CALL FOR PAPERS

FUTURE INTELLIGENT & INTEGRATED CONCEPTS, DEVELOPMENT AND USER EXPERIENCE DESIGN IN AUTOMOTIVE COCKPIT

17TH – 18TH JUNE 2013 | BERLIN, GERMANY

MORE THAN 15 CASE STUDIES | ICEBREAKER SESSION | WORLD CAFÉ SESSION | CHALLENGE YOUR PEERS

HTTP://CAR-HMI2013.WE-CONNECT.COM
Review of CAR HMI SYSTEMS & CONCEPTS –
A truly Global Community:

- More than 130 Participants from over 80 Industry leaders from all over Europe, Asia & US
- 25 extraordinary sessions from companies from Germany, USA, Japan, United Kingdom, the Netherlands, UK, Italy, South Korea, China, India, France, Sweden, Finland, Czech, Poland, Canada
- Outstanding & Cutting Edge: 6 World Cafés, 6 Challenge your Peers Round Tables, a wonderful Evening reception and 2 eventful Icebreaker Session the eve before the start of the conference.

Simply said: “A must have for HMI experts.”
Tomas Rada, Product Manager, ZF Openmatics s.r.o.

A challenging brainstorm towards a favorable interaction between humans and machines. You.CONECT we create.
Matteo Durelli, performance Engineer, Ferrari Spa

Excellent networking and discussion, with a packed schedule and great food.
Frankie James, Ph.D., Managing Director - GM Advanced Technology Silicon Valley, General Motors Inc.

Good insight into current and future HMI concepts.
Jochen Kress, Senior Software Developer, Fujitsu Ten (Europe) GmbH

Excellent event, well organised by a great team. I would have expect to learn more about upcoming system feature. Most Information really knew and known for a while.
Matthieu Flipo, Multimedia/Navigation Engineer, Toyota Motor Europe

Thoroughly enjoyable and informative event.
Michael Webb, Engineer, Nissan Technical Centre Europe

A great opportunity to hear and discuss trends and challenges in automotive HMI.
Philip Burr, Director UI Product Marketing, Mentor Graphics Deutschland GmbH

Experience / Share / Knowledge / Solution

2nd CAR HMI SYSTEMS & CONCEPTS
The 2nd CAR HMI Systems & Concepts will focus on following levels:

Development, Automation & Processing
- Mastery of variants and versions / HMI Product life cycle analysis & Technology roadmap
- HMI technology improvements / HMI experience around connectivity and sustainability
- Automation in the context of evaluation of prototypes & testing / Human-Machine-Interaction IT & Rapid Prototyping Simulation
- HMI Software Solutions and HMI Architecture

Concepts & Systems
- HMI-configuration and system construction with Future Web
- 3-D as a new driver of automotive HMIs
- HMI & Testing
- MMI touch – new technologies for new control concepts

App Development, Infotainment & HMI
- Designing HMI for apps – Agile HMI development processes / App development methods
- Using concept simulations for early evaluation of interaction and user experience
- Developing useful, usable, as well as compelling apps and smartphone devices in the context of sophisticated infotainment & telematics systems – What is the optimal HMI for connected vehicles?
- Remote HMI interface that allows external applications to create their own HMI represented on the car display

HMI & User Experience Design
- Mobile Internet, Automotive HMI & APPs - Challenges and solutions for the automotive lifecycle, Safety and Usability
- Management of total HMI - Voice control interface, haptic interface, and visual interface
- Usage-Centered Design: Model based design of automotive infotainment HMIs
- Advanced Display Technologies - Boundaries between Design and HMI
- HMI & confidence in technical systems - Measurement of confidence in technical systems

Distraction avoidance, workload management & safety systems integration
- Driver distraction from safety and comfort devices and end-consumer preferences of non-standardized HMI
- Next generation Intelligent Driver Information System (IDIS)
- Scenario independent mobile device integration in an HMI to increase drive distraction and optimize driver workload
- Automotive HMI & managing information overload - How to deal with the enormous potential amount of information
- Improving safety and usability of in-car systems
- Holistic HMI approach focused on human-centred HMI design to optimize safety and ease-of-use
- Driver assistance systems - What are the future intuitive and safe operating concepts for driver assistance systems?
- HMI & Autonomous Vehicle Design

Speech/Voice Application

Invited Speakers:

<table>
<thead>
<tr>
<th>Principal HMI Group</th>
<th>Toyota Technical Center / USA</th>
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<tbody>
<tr>
<td>Head of the Human Factors Unit</td>
<td>Daimler / Germany</td>
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<tr>
<td>Group Head HMI / Operating Concepts</td>
<td>Volkswagen AG / Germany</td>
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<tr>
<td>Group Lead &amp; Technical Fellow - HMI and Human Factors; User Interface</td>
<td>General Motors / USA</td>
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<tr>
<td>Head of Development Control Concept,</td>
<td>Audi AG / Germany</td>
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<tr>
<td>Director of Engineering Instrumentation &amp; Driver HMI Business Unit</td>
<td>Continental / Germany</td>
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<tr>
<td>Head of Human-Machine Interaction</td>
<td>BMW Group / Germany</td>
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<tr>
<td>Global Head, Driver Information HMI Core Design Group</td>
<td>Ford Motor Company / USA</td>
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<tr>
<td>Position</td>
<td>Company</td>
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<tr>
<td>Manager Human Machine Interaction</td>
<td>Porsche AG / Germany</td>
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<tr>
<td>Group Manager, Human Machine Interface Research</td>
<td>GM Advanced Technical Center / Israel</td>
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<tr>
<td>Senior Manager for infotainment systems integration</td>
<td>GM Advanced Technical Center / USA</td>
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<tr>
<td>Design Leader</td>
<td>Visteon / UK</td>
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<tr>
<td>Group Lead- Driver Info Systems</td>
<td>Peterbilt / Paccar Trucks USA</td>
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<tr>
<td>CTO PSA Telematics Services BU</td>
<td>PSA / France</td>
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<tr>
<td>Director of Advanced Cockpit Systems &amp; Services</td>
<td>BAE Systems / USA</td>
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<tr>
<td>General Manager, Electronics Development Division</td>
<td>Toyota / Japan</td>
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<tr>
<td>Director of Unmanned Systems Products</td>
<td>QinetiQ / USA</td>
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<tr>
<td>Strategy Manager For Uconnect</td>
<td>Chrysler / USA</td>
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<tr>
<td>Director Human Machine Interface Group</td>
<td>Renault / France</td>
</tr>
<tr>
<td>Executive Vice President &amp; General Manager Car Information Systems Division</td>
<td>Hitachi Automotive Systems, Ltd. / Japan</td>
</tr>
<tr>
<td>General Manager, Vehicle Information Technology Division</td>
<td>Nissan Motor Co. / Japan</td>
</tr>
<tr>
<td>Chief Engineer for Structures and Materials in the Research Directorate</td>
<td>NASA Langley Research Center ( USA)</td>
</tr>
<tr>
<td>Director, HMI Center of Competence</td>
<td>BOSCH Engineering / Germany</td>
</tr>
<tr>
<td>Senior Vice President, Engineering, Design and Development</td>
<td>General Dynamics Land Systems (GDLS) USA</td>
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<tr>
<td>Head of Intelligent Transport Systems</td>
<td>DENSÖ Europe / UK</td>
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<tr>
<td>Group Leader Human Factors Engineering</td>
<td>EADS / Germany</td>
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<tr>
<td>Vice President Connectivity &amp; Infotainment</td>
<td>Volvo / Sweden</td>
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<tr>
<td>Director of Vehicle Electronics</td>
<td>Navistar Inc. / USA</td>
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<tr>
<td>Chief Engineer Electronics &amp; Infotainment Division</td>
<td>Honda R&amp;D Co.,Ltd. Automobile R&amp;D Center Japan</td>
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<tr>
<td>Chief of the Autonomous Systems Division, Vehicle Technology Directorate</td>
<td>ARL / UK</td>
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**Business Partner**

Optis

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**Who participates on the 2nd CAR HMI SYSTEMS & CONCEPTS?**

The 2nd CAR HMI SYSTEMS & CONCEPTS is attended by International OEMs, Tier 1 and suppliers, Global heads, product development directors, senior engineers and project managers of the following departments:

- HMI / MMI
- R&D HMI / Human Factors / Ergonomics
- Display Design
- R&D Electric/Electronics
- Advanced Infotainment / Entertainment Multimedia
- Driver Assistance and Information
- Connectivity and Navigation
- Control Concepts
- Cockpit Design
- Telematics
- Engineering

**Demographics:**

- Germany
- France
- Netherlands
- Belgium
- UK
- Sweden
- Norway
- Finland
- Spain
- Ireland
- Austria
- Switzerland
- Hungary
- Turkey
- USA
- Russia
Pre Conference Sessions - 16th of June

20.00  we.CONNECT Ice Breaker Session
Pre-conference drinks on Sunday evening to break the ice and get the show on the road. This session includes “Icebreaker” round tables with speakers & business partners in a relaxed location in the heart of Berlin.

Icebreaker Round Tables (1)
Challenges in Automated Model-Based HMI Testing
Or HMI development processes and evaluation methods – Advanced processes to evaluate and optimise a HMIs’ usability
  ▪ Driver distraction due to increasing functional complexity in the “Connected Vehicle”
  ▪ Standardised usability engineering techniques to evaluate an infotainment system

Icebreaker Round Tables (2)
HMI Product life cycle analysis & Technology roadmap
Or Achieving commonality and standardization of infotainment systems

Icebreaker Round Tables (3)
Eye tracking... What’s next for HMI and how will it transform the driving experience?
Personal and connected navigation experience
  ▪ How to provide a seamless navigation experience
  ▪ Integration of the mobile phone with the car: How to leverage personal content for navigation? How to simplify connectivity? How to customize the experience?
  ▪ How to scale navigation from entry-level to high end cars
Or Safety & comfort: A driver based approach to cockpit HMI

MAIN AGENDA

Day 1 – 17th of June 2013

08.00  Registration

08.30  Welcome and introduction through we.CONNECT and from the Chair and from the Advisory Board

we.CONNECT Development, Automation & Processing Track

08.40  Case Study
Lean HMI development processes in the Interface between Design Thinking, User Experience Design & IT
  ▪ Run-time adaptive user interfaces
  ▪ Update and upgrade the HMI over the lifetime of a vehicle permit
  ▪ Simple integration of mobile devices
  ▪ Context-sensitive activation of functions and situational representation
  ▪ Opportunities, the recruitment needs and to operate the vehicle to reduce
Main system requirements: Scalability, flexibility, adaptability

- Challenges in the development of a connected vehicles’ HMI
- HMI development process optimisation
- HMI development processes and evaluation methods
- Usability of infotainment and connectivity
- HMI, the environment and electro-mobility / Safety & comfort
- Technological advances in cockpit HMI concepts

<table>
<thead>
<tr>
<th>Time</th>
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</table>
| 09.20 | **Case Study**
"HMI database" - a toolkit for description of HMI in the vehicle |
- Contemporary objective technical and subjective experience description
- HMI Specification Model
- Exchange - / communication platform
- Development of a "description language"

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| 10.00 | **Case Study**
Simplifying HMI development: Developing useful and intuitive HMIs with the right combinations of features in a short time-to-market window |
- Innovative development tools
- Bridge the gap between the creative process and the programming process
- HMI design integration

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| 10.40 | **Refreshment Break with Networking Zone**
we.CONECT product showcases |

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<th>Time</th>
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| 11.10 | **Case Study**
HMI experience around connectivity and sustainability |
- Connectivity – inside and outside of a car
- Another future challenge: sustainability
- How to create a convincing in-vehicle user experience
- Architectures and tools for in-vehicle cockpit electronics systems

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| 11.50 | **Case Study**
HMI concepts 2013 - Latest trends in HMI concepts: Speech applications, personified concepts |
- Natural language interaction
- Head-up displays with wider field of view
- ... and more: gesture, finger writing, dual view displays

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<td>09.20</td>
<td><strong>HMI Database</strong></td>
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Challenges in the development of a connected vehicles’ HMI

- HMI development process optimisation
- HMI development processes and evaluation methods
- Usability of infotainment and connectivity
- HMI, the environment and electro-mobility / Safety & comfort
- Technological advances in cockpit HMI concepts

Challenges in Testing Infotainment Systems
- Test Automation with Model-Based Testing
- Testing of eye movements, eye tracking and visual attention

Innovative development tools
- Bridge the gap between the creative process and the programming process
- HMI design integration

11.10 **HMI Technology Improvements**

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| 11.10 | **Case Study**
HMI technology improvements |
- Natural language interaction
- Head-up displays with wider field of view
- ... and more: gesture, finger writing, dual view displays

Challenges associated with developing touch interfaces
- Hands-on: What functions can best be controlled via a touch input interface
3-D as a new driver of automotive HMI?
- 3-D applications in the automotive arena: initial situation
- 3-D as a benefit: research results

12.30 Lunch with Networking Zone
we.CONECT product showcases

13.30 Case Study
Chances and challenges of gesture recognition in automotive HMI
- Great that we talked about it: What automotive engineers can learn from social scientists
- Reliable gesture recognition in HCI: Dream or reality?
- Gesture recognition in automotive HMI: Status Quo in industry and science

Or
MMI touch – new technologies for new control concepts
- A revolution in operation: character recognition
- Auxiliary infotainment features – the Black Panel technology
- Adaptability to different vehicle types and markets

14.10 Case Study
Automotive Apps as a new challenge for HMI concepts
- Automotive Apps Update: what’s new and valuable for the driver
- The impact of Automotive Apps on HMI development & concepts
- App development methods and its impact on HMI

Or
Developing useful, usable and compelling Apps and devices in the context of sophisticated infotainment & telematics systems

14.50 Case Study
HMI & next generation infotainment solutions
- Market trends: Europe, The US & Asia
- Coping with the growing number of input
- What content & applications for mass market adoption

Or
HMI-configuration and system construction with Future Web
- Possibilities and limitations for future HMI-configuration and system construction covering connectivity and Sustainability
- How does connectivity of the future influence the configuration of HMI systems?
- How can sustainability requirements be integrated? Are new or different controls needed?
- Do new requirements for EVs emerge?

15.30 Refreshment Break with Networking Zone
we.CONECT product showcases

16.00 Case Study
User-centered HMI design for automotive systems
- Understanding the problem of distraction by studying drivers’ behaviour
- Reduction of distraction by HMI Design user-centered HMI design process
16.40  Case Study
Haptic HMI - Empirically derived guidelines for the effective use of haptic output signals in teleoperation systems
- Learning from the past, Shaping the Future: migration and evolution-capable design of human-machine interaction on the example of cooperative management of highly automated vehicles
Or
HMI & confidence in technical systems - Measurement of confidence in technical systems
- Development of test materials for the experimental investigation of the influence of usability on online trust
- Trust support for ubiquitous systems - from theory to the trust requirements for ubiquitous systems

17.20  Case Study
Advanced Display Technologies are Blurring the Boundary between Design and HMI and Have Become a Differentiator for Automotive OEMs
Or
Meet the driver – Designing for “invisible users” and the elderly and implications for HMI and Cockpit Design
- Special requirements for different users – how do different user groups interact with their HMI?
- Design trends and their suitability for different user segments
- Data from various research projects with the above named user groups
- Practical implications for work

18:00  Case Study
Cognitive Load and In-Vehicle Human-Machine Interaction
Or
Human Machine Interface in a conflict between global brand identity and regional customer requirements
- Is there an intercultural accepted HMI concept?
- What are typically regional (America/Europe/Asia) specific differences?
- How can they be identified and assessed?
- Global user requirements engineering process

18.40  Challenges and Solutions – Challenge your peers – What would you do?
Moderated during the round table sessions, the participants can describe and interactively discuss their specific issues, approaches and solutions regarding the conference topic. Therefore we.CONECT raises in advance with a special inquiry approach the central questions of the participants.

19:40  Evening reception with networking zone / Break before the evening dinner & event

20.00  DINNER – END OF DAY 2
## AGENDA - DAY 2 – 18th JUNE 2013

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<th>Time</th>
<th>Session</th>
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<tr>
<td>07.00</td>
<td>07.00 we.CONECT HMI Breakfast</td>
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<td>Tie in with the first day's discussion &amp; outcomes and prepare for the sessions to follow</td>
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<td>08.00</td>
<td>08.00 Registration – Coffee &amp; Tea</td>
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<td>we.CONECT HMI &amp; User experience design</td>
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<td>08.30</td>
<td>08.30 Case Study</td>
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<td>Dimensions and challenges of holistic HMI development exemplified by &quot;Simplify your Drive&quot;</td>
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<td>- Building blocks of holistic HMI approach</td>
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<td></td>
<td>- Simplify your Drive: concept, creation, validation</td>
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<td>- Service applications: “APPs on wheels”</td>
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<td>- Interaction of IVIS and ADAS</td>
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<td>09.10</td>
<td>09.10 Case Study</td>
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<td>Usage-Centered Design: Model based design of automotive infotainment HMs</td>
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<td>- From reality to abstraction, the advantage of models</td>
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<td>- User and Task Models</td>
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<td>- Bridging the creative gap in the design process</td>
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<td>09.50</td>
<td>09.50 Case Study</td>
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<td>Human factors in connected driving - Customer acceptance and usability of connected cars - car centric connectivity and challenges</td>
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<td>- Lifestyle and content driven applications and services</td>
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<td>- Shifting business models are changing the landscape to satisfy evolving location based content user needs</td>
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<td>- Infrastructure challenges and enabling technologies</td>
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<td>- The ultimate user &quot;in car&quot; experience along with the HMI challenges for location based content centric infotainment &amp; related connectivity &amp; applications</td>
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<td>10.30</td>
<td>10.30 Refreshment Break with Networking Zone</td>
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<td>we.CONECT product showcases</td>
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<tr>
<td>11.00</td>
<td>11.00 we.CONECT HMI World Café – Short talks with a thematic focus</td>
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### Processing & Development Café
- Mastery of variants and versions
  - Combination of 2D and 3D in the HMI
  - Rechargeable HMI parts
  - Scalable solutions for Head Unit & combined instruments
- Automation in the context of evaluation of prototypes & testing / Human-Machine-Interaction IT & Rapid Prototyping Simulation

### User Experience Design Café (1)
- Management of total HMI - Voice control interface, haptic interface, and visual interface
- Point-to-point integration of portable devices with car with the use of in-vehicle HMI options

### User Experience Design Café (2)
- HMI, Connected Cars and Mobile Apps
- or
HMI, E-Mobility & Charging Concepts

**Driver distraction and workload management Café**
The Impact of an Adaptive User Interface on Reducing Driver Distraction

or

Decision making in diagnosis of human-machine systems: The probabilistic and credibility perspectives to deal with uncertainty

**Voice application Café**

11.00  Start we.CONECT Cafés – 4 Rounds circa 30 Minutes

**we.CONECT WORLD CAFE**
we.CONECT and the Chair of the conference open the cafe, explaining the principles of the World Cafe (based on the first day) and sets the café etiquette

- The groups change every 30 minutes (clockwise) enabling you to discuss your skills and experience with the table moderators
- The participants are allowed to change during the sessions and to create a casual and loose theme.
- Participants have to focus on the important and essential issues sharing experiences and ideas
- Make valuable connections and relationships
- Listen out together for underlying themes, insights and questions
- Write, doodle, paint your thoughts on the tablecloth or on the mind map

12.30  Lunch with Networking Zone

**we.CONECT product showcases**  **we.CONECT Strategy**  **we.CONECT poster session**

14.00  Continuing world café sessions – two more round tables

15.00  Panel with the moderators of the world café sessions – short summary of the key findings

15.30  Refreshment Break with Networking Zone

**we.CONECT product showcases**

we.CONECT Distraction avoidance & workload management track

16.00  Case Study
Towards the next generation Intelligent Driver Information System (IDIS)

- What is the purpose of workload management?
- Examples on what has been done within the car industry until today
- Ideas on how connectivity can contribute to enhanced workload estimation
- Examples on how in-vehicle functions can benefit from enhanced workload estimation

16.40  Case Study
HMI Speech is indispensable in improving safety and usability of in-car systems

- Distracted driving: speech offers a solution
- UI complexity: speech helps to raise productivity on the go
- Details matter: issues affecting usability of speech UIs
### we.CONNECT HMI & safety systems integration

#### 17.20 Case Study
**Driver assistance systems - What are the future intuitive and safe operating concepts for driver assistance systems?**
- Effects of controls vertical location, design and use on driver’s visual behaviour
- Factors related to drivers’ perception of interference from in-vehicle activities
- Work domain centered design
- Utility of the lane change test in exploring the effects on driving performance of engaging in additional in-vehicle tasks while driving

**or**

**Integration of multiple assistance systems**
- Multiple usage of sensors and actors
- Multiple usage of HMI input and output devices
- Architecture with scaling of functions

#### 18.00 Case Study
**Evolvement of HMI in increasingly automated driving surroundings**
- Trends in automated driving and outlook on future changes in HMI
- New automotive systems require new operating modes: What comes, what goes?
- First experiences with driver acceptance

**or**

**Augmented Reality / Head up Display & Safety**

#### 18.40 End of the 2nd CAR HMI SYSTEMS & CONCEPTS 2013
Further Topics:

Connecting with Safety
- Understanding how connectivity developments will impact HMI systems
- Critical issues related to driver distraction and the user experience
- Integrating active safety systems with adaptive HMI to enable safer connectivity solutions

Mobile Internet, automotive HMI & APPs - Challenges and solutions for the automotive lifecycle, Safety and Usability

HMI & Autonomous Vehicle Design

Usability & integration of Mobile Devices into the Car Ecosystem and implications for HMI

Determining Human-Centered Parameters of Ergonomic Micro-Gesture Interaction for Drivers Using the Theatre Approach

Holistic HMI approach focused on human-centred HMI design to optimize safety and ease-of-use

Representation of the requirements and design factors in the development of operating systems

For further details regarding topics and/or speaking engagement please contact:

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Senior Product Manager

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www.we-conect.com