



Bringing intelligent vehicles to the road

Final Event

26-27 June 2012
Autoworld, Brussels



Welcome

to the euroFOT Final Event!

Dear participants,

We are delighted to welcome you to Brussels, capital of Europe and host to the European institutions, on the occasion of the euroFOT Final Event.

euroFOT, the first large-scale European Field Operational Test of driver assistance systems, is drawing to a close at the end of June 2012. Four years of work, during which the euroFOT partners assessed the effectiveness of these systems in real traffic, have now reached their conclusion.

During the next two days the findings of euroFOT will be showcased. You will have the opportunity to discover the project's technical achievements and results, as well as to experience them by getting behind the wheel of vehicles equipped with the systems tested by euroFOT. What's more, the Exhibition will take you through the different steps of the first large-scale European Field Operational Test on driver assistance systems.

We wish you a pleasant and fruitful event, and hope you enjoy this euroFOT journey.



The euroFOT Consortium

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Opening Ceremony & Conference

Tuesday 26 June 2012, 10:30 – 19:00

10:30	Opening Ceremony	
	Welcome Address	
	Keynote Speech	
	<ul style="list-style-type: none">● Market Penetration and Impact of Active Safety Systems Andreas Ostendorf, Vice President Sustainability, Environment and Safety Engineering, Ford of Europe● The future of Active Safety System Deployment Representative, European Commission● Assessment of Active Safety Systems Claes Tingvall, Professor and Director of Traffic Safety at Swedish Transport Administration, former Chairman of EuroNCAP● euroFOT Key Results Aria Etemad, euroFOT Coordinator, Ford Research & Advanced Engineering Europe	
11:30	Exhibition Opening	
	Visit of Exhibition Demonstration of Active Safety Systems	
12:30	Lunch	
13:30	Conference Start	
RESULTS ON BEHAVIOUR, ACCEPTANCE AND USAGE LONGITUDINAL FUNCTIONS	<ul style="list-style-type: none">● Adaptive Cruise Control and Forward Collision Warning Mohamed Benmimoun, ika - Institute for Automotive Engineering RWTH Aachen University, Germany● Speed Regulator System Guillaume Saint Pierre, IFSTTAR, French institute of science and technology for transport, development and networks, France	
	<ul style="list-style-type: none">● Lane Departure Warning, Impairment Warning, and Blind Spot Information System Mikael Ljung Aust, Volvo Car Corporation, Sweden● Curve Speed Warning and Fuel Efficiency Advisor Christoph Kessler, Ford Research & Advanced Engineering Europe, Germany● Navigation System Stefanie Schoch, Center for Traffic Sciences (IZVW), University of Würzburg, Germany	
15:30 - 16:15	Coffee Break	
IMPACT AND COST BENEFIT ANALYSIS	<ul style="list-style-type: none">● Safety Lucas Malta, Volvo Technology Corporation, Sweden● Traffic Efficiency and Environment Freek Faber, TNO Mobility and Logistics, the Netherlands● Cost Benefit Analysis Torsten Geissler, Federal Highway Research Institute (BAST), Germany Johann Gwehenberger, Allianz Center for technology (AZT), Germany	
	17:30 - 19:00	Cocktail Reception

09:00

Conference Start

HYPOTHESES AND
EXPERIMENTAL DESIGN

- **From Systems to Hypotheses**
Karsten Heinig, Volvo Technology Corporation, Sweden
- **Testing Hypotheses Using Performance Indicators**
Marco Dozza, Chalmers University of Technology / SAFER, Sweden
- **Developing the FOT Methodology**
Samantha Jamson, Institute for Transport Studies, University of Leeds, UK
- **Methodological and Practical Lessons Learned**
Rino Brouwer, TNO Traffic Behaviour, the Netherlands

10:20 - 10:50

Coffee Break

DATA COLLECTION AND
MANAGEMENT

- **Data Management at the Swedish Vehicle Management Centre (VMC)**
Jonas Bärghman, Chalmers University of Technology / SAFER, Sweden
- **Data Management and Data Processing at the German VMC**
Mohamed Benmimoun, ika - Institute for Automotive Engineering RWTH Aachen University, Germany
- **Data Storage and Database Management of euroFOT Datasets**
Angelos Amditis, Institute of Communication and Computer Systems, Greece
- **Software for Data Processing, Visualisation and Analysis at the French VMC**
Clément Val, CEESAR, European Centre of Studies on Safety and Risk Analysis, France

12:00 - 13:00

Lunch

FOT EXECUTION

- **Structure of Vehicle Management Centers (VMC) & German1 VMC**
András Csepinszky, ERTICO - ITS Europe, Belgium
- **Conducting a FOT: Practical Experiences from the German2 VMC**
Stefanie Schoch, Center for Traffic Sciences (IZVW), University of Würzburg,
- **French VMC**
Reakka Krishnakumar, CEESAR, European Centre of Studies on Safety and Risk Analysis, France
- **A Subjective FOT on Lane Departure Warning**
Gianfranco Burzio, CRF, Fiat Research Centre, Italy
Roberto Tadei, Polytechnic University of Turin, Italy
- **Commercial Perspectives and Challenges for Vehicle Operations**
Karsten Heinig, Volvo Technology Corporation, Sweden

14:30 - 15:00

Coffee Break

EVALUATION
METHODOLOGY

- **Methodology for Safety Impact Assessment**
Mikael Ljung Aust, Volvo Car Corporation, Sweden
- **Methodology for Impact Assessment on Traffic Efficiency and Environment**
Freek Faber, TNO Mobility and Logistics, the Netherlands
- **Methodology for Hypothesis Testing and Questionnaire Analysis**
Samantha Jamson, Institute for Transport Studies University of Leeds, UK
- **Methodology for Cost-Benefit Analysis**
Torsten Geissler, Federal Highway Research Institute (BAST), Germany

16:15

Closing: What's next? An Outlook on the Future of Active Safety Systems

Aria Etemad, euroFOT Coordinator, Ford Research & Advanced Engineering Europe

Session 1

Results on Behaviour, Acceptance and Usage (Longitudinal Functions)

A main activity of the evaluation in euroFOT is the analysis of the user related aspects. This evaluation consists of several activities. The evaluation is based on the analysis of objective data, collected from the FOT vehicles and subjective data, collected by means of time based questionnaires. By applying a set of indicators the impact of the tested function on the driver related aspects is assessed. Based on hypotheses (derived from the research questions of the project), a comparison between the baseline phase (tested functions not available) and the treatment phase (tested function available) can be established. This allows the assessment of the impact of the tested function.

The following aspects are considered for the assessment of the driver related aspects:

- Driver behaviour
- Acceptance
- Usability
- Workload
- Trust

Within this session, the results of the longitudinal functions tested in euroFOT will be presented.

These functions are:

- Adaptive Cruise Control (ACC)
- Forward Collision Warning (FCW)
- Speed Regulator System (SRS)

Presentations

Adaptive Cruise Control and Forward Collision Warning

Mohamed Benmimoun, ika - Institute for Automotive Engineering RWTH Aachen University, Germany

The presentation will go over the main findings for Adaptive Cruise Control (ACC) and Forward Collision Warning (FCW) with respect to change in driver behaviour and user acceptance. The findings are based on the pre-defined hypotheses in euroFOT tested by means of objective as well as subjective data.

Speed Regulator System

Guillaume St.Pierre, IFSTTAR, French institute of science and technology for transport, development and networks, France

After a very brief recall of the French Vehicle Management Centre (VMC) characteristics, results on driver behaviour, acceptance and usage will be given for the Speed Limiter and the Cruise Control. A focus on driver's speed choice and over-speeding events will also be provided.

Session 2

Results on Behaviour, Acceptance and Usage (Lateral and Special Functions)

A main activity of the evaluation in euroFOT is the analysis of user related aspects in relation to the evaluated functions. The evaluation is based on a combination of objective data from the FOT vehicles and subjective data, collected by means of a series of time based questionnaires.

A number of hypotheses on how the presence of each function might influence various aspects of driver behaviour, acceptance, workload, usability and trust were evaluated.

Within this session, results for the lateral and general functions tested in euroFOT are presented.

These functions are:

- Lane Departure Warning (LDW)
- Impairment Warning (IW)
- Blind Spot Information System (BLIS)
- Fuel Efficiency Advisor (FEA)
- SafeHMI (Navigation System)

Presentations

[Lane Departure Warning, Impairment Warning and Blind Spot Information System](#)

Mikael Ljung Aust, Volvo Car Corporation, Sweden

Results from the analysis of vehicle data and user questionnaires for Lane Departure Warning, Impairment Warning and Blind Spot Information System will be presented, along with an overview of future challenges for these systems.

[Curve Speed Warning and Fuel Efficiency Advisor](#)

Christoph Kessler, Ford Research & Advanced Engineering Europe, Germany

This presentation will introduce the euroFOT results for Curve Speed Warning (CSW) and Fuel Efficiency Advisor (FEA): CSW indicates to the driver that the next curve should be driven at lower speed; FEA has the potential to support drivers to drive more efficiently.

[Navigation System](#)

Stefanie Schoch, Center for Traffic Sciences (IZVV), University of Würzburg, Germany

A summary of results will be given for the comparison of driving with two different HMI-solutions of navigation systems. The presentation focuses on results regarding system acceptance and usage as well as system handling and its impact on driving behaviour.

Session 3

Impact and Cost Benefit Analysis

The analysis of impacts from the use of ADAS on safety, traffic efficiency and the environment is a key task in euroFOT. Surrogate measures are investigated to derive estimates for the potential reduction in the number of accidents and injuries. Given sufficient evidence from hypothesis testing, these estimations are achieved by comparing events and performance indicators from the FOT with real world data from in-depth accident analysis and national accident statistics. Beyond that, fuel savings and time savings are quantified. The benefits for traffic efficiency and environment assuming a traffic system wide implementation are derived directly from the FOT data. By means of traffic simulation, the impacts at different deployment states are determined.

The cost-benefit analysis in euroFOT is based on welfare economics and will provide decision makers and stakeholders with relevant estimates on the effect of the functions tested on society's welfare by comparing monetary benefits and costs to society. For this purpose, it amends the FOT results with data regarding market conditions and economic resources needed to implement the systems. Given the European scope of euroFOT, the results obtained allow an estimation of potential benefits and costs for EU-27.

Presentations

Safety

Lucas Malta, Volvo Technology Corporation, Sweden

This presentation will highlight some of the key findings that have come out of the safety impact analysis conducted within the project. The potential benefit of studied functions and how they affect driver behaviour will be discussed.

Traffic Efficiency and Environment

Freek Faber, TNO Mobility and Logistics, The Netherlands

Will drivers arrive faster and in a more sustainable way at their destinations with the euroFOT functions? The FOT data, complemented with traffic simulations, give the answer.

Cost Benefit Analysis

Torsten Geissler, Federal Highway Research Institute (BAST), Germany

Johann Gwehenberger, Allianz Center for Technology (AZT), Germany

The presentation will show the results of the socio-economic impact assessment of systems tested in euroFOT. It will feature the design of the assessment framework, the main assumptions introduced to the assessment, the cost-benefit results, and the sensitivity tests.

Session 4

Hypotheses and Experimental Design

Developing hypotheses and the experimental design are rather theoretical and dry research topics. Nevertheless they are vital for any experiment and a Field Operational Test (FOT) is an experiment that is very large and takes place in a complex environment. As in any other experiment, the objective is to test whether the experimental manipulation (in euroFOT, e.g. LDW or FCW) has an effect on the driving behaviour. The question is how driving behaviour changes compared to driving without a system.

The fact that an FOT takes place under noisy measurement conditions (real world traffic) increases the need for a good preparation of the experiment. A priori well defined hypotheses need to be formulated. These hypotheses describe the relevant conditions, what needs to be measured, and what the effect is expected to be. They also should cover both positive and negative effects. These hypotheses are then used as the basis for determining the performance indicators (e.g. average speed and time headway) and variables that may influence these performance indicators (situational variables such as weather conditions).

The hypotheses are also used to determine the experimental method that still needs to be developed even though data is collected under 'chaotic' conditions. The experimental method describes how long different measurement periods have to be, what kind of drivers should participate, at what times questionnaires should be administered etc. This session will cover the important and often underestimated preparations of an FOT and will also describe some of the lessons learned on performing an FOT.

Presentations

From Systems to Hypotheses

Karsten Heinig, Volvo Technology Corporation, Sweden

FOTs are large scale studies with the objective to answer specific research questions and hypotheses. In euroFOT, impact of active safety systems on safety, the environment, efficiency, usage and acceptance was hypothesised. The presentation will try to explain how specific hypotheses were derived from system specifications and research questions.

Testing Hypotheses Using Performance Indicators

Marco Dozza, Chalmers University of Technology / SAFER, Sweden

Formulation of hypotheses is fundamental to guide analyses of FOT data. However, not all hypotheses can be tested. Specifying performance indicator is the first reality check for hypothesis testing. Furthermore, the extent to which results from different datasets can be harmonised and combined depends on the definition of the performance indicators. Finally, performance indicators are dependent on the context and often become a trade-off between generality and robustness of the results.

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Developing the FOT Methodology

Samantha Jamson, Institute for Transport Studies, University of Leeds, UK

This presentation describes the process of developing the FOT methodology using a top-down approach in order to harmonise across the different test sites. The process defined the selection of participants and the experimental design in the context of the constraints faced, such as budget and practical considerations.

Methodological and Practical Lessons Learned

Rino Brouwer, Dept. Traffic Behaviour, TNO, The Netherlands

In euroFOT different systems were evaluated on different test sites with different vehicles. And all these tests form a single FOT. Therefore a common approach for test execution needed to be developed. Lessons learned with respect to the development and execution will be presented.

Session 5

Data Collection and Management

Proper data collection and management are essential for the success of any FOT and naturalistic driving study. To achieve that, different requirements – ranging from technical and operational issues, time and budget constraints, as well as analysis plans – have to be considered: sometimes, compromises have to be made. This session will describe the challenges faced by the euroFOT partners in data collection and management. It will further highlight and motivate the solutions finally chosen, and it will point out the key lessons learned.

Presentations

Data Management at the Swedish Vehicle Management Center (VMC)

Jonas Bärgrman, Chalmers University of Technology / SAFER, Sweden

This presentation will give an overview of the implementation and lessons learned in the data management at the Swedish VMC: it will focus on the data management chain including the data acquisition system, pre-processing, data storage, video annotation, data security and the hypothesis testing platform.

Data Management and Data Processing at the German VMC

Mohamed Benmimoun, ika - Institute for Automotive Engineering RWTH Aachen University, Germany

Presentation of the infrastructure developed at ika to automate the complete data management process at the German1-VMC. This includes data collection in the field, data upload to a centralised server, data conversion, data processing, and storage.

Data Storage and Database Management of euroFOT Datasets

Angelos Amditis, Institute of Communication and Computer Systems, Greece

This presentation will give an overview of data storage and database management of euroFOT datasets, along with the lessons learned and potential future steps. The presentation focuses on the prototype database management tool developed and used at the German VMC1 and at the French VMC.

Software for Data Processing, Visualization and Analysis at the French VMC

Clément Val, CEESAR, European Centre of Studies on Safety and Risk Analysis, France

Before proceeding with analysis, it is necessary to transform the huge amount of raw, continuously acquired data, into a usable, reduced dataset. Software handling all aspects of this task has been developed, and will be presented.

Session 6

FOT Execution

The FOT operation is the central element of a field operational test. It has to deal with the challenging issues of the recruitment, the setup, the driving and the handover of the data collected during the driving phase. These tasks are even more complicated in the context of the project considering the heterogenic test environment such as the multitude of functions and their different combinations, the different kinds of test cars, the extensive geographical distribution of the test etc. The scope of the session is to show how the different project partners were able to solve the issues and what lessons these solutions provided for the wider FOT community to improve the available operational methodology.

Presentations

Structure of Vehicle Management Centers (VMC) & German1 VMC

András Csepinszky, ERTICO - ITS Europe, Belgium

euroFOT's FOT execution faced several challenges due to its heterogenic test environment: different vehicles, different data loggers with different instrumentation levels, and huge geographic area. Thanks to the efforts of the partners and the innovative organisational structures, euroFOT managed to achieve its goals and successfully recruit 971 vehicles and 1038 drivers delivering data for analysis from over 34 million kilometre journeys. The German VMC Operation Center 1 consists of 3 operation sites: Ford in Aachen, MAN in Munich and Volkswagen in Wolfsburg.

Conducting a FOT: Practical Experiences from the German2 VMC

Stefanie Schoch, Center for Traffic Sciences (IZVW), University of Würzburg, Germany

The usage of different HMI-solutions for navigation systems and its impact on driving has been investigated. The presentation will give an overview on data logging and driver recruitment, and will point out some lessons learned for conducting an FOT.

French VMC

Reakka Krishnakumar, CEESAR, European Centre of Studies on Safety and Risk Analysis, France

This presentation shows different aspects of the experiment's organisation conducted in France (FOT vehicles, instrumentation, driver recruitment, FOT operation...).

A Subjective FOT on Lane Departure Warning

Gianfranco Burzio, CRF, Fiat Research Centre, Italy

Roberto Tadei, Polytechnic of Turin, Italy

Hundreds of drivers have been involved in a subjective field test, during several weeks of use of their Lancia Delta equipped with Driving Advisor, a Lane Departure Warning system. The methodology followed and lessons learned will be described together with the main results in term of safety benefits perceived and experienced by the drivers.

Commercial Perspectives and Challenges for Vehicle Operations

Karsten Heinig, Volvo Technology Corporation, Sweden

Executing a FOT with commercial vehicles is demanding. Harsh operational conditions for the logging equipment, strict delivery schedules and the demand for a maximum of vehicle update impose high requirements on technology and organisation of the FOT. This presentation will touch upon several of these aspects.

Session 7

Evaluation Methodology

This session presents the methodology of the data analysis. The goal is to assess the societal and individual impacts of the Advanced Driver Assistance Systems (ADAS) that are tested in the euroFOT project. Data analysis methods are described in four different presentations.

The user-related aspects that are assessed are driver behaviour, driver workload, driver acceptance, trust, function usage, and exposure. In this assessment both objective data and subjective data are used. The assessment involves hypothesis testing.

The purpose of the safety impact analysis is to assess the extent to which the functions being evaluated in euroFOT can be expected to alter the current crash populations at EU level in terms of accidents, injuries and fatalities. The traffic efficiency aspects that are assessed are travel time, average speed, trip length and accident-related congestion. For the environmental assessment, fuel consumption and CO2 emissions are assessed. For both, the efficiency and environmental impact assessment, two approaches are used: a direct approach and a modelling approach. The direct approach uses indicators directly measured in the FOT. The impacts are scaled to EU level using road types as situational variables. The modelling approach uses FOT data as input for traffic simulations and environmental models, in order to model the interaction between equipped and non-equipped vehicles at higher penetration rates than those in the FOT.

The approach for the socio-economic cost-benefit analysis is presented. The results of the impact assessment will be scaled up to EU level to serve as input for the socio-economic cost-benefit analysis. Scaling up of traffic efficiency and environmental effects is based on EU vehicle kilometres, and scaling up of safety effects is based on EU accident numbers.

Finally the experience with the impact assessment and consequent updates and improvements of the methodology will be discussed.

Presentations

Methodology for Safety Impact Assessment

Mikael Ljung Aust, Volvo Car Corporation, Sweden

A safety impact assessment estimates how many accidents/injuries a function potentially could prevent if it was widely deployed. This presentation will describe how that estimate is calculated for euroFOT data.

Methodology for Impact Assessment on Traffic Efficiency and Environment

Freek Faber, TNO Mobility and Logistics, The Netherlands

Curious about the difference between average speed and average speed? Differences in the methodology will be explained for the various kinds of euroFOT functions.

Methodology for Hypothesis Testing and Questionnaire Analysis

Samantha Jamson, Institute for Transport Studies University of Leeds, UK

This presentation will explain the procedure followed for the hypothesis testing of both the objective data captured via the test vehicles and the subjective data gleaned via questionnaires to the participant drivers.

Methodology for Cost-Benefit Analysis

Torsten Geissler, Federal Highway Research Institute (BAST), Germany

The presentation will feature the application of the FESTA V guidance to the cost-benefit assessment in the methodology steps of impact assessment, impact appraisal and results calculation. Based on this it will summarise the main achievements and the main challenges from a methodological point of view.

Speakers' Biographies

Opening Ceremony Speakers



Andreas Ostendorf, Vice President Sustainability, Environment and Safety Engineering, Ford of Europe

As Vice President for Sustainability, Environment and Safety Engineering, Andreas J.M. Ostendorf plays a key role within Ford of Europe's leadership team. In his position he's responsible for engineering and policy matters regarding sustainability, environmental and automotive safety issues. He is also responsible in Ford globally for all homologation, certification and compliance issues. Andreas has held his current position since February 2012 and is based in Cologne, Germany. During a distinguished 25 year career with Ford he has worked extensively within the company's global Product Development Organisation.

Most recently he was the Global Director for Testing and Prototype Engineering in Dearborn, USA. Prior to that he was responsible for Chassis and Vehicle Engineering in Ford of Europe, including responsibility for Ford's acclaimed vehicle dynamics.

Born in Cologne in 1961, Andreas graduated from the RWTH Aachen in 1986 with a degree in Mechanical Engineering.



Claes Tingvall, Professor and Director of Traffic Safety at Swedish Road Administration, former Chairman of EuroNCAP

Claes Tingvall, Professor, Dr Med Sc, Director of Traffic Safety at the Swedish Transport Administration. Claes Tingvall has held positions related to traffic safety since 1976, and has mainly published in the area of injury epidemiology, vehicle occupant protection and design methods for in-depth analyses of accident data collected in the field. Since 1991 Claes Tingvall has held adjunct professorships at Chalmers (until 1998) and at Monash University (until 2011). Between 1998 and 2001 he was Professor and Director of Monash University Accident Research Centre, Australia.

Since 2001, Claes Tingvall is Director of Traffic Safety in Sweden. Between 2004-2010, Claes Tingvall was also Chairman of EuroNCAP. From 2011 he holds an adjunct professorship at Chalmers.



Aria Etemad, euroFOT Coordinator, Ford Research & Advanced Engineering Europe

Aria Etemad has obtained a degree in Aero Space Engineering from the Technical University of Berlin in 1996, where he has also spent the following three years working as a research and teaching assistant in the fields of navigation and global positioning.

Between 1999 and 2001 he has worked for Visteon on integrated navigation systems, subsequently moving to Aachen for joining the Telematics and Navigation team at the Ford Research & Advanced Engineering.

Since joining Ford Research, Aria has been responsible for the coordination and development of safety and comfort applications based on digital maps. Currently, he is coordinating two European projects:

- euroFOT, the first European large-scale field operational test on in-vehicle systems
- interactiVe, dealing with the development of the next generation of Advanced Driver Assistance Systems (ADAS).

Speakers' Biographies

Conference Speakers



András Csepinszky, ERTICO - ITS Europe, Belgium

András Csepinszky holds a M.Sc. from University of Strasbourg, France. Between 2000 and 2005, he was IT operation field manager in Hungary. In 2005 he led an IT laboratory for graduate students at the University of Debrecen, Hungary. Between 2006 and 2009, András worked at Connexis Kft. as IT business analyst and later as project manager and worked with BMW's ConnectedDrive and Wirelesscar to develop NGTP, Next generation Telematics Protocol. Later he was managing projects prototyping various telematics platforms and protocols such as CarWings, ACP, GTP. Since 2009, he is working at ERTICO - ITS Europe as project manager. He leads the FOT operations (SP5) of the euroFOT IP and works as standardization expert within the iCar Support Action, EUTRAIN and of Traveller Information Services Association (TISA). András is Belgian delegate and expert to ISO TC204 and CEN TC278. He is appointed as liaison officer of TISA to ISO TC204 WG10 and CEN TC278 WG4.



Angelos Amditis, Institute of Communication and Computer Systems, Greece

Angelos J. Amditis is Research Director in the Institute of Communication and Computer Systems, member of its Board of Directors. He is the founder and the Head of the I-SENSE Group. His current research interests are in the fields of Intelligent Transportation Systems (ADAS, Human Machine Interfaces, Information Fusion...), Virtual Reality, Sensors for monitoring purposes, Telematics, Driver monitoring. He has participated in a large number of Research projects being the scientific responsible of more than fifty projects in the last 10 years (e.g. PREVENT, AIDE, INTUITION, SAFESPOT, INTERACTIVE, HAVE IT, EUROFOT, TELEFOT, SENSATION etc.). He has been following FOT activities in national, European and international level through a number of projects and activities (e.g. HERMES, national project in FOTs, TELEFOT, EUROFOT, FOTNET etc.) and he had an active role in building methodologies, tools and test sites for FOTs.



Christoph Kessler: Ford Research & Advanced Engineering Europe, Germany

PhD in Mechanical Engineering at University Karlsruhe 1994. Atmospheric Research & Modeling at University of Cologne until 2000 and until 2002 at Ford. Since 2000 at Ford Research & Advanced Engineering Europe in Aachen, Germany. Various topics in Environmental Science, Software & Telematics. Currently active in the technical management of two European research projects for field operational testing and active safety. Responsibilities in euroFOT are SP2, hypotheses, datalogger and car architecture, and SP5, getting customers to be participants with a good experience in their first FOT and providing useful data. Preferred topics: Data analysis, learning matlab to get results and, yes, writing deliverables.



Clément Val, CEESAR, European centre of studies on safety and risk analysis, France

Clément Val graduated (engineering master's degree) from École Centrale de Lyon in 2002. He worked as a consultant for the French carmaker's LAB and for PSA Peugeot Citroën from 2002 to 2006, after which he took the lead of CEESAR's Experiments and Human Behaviour Science Department. He has led participation of CEESAR on a number of driver behaviour studies. In euroFOT, he organised the French experiment, led the integration of the data acquisition systems, designed and implemented data management and analysis tools, and supported data analysis.



Freek Faber, TNO Mobility and Logistics, the Netherlands

Ir. F. Faber (Freek) received his MSc in System Engineering, Policy Analysis and Management from Delft University of Technology. Since 2008 he worked with TNO (organisation for applied research) as a researcher and project manager in the business unit Mobility and Logistics. He has been involved in projects for the Dutch government, EU-funded projects (SAFESPOT, euroFOT) and projects for private companies in which he gained experience in ITS deployment, impact assessment and policy consulting.



Gianfranco Burzio, CRF, Fiat Research Centre, Italy

Project Manager in the Electronic and Telematics Project Management Research Area. Graduated in Electrical Engineering at Turin Polytechnic in 1980, 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 the leader of the EUCAR Mobility working group and of the ERTRAC Road Transport Safety and Security working group. He is the coordinator of the CityMove project, City Multi-role Vehicle for freight delivery.



Guillaume Saint Pierre, IFSTTAR, French institute of science and technology for transport, development and networks, France

Guillaume Saint Pierre holds a PhD in applied mathematics of the Toulouse III University. He is working at the vehicle-infrastructure-driver interactions research unit since 2007 as a statistician researcher. His work interests there are in understanding driver behaviour related to the driver usage of systems of assistances, with the help of statistical analysis, road risk study, and fuel consumption analysis. He is involved in euroFOT project as a WP leader for the pilot tests, and as the IFSTTAR scientific responsible. He gained experience in ND studies through the French large scale evaluation of ISA systems: the LAVIA project.



Johann Gwehenberger, AZT Automotive GmbH Allianz Center for Technology, Germany

Johann Gwehenberger, Dr. rer.nat., studied physics at Munich University of Applied Science. From 1994 to 1999 he was responsible for risk management at DBV-Winterthur Insurance. Doctor degree (1998) at Freiburg University. From 1999 to 2004, he was head of department vehicle safety and accidents at the Institute for Vehicle Safety, Munich. Since 2004 head of department “accident research and loss prevention” at Allianz Center for Technology. WP-Leader in several national and European Projects, like AKTIV, ECBOS, APROSYS, TRACE, APSN, euroFOT. Since 1998 lectures at the University of Applied Science Munich and Technical University in Graz.



Jonas Bärgrman, Chalmers University of Technology / SAFER, Sweden

Jonas Bärgrman is a researcher and group leader at Chalmers University of Technology in the group Accident Prevention, at the division of Traffic Safety. He joined Chalmers in 2009, prior to which he worked in the Active Safety group at Autoliv Research. Current research focus is on Naturalistic Field Operational Tests and crash causation. For example this has included work package leadership in FESTA and SeMiFOT, related to data acquisition and data management. Recently Jonas has been involved in pre-analysis preparations in euroFOT, and in also contributes in the DriveC2X project. In the field of accident causation Jonas is the project leader for the two Swedish projects DREAMi and ANNEXT, focusing on the understanding of factors contributing to crashes – research based on naturalistic driving data with video.



Karsten Heinig, Volvo Technology Corporation, Sweden

Graduated in Civil Engineering at University of Hannover, Germany (2001) and holds a PhD in Engineering from Technical University of Braunschweig (2008). Before joining Volvo in 2007, Karsten has worked at University of Hannover in several automotive related research projects, e. g. PReVENT. Since joining Volvo, Karsten has worked in and been responsible for FOT related activities, e. g. FESTA, SeMiFOT, euroFOT. He currently coordinates all FOT activities at Volvo and is the leader of Volvo Trucks Accident Research Team.



Lucas Malta, Volvo Technology Corporation, Sweden

Lucas Malta received a B.S. degree in electrical engineering from the Federal University of Minas Gerais, Brazil, in 2004 and the M.S. and PhD degrees in engineering from Nagoya University, Japan, in 2007 and 2010, respectively. He is now a systems engineer/project manager at Volvo Group Trucks Technology, Sweden. His work focuses on driver behaviour, human-centered driver assistance, and impact assessment.



Marco Dozza, Chalmers University of Technology / SAFER, Sweden

Marco Dozza received his PhD from the University of Bologna, Italy in collaboration with Oregon Health & Science University, Portland OR in 2007. After graduation, he worked as System Developer for over 2 years at Volvo Technology, a research and innovation company inside the Volvo group. From 2009, he is a Senior Researcher at Chalmers University of Technology. He is examiner for the courses Vehicle and Traffic Safety and Advanced Active Safety in the Master for Automotive Engineering at Chalmers University of Technology. He has been involved in several European funded projects such as PReVENT, AIDE, SafeSpot, FESTA, and he is currently involved in SHRP2, DriveC2X, SeMiFOT2. Further, he is project leader for the MASCOT and preBikeSAFE projects for VRU safety. His research interests include active safety and analysis of naturalistic data. He is author of over 30 scientific articles and peer-reviewed contributions to conferences.



Mikael Ljung Aust, Volvo Car Corporation, Sweden

Mikael Ljung Aust holds a Master of Science in Philosophy from Umeå University (2001), a Master of Science in Cognitive Science from Linköping University (2002) and a PhD in Traffic Safety from Chalmers University of Technology (2012). Prior to joining Volvo Cars, he worked with on-scene accident investigations and methodology development at Chalmers University of Technology. In 2007 he joined Volvo Cars as Driver Behaviour Specialist at Volvo Cars Safety Centre. He has participated in several previous EC-funded projects including SafetyNet and PReVAL. Currently he participates in euroFOT and DaCoTa.



Mohamed Benmimoun, ika - Institute for Automotive Engineering RWTH Aachen University, Germany

Dipl.-Ing. Mohamed Benmimoun studied mechanical engineering at the RWTH Aachen University with focus on automotive engineering. Since 2007 he is employed at the Institute for automotive engineering (ika) of the RWTH Aachen University as scientific assistant in the driver assistance department. Here his area of work is the development, testing as well as assessment of driver assistance systems. Since May 2009 he is involved in the euroFOT project and leading the subproject (SP6) for data analysis and impact assessment.



Reakka Krishnakumar, CEESAR, European centre of studies on safety and risk analysis, France

Reakka Krishnakumar is bachelor of Economics and graduated (Master's Degree) in Transport Safety in 2005. She has worked for CEESAR since then. She has worked on a number of projects, including accident causation research, driver sociology and driver behaviour studies. In euroFOT, she was in charge of recruitment, drivers' briefing, and day to day operation of the French VMC, managing all relations with participants. She also took charge of the online questionnaires.



Rino Brouwer, Dept. Traffic Behaviour, TNO, the Netherlands

Dr. Rino Brouwer is a senior research scientist at TNO, with extensive experience in EU-funded projects (TELSCAN, AWAKE, HASTE, SAFESPOT, AIDE), projects for the Dutch government and for private companies. Since 1998 he works for the Traffic Behaviour group of TNO in Soesterberg after he received his PhD in Social Sciences with his thesis on visual information processing and selection. The Traffic Behaviour group is part of the Perceptual and Cognitive Systems department in which a multi-disciplinary team of scientists work around the user-centred design approach to specify, develop, and evaluate systems that support people to effectively, efficiently and safely interact with these systems. Rino is currently the coordinator of his group. At TNO he has been involved in wide range of projects and topics giving him a wide view on driver behaviour under different conditions. The projects cover research instruments as the driving simulator and the instrumented vehicle of TNO providing research experience both in laboratory settings as with 'real world conditions'. The topics of research varied from the effects of infrastructure and in-vehicle systems on driving behaviour to the development and testing of in-vehicle systems and HMI. He has a strong interest in qualifying and quantifying individual driving behaviour and applying that knowledge to adapt in-vehicle systems to individual needs. In euroFOT Rino is the leader of SP4 'Methodology and Experimental Procedures'.



Roberto Tadei, Polytechnic University of Turin, Italy

Roberto Tadei is Full Professor of Operations Research (OR) at Politecnico di Torino, Torino (Italy), where since 1990 he has been responsible for the classes of OR and Optimization. His main research areas are in Combinatorial Optimization and in particular: Transport and Logistics; Network Design and Production Scheduling. He is member of well-known international scientific societies and referee of international journals. He is author of more than 130 papers in international journals, conference proceedings and monographs and co-inventor of two International Patents.



Samantha Jamson, Institute for Transport Studies, University of Leeds, UK

Dr. Jamson is a Chartered Psychologist at the Institute for Transport Studies, University of Leeds. She has been principal investigator on a range of projects, including evaluations of driver support systems, road design and driver impairment. She is a member of the British Standards group on Human Machine Interface issues and chaired a European Working Group on motorcycle safety, delivering high-priority research needs to the European Commission. Her research involves collaboration with national and international policymakers (Department for Transport, Highways Agency, European Commission) as well as industrial collaboration. Dr. Jamson has published widely in the field of traffic safety and is a member of the Editorial Board for Transportation Research Part F. She is currently supervising PhD students working in the areas of driver workload, fatigue and medical impairment.



Stefanie Schoch, Center for Traffic Sciences (IZVW), University of Würzburg, Germany

Graduated in Psychology at Julius-Maximilians-University of Würzburg, Germany (2006). She is experienced in the preparation, implementation and statistical analysis of experimental studies in different settings of traffic sciences. In 2006 she joined the IZVW (Interdisciplinary Center for Traffic Sciences) at the University of Würzburg as graduate

research assistant and worked in several projects concerning ergonomics and driver assistance systems. Currently she participates in the large scale field operational test euroFOT, in which she contributed to the development of the methodology and experimental procedures, to the execution of the FOT and to the statistical analysis.



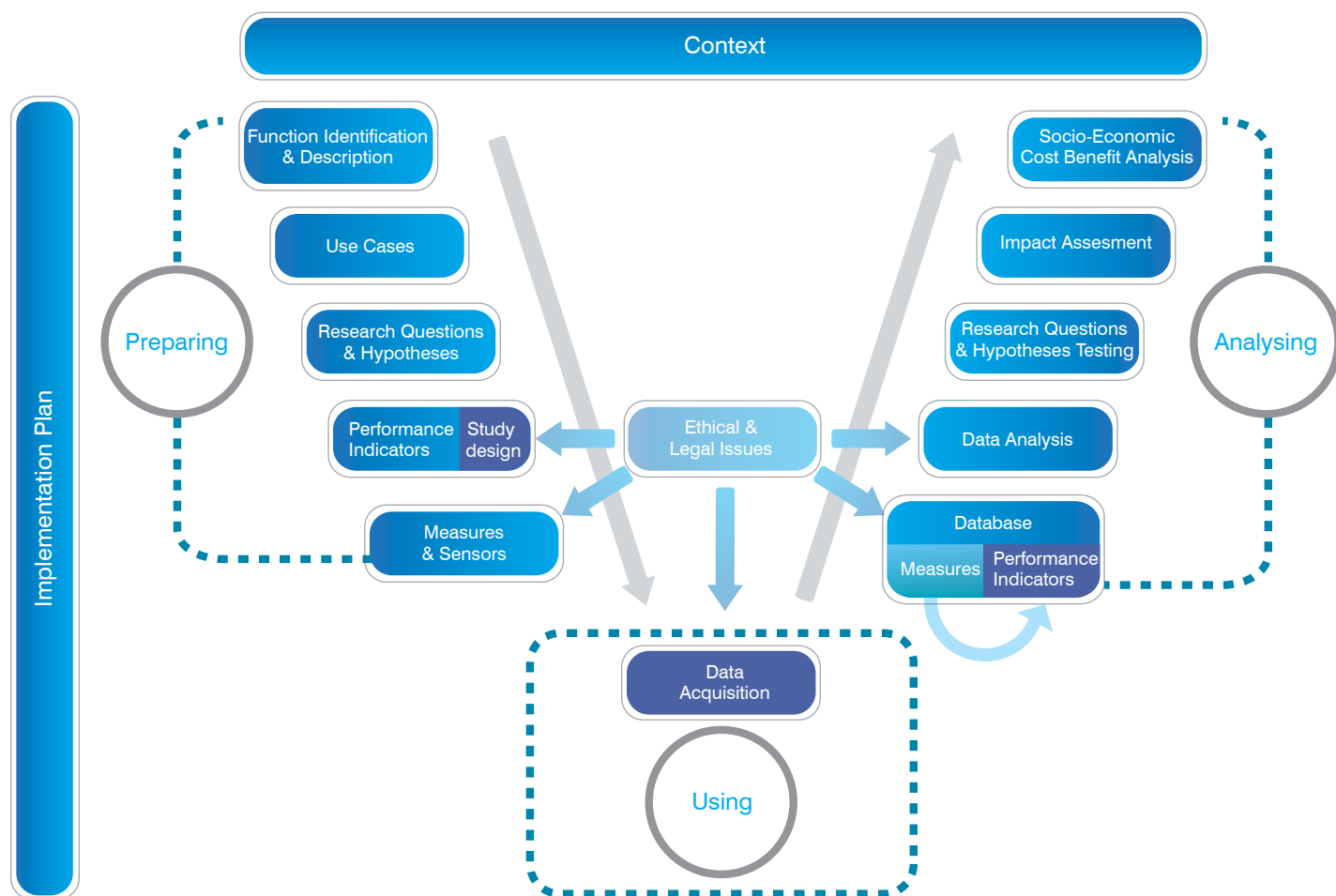
Torsten Geißler, Federal Highway Research Institute (BAST), Germany

Torsten Geißler holds a degree and a doctorate in economics from University of Cologne (1996, 2001). He has worked for more than 10 years as researcher and senior researcher at the Institute for Transport Economics (University of Cologne). His main fields of expertise are Intelligent Transport Systems, road safety and socio-economic impact

assessment. He has carried out methodological and application-specific work on socio-economic impact assessment in research projects such as CHAUFFEUR I and II, eIMPACT, SAFESPOT, FESTA and provided his expertise to Thematic Networks such as iCars and ROSEBUD. Since 2010 Torsten works as scientific officer for BAST, the German Federal Highway Research Institute, in the section of Cooperative Traffic and Driver Assistance Systems. Within the EasyWay program Torsten leads the European Study Group 5 on DATEX. Besides that he is the German member of CEDR Task 14 (the role of National Road Authorities in ITS, eSafety, EasyWay) and is involved in a number of deployment related working groups within TISA, Car2Car Communication Consortium and iMobilityForum.

Exhibition

Visitors will experience and be guided through the euroFOT project in three sequential stages - Preparing, Using and Analysing – derived from the FESTA methodology. euroFOT partners will be on hand at each stage to explain the euroFOT results, lessons learnt and highlight euroFOT’s achievements.



Preparing

How did euroFOT set its terms of reference? What were the use cases, research questions and hypotheses tested? How was euroFOT designed to rigorously meet the needs of the different test sites testing different functions/functions' combinations using different recruitment approaches in a standardised and comparable way? How was the information actually recorded and analysed?

The “**Preparing**” area will answer all these questions and more. euroFOT experts will be available to explain and appraise the euroFOT approach.

In addition, simulators will allow visitors to experience some of the active safety systems, videos will explain the active safety systems being tested, and some of the data loggers employed in euroFOT will be displayed.

Using

How was euroFOT actually organised? 1200 everyday drivers, in cars and trucks from 9 major automotive suppliers, testing 8 distinct active safety systems functions in 10 different testing centres across Europe presents an organisational challenge. How was the challenge met? What lessons can be learnt for future FOTs? Which vehicles were actually used, and which active safety systems were tested in which vehicles? How exactly were recordings made?

The “Using” area will focus on the operation and organisation of euroFOT. euroFOT experts will explain the operational and organisational aspects of euroFOT, and automotive suppliers experts will show visitors round the cars used during the testing.

Finally, some of the videos recorded during the “Using” phase will show the active safety systems as they actually were used by the test drivers.

Analysing

A huge amount of data was gathered by euroFOT. How was it stored and processed? How was the data analysed; which tools were used? How were the original research questions and hypotheses answered? And what are the final results – the impact assessment and cost benefit analysis?

The “**Analysing**” area will answer these questions and show the tools used, with euroFOT experts being on hand to explain to visitors all about this final euroFOT stage.

FESTA, an EU co-funded project running from November 2007 to April 2008, was devoted to creating a methodology for field operational tests.

The FESTA methodology, explained in the FESTA handbook provides practical guidance for developing well-designed FOTs, and it also ensures the comparability and transferability of FOT results.



Meet the euroFOT Consortium

Vehicle Manufacturers	Automotive Suppliers	Universities and Research Centres	Other Organisations	
  DAIMLER  CENTRO RICERCA FIAT   VOLVO  Audi 	  DELPHI 	  CHALMERS  UNIVERSITY OF LEEDS  	    TNO 	   

euroFOT is a European Commission DG Information Society-funded Integrated Project (IP)

Duration: 50 months, from May 2008 until June 2012

Budget: € 22 million

EC contribution: € 14 Million

