



8th International Congress on Transportation Research

ICTR 2017

The Future of Transportation: A Vision for 2030
September 27-29, 2017 - Thessaloniki, Greece



Final Congress Programme

Under the Auspices of H.E. the President of the Hellenic Republic Mr. Prokopios Pavlopoulos

Organized by:



HELLENIC
INSTITUTE
OF TRANSPORT



HELLENIC INSTITUTE
OF TRANSPORTATION
ENGINEERS

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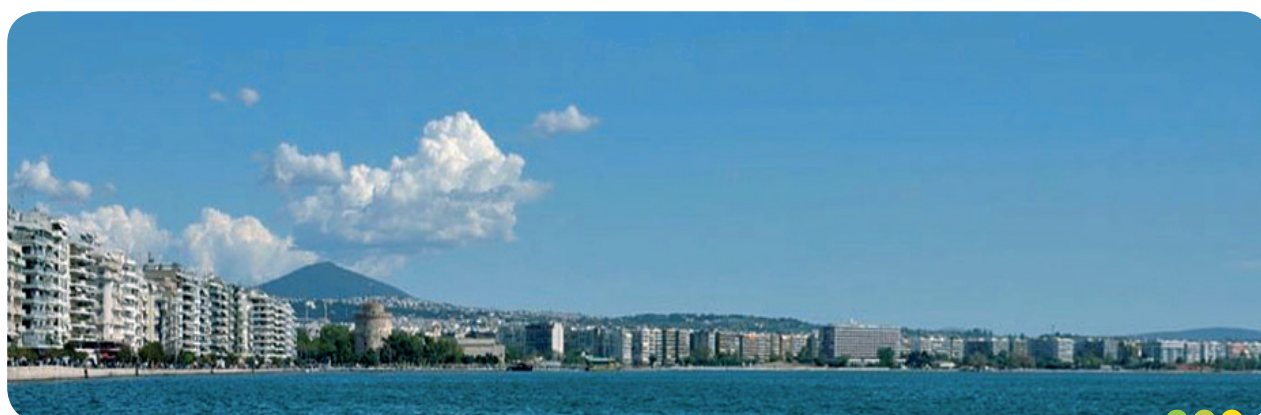
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ΠΡΑΚΤΟΡΕΙΟ ΕΙΔΗΣΕΩΝ



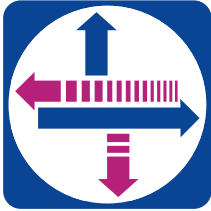
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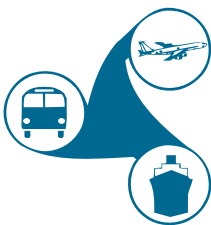


About the Organizers



www.hit.certh.gr

The Hellenic Institute of Transport (HIT) of the Center for Research and Technology Hellas (CERTH) is a highly accredited research institution that is considered to be a source of innovation and entrepreneurship in field of transport in Europe. Since its establishment in 2000, HIT has evolved towards becoming the leading research institution in Greece. Identified as a center of excellence, it offers specialized research and technical services and cooperates with local private and public bodies as well as a large number of other institutions in Europe and throughout the world.



www.ses.gr

The Hellenic Institute of Transportation Engineers (HITE) was founded in 1976 and is renowned as an expert counterpart for supporting decision making processes in transport sector.

The institute aims at promotion of scientific and technological knowledge in the field of transportation through seminars, conferences and roundtables. It widely supports research in the domain of transportation at national level by collaborating with public and private organizations as well as establishes and disseminates technical standards for study, realization and management of projects related to passenger and cargo transportation.

Dear all,

It is an honour to welcome you in the 8th International Congress on Transportation Research (ICTR)!

The conference is organized by the Hellenic Institute of Transportation Engineers and the Hellenic Institute of Transport, under the Auspices of H.E. the President of the Hellenic Republic Mr. Prokopios Pavlopoulos, with the active support of the Ministry of Infrastructure and Transportation and the Municipality of Thessaloniki, under the umbrella of major European Research Networks: ECTRI, ERTICO, EURNEX, FEHRL, HUMANIST and WEGEMT.

Having generous sponsorships from many industrial and research organizations (HELASTRON, SWARCO, HELLENIC INSTITUTE OF TRANSPORT, HELLENIC PETROLEUM, MLS) and a great number of media sponsors (ERT3, AMNA-NEWS, TV100, VERGINA), we aim to provide a great organization for all of you!

ICTR is committed to present all recent achievements on Transportation Research including emerging topics and forthcoming challenges in the era of “changing the way we move”! ICTR provides a very unique opportunity for all of us to meet **“The Future of Transportation: A Vision for 2030”**.

I am very pleased to see this conference steadily developing over the years, starting back in 2002 with almost 50 papers and reaching more than 150 papers this year! Your strong support and active participation have made the 8th ICTR a record-breaking event. We have exceeded the total number of papers ever presented in previous ICTR conferences and the total number of people ever registered. Moreover, this year we have the largest involvement of foreign speakers and well known international scientists as authors!

As we continue to grow, we always try to remain adaptable, open to new ideas and responsive to this event’s organization! The quality of the technical program is world-class, and the range of topics is broad enough to meet all transport related emerging “hot” topics.



The world of Transportation Research is an exciting world, full of challenges and chances to study and develop cutting edge technologies and systems. This Conference opens the gates to these opportunities, bringing together inspired people, distinguished professors and professionals, exceptional students and industry colleagues, to present their work, achievements and vision.

This year, we have two esteemed and distinguished experts in transportation research as honoured guests, Dr. D. Theologitis from DG Move of the European Commission and Dr. B. Peters from VTI, to share with us, based on their lifelong achievements, today’s vision of tomorrow!

We aim to keep striving on developing scientific excellence!

Prepare yourself to be excited and inspired! Welcome to the 8th ICTR!

Evangelos Bekiaris

CERTH/HIT Director
Congress Organising Committee Chairman

Welcome Letters



Transport sector in the digital era relies more and more on high end transport research. The Europeans are expecting more and more integrated and cost affordable services in all transport modes and the European transport industry strives to evolve to more **novel and competitive technological products and services**, whereas. But

which are the contemporary key challenges for transport research in Greece, in Europe and worldwide?

Undeniably, autonomous vehicles traffic is a major challenge which will transform road traffic forever and major investments are dedicated on related research worldwide. Ensuring the combination of **safe, efficient and green autonomous vehicles' traffic** is a key challenge without a single answer. The interface of autonomous vehicles with the non-motorized and vulnerable road users (pedestrians, cyclists, motorcyclists), the tricky long transition phase with mixed traffic of autonomous and non-autonomous vehicles and the battery efficiency challenges are some of the key research priorities worldwide.

In parallel to autonomous vehicles research, special focus is lately given to research on **flying vehicles** (Vertically Taking off and Landing Vehicles -VTOLs) adding the vertical dimension at the current road traffic with tremendous repercussions on the efficiency, the safety, and the environmental benefits and implications. European and global research aim to bringing closer road and air traffic with technically sound and gradually affordable for all solutions.

Special emphasis is also put on research for novel and innovative materials to be used in all transport modes, tailored also for extreme conditions and environments. Lighter and more resistant vehicles, trains, vessels and aircrafts is a key challenge with major repercussions on the new energy, environmental and safety footprint of the of the future transport means. Nanostructured coatings and thin films, functionally graded materials light high-performance composites and green cars are key priority research

areas expected to transform the overall performance of the transport systems of the future.

However, the greatest contemporary challenge might be **the integration of transport systems into high performing, seamless and user oriented transport services**. During the last decade, European research has contributed a lot on the transport services integration, however, the new digital era brings great opportunities to integrate services between all transport modes but also with all other society and economy services (health, energy, the environment, education, etc), from which the transport user can greatly benefit. Services integration for urban and interurban mobility, for intermodal transfers, for multi-modal operations, for integrated logistics can benefit greatly from the new data wealth available and upgrade significantly the performance of transport systems in Europe and worldwide.

The benefits from transport research are however optimized only through close and **efficient cooperation between Research Organisations, the Industry and the Society**. The Industry and the Society should exploit the research expertise and results and the Research Organisations should listen and adjust to the Industry and Society needs. The US Industry and Society give a high value on research with major investments bringing back major benefits both to the economy competitiveness and the quality of life. Europeans strive to cope with not negligible - but not always sufficient - investments, from both the public and private sectors, whereas in Greece much more effort is needed for investments and closer cooperation between researchers, the industry and the public sector.

The 8th International Conference on Transport Research with theme: **The Future of Transport - a Vision for 2030** taking place in Thessaloniki in September 2017 is a great opportunity to bring together Researchers, Authorities, Industry and all Transport Stakeholders to witness the great potential of Greek Researchers and discuss the future of transport research and its contribution to Greek, European and Global society.

George Yannidis

Professor, National Technical University of Athens
Congress Scientific Committee Chairman

Dear Colleagues,

Transportation of both people and goods will change radically in the years to come. Emerging technologies, innovative services and alternative fuels will be major drivers towards shaping the transportation paradigm of the times yet to come. Issues such as congestion, demand management, environmental protection, transportation costs and energy usage are expected to be treated in a whole new context, largely based on information and communication technologies and the concepts of sustainable mobility and transportation. Transportation professionals and the academic community will be pioneers in forming this rising new area in transportation.

The Hellenic Institute of Transportation Engineers (HITE) is the national body representing transportation engineers in Greece and the co-organizer of the ICTR series for over 15 years. HITE members are elite professionals and worldwide renowned academics, who will inevitably lead transportation developments in Greece in the forthcoming years.

The ICTR series conference has traditionally been the leading showcase of transportation related, research and development activities in the country. The 8th ICTR has gone one step further, by evolving into a host for international participants willing to interact with the local research and professional transportation community and present their work to an audience of top-notch transportation experts. HITE expects that the conference will offer important insights and recommendations, and describe a vision for future transportation systems, services and infrastructures, in Greece and the world.

With these thoughts, as the President of the Hellenic Institute of Transportation Engineers, I would like to welcome you to Thessaloniki and wish you a successful and fruitful participation to the ICTR 2017.

Konstantinos Kepaptsoglou

President, Hellenic Institute of Transportation
Engineers



Welcome Letters



I cordially welcome the 8th International Congress on Transportation Research in Thessaloniki. Its main target is to support and accelerate a sustainable urban model, that will meet and respect the citizens' needs, as well as to follow an environmental friendly approach.

Distinguished scientists' research activity in the field of Transport and Mobility clearly defines the framework for new ideas towards the improvement of methods and practices for the successful exploitation of the transport network at national and international level.

The main objective of the Congress, that constitutes the core of its activities, is the training and the transformation of citizens' mentality pertaining to the public transport network and the upgrading of its services, as well as to other daily issues.

The modernized human-centered urban mobility model remains a fundamental priority for the Municipality of Thessaloniki, as it is expected to radically improve the traffic conditions and to boost local market's operation.

With full faith in the fruitful exchange of ideas and the certainty of the Congress advantageous activities, out of which beneficial outcomes will definitely stem from, I wish good luck to the Organizers, an enjoyable Congress to the participants, and, last but not least, a pleasant stay to the visitors of our city.

Yannis Boutaris

Mayor of Thessaloniki



The ICTR Congress has been a major event in the field of transportation research for the past 15 years. Potential ICTR participants include the research and academic community, as well as the public and private sector involved in the development and implementation of innovative projects in the field of transport.

This year, the "8th International Congress on Transportation Research" (ICTR 2017), is co-organised by the Hellenic Institute of Transportation Engineers (HITE) and the Hellenic Institute of Transport (HIT/CERTH) under the spotlight theme: "The Future of Transportation: A Vision for 2030".

ICTR 2017 will host innovative research and development work in the field of transportation systems, operations and infrastructures, in Greece and abroad.

The Congress objective is to showcase recent top-notch research activities in transportation, merge research findings and policy making tasks, facilitate the exchange of knowledge in the local and international level and draw conclusions and shape recommendations on the future of transportation.

With 14 Scientific Sessions, 2 Plenary Sessions, 5 Keynote Speeches from profound experts in the area of Transportation Research, the Young Researchers' Award Ceremony, as well as an impressive Social Agenda, we hope to offer you a busy yet exciting programme.

Welcome to ICTR 2017!

Follow us:     www.ictr.gr

Sessions Overview

Day 1: Wednesday 27/09/2017 – “Non Road Transport”	
Session	I.A: Maritime Transport
Time:	14:00-15:30
Room:	Main Room (Amphitheatre)
Session	I.B: Air Transport and Logistics
Time:	14:00-15:30
Room:	Parallel Sessions (Aiolos)
Session	II.A: Transport Economics
Time:	16:00-17:30
Room:	Main Room (Amphitheatre)
Session	II.B: Rail Transport
Time:	16:00-17:30
Room:	Parallel Sessions (Aiolos)
19:00 Welcome Reception	
Day 2: Thursday 28/09/2017 – “Clean and Efficient Transport”	
Session	III: Plenary – Opening Ceremony
09:00-10:30	Welcome speeches from Organisers, Authorities and Sponsors
10:30-11:00	Opening keynote speech by George A. Giannopoulos, Prof. Emeritus AUTH, “The state of research and innovation in Greece (2010-2017) and the unfolding Transport innovation revolution”
11:00-11:30	Honorary Award to Dimitrios Theologitis, European Commission, and Keynote speech “...and what, after all, has Europe ever done for transport?”
11:30-12:00	Keynote Speech by Evangelos Bekiaris, CERTH/HIT Director, “Future trends and calls of EU funded research”
Session	IV.A: Clean Transport & the Environment
Time:	12:30-14:30
Room:	Main Room (Amphitheatre)
Session	IV.B: Traffic Management Operations
Time:	12:30-14:30
Room:	Parallel Sessions (Aiolos)
Keynote:	Prof. M. Papageorgiou, Director of Dynamic Systems & Simulation Laboratory Technical University of Crete “Traffic management in the era of vehicle automation and communication systems”
Session	V.A: Urban Mobility & MaaS
Time:	15:30-17:30
Room:	Main Room (Amphitheatre)

Sessions Overview

Session	V.B: Education, Training & Social Media
Time:	15:30-17:30
Room:	Parallel Sessions (Aiolos)
18:00 & 19:00 Guided Visit to the Museum of Byzantine Culture 20:00 Official Congress Dinner	
Day 3: Friday 29/09/2017 – “Safe and Secure Transport”	
Session	VI.A: Automation in Road Transport
Time:	09:00-11:00
Room:	Main Room (Amphitheatre)
Keynote:	Dr. Gereon Meyer, Head of Strategic Projects, VDI/VDE "The interplay of automated driving, electric mobility and sharing economy"
Session	VI.B: Young Researchers Presentations (ALL TOGETHER)
Time:	09:00-11:00
Room:	Parallel Sessions (Aiolos)
Duration	~ 3' each
Session	VII.A: Road Safety
Time:	11:30-14:00
Room:	Main Room (Amphitheatre)
Session	VII.B: Resilience and Security issues
Time:	11:30-14:00
Room:	Parallel Sessions (Aiolos)
Session	VIII.A: Transport Policies
Time:	15:00-16:30
Room:	Main Room (Amphitheatre)
Session	VIII.B: Regional Aspects
Time:	15:00-16:30
Room:	Parallel Sessions (Aiolos)
Session	IX: Plenary – Closing Ceremony
Time:	16:30-17:30
Room:	Main Room (Amphitheatre)
LTA:	Life Time Achievement Award to Dr. Björn Peters, VTI

Programme Overview

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15:30-16:00: Coffee Break

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Room: Parallel Sessions (Aiolos)
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Rapporteur: G. Myrovali

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159 Design, construction and cost evaluation of a tramway superstructure

Andreas Zantopoulos, Christos Pyrgidis and Dimitrios Sapounas

Day 1: Wednesday 27/09/2017 – “Non Road Transport”

Programme Overview

09:00–12:00

Session: III: Plenary – Opening Ceremony
Room: Main Room (Amphitheatre)
Session Chairman: G. Yannis
Rapporteur: E. Bekiaris

09:00–09:30

Congress Opening Ceremony

Evangelos Bekiaris, Chairman of the Organising Committee, Director, Hellenic Institute of Transport - CERTH/HIT
 Konstantinos Kepaptsoglou, President, Hellenic Institute of Transportation Engineers
 George Yannis, Chairman of the Scientific Committee, Professor, National Technical University of Athens
 Thanos Vourdas, General Secretary, Greek Ministry of Infrastructure and Transportation
 Apostolos Tzitzikostas, Governor, Region of Central Macedonia
 Yannis Boutaris, Mayor of Thessaloniki

09:30–10:00

Welcome Speeches by Congress Sponsors

Bill Halkias, President of the BoD, HELLASTRON
 Laura Cocone, R&D Director, SWARCO MIZAR S.r.l
 Spyros Kiartzis, Director of Alternative Energy Sources and New Technologies, Hellenic Petroleum S.A.
 Adamantios Stavridis, European Proposals Engineer, MLS

10:00–10:30

Welcome Speeches by key Local and National Actors

Yannis Mylopoulos, Chairman of the BoD, Attiko Metro S.A.
 Sotirios Theofanis, Coordinator of Partnership, DIEP GmbH - Terminal Links SAS - BELTERRA Investments Ltd
 Glykeria Kalfakakou, Managing Director, Egnatia Odos S.A.
 Anastasios Tastanis, Chairman of the BoD, Athens Urban Transport Organisation S.A.
 Konstantinos Ampatzas, Chairman of the BoD, Transport Authority of Thessaloniki S.A.

10:30–11:00

Opening keynote speech by George A. Giannopoulos, Professor Emeritus Aristotle University of Thessaloniki, Corr. Member, Academy of Athens, on “The state of research and innovation in Greece (2010-2017) and the unfolding Transport innovation revolution”

11:00–11:30

Honorary Award to Dimitrios Theologitis, European Commission, and Keynote speech “...and what, after all, has Europe ever done for transport?”

11:30–12:00

Evangelos Bekiaris, CERTH/HIT Director, Keynote Speech “Future trends and calls of EU funded research”

12:00–12:30: Coffee Break

12:30–14:30

Session IV.A: Clean Transport & the Environment
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Rapporteur: M. Gkemou

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- 152** Development and Validation of a Heavy Truck Fuel Consumption Model
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- 86** Study of a mobile app interface supporting behavior change in electric vehicles use
Serena Fruttaldo, Roberto Montanari, Tracy Ross and Andrew Morris
- 67** Drive trains, fuels and technologies for Heavy Duty Vehicles in 2030 and beyond
Andreas Lischke
- 101** Optimizing Manufacturing and Remanufacturing Total Profit in an Electric Vehicle Battery Closed-loop Supply Chain
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- 106** Potential Demand of Alternative Fuel Technologies in Private Cars and Commercial fleets: The case of Natural Gas
Anna Karamigkou and Seraphim Kapros
- 195** Exploring electric vehicles potential adoption in the taxi fleet of Thessaloniki, Greece
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- 90** Environmental Policy on Roads in Greece, the Case of the Egnatia Highway
Lazaros Georgiadis and Niki Voumvoulaki
- 138** Research methodology on the development of a strategy on e-mobility in Greek cities. The case of Athens
Efthimios Bakogiannis, Maria Siti, Georgia Christodouloupoulou and Charalampos Kyriakidis

Session IV.B: Traffic Management Operations
Room: Parallel Sessions (Aiolos)
Session Chairman: G. Mintsis
Rapporteur: I. Spyropoulou

- Keynote:** Traffic management in the era of vehicle automation and communication systems
Prof. M. Papageorgiou, Director of Dynamic Systems & Simulation Laboratory Technical University of Crete
- 7** Integrated Motorway Traffic Flow Control
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- 70** Simulation investigations of the coordinated traffic-responsive signal control strategy TUC with actuation at the local junction level
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- 64** Study of the relationship between main parameters of traffic flow with the use of a traffic microscopic simulation model
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- 108** A Model for Optimizing On-Street Parking in an Urban Network
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Day 2: Thursday 28/09/2017 – “Clean and Efficient Transport”

15:30-17:30

Session V.A: Urban Mobility & MaaS
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- 55** The introduction of Mobility as a Service (MaaS) concept in urban transport planning: The case of Thessaloniki
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- 119** Evaluating users' perception on Demand Responsive Transport (DRT): The case of Thessaloniki, Greece
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- 25** A New Functional Classification System to Aid Multi-modal Accommodation
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- 50** Mining of Thessalonikis' Bike-Sharing Big Data sets
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- 174** Operational Urban Planning Tool for Enhancing Accessibility to Public Transport Stations
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- 44** Mobility as a Service (MaaS) in a multimodal European cross-border corridor
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Room: Parallel Sessions (Aiolos)
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- 128** Social media in the service of sustainable urban mobility indicators
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- 4** The efficiency of traffic education programs concerning traffic accident prevention for under-age pedestrians
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- 19** Development of educational material for the implementation of human factors principles in safe road design
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- 12** Evaluations of innovative modules for driving simulators
Maria Panou, Katerina Toulou and Evangelos Bekiaris
- 146** Behavioral Change Monitoring; Experiment with Electric Bicycles - The case of the island of Chios
Nikoleta Krousouloudi and Amalia Polydoropoulou

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Session VI.A: Automation in Road Transport

Room: Main Room (Amphitheatre)

Session Chairman: D. Katsochis

Rapporteur: E. Vlahogianni

Keynote: The interplay of automated driving, electric mobility and sharing economy
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Room: Parallel Sessions (Aiolos)

Session Chairman: P. Papaioannou

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Rapporteur: Y. Tyrinopoulos

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Anastasios Dragomanovits, George Yannis, Alexandra Laiou, Francesca La Torre, Lorenzo Domenichini, Thomas Richter, Stephan Ruhl, Daniel Graham and Niovi Karathodorou

69 A Methodology to Successfully Apply Road Safety Inspection on Regional Roads
Martin Winkelbauer, Bernd Strnad, Peter Trimmel and Sandra Schmied

60 Improving safety and mobility for the elderly pedestrians
Hector Monterde I Bort and Socrates Basbas

43 Low-cost innovative implementation towards self-explaining and forgiving C-ITS
Maria Gkemou, Francois Fischer, Evangelos Bekiaris, Dionisis Kehagias and Dimitrios Tzovaras

94 Real Time Monitoring of Traveller's Psychological Stress
Gaël Vila, Christelle Godin, Oumayma Sakri, Simon Ollander, Etienne Labyt, Audrey Vidal, Sylvie Charbonnier and Aurélie Campagne

26 Development of an exemplar Mobile Lab For The Training Of Car & Truck Drivers And Mining Or Work Site Machinery Operators, Evaluating Their Safe And Eco Driving Profile Using Simulators' Cluster, Towards An Integrated Accident Prevention Approach In Road Transport, Construction and Mining
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24 Safety-Based Left-Turn Decisions for Signalized Intersections
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Rapporteur: E. Mintsis

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Afroditi Anagnostopoulou, Aggelos Aggelakakis, Maria Boile and Arjan Hijdra

16 European Resilience Management Guidelines for Critical Infrastructure operationalised for the Urban Transport System
Evangelia Gaitanidou, Emanuele Bellini and Evangelos Bekiaris

42 Tracking the key elements of urban road transport in an era of uncertainty
Tatiana Moschovou and Yannis Tyrinopoulos

57 A Matrix-based Approach for Assessing the Criticality, Exposure and Vulnerability of Transport Infrastructure
Kalliopi Anastassiadou, Ingo Kaundinya, Evangelos Mitsakis, Harald Kammerer and Iraklis Stamos

75 Personalized Evacuation Guidance in Urban Environments
Alexandros Zamichos, Traianos Ioannis Theodorou, Anastasios Drosou and Dimitrios Tzovaras

91 Egnatia Motorway: Fish protection measures in a major landslide stabilization project
Niki Voumvoulaki and Demetrios Kaltsas

2 Methodological framework for the estimation of risks in the transport of dangerous goods
Josep-Maria Salanova, Emmanouil Chaniotakis, Athanasios Gkoutzikas, Stratis Zacharis, Panagiotis Tzenos and Georgia Aifadopoulou

130 In-situ fire test to assess tunnel lining fire resistance
Anastasios Stavros Kallianiotis, Konstantinos Miltiadis Sakkas, Nikolaos Vagiokas, Dimitrios Mandalozis, Andreas Benardos and Pavlos Nomikos

14:00-15:00: Lunch Break

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Session VIII.A: Transport Policies
Room: Main Room (Amphitheatre)
Session Chairman: K. Kepaptsoglou
Rapporteur: G. Aifadopoulos

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Ioannis Tsouros and Amalia Polydoropoulou

77 ZONeSEC Research Project: Pilot Application in Attiki Odos

Bill Halkias, Helen Tyrogianni, Natalie Kalfa, Margarita Kostovasili and Christos Kidikoudis

14 The TRA VISIONS Competitions

George Smyrnakis, Ezio Spessa, Micol Biscotto, Roberto Palacin, Alexander Busse and George Kotsikos

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Irina Makarova, Anton Pashkevich, Ksenia Shubenkova and Dago Antov

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73 MONITOR: An Original Method For Estimating Mobility Behaviour And Road Safety Through Online Questionnaires

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153 Assessing network-level walkability in relation to highway design standards: The case study of Luxembourg

Maurice Nilles and Ioannis Kaparias

126 Assessing Road Safety Management in Africa

Stergios Mavromatis, George Yannis, Alexandra Laiou, Antonino Tripodi and Luca Persia

72 Activity Participation and Perceptions on Informal Public Transport and Bus Rapid Transit in Dar es Salaam City

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Day 3: Friday 29/09/2017 – “Safe and Secure Transport”

Programme Overview

Day 3: Friday 29/09/2017 – “Safe and Secure Transport”

16:30-17:40

Session IX: Plenary – Closing Session
Room: Main Room (Amphitheatre)
Session Chairman: E. Bekiaris
Rapporteur: G. Yannis

16:30-16:40

“Closing Remarks of the 8th ICTR”, by Evangelos Bekiaris, Chairman of the Organising Committee, Director, Hellenic Institute of Transport - CERTH/HIT

16:40-17:00

Life Time Achievement Award to Björn Peters, Swedish National Road and Transport Research Institute – VTI and Keynote Speech on “Mobility, Safety and Independence”

17:00-17:30 Young Researchers’ Scientific Award Ceremony

“Dimitrios Tsampoulas” Award - Best Graduate or Master Degree student paper
 “Matthew Karlaftis” Award - Best PhD student paper

17:30-17:40

Best Congress Poster Award Ceremony

Posters

1 Traffic flow estimation from Bluetooth devices detection

*Josep-Maria Salanova Grau, Iraklis Stamos, Panagiotis Tzenos, Evangelos Mitsakis, Dimitris Margari-
 tis and Georgia Aifadopoulou*

3 A spatio-temporal correlation between digital and physical world, case study in Thessaloniki
Ioannis Toumpalidis, Nicolaos Karanikolas, Josep Maria Salanova Grau, Emmanouil Chaniotakis, Panagiotis Tzenos and Georgia Aifadopoulou

6 The role of societal resistance in transportation innovation
Eleni Chalkia, Beate Mueller and Alain L’Hostis

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15 User acceptance of C-ITS speed advice service in Thessaloniki

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84 Special permit management system for the transportation of abnormal loads through the road network operated by Egnatia Odos S.A.

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Foteini Mikiki, Ermioni Katartzzi and Andreas Oikonomou

115 Attitudes of Greek drivers towards autonomous vehicles

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Aggelos Aggelakakis, Evangelia Papargyri, Ioannis Ligkas and Panagiotis Laios

127 Understanding trip makers' attitudes and behaviour through social media data mining

Anastasia Nikolaidou and Panagiotis Papaioannou

131 Transport of Daily Products to Historic City Center

Despoina Athanasakopoulou, Theofanis Spyridis and Yorgos Stephanedes

133 A methodology for developing Sustainable Urban Mobility Plans (SUMP) in suburban and rural areas. The case of the Municipality of Themi.

Afroditi Stamelou, Chrysostomos Makrakis-Karaxalos, Maria Grigoriadou, Theodoros Natsinas and Despoina Dimitriadou

150 Applying the co-creation process for improving Public Transport in the city of Thessaloniki.

Evangelos Genitsaris Afroditi Stamelou, Dimitrios Nalmpantis and Aristotelis Naniopoulos

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189 Contributory factors of cycling in urban areas

Ioanna Spyropoulou, Maria Konstantinidou and Vasileios Valavanis

190 Project Control Framework in England

Harris Karandinos, Pantelis Kopelias, Konstantinos Mpogas and Nikolaos Eliou

Social Events

Welcome to the 8th ICTR Congress Social Agenda. Our organizers have ensured arranging delightful and captivating activities for all of you, aimed at creating a wholesome experience in both participating in the Congress and enjoying the beautiful city of Thessaloniki.

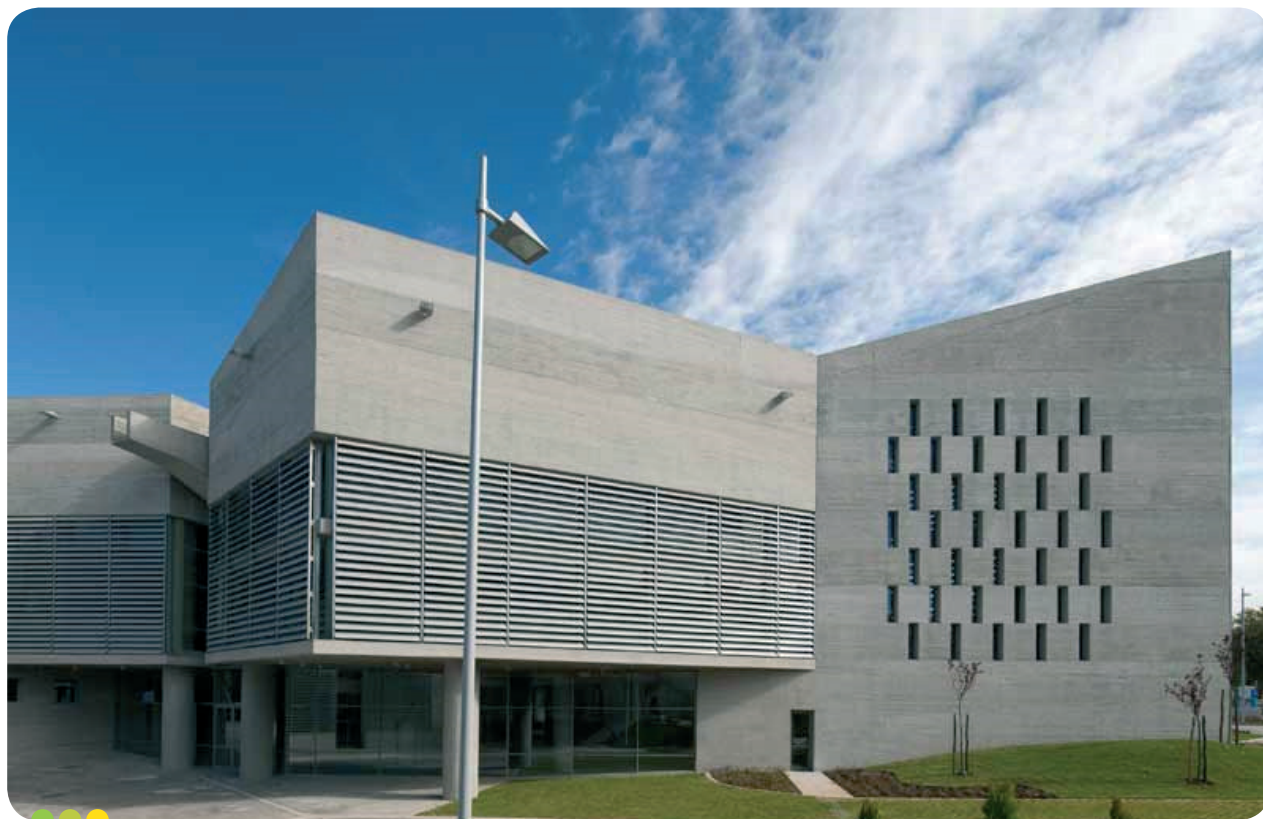
The full Social Agenda experience is included in your registration fee!

Welcome Reception – 27 September

In the 27th of September, at 19:00, a Welcome Reception will be held at the City Hall of Thessaloniki. Participants will have the opportunity to see the notable architecture perspective of this building as it has been designed as a building complex with an internal walkway. Moreover, they will get acquainted to each other and exchange views and ideas on the future of transportation, while enjoying a relaxing evening in the heart of the city centre with a glass of wine!

Guided Visit to the Museum of Byzantine Culture – 28 September

During the second day of the Congress (28th of September, 18:00-20:00), a visit to the Museum of Byzantine Culture has been scheduled in two guided tours (18:00-19:00 and 19:00-20:00), to enrich ICTR participants' scientific experience with the cultural colours of the host city. The museum itself is considered to be one of the best pieces of public architecture created in the last decades in Greece. It possesses more than 46 000 artefacts and offers 11 galleries of the permanent exhibition together with temporary exhibitions that bring together history, cultural heritage and art. The carefully selected 3190 displayed pieces of art allow the visitors to travel back to the world of Byzantium through thematic sections of the daily private and public life. Shuttles from CERTH Congress Centre to the Museum will be arranged by the Organising Committee at 17:00 (first shuttle departs at 17:00; sec-





ond shuttle departs after the end of the Congress second day activities and no later than 18:00).

Please book your shuttle place at the Registration Desk!

Gala Dinner at Restaurant “B” – 28 September

Immediately after the museum visit (at 20:00), in the well-known and sophisticated high standard bar-restaurant “B”, adjacent to the Museum of Byzantine Culture, conference participants will have the opportunity to taste the cuisine “pieces of art”! The restaurant offers Mediterranean flavours combined with elements of fine French and Italian cuisine, providing menus unique to each season of the year.



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Dimitriou Loukas

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Thessaloniki, the second largest city in Greece is a vibrant modern metropolis that hosts the largest academic and research community in the country.

In addition to its rich historical and cultural heritage, Thessaloniki is a major economic, industrial, commercial centre. Moreover, it is the key transportation hub for south-eastern Europe.

The city is renowned for its vibrant cultural life with the colorful events and festivals that make Thessaloniki a must-see destination.





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