The European regulation 78/2009 was finally published in 2009. The so-called “Phase 2” includes modified test parameters and a new time schedule. The different phases of the regulation will enter into force in a total of eight stages, depending on vehicle categories and masses.

A new Global Technical Regulation (GTR) on pedestrian protection was also agreed on in 2009. An important aspect of this regulation is the fact that it provides for the new Flex PLI Impactor to replace the current legform impactor. While UN R127 requires Flex PLI from September 2017, new impactor designs are currently under development which will take the missing upper boy mass into account.

Pedestrian protection has also received additional weight within the Euro NCAP rating scheme. The overall rating forces car makers to improve pedestrian protection, in order to receive 4 or 5 star ratings. The test for autonomous emergency brake systems for pedestrians that was introduced in 2016 will be extended to cyclists in 2018. China-NCAP will also introduce a pedestrian protection assessment including an AEB test in 2018. US NCAP will introduce a pedestrian protection assessment into its upgraded rating.

The PraxisConference, which will be held for the 12th time in 2017, is a unique event combining lectures and praxis. The lectures held by renowned experts inform about legal requirements, NCAP tests, recent findings from accident research as well as development strategies and tools and active and passive technical solutions for pedestrian protection.

Highlights of the conference are the praxis sessions held in the laboratories of Germany’s Federal Highway Research Institute (BASt) which are operated by BGS Böhme & Gehring GmbH. Test equipment and impactors are demonstrated and explained in detail. The preparation, execution and analysis of pedestrian impact tests are shown in live demonstrations. Moreover, solutions implemented in new vehicle models are presented and discussed.
AGENDA WEDNESDAY JUNE 28, 2017

09:00 Welcome  
President & Professor Stefan Strick,  
BASt - German Federal Highway Research Institute

09:15 Development and Current Status of the Regulations  
Bernd Lorenz, BASt - German Federal Highway Research Institute,  
Dirk-Uwe Gehring, BGS Böhme & Gehring GmbH
- Basics, Biomechanics, Accident Data  
- Global Aspects of Pedestrian Protection  
- Status of the legal and the NCAP requirements

09:45 General Safety Regulation - Future Requirements in VRU Safety  
Franz Roth, Dr. Anja Schneider, Volker Labenski, AUDI AG  
Dr. Francois Coulongeat, Automotive Safety Technologies GmbH
- Real world accident scenario with focus on cyclists  
- Evaluation by Human Body Model simulation  
- Possible solutions and impact on accident scene

10:15 Coffee Break

10:40 AEB-Systems: Test procedure and Results  
Adrian Hellmann,  
BASt - German Federal Highway Research Institute
- Test procedures for pedestrian and cyclist AEB systems  
- Results of night tests and articulated dummy

11:10 New UNECE Task Force for Deployable Pedestrian Protection Systems  
Dr. Thomas Kinsky, Adam Opel GmbH
- Current approval procedures for active bonnets  
- Development and limits of a global applicable test procedure for type approvals  
- Current status of the discussion

11:40 SENIORS – Evaluation of test tools for an improved assessment of pedestrian and cyclist injuries  
Oliver Zander, BASt - German Federal Highway Research Institute
- Accident data  
- Methodology  
- Simulation results  
- Correlations

12:10 Lunch Break

13:25 Praxis Session in the Laboratory  
Pedestrian Protection Experts of BGS Böhme & Gehring GmbH and BASt
- Vehicle marking and determination of test points:  
  - Limits of the bumper test area  
  - Special cases and details of the mark-up and point selection  
- Testing and test devices:  
  - Head impact on the bonnet  
  - Flex PLI leg impact  
- Impactor technology:  
  - Details of Flex PLI, head impactors and sensors  
  - Calibration, Certification, Maintenance  
- AEB systems:  
  - Vehicle test in longitudinal scenario  
  - Cyclist dummy, night scenario

15:50 Resource-saving process for a robust virtual bonnet development with regard to pedestrian protection  
Boris Berleb, Bertrandt Ingenieurbüro GmbH,  
Sebastian Reichart, Bertrandt Ingenieurbüro GmbH
- Bonnet development process  
- Typical head impact sensitivities  
- Resource-saving process for a robust virtual bonnet development  
  - Standardized design and package assessment  
  - Characteristics of acceleration time-histories  
  - Extended validation process supported by data acquisition

16:20 Locking of active bonnets in protective position – interpretation and solution approaches  
Norman Dix, KINEMATIXX GmbH
- Reaction of passive and active bonnets in the accident process  
- Definition of the protective position of active bonnets and various approaches to ensure it  
- Consideration of the test procedure of active bonnets acc. to Euro NCAP test protocol

19:00 Evening reception at the Hippodrom on the Cologne gallop racecourse

SPEAKERS

Bernd Lorenz  
Head of the Department „Passive Vehicle Safety“  
BASt - German Federal Highway Research Institute

Dirk-Uwe Gehring  
Co-founder and Managing Director  
BGS Böhme & Gehring GmbH

Franz Roth  
Research Specialist for Vehicle Projects and New Technologies in Pedestrian Protection  
AUDI AG

Adrian Hellmann  
Scientific Officer  
BASt - German Federal Highway Research Institute

Dr. Thomas Kinsky  
Senior Expert  
Adam Opel GmbH

Oliver Zander  
Deputy Head of the Department „Passive Vehicle Safety“  
BASt - German Federal Highway Research Institute

Boris Berleb  
Team Leader Functional Design/Simulation  
Bertrandt Ingenieurbüro GmbH

Sebastian Reichart  
Engineer Functional Design/Simulation  
Bertrandt Ingenieurbüro GmbH
AGENDA THURSDAY JUNE 29, 2017

09:00  A Breakthrough in Piezoresistive MEMS Technology*
Jennifer MacDonell, Meggitt Sensing Systems
■ The ideal accelerometer and the reality
■ A breakthrough in piezoresistive MEMS design
■ Advantages of new generation MEMS technology
■ New accelerometers for passenger safety

09:30  Pressure tube sensor - Virtual Validation in the Vehicle Development Process
Markus Herrmann, EDAG Engineering GmbH
■ Objective requirements and conflicts
■ A new approach to simulate the pressure-tube-sensor

10:00  Coffee Break

10:30  A Next Generation Pedestrian Legform Impactor
Benjamin Bünger, Adam Opel GmbH
■ Impactor setup compared to Flex PLI and Upper Leg
■ (Technical) Challenges in the development of such an impactor
■ Expected kinematics on current vehicles

11:00  Flex PLI: Impact Tests on a generic vehicle structure
Dr. Thomas Kinsky, Adam Opel GmbH
■ Comparison of different impactors
■ Analysis and interpretation of results
■ Conclusions for the Flex PLI usage during test execution

11:30  The coupling of ADAS sensors and passive pedestrian protection - A possible solution strategy for current and future goal conflicts in pedestrian protection?
Dr. Ruth Paas, IDIADA Fahrzeugtechnik GmbH
■ Passive pedestrian protection
■ ADAS
■ Sensors
■ Integrated safety

12:00  Praxis: Analysis and Discussion of Pedestrian Protection Measures of current Vehicles
■ Audi Q5
■ BMW S series
■ Ford Fiesta
■ Opel Ampera-e and Insignia
■ Volkswagen Arteon
■ Volvo V90 Cross Country
(Lunch is served from the BBQ buffet during this session)

12:45  Coffee Break

13:00  Innovative Method for the validation of forward-looking sensors in real-world Pedestrian Scenarios
Stefan Kern, Continental Safety Engineering International GmbH
■ Sensors and functions for the protection of vulnerable road users
■ Presentation of a dynamic test bench for the development and validation of forward-looking pedestrian protection sensors
■ Application possibilities and practical examples
■ Globally unique test facility for sensor-validation with real pedestrians

13:30  Current Status of pedestrian protection in China*
Tengfei Bi, CATARC - China Automotive Technology & Research Center
■ C-NCAP and GB (Chinese regulations)
■ Performance of local vehicles
■ Test method

14:00  Coffee Break

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15:05  Current Status of pedestrian protection in China*
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■ C-NCAP and GB (Chinese regulations)
■ Performance of local vehicles
■ Test method

15:30  Euro NCAP Road Maps
Director & Professor Andre Seeck,
BASi - German Federal Highway Research Institute
■ Status of Road Map 2020 implementation
■ Development of Road Map 2025

16:05  Summary and Farewell

Registration:
www.carhs.de/pkf
At each PraxisConference leading carmakers present the pedestrian protection features of their latest models. This year the following models will be presented:

- Audi Q5
- BMW 5 series
- Ford Fiesta
- Opel Ampera-e
- Opel Insignia
- Volkswagen Arteon
- Volvo V90 Cross Country

MORE HIGHLIGHTS OF THE PRAXISCONFERENCE:

- **The Flexible Legform Impactor FlexPLI**
  Assemblies and functions, sensors, integrated data acquisition

- **Dummy Lab**
  Certification procedures and maintenance of pedestrian impactors

- **Vehicle Marking**
  Marking of test areas and grid points according to legal and NCAP requirements

- **Testing and Test Equipment**
  Head impact on the bonnet and leg impact on the bumper

- **AEB Systems**
  Test setup and execution with pedestrian and cyclist dummies according to the new Euro NCAP AEB VRU protocols


In addition I would like to purchase the printed conference proceedings (in addition to the digital conference proceedings on a USB flash drive that are included in the registration fee) for EUR 50.

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**Registration**

- **Attendee/Name**
- **Company**
- **Department**
- **Address**
- **Phone**
- **E-mail**
- **Invoicing Address**
- **Date | Signature**

**Terms & Conditions**

The registration fee excludes VAT. It includes detailed conference proceedings as pdf files on a USB flash drive, lunches, refreshments and the evening reception. The registration fee is due 10 days after invoicing but not later than 7 days before the event. The organizers reserve the right to exclude participants, who fail to pay the invoice in time, from the event. Free cancellation is possible until 4 weeks before the beginning of the event. Participants who cancel later than 4 weeks before the event but earlier than 2 weeks before the event are liable for 50% of the registration fee. Participants who cancel later than 2 weeks before the event, or who do not attend, are liable for the entire registration fee. The number of participants is limited. The organizers reserve the right to vary or cancel the event in the light of bookings and to vary the duration and content without prior notice. In the event of cancellation, the organizers will refund all monies paid to the organizers with respect to the event.