2nd Annual
Automotive Display and Visual Technology Forum

22nd - 23rd October 2019
Hotel Eurostars Berlin
Berlin, Germany

For further information on speaker & delegates opportunities, please contact:
Lina Kozina / Project Lead-Marketing / linak@bisgrp.com / D/line: +420 270 003 435 / fax: +420 270 005 476
Who Should Attend
Presidents, Vice Presidents, Directors, Heads-Managers of:
- Interior Lighting
- Head-Up Displays
- Automotive Displays
- Visual Performance
- LCD
- OLED
- Cockpit
- Electronics
- Infotainment
- Telematic
- Connectivity
- HMI
- User Experience
- Infotainment
- Flat Panels
- OLCD
- Augmented Reality
- Optical
- Visual Reality
- Glass Technology

Invited Speakers
Thomas Seldrum
Innovation Scientist and Global Key Account Technical Manager
Dow Chemical Company

Mathias Stegemann
Senior Manager
Visteon

Patrice Reilhac
R&I Director
Valeo

Herve Drezet
Displays Specialist
Renault

Prof. Dr. Anestis Terzis
Head of Institute of Communication Technology
Ulm University of Applied Sciences

Tibor Balogh
CEO and Founder
Holografika Ltd

Tara Akhavan, Ph.D
Founder & CTO
IRYSStec Canada

Dr. Pablo Richter
Senior Technical Expert
Head-Up Displays
Continental Automotive GmbH
Tuesday 22nd October 2019

08:00 Registration and Morning Coffee

08:30 Business Card Exchange
An early opportunity in the conference to meet other conference attendees by systematically moving around the room. Make use of the opportunity to learn about companies, projects and backgrounds of other attendees and swap business cards in an informal environment.

09:00 Chairman’s Opening Remarks and Address

DISPLAY & VISUAL TECHNOLOGY– LOOKING TOWARDS THE FUTURE

09:10 Keynote Panel Discussion
Major Trends in Automotive Display and Visual Technology
- Learn about latest display technologies with special consideration for whole electric vehicle integration and the concept of autonomous cars, which affect available space for display, its’ size, shape, form and other design aspects.
- Gain insights in the current state of display market.
- Learn how the next generation displays are integrated and how it reshapes automobile design. How the quality of displays is being maintained?
- Review display market trends of today and the future.

09:40 Case Study
Addressing Key Issues in Automotive Display
- Which automotive display application and display size dominate the market?
- What factors are impacting automotive display demand by size?
- What will drive future demands?
- New display technology-QLED vs OLED
- Who are the main customers in automotive display supply chain?

10:10 Case Study
Virtual Prototyping for Head Up Displays
- How Head Up Displays (HUDs) will take comfort, safety and automotive experience to a new level
- Challenges in terms of development productivity and collaboration between automakers and the supply chain.
- Discover how to imagine, design and experience HUD and especially AR-HUD in virtual environments.

10:40 Morning Coffee and Networking

11:10 Case Study
OLED Display Latest Applications
- What kind of OLED displays are currently adopted in cars?
- Why OLED lighting is exciting for car makers?
- The future of Automotive OLED display.
- OLED concepts and forecasts.
- Micro LED manufacturing challenges.
- What are the integration challenges?

11:40 Case Study
Can OLED Outplay QLED?
- How QLED will add more choice and flexibility?
- Can QLEDs with direct-lit back light technology will allow for better power savings?
- What role QLED panels can play for the infotainment system?
- Discuss projections for QLED.

12:10 Case Study
Eye Gaze Controlled Projected Display
- Integrating and evaluating eye gaze controlled interaction for projected display.
- Proposing an algorithm to facilitate interaction with gaze controlled interface.
- Evaluating gaze controlled interface for automotive and comparing their performance with existing interaction techniques.

NEXT GENERATION OF AUTOMOTIVE DISPLAY TECHNOLOGIES

12:40 Case Study
Curved Display for Advanced Car Cockpits?
- Discuss new developments of display
- Address the demand of Curved display
- Discuss new cockpit designs require curved cover lenses and additional integration of sensors and functionality.
- How curved display can enhance interface between humans and the vehicle in future digital cockpits.

13:00 Lunch Time

14:00 Afternoon Coffee and Networking

14:10 Case Study
Haptic Feedback Display for Optimized
- Decreases driver distraction
- Scalable to device sizes and feedback impulse
- Adjustable to situational user context
- Rapid and reliable response

14:40 Case Study
AMOLED Automotive Displays for Efficient Integration Factors
- Effectively shaped and placed on different parts of the car
- Better contrast ratio
- AMOLED display devices have quicker respond time
- Better display performance especially when displaying data from outside the car.

15:10 Case Study
Holographic Waveguide - A Disruptive Technology for Augmented Reality Head-up Displays of the Future
Augmented Reality (AR), the enrichment of the real world with perfectly matched useful information. Accompanied by upcoming driving modes such as highly automated driving, the complexity of cars especially of their advanced driver assistance systems (ADAS) grows rapidly. Augmented content displayed via AR-head-up displays enables to inform each driver intuitively in the best way and simplifies the interaction between drivers and complex ADAS systems. The new disruptive waveguide technology from DigiLens and Continental enables AR-head-up displays that can be packaged easier. Continental reports from the first waveguide head-up display with windshield compensation.
Dr. Pablo Richter / Senior Technical Expert Head-Up Displays / Continental Automotive GmbH

15:40 Tea Break and Networking

16:10 Case Study
3D Light Field HUD
- 3D LF HUD could offer real AR features, matching signs with the outside physical 3D world.
- The optical challenges are here in the far-field imaging, wide FOV, proper head-box while keeping the volume of system.
- Free-form optics and HOE combiners can give more freedom in design.
- 3D LF systems can be candidates to realize true 3D cockpit displays.

16:40 Case Study
Mirror Replacement with Camera-Monitor Systems
- How Rear-facing cameras has changed drive in reverse?
- How CMS can expand driver visibility and improve aerodynamics and overall fuel efficiency.
- Filtering techniques can provide a clearer rear view in direct sunlight or low-light conditions.

17:00 Case Study
Next Generation of Automotive Visual and Role of AI
- AI as the key driver to achieving a truly end to end UX
- Who will lead the future of intelligent cars display?
- Smart development trends of in-vehicle systems
- How can cloud based AI systems make life easier for drivers?
- Innovating with Open Source.

17:40 Chair’s Closing Remark and End of the Day One
Wednesday 23rd October 2019

08:00  Registration and Morning Coffee

08:30  Chairman’s Opening Remarks and Address

**UI & UX – DEVELOPING ADVANCED DISPLAY AND VISUAL SOLUTIONS**

08:40  Case Study
Current UX Challenges, Future Prospects and the Role of User Experience
- Interaction between occupants and vehicle – user interface and user experience
- Multimodal user experience solutions integrated within the vehicles
- Interior Concepts in highly automated vehicles
- Challenges in designing today’s digital dashboards

09:10  Case Study
User-centered Infotainment Evaluation in the Age of Consumer Electronics
- Usability testing methods and processes
- Alignment of user testing with software and hardware development processes

09:40  Case Study
How Gestures Interaction can Optimize the User Experience
- Challenges and advantages of using gestures interaction?
- The possible troubles, which we must consider while designing for gestures interaction
- Combining gestures interaction with other input methods for enhanced user experience
- How these technologies can improve driver safety?
- How to simplify Implementation these types of technologies to improve the user experience?

10:10  Morning Coffee and Networking

10:40  WORKSHOP
Why PERCEPTION is the Next Big thing is Automotive Display Industry?
In today’s increasingly digital and connected world, the automotive sector has been and will continue to be one of the fastest growing markets for the display industry. During this workshop we will discuss the future User Experience Trends, with specific focus on Display User Experience in the automotive sector. We will introduce Perceptual Display Platform, a next generation software technology and first to provide “content” for drivers and passengers that is as close as possible to the real-world visual experience.

Tara Akhavan, Ph.D / Founder & CTO / IRYStec Canada

**INTEGRATED DISPLAY SYSTEM FOR THE FUTURE CARS**

12:40  Case Study
Integrating the LCD Cluster and CID System
- UI selection functions according to the driver’s preference
- Improvement of driver’s convenience by applying integrated display
- Applying various HMI
- Screen conversion UI with application of gesture recognition technology

13:10  Lunch Time

14:00  Afternoon Coffee and Networking Break

14:20  Case Study
Thermal Design Challenges for Automotive Display Integration
- Lack of accurate Data reduces speed and accuracy of the design process
- Stopping maximum ambient temperatures for the components
- Using a CFD-code combined with dedicated tests to improve modelling

**AUTOMOTIVE DISPLAY REQUIREMENTS AND STANDARDIZATION**

14:50  Case Study
Accelerating the Standardization and Requirements of Automotive Displays
- Human factors-driven requirements for these display systems
- Display technologies that are capable of achieving the requirements
- How to manage and improve display quality?

15:20  Case Study
System Integration for the Specific Design and Performance
- Balancing between specific design and performance
- System design by optimization of white point adjustment, color and black uniformity of single and multiple display solutions

**ROLE OF TESTING AND MEASUREMENT OF DISPLAY**

15:50  Case Study
Accelerating Automotive Lighting & Display Testing
- Testing considerations for automotive displays
- Detection of subtle flaws
- Performance characteristics in harsh environmental conditions
- Quality Assurance
- Block mura standard testing
- Usability and user acceptance
- Requirements and challenges

16:20  Tea Break and Networking

16:50  Case Study
Automotive Display Measurement: Challenges & Requirements
- Current Challenges and Requirements
- Technologies and Measurements of Automotive Display
- Different Applications
- Various Display Sizes and Pixel Formats

**AUTOMOTIVE DISPLAY CHALLENGES AND ADVANCED**

17:20  Case Study
ADAS, Augmented Reality, Autonomous Driving- OEM Prospective for UX
- Integrated connected services across displays for ultimate UX
- Multi-device, multi-service automobile
- Integrated third-party mapping solutions

17:50  Case Study
Role of HMI in Driver Distraction Challenges
- Current and Future challenges and strategies to overcome
- Recent development in technologies that can minimize distraction
- Concerns that will increase with CAV
- User Interfaces can be designed to reduce driver distraction which still responding to consumer demands
- Balancing customer needs and driver distraction

18:20  Case Study
How Digital Displays and Voice-Controlled Assistants are Revolutionizing Driving
- Rediscovering the driving experience with HMI.
- Smart command center: the driver controls car functions using voice commands and a touchscreen with haptic feedback.
- Artificial intelligence in the cockpit: HMI thinks ahead and prioritizes information in real time.
- A central cockpit computer controls the complete HMI

18:50  Case Study
The Challenges of Touch Display in Automotive Applications
- The design choices for interactivity and the issues surrounding the themes of safety, utility, and ubiquity
- How innovations in touch panel technology are improving the in-car experience.
- Specific issues to be addressed include the use of touch for HMI vs. other input mechanisms (voice, gesture, etc.), touch on curved display surfaces, haptic feedback and the in-car environment

19:20  Chair’s Closing Remark and End of the Day Two
Sponsors and Partners

Workshop Sponsor

IRYStec Introduction
IRYStec Software Inc. is leading the development of perceptual display processing technology for Automotive OEMs. IRYStec Perceptual Display Platform Vision (PDP Vision) is the world’s first software development kit (SDK) that intelligently adapts the displayed content to the ambient light, to the panel technology and it is personalized according to the effective age of the driver’s eyes; delivering a safer, more power efficient and increased display lifetime, in-car viewing experience. IRYStec PDP Vision is customizable, scalable and it integrates seamlessly into the primary automotive display systems – instrument clusters and infotainment displays. Incorporated in 2016 with offices in Montreal and Ottawa, Canada and sales offices in Europe, Japan and Korea. IRYStec was a winner of the 2016 Silicon Valley Forum’s World Cup Tech Challenge, Fundica 2016 winner, TiEcon Canada 2017 winner, graduate of Creative Destruction Lab 2018, CIX Top 20 for 2018.

Automotive Sector Group https://www.linkedin.com/groups/8763019/
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