Final Program

2019

October 9 and 10, 2019

Laurel Manor
39000 Schoolcraft Rd.
Livonia, MI 48150

Sponsored by:

Exhibitors:

AGC Chemicals • Covestro
Engineered Materials Systems
Kurz Transfer Products • NAMICS
Niebling • Nissha • RMS • RocTool

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Day 1 - October 9

7:15 a.m.  Registration and Networking

8:00 a.m.  Welcome and Opening Remarks
Darren Nowak, Director
The ITB Group (U.S.A.)

8:15 a.m.  Test Requirements and Results of a Previously Documented Automotive Use Case - the Bat Ray
Vice President of Product Engineering, Americas
TactoTek (U.S.A.)
TactoTek’s IMSE use case demonstrator was introduced at the 2018 ITB Smart Automotive Surfaces Conference. Details focused on the engineering disciplines and processes required to create and produce the part. Since then, the design has developed from concept to a fully functional part. In 2019 this updated presentation focuses on automotive testing requirements for global acceptance and provides a summary of the test results.

8:45 a.m.  Wideye Glass for Autonomous Vehicles: The Problem with Putting LiDARs Behind Windshields, and a Solution
Intellectual Property Counsel and Market Strategy Leader
AGC Chemicals (U.S.A.)
Traditionally, LiDAR sensors for autonomous vehicle prototypes are placed on the roof. Why is that? One of the main reasons is that even though automotive glass is transparent to the human eye, LiDAR sensors are blind when placed behind windshields. To solve this issue, AGC has developed Wideye, a glass composition that is LiDAR-friendly. Now, vehicle manufacturers and LiDAR integrators have the freedom to place LiDAR sensors behind glass. Environmental protection, scratch resistance, and impact resistance benefits will be discussed.

9:15 a.m.  Location. Location. Location. Gain Real Estate in the Car by Using Voice, Gaze, and Smart Windows
Senior User Experience Researcher
Cerence (U.S.A.)
Real estate is at a premium in the car. In this talk we discuss new Human Machine Interface options for increasing space in the car, not with hardware, but with software. We will highlight new concepts showcased at CES 2019 and the latest results from our DRIVE Lab’s studies on the UX research with voice, gaze, and smart windows.

9:45 a.m.  Can Windshield Wipers Help Prevent Flooding?
Assistant Professor of Robotics and Mechanical Engineering and Associate Professor of Civil and Environmental Engineering
University of Michigan Ann Arbor (U.S.A.)
Vehicle-to-Everything (V2X) communication solutions are in their infancy. Car exterior mechanisms and surfaces can be utilized to warn of road hazards and avoid injury and have additional use cases. This presentation will outline how windshield wiper data collected by connected vehicles can drastically improve rainfall measurements and flood forecasting.

10:15 a.m. Networking Break

10:55 a.m. High Definition Plastics - Thermoplastic Composites
Business Development Manager and CEO
RocTool (U.S.A.)
Heat and cool molding technologies continue to create design opportunities in high definition plastics. In high heat molding, the level of the tool surface replication increases to 97.2%, providing product designers a tool to achieve premium looks, high gloss possibilities and matching initially targeted textures. These flow increases unlock previous design rules and reach beyond existing limits in thin wall applications.

11:20 a.m. Laser Ablation for Cosmetic and Functional Textures
Product Manager Advanced Manufacturing
GF Machining Solutions (U.S.A.)
An overview of the laser texturing process and the features and benefits it now brings to the automotive market for interior, lighting, and under the hood appearance. Laser texturing can work in conjunction with chemical etching or completely replace it. The presentation will describe the new geometric grains being used in Europe which are difficult to achieve via chemical etching.

11:45 a.m. Making It Better: How Multifunctional Printing Is Changing Global Manufacturing Processes
President
Sensor Films (U.S.A.) and Senior Finishing Engineer
Aptiv (U.S.A.)
Additive manufacturing and multifunctional printing processes are production innovations that change established manufacturing operations and enable production of new components. This talk will explore the path to production for emerging smart surface material technologies using industrial inkjet integration processes that support the adoption of Industry 4.0 methods and practices. Examples from global industries will illustrate the considerations to

Smart Automotive Surfaces 2019
INTELLIGENT VEHICLE LEVEL INTEGRATION

MOLDING, FORMING, TEXTURING AND ADDITIVE STEPS
successfully transition from the laboratory into a series production setting. Progress towards the development of robust test systems and integrated scalable inkjet systems will be reviewed.

12:10 p.m. **High Pressure Forming for Functional Automotive Parts**  
*Director Sales & Marketing*  
*Niebling (Germany)*

Niebling’s high pressure forming technology is well known in the automotive industry for the FIM (Film Insert Molding) / IML (In-Mold Labeling) process which provides high accuracy and repeatability and integration potential. Further IME (In-Mold Electronics) applications include 3D forming of films with printed conductive circuits and electronics like touch sensors, sliders or lighting functions with dead-front effects on high-gloss surfaces.

12:35 p.m. **Lunch**

1:35 p.m. **PANEL DISCUSSION**  
*Defining the Automotive Future*  
*Yanfeng Automotive Interiors, Osram Opto Semiconductors, Kurz Transfer Products*

Selected experts will join the panel to discuss approaches to collectively engage and drive to action:

- Changes in regulations; evolutions in piloted driving and the new expectations in user experience
- Pure innovation, AV innovation, industry collaboration and disruptors
- Paths for commercialization of smart surfaces responding to needs in total cost, reliability, and consumer want and acceptance

2:20 p.m. **Live Audience Survey**

2:30 p.m. **OLEDs: Recent Developments and Current Challenges**  
*Senior Physicist and Senior Scientist*  
*Iowa State University (U.S.A.)*

OLED lifetime and efficiencies continue to improve. Challenges in extracting light generated inside the OLED, in brightness and lifetime of efficient blue devices, and in low-cost roll-to-roll manufacturing remain. The presentation will review the recent developments and challenges in these areas and relevance to automotive technology. In particular, the developments, challenges, and prospects for flexible and transparent OLEDs will be discussed.

3:00 p.m. **Networking Break**

3:30 p.m. **LEDs: A Smart Component of Smart Surfaces**  
*Director, LED Products*  
*OSRAM Opto Semiconductors (U.S.A.)*

With increasing attention on distracted driver safety, there is an opportunity to streamline the driving experience with faster, intuitive signal responses using HMI displays and warning signals. When properly executed these technologies can alert a driver of unsafe conditions and enhance comfort. This presentation will discuss the smart photonics technologies from OSRAM Opto Semiconductors that deliver a faster response using biometric and integrated RGBi solutions. These solutions will continue to be a key aspect of smart surfaces and vehicle connectivity in the future.

4:00 p.m. **Advancements in Printed Circuit Materials for In-Mold Electronics**  
*Electronic Materials Technology Manager*  
*Sun Chemical Corporation (U.S.A.)*

In-mold electronics (IME) are gaining increased attention due to the promise of thinner and lightweight parts and less complex assembly processes. Advances in 3D-formable and injection-moldable electronic materials are enabling IME applications to emerge, and there are already multiple user cases demonstrating the applicability of IME for backlighting, smart surfaces, and control panels for automotive interiors and appliances.

4:30 p.m. **A Display Cover with Seamless 3D Surfaces**  
*Technical Marketing, Americas*  
*Covestro (U.S.A.)*

When video display panels first appeared in automotive, novelty made them the centerpiece of designs. Since then, aesthetics have evolved and automotive stylists now strive for “organic” shapes and seamless 3D surfaces for displays and other user interface elements in an integrated cockpit or infotainment interface. Selecting materials and processing techniques to produce display covers with 3D contours quickly creates difficulties when weighing optical quality, durability, safety, processing, cost, and other performance criteria. The presentation will introduce an aesthetic, seamless, 3D display cover made from a new grade of Covestro Makrolon® polycarbonate using proven processing technologies. The display cover has excellent optical properties, capacitive touch functionality and can be produced in high yields.

5:00 p.m. **Closing Remarks and Evening Reception**

Presentations will be made available to conference attendees two weeks after the conference has concluded AND when provided permission by the speaker.
Day 2 - October 10

7:30 a.m.  Registration and Networking

8:00 a.m.  Welcome and Opening Remarks
Darren Nowak, Director
The ITB Group (U.S.A.)

8:10 a.m.  Soft Circuits: A Technology for the Car of the Future
Founder and CEO
LOOMIA Technologies (U.S.A.)
How are soft circuits (e-textiles) impacting the future of automotive interiors? The presentation explores how electronic textiles can provide responsive seating and soft user interactions that improve the cabin experience of today’s and tomorrow’s vehicles. The presentation will also explore how soft capacitive touch sensing and flat LED lighting can provide a luxury surface interaction experience for the future, where the car cabin is potentially a third home. Prototype concepts for automotive HMI use will be discussed.

8:35 a.m.  Smart Surfaces: How Polyurethane can Contribute to “Shy-Tech” Cockpits
Vice President, R&D and Quality
Recticel (Belgium)
This presentation will outline present Human-Machine Interface needs for semi-autonomous and full autonomous vehicles, and show the design opportunities for surface functionalization of spray and RIM/ROM polyurethane surfaces. Progress towards environmentally greener surfaces will be outlined.

9:00 a.m.  Capacitive Sensor Integration Options and Kurz FFB Introduction
Business Development Manager
Kurz Transfer Products (U.S.A.)
This presentation will outline the PolyIC capacitive sensor technology that is enabling a smart surfaces trend of seamless integration of functional devices with decorative surfaces. Bonding methods that integrate sensors into decorative interior components will be explained. The presentation will compare the different processes and introduce Functional Foil Bonding (FFB) as a new application that substitutes adhesive tapes with lamination. Concepts for vertical integration of equipment, tooling and sensor components will be shown for development and series production.

9:25 a.m.  Networking Break

9:55 a.m.  KEYNOTE PRESENTATION
Autonomous Vehicles, Complexity and the Need to Assess the ‘Big Picture’
David M. French Distinguished Professor of Strategy, Innovation and Public Policy
University of Michigan-Flint (U.S.A.)
Fully automated cars and trucks that drive us, instead of us driving them, will become a reality. Not surprisingly, improved safety is a primary motivation for developing autonomous vehicle (AV) technology based on artificial intelligence (AI) and machine learning. This presentation will discuss developments, advances, and challenges of AVs and future mobility, including an assessment of knowns, unknowns, and U.S. Federal and State measures to address them.

10:25 a.m.  Smart Surfaces and New Functionalities in Automotive Interiors
Innovation Director
Grupo Antolin (U.S.A.)
In order to meet ACES trends (Autonomous, Connected, Electric and Shared) and face upcoming changes in the automotive sector, Grupo Antolin is outlining its “Smart Integrator Strategy.” The objective is to incorporate intelligence into interior components, providing their surfaces with new functionalities to improve safety, quality and comfort onboard the vehicle. The presentation will show several proposals in smart surfaces, based on the integration of solutions from electronics and lighting technical fields.

10:55 a.m.  Strengthening the Value Chain for Advanced Materials in an Industry Collaboration
Managing Partner
Ruhl Strategic Partners (U.S.A.)
Overcoming barriers of adoption of advanced materials onto the vehicle can be overwhelming, especially for materials which are not yet mainstream in the industry. Over the decade many have failed to break through and gain substantive adoption into the value chain. And as no single company can provide a complete solution, a collective team of industry partners committing to a full solution can ease OEM supply chain anxiety. This industry collaborative model serves as a scalable approach from which to increase the adoption of advanced composite materials.

11:25 a.m.  Jet-Dispensed SMT Adhesives for Durable Printed Electronics and In Mold Electronics
Business Manager Printed Electronics
Engineered Materials Systems (U.S.A.)
Jet-dispensed SMT adhesives for high yield, low cost and exceptional durability will be discussed.

11:45 a.m.  Closing Remarks
Covestro
Covestro LLC is a leading producer of high-performance polymers in North America and is part of the global Covestro business. For more than 50 years, Covestro has been a valued supplier to the Automotive industry. Our polycarbonate and polyurethane materials provide innovative solutions that can be used all throughout vehicle design – from interior to exterior, bumper to bumper. At Covestro, we’re committed to supplying high-tech materials that meet the mobility needs of today, while also developing innovative products and collaborations for the transportation needs of tomorrow.

Contact: Paul Platte, Polycarbonates Mobility
Phone: 412-413-2183 Email: paul.platte@covestro.com
solutions.covestro.com

AGC Chemicals Americas
Fluorinated material science solutions from AGC Chemicals are ideal for automotive smart surfaces because they provide scratch and impact resistance, environmental and corrosion protection and help 5G LiDAR sensors maintain signal strength. We will our feature advanced materials such as adhesive resins, coatings and films for applications throughout the vehicle.

Contact: Kristin Carlin, Inside Sales & Marketing Leader
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www.agcchem.com

KURZ Transfer Products
KURZ is a major global supplier of decorative and functional transfer finishes and films for automotive and electronics industries. From HMI, backlighting, in-mold (IMD) technology, and extensive effects, KURZ has a holistic answer to design. The KURZ subsidiary, PolyIC, provides freedom for interactive components with its capacitive touch sensor technology.

Contact: Paul Rye Director of Sales, Automotive – US & CAN
Phone: 248-356-6893
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Nissha
Nissha Technologies is a leading automotive supplier of decorative and functional films and components. Nissha provides expertise from the initial OEM concept through mass production. Our product line-up includes devices and designs tailored to enhance the driver’s vehicle experience. Based in Kyoto Japan, we have facilities throughout the globe to assist in meeting your product needs.

Contact: Michael Kozbial, Director AutomotiveSales
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The ITB Group
The ITB Group was established in 1992 with a simple premise: to bridge the gap between developing a suitable technology platform and building a successful business. We are a highly specialized consulting firm with sub-specializations in acoustics, fuel systems, exhaust systems, plastic engine parts, interior/exterior systems and thermal management from a component and modular perspective.

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Consulting Services

Developing / Implementing a Strategic Vision
- Creating sustainable value
- Identify priorities - product / customer portfolio optimization
- Globalization strategy
- Technology positioning

Capitalizing on Legislative Trends
- Exhaust emissions
- Electrification
- Autonomous vehicles
- Evaporative emissions
- Technology credits
- Safety

Creating New Relationships
- M & A - target identification, due diligence & implementation
- Technology licensing
- Product partnering
- Consortiums
- OEM and supplier introductions

Leveraging Opportunities in the Competitor and Supply Base Arenas
- Supply chain segmentation
- Competitor analysis
- Supply base optimization
- Make and buy decisions
- Tier One or Two positioning (-tiering strategy)

Optimizing Customer Base & Product Portfolios
- Value proposition (what and how products are offered)
- Resource optimization
- Customer portfolio
- Identify threats & opportunities

Conference Schedule

Plan now to participate in ITB’s upcoming automotive events. Opportunities to present, sponsor and/or exhibit are available.

- Automotive Fuel Systems China 2019 - October 30 and 31, 2019. Shanghai, China
- Smart Automotive Surfaces 2020 - October 8, 2020. Novi, MI, U.S.A.

For more information, please contact Bryan Eldredge, Senior Program Manager at: beldredge@itbgroup.com or (1) 248-380-6310.