Welcome from Maxime Bono, Mayor of La Rochelle

I am proud and honoured that the partners of the CityMobil project chose our city for holding their final conference.

La Rochelle has been for years an open place for experimentations in the field of advanced and clean transportation systems and has always adopted initiatives in the same spirit: any project is worth experimenting before upscaling or dismissing it.

It has indeed been on the forefront of sustainable transportation vehicles, notably with the support of the European Commission through CIVITAS-SUCCESS project, and is willing to go further in the implementation of innovative systems.

In 2008, La Rochelle had been selected by the CityMobil project for a small scale demonstration on a closed circuit. The success of this first CityMobil trial has persuaded us to take the next step and to commit to a longer trial.

Indeed, a service using fully automated vehicles operating in an open urban environment will be launched today for a 3-month period. This will be an opportunity for us as well as for the European Commission to collect a range of information and data among which the reaction of passengers to these new types of vehicles.

The participants in the CityMobil Final Conference will have the pleasure to be among the first to use this automated service.

The circuit retained offers a full integration of the ‘cybercars’ system with the other innovative transport services: electro-solar boat, electrical car and bike-sharing systems, ILLICO bus line.

This two-day conference is a real opportunity to disseminate on the main outputs of the CityMobil project and to demonstrate the relevance of automated transport systems for the improvement of the urban mobility, safety and air quality. An opportunity also to consider the barriers that still needs to be overcome for an eventual take-up of such systems on a wide scale in cities.

I am confident that you will have very fruitful exchanges. Progress is only possible by learning from the others, by observing, by exchanging best practices.

Developing smart systems for making our cities better is essential. But technical solutions - alone - are not enough. We need to develop our cities in a balanced way. Our fellow-citizens need to be taken on-board and pedagogy is a crucial leverage. Technical progress is only efficient if psychological and societal issues are tackled in parallel.

I wish you a very pleasant stay in La Rochelle.

Maxime BONO
President of La Rochelle Urban Community
Mayor of La Rochelle
# SMART MOBILITY FOR BETTER CITIES
## Conference programme

### Thursday, 12 May

<table>
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<tr>
<td>08.30</td>
<td>Registration and welcome coffee</td>
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<tr>
<td>09.30</td>
<td>Welcome: Maxime Bono, Mayor of La Rochelle and President of La Rochelle Urban Community</td>
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<tr>
<td>09.40</td>
<td>The VisLab Intercontinental Autonomous Challenge: riding on a driverless vehicle from Italy to China, Dr Alberto Broggi, University of Parma</td>
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<td>10.10</td>
<td>Making automated transport systems wanted by citizens: the last hurdle?, Eric Ponthieu, EU Economic &amp; Social Committee</td>
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<td>10.30</td>
<td>The CityMobil project, Jan van Dijke, TNO</td>
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<td>10.45</td>
<td>Coffee break (Tour 1)</td>
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<td>11.15</td>
<td>The role of automated transport in the mobility of the future, Tony May, ITS Leeds</td>
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<td>11.45</td>
<td>Opportunities and barriers to the introduction of automated transport, Adriano Alessandrini, DITS</td>
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<td>12.15</td>
<td>The La Rochelle Cybercar demonstration, Michel Parent, Inria</td>
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<td>12.30</td>
<td>Lunch (Tours 2 and 3)</td>
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<td>14.00</td>
<td>Experiences from success stories - what can we learn from existing systems?</td>
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<td>- Heathrow Personal Rapid Transit, Martin Lowson, ATS Ltd</td>
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<td>- Masdar Personal Rapid Transit, Robbert Lohmann, 2getthere</td>
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<td>- Parkshuttle, Robbert Lohmann, 2getthere</td>
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<td>- Castellon Hi-Tech Bus: Antonio Marques, ETRA</td>
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<td>16.00</td>
<td>Coffee break (Tour 4)</td>
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<td>16.30</td>
<td>New plans and projects</td>
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<td>- Rome, Gabriele Giustiniani, ITR</td>
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<td>- Uppsala, Christer Lindstrom, IST &amp; Tom Karlsson, city of Uppsala</td>
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<td>- Trondheim, Birger Elvestad, city of Trondheim</td>
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<td>- Vantaa, Gilbert Koskela, city of Vantaa</td>
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<tr>
<td>18.00</td>
<td>Close of day 1 (Tours 5 &amp; 6 cancelled)</td>
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<td>20.00</td>
<td>CityMobil dinner</td>
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Friday, 13 May

09.00: Tour 7

09.30: CityMobil results
- General introduction, Adriano Alessandrini, DITS
- Advanced city cars: Gianfranco Burzio, CRF
- City Application manual, Tony May, ITS Leeds
- Business case tool, David Jeffery, Southampton University
- Certification, Jan van Dijke, TNO
- Operational issues, Antonio Marques, ETRA

11.00: Coffee break (Tour 8)

11.30: Panel discussion: The role of automated transport systems in the urban environment: learnings from CityMobil & recommendations for the future
Moderator: Mike McDonald, TRG, University of Southampton
Panelists: Jan van Dijke, TNO; Denis Leroy, Vice-President, La Rochelle Urban Community; Michael Glotz-Richter, city of Bremen; Jean-François Janin, French Transport Ministry; Stéphane Buffetaut, Veolia & President of Transport Section of EESC

12.30: EU transport research priorities and funding of the future, Frederic Sgarbi, Head of Sector ‘Advanced Road Vehicles’, Directorate-General for Research, European Commission

12.45: EIB financing clean urban transport: ELENA and JESSICA, Leonor Berriochoa, European Investment Bank

13.00 Lunch (Tours 9 and 10)
Speakers biographies

Adriano ALESSANDRINI, DITS, La Sapienza (IT)
Mechanical engineer since 1998 (the old style Italian Laurea equivalent to B.Sc.+M.Sc.) and Ph.D. in energy technologies since 2003 Adriano is currently Researcher (Ricercatore) at CTL (Centre for Transport and Logistics university of Rome “La Sapienza”) and professor of advanced transport systems at the University Guglielmo Marconi in Rome.
He participated since the proposal stage in the creation of CTL at the University of Rome “La Sapienza”, which is a centre of excellence funded in 2003 with support and co-funding from the Italian Ministry of Education, University, and Research and since 2006 became an autonomous research centre of the university.
Expert in transport systems and in environmental impact of transport, his main research field, he has been participating and conducting, in 13 years since his graduation, 25 national and EU funded research projects including being the evaluation leader for the CityMobil project and the coordinator of CityNetMobil.

Leonor BERRIOCHOA, Technical Assistance Coordinator, Projects Directorate, European Investment Bank (LUX)
Before joining the EIB in January 2010, Ms Berriochoa was Deputy Head of the Planning and Project Development Directorate at the Municipality of Madrid, dealing with public transport, urban planning and public urban projects. Previously, she worked in both the public and private sectors as a transport engineer. Ms Berriochoa qualified as a Civil Engineer with a post-graduate qualification in Transport & Urban Planning. In the EIB, Ms Berriochoa coordinates technical assistance instruments supporting urban infrastructure, energy efficiency and transport projects throughout the EU, including urban transport proposals under the ELENA facility and multi-sector support for project implementation in Bulgaria. She recently led a technical assessment of new urban infrastructure needs for electric vehicles.

Maxime BONO, Mayor of La Rochelle, President of the Urban Community, Member of the French National Assembly (MP)
With a public law degree, Maxime Bono was 25 when he joined the public service as a tax assessor, a job he performed during 10 years before entering the city of La Rochelle as a cultural adviser. In 1986, he managed the Cabinet of Michel Crépeau, former Mayor of La Rochelle. From 1995 to 1999, he was President of the RTCR, the transport operator which network covers the 18 cities of the conurbation. When Michel Crépeau died, in april 1999, Maxime Bono had been his first deputy for 10 years and succeeded him as La Rochelle’s Mayor. Since then, Maxime Bono was elected twice, in 2001 and 2008. In 2002 and 2007, he was also elected a member of the French National Assembly. In 2002, the French Ministers in charge of transport, environment, research and industry appointed him President of the steering committee of the Predit (National program of research and innovation in land transport). A position he held up to 2006. His long-standing involvement in associative fields has naturally led him to make of La Rochelle a place of open dialogue as well as innovation and experimentation.

Prof. Alberto BROGGI, PhD, VisLab, The Artificial Vision and Intelligent Systems Lab.
Dip. di Ingegneria dell’Informazione, Universita’ di Parma (IT)
Alberto Broggi is a professor of Computer Engineering at the University of Parma in Italy, and a pioneer of machine vision applied to driverless cars and unmanned vehicles. He is the principal investigator of many projects involving autonomous vehicles, like the TerraMax entry at the DARPA Grand Challenge and Urban Challenge.
He acted as Editor in Chief of the most prestigious scientific journal worldwide in the field of Intelligent Transportation Systems from 2004 to 2008. For the termo 2010-2011 he serves the IEEE Intelligent Transportation Systems Society as President. Alberto Broggi is President and CEO of the VisLab spinoff company (www.vislab.it)
Stéphane BUFFETAUT, President of EESC Transport and Energy Section and Director at Veolia (FR)

Stéphane Buffetaut has been a member of the European Economic and Social Committee (EESC) since September 2002. He was elected President of the Transport, Energy, Infrastructure and Information Society Group within EESC in September 2010. In parallel, he is also a Director at Veolia Environment Group, with responsibility for relations with the European institutions.

Mr Buffetaut has enjoyed a political career in French local government. He was deputy Mayor of Versailles from 1995-2008 and prior to that a municipal councillor in Louviers. Mr Buffetaut is specialised in public law.

Gianfranco BURZIO, Centro Ricerche Fiat (IT)

Gianfranco Burzio is the European Network Project Manager in the Product Research Area of CRF. He graduated in Electrical Engineering at Turin Polytechnic in 1980 and has worked in CRF as technical specialist and group/department leader in the fields of robotics, artificial vision, preventive safety, advanced driver assistance, telematics and electronic/electric systems. He is coordinator of the EUCAR Mobility Working Group and of the ERTRAC Road Transport Safety and Security Research Area.

Gabriele GIUSTIANI, Consultant, ITR (IT)

Environmental engineer since 2004 with a thesis on “freight transport in urban area” and PhD in Transport Systems since 2011 with a thesis on the analysis of demand related to innovative transport systems. He has been collaborating with DITS (Department of “Idraulica, Trasporti e Strade”) since 2004, where he has been involved in transport and road safety related projects at national and European level. He took part to European research project on road safety like: MIRACLES, SafetyNet and DaCoTa. His main work activities are related to road accident analysis and reconstruction, road safety management and road safety decision supporting tools development. He supported the development and implementation of client and server side database components to collect road accidents data.

Since 2005 he is collaborating as consultant with IT “Ingegneria dei Trasporti” on R&D projects related to transport planning and he is in charge of the management of the Rome Demonstration within the CityMobil project since its beginning (May 2006). During this project he has developed many skills related to innovative transport systems related to the design phase, the certification phase and the on-field test of innovative transport systems. He has coordinated the design phase of the overall Rome Demonstration providing the CityMobil project with the final design of the Demonstration. He was involved in the board of the Failure Mechanisms Effects and Criticalities Analysis run on the final design of the Demonstration. He is managing all the certification process of the Rome Demonstration within Italian Ministry of Transport.

Michael GLOTZ-RICHTER, Senior Project Manager for Sustainable Mobility, Senate Department for Environment, Construction, Transport and European Affairs, Free Hanseatic City of Bremen (DE)

Michael holds a diploma in Urban and Regional Planning from the Technical University in Berlin (1984). In his professional career in Berlin, Cologne and Bremen, Michael has always worked on the link between urban development, technical developments and lifestyle.

Since 1994 he has been responsible for sustainable mobility and for many internationally recognised model projects on sustainable transport and environmentally-friendly mobility. He worked in coordinating roles in many European projects – and thus knows CIVITAS, Life, STEER, Interreg and Framework Programmes from a city perspective. As well, Michael is active as independent expert for evaluating and reviewing proposals. In this role, Michael accompanied the CityMobil project as EC reviewer.

Jean-François JANIN, ITS Task Force Manager, French Ministry of Transport (FR)

Jean-François Janin is a graduate of ParisTech (Ecole Polytechnique in 1972, ENPC in 1974) and of the Institute for Political Sciences of Paris in 1974. He has worked for the French Ministries for Environment, Industry and Transport in Paris and Clermont-Ferrand. He was also General Manager of the Chamber of Commerce of Lille for 10 years. As ITS task force manager since 2002, in the French Ministry of transport (General Directorate for Infrastructures, Transport and Sea (DGITM) and Delegation for Road Safety ), he took a major role in the implementation of several ITS systems: smart cards in public transport, digital tachograph, automatic speed limits enforcement, multimodal travel information, tracking and tracing of dangerous goods, among others. He teaches ITS in ParisTech – ENPC, University Paris II, and ECE. He represents the French Ministry of Transport in ERTICO and is involved in cooperation agreement for ITS with California, Japan and China.
David JEFFERY, Visiting Professor, University of Southampton (UK)
David Jeffery is an electrical engineer with more than forty years’ experience in a wide range of transport-related matters, and a specialist in intelligent transport systems and services. His experience includes nearly 30 years with the UK Transport Research Laboratory (TRL), and some 10 years in industry, finally as Managing Director of Atkins Transport Systems. He is now an independent consultant and visiting Professor at the University of Southampton’s Transportation Research Group. He has extensive experience in EC RTD projects for DG’s INFSO, TREN and RESEARCH. David is a Chartered Electrical Engineer and a Fellow of the Institution of Highways and Transportaion.

Tom KARLSSON, Managing Director, Streets and Traffic Department, city of Uppsala (SW)
Tom Karlsson is MSc in Civil Engineering and specialized in Transit and City Planning.
Mr Karlsson was earlier regional manager of Skanska Road and Infrastructure and is currently Managing Director of Uppsala City Transit Authority.

Gilbert KOSKELA, Project Engineer, Marja-Vantaa project, City of Vantaa (FIN)
Gilbert Koskela has a degree of Master of Science in Surveying at the Helsinki University of Technology in 1991, specialising in land use planning issues. Gilbert Koskela has worked as a project engineer in the City of Vantaa in Finland for Marja-Vantaa Development Project since 2007. Prior to that he was a master planning engineer in the City of Vantaa from the year 2001.
Marja-Vantaa is a new large development area for 25000 new residents and 20000 new working places. A Ring Rail Line, which connects existing urban line to main rail line through the Helsinki-Vantaa Airport, will be completed in 2014. Three new stations will be in Marja-Vantaa. Koskela is charge for research and development activities for to create new type of ecological urban area. Koskela has been a member of reference group of CityNetMobil project and he arranged a showcase of CyberCars with a conference in May 2009 as a part of that project.

Denis LEROY, Vice-President, La Rochelle Urban Community (FR)
Denis Leroy’s former position as an activity leader in charge of social and cultural activities for a development area in La Rochelle enabled him to be familiar with how to mobilize “consciousness” among citizens and how to find innovative ways to make them feel actors of the life of their area and their city.
Based on this experience, M. Leroy has been further involved in citizen consultation and behaviour change as the Cabinet director of the former Mayor of La Rochelle, Michel Crépeau. In 1997, he actively took part to the creation of the first “Day Without My Car”, which was born in La Rochelle, before presiding over the European Association “In Town Without My Car” and exchanging best practice with numerous European Cities. Since 2001, M. Leroy has served as an elected representative for La Rochelle City and has personally taken part in several European Projects and meetings on mobility.
Since March 2008, his position as a Vice-President of La Rochelle Urban Community in charge of mobility and transport has been a new opportunity to encourage a new culture of mobility. M. Leroy is convinced that innovative demonstration activities and a deep change in mobility behaviours can make change possible.

Christer LINDSTROM, Institute for Sustainable Transportation (SW)
Christer Lindstrom, founder and board member of the International Institute for Sustainable Transportation (INIST), is leading a global effort to research and develop a podcar urban transportation system. Christer Lindstrom is currently working on the creation of the Swedish-U.S. Sustainable Transportation Research Fund, and Encitra - the Sustainable City and Transportation Simulation Company.

Robbert LOHMANN, Marketing and Sales Director, 2getthere (NL)
Robbert Lohmann (born 1975) studied at Hogeschool Amsterdam and Nyenrode University, resulting in masters in business management.
Robbert Lohmann is responsible for all marketing and sales activities for 2getthere’s Automated People Mover Systems. In the last 12+ years he has been actively involved in the sales, system-engineering and realization of PRT
and GRT applications at a.o. the horticultural exhibition Floriade 2002, Amsterdam Airport Schiphol and business park Rivium in the city of Capelle aan den IJssel.

Most recently he was responsible for the sales of the PRT project to Masdar city, also serving as project director in the realization of the system.

**Martin LOWSON, ULTra PRT Ltd (UK)**

Martin Lowson is founder of Advanced Transport Systems Ltd, responsible for developing the ULTra (Urban Light Transport) transport system. He spent his previous career in the Aerospace industry, both in the US where he worked on the Apollo Space program and in the UK. He was Chief Scientist and Director of Corporate Development for Westland Helicopters and then Sir George White Professor of Aerospace Engineering at the University of Bristol. He is a co-patentee of the rotor system which has held the world absolute speed record for helicopters since 1986. He was elected a Fellow of the Royal Academy of Engineering in 1991.

**Antonio MARQUES, Research Director, ETRA (ES)**

Antonio Marqués holds a MSc in Physics with Computing from the University of Valencia (Spain), a Diploma in Operational Research and a Master in Business and Innovation Management. He is currently the Director of New Technologies at ETRA I+D. He has worked in the past for the DG III of the EC as Scientific Officer and at IBM. He has been involved in multinational collaborative research for more than eighteen years as researcher, project manager and expert working for international organisations –e.g. evaluator and reviewer for the European Commission. As the Director of New Technologies at ETRA I+D, he has been Project Manager or responsible for the projects ETRA led in FP4, FP5, FP6 and FP7 programmes.

**Anthony D MAY OBE FREng, Emeritus Professor of Transport Engineering, The University of Leeds (UK)**

Professor Tony May, Emeritus Professor of Transport Engineering at the University of Leeds, has over 40 years’ experience in transport planning and traffic engineering. He has been a professor at Leeds since 1977, where his principal research interests have focused on urban transport and sustainability. He has served as Director of the Institute for Transport Studies, Dean of the Faculty of Engineering and Pro Vice Chancellor for Research. He was elected to Fellowship of the Royal Academy of Engineering in 1995, and awarded the OBE for services to transport engineering in 2004. Between 1985 and 2001 he maintained a link between research and teaching at Leeds and practical experience in consultancy with MVA Ltd, of which he was a director. Prior to 1977 he spent ten years with the Greater London Council, where he was responsible for policy on highways, traffic management, demand management and transport-related land use planning for the capital. He retired from the University of Leeds in 2009, but is still active in research, consultancy and professional development. He has been a consultant to a consultant to the OECD, the International Transport Forum, the World Bank, the US Transportation Research Board, the Singapore Land Transport Authority, the New Zealand Ministry of Transport and the Thailand Commission for the Management of Land Transport. He is currently President of the World Conference on Transport Research Society.

**Mike MCDONALD, TRG, University of Southampton (UK)**

Professor Michael McDonald was formerly Director of the Transportation Research Group at the University of Southampton since 1982 and was Head of the Department of Civil and Environmental Engineering 1996-99. Professor McDonald has been responsible for over 100 research contracts for the Transport Research Laboratory, Department for Transport, Engineering and Physical Sciences Research Council, the European Union and other local and central government agencies. The areas of research have covered many aspects of transport planning, traffic engineering and control, application of new technology, safety, highway design, economic appraisal and evaluation and he has over 100 publications in these areas. He has been a member of several professional and government committees and advisory bodies including the Research Councils and the Technology Foresight Programme. He has been significantly involved with the EC Transport Telematics programmes and has international recognition as an expert in Intelligent Transport Systems. Professor McDonald is a Fellow of the Institution of Civil Engineers and a Fellow of the Chartered Institute of Logistics and Transport.
Michel PARENT, Scientific Advisor, IMARA, Inria (FR)
Michel Parent is currently scientific advisor to IMARA, the INRIA research team on advanced road transport. This team focuses on research and development of information and communication technologies for road transport and in particular on fully automated vehicles (the cybercars). He was the creator and director of this team between 1991 and 2010 and is considered as the “father” of the cybercar concept as he was the coordinator of the European Project CyberCars between 2001 and 2004 and the follow-up project CyberCars2 (2006-2009). He was involved in many other French or European projects on ITS and he is recognized worldwide as an expert in innovative transportation technologies.

Before his positions at IMARA, Michel Parent has spent half of his time in research and academia at such places as Stanford University and MIT in the USA and INRIA in France, and the other half in the robotics industry. He was the president of the French Robotics Association between 1974 and 1079. He is the author of several books on robotics, vision and intelligent vehicles, and numerous publications and patents.

Michel Parent has an engineering degree from the French Aeronautics School (ENSÆ), a Masters degree in Operation Research and a Ph.D. in Computer Science, both from Case Western Reserve University, USA.

Eric PONTHIEU, Head of Unit, Transport, Energy, Infrastructure and information society, European Economic and Social Committee (BE)
Twenty four year professional experience in EU policy-making and implementation; R&D, transport, energy, infrastructure, environment, information society, sustainable development and urban planning policy; innovation management; journalism, institutional communication, and lecturing in EU policy. International experience with stays in Japan, US, Canada, China, Italy and France. Strong human management capacity and ability to process and communicate strategic and political information.

Frederic Sgarbi, Head of Sector ‘Advanced Road Vehicles’, Directorate-General for Research, European Commission
Frédéric Sgarbi is currently head of sector for innovative vehicle systems within the European Commission’s DG Research. He has been working within the Surface Transport section of DG research since the mid-nineties. Prior to this he worked for 10 years as a researcher within the Atomic Energy Commission on nuclear and industrial robotics. Mr Sgarbi is an electronics engineer and holds a doctorate in robotics.

Jan P. VAN DIJKE, Senior Project Manager, TNO (NL)
J.P. (Jan) van Dijke B.Sc., is a senior project manager with the Department of Integrated Safety of the Business Unit Automotive of TNO Science and Industry. Science and Industry is one of the 5 core areas of The Netherlands Organisation for Applied Scientific Research (TNO), an R&D organisation with about 4500 employees and a turnover of 600 million Euros in The Netherlands. (www.tno.nl)
Presently Jan van Dijke is the project coordinator of CityMobil, an Integrated Project in the 6th Framework Program of the European Union. CityMobil focuses on the implementation and integration of automated transport systems in the urban environment, combining the efforts of 28 partners from all over Europe.
Furthermore, Jan van Dijke is responsible for the coordination of the department’s activities in the field of safety analysis and certification of automatic guided vehicles. He has been involved in various European and other R&D projects concerning safety and certification. Before entering his present activities in 1998, he has been working in many different positions at TNO-Automotive, mostly related to safety and certification and the management of large projects.
CityMobil – Advanced transport systems for the urban environment

CityMobil is a 5-year European research and demonstration project established to gain knowledge from the integration of automated transport systems in the urban environment. Various (semi-)automated transport solutions are being deployed at different sites across Europe. These solutions include fully automated vehicles, such as Personal Rapid Transit (PRT) and Cybercars, and semi-automated vehicles, for instance, the Hi-tech bus and the advanced city vehicle in car-sharing mode.

Most cities suffer from the problems linked to growing travel demand, including pollution, congestion and road accidents. Traditional means of traffic regulation are no longer sufficient and drastic solutions, such as banning cars from central areas or levying charges, are unpopular. CityMobil is investigating and testing new transport solutions to understand their potential to meet travel demand in a controlled manner and with low emissions resulting and increased efficiency, using separate infrastructure or existing roads.

By the end of the CityMobil project (December 2011), we expect there will be a number of sites where an actual (semi)-automated transport system are in operation and where the first results will have been evaluated. These will not just be demonstrations of technological possibilities, but fully fledged integrated solutions that will be operated and maintained in the long term.

The CityMobil large-scale implementation sites

Hi-Tech bus in Castellón
In the Spanish town of Castellón (near Valencia), dual-mode buses, which can be operated in automatic and manual mode, were introduced in June 2008. Castellón is one of the fastest growing areas in the Valencia region. The expanding tourist industry combined with more than 20,000 students at the University means that the city is in even greater need of an efficient public transport system. In the first phase the system has connected the University and the city centre. In future there will be connections to commercial centres, the port and the beaches, resulting in a system which will have a total length of over 40 km.

Personal Rapid Transit at Heathrow airport
At Heathrow airport, a personal rapid transit (PRT) system (based on ULTra technology) called ‘The Heathrow Pod’ (is this really the official name ??) will soon carry passengers from the Business car park to terminal 5. ULTra is a system based on small, light and energy efficient vehicles operating on a dedicated guideway network offering a personal, automated taxi service with point-to-point, non-stop travel and no waiting. The Heathrow scheme will take the form of a pilot project, 3.9 km in length. The system is fully built and has been undergoing extensive commissioning by staff and some passengers. It will open to the public in 2011.

Cybercar in Rome
At the new exhibition centre in Rome, a fleet of fully automated Cybercars will start operation at the end of 2011 shuttling visitors between the car park and the exhibition centre. The scheme is being introduced in several phases, with the first phase offering a fixed-time service and the final phase providing a fully on-demand service.

Showcases and city studies
In addition to the three large scale implementations, CityMobil has enabled many other towns and cities around Europe to ‘experience’ new transport solutions through showcases and city studies. Seven showcases involving demonstrations of (semi-)automated vehicles (Cybercars and Advanced City Cars) have already been undertaken within CityMobil and the spin-off project CityNetMobil since 2007 in Daventry (UK), La Rochelle (FR), Trondheim (NO), Vantaa (FIN), Orta San Giulio (IT), Clermont Ferrand (FR) and Formello (IT). The showcases have proven to be a very effective way to reach out to residents and to raise awareness of the need for new sustainable transport solutions. Indeed the success of the La Rochelle showcase in 2008 was decisive in La Rochelle’s decision to move ahead with the larger demonstration launched at the conference.

A detailed feasibility study of an automated system has been conducted for the Swedish city of Uppsala. A 9.4 km long PRT network in the Boländerna district is the subject of the study, whose findings will be presented during the conference.
Other research and development

Besides the demonstrations, showcases and city study, a vast array of research and development has been conducted within CityMobil, including modeling studies at several sites in Europe showing the potential of different (semi-)automated transport solutions depending on specific characteristics of each site (geography, demographics, travel demand, etc), the development or refinement of positioning and obstacle detection technologies for the vehicles and recommendations for integrating an automated transport solution into the existing transport system. This work has resulted in a number of interesting reports including the City Application Manual targeted at city decision makers, an analysis tool for determining the business case, certification guidelines or an overview of legal and administrative barriers and strategies to overcome them. Many of these reports are already or will be shortly available on the CityMobil website: www.citymobile-project.eu

CityMobil is an European project funded under the Sixth Framework Programme for Research and Development. For further information, contact: Jan van Dijke, CityMobil Coordinator, TNO, email: jan.vandijke@tno.nl or visit the CityMobil website: www.citymobil-project.eu
La Rochelle

**A blend of historical heritage and innovation**

La Rochelle is a medium-sized city (146,362 inhabitants for the metropolitan area) which lies on the west coast of France in the Poitou-Charentes region, highly recognized for its quality of life. The islands of Ré and Oléron are on its doorstep. La Rochelle’s historical heritage and the strong links with the sea make the city one of France’s most popular destinations for tourism.

Events of international importance – such as the Francofolies, the Grand Pavois (first European in-water Boat Show), the TV Fiction Festival or the International Film Festival – draw an increasingly cosmopolitan audience. The charming Old Harbour, the Aquarium and the Yachting Marina – one of the largest in Europe - contribute to spreading La Rochelle’s reputation beyond the borders of France.

La Rochelle is a main hub of economic activity in Poitou-Charentes. Nautical industry, food processing and healthcare, information and communication technologies, transport, sustainable energy businesses are sectors well-represented in the territory. The base of the local economy consists of small businesses, medium-sized companies and a few major groups. The business community can count on the support of the University and other research centres. For ten years, La Rochelle has kept growing in terms of economic development, job creation, demography and equipments for tourism or culture.

La Rochelle has been from the 1970’s on the forefront of “urban ecology” (long before the talk about sustainable development) - from the first town centre pedestrian area in France (1973) to the first car-free day (1997), not to forget the first public bike loan system in France (1976).

And, since the beginning of the 1990’s, La Rochelle has developed a strong policy commitment in favour of clean, silent transport modes, in particular electric vehicles. Nowadays, a wide range of the electro-mobility services are offered to the users and are fully integrated in the Public Transport scheme: urban goods deliveries using electric vehicles, electric shuttle buses, electro-solar sea boats and electric car-sharing. All these passengers transport modes, as well as the bus, the park-and-rides and the bike-sharing system are part of the ‘Yélo’ public transport offer and can be accessed with a unique smartcard.
CityMobil’s
La Rochelle cybercars “small demo”

Between September 18 and 28, 2008, La Rochelle hosted its first outdoor demonstration of fully and partly automated vehicles under the European project CityMobil. The objective of this demonstration was to raise awareness among transport specialists, officials and La Rochelle inhabitants of what tomorrow’s small capacity urban transport could look like.

After the success of this first showcase, CityMobil’s partner INRIA and a local consortium consisting of La Rochelle’s local authorities and research and transportation partners, agreed to carry out a three months automated vehicles test, open to wide public. Unlike other CityMobil demonstrations, La Rochelle’s cybercars system runs in an urban environment open to pedestrians, cyclists and a low local traffic.

During this demonstration, two automated vehicles will operate in real-life conditions. This will enable the CityMobil project and the local consortium to gather important data about user’s reaction, technical difficulties and the system’s energy efficiency.

Service description

The selected site is located between the arrival of the electric “passeur” (an electric/solar boat connecting the Media Library area to the Old Harbour) and the Technoforum. The site has the advantage of being partially protected. The vehicles will provide a continuous public transport service between the city centre and the Technoforum, which hosts service stores and La Rochelle University.

The automated vehicles will operate on-demand, stopping at any of the five stations deployed along the 800 m path. The stations are equipped with a touch-screen where users can request a vehicle, and serve as relays for the IPv6 communication network, which allows the vehicle to communicate with the Vehicle Management System (VMS) to respond to users’ calls. In order to reduce safety risks, the vehicles will drive at a maximum speed of 10 Km/h, in both directions. The speed will be reduced at areas in which the amount of pedestrians or the risks of collision are higher.

At crossings, priority will be given to the automated vehicles. The local authorities have deployed road signs in order to warn drivers and other road users of the cybercars’ presence. As an extreme safety measure, an operator will always be on-board vehicles, in order to supervise the vehicle systems behaviour, but also pay attention to the road users. In case of danger, the operator can activate an emergency stop.

Two “Cybus” prototype vehicles have been prepared by INRIA. The base of these vehicles is a Yamaha electric vehicle, whose electronics, control and perception systems have been rebuilt. The perception system is based on two 180° laser scanners, used for the localisation and obstacle detection subsystems. An inertial unit and the odometers are used to improve the precision of the localisation system.
**Exhibitors**

- **Rome robuRIDE**
  
  Developed in CityMobil, the ROME vehicle is based on the robuRIDE platform, which has transported more than 1.2 million passengers since 2005. The robuRIDE is among the most reliable and proven solutions to build flexible and customized Cybernetic Transport Systems (CTS), which can be certified for private sites (EC Machinery Directive) such as parking lots, exhibition centers, theme parks, business parks, airports ... In these sites, they can operate as scheduled shuttles, with multiple circuits up to several kilometers. The robuRIDE has been designed as a general purpose platform, on top of which any type of interior can be made. It gives a large open space for passengers, all technical devices being under the floor. The ROME vehicle has a capacity of 30 passengers, half of them being seated.

  New developments in the CityMobil project led to double its speed (up to 24 km/h), and improvements in the GPS+inertial based navigation system allow now centimetric accuracy even at higher speeds. Installation does not require any infrastructure, only a few hours are needed to record circuits.

  With standard sealed lead batteries, autonomy is up to 40 km, and other technologies can also be used in option (Li-ion, Li-Fe ...). Anti-collision is achieved thanks to a laser scanner (which detects obstacles up to 30 m), and certified bumpers. Optional ultrasonic sensors are also available to detect small objects on the floor.

  Other improvements coming from CityMobil project are at the software level: a middleware (robuBOX-CTS), now comes in open-source with each vehicle, allowing integrators and final users to customize the vehicles, thanks to a simple script language (LUA).

  All vehicles are equipped with 3G+ communications, and are connected to web services (Lokarria) for audio and video supervision, exploitation analysis, customer interface, remote support and maintenance ...

- **Masdar PRT**

  In the futuristic, eco-friendly city of Masdar which is currently being constructed to the south east of the city of Abu Dhabi (United Arab Emirates), the first phase of the most ambitious sustainable development project in the world today has been realised. Part of this first phase is a Personal Rapid Transit system (PRT). A dedicated guide way has been built in the undercroft, an artificial basement created by raising the pedestrian level. Ten PRT vehicles have been delivered and are operating on a network that is approximately 1.5 km long and features 2 passenger stations.

  The PRT vehicles can travel at speeds up to 40km/h, connecting the car park with the development.

  The vehicles are entirely powered by renewable energy; equipped with Lithium-Phosphate batteries, a range of approximately 60 kilometers is established on a 1.5 hour charge. The vehicles will be recharged at the stations, avoiding the necessity of additional parking space (garage). The stations feature angled berths, allowing all vehicles independent entry and exit. The navigation system is based on ‘odometry’ which counts the number of wheel revolutions and notes the wheel angle to calculate its position. Road magnets also play a role.

  The PRT system was launched on 28 November 2010. It is operational 18 hours a day (between 06.00hr and 00.00hr) and operates on demand, with a minimum of 7 vehicles operational during all peak hours. Until the middle of March 2011, the system carried over 55 000 passengers and undertook 18 000 trips. The number of passengers and trips has been steadily increasing. Average occupancy has gone up from 1.7 during the first month to 2.0-2.1 during the subsequent 3 months. The total number of km driven monthly is just over 10 000. Vehicle availability has remained steady at between 99.7% and 99.9% since the launch.
HOST
The Host (Human Oriented Sustainable Transport) prototype is the result of a €3.2 million project (funded by the European Commission) on which a consortium, coordinated by CIRPS - Sapienza University of Rome and composed of 9 European partners from 7 EU countries, has been working since 2005.

HOST is a vehicle that never sleeps. It was designed to perform four services: car sharing, urban goods delivery, collective taxi and garbage collection. A 24-hour service without pause.

First of all HOST is a new concept of sustainable mobility, conceived for the transport of people and goods. It is based on the modularity and re-using concepts. Modularity of suspensions and chassis, so it can be converted from a city car into a van; modularity of the powertrain, different energy system modes consisting of a series hybrid (Diesel-electric) provided with a plug-in function, which enables the vehicle to be recharged using the electricity from the grid. In addition to that, Host can house a hydrogen fuel cell and is equipped with a energy storage system easily adaptable to a wide range of powers. The result is a vehicle that increases transport opportunities and that, being able to work 24 hours a day, cuts down the costs deriving from its complexity.

Thanks to an electric motor per each wheel and to a drive-by-wire architecture, HOST hasn’t any mechanical link between the chassis and the bodywork. Thus HOST changes the cabins according to the service required by an innovative onboard horizontal transhipment system and can turn on itself and translate.

This new concept is ideal for urban mobility and offers great advantages for the transport logistics flows of goods and people, decreasing the number of vehicles circulating in towns.

robuCAB
robuCAB is an open research vehicle for Universities and Research Labs willing to develop their own solutions of driverless vehicles. It is a 4-wheel drive, with front and rear steering mechanisms, which can reach up to 30 km/h.

Developers can use the UDP embedded server to control motions with their own navigation system, or use the Open-Source software (robuBOX-CTS) to integrate their applications and sensors.

Several versions of robuCAB are available, with or without body, or in all-terrain configurations, with larger tires and enhanced clearance or climbing capabilities.

Many options are also available: GPS, inertial, laser, ultrasonic sensors, on-board manipulator …
MACIF,  
CityMobil partner in La Rochelle

Macif, a mutual insurance company already actively pursuing Corporate Social Responsibility policies, is one of the main partners in La Rochelle’s City Mobil project.

Macif, an insurer committed to sustainable development and to road safety
As France’s first motor insurer covering nearly 5.7 million vehicles, the Macif Group considers that sustainable individual mobility is a major social issue which needs to be addressed and has, for the past 5 years, lent its support to different forms of transport which respect the environment.

Macif insures all forms of energy and once again has proved that it can respond to insurance needs for all forms of mobility, whatever the vehicle’s energy source may be (petrol, diesel fuel, LPG, hybrid or electric) or other forms of mobility (ride sharing, car sharing, bicycles, walking bus...).

At the same time, Macif is helping regional structures to reinforce their eco-mobility initiatives, and can today claim to be France’s number one car sharing insurer.

Road safety and environmental protection : two major goals for Macif Prévention
Macif is also very active in helping to promote safety on the roads. Every year for the past 20 years, Macif Prévention has been at the forefront of 1,800 initiatives involving the public at large, making people aware of the dangers of the road: encouraging cyclists to wear a helmet, encouraging drivers to have a more environment-friendly approach to driving, warning road users about dangerous behaviours (cars and motorcycles). A recreational approach has been used to make learning more fun and therefore more efficient.

Increasing public awareness
Macif uses different information channels in order to make the greater public more aware of other forms of mobility available, as an alternative to the individual use of the car. Every month, nearly 20,000 visitors consult the Internet site www.roulonspourlavenir.com. Since May 2009, Macif has also been appearing on France 2 each weekend in “Emissions de solutions”, a short programme on topics associated with sustainable mobility.

About the Macif Group
A mutual insurance company with no intermediaries, Macif is a social economy company built on a model which combines social benefits with economic performance. Number one family insurer in France, the Macif Group covers all the needs of its 4.7 million policyholders (property, health and provident insurance, savings, emergency assistance, credit, home services...). On 1st January 2010 MACIF was managing 16.7 million contracts and is currently ranked n° 1 on the motor (car & motorcycle) insurance market, in terms of the number of contracts. More information is available on www.macif.fr