

CRITICAL TECHNOLOGIES FOR SUSTAINABLE VEHICLE PRODUCTION 2024 CONFERENCE

Founding Members:





FINAL PROGRAM

Bebruary 28 and 29, 2024

Sheraton Detroit Novi Hotel Novi, Michigan, USA

Sponsors:





- 7:30 a.m. **Registration and Networking** Continental Breakfast Sponsored by TRINSEO.
- 8:20 a.m. Welcome and Opening Remarks Mitra O'Malley, Managing Director and Co-Founder The ITB Group
- 8:30 a.m. **Regulatory Update: Policy Interventions that** are Driving Decarbonization Matt Roling, Director of Energy Transition and Climate Advisory **KPMG**

As governments face mounting pressure to pursue ambitious decarbonization goals, more nations are enacting dynamic policies aimed at reducing emissions. Examples include carbon pricing and carbon border tariffs, United States Federal tax credits and other incentives for decarbonization, and new ESG related financial disclosures, all of which are poised to reshape the automotive industry. These three topics will be discussed in greater detail to give the audience an understanding of how they may impact their business.

Session Chair: Kari Bliss, Principal Sustainability **Padnos**

Pioneering Pathways in Disassembly

8:50 a.m. **Revolutionizing the Automotive Industry:** Sustainable Practices, Recycled Materials, and **Economic Advantages in End-of-Life Processes** Kari Bliss, Principal Sustainability **Padnos**

This session aims to emphasize the economic benefits and long-term sustainability associated with embracing recycled materials, affirming that a sustainable business model is not only environmentally responsible but also inherently profitable in the evolving landscape of the automotive industry.

9:10 a.m. **KEYNOTE PRESENTATION**

Plastic Recycling from ELVs – A European Perspective

Jelle Saint-Germain, Sales Engineer Ad Rem

The new ELV directive enforces a 95% recycling target as well as 25% mandatory recycled content in plastics for new cars. At Group Galloo, the pellets created from recycled ELV plastics are being resold to companies such as BMW and Stellantis to make new car parts, meaning they reach the required properties and standards of the automotive industry. In this presentation, the Galloo technological process will be explained from start to finish. Under Ad Rem, this technology is licensed and available on the market. The process will be compared to local market circumstances and alternative technologies, highlighting the potential for US-based recycling companies and automotive OEMs.

9:55 a.m. Networking Break - Sponsored by (Henkel)

10:30 a.m. **Enabling Cleaner Mobility with Magna** EcoSphere[™] Technology Carrie Young, Chief Engineer

Magna Seating

Magna EcoSphere products enable cleaner mobility through foam, trim foundation, face goods and structures. Utilizing mono-materials in both the base pad and trim cover enables a simplified disassembly of the seat, eliminates the need to separate dis-like components, and allows full assemblies to be recycled and reused.

11:00 a.m. The Role of Recycling in Decarbonization

Cheryl Coleman, SVP of Sustainability

The Institute for Scrap Recycling Industries (ISRI) Decarbonization commitments and goals have become the catalyst of change and electrification in transportation will play a significant role. Advantages and challenges will emerge and the demand for materials within the recycling industry will increase. This places recyclers at the center of a supply chain of geopolitical and socioeconomic importance. This presentation will address the importance of a collaborative approach to achieve collective sustainability goals.

Session Chair: Dr. Matthew Korey, Associate R&D Staff **Oak Ridge National Laboratory**

Sustainability in Action

11:30 a.m. **Use of Recycled Plastics in Automotive** Applications - Myth vs Reality - Time to Change the Paradigm!

Susan Kozora, Director of Innovation

IAC Group

The use of recycled plastics and recycling in the automotive industry will be reviewed. Examples of past and current use of recycled plastics will be explored considering applications, successes, and failures. An overview of the material approval process at the OEMs for use of recycled plastics, supplier quality requirements and over-all infrastructure of recycling processes within automotive applications will also be covered. Why the current paradigm on use of recycled materials exists today and how it is changing will be addressed.

12:00 p.m. Lunch

Use of Captured CO, as a Feedstock for 1:15 p.m. Automotive Polyurethane Foams Thomas Andre, Research Engineer **Ford Motor Company**

While soy-based PU foam use at Ford has migrated from a single industry-first program to all North American vehicle lines, the sustainable content has stalled at 5% by weight and its use is limited to North America. As an alternative, polyols were synthesized with varying levels of CO₂ and renewable content to

produce new PU foams. Use of captured CO_2 is an ideal approach to increase sustainable content that can be a more scalable solution than using soy.

1:45 p.m. High-Performance Serial Production Parts made from Sustainable Engineering Plastics *Chris Korson, Market Segment Manager, Transportation* BASF

This presentation will highlight the path to incorporate mass balance into processes using current fossilbased polymers to make automotive parts. In this case pyrolysis oil from scrap tires and biomethane from agricultural and food production waste was used as substitute. The mass-balance approach was certified by the RedCert2 scheme and the concept was implemented into series production of the bow door handles for the Mercedes-Benz S-class and the Mercedes-Benz EQE through a material change in late 2022.

2:05 p.m. Challenges and Opportunities in the Sustainability 3:55 of the Overhead Function

Javier Cuadrado, Business Development, Technology Solutions

Antolin

Antolin's comprehensive exploration extends to identifying and evaluating sustainable alternatives for the diverse components integral to overhead systems. Tangible examples that illustrate the evolution of this function will be highlighted and the roles of weight reduction, biomaterials, and mono-components will be addressed.

2:25 p.m. Newly Developed Recycled-containing PLEXIGLAS® R-Life Acrylic Resins for Automotive Lighting and Trim Applications Frank Schumann, Segment Director Mobility Trinseo

To actively embrace the shift to sustainability, Trinseo has developed their recycled-containing PLEXIGLAS® R-Life range of PMMA resins. Developments and applications for automotive lighting and trim will be discussed.

2:45 p.m. Networking Break - Sponsored by Henkel

Session Chair: Fred Gersdorff, Senior Manager, Socially Responsible and Sustainable Supply Chains General Motors

Charting the Future of Sustainable Materials

3:15 p.m. Innovative and Sustainable Wood Textile for Interior Trim Adriano Pistola, Sales and Development

NUO

NUO is a remarkable substance crafted from genuine wood, yet possesses the flexibility of fabric, thanks to cutting-edge laser technology. This presentation will delve into the genesis of this material, elucidating its production process and underscoring its eco-friendly attributes. The technical application of how NUO is enhancing aesthetic interior features of automobiles for large-scale manufacturing will be shown. Case studies of vehicles currently available in the market that utilize NUO as a premium interior trim, will be highlighted.

3:35 p.m. Accelerating the Deployment of Sustainable Interior Products

Akim Khalef, Feedstock and Recycling Manager MATERI'ACT

To decarbonize the production footprint of automobiles, government regulations and OEM mandates are quickly providing more definition and guidelines on recycled materials. With these changes, the market will need to adapt faster in adopting more sustainable materials. FORVIA's MATERI'ACT presents the processes and products already in place to meet these standards and the steps necessary to continue to innovate and exceed the standards.

3:55 p.m. Key Considerations for Improving Sustainability of Automotive Foams Todd Bates, Felicia Seyedkalal, and Josh Wimble

Huntsman

Polyurethanes will need improved solutions for circularity, both reducing virgin petroleum-based materials and improving recyclability. Huntsman has developed a series of recommendations for the industry to increase transparency and comparability of carbon footprint calculations, harmonizing standards to leverage both mass-balanced materials and segmented sustainable polyols, and preparing for recyclability of foams.

4:15 p.m. Sustainable Styrenic Solutions for Automotive Applications

Brian Haggart, Application Engineer Automotive INEOS Styrolution America

INEOS Styrolution is creating drop-in sustainable styrenic solutions for many automotive applications. These new sustainable grades have product performance and properties that are on par with conventionally used materials but benefit the environment with elimination of waste and carbon footprint reduction.

4:35 p.m. Design for Sustainability

Karen Guzman, Automotive Marketing Manager **Covestro**

Covestro's sustainable polycarbonate solutions engage you to actively RE-think how engineered plastic solutions and design for sustainability can contribute to a more sustainable future. This presentation will raise key challenges towards circularity, which will require collaboration across the value chain to enable greater sustainable vehicle production.

4:55 p.m. Closing Remarks



Program Agenda - DAY TWO

7:30 a.m. Registration and Networking Continental Breakfast Sponsored by covestro

8:20 a.m. Welcome and Opening Remarks Dr. Rose Ryntz, Vice President, Sustainability The ITB Group

8:30 a.m. KEYNOTE PRESENTATION

Driving Change: The Path to Sustainable Automotive Solutions

Dr. George Luckey , Manager, Advanced Metal Technology, Research and Advance Engineering Ford Motor Company

This presentation will explore the potential for sustainable materials and manufacturing in the automotive industry, including the use of recycled and renewable materials. Considerations of materials selection, design, life cycle assessments, and manufacturing processes are all key to the success of sustainable solutions. Benefits of these new materials, their technical challenges, and opportunities to overcome obstacles for adopting sustainable materials in automotive applications will be addressed.

Session Chair: Dr. Rose Ryntz, Vice President, Sustainability The ITB Group

Technology Developments in Chemical Recycling

9:15 a.m. Chemical Recycling of Polyamide 66 Using Depolymerization by Microwave Dr. Yasuhisa Ichihashi, Manager Asahi Kasei

This presentation will introduce a new chemical recycling process for Polyamide 66 using microwaves. Starting from post-consumer airbags and radiator tanks, pure monomers were obtained. Using this new process, the carbon footprint is expected to be less than half of conventional Polyamide 66 made from fossil fuels.

9:35 a.m. Automotive Solutions for Enabling a Circular Economy

Johanne Wilson, Business Development Manager for ChemCycling®

BASF

This presentation will discuss how BASF's ChemCycling® and biomass balance (BMB) approaches incorporate plastic waste derived and biobased feedstocks into the existing chemical supply chain to make a positive environmental impact without compromising product quality or performance.

9:55 a.m. Networking Break - Sponsored by (Henkel)

Session Chair: Dr. Joel Kopinsky, Managing Director and Co-founder, The ITB Group

Greening the Assembly Line

10:30 a.m. Decarbonizing Parts & Packaging Using High Performance Carbon Negative Materials John Ely, Chief Marketing Officer Heartland

This presentation investigates how OEMs and suppliers can reduce their scope 3 emissions by using natural fiber additives in their plastic, and how the lightweighting revolution can benefit from reducing the use of materials like fiberglass, talc, calcium carbonate, and other commonly used plastic additives. Easy decarbonization opportunities in industrial packaging that can help automotive manufacturers quickly reduce scope 3 emissions as they test new materials in parts will be discussed.

11:00 a.m. Carbon Footprint Analysis of Novel Flexible Electronics in Auto Interiors

Madison Maxey, Founder and CEO Loomia Technologies

Loomia will walk attendees through a study on the carbon footprint of flexible electronics in automotive interiors, focusing on technologies like flex PCBs and wire-based heating systems. An analysis process that does not require full cradle-to-grave data will be introduced. This presentation will also share identified areas for improvement in both existing and novel technologies on the market. Attendees will walk away with quantitative tools for the industry that can help to guide sustainable innovation in automotive electronics.

11:30 a.m. Amplifying Sustainability Endeavors to Reduce GHG Emissions and Reach Carbon Neutrality Summer Javed, Sustainability Engineer Kautex Textron

This presentation will explain how Kautex is advancing its aggressive sustainability goals including new developments to identify carbon reduction opportunities throughout the organization. The capabilities of its life cycle assessment tool, supplier accountability methods, and plant waste management processes will be reviewed.

12:00 p.m. Lunch

1:10 p.m. Enhancing Efficiency in Automotive Painting: Challenges, Opportunities, and Al-powered Spray Digitization Solution Amirreza Amighi, President Mazlite

> Automotive paint shops generate the majority of emissions in production. Mazlite's AI-driven spray digitization platform features a sensor to monitor spray characteristics on the production line and uses this data to identify paint defects before paint is applied. Additionally, the platform can intelligently optimize a spray to improve transfer efficiency and reduce solvent

consumption while maintaining a high-quality coating. The platform has been shown to significantly reduce costs and improve the sustainability of the paint shop.

1:30 p.m. Revolutionizing Automotive Manufacturing: Enhancing Quality and Efficiency through Artificial Intelligence-Powered Vision Systems Michael Koper, Business Development Manager & Vision Expert

EINES VISION SYSTEMS

By leveraging cutting-edge technology, Eines will delve into how its proprietary software enhances quality control, detects errors, promotes sustainability and automates crucial aspects of the manufacturing process. A discussion on the integration of smart plant solutions, the synergy of artificial intelligence and vision systems, and the tangible benefits of a more reliable and efficient production line will be provided.

2:00 p.m. Sustainability and Decarbonization

Art Ackerman, Director, Global Product and Technology and Pravin Patel, Director PD Thermosets NA Henkel

Henkel supports customers in achieving their biobased and recycled targets by enabling them to claim recyclability and circularity through design for sustainability. A key product, the 4Wet solution, significantly reduces energy consumption, footprint and need for repairs and maintenance for the plant. This is supported with data transparency for key sustainability KPIs and provides a clear understanding of the sustainability benefits of Henkel's solutions in the use phase. Participation in the Catena-X Automotive Network shows Henkel's transparency and provides an environment for the creation, operation, and collaborative use of data chains along the automotive value chain.

Session Chair: Fred Lee, Chief Executive Officer KTON

Battery Recycling

2:20 p.m. Transforming Resources to Power a More Connected, Sustainable World

Erich Esser, Managing Director Germany & Austria and Vice President Global PP

Ecobat Resources

The presentation will explain Ecobat's contribution to the circular economy within the automotive industry and the opportunities that lie in the use of secondary material. Ecobat produces polypropylene recycling grades on a 100% PCR basis, positioning itself to meet the current requirements of legislation and the automotive industry in the use of recycling compounds: green tec for sustainable CO₂ reduction. The closed loop in the recycling of lead-acid car batteries serves as a starting point.

2:50 p.m. Networking Break - Sponsored by (Henkel)

3:15 p.m. Meeting Demand: The Need for Reinserting Critical Battery Materials Back in the Supply Chain Danielle Spalding, Vice President of Communications & Public Affairs

Cirba Solutions

Cirba Solutions will present on how extracting lithium, nickel, and cobalt through recycling provides a crucial and more sustainable resource for the EV supply chain allowing adequate ramp-up in production. This process also corrects the supply and demand gap and reduces CO2 emissions in comparison to mining. This presentation will dive into supply/demand projections, and highlight the significance of battery dismantlers and the significant amount of battery grade materials that can be put back into the supply chain.

3:45 p.m. The Most Economically Compelling Ways of Returning Recycled Battery Materials Back to the Lithium-ion Battery Supply Chain Mike Coraci, New Business Development Manager Ascend Elements

This presentation will provide a detailed and scientific review of the predominant battery recycling and cathode manufacturing processes available today with an eye toward greater efficiency, increased value, and lower carbon emissions. A novel recycled nickelcobalt-manganese grade material tailored for heavy duty electrification applications that enables long cycle life, high charge rates, and increased safety will be discussed.

4:15 p.m. Electric Vehicle Battery Recycling: An Automaker's Perspective

Laura Wagner, EV Battery Sustainability & Recycling Manager

General Motors

Electric vehicle battery recycling is an integral component of sustainable transportation. Automakers are strategically positioning themselves to not only produce cutting-edge EVs but also to actively participate in the development of a closed-loop battery ecosystem. By doing so, they aim to address environmental concerns, ensure resource security, meet regulatory requirements, and contribute to the broader transition to a more sustainable automotive industry.

4:45 p.m. Closing Remarks

Exhibitors:

- Arkema
- Ascend Performance Materials

 College for Creative Studies
Covestro

Huntsman

Evonik

- Mazlite
- Trinseo

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- Advanced Mobility Fuels Summit China 2024
- Critical Technologies for Sustainable Vehicle Production 2025

Contact The ITB Group for more information



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