowice.pl">transmec@mail.polsl.katowice.pl</a>
<b>Marek SITARZ</b>	Poland	Silesian University of Technology	<a href="mailto:Marek.Sitarz@polsl.pl">Marek.Sitarz@polsl.pl</a>
<b>Truls GJESTLAND</b>	Norway	SINTEF	<a href="mailto:truls.gjestland@sintef.no">truls.gjestland@sintef.no</a>

### 3.5.2 Presentations of national ongoing research programs

Please find enclosed in annex (PP cooperation foreseen by participants sent before TWS2 holding) the corresponding documents.

#### DENMARK

Presentation by Hans Bentsen.

Denmark has numerous ongoing research programs, which could be of potential interest for transnational cooperation on:

- Development and testing of tyres noise reduction
- Deduction of the trucks tyres noise,
- Development and testing of speed reducing measures for urban roads which reduce also both measured of perceived noise.
- Projects on the reduction of the perceived annoyance by various means
- Investigation of the dose response relation between transport noise and the perceived annoyance.
- Investigation on noise mapping and methods of abatement mapping
- Investigation on the use of green areas in the open land.
- Development of practical methods to interpret noise abatement in road/highway (with special focus on maintenance)

Please find enclosed in annex (*PP Sub Session Noise cluster / Danish noise presentation*) the corresponding PowerPoint presentation.

#### GERMANY

Jörg HEINZELMAN has presented projects on:

- Noise effects on human. Aim: to find reliable criteria.
- Analyse of transportation noise. Aim: to explore technical solutions for quieter vehicles and roads.
- Scientific data basis.

Please find enclosed in annex (*PP Germany noise cluster quiet traffic*) the corresponding PowerPoint presentation.

#### NORWAY

by Truls GJESTLAND

Presentation of projects on:

- Noise sources and control of noise emission
- Tyres noise
- Road surface noise
- Noise and silence in urban environments
- Efficiency of different noise control measures and their impact on urban life quality

Truls GJESLAND has described the Norwegian priority topics in the field of noise for 2006-2008:

- Technology
- Effects
- Models and tools.
- Quiet areas.

Please find enclosed in Annex (PP Noise research in Norway), the corresponding PowerPoint presentations.

### FRANCE

- Presentation by Mathieu Goetzke
- 
- In 2005, the DEUFRAKO P2RN project was submitted to a call for proposal on "clean vehicle".
- In France, there are new focuses on urban noises.
- Mathieu GOETZKE has mentioned an upcoming call for proposal on noise mapping, mitigation strategy, annoyance, health impacts and specific sources.
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Please find in annex (3 documents: PP sub session noise France CALM-predit-june05-v2.ppt / ENT sub session France noise research in predict.ppt / ENT sub session noise France Predit 2) the corresponding PowerPoint presentations.

#### *3.5.4 Debate on potential topics for cooperation and forms of cooperation foreseen*

Participants have debated on the type of topics and forms of cooperation which should be selected.

According to Jörg HEINZELMAN, a general topic should be selected in order to exchange information on a broad level.

In his opinion, a workshop should be organised in order to give to the relevant noise experts and researchers the opportunity to exchange information on such a topic.

According to Truls GJESTLAND, it is more relevant to identify clear and precise topics in order to implement cooperation activities via action groups.

#### *3.5.5 Pre-selection of the potential themes for cooperation*

- Vehicle type approval based on noise emissions
- traffic management tools for noise emissions
- Analysis of noise from specific sources (2-wheelers, freight...)
- Annoyance management
- Quiet areas: definition and planning tools
- Tyres: markets barriers
- Health effects: epidemiology; costs.

Due to the fact that it had been decided that a maximum of 5 potential themes for cooperation should be identified in each sub-topic session, participants have debated on which of those themes should be surrendered.

### *3.5.6 Potential themes for cooperation identified during the sub-topic session*

Susanne KRAWACK presented the final proposals of this sub session. (Please find enclosed the corresponding PowerPoint presentation: *PP day 2 plenary session noise sub session results*).

The themes identified for cooperation in this sub-group are:

#### **Tyre – Road noise**

- Market introduction of silent tyres
- Standards and Eco-labelling
- Financial incentives
- Trade barriers
- Relined tyres
- 
- Technology:
- Models for tyre - road interaction
- Rolling noise and energy consumption
- Production and maintenance of quiet road surface

#### **Improved understanding of noise effects**

- Annoyance management:
- Mapping of noise annoyance
- Modelling noise annoyance
- Effects on mitigation measures
- Segments of noise
- two wheelers
- urban freight
- Health effects of noise
- Cost-benefit of abatement strategies

#### **Quiet areas**

- Quantitative and qualitative definition
- Rural/urban
- Cultural dependancy
- Activity dependency
- Effects of quiet areas
- How is annoyance modified by the access to quiet areas
- Models for low noise generation/propagation

#### **Combination of sources from the single vehicle**

- Description and modeling of sources i.e.
- Acceleration noise
- Rolling noise
- Other sources
- Test procedures for noise Type Approval of vehicles

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## **4. TWS2 final results and conclusions**

### **4.1 *Selection/confirmation of themes, contents, leaders and participating countries***

Summary of results

- 6 themes for cooperation (2 per sub-topics) have been selected.
- Leaders have volunteered for several of those themes.
- Countries representatives have expressed on a case by case basis the interest of their country for the themes for cooperation.

The TWS2 participants' choices are summarized in the following chart:

**ERA Net Transport - Themes selected during TWS2 in Paris on “Environmental improvements through vehicle technology”  
and expressions of interest received to date from ENT partners**

Sub topic / Selected themes	Leader (*)	AT	BE	DE	DK	FI	FR	NL	NO	PL**	UK
<b>CLEANER VEHICLES</b>											
AIMS, CRITERIA AND INDICATORS FOR ENVIRONMENTAL PERFORMANCE "ECOLABELLING"-TYPE RATING	FI + NL		X			X		X	X		
POLICY TOOLS TO INFLUENCE VEHICLE PURCHASING BEHAVIOUR (INC. BENCHMARK ON COUNTRIES)	DK		X		X		X		X	X*	
<b>ALTERNATIVE FUEL AND PROPULSION SYSTEMS</b>											
SUSTAINABLE VEHICLE TECHNOLOGY FOR AN EUROPEAN STRATEGY	DE (HEINZELMANN, PARKER) + FR	X		X	X	X	X	X	X	X*	X
JOINT DEMONSTRATION PROJECTS OF ALTERNATIVE PROPULSION SYSTEMS AND FUELS	AT + NL	X		X				X	X		
<b>NOISE</b>											
IMPROVED UNDERSTANDING ON NOISE EFFECTS	FR (GOETZKE)			X	X		X		X	X*	
QUIET AREAS	NO (GJESTLAND)				X		X		X	X*	

\* Either persons or countries

\*\* By a mail sent by Mr. Marek SITARZ

## **4.2 Follow-up on TWS2**

Franck CHARMAISON has provided participants with information on ENT TWS1 action groups working process, especially on position papers gathering and dissemination. (see corresponding PowerPoint presentation : Presentation of WP3 role )

He indicated that a similar process would be used for action groups created after this workshop, which would furthermore benefit from the fact that, thanks to EWS2 meeting, lots of materials had already been gathered.

### *4.2.1 The discussion on the follow-up of TWS2 and on the implementation of TWS2 activities*

Niels Buus KRISTENSEN expressed concerns on the ENT support to action group leaders and to the participants having expressed interest for a theme for cooperation. According to him, ENT and in particular ENT WP3 should be more involved in the leader position papers redaction.

He underlined the fact that European experts or projects managers receive too many requests for information and that they don't have time enough to reply to these requests.

So, in his opinion, ENT should support more deeply action group leaders and participants.

Niels Buus KRISTENSEN furthermore disapproved the use of the same process for TWS2 action groups than for TWS1 and has proposed. He wished:

- A stronger support from ENT in particular on the redaction of the position papers.
- The extraction from the ENT WP2 database of projects related to the selected themes for cooperation, that should be sent to the corresponding leaders within 3 weeks after the end of TWS2 (see herewith in annex – Extraction of the database on the TWS2 selected themes by SEC ).

Franck CHARMAISON replied that this way of setting up action groups was not the one previously chosen by the Management Group of ERA-NET TRANSPORT.

Oliver ALTHOFF indicated that TWS2 minutes would be produced by WP3 and send by mail to all TWS2 participants.

### *4.2.2 Discussion on the forms of cooperation*

Jörg HEINZELMANN has suggested that TWS2 activities should be based on a bottom-up approach instead of the current approach used for TWS1 activities and action groups. Workshops should be organized between experts and researchers in order to identify the potential themes for cooperation.

Oliver ALTHOFF has explained that ENT process is based on an top-down approach. One of the main objectives of a targeted workshop like TWS2 is the identification of potential themes for cooperation by programme managers and national decision makers, who bring in their knowledge from the work in national programmes or research management on the issue concerned.

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Jörg HEINZELMANN has indicated that a more precise framework should be provided on how TWS2 activities will continue and on the TWS2 action group process.

#### *4.2.3 Discussion on difficulties related to time schedule*

Thilo PETRI (SEC) and Franck CHARMAISON (WP3) have suggested that it would be relevant to define during this plenary session a time schedule for the following of TWS2 and in particular for the provisional holding of the action groups.

Niels Buus KRISTENSEN has suggested that ENT WP3 should provide participants with a list of the schedule problems (holidays –meetings already planed) and help them to have action groups meetings despite of the various holidays in Europe.

A consensus has been reached on the idea that it is realistic to have **the first TWS2 action group meetings during October 2005.**

## **5. Annex – List of Documents**

### **Documents related with the plenary session (first day)**

- PP1 – Presentation of ERA-NET TRANSPORT – ALTHOFF
- PP2 – Presentation of levels of cooperation by Heimo KROPF
- PP3 – Presentation of results of EWS2 by Ad VAN OMEN

### **Documents related with the sub-topics parallel sessions**

- PPT parallel session presentation
- PP cooperation foreseen by participants sent before TWS2 holding

### **Documents related with the sub-topic session on “cleaner vehicles”**

- Sub topic session cleaner vehicle fact sheet
- PP/ Cleaner car cluster g08 french call for proposal.doc
- PP/ Call for proposal Predit France « Energy and environmental impacts»
- PP/ cleaner car cluster - ERA-NET TWS2 Topics Finland.doc

### **Documents related with the sub-topic session on “Alternative fuel and propulsion systems”**

- Sub Topic session “Alternative fuel and propulsion systems” fact sheet.
- PP/ Proposals for cooperation in the field of TWS2 sub session on “alternative fuel and propulsion systems” sent by participants before the Workshop

### **Documents related with the sub-topic session on “Noise”**

- Sub Topic session Noise fact sheet
- PP Sub Session Noise cluster / Danish noise presentation
- PP Germany noise cluster quiet traffic
- PP Noise research in Norway
- PP sub session noise France CALM-predit-june05-v2.ppt
- ENT sub session France noise research in predict.ppt
- ENT sub session noise France Predit
- PP day 2 plenary session noise sub session results

### **Documents related with the plenary session (second day)**

- Extraction of the database on the TWS2 selected themes by SEC
- Presentation of WP3 role