



On-Site &
Virtual **LIVE**

International Summit

INTUITIVE VEHICLES

2020

Human Factors - HMI - UX



6-7 October 2020 | MOTORWORLD | Region Stuttgart, Germany

Hosted by :

Visteon



Early Confirmed Speakers:



why do birds

beyond HMI!!!!
HMI Guru, HMI Expert, HMI Punk.



screens



SONO MOTORS



GEELY

diary of
the
digital
age



INTUITIVE VEHICLES 2020 | Human Factors – HMI – UX

6–7 October 2020 | Motorworld, Region Stuttgart, Germany



Join us and access our x specified content through presentations, case studies as well as in-depth breakout and workspace sessions. You will have the opportunity to directly dive into the challenges and trends focusing mostly on **human-machine interaction and user experience in the automotive industry.**

CONFIRMED SPEAKERS

<p>AXEL TORSCHMIED Head of Advanced HMI <i>Visteon</i></p> <p>Visteon</p>	<p>ALEXANDER WODRICH Managing Director <i>why do birds</i></p> <p>why do birds</p>	<p>DR. LUTZ KRAUSS Manager UI & UX <i>Porsche AG</i></p> <p></p>	<p>CHRISTOPHER BROCKMEIER M.SC. Research Manager Vehicle Concepts & HMI <i>RWTH Aachen</i></p> <p>RWTH AACHEN UNIVERSITY</p>
<p>JULIA WEINMANN Interaction Designer <i>Visteon</i></p> <p>Visteon</p>	<p>DR. PETER RÖSSGER Founder & CEO <i>beyond HMI</i></p> <p>beyond HMI HMI Guru. HMI Expert. HMI Punk.</p>	<p>DR. THOMAS VOEHRINGER-KUHNT Director HMI/UX <i>Geely Auto Technical (Deutschland) GmbH</i></p> <p>GEELY</p>	<p>GUDRUN VOSS Group Leader Passenger & User Comfort <i>RWTH Aachen</i></p> <p>RWTH AACHEN UNIVERSITY</p>
<p>DR. CHRISTIAN MÜLLER-TOMFELDE Principal Software Engineer <i>Visteon</i></p> <p>Visteon</p>	<p>ARMIN KOELKER Sales Director EMEA <i>Altia</i></p> <p>altia</p>	<p>FRANCESCO TESAURO Co-Founder and Chief Operating Officer <i>RE:Lab Srl</i></p> <p>RE:Lab</p>	<p>CRISTIAN ACEVEDO Project Leader User Experience <i>STUDIOKURBOS GmbH</i></p> <p>studioturbos</p>
<p>PATRICE REILHAC R&I Director <i>Valeo</i></p> <p>Valeo SMART TECHNOLOGY FOR SMARTER CARS</p>	<p>STEPHANE FERON Human Machine Interaction Expert <i>PSA Groupe</i></p> <p>PSA GROUPE</p>	<p>MIRTHA VALENZUELA Product Segment Manager Optical Sensors <i>Elmos</i></p> <p>elmos</p>	
<p>KATHARINA HOTTELART UX Research and Marketing Manager <i>Valeo</i></p> <p>Valeo SMART TECHNOLOGY FOR SMARTER CARS</p>	<p>BENJAMIN NAWKA Chief Designer <i>Borgward Group AG</i></p> <p></p>	<p>PIA IMMOOR Manager Research <i>Allround Team GmbH</i></p> <p>allroundteam</p>	
<p>SYLVESTER GÖTTLICHER Director Products and Services <i>Screens GmbH</i></p> <p>screens</p>	<p>DR. RAINER ERBACH Senior Manager HMI <i>Bosch</i></p> <p>BOSCH Technik fürs Leben</p>	<p>DR.-ING. DIPL.-PSYCH. FREDERIK DIEDERICHS Mensch-Technik Interaktion/ Ergonomics & Vehicle Interaction <i>Fraunhofer IAO</i></p> <p>Fraunhofer IAO</p>	

For sponsorship such as exhibition, logo display, evening event sponsoring and speaking, please contact:

Erutode Rume, erutode.rume@redcabin.de | direct line: +49 30 99 40 489 16

TOPICS OVERVIEW

- Discuss how to **develop brand recognition in a rapidly changing Automotive World**
- Understand how to **design userfriendly Interior & Lighting Design**
- Examine whether **voice is THE future user interface**
- Learn how innovative **HMI Development Tools** can assist to create innovative user interfaces
- Experience how **Advanced Display Technology** can enhance Automotive UX
- Realize the crucial role of **Augmented & Mixed Realities**
- Examine the **potential of gamification** to achieve an intuitive UX
- Personalization - How can we **adjust the cockpit for different user requirements and preferences**
- **Shy Tech** – digital detox in the cockpit?
- Missing something?
We are **open for additional ideas and topics!**

SPONSORS



Altia provides cutting-edge HMI development software and engineering services for state-of-the-art automotive user interfaces. Our mission is to help our customers get amazing GUIs on any hardware. Automotive companies around the world use Altia's model-based HMI development tools to develop and deploy visionary instrument clusters, HUDs, driver information displays and IVI systems for production vehicles. With key features like advanced 3D, support of globalized fonts and quality initiatives related to ASPICE, MISRA and ISO 26262, Altia offers the best-in-class HMI software for safety and innovation.



Screens is an interactive video based online platform that allows you to benchmark various car HMIs against each other. Compare how many clicks you need to enter a navigation destination or how a take-over request is displayed on different HMIs and share the respective video sequence with your colleagues via e-mail. No matter whether you are interested in voice interaction, assistance systems or connectivity and apps. Screens offers you hundreds of comparable use cases for each vehicle and an exact representation of the actual click tree of a car's HMI. With Screens you just enter a vehicle right from your desk.



Leading technology, leading the way.

SEKISUI S-LEC™ Film is the global leading brand for laminated glass interlayer films in automobiles. Our products fulfill an important function in the automotive market. The S-LEC™ interlayer film is applied in car windshields for passenger safety and expanding to door glass, rear glass and sun roof or panoramic roof with new functions. With its products S-LEC™ brings new benefits to the automotive industry offering HUD (Head-Up Display) for eyes on the road and eco-friendly environmental comfort, noise reduction quite comfort, protection against UV and InfraRed rays, and protection against break-in. We are developing further function and design integration with new S-LEC™ interlayer film by collaborating with many automotive partners.



Innovation Matters - Taking optical sensor solutions to HMI

Elmos Semiconductor AG develops and produces semiconductors and sensors for the automotive industry. Our components communicate, measure, regulate and control safety, comfort, powertrain and network functions. We are pioneers in the field of gesture control for infotainment, our innovations make HMI easier, reliable and more comfortable. New developments aim on solving the challenges of the future megatrends and support the ease of use in cars. We inspire our customers with an ever-growing customer base and a well-developed product portfolio aligned to the markets.

For sponsorship such as exhibition, logo display, evening event sponsoring and speaking, please contact:

Erutode Rume, erutode.rume@redcabin.de | direct line: +49 30 99 40 489 16



INTUITIVE VEHICLES 2020 | Human Factors – HMI – UX

6–7 October 2020 | Motorworld, Region Stuttgart, Germany



CONFERENCE DAY 1 | TUESDAY 6 OCTOBER 2020

08:00 *Registration*

08:25 **Welcome by**

Erutode Rume – Director of Business development
Automotive, *RedCabin GmbH*

Dr. Christian Müller-Tomfelde – Principal Software Engineer,
Visteon

08:30 **Keynote**

AI, HMI, UX: Buzzwords or the Future of Intuitive Vehicles?
Background: the relevant megatrends
Anthropology: human history and human development
Psychology: human capabilities and information processing
Relationships: the older the better
Solutions: the future of automotive HMI

Dr. Peter Rössger – Founder & CEO, *beyond HMI*

09:05 **Introducing the Taycan HMI**

Dr. Lutz Krauß – Manager UI & UX, *Porsche AG*

09:40 **The brand audio experience – in and around the vehicle**

Alexander Wodrich – Managing Director, *why do birds*

10:15 *Networking Coffee Break*

10:45 **Between History and Future.**

How Human Factors and Technological Changes Impact The Future Of UX in Car Design

Rear View Mirror: Why do we have fond memories of old cars?
What made their experience unique?

Transformation: How technology forced us to adapt.
And how it changed cars.

Outlook: Will technology adapt to us again?

And if yes, will it impact designing a car/mobility solution.

Benjamin Nawka – Chief Designer, *Borgward Group AG*

11:20 **Driving is Sharing. A research path on Human-Automation Cooperation, Trust and Communication**

Automation can be better trusted by users when it provides explanations instead of warnings, how Authority can be shared and negotiated between the Human Driver and Automation, and what role HMI can play to smoothen processes. Come hear how addressing communication modes and emotional factors by showing snapshots with explanations of research done in this area.

- How Automation can make itself trusted through explanation
- How do Human and Automation share Authority
- Driver's State vs. the quantity and quality of Information
- Mind the Tone: Communicating with Automation

Francesco Tesauri – Co-founder and Chief Operating Officer,
RE:Lab Srl



INTUITIVE VEHICLES 2020 | Human Factors – HMI – UX

6–7 October 2020 | Motorworld, Region Stuttgart, Germany



CONFERENCE DAY 1 | TUESDAY 6 OCTOBER 2020

11:55 **Gesture Control with Optical Sensor Technologies – making the interior and exterior of cars user friendly**

The advancement of passenger vehicles requires a modified operation of the interaction displays, interior lighting and exterior automatic liftgate and door opening.

Touchless gesture control enables a smooth HMI in real time with high reliability and less distraction.

Enabling technologies: Infrared Sensors based on HALIOS® and CMOS 3D Imager.

Mirtha Valenzuela – Product Segment Manager Optical Sensors, *Elmos Semiconductor AG*

Interactive session: PANEL DISCUSSION

12:30 **What is crucial for Automotive UX – voice, AR, design? How do we get customers emotionally involved? Discuss with your peers.**

- Why is UX so important in vehicles?
- What are the three most important lessons learned in UX development?
- Automotive UX Design Operations: Roles, tools and workflow. What are best practices in the industry?
- How does an intuitive HMI concept look like?
- What is the role of multimodal (voice, touch, visual, ...) HMIs in vehicles? How can multimodality be beneficial for users?

MODERATOR: **Dr. Thomas Vöhringer-Kuhnt** – Director HMI/UX, *Geely Auto Technical (Deutschland) GmbH*

Dr. Lutz Krauß – Manager UI & UX, *Porsche AG*

Patrice Reilhac – R&I Director, *Valeo*

Dr. Rainer Erbach – Senior Manager HMI, *Robert Bosch GmbH*

13:00 *Networking Lunch*

Interactive session: WORKING GROUPS

Each attendee will visit each group in an individual sequence. Each cycle is scheduled for one hour.

14:00 WORKING GROUP – 1

Realize the crucial role of Augmented & Mixed Realities

- What is the state of the art for automotive AR?
- Who is the leader?
- What are the challenges of AR?
- What are the challenges to getting a full frame of view HUD?
- Which AR technologies will win out in the short term?
- How far away are we from useful AR?
- What are the AR applications that are likely to break through for the next generation?

Armin Koelker – Sales Director EMEA, *Altia*



CONFERENCE DAY 1 | TUESDAY 6 OCTOBER 2020

14:00 WORKING GROUP – 2

Interior Experience Engineering – Select the right tools to create and evaluate your customers in-vehicle experience

The tool chain for in-vehicle system developments and user testing include click dummies, video animations (popular in Corona Times), driving simulators and VR environments. The new stars in the toolchain are VR-Mixed Mock Ups and Wizard of Oz Vehicles to simulate automated driving in a real vehicle on the road. In this workshop you can touch and try our Fraunhofer testing environments and reflect about the right tool and method to answer your human factors and interior design questions in the new era of AI.

Dr. Frederik Diederichs – Ergonomics & Vehicle Interaction, Fraunhofer IAO

Reto Wechner – Researcher: Visual Interactive Technologies, Fraunhofer IAO

Dr. Mathias Vukelić – Senior Researcher Neuro Lab, Fraunhofer IAO



14:00 WORKING GROUP – 3

The Future of UX for Automotive HMI: Autonomous, AR and Beyond

Patrice Reilhac – R&I Director, Valeo

Katharina Hottelart – UX Research and Marketing Manager, Valeo

16:00 *Networking Coffee Break*

16:30 CONTINUING WITH WORKING GROUPS 1, 2 AND 3

17:30 Results

Each moderator of the Interactive working group is presenting the outcomes of their session

18:15 CLOSING REMARKS AND NETWORKING RECEPTION

Enjoy an informal evening get-together with your peers to

discuss the outcome of the first conference day and expand your network in a relaxed ambience.

END OF DAY 1

CONFERENCE DAY 2 | WEDNESDAY 7 OCTOBER 2020

08:30 *Registration*

08:55 **Welcome by**

Erutode Rume – Director of Business development
Automotive, *RedCabin GmbH*

Dr. Christian Müller-Tomfelde – Principal Software Engineer,
Visteon

09:00 **HMI Benchmarking – Comparing usability and effectiveness**

Sylvester Göttlicher – Director Products and Services,
Screens GmbH

09:35 **Gamification Approach to Optimize Driver Assistance Systems**

The acceptance of driver assistance systems is heavily depending on their availability. And for sure they have to work perfectly in all situations for which they are developed. One of the main criteria for a good user experience is whether the system would react similar to a human being in a comparable situation.

We show how a gamification approach can be used to optimize a guardian angel system by changing the perspective between user and system.

Dr. Rainer Erbach – Senior Manager HMI, *Robert Bosch GmbH*

10:10 **Limitations of elderly drivers and the use of Advanced Driver Assistance Systems – Analysis of determinants and derivation of design relevant HMI solution approaches**

Exciting about this topic is that – despite all the progress made in terms of ADAS technology, HMI and design – the reality of ADAS use is sometimes sobering: Particularly with the increasing population of elderly road users, ADAS systems are only used to an inadequate extent and thus their safety potential is not nearly exhausted. This fact directs attention to the actual needs and problems – especially of this user group in need of support. Based on the results of the publicly-funded research project ALFASY (Altersgerechte Fahrerassistenzsysteme / Age-based driver assistance systems / www.alfasy.de) we would like to analyze and discuss which HMI design solutions fit best to introduce elderly drivers to driver assistance in a suitable manner. In doing so, we would like to look at both current HMIs and discuss the potential of future HMI technologies.

Pia Immoor – Manager Research, *Allround Team GmbH*

10:45 *Networking Coffee Break*

11:15 **Cohabitation of level 2 and level 3 features in the same vehicle**

Presentation of challenges. User test result

Stephane Feron – Human Machine Interaction Expert,
PSA Groupe



CONFERENCE DAY 2 | WEDNESDAY 7 OCTOBER 2020

11:50 Transitions between manual and automated driving – Requirements, Concepts and Insights from level 2-5

As of today users experience „quasi take over requests“ with today's available SAE level 2 systems. Future applications of higher automation will enable new use cases and novel interior concepts which lead to alternative user behaviour. This in turn will require more sophisticated transition concepts transferring responsibility between driver and automation. When designing these systems one has to consider diverse user expectations as well as technical requirements stemming from the systems' limitations. Specifically the trade-off between safety and comfort needs to be resolved with the overall interaction concept compatible to the primary as well as the secondary task.

Jan Bavendiek – Group Leader HMI, *RWTH Aachen University/Vehicle Concepts & HMI*

Interactive session: PANEL DISCUSSION

12:25 What new technologies will challenge OR enhance UX

- How might user experience be transformed by new technologies? such as AI?
- What does that mean for the future of interface interactions?
- How can designers make sure they focus on creating human-centred experiences in the face of new technologies?
- How can we „humanize“ technology, eg. autonomy so we can generate trust?

MODERATOR: **Benjamin Nawka** – Chief Designer, *Borgward Group AG*

Dr. Frederik Diederichs – Ergonomics & Vehicle Interaction, *Fraunhofer IAO*

Dr. Peter Rössger – Founder & CEO, *beyond HMI*

Andreas Kurbos – CEO, *STUDIOKURBOS GmbH*

Armin Koelker – Sales Director EMEA, *Altia*

13:00 *Networking Lunch*

Interactive sessions: WORKING GROUPS

Each attendee will visit each group in an individual sequence. Each cycle is scheduled for one hour.

14:00 WORKING GROUP – 1

Future Interiors and their HMI Concepts

- How will future interiors look like different (SAE 3-5)?
- What use cases and challenges will be most relevant for designing HMI ?
- What requirements for the HMI layout can be derived?
- Natural Multimodal – will it be all around touch screens and speech?

Christopher Brockmeier – Manager Research Area, *RWTH Aachen University/Vehicle Concepts & HMI*

Gudrun Voß – Group Leader Passenger & User Comfort, *RWTH Aachen University/Institute for Automotive Engineering*



CONFERENCE DAY 2 | WEDNESDAY 7 OCTOBER 2020

14:00 WORKING GROUP – 2

Design Thinking in Automotove HMI Development: another Hype or the Holy Grail?

Philosophy, Process, or Toolbox: the role of design thinking
Microcycle and macrocycle: the basic principles of design thinking

Beyond theory: a practical example of the application of design thinking. You will work!

Dr. Peter Rössger – Founder, *beyond HMI*

Christian Acevedo – Project leader User Experience Design, *STUDIOKURBOS GmbH*

14:00 WORKING GROUP – 3

High Tech versus Shy Tech

- What is Shy Tech?
- Why is Shy Tech relevant? Why does it matter?
- How does Shy Tech relate to vehicles and mobility systems? What are the avenues towards achieving it?
- Should there be a trade-off between Hi- and Shy- Tech to bring the optimal feeling of control for the user? Which expressions of each might complement each other?

Julia Weinmann – Interaction Designer, *Visteon*

Axel Torschmiel – Head of Advanced HMI, *Visteon*

16:00 *Networking Coffee Break*

16:30 CONTINUING WITH WORKING GROUPS 1, 2 AND 3

17:30 Results

Each moderator of the Interactive working group is presenting the outcomes of their session

17:45 Closing Remarks by RedCabin and Summit Chairman
Dr. Christian Müller-Tomfelde

END OF DAY 2



VIRTUAL Experience

There has never been a **more important time** for the automotive industry to come together and learn how to survive and thrive in a post Covid-19 world. We **combine both in-person and virtual experiences** – as some of you **can't or do not want to travel** due to health or safety concerns or maybe your organization has limited travel spend.

RedCabin has **invented a unique platform** where we are able to connect and network, collaborate, exchange ideas and learn from each other, and even celebrate together despite not being able to be physically present together. Our **commitment** stays the same: using **collaboration** and **interactivity** to develop **new products, partnerships** and processes which tackle the biggest challenges in automotive and improve the user experience. As demand in innovative automotive HMI solutions is still strong, **RedCabin Intuitive Vehicles 2020** will offer benefits for our community. With **our recent webinars we attracted thousands of online attendees** – **Save your travel costs** and get involved in our interactive platform from your home or office.

BENEFIT FROM OUR UNIQUE PLATFORM:

Benefit from our **collaborative and open environment**

Lots of **networking opportunities** – **even before the event starts**
New Attendees - As the event can be accessed from anywhere, it is available to brand new attendees who may not have engaged with this event before

- **One-to-one video calls** or schedule meetings with high level executives from airlines, manufacturers, tier one suppliers, design houses, our speakers and more
- Interactive **working groups**
- Be part of our **panel discussions** and be associated with our leading experts from notable organizations such as Boeing, American Airlines, United Airlines, and more
- **Innovative Case Studies:** Curious about your keynote speakers? We have you covered! Check out **Speaker Profiles** to learn more about their session details and **how to connect with them**
- **Live polling:** Don't just attend the event; get involved in all the action! Let your voice be heard by participating in live polling. Ask the speaker a question and get your inquiry up-voted by your peers also interested in the topic
- **Networking breaks**

Connect with the **exhibitors**

- **One-to-one meetings and calls** with products, solutions and demos
- **Virtual Booths** just like in our live summits

Witnessing **innovation** on aircraft interiors

- Case studies
- Panel discussions
- Working groups

Create your **own agenda**

- Watch the sessions later **on demand**
- Get what you want out of your event! Create a personal schedule with the sessions and speakers you're interested in seeing

Save your travel and hotel costs

- You can be involved in our interactive platform from your home or office





INTUITIVE VEHICLES 2020 | Human Factors – HMI – UX

6–7 October 2020 | Motorworld, Region Stuttgart, Germany



DATE	2 DAY CONFERENCE INVESTEMENT*
ATTENDING LIVE	2.445 € + VAT
FOR VIRTUAL ONLY	1.500 € + VAT

* Investment per delegate. The registration includes access to all conference sessions, the exhibition area and networking area.

OEMS PLEASE CONTACT US FOR LIMITED VIP TICKETS!

The delegate fee includes the following services:

- Catering during the entire conference
- Access to the purchased conference packages
- Conference documentation
- Evening event

Payment Terms:

Payment is due on receipt of the invoice.

Conference venue:

MOTORWORLD | Region Stuttgart, Germany
Graf-Zeppelin-Platz 1 | 71034 Böblingen | www.motorworld.de

Hotel Partner:

V8 Hotel | Graf Zeppelin Platz 1 | 71034 Böblingen
email: info@v8hotel.de | www.v8hotel.de | code word: **RedCabin**



© RedCabin | The cover has been designed using resources from Freepik.com | © pikisuperstar

For further information or registration please call:

Erutode Rume, erutode.rume@redcabin.de

direct line: +49 30 99 40 489 16