On behalf of the Conference of European Directors for Roads (CEDR), of the European Road Transport Research Advisory Council (ERTRAC), of the European Rail Research Advisory Council (ERRAC) and of the European Technology Platform Waterborne (Waterborne TP), it is our great pleasure to invite you to the fourth Transport Research Arena, TRA 2012, which will take place in Athens, Greece, from 23 – 26 April 2012.

TRA 2012 will for the first time, deal extensively with all surface transport modes: road, rail and waterborne, and underline interlinks between them.

This conference will bring together representatives of the surface transport modes from industry, public authorities (national and local) and from the research providers.

The main theme for TRA 2012 in Athens is Sustainable mobility through innovation.

The main objective of the TRA 2012 is to contribute to innovation in sustainable mobility for Europe, by bringing together all the stakeholders of the transport system. The TRA gives the opportunity to the road, rail and maritime sectors to address common challenges and share knowledge in order to deliver together a greener, safer and smarter transport system. In pursuing its objective of sustainable mobility for Europe, the TRA enhances the global competitiveness of the European Union, by promoting the three aspects of the knowledge triangle: Research – Education – Innovation.

TRA 2012 will cover a wide spectrum of research and innovation activities. These will range from basic sciences to application-oriented engineering and represent social, technical and economic aspects, as well as policy and standards. The TRA will also address demonstration activities.

TRA 2012 will continue its tradition and hold an early-stage research student competition with the goal of stimulating the interest among young researchers in the conference.

The TRA 2012 program will be organised into six pillars built around the European research and innovation strategies while emphasising on the issues of climate change, CO2 reduction, fuel efficiency and supply.

Innovation in transport in Europe requires a multi-stakeholder and multi-disciplinary approach and so we invite you to share in and contribute towards this great challenge for a sustainable future in transport that lies ahead of us. We do sincerely hope you will join us at this innovative and exceptional event and share the information at your disposal. It will, as always, be the perfect opportunity to discuss the future of transport in Europe with all the stakeholders concerned.

We very much look forward to seeing you in Athens in April 2012.
The Transport Research Arena (TRA) Conference is an excellent initiative of its organizing stakeholders, (CEDR, ERTRAC, ERRAC, WATERBORNE and EU) for the promotion of research in the Transport Sector in Europe. Transport is one of the pillars of economic and social development; research certainly the vehicle to improve the international competitiveness of Europe. Therefore, research in Transport is both a necessity and a target per se.

Greece is fortunate to be the hosting country of the TRA 2012 Conference. in the current period of uncertainty, resulting from the international financial crisis, the successful implementation of this Conference in our country will prove that challenges can be met even under such difficulties.

Having organized the successful 2004 Olympic Games in Athens but also anticipating the dimensions and requirements of this Conference, my collaborators at the Ministry of Infrastructure, Transport and Networks and myself feel quite confident that the final outcome will be nothing short of what is expected: a meeting point, bringing together once again academia and industry from Europe and the rest of the world to present research (theoretical and applied) on pressing problems of the transport sector and, in a broader sense, of everyday life and society in general.

I am sure that the TRA 2012 Conference will be the next big event in the Transport research sector in Europe. Therefore the participation of all Transport related scientists, practitioners, companies and institutions is a must.

As the Chair of the Management Committee for TRA 2012, I would like to extend an invitation to the international transport community for our conference in Athens in April 2012. Our team is proud to be in charge of such an important event in the sector of transportation and we look forward to its successful organization and implementation, keeping the same high standards of previously held TRA conferences.

TRA 2012 is an initiative of European origin that aims at highlighting and showcasing international research in transport-related areas. TRA 2012 has engaged world-known academics and practitioners from the area of Transport in order to man its scientific and management committees. It will offer a great opportunity to international researchers to present their work – whether theoretical or applied – after a peer-reviewed selection process and get feedback from some of the best people in their field.

TRA 2012 will enable researchers and transportation practitioners from around the globe to get together and exchange ideas and thoughts on some of the most pressing problems that the Transport sector is facing in our times.

TRA 2012 will facilitate the interaction between researchers and industry representatives; it will provide an opportunity for the private sector to partner/cooperate with leading researchers in practical applications and/or breakthrough solutions in the field of transportation.

TRA 2012 is also an excellent opportunity for a combination of business with a recreation break in Athens and the nearby Greek islands. In such difficult times for the world community, progress can and will always be sought after through research and the finding of solutions that increase the quality of life in our societies. Towards this greater goal, we aim to provide our services through the successful organization and implementation of TRA 2012.

We hope to see you here in Athens in 2012,
Conference Objectives

The transport sector plays a growing and catalytic role in a rapidly changing world where economic, political, social, and environmental objectives have to be met in order to ensure a consistently high level of welfare for society. Both in Europe and all over the world, transport affects our day-to-day life in many different ways. Our decisions are often influenced by the availability or the lack of transport alternatives and our travel behaviour depends on many inter-related factors. There are many different aspects to the complex world of transport: transport infrastructure, vehicles and vessels, and the environment, to name but a few. All of these aspects have been the subject of extensive studies and research conducted by universities, research institutes, practitioners, and authorities in a variety of different disciplines. However, there is still a lot to explore and learn.

The Transport Research Arena (TRA) 2012, which is due to be held in Athens in 2012, serves exactly this purpose, namely to enable the exchange of knowledge among those who play an active role in the transport sector and to promote the dissemination of research findings, best practice, and application techniques that have been successfully implemented in some parts of the world. At the same time, it provides experts from different disciplines with a forum for creative discussions about the future of transport at a location where Greek philosophers debated the burning issues of the day some 25 centuries ago.

TRA 2012 will focus on all aspects of all surface transport modes with the exception of overseas shipping. It is supported by the main transport industry stakeholders in Europe: the Conference of European Directors of Roads (CEDR), the European Commission (EC), the European Road Transport Research Advisory Council (ERTRAC), the European Rail Research Advisory Council (ERMAC), and the European Technology Platform Waterborne (WATERBORNE). TRA 2012 seeks to reflect the multidisciplinary nature of the transport sector and, for this reason, addresses all stakeholders in both the public and private sectors and all professionals, regardless of their roles (researchers, practitioners, designers, constructors, operators, administrators etc.). The main theme of TRA 2012 is Sustainable mobility through innovation.

To achieve its goals, TRA 2012 is organised into 5 different session types:

- plenary sessions, where keynote speeches will address some of the most important issues in the transport sector and the transport sector’s role in future society;
- strategic sessions, where experts and well-known scientists from different fields will speak about many of the most topical transport issues;
- technical sessions, where experts will address one or more of the technical topics chosen for this conference;
- poster sessions, where experts will present on posters one or more of the topics chosen for this conference; and
- special workshop sessions, where issues of special interest in the transport sector are promoted.

Furthermore, TRA 2012 will repeat the successful young researchers’ competition, the well-known YEAR (Young European Area of Research). The purpose of this competition is to motivate and encourage young researchers from all European states by providing them a European platform for their ideas and research work for the benefit of greener, safer, and smarter surface transport for Europe.

Call for Abstracts / Papers

The Transport Research Arena (TRA) 2012 gives all those involved in any surface transport mode the opportunity to present their work and their vision of greener, safer, and smarter surface transport for Europe and for the rest of the world.

The TRA 2012 Programme Committee has the pleasure of inviting you to submit for consideration abstracts for oral or poster presentations at the TRA conference, which will be held in Athens, Greece, from 23–26 April 2012. Abstracts should relate to one of the conference topics, which are grouped into 6 pillars that cover all areas of surface transport. Abstracts should be submitted in electronic form by registered users through the website www.traconference.eu. Please consult this website for detailed instructions on the submission procedure. Abstracts should be no more than 300 words in length and must be submitted by midnight on 15 April 2011.

The submitted abstracts will be evaluated by the members of the Programme Committee and by additional experts and professionals of international calibre invited to assist the committee. All abstracts will be evaluated by at least two reviewers. The authors of the best abstracts will be invited to submit full papers, which will then be presented at the conference’s oral or poster sessions and be included in the CD of conference proceedings.

Moreover, all full papers will be considered for publication in one or more well-known international journals. The authors of the conference’s top papers will be invited to submit their papers in the right format for publication in these journals. The exact procedure will be announced in due time.

The conference topics, which have been grouped into six main pillars, are as follows:
> Conference Topics <

**Important Dates to remember**

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<tr>
<th>TASK</th>
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<tr>
<td>Submission of abstracts (Max 300 words)</td>
<td>15 April 2011</td>
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<tr>
<td>Decision on Abstracts / Invitation to prepare paper</td>
<td>15 June 2011</td>
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<tr>
<td>Submission of full papers</td>
<td>15 September 2011</td>
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<tr>
<td>Decision on full papers</td>
<td>20 November 2011</td>
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<tr>
<td>Submission of final papers</td>
<td>15 January 2012</td>
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**YEAR 2012**

The Young European Arena of Research is a competition for early-stage researchers who are doing research in the area of all surface transport modes: road, rail and waterborne. The competition gives the researchers an opportunity to showcase their work to experts within the field, both on the internet and, for the finalists, at the Transport Research Arena conference in Athens in April 2012. Detailed information will be presented on the website in the near future.

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**List of Topics**

**PILLAR I: Governance of the transport system**
- Robustness and resilience in transport systems
- Liberalisation of transport markets
- Transport policy and economics
- Demand management
- Users' needs and expectations
- Customer satisfaction
- Transport infrastructure and systems financing
- Transport infrastructure procurement and legal issues
- Standardization in transport
- Strengthening competitiveness in transport
- International harmonisation of transport

**PILLAR II: Transport, mobility and infrastructure**
- Transport infrastructure management and operation
- Transportation planning and modelling
- Traffic modelling and simulation
- Urban public transport systems
- Long distance passenger transport
- Accessibility in transport
- Traffic management
- Mobility management
- Pedestrian modelling and simulation
- Pedestrian and cycle path facilities and provisions
- Inland facilities and provisions to environmental friendly modes
- Long distance freight transport
- Urban freight transport
- Maritime transport
- Inland waterways transport
- Automation in transport systems
- Cooperative systems I
- Inland waterways infrastructure

**PILLAR III: Safety and security**
- Integrated safety and security for surface transport systems
- Safety assessment
- Vulnerable road users' safety
- Incidence Management
- Emergency management
- Crashworthiness
- Self explaining and forgiving roads
- Safety and security in maritime and inland transport
- Railway safety and security
- Tunnel safety and security
- Traffic Law Enforcement Cross border enforcement
- Vehicle-Driver Interaction
- Cooperative systems II

**PILLAR IV: Energy, environment and resources**
- Integrated transport and land use planning
- Landscape and environment design
- Energy harvesting
- Energy efficient asset management
- Electromobility for road transport
- Electromobility for waterborne transport
- Advanced propulsion systems
- Noise mitigation
- Air quality
- Water quality
- Alternative fuels for transport
- Climate change mitigation

**PILLAR V: Design and production**

(vehicles, vessels and infrastructure)
- Pavement construction and management
- Bridge and tunnel design and construction
- Construction management for transport infrastructure
- Railway design, construction and maintenance
- Reliability and robustness of the infrastructure
- Electric vehicles
- Infrastructure for electrified transport
- Advanced vehicle technology and high speed rail
- Advanced maritime vessel technology
- Advanced vessel and marine tracking solutions
- Advanced inland navigation vessels
- Advanced road vehicle technology
- Design and manufacturing for advanced vehicles
- Adaptation to climate change
- Intelligent road infrastructure
- Certification aspects in transportation
- Control centre technology
- Advanced monitoring techniques
- Improved maintenance techniques

**PILLAR VI: Complementarities of transport modes**
- Socio-economics issues in multi modal transport
- Intelligent Transport Systems
- Travel behaviour and cultural aspects
- New transport and mobility concepts and services
- Logistics and intermodal transport
- Interoperability in Transport Systems
- Multimodal corridors
- Sea / Inland ports and terminals
List of Committees

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Mr. Michael Papapanteli, Administration office, GGDE / YPOMED (Greece)
> Welcome to Athens <

Athens, the capital city of Greece and one of the world’s oldest cities (3,400 years old) offers a variety of things to see and do, and most of the times, under favorable weather conditions. Athens is considered one of Europe’s safest capitals; its transportation network is user-friendly; there are numerous museums and archaeological sites and hundreds of restaurants to satisfy every taste. Surrounded by a line of stunning seas and mountains, Athens is filled with gems just waiting to be discovered. Located at the crossroads of three continents, Athens with an overall population of close to four million has often been the hub of many cultures. Characterized by a culture and people that are welcoming and hospitable, every visitor just feels at home.


The TRA 2012 conference is held from Monday, April 23rd till Thursday, April 26th at the newly opened Megaron Athens International Conference Centre (Megaron AICC) just at the foot of the well-known Lycabettus Hill of Athens and 2 km away from the heart of the city (2 metro stops). The Megaron AICC address is Vasileos Sofias Avenue & Sokklai Street, 11521 Athens, Greece, tel: +302107292000; fax: +302107292074; e-mail: maice@megaron.gr.

The Megaron AICC (http://www.megaron.gr), which is one of the finest and most technologically advanced conference venues in Europe is an integral part of the Athens Concert Hall (Megaron: Moussakis), whose facilities have been globally applauded since its opening in 1991. The Megaron AICC with 2 large and 5 smaller conference rooms (in total 18 meeting rooms) offers a stunning environment, exceptional aesthetics, cutting edge technology and unrivalled client service. It also has a 2,000 m² expo hall and a foyer of 12,000 m². In addition the Megaron AICC has an exterior atrium space of 1,500 m² and an underground parking for 750 vehicles. It is well accessible by Public Transport: Metro line 3 (Megaron Station), bus lines (25, E6, E7, E14, X4, X95, 550, 601, 603) and trolley bus lines (3, 7, 8, 10, 13).

Conference Social Programme

TRA 2012 is coupled by an ambitious social programme addressed to both conference participants and their accompanying persons who will be invited to attend several social events, including attractive technical tours and sightseeing programmes. Visits to Acropolis and the Acropolis Museum, the unique of its kind, will be available during and after the conference event. Social events will include a welcome reception and formal exhibition opening, a themed evening and a gala dinner. In addition participants and their accompanying persons will be able to extend their stay in Greece for a small relaxing break in Athens or in any other place they choose.

The Exhibition

Potential sponsors and exhibitors are invited to join TRA 2012 and contribute to its success. Different opportunities and options will be available and will be published in the near future. Moreover exhibitors and sponsors will have the chance to organise their own satellite symposiums, workshops, social and/or technical events.

Where to stay

Athens has over 140 hotels with a total capacity of approximately 15,000 hotel rooms in different categories. Some 24 large and smaller hotels are situated nearby the Megaron Athens International Conference Centre, at a distance up to 2 km with a total capacity of 3,600 rooms. The conference organisers will arrange an accommodation reservation service.

Further news

For updated news, please consult on a regular basis the conference website: www.traconference.eu. It is expected that the final invitation brochure and registration form will be published by mid March 2011.

Registration

Information about registration (cost, date for early registration, student discount and technical tours / sightseeing) will be published in the near future.
23-26 April, 2012, Athens - Greece

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