As technologies such as autonomous driving are disrupting the automotive industry, seating will become one of the most strategic systems in a vehicle. Today our seats need to keep us comfortable and safe, but tomorrow we will be expecting them to do a lot more. This compact one day technical conference sets out to position the technological and production challenges in the new frontier of smart, innovative automotive seating; but drills into the real ‘current’ ‘today’ challenges of mass vs comfort vs durability. Whist there are huge advancements in innovation, exiting new materials, structures, mechanisms, fabrics and smart tech available, the real common denominator in the current market is innovating – while reducing costs, weight and meeting regulations and testing.

The Lightweight Automotive Seating Materials & Technology Congress 2020 is the only truly OEM authored- interactive forum, exclusively for the automotive leaders driving seating innovation within OEMs and Suppliers, set out to aid in advancing development and deployment of futuristic next generation seats into the main stream production line through close interactive knowledge sharing workshops, benchmarking and networking sessions. This forum, is part of an extended membership community that will take a comprehensive, and technical view, on new technologies, materials – including Foams and Trims, seat system performance, structures and mechanisms, manufacturing and assembly capabilities to provide attendees with solid take away solutions and ideas and a continued interactive professional community membership.
One thing is for certain, increased functionality, the integration of future systems and the growing expectations of the driver for advanced quality and comfort are presenting a heap of challenges for automotive seating engineers across the production process – from design all the way through to trim. Whilst ‘Wrinkle Free’ seems to be the benchmark, the quality of material selection, structures and mechanisms, padding, foam and trim are all too often compromised to achieve the lightest weight in effort to achieve best cost-effective value optimisation. The ‘right material in the right place, in the right quantity’ not only requires further optimisation of the developments and achievements of lightweight design, but also further developments of materials and improving multi-material integration of new materials and technologies – mindful of also advanced targeted recycling.

To address and tackle these issues, as well as further topics, the global network of automotive seating engineers is coming together to form the Automotive Seating Alliance – tasked with accelerating the adoption and industrialising advances seating technologies, with a cost-saving, light weighting directive. Lightweight Seating Materials & Technology congress will be taking place in Detroit on, 11th March 2020 for a full day of interactive knowledge sharing and benchmarking through a series of technical workshops.
WHO SHOULD ATTEND?

Technical Directors, General Managers, Department Managers, Senior Engineers, Senior Specialists, Technical Specialists, Senior Researchers from...

- Core Seat Engineers & Supervisors • Project Chiefs • Seat Complete • Trim
- Innovation • Seating Comfort • Ergonomics • Seating Cad • Product Engineering
- Seat Design • Seating System Specialists • Foams • Automotive Interior Design
- Seating Development • Safety & Regulation • Interior Technologies
- Strategic Automotive Initiatives • Research & Development • Technologies Officers
- Seat Development • Team Leaders • Industrial Design • Business Development
- Tier 1 & Tier 2 manufacturers • Interior Research & Performance
- Application Leads • Applications Engineers • Automotive Transport Design
- Cabin Seat Engineers • Customer Teams • Seat Department Design Engineers
- Directors of Advanced Engineering • Trim • Vice Presidents of Technology
- Directors of Product and Portfolio Management • Global Premium Interiors Core Buyers
- Product Design Research Interior • Styling Design Managers
- Sr. Manager of Seats • Portfolio Development • Seat Engineering Teams
- Seat Engineers • Seat Comfort • Seat Structures Engineer • Sr. Comfort Engineers
- Sr. Product Managers • Seat Comfort • Advanced Systems
- VPs of Product Development • VPs of Strategic Automotive Initiatives
7:00AM Registration & Networking

7:45AM Chairs Opening Remarks
Two Sides Of A Great Divide – Complexity Reduction Whilst Achieving Intelligent Individualism
Scott Ziolek, Principal Engineer Seating New Technology, Hyundai-Kia America Technical Centre & Chair of SAE Human Accommodation & Design
• Identifying the complexities that the customer really values: best fabrics, skilled embossing, high-end styling and a designer touch and feel?

8:00AM Key Trends & Market Dynamics
Colin Giles, Technical Research Analyst, IHS Markit
• Identifying the growing developments in the field of advanced seating technology such as heat, cooling, ventilated, memory, massage and advanced functions
• What is the ‘cockpit of the future’: Just a need for personalisation and artificial intelligence?
• Smart Human Machine Interfaces
• Rising global production and growing SUV demand and their specific requirements on the seating system
• Growing sales of premium passenger vehicles driving advanced & modular seating systems
• Setting the scene for autonomous vehicles and ride sharing, change in customer expectations
• What are the rising developments in advanced seating technologies for the immediate next generation vehicles

8:20AM The Drive To Cut Weight: How To Achieve The Best Material Optimisation and Value Optimisation: Combining Optimization and Modern Product Development Methods To Achieve A Lightweight Design.
Edwin Pope, Global Lightweighting Principal Analyst, IHS Markit
• Reviewing new structure materials and manufacturing processes for lightweight seat structures
• Increasing usage of lightweight and composite materials such as magnesium, High Strength Steel (HSS) and carbon fibre to reduce the over all weight of seating system.
• Opportunities for metal replacement with multi-material systems
• Reducing the number mechanisms – whilst increasing functionality
• How OEMs have taken advantage of material innovation: Case Study Reverse Engineering
• How further multi-material design can unlock limitations of conventional design.

8:40AM AGENDA
MARCH 11th 2020

9:00AM iStream Lightweight Automotive Seat – Gordon Murray Design
Gordon Murray Design (tbc)
• The iStream innovative unit boasts a significant 30% weight saving when compared to a conventional modern seat
• The IS-001 seat licensed by Transcal, is the world’s first implementation of the iStream lightweight seat.
• Explorer further automotive and non-automotive designs and applications for the seat.
• The iStream lightweight automotive seat represents a seismic shift in this sector – its innovative construction helps to deliver both economic and environmental benefits.

9:20AM Re-thinking Seat Utility: Redesigning Auto Interiors To Meet A New Set of Customer Needs
Faurecia Automotive Seating

9:40AM Safety Systems Design And Innovation: Dynamic Safety Repositioning or Adaptive Safety Magna Seating

10:00AM Seat Benchmarking Creating A Digital Twin
Dr Samy Panneerselvam, Technical Director Full Seat System Digital Twin, Caresoft
• Non-destructive methods for automotive benchmarking for Automotive Seating using high energy scan technology
• Plastics, Structures and Frames, Analysis of Structures
• An advanced ability to understand the design intent of the components and assemblies
• FE Model – Joining Techniques and Material Properties: Analysis and Simulations
• Case Study Tesla Model X

www.automotive-seating-technology.com
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<th>Time</th>
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<tr>
<td>10:20AM</td>
<td>Morning Networking Break</td>
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| 10:40AM  | Composites: Replacing Metal                                                                    | Dr. Fabio Bressan, Ph.D, Virtual Engineering Manager, Solvay | • Replacing metal parts with plastic parts for weight advantage  
• Performance seats are exemplifying the technology where composite back shells are glued to metal structural components  
• Performance seats now incorporate ultra-stiff, ultra-light rim composite technology: Case Study |
| 11:00AM  | Automotive OEM Seating System Strategies for a 2025-2030 C.A.S.E. World                  | Vishwas Shankar, Research Manager – Business Strategy & Innovation Group, Frost & Sullivan | • Understand the primary, secondary, tertiary CASE drivers of Seating system in 2020-2030 including lightweighting, new material strategies, modular construction  
• Personalization of Seating system targeting Health & Wellness, Vegan, etc. via Innovations in Structures, Mechanism, Foam, Surface materials.  
• OEMs and Tier-1 Suppliers focus on product differentiation via targeting new seating attributes Ultra lightweight with CFRP/Plastic, Self-Healing/Self-Cleaning, AI powered.  
• Focus on Seating technology innovations for an entirely new class and emerging segments of robotaxis, autonomous shuttles, flying cars in additional next-gen legacy models |
| 11:40AM  | Will The Entire Seat Of The Future be Glued Together:Designing the Vehicle Interior of the Future | Henkel Adhesive Technologies             | • In the future, our vehicles will be much more than just daily transportation. They'll function as our living rooms and offices, too.  
• learn more about the adhesives that will make the vehicle interiors of the future possible.  
• Take a closer look at how adhesives will enable these vehicle interiors of the future. As more autonomous vehicles enter the market, the nature of the vehicle interior will change, becoming an extension of our homes and offices. Consumers will demand increased comfort and enhanced aesthetics.  
• Success depends on being better—lighter, faster, stronger, and more reliable—than the competition. As the global leader in adhesives, sealants, and functional coating technologies for the automotive seating and interior industry, we will help you get there. We create a competitive advantage for our customers along the entire seat manufacturing value chain. |
| 12:00PM  | Mass production of Thermoplastic Composite Seat Shells using One Step Hybrid Molding Process  | Pal Swaminathan, Technical Marketing & Business Development TEPEX Automotive | • Organosheet with Ultra-thin wall thickness  
• Lightweight design  
• One step hybrid molding process  
• Cycle time less than 60 seconds |
| 12:20PM  | Edison2: Future Seat Modular System                                                         | Oliver Kuttner, Founder & CEO, Edison2    |                                                                                                                          |
| 12:40PM  | Developing High Profile Models In The Face Of The Challenges Of Increased Functionality And Performance: Creativity Applied And Refined To Set A New Global Standard | Lear Corporation                         | • Solving the current challenges faced by the most prestigious performance seating manufacturers  
• Learn how to develop high profile models in the face of the challenges of increased functionality and performance  
• Re-designing components contributing to weight savings  
• Just-In-Time Manufacturing  
• Economies of Scale |
<p>| 1:10PM   | Networking Lunch                                                                              |                                          |                                                                                                                          |</p>
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| 2:00PM | **Seat Structures – Light weighing and cost effectiveness of Advanced High Strength 3rd Gen Steels**<br>Harry Singh, Senior Product Application Engineer, United States Steel | • Modern advanced high strength steels offer a wide range of steel grades and manufacturing process choices for the vehicle structural systems. This presentation will discuss:  
  The evolution of lightweight seat structure designs and transitioning from Internal Combustion to Electric Vehicles  
  Cost of light weighting versus cost increase of battery for EV range increase  
  The mass saving premium ($ per kg mass saved), for the various light-weighting options for automotive seat structures  
  The light weighting and cost effectiveness offered by Advanced High Strength 3rd Gen Steels applied to seat structures |
| 2:20PM | **Direct Welding Of Aluminium To Steel As A Cost-Effective Enabler For Multi-Material Vehicle Construction**<br>Jerry E. Gould, Technology Fellow – Resistance & Solid State Welding at EWI |                                                                                         |
| 2:40PM | **The Future Of Magnesium In Lightweight Seating**<br>International Magnesium Association | • Where are the opportunities for replacing conventional material choices with Magnesium  
  • Success stories  
  • Features and advantages of magnesium alloys  
  • Broad prospects for development of lightweight structure materials |
| 3:00PM | **Testing, Inspection And Certification: Seating And Interiors Validation Opportunities**<br>Don Lux, Division Director, Transport at Element Materials Technology | • Gaps in testing standards  
  • Closing the gap between simulation and testing |
| 3:20PM | **Lightweight Foam Solutions For Next-Generation Seats**<br>Pasquale Rossi, Foam Specialist – Comfort & Trim, Faurecia | • The future lightweighting opportunities for foam: The future of foam in Next-Gen automotive seating |
| 3:50PM | **Industry 4.0 – The Path To A More Robotised Environment**<br>Accenture & Detroit Industry X.0 Innovation Centre | • Big data analysis and feeding it back into design, engineering and production  
  • Collect end consumer data and flow it back to one piece of equipment or equipment in combination with a given material  
  • Automation of operations and the predictability of operations  
  • Reducing scrap rates, tied to a certain link of equipment, material, supplier, time period  
  • While the fundamentals of comfort requirements and ergonomics haven’t changed, how do you translate that into an engineered product that can be capably manufactured in an Industry 4.0 environment?  
  • How manufacturing technology can enable design that was previously not achievable!  
  • How to achieve greater flexibility to react quickly to new developments and changing requirements |
| 4:10PM | **Press Assembly Technologies for Multi-material Products with Industry 4.0 Protocol Implemented**<br>Troy Waldherr, Vice President Sales for North America, TOX-Pressotechnik LLC | • Press-in and pierce in elements for connection of parts  
  • Clinching/sheet metal joining for assembly of metallic parts  
  • Self-pierce riveting  
  • Forming and piercing |
| 4:30PM | **Automotive Seat Simulation**<br>ESI Group Speaker to be confirmed | • Virtual Prototyping of automotive seating  
  • Hibrid-Twin, Vertual Acoustics, Virtual Manufacturing |
| 5:00PM | **Smarter Seat. A Connected Car Cockpit of the Future.**<br>Jakub Kamecki, Vice President of Business Development, TG0 | • Smart performance materials unlocking new paradigms in mobility  
  • Connected car cockpit of the future, an intelligent hub for consumer, OEM and fleet  
  • Gesture, touch and pressure sensing materials easier to manufacture, lower costs  
  • Improving driver and passenger experience, safety, sustainability, accessibility  
  • Exploration of autonomous vehicle and big data use cases |
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<tr>
<td>5:20PM</td>
<td>Afternoon Refreshments &amp; Networking</td>
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<tr>
<td>5:40PM</td>
<td>Lightening Up Through Topology Optimization</td>
<td>Richard Yen, Senior vice president, Strategic Solutions Team and Global Automotive Business, Altair</td>
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<td>• Tools for structural design and optimization to help with topology optimization</td>
<td>• Innovative design, materials, engineering, and manufacturing approaches</td>
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<td>• how topology optimization works with additive manufacturing</td>
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<td>6:00PM</td>
<td>COMAU Implementation of Industry 4.0 Protocol for Automotive Seat Manufacturing</td>
<td><strong>COMAU</strong> Speaker to be confirmed</td>
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<td>6:20PM</td>
<td>How To Use Colour And Texture To Boost Vehicle Interior Appeal</td>
<td><strong>Jeff Arsenault</strong>, Product Line Manager ClimateSenseTM Thermal Systems, Gentherm</td>
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<td>• Balancing sensory factors such as colour, feel, and surface finish to grab consumer attention</td>
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<td>6:40PM</td>
<td>Human-Centric Thermal Comfort</td>
<td><strong>GENTHERM</strong></td>
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<td><strong>Jeff Arsenault</strong>, Product Line Manager ClimateSenseTM Thermal Systems, Gentherm</td>
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<td>7:00PM</td>
<td>Innovative Foam Solutions</td>
<td><strong>Achieving The Right Blend of Comfort, Safety And Sustainability</strong></td>
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<td>• Reducing thickness without degrading quality and comfort</td>
<td>• Opportunities for new thinner materials that offer longer life, quality and comfort</td>
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<td>• What are the break-through innovations in foam: cost, profiles and adoptability?</td>
<td>• Environmental performance, holistic solutions/alternatives and eliminating harmful emissions foam</td>
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<td>• Environmental performance, holistic solutions/alternatives and eliminating harmful emissions foam</td>
<td>• Production, Recyclability</td>
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<td>• Heat dispersion, ventilation and moldability</td>
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<td>7:20-8:00PM</td>
<td>Closing Remarks – Drinks Reception</td>
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Lightweight Automotive
SEATING MATERIALS & TECHNOLOGY
CONGRESS 2020
DETROIT, USA - MARCH 11th

TICKETS

Ticket prices include: Access to all conference content, networking activities, food and beverages plus membership to Automotive Seating Alliance USA.

OEM RATES
EARLY BIRD $699  Expires 7th February 2020
STANDARD $800

SUPPLIER* RATE
EARLY BIRD $1200  Expires 7th February 2020
STANDARD $1375

*Supplier rates apply to any organisation other than OEM

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