

VDI-BASt Expert Forum:

In-Depth Road Traffic Collision Research

GIDAS Unleashed: Common Approaches to Resolve European Road Safety Concerns



Topics:

- Experiences in access and handling of electronic vehicle data
- Collision reconstruction using objective data from the Event Data Recorder (EDR) and other electronic vehicle data
- Legal requirements for electronic vehicle data in the European Union
- Benefits of the use of electronic vehicle data for research, the automotive industry and legislators
- Standardisation of methods and content in in-depth collision research
- Sustainable in-depth road collision research as necessity to improve road safety

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Foreword

In a time of rapid technological developments, collecting and analysing road collision data is more important than ever. It provides valuable insights into the causes and processes of road collisions and forms the basis for innovative safety concepts, optimisation strategies and a targeted selection of measures on the part of legislators and the industry.

Road crash data is collected, analysed and used in various forms throughout Europe in order to record the status of road safety and to further improve it. Numerous findings have already been collected and exchanged worldwide, but further harmonization is required and the necessary field investigations are becoming more complex and therefore often costlier. In addition, there is a lack of methods and data to conduct timely and future-orientated collision research. This includes, for example, an assessment of the effect of driver assistance systems already on the market (e.g. automatic emergency brake assist) and therefore also an assessment of human-machine interaction in specific collisions, which is often carried out subjectively by researchers today and is therefore not fact-based.

Advancing digitalisation, automation and increasing connectivity in road traffic make it possible to gain an ever more detailed picture of the interactions between people, vehicles and infrastructure. This opportunity must be seized in order to resolve the complexity of a road collision. Much of the information collected and analysed by vehicles using their sensors and input from drivers is essential for assessing the causes and consequences of crashes. Analysing this data opens up new perspectives for improving vehicle safety, adapting the traffic infrastructure, the targeted further development of assistance systems and, ultimately, automated driving functions. Automated, autonomous or teleoperated vehicles in particular have highly technical equipment, which means that essential information characterising the collision will be found in the vehicle itself and in its electronic storage systems.

Interdisciplinary cooperation between science, industry, police, emergency services and authorities is of central importance in order to translate the knowledge gained into practical applications. Only through targeted dialogue between these stakeholders can holistic solutions be developed that improve both preventive and reactive measures.

With this Expert Forum, we would like to offer a platform to discuss the latest scientific findings, present innovative approaches and work together on the vision of safer road traffic. We invite you to take an active part in the discussions, provide new impetus and help us shape the future of road traffic collision research.

Target group

- Collision researchers
- Publicly appointed experts for road traffic collisions
- Governmental authorities
- Vehicle manufacturers and suppliers from automotive sector
- Police forces and specialised data analysts
- Insurance companies

Speakers and Program Committee

Speakers

Dr. Frank Baumann, Manager Active Safety, Effectiveness & Safety Assessment, Mercedes-Benz AG

Melina Kreischer, Data-Driven Mobility (Safety Cluster), Mercedes-Benz AG

Kalle Parkkari, Road Safety Director, Leader of Road Accident Investigation, Finnish Crash Data Institute (OTI)

Dr. Michael Weyde, Chairman of the Board of the European Association for Accident Research and Analysis – EVU, Germany

Marcus Wisch, Federal Highway and Transport Research Institute (BAST), Germany

Thomas Lich, Robert Bosch GmbH, Germany

Peter Jager, RDW Vehicle Authority, The Netherlands

Jacques Saadé, Head of Methodology and Accident Studies, CEESAR, France

Stéphane Buffat, Director of LAB and Expert leader on road safety, LAB, France

Dr. Phil Martin, TRL Ltd, United Kingdom

Martin Östling, Autoliv, Sweden

Robbie Wilmot, Senior Technical Specialist, Department for Transport, United Kingdom

Program Committee

Andre Seeck, Federal Highway and Transport Research Institute (BAST)

Marcus Wisch, Federal Highway and Transport Research Institute (BAST)

Prof. Dr. Steffen Peldschus, Ludwig-Maximilians-University (LMU) Munich

Dr. Matthias Kühn, German Insurance Association (GDV)

Thomas Lich, Robert Bosch GmbH

Henrik Liers, Traffic Accident Research at TU Dresden GmbH (VUFO)

Jochen Feese, Mercedes-Benz AG

Dr. Heiko Johannsen, Medical School of Hanover (MHH)



Since 1999, the Federal Highway and Transport Research Institute (BAST) and the German Association for Research in Automobile Technology of the VDA (FAT) have been cooperated on the project 'German In-Depth Accident Study' (GIDAS) for the in-depth investigation of road collisions. GIDAS is based on purely scientific criteria including a collision sampling plan allowing an extrapolation of the gathered data to the entire federal territory of Germany. At the same time meaningful and high-quality, highly detailed data is available for individual analyses. This Expert Forum is supported by GIDAS.

08:00 Registration

09:00 Welcome and opening address

Member of programme committee

Digital Traces – Electronic Vehicle Data

09:15 Current and future requirements for electronic vehicle data in the European Union

Requested

09:35 Possibilities, limitations and suggestions for improvement of the content, frequency and scope of driving data

Dr. Michael Weyde, Publicly appointed and sworn expert for road traffic accidents and accident data, Lecturer at the HTW Dresden, Chairman of the Board of the European Association for Accident Research and Analysis – EVU

10:00 Electronic vehicle data in GIDAS

- Introduction to GIDAS
- Current and planned usage of electronic vehicle data in GIDAS
- Challenges of using electronic vehicle data
- Benefit of electronic vehicle data for the reconstruction of road collisions (*car-to-VRU example case*)

Marcus Wisch, BASt, **Thomas Lich**, Robert Bosch GmbH

10:25 Networking & Coffee break

11:00 Vehicle data for Government: usage and limitations

- Impact of current data legislation
- Use cases for government purposes.
- Large scale fieldtest acquiring vehicle data through different channels (Extended Vehicle, directly, Apps in vehicles)

Peter Jager, RDW Vehicle Authority, The Netherlands

11:25 Finnish experiences on vehicle data and in-depth investigations

- Overview to OTI crash investigations
- Basics of VALT-method
- Vehicle data recovery methods and challenges
- Examples from investigated cases
- Dissemination of results to research bodies, governmental agencies etc.

Kalle Parkkari, M. Sc. (Eng.), Road Safety Director, Leader of Road Accident Investigation, Finnish Crash Data Institute (OTI)

11:50 Considerations on the data set and data access for DSSAD

- Overview of time series dataset project with TRL
- Exploration of standardisation for data access

Robbie Wilmot, Senior Technical Specialist, Department for Transport, United Kingdom

12:15 Q&A

12:30 Lunch break

Necessity for in-depth road collision data

13:30 Needs from the perspective of the legislator

Requested

13:50 In-depth crash investigations and databases: methods by CEESAR and applications by LAB

- Overview of the In-depth data collection framework.
- Data collection methods and techniques.
- IMPROVA project and the follow-up on casualties.
- In-depth diagnosis of road safety (role of vehicles, users, environment, automated driving)
- Advanced knowledge of accident mechanisms and injury mechanisms
- Prospective evaluation of safety features effectiveness and benefit by simulation
- Contribution to international in-depth accident database and to driving scenario catalog for AV design and validation

Jacques Saadé, Head of Methodology and Accident Studies, CEESAR, France
Stéphane Buffat, Director of LAB and Expert leader on road safety, LAB, France

14:15 Linking UK national and in-depth road collision investigation and healthcare data – the PRANA database

- Introduction to the Data Sustains Lives project piloting the linkage of national and in-depth road collision investigation and healthcare data
- Overview of the challenges of linking road collision investigation and healthcare data – and the solutions that were a success
- Insights from our investigations into the quality of data linkage
- Our plan for the future – and a call to action for Europe

Dr. Phil Martin, TRL Ltd, United Kingdom

14:40 Networking & Coffee break

15:10 Injury Frequencies and Injury Risks in Frontal Car Crashes for AIS2+ and AIS1 Injuries That May Lead to Long-Term Impairment

- Field data analyses to improve car crash injury prevention efforts
- AIS1 (minor) injuries leading to long-term impairment
- Variation of injury frequency, injury risk and injury pattern observations for selected AIS1 injuries compared with AIS2+ or AIS3+ injuries

Martin Östling, Autoliv, Sweden

15:35 ADAS Effectiveness and Data Driven Road Safety Improvements

- Analysis of autonomous emergency braking events of Mercedes-Benz cars in Germany
- Use cases of fleet data analysis for road safety improvement
- Level 2 driver assistance systems and their potential to improve road safety

Dr. Frank Baumann, Manager Active Safety, Effectiveness & Safety Assessment, **Melina Kreischer**, Data-Driven Mobility (Safety Cluster), both Mercedes-Benz AG

16:00 Q&A

16:20 Wrap-up and announcements

- Outlook on future developments in accident research
- Announcements

16:30 End of the event

VDI Expert Forum

In-Depth Road Traffic Collision Research

✓ Please register for (Price per person plus VAT):

In-Depth Road Traffic Collision Research

☐ **25th June 2025, Kaufering**
(01F0027025)

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