



Transport Research Arena  
Europe 2008

**FIFTH**  
ANNOUNCEMENT

**Ljubljana, Slovenia, 21 - 24 April 2008**



**PRELIMINARY  
CONFERENCE  
PROGRAMME**

**Greener, Safer and Smarter Road Transport for Europe**

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# Welcome to Ljubljana



- > **TRANSPORT & CLIMATE CHANGE**
- > **TRAFFIC SAFETY**
- > **GREENER AND SMARTER TRANSPORT**

The Second European Road Transport Research Arena is jointly organised by:



# INVITATION



**Aleš Žnidarič,**  
Chairman of the  
Programme  
Committee

**It is my great pleasure to invite you, in the name of the TRA2008 Programme committee, to the second European Transport Research Arena that will be held in Ljubljana, Slovenia, from April 21 to 24, 2008.**

The main organisers; Conference of European Directors of Roads, CEDR, European Commission, the European Commission and European Road Transport Research Advisory Council, ERTRAC, have with the extensive help of the members of the Programme Committee, worked hard to compile a conference programme that will be interesting for the widest range of stakeholders dealing with road transport.

The programme is built around the TRA slogan “Greener, Safer and Smarter Road Transport for Europe”. Consequently, the three main topics selected for this conference were Transport and Climate Change, Traffic Safety and Green and Smart Transport. All of them will be presented in plenary sessions with the aim of provoking lively debate in the following strategic sessions. Prominent speakers are a guaranty for that.

The greatest part of the programme is dedicated to thematic sessions organised around six pillars:

- I. European Road Research Needs and Agendas.
- II. Transport, Mobility and Infrastructure.
- III. Safety and Security.
- IV. Energy, Environment and Resources.
- V. Design and Production (Vehicles and Infrastructure)
- VI. Integrated Approaches.

Over 320 papers were received and around 250 of them will be presented in thematic sessions and interactive poster sessions. They will be published in a Book of Abstracts and on electronic proceedings.

I hope that the following preliminary programme will convince you that the TRA2008 in Ljubljana is the place to be in April 2008.

Sincerely,

**Aleš Žnidarič**

Chairman of the Programme Committee

# PROGRAMME

**Legend**

Plenary sessions	Strategic sessions	Thematic sessions
Poster sessions	Students competition	Breaks, dinner, lunches, reception, tours

From	To	Monday, 21 April 2008													
12:00	13:30	<b>Opening Session</b>													
13:30	14:00	<b>Students' competition - Presentation of awards</b>													
14:00	14:30	Coffe break and invitation to the exhibition													
14:30	16:00	<b>Transport and Climate Change</b>													
16:00	16:45	Coffee break													
16:45	18:00	3:1	European Trans-National Joint Research Collaboration	3:2	Challenges for Sustainable Mobility in Cities	3:3	Interactive Information Provision & Systems								
18:00	20:00	Break													
20:00	22:30	Cultural Event and Welcome Reception													
From	To	Tuesday, 22 April 2008													
9:00	10:15	<b>Green and Smart Transport</b>													
10:15	11:00	Coffee break													
11:00	12:15	5:1	Specific New Member States and Candidate Countries issues	5:2	Future Direction for Cleaner Road Transport and Advanced Fuels	5:3	Supporting Transport Policy through Innovation								
12:15	13:45	Lunch													
13:45	15:00	6:1	Public-Private Joint Research Needs & Agendas	6:2	Logistics and Heavier Goods Vehicles	6:3	Innovations in Conventional Power-trains and After-treatment Systems	6:4	Accident Prevention & Analysis 1	6:5	New Design and Production Concepts	6:6	Innovative Approaches in Urban Mobility	6:7	Poster session Pillar Vb
15:00	15:45	Coffee break													
15:45	17:00	7:1	Specific regional research needs	7:2	Societal Trends & Behaviour	7:3	Alternative Fuels & Power-trains Applications	7:4	Accident Prevention & Analysis 2	7:5	Incentives for Innovation in Procurement and Contracting	7:6	Cooperative Approaches to Mobility	7:7	Poster session Pillars Va+VI
17:00	20:00	Technical tours													
From	To	Wednesday, 23 April 2008													
9:00	10:15	<b>Traffic Safety</b>													
10:15	11:00	Coffee break													
11:00	12:15	9:1	International Cooperation on Road Transport Research in Emerging Economies			9:2	Integrated Transport Safety		9:3	Road Pricing and Tolling					
12:15	13:45	Lunch													
13:45	15:00	10:1	Green House Gas Reduction	10:2	Effective Utilisation of Existing Urban and Inter-urban Road Network	10:3	Knowledge base building in Traffic Safety	10:4	Accident Prevention & Analysis 3	10:5	Pavement and Infrastructure Management 1	10:6	Impact Mitigation	10:7	Poster session Pillar IV
15:00	15:45	Coffee break													
15:45	17:00	11:1	Air Pollution	11:2	Road Network Robustness	11:3	Transport Infrastructures Innovations	11:4	New Mobility Concepts	11:5	Pavement and Infrastructure Management 2	11:6	Intelligent transport systems	11:7	Poster session Pillar III
20:00	23:00	Gala dinner													
From	To	Thursday, 24 April 2008													
9:00	10:15	12:1	Scenarios for the Future	12:2	Transport for All	12:3	Security on Road Safety Systems Design	12:4	Human Factors and Prevention of Driver's Injuries (Driver Impairment)	12:5	New Materials 1	12:6	Towards a Sustainable Society	12:7	Poster session Pillars I + II
10:15	11:00	Coffee break													
11:00	12:15	13:1	Natural & Cultural Heritage, Environmental and Aesthetic Design	13:2	Noise	13:3	Innovative Design and Production	13:4	Safety Impact of Road Maintenance	13:5	New Materials 2	13:6	Integrated Mobility Management	13:7	Poster session Pillars I + II
12:15	12:30	Break													
12:30	13:30	3:1	<b>Closing Session</b>												

# PLENARY SESSIONS

**Monday 21 April 2008**

## Round Table debate on 'Transport and Climate Change

**Panel Members:**

- 1. Michel de Virville**, General Secretary of Renault Group
- 2. Matthias Ruete**, EC, Director General for Energy and Transport
- 3. Wolfgang Hahn**, Director of German Road Administration
- 4. Lučka Kajfež-Bogataj**, Intergovernmental Panel on Climate Change (IPCC)
- 5. Claude van Rooten**, President of FEHRL
- 6. Gunnar Ahldén**, Head of Strategy & Project Support; Schenker AB

The environmental impact of transport, and in particular its contribution to climate change, is at the top of the political agenda. The transport sector will have to contribute to achieving global climate change targets, as well as to reducing more local environmental impacts, such as noise and air pollutants. Much has already been done to improve transport's environmental profile, and the time is right to set out what has been put in place and to come forward with further concrete actions that will lead to further improvements.

The idea of the round table is to have a lively, provocative but constructive debate that will motivate discussions in the strategic sessions. Its purpose is also for the panellists through their confrontation of views to give us their idea of 'European Transport Research, a road map to 2012 and beyond':

- Researchers need answers to the question of what research is needed for a greener road transport system.
- Industry wants answers to the question of what technologies could be available, in what delay? They also need to know what policy environment they are likely to be operating under in the long term.
- Policy makers have insights on their regulatory plans and the implementation agenda. They need researchers and industry to set timeframes for putting new technologies on the market.

**Tuesday 22 April 2008**

## Plenary Session 'Green and Smart Transport

**Speakers:**

- 1. Fotis Karamitsos**, Director for Logistics, Innovation, Co-modality & Maritime Transport, Directorate-General for Energy and Transport, EC
- 2. Andrés Siegler**, Director for Transport Research, Directorate-General for Research, EC
- 3. Ingemar Skogö**, Director General of the Swedish Road Administration
- 4. Iztok Seljak**, Vice President of Hidria Corporation, Slovenia
- 5. Liévin Quoidbach**, Vice President of NAVTEQ

European roads and cities face a permanent increase of freight and passenger transport fluxes. Meanwhile, the necessary infrastructure developments to cope with this increase is running up against important limitations linked to lack of space, congestion and environmental constraints. Intelligent Transport Systems and traffic management can contribute to a greener and smarter transport. For example, electronic fee collection systems are important instruments to implement road pricing or congestion pricing schemes based on time, distance, location, and vehicle type. Such intelligent transport systems lead to journey planning tools that enable passengers to make better use of alternative transport modes. Similar technological innovations in goods transport are helping to optimise the goods transport chain.

The plenary session on 'Green and Smart Transport' will gather representatives from industry and services, infrastructures and the European Commission, around the question of what further challenges research into clean technologies and intelligent transport systems must rise to meet, and how.

**Wednesday 23 April 2008**

## Plenary Session 'Traffic Safety

**Speakers:**

- 1. Kenneth Ducatel**, Member of the Cabinet of Viviane Reding, European Commissioner for the Information Society and Media
- 2. Jean-Yves Le Coz**, Director for Road Safety Policy and Director for "Safety" Advanced Projects, Renault Group
- 3. Hermann Meyer**, Chief Executive Officer of ERTICO and co-chair of eSafety Forum Steering Group
- 4. Bert Keijts**, Director General of Ministry of Transport, Public Works and Water Management, the Netherlands
- 5. Jean Lalo**, International Road Federation

With close to 50,000 road deaths each year, Europe cannot afford to be complacent about Traffic Safety. Can the EU halve the number of road victims in the coming decade with the technology at hand, and the technology currently being developed? If road safety is a shared responsibility, are all actors concerned taking sufficient action to address the changes we need in human behaviour, vehicle technology and infrastructure?

This plenary session will gather representatives from the automotive industry, suppliers, infrastructures, road users and the European Commission to address the key challenges in Traffic Safety, and draw up a roadmap of necessary actions for safer road transport in Europe.

# STRATEGIC SESSIONS

## European Trans-National Joint Research Collaboration

**3:1**

Road transport research plays a key role for mobility across Europe. Thus, the efficiency and optimisation of the various existing research programmes – national, European and international – is crucial. All potential measures have to be taken to better coordinate trans-national research collaboration in all research fields. This will prevent unnecessary duplication of transport research, improve its outcomes, and contribute to our ultimate goal: the development of sustainable transport systems all over Europe.

This session will demonstrate such research collaboration activities by presenting two relevant European Research Area Network (ERA-NET) activities COST (Co-operation in the field of Scientific and Technical Research) transport programme, and the International Transport Forum of the Organisation for Economic Cooperation and Development (OECD).

**Speakers:**

1. **Oliver Althoff**, Germany, ERA-Net Transport
2. **Martin Steward**, Highways Agency, UK, ERA-Net Road
3. **Thierry Goger**, COST Transport, COST Transport
4. **Steven Perkins**, International Transport Forum

## Challenges for Sustainable Mobility in Cities

**3:2**

Cities all over Europe are facing common challenges related to congestion, road safety, security, environmental pollution, noise, climate change due to CO<sub>2</sub> emissions, etc. These challenges cannot be solved easily at the local level alone. New joint solutions have to be developed by stakeholders acting together and by mobilising Europe's resources, including research and innovation. The session starts with an outline of the European Commission's policy approach to achieve a sustainable urban mobility in Europe in the framework of the Green Paper on Urban Mobility. Then, the other speakers will share their experiences on the actions they are implementing and speak about the support offered by research and innovation. Particular attention will be paid to the specific challenges faced by towns and cities in the new Member States.

**Speakers:**

1. **Marcel Rommerts**, EC, DG Energy and Transport
2. **Zdenka Šimonovič**, City of Ljubljana, City Administration, Office of International Relations, Head of the Office
3. **Mike McDonald**, University of Southampton, UK & ERTRAC Vice-Chairman
4. **Sylwia Klatka**, ConVoco, Poland
5. **Luisa Prista**, European Commission, DG Research

## Interactive Information Provision & Systems

**3:3**

The main focus of this session is on interactive information provision and systems supporting the development of a reliable and efficient road transport system. Their successful development and application could hold the key to solving many of our transportation problems, reducing health and environmental impacts, increasing economic efficiency and loss of lives on the roads.

The seamless integration of Nomadic Devices into vehicle's Human Machine Interfaces (HMI) is a key feature for eSafety. Driver distraction needs to be minimised, high customer value is expected if data can be exchanged between home, car and portable use. It is expected that users will carry their Nomadic Device into the vehicle; therefore, integration according to the European Statement of Principles will avoid unsafe use while driving. Nomadic Devices also enable much quicker market penetration for many services such as Real-time Traffic and Travel Information than relying on Original Equipment manufacturers equipment alone.

**Speakers:**

1. **Annie Pautzie**, INRETS, France
2. **Fritz Bolte**, BAST, Germany
3. **Michel Fond**, Orange, the Netherlands
4. **Henrik Önn**, Volvo Technology



5:1

## Specific New Member State and Candidate Countries Issues

### Speakers:

1. **Aleš Žnidarič**, ZAG Ljubljana, Slovenia
2. **Mojca Ravnikar Turk**, ZAG Ljubljana, Slovenia
3. **Tomasz Wierzbicki**, IBDiM, Poland
4. **Srečko Janša**, TrafficControl, Slovenia

With some minor exceptions, researchers from the New Member States, and non-EU European countries, have not participated much in European cooperative research. The main reasons are lack of experience financial constraints (difficulties in obtaining national co financing) and generally weak support of local societies for participating in European research projects. However, it is clear that research expertise exists in those countries and that the opportunities for addressing road sectors challenges are available.

This session will focus on promoting European research activities in these countries, discussing potential obstacles and possible ways to overcome them. It will also share the experience of four RTD projects from the EC Sixth Framework Programme TRA 2008 that are coordinated by the New Member State partners and are also dealing with issues specific to these emerging societies.

5:2

## Future Directions for Cleaner Road Transport and Advanced Fuels

### Speakers:

1. **Helmut List**, AVL List, Austria & ERTRAC Vice Chairman
2. **Wolfgang Steiger**, Volkswagen AG, Germany & ERTRAC Chairman
3. **Pierre Bonnel**, EC Joint Research Center Ispra, Italy
4. **Alfonso Alfonsi**, Laboratorio di Scienze della Cittadinanza, Italy

How can our society keep road transport sustainable and viable for the future? On the one hand regulation has to evolve to better guarantee cleaner and energy efficient vehicles, so that air quality targets are met, climate change is kept at acceptable levels, energy availability is guaranteed and, that all this happens at an affordable cost.

On the other hand, technology has to deliver innovations so that these targets are met, not only under test conditions but also in the hands of their customers.

This session will try to paint a picture of how future regulation will look, with an overview of current work on the subject by the Joint Research Centre of the European Commission, aimed in particular at ensuring that real life emissions do not deviate too far from mandated standards. The evolution of power-trains and of the fuels they will likely use will be surveyed, while the influence of advanced materials on weight, friction and other parameters affecting energy efficiency will be assessed. Finally, the interaction between the future transport system and the citizen will be analysed.

5:3

## Supporting Transport Policy through Innovation

### Speakers:

1. **Manfred Seitz**, Via Donau, Austria
2. **Reinhard Pfliegl**, Austria Tech, Austria
3. **Dean Herenda**, Ministry of Transport, Slovenia
4. **Julio Garcia Ramon**, City of Barcelona and POLIS President, Spain

The focus of this session will be on how innovation mechanisms and new technologies can better support transport policy. New technologies and concepts resulting from research activities are becoming available, and will considerably support transport policy. Better traffic monitoring tools are coming on-stream, based on floating car and mobile phone data. Electronic fee collection based on satellite technology makes it possible to better internalise external costs generated by road transport and to reduce demand. Traffic safety will be improved by the many in-vehicle driver assistance systems coming on the market and by eCall. Cooperative systems based on vehicle-to-vehicle and vehicle-to-infrastructure communications will drastically change the traffic management scene in the near future. The Intelligent Car Initiative is as an example of promoting innovation through consensus building.

9:1

## International Cooperation on Road Transport Research in Emerging Economies

### Speakers:

1. **Michael Nielsen**, General Delegate, International Road Union (IRU) Permanent Representation to the EU, Belgium
2. **Ousmane Thiam**, African Association of Public Transport & International Association of Public Transport, Senegal
3. **Kenny Kistan**, Council for Scientific and Industrial Research (CSIR), South-Africa
4. **Roger Deckers**, VDO Automotive AG Continental AG

The main focus of this session will be on cooperation in road transport research with emerging economies. Many emerging economies are catching up fast making investments, creating new jobs, and addressing previously unexplored transport issues. These economies can benefit by sharing lessons learned in road transport developments and how each economy has faced challenges in funding, institutional issues, and workforce. In this session, policy and private sector leaders discuss the role of transport technologies and developments in meeting their transport challenges.

## Integrated Transport Safety

9:2

The main focus of this session is to show how research and innovation can support traffic safety challenges. The integrated approach taken to solve safety problems includes all aspects from vehicles to infrastructures, and the interaction between them.

Traditional accident prevention has been focused on the driver's behaviour and the improvement of passive safety in the vehicle. These safety measures are cooperating hand in hand with new technologies that have the potential to assist in decreasing the number of accidents. Active safety devices are conceived to avoid an accident, using state of the art information technology within the car and also in communication with other cars or infrastructures.

Integrated transport safety involves an approach where active and passive safety measures, information and navigation technologies must play a significant role. Such an integrated approach must take into account the driver, the vehicle and the infrastructure.

### Speakers:

- 1. Christophe Nicodème**, Director General, European Road Federation (ERF)
- 2. Rigobert Opitz**, Bernard Ingenieure ZT GmbH, Germany
- 3. Mathias Schulze**, Daimler AG, Germany
- 4. Luisa Andreone**, Centro Ricerche Fiat S.C.p.A.-CRF, Italy

## Road Pricing and Tolling

9:3

While different forms of tolls have been used to finance road infrastructure as a supplement to scarce government resources throughout Europe and the US, the application of congestion charging in Europe is still very rare.

There are good reasons why countries are considering both tolls and congestion pricing to solve the problems of the road sector: (i) seeking alternative financial measures to sustain road transport, and (ii) tremendous amount of traffic growth in cities, leading to costly congestion. Tolls and congestion pricing are generally directed towards solving these problems.

This session will address issues concerning the different charging regimes. The various pricing measures will be explored from a policy point of view by representatives from the World Bank and from the OECD. In addition, equity issues, which often are regarded as one of the main obstacles to achieving public acceptance of road pricing proposals, are illustrated through recent experiences from the Stockholm congestion charging scheme.

### Speakers:

- 1. Stephen Perkins**, Joint Transport Research Centre of the OECD and the International Transport Forum
- 2. Cesar Queiroz**, World Bank
- 3. Jonas Eliasson**, Royal Institute of Technology, Stockholm

# MEETINGS, WORKSHOPS AND SATELLITE SYMPOSIUMS

**During the TRA 2008 the following meetings, workshops and satellite symposiums will take place.**

Meetings of bodies:	Meetings of projects co-financed by EC:	Other events:
<ul style="list-style-type: none"> <li>• Governing Board of CEDR Directors</li> <li>• General Assembly FEHRL Directors</li> <li>• General Assembly of IRF</li> </ul>	<ul style="list-style-type: none"> <li>• HyHeels</li> <li>• Inquest</li> <li>• Ilhypos</li> <li>• Ulysess</li> <li>• TOP EXPERT</li> <li>• PAGODE</li> <li>• City Mobil</li> <li>• YEAR</li> <li>• Spens and Mobidays</li> <li>• others</li> </ul>	<ul style="list-style-type: none"> <li>• Long Life Pavements</li> <li>• COST 351 - Water Movement in Road Pavements and Embankments (WATMOVE)</li> <li>• COST 354 - Performance Indicators for Road Pavements</li> <li>• The 2<sup>nd</sup> International Symposium on Non-Destructive Testing for Design Evaluation and Construction Inspection SHRP2/FEHRL</li> </ul>

**The course of events will be between 21 until 25 April. The detailed schedule will be announced in the Final Programme in April 2008.**

# TECHNICAL VISITS

## 2. TRAFFIC SURVEILLANCE AND OPERATION CENTRE ON THE MOTORWAY VRANSKO-BLAGOVICA

22 April 2008 from 17:00 until 20:00

## 3. PARTICULARITIES OF MOTORWAY CONSTRUCTION IN THE KARST REGION AND THE UNDERGROUND TREASURES OF POSTOJNA CAVE

24 April 2008 from 14:30 until 19:30

## 1. CONSTRUCTION OF THE ŠENTVID TUNNEL

22 April 2008 from 17:00 until 20:00

## 4. UNIQUE TECHNIQUE AND UNIQUE CULTURE (HEAVY VEHICLE SIMULATOR)

25 April 2008 from 09:00 until 20:00

# OTHER EVENTS

## Cultural Event and Welcome Reception

Congress Centre Cankarjev dom  
Monday, 21 April 2008  
from 20:00 to 22:30

## Gala Dinner

Ljubljana Exhibition and Convention Centre  
Wednesday, 23 April 2008  
from 20:00 to 23:00

## Opening Session

Congress Centre Cankarjev dom  
Monday, 21 April 2008  
from 12:00 to 13:30

## Closing Session

Congress Centre Cankarjev dom  
Thursday, 24 April 2008  
from 12:30 to 13:30

## Registration

All delegates, authors, committee members, students, exhibitors and accompanying persons are kindly invited to register. Registration through the On-line Registration Form is recommended.

## Transfers

The special rate transfers will only be organised from and to Ljubljana airport on the dates of arrival 20 April and 21 April 2008 and on the dates of departure 24 April and 25 April 2008.

## Accommodation

Although the accommodation booking ended on 22 February 2008, we will do our utmost to procure the best service for you at our special rate hotels to make your accommodation in Slovenia more comfortable. We will be pleased to help you find the best option for your stay in our country. Some of our special rate hotels are still available on the TRA online registration.

For Conference registration, accommodation booking and transfer reservation please use the On-line Registration Form at:

<http://www.tra2008.si/Portals/0/HTML-ji/TRA-registration.html>

You may also contact us by e-mail:

[registration@cd-cc.si](mailto:registration@cd-cc.si)

or by

tel.: +38612417136

and

fax: +38612417296.

# EXHIBITORS AND SPONSORS

Exhibitors and sponsors are welcome to join to the TRA conference. There are still an opportunity to book exhibition space and apply as a sponsor through the on-line registration form at

<http://www.tra2008.si/ExhibitorsSponsors/ONLINEREGISTRATION/tabid/100/Default.aspx>

For more information about exhibition possibilities, please contact:

**Cankarjev dom, Cultural and Congress Centre**

Prešernova cesta 10

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E-mail: [mateja.peric@cd-cc.si](mailto:mateja.peric@cd-cc.si)

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# Platinum sponsors



**Renault Revoz d.d. is the only car manufacturer in Slovenia and has been the Slovenian exporter number one for many years, currently producing the new Twingo and Renault Clio II.**

[www.renault.com](http://www.renault.com)

[www.revoz.si](http://www.revoz.si)



## **Renault is proud to be the Platinum Sponsor of the Transport Research Arena Europe Conference 2008 in Ljubljana.**

The President and CEO Carlos Ghosn announced a growth plan for Renault on 9 February 2006. Renault Commitment 2009 includes environmental commitments, notably on selling vehicles with low CO<sub>2</sub> emissions and the double biofuel offering.

### **Rank top-three worldwide on lowest CO<sub>2</sub> emissions**

- 2006: 785,000 vehicles sold emitting less than 140 g/km of CO<sub>2</sub>, of which 294,000 emitting less than 120 g/km
- 2008 objective: sell one million vehicles emitting less than 140 g/km of CO<sub>2</sub>, of which one third emitting less than 120 g/km

Renault is going even further with **Renault eco<sup>2</sup>**. It has made a commitment to the vehicle life cycle with the results it has already achieved today (- 140 g/km of CO<sub>2</sub>, ISO 14001-certified production sites, 5% of recycled plastic and a double biofuel offering) and by meeting the objectives in Renault Commitment 2009.

These concrete achievements are the result of an environmental policy implemented by Renault in 1995.

### **Market a range of vehicles running on biofuel**

#### **2009 objective:**

- 50% of our petrol vehicles able to run on ethanol
- M0gane E85 launched in spring 2007
- All our diesel engines able to run on 30% biodiesel
- Master and Trafic B30 launched in France at end-2006

### **Prepare a range of alternative technologies**

- Objective:
- Electric
  - Fuel cell
  - Petrol hybrid

# VOLKSWAGEN

AKTIENGESELLSCHAFT



**As Europe's biggest carmaker, Volkswagen attracts an exceptional amount of public attention. Policy makers, the public at large and, ultimately, our customers expect us to provide products that will continue to enable individual mobility now and in future. We are happy to use the opportunity afforded by this year's TRA to demonstrate what it is that motivates us in this challenge.**

Because economic, technical and social framework conditions, trends in society and the ensuing customer demands are all

subject to change, it is essential that we keep our vehicles and mobility systems under constant development. Environmental conservation and the conservation of resources also play a key role in shaping our endeavours. All these aspects need to be converged and judiciously balanced to produce a sustainable system. Sustainability is achieved by weighing up ecological needs against economic necessity while also giving due consideration to sociological factors, and then finding the right balance.

The work to develop new mobility systems revolves around using highly efficient powertrains and new alternative sources of energy. This focus is a critical one in the effort to devise solutions to foreseeable global energy problems caused by dramatic growth in the demand for energy by emerging nations such as China and India as well as stagnating or even marginally increasing demands in industri-

alised nations coupled with a declining output of inexpensive crude oils. This situation makes it imperative to tap new sources of energy, most notably renewable forms of energy. What is needed is the diversification of primary energies but not of those sources of energy used to drive mobility.

The outlined framework conditions give rise to three concrete fields of action in the development of future powertrain concepts:

- The systematic further enhancement of powertrain efficiency
- The incorporation of alternative sources of energy for fuel production
- The development of carbon-neutral paths to vehicle operation

The Volkswagen Fuel and Powertrain Strategy sets out the answers to these challenges.

# Golden sponsors



**AVL is the world's largest privately owned and independent company developing IC engine powertrains plus the associated instrumentation and test systems.**

AVL develops and improves all kinds of powertrain systems incl. alternative and hybrid systems and is a competent partner to the engine and automotive industry.

In addition AVL develops and markets all simulation methods and easy-to-use software tools which are necessary for the

development work. AVL's unique power derives from the systematic netting of single simulation results to integrated, multidimensional simulation platforms on the basis of AVL's deep engineering expertise.

The products of the business area 'Engine Instrumentation and Test Systems' comprise all the instruments and systems required for engine and vehicle testing.



**Hidria is a global, innovative corporation which uses its rich experience from the past to create state-of-the-art products for the future.**

Continuous growth and higher competitiveness are based on intensive investments in corporation's own development, researches and creation of innovative high-technology solutions. Hidria's business success is based on team work by a group of creative and motivated employees who use their knowledge and skills to create innovative solutions in automotive, HVAC and power tool industry. In cooperation with our customers all over the world we strive to provide quality and reliable solutions resulting in long-term

business partnerships. We are fully aware of our responsibility for the future generations therefore we manufacture environment-friendly products according to principles of high social responsibility, and invest in development of local communities where our companies operate.

Hidria is among top 5 leading manufacturers of laminations for electric motors in the world, among 4 largest world manufacturers of glow plugs for diesel engines and among 4 largest European manufacturers of system solutions for heating, ventilation and air-conditioning of large buildings. Hidria is also the second largest European manufacturer of electric motors for semi-hermetic compressors.

# Silver sponsors



## OMV Aktiengesellschaft

With Group sales of EUR 20.04 bn and a workforce of 33,665 employees in 2007, as well as market capitalization of approx. EUR 15 bn, OMV Aktiengesellschaft is Austria's largest listed industrial company. As the leading oil and gas group in Central Europe, OMV is active in Refining and Marketing (R&M) in 13 countries. In Exploration and

Production (E&P) OMV is active in 21 countries on five continents. OMV sells more than 13 bcm gas a year. OMV's Austrian gas hub Baumgarten annually transports approximately 52 bcm of gas. OMV's Central European Gas Hub is amongst the three largest hubs in Europe.

OMV is the largest oil and gas group in Central Europe, with oil and gas reserves of approx. 1.22 bn boe, daily production of around 321,000 boe and an annual refining capacity of 26.4 mn t. OMV now has over 2,538 filling stations in 13 countries. The market share of the group in the R&M business segment in the Danube Region is now 20%.

OMV further strengthened its leading position in the European growth belt through the acquisition of 39.99% of Petrol Ofisi, Turkey's leading company in the retail and commercial business.

In June 2006, OMV has established the OMV

Future Energy Fund, a wholly owned subsidiary to support projects in renewable energy with more than EUR 100 mn to initiate the change from a pure oil and gas group to an energy group with renewable energy in its portfolio.

## OMV: Corporate Social Responsibility (CSR)

OMV is actively committed to the values enshrined in its Code of Conduct. These include a strong sense of responsibility towards the social and natural environment in economically weak regions. OMV works hard to address economic, environmental and social issues related to its operations. Its CSR activities are fully documented in biannual performance reports compiled according to Global Reporting Initiative guidelines.

# DARS

LinkingSlovenia

## Motorway Company in the Republic of Slovenia (DARS)

Motorway Company in the Republic of Slovenia (DARS) is a joint-stock company with more than 1.100 employees. Business operations of DARS are divided into two parts regulated by contracts concluded between DARS and the Republic of Slovenia: businesses in the role of the agent of the Republic of Slovenia for the construction and maintenance of motorways, financial engineering and other tasks in accordance with the National Motorway Construction Programme in the Republic of Slovenia and businesses in the role of a concessionaire for the management and maintenance of motorways.



DDC Consulting & Engineering Ltd.

DDC Consulting & Engineering Ltd. is the largest engineering and consulting company in Slovenia, which for various public and private clients performs comprehensive service, enables organising and managing of the whole investment from preparation, designing and construction to maintenance and management of all types of infrastructural projects.

We provide consulting and engineering services for the most demanding infrastructural projects at domestic and foreign markets, such as: road transport infrastructure, border crossings, railways, public utility and water infrastructure,

buildings, designing, revisions and reviews of designs.

A whole range of consulting and engineering services is rounded up by specialised consulting and research activities, such as various types of studies, research projects, assessments, analysis

We are proud that with our activities we importantly contribute to the realisation of major projects, we successfully participate in creating our environment and enable a more comfortable, safer, and more qualitative life to all of us.



## Slovenian National Building and Civil Engineering Institute

ZAG Ljubljana (Slovenian National Building and Civil Engineering Institute) is Slovenia's leading independent, impartial and non-profit organisation, working as governmental research and testing institute in the area of building and civil engineering. It is also certified as an approval body for testing and attestation of conformity of construction products. Its activities include fundamental and applied research in the fields of materials and structures; pre-

competitive development of new materials; development of new methods of testing and monitoring; tests, measurements and monitoring of structures; research, measurements and monitoring in the field of the efficient use of energy and renewables; engineering tests and analyses; training of researchers, as well as participation in the preparation of technical codes and standards.

## World Highways - Media partner for the TRA 2008 Conference

World Highways magazine is an International magazine published 10 times per year and dedicated to all aspects of road infrastructure worldwide, from the planning, construction and maintenance of highways to tolling, safety and traffic management systems. Its unique ties with the International Road Federation (IRF) help provide links to the most accurate, up-to-the-minute information available. For further information please visit our website at <http://www.worldhighways.com>



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