automotive interiors EXPO EUROPE

NOVEMBER 12, 13 & 14, 2024

HALL 10, MESSE STUTTGART, **GERMANY**

SHOW PREVIEW

Just announced:
NEW VR Zone
Interview with
Reutlingen University

Prof. Michael Goretzky
Prof. Andrea Lipp-Allrutz

Full interview on p.7

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automotive interiors EXPO EUROPE

MESSE STUTTGART, GERMANY, **NOVEMBER 12, 13 & 14, 2024**

With the increasing demand to deliver a more personalized and sustainable automotive interior, we would like to invite you to the Messe Stuttgart this November to explore the very latest groundbreaking trends in materials, finishes and technologies , as well as sustainable solutions for brand differentiation and improving production quality from 120+ specialist suppliers of automotive interior manufacturing systems and manufacturers of interior parts.

Join us on November 12, 13 and 14 as we connect, share ideas, find innovation and look to deliver a better, more efficient and environmentally conscious future. Explore cutting-edge interior concepts, headliners, carpets and insulating materials, switches, finishes, plastic metalization, high-tech materials, haptic technologies, UI technologies, foams, sewing and cutting machines, lighting solutions, textiles and more.

Among various new features this year, we're excited to introduce a brand-new Reutlingen University VR Zone where you can experience how the university is using VR in the development process. You can read an interview with Prof. Michael Goretzky, the university's dean of studies for design master's degrees, and Prof. Andrea Lipp-Allrutz, dean of studies for the transportation interior design bachelor's degree, on page 7.

Completely focused on current and future technologies, everything needed to create high-quality interiors will be on display at Automotive Interiors Expo Europe 2024.

Read on for a glimpse of what some of our exhibitors will be showcasing, as well as white paper extracts on ambience and functional integration in textile automotive interiors and program highlights from our new, free-to-attend Innovation Showcase...

This is a must-visit event for designers, engineers and procurement managers from OEMs and Tier 1 and Tier 2 suppliers who want to enhance the passenger experience.

We look forward to welcoming you!

Charlotte Iggulden, *brand manager*

INTERIOR TRENDS MADE COMPACT AND INTERACTIVE

InSuM

Booth 1210

The InSuM Interior WebApp visualizes trend scouting results, provides insights into trend topics based on components, functions and materials in automotive interiors, and highlights new business potential in the growing field of interior design.

As an interior hub for sustainable mobility, InSuM offers individual trends for automotive interiors, which are undergoing a fundamental redesign. Driven by megatrends such as automated and connected driving and sustainability, materials and components with integrated functionalities, digital services and even new business models are set to increase. These changes are opening up new opportunities for the existing supplier industry and numerous new players from other sectors.

See InSuM's white papers on 'Ambience in automotive interiors through textiles' and 'Functionalization and functional integration in textile automotive interiors' p.8

The trends visualized in the Interior WebApp give vehicle interior suppliers insights into future markets, serving strategic orientation and the management of evolving market demands.

Visit InSuM at Automotive Interiors Expo in Stuttgart to discover the interior of the future.

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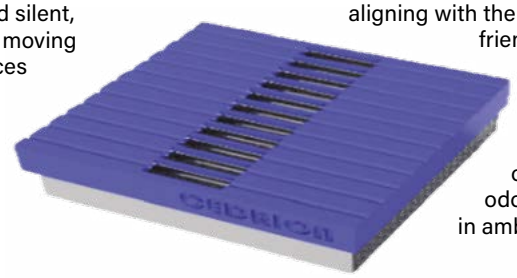
LIGHTER AND FULLY SILENT – NEW REFRIGERATION SYSTEMS

Cedrion

Booth 1708

Cedrion will demonstrate its Boreas and Airox devices for onboard electronics ventilation at the expo. Thanks to their patented ionic wind technology, these devices are half the weight, volume and consumption of fan-assisted heat sinks, and more than seven times lighter and more compact than passive heat sinks while maintaining heat exchange capabilities.

The systems are modular and silent, generating airflow without any moving parts, which significantly reduces noise and mechanical wear. Additionally, they are highly efficient and effective, ensuring optimal thermal management for EV components.



Reducing the weight and consumption of cooling systems increases the vehicle's range and overall efficiency. Efficient thermal management improves vehicle performance, ensuring components operate within optimal temperature ranges. Additionally, Cedrion's systems are completely silent, enhancing the comfort and overall driving experience. Moreover, they are 100% sustainable, aligning with the growing demand for environmentally friendly technologies.

The company will also present its Kirion air purification systems for vehicle interiors. They ensure healthy and comfortable spaces free of microorganisms, particles, noise and odors, and are already being implemented in ambulances.

AUTOMOTIVE GREEN RECYCLED MATERIAL

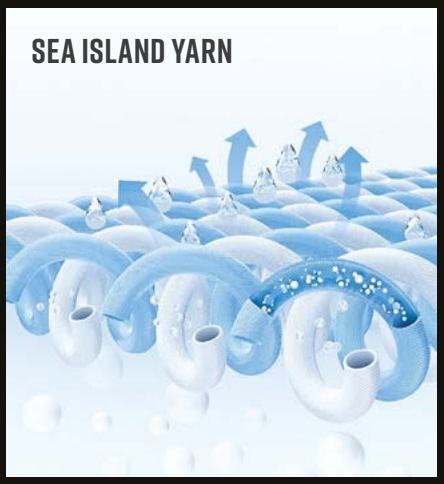
Cyclone Technology

Booth 1740

Cyclone Technology is committed to building a green and circular economy. The company aims to produce high-quality, functional and differentiated green fibers through recycled technology using waste bottles and waste textiles as raw materials, and construct a closed-loop recycling industry chain.

Recycled DMT, with waste textiles as raw material, offers several advantages thanks to a special process that can be applied to automotive parts, tire materials, automotive seats, automotive interiors and other fields to provide sustainable solutions for the green transformation of automotive material.

The company's recycled fibers include recycled ocean yarn, using plastic bottles retrieved from the ocean as raw material; 100% recycled eco-friendly peach-like yarn; 100% recycled high-shrinkage fiber made with ultra-fine sea island fiber; antibacterial fiber; anti-UV fiber; and flame-retardant fiber with safe and stable qualities. They can be applied in seats, inner door panels, carpets, steering wheels and handles, as well as other automotive parts.



These products meet the international green environmental protection standards, with excellent performance. Cyclone Technology is expanding the green and low-carbon industrial chain, and promoting the growth of the recycling industry and the new textile industry cluster.

UNVEILING THE INNOVATION POTENTIAL OF CIRCULAR APPROACHES

Project Unicorn

Booth 1310

Visit the expo to explore the Unicorn project, an EU-funded research initiative supporting the automotive electronics industry in its transition toward a greener and more circular future. Focused on investigating circular innovations in materials, processes and design, Unicorn aims to enhance the circularity-driven integration of electronics in automotive applications. It provides methodologies, guidelines and recommendations for the entire community, addressing broader sectors.

The project features five cutting-edge use cases. The first is a lightweight, thermoplastic battery casing with integrated thermal and stress management to maximize battery performance, safety and reusability.

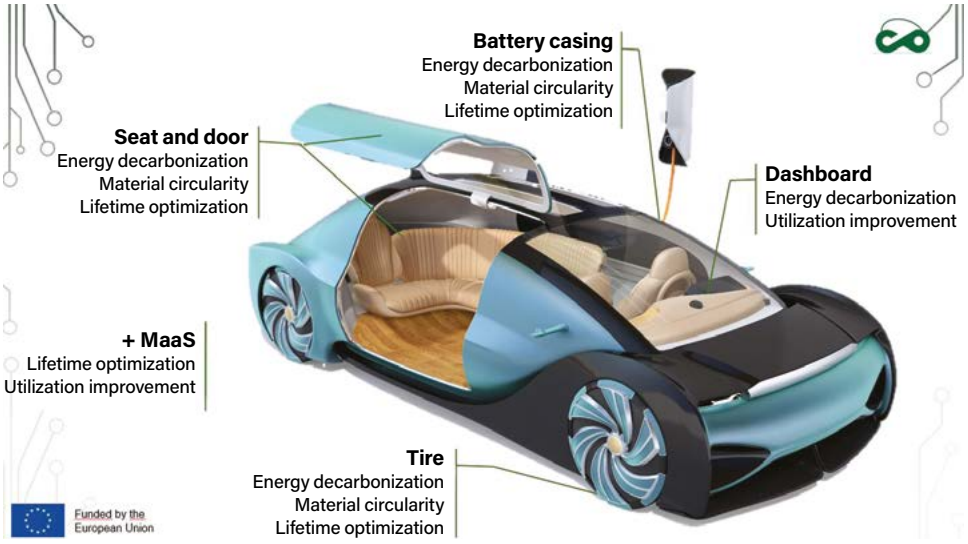
The second use case is bio-based, eco-friendly automotive dashboards to enhance sustainability and functionality via innovative in-mold electronics (IME) solutions.

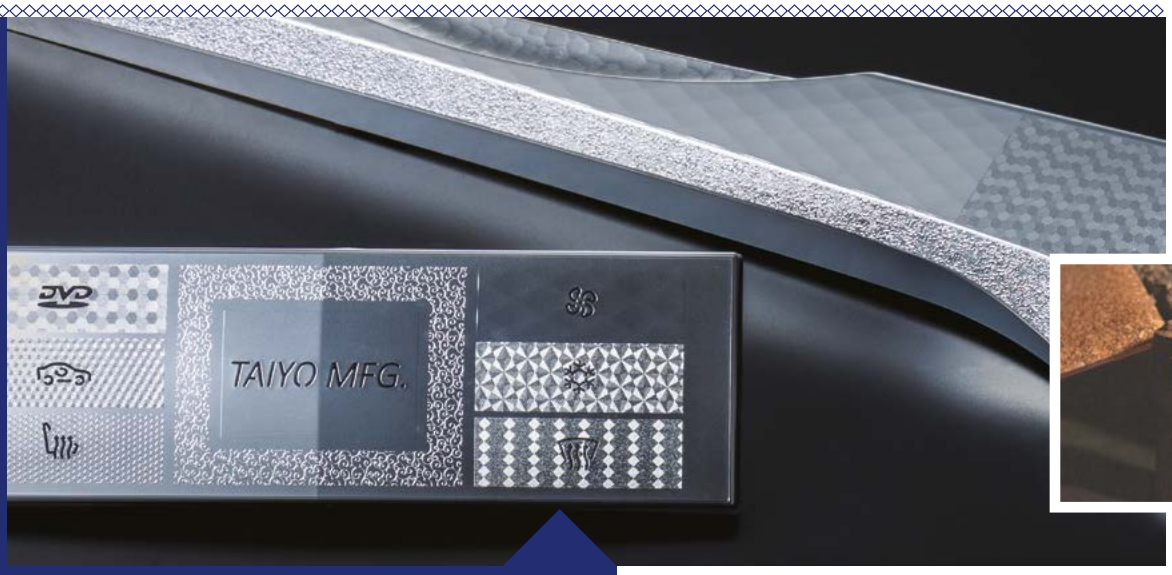
The third use case is an IMSE-enabled car door panel, interconnected with a mat of sensors in the seat to increase safety while also exploring dismantling options to improve recyclability.

The fourth use case is a sustainable RFID and sensor platform integrated into the tire and designed to reduce environmental impact during use and extend the lifetime of the product.

Finally, the fifth use case is the impact of Mobility as a Service on automotive electronics, leveraging synergies between technological advances and business models to accelerate adoption of circularity approaches in automotive electronics.

Visit the booth to discover how Unicorn is setting new standards for the future of automotive electronics.





PIONEERING THE FUTURE OF SUSTAINABLE INTERIORS

Elematec

Booth 1702

Elematec will introduce its vegan leather made from eco-friendly cork at this year's expo. The company's environmentally friendly synthetic leather consumes up to 90% less energy with 80% fewer solvents than conventional leather, and its synthetic recycled polyester fiber/fabric is made from plastic bottles.

The automotive industry continues to shift toward environmentally friendly, leather-free materials due to the rising demand for eco-friendly products. The vegan leather has been successfully developed and is made from the highest-quality Portuguese cork. Cork has a unique pattern and wood-like texture and can be obtained repeatedly without felling the tree. Furthermore, stripped of its bark, the tree absorbs three to five times more CO_2 than usual, making it extremely environmentally friendly.

Cork is lightweight, elastic and has excellent heat and sound insulation properties. Furthermore, it is porous, and its microscopic cellular structure bonds with resin materials to provide a high degree of safety and durability.

Elematec provides such innovative and sustainable products to automotive clients all over the world using its partnerships with approximately 7,100 suppliers at around 70 domestic and overseas bases.

MULTIFUNCTIONAL COATED FABRIC

Griffine Industries

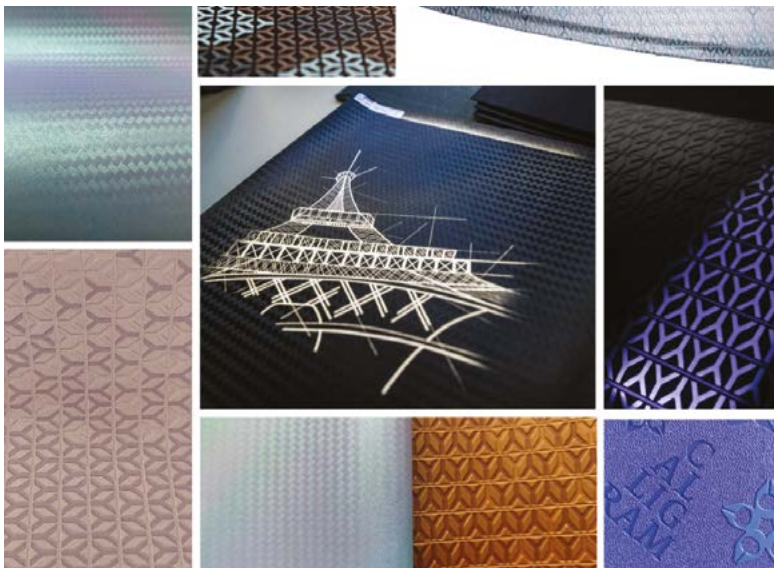
Booth 1138

Calligram is an innovative process to customize synthetic leather intended for automotive interiors. It fits perfectly with the top three market trends: customization, smart surfaces and sustainability.

The process can create embossed and debossed patterns on the same surface, which can be colored on demand. These results can only be obtained with the Calligram process, which allows for customization to meet the demand for limited series.

Calligram-coated fabrics can be backlit or used in heating surfaces. The manufacturing process creates high-quality textiles such as 3D textiles and temperature-sensitive fabrics. It is a sustainable solution, using bio-based and recycled components and minimizing waste with a made-to-measure process.

Visit the booth to find out more.



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TECHNOLOGY HUB FOR AUTOMOTIVE CUSTOMERS

LAS

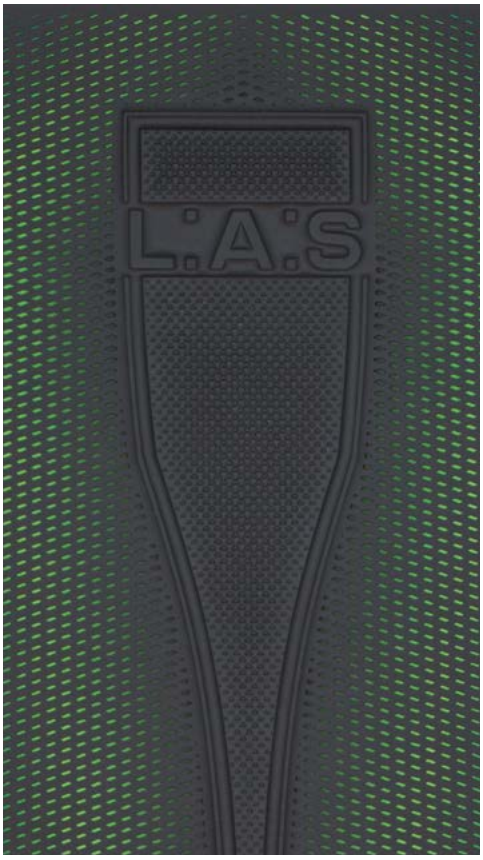
Booth 1322

Due to continuous investment in new technologies in addition to perforation, cutting and laser engraving equipment, LAS Laser Art Style is an advanced technology hub where car manufacturers come to study, develop and produce their innovative solutions for vehicle interiors.

The company offers customers a complete kit for car interiors in a wide range of materials including leather, microfiber, fabric and PVC.

LAS services and technologies include a design office to support all phases of the project, from design to later modifications to production release; punching perforation and laser perforation to offer a wider service in terms of volumes and materials to be processed; lamination hot melt adhesives, which provide strong adhesion according to automotive standards; high-frequency welding for embossing or decorating material surfaces; printed fabrics for automotive interiors, subjected to specific quality tests to ensure durability, color fastness and abrasion resistance; and stitching and embroidery to improve the aesthetics of vehicle interiors.

The company also provides quality checking, laboratory testing and traceability to ensure transparency, quality control and regulatory compliance by enabling organizations to trace the origin of materials and monitor the production stages.



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HIGH-PRESSURE MOLDING MACHINES

YUX International Industrial

Booth 1710

High-pressure molding machines offer several advantages over general molding technology. They provide superior product strength and durability by applying greater pressure during the molding process, which results in denser and more precise components with fewer defects. This increased pressure enhances dimensional accuracy and consistency, ensuring high-quality outputs.

High-pressure molding also allows for faster production cycles, boosting overall efficiency and reducing manufacturing costs. The ability to mold complex shapes and intricate details with consistent quality is another significant benefit, making it ideal for producing parts with tight tolerances.

Additionally, these machines often have better material utilization, leading to less waste and more cost-effective operations. High-pressure molding is particularly beneficial for applications requiring robust and reliable components, making it extremely suitable for the automotive interiors sector.

Visit the booth to learn more about high-pressure molding.

HIGH-QUALITY, SUSTAINABLE UPHOLSTERY MATERIALS

Helcor-Leder-Tec

Booth 1214

Helcor has been a partner of the automotive industry since 1990, producing high-quality, sustainable upholstery materials in Germany. Its LWG-Gold and Oeko-Tex certifications showcase its professionalism and high-quality materials, used in various areas of the vehicle interior, such as seats, door panels, dashboards and steering wheels.

The company uses a patented process to finish the materials, providing almost unlimited design possibilities alongside high technical performance. A natural leather structure as well as technical surfaces such as carbon-look can be reproduced. Thanks to the fine, high-performance finish, split leather treated by Helcor can be called 'real leather' without any restrictions.

Helcor is a dynamic company evolving with the industry. In recent years, alternative backing materials have been added to genuine leather in its portfolio and finished using the same process. These new backing materials, such as microfiber nonwovens, spacer fabrics and leather-fiber fabrics, are mostly made from recycled raw materials.

Helcor also uses renewable, natural raw materials such as flax. This diversity makes it possible to combine the same surface on different substrates and match them for use in the vehicle.

TURN INTERIORS INTO AN EXPERIENTIAL SPACE WITH TEXTILES

Jumbo-Textil

Booth 1306

Interiors have developed into spaces for positive experiences. Traveling should be fun, safe and environmentally friendly, which places special demands on the interior. Devices and utensils, whether connected or not, must always be in view and quickly accessible for the driver. Jumbo-Textil's elastic diamond net for the center console offers an ideal storage and fastening solution for a wide range of console concepts. Everything that needs to be at hand is cleverly fixed and securely stored in a clean design, while fulfilling demanding, individually definable requirements for elasticity, resilience, precision, durability, flammability, etc.

Futureproof interior elements must be light and quiet. The company's interior solutions made from narrow textiles are up to 40% lighter than non-textile alternatives. Sustainable components for interiors are at the forefront of future concepts. This requires materials such as Jumbo-Textil's high-performance natural fibers and plastics that are made from recycled PET bottles.

Jumbo-Textil supports clients in every phase of realization – from development to production. Visit the company's booth to find out more.

Automotive Interiors World Interview

This year's Automotive Interiors Expo Europe will feature a brand-new Reutlingen University VR Zone. Max Wallis spoke with Prof. Michael Goretzky, the university's dean of studies for design master's degrees, and Prof. Andrea Lipp-Allrutz, dean of studies for the transportation interior design bachelor's degree, to find out more.

Who are you aiming to meet at Automotive Interiors Europe in Stuttgart?
We want to meet trade visitors and industry representatives who could become potential cooperation partners for us in project-oriented teaching, such as in semester projects. They could also become technological or financial sponsors. It would also be beneficial to meet all visitors to raise awareness for the transportation interior design degree program.

What can visitors to your VR Zone at the expo expect to experience?
At our VR booth, visitors will experience how we use VR in the development process. For example, you can explore the complexities of a virtual vehicle with VR glasses, created by student Rafail Kalaitzidis. Through plots and movies of transportation interior design projects, we will showcase the results that can be achieved using digital tools in the degree program. It's a small insight into our world and into VR, but it hints at what's possible. Of course, we use even more tools. The study program is much more comprehensive, with a holistic approach to mobility concepts.

What are the advantages of implementing virtual reality in automotive interior design?
Ultimately, we are transferring the working methods of the analog world into the virtual world. VR technology makes it possible to evaluate emotional, ergonomic and technological aspects in a virtual space. During the early stages of development, many aspects can be tested and discussed, just like in the real world. Several people can meet and discuss the model in the virtual world at the same time, and such collaboration can take place regardless of location. For instance, one person could be in Reutlingen and another in New York.

How do you see OEMs using your technology?
We see a huge benefit for OEMs. In development, it's important to identify errors early and make the right decisions. While it won't replace physical models, VR can streamline or expand the development process by incorporating more variants. It also supports the global working model, allowing expertise from different locations to be included without any time lag. This applies to all aspects of design development – 3D design as well as color, material and finish. Over the next few years, we believe we'll move to mixed and extended reality. There's great potential for development, especially with haptic perception. There are already some initial approaches, but there's still much room for improvement.

Has VR been developed to speed up the design process? Visualize designs first? Experiment with concepts?
The games industry has provided us with a tool that makes the development process safer and ensures that we create emotional and functional results that convince the customer.

How did the vehicle that you can experience with VR glasses come about?
In the third and fourth semesters, we carry out a cooperation project with an industry partner for the entire semester. Together, we formulate a topic, and rough concepts are developed in a joint workshop with the students. These concepts are then finalized through various intermediate steps. The needs of the target group are crucial, as well as the inclusion of brand language, which the students choose themselves.

Is this an opportunity for students to present complex sets of creative factors and functional requirements that influence interior design, and then successfully implement their findings in realistic settings?
The entire program aims to prepare students for real-world work. This includes the structured and well-reasoned development of emotional solutions using state-of-the-art tools. So, the answer is yes, which is also reflected by the companies.

With the increasing trend for hyper-individualization, how does this technology help interior designers easily change their designs and collaborate with customers to create a more personalized experience?
CAD and related tools already allow us to implement changes at short notice. When working with customers, there are many ways to use VR to bring variants to life, whether in discussions with customers or consumer studies. While this technology offers a wide range of applications, we need to look at different processes and continue developing them. This is a major topic at the intersection of design and marketing, and it's worth exploring further. With our new Texoversum building, we've created a space to do exactly this. Together with industry, we'll test technologies and further develop processes. We've explicitly created an extended reality lab to continue exploring virtuality.

WHITE PAPERS FROM TEXTILFORSCHUNGSINSTITUT THÜRINGEN-VOGTLAND

On the path to automated and connected driving, vehicle interiors are facing a complete redesign. InSuM, the interior hub for sustainable mobility, analyzes all developments in the growing field of interiors and identifies opportunities for the industry. As a transformation hub for the automotive industry funded by the Federal Ministry for Economic Affairs and Climate Protection (BMWK), InSuM brings together the right partners from industry and research across all sectors to develop the interior of the future in Germany.

These two white papers present textile solutions that help create a pleasant atmosphere in vehicle interiors, and explain the importance of this approach.

AMBIENCE IN AUTOMOTIVE INTERIORS THROUGH TEXTILES

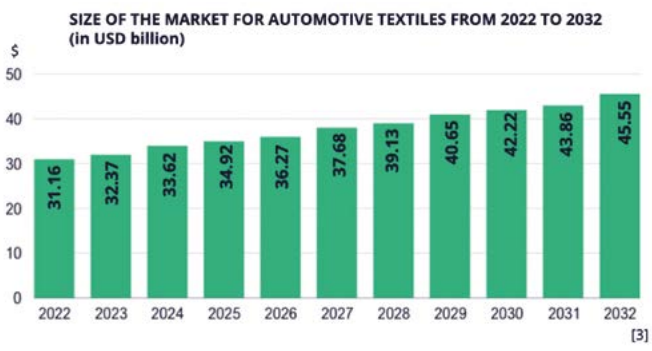
Global future trends such as sustainability, intelligent connectivity, new work and individualism influence the ambience of vehicle interiors, as they characterize interior design development. These trends are leading to changes in lighting, materials, personalization options and other comfort functions, creating a unique and appealing ambience.

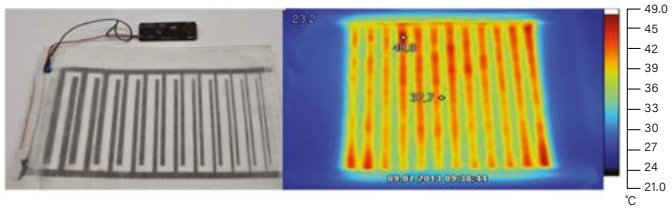
Modern technology brings additional functionality to the interior. In addition, customers' wishes for more individualism and personalization allow vehicle interiors to be designed according to their preferences, creating a feeling of uniqueness and personal connection. The self-determined choice of colors, materials and interior trim contributes to a very personal driving experience and adds intimacy and luxury to the ambience.

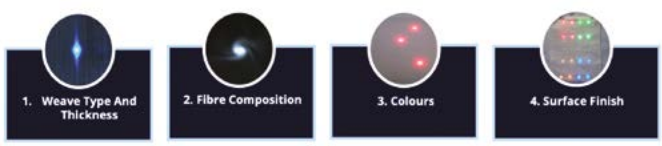
'Ambience' here refers to the overall atmosphere and sensory experience within the vehicle, encompassing visual, tactile, thermoceptive, olfactory and auditory elements. This includes aesthetics, quality of materials, lighting, advanced functional integration in materials, color scheme, sound insulation and even smell. A well-designed ambience can make the driving experience more pleasant and comfortable, influencing the occupants' mood and well-being.

Functional sample heating shirt

To read the full white paper online, visit: *www.automotiveinteriorsworld.com*

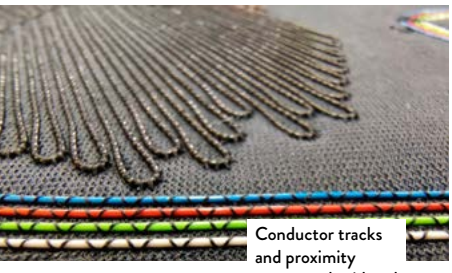




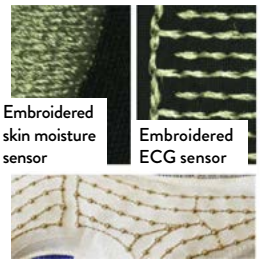


Important factors influencing the interaction of light with textiles

SENSORS

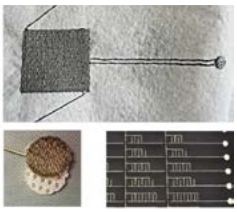


Conductor tracks and proximity sensor embroidered on textile

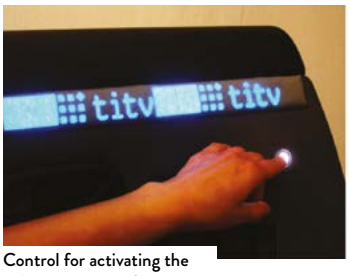


Embroidered skin moisture sensor

Embroidered ECG sensor



Embroidered sensor & electrodes



Control for activating the lighting in spacer fabrics integrated in door paneling

Embroidery to display a stored control unit for adjusting the seat position

FUNCTIONALIZATION AND FUNCTIONAL INTEGRATION IN TEXTILE AUTOMOTIVE INTERIORS

Intelligent or functional materials are typically part of a system that is capable of sensing its environment and responding to external stimuli through active control in a useful, reliable and often reversible way. The ability of sensory perception alone is often considered sufficient to be categorized as 'intelligent'. This behavior arises from the reaction of a material to changes in environment. No material can be intelligent in isolation; it must be integrated into a structure or system.

As consumer expectations for the quality, comfort and safety features of vehicles increase, there is a growing demand for interior materials that offer superior performance and functionality. Functionalized textiles are meeting these expectations and driving innovation and differentiation in the automotive industry.

Smart materials and systems exist in an interactive space alongside sensors, actuators and other technologies. Although there are numerous potential technical solutions, there is no single universal system.

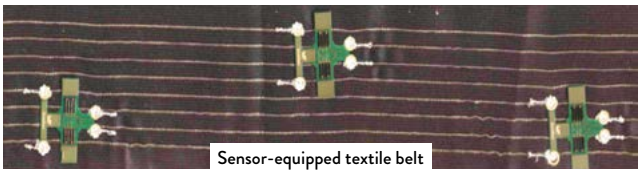
KNITTING AS A MANUFACTURING TECHNOLOGY

Stoll flat knitting machine at TITV eV

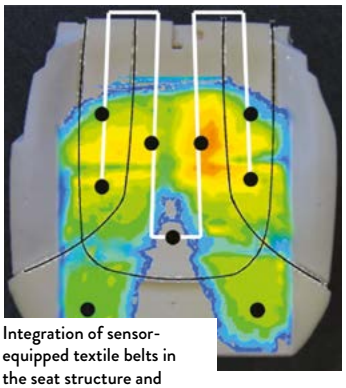
The focus is to improve the practical implementation of existing material-based technologies to fulfill specific customer and market needs. Key drivers for change include the integration of materials and devices into relevant substrates, miniaturization, connectivity, durability, cost considerations and sustainability.

On average, a person spends four years of their life in a car. It is not surprising that individual comfort and personalization are at the forefront of future mobility trends. In the future, car interiors will be modular and customizable, allowing drivers and passengers to adapt interiors to their needs. With the right tools, every vehicle will have an interior that utilizes the possibilities of combining integrated technology in materials.

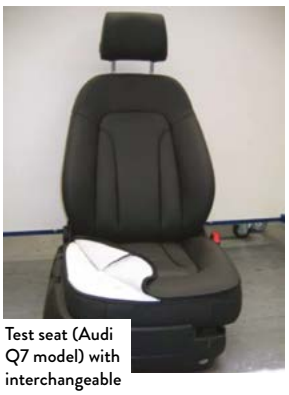
To read the full white paper online, visit: *www.automotiveinteriorsworld.com*



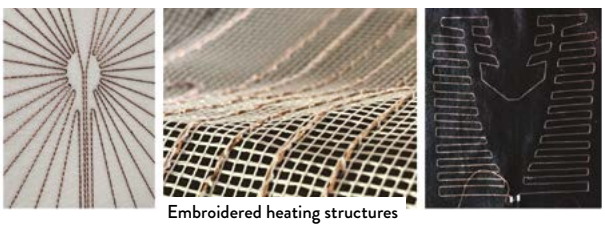
Sensor-equipped textile belt



Integration of sensor-equipped textile belts in the seat structure and arrangement of the sensors



Test seat (Audi Q7 model) with interchangeable sensors



Embroidered heating structures

NEW FOR 2024 - INNOVATION SHOWCASE

FREE TO ATTEND, REGISTER NOW

SPEAKERS WILL INCLUDE:

Steve Crijns
Senior design manager, McLaren Automotive Ltd, UK

McLaren W1 supercar interior innovations

Elisa Santella
Managing director, Grewus GmbH, Germany

Seat haptics as a part of the multimodal HMI

Fernando Oliveira
R&D engineer, CITEVE, Portugal

Textile-based composites for structural and decorative automotive applications

Cliff Woo
Business development director, MacDermid Alpha Electronics Solutions, UK

The end of piano black? Matt finish smart surfaces

Dr Mathieu Jung
Global mobility industry manager – sustainability, Covestro, Germany

Sustaining the momentum of automotive interior transformation while incorporating sustainable materials

Dr Thomas Vetter
SVP global automotive, TactoTek Oy, Germany

IMSE for automotive interiors: from technology ideation to serial readiness

Iker Arroyo
Head of in-mold electronics research line, Eurecat Technology Center of Catalonia, Spain

Evaluating thermoforming stretch of functional inserts for injection molding electronics

Christian Kussmann
BD/strategy/innovation, ATT Advanced Thermal Technologies GmbH, Austria

Integrating heated surfaces in vehicle cabins for optimal energy efficiency

automotive interiors EXPO EUROPE

NOVEMBER 12, 13 & 14, 2024

Messe Stuttgart, Germany

Discover the future of automotive interior design, components and fabrication

Showcasing **cutting-edge trends** in materials, finishes and technologies

New for 2024
Innovation showcase:
Explore the future of automotive spaces

Join us in Stuttgart as we connect, share ideas and find innovations
Register now!

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