Thu, 20 March 2025
Weekly Newsletter

DVN Interior

NEWSLETTER #253

Editorial

Are Materials & Sustainability The Way To Carbon Zero?

MERCEDES IMAGE

Most of the plastic in vehicles us in the interior trim. The recent regulatory proposal allowing to add bioplastic, pre- and post-consumer recycled content, is surely a good help in achieving sustainable car interiors. This week's in-depth piece is all about how new regulations like this can pull the automotive interior industry into a less carbonized world.

That is also the topic of a crucial session at our upcoming workshop in Köln on 8-9 April—the Materials and Sustainability session, wherein Dow, Trinseo, Marelli, Borealis, Delo, Mocom, Ascorium, and Grammer will contribute lectures (of course, that's not the only session; watch for more info on sessions focusing on seating, DMS, cockpits, interior lighting, and design).

The exhibitor List is growing longer every day, another good reason to join us in Köln and discover a wide array of exciting, relevant products.

Register **Here**; I can wait to meet you all there!

Sincerely yours,

Philippe Aumont
DVN-Interior General Editor

In Depth Interior Technology

Is the Future No-Plastic Interiors, or No-Carbon Plastics?

With one of our recent newsletters, we introduced the latest changes to the ESPR regulation, which originally called for a 25-per-cent recycled plastic content for newly developed vehicles.

The proposal has been adjusted to drop that figure to 20 per cent and expand the resources from which recycled plastic can be obtained to count toward the figure by adding the possibility to use pre- and post-consumer waste, including also bioplastics.

The other important change is in the percentage of recycled materials which has to come for end-of-life vehicles, originally set at 25 per cent and now reduced to just 15. That will make it easier for automakers to comply with the regulation, and reduce pressure on the supply chain. The previous targets posed difficulty in sourcing recycled materials from end-of-life vehicles.

But industry associations have raised concerns with the new proposal, saying the weakened goals could have a negative impact on the circularity of the automotive sector and create a false perception of progress.

A joint statement by plastic and environmental associations says, "Ambitious recycled-content benchmarks are crucial to stimulate investments in the technologies and infrastructure necessary to recycle ELVs' plastics efficiently, enhancing material recovery rates and reducing the volume of waste sent to energy recovery or landfills".

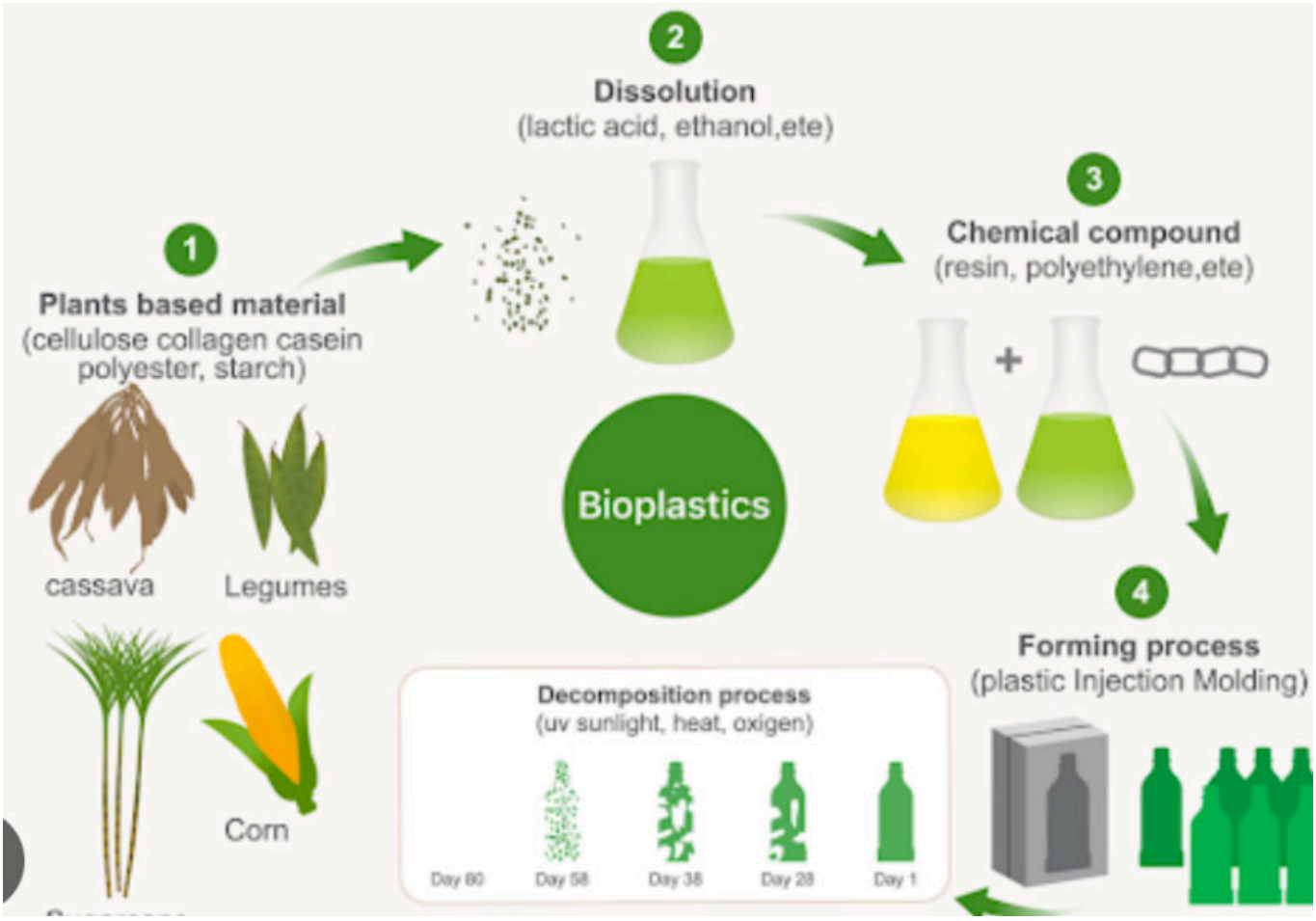
So, who is right? What's the compromise between striving for circularity and not worsening things in the automotive industry? Might we need a plastic-free interior…?

Most of the plastic in vehicles can be found in interior trim. And developing a car interior with less plastic is a challenge. The recent proposal allowing to add bioplastic, pre- and post-consumerrecycled content, is surely a good help in achieving the ESPR targets and a sustainable car interior.

Introducing more non-plastic bio-based materials is also a great way to develop sustainable car interiors, but doesn’t solve the short-term issue of having to limit the plastic waste from ELVs and consumers. Therefore, beside the obvious demand for plastic because of its great properties, when we talk about

environmentally sustainable interiors,we still think mainly in terms of plastic-waste recycling or bio based plastics, and that's why regulations are centered around this point.

Bioplastics



Bioplastics are polymeric materials that can be recycled and readily decomposed (if they're biodegradable) when they end up in landfills, can replace conventional petrochemical plastics, and are considered superior polymers compared to synthetic plastics due to their biocompatibility, making them ideal for automobile applications.

Main types and applications:

Polyamides (Bio-PA)

Bio-PA is most made from castor oils and sugar cane, and is used in many applications like connectors, brake hoses, fuel lines, and flexible tubing.

Polylactic Acid (PLA)

PLA is produced by fermentation of sugar derived from sugar beet, sugarcane, or corn. It is highly suitable for interior accessories like mats, carpeting, upholstery, consoles.

Polypropylene (Bio-PP)

Bio-PP is made out of sugarcane and can be implemented to substitute synthetic plastics in the production of body panels, dashboards, door pockets and panels, consoles, and ventilation/air conditioning parts.

Corn and sugar cane are the most effective feedstock for bioplastic manufacturing, ensuring the highest yields and the least land area to grow.

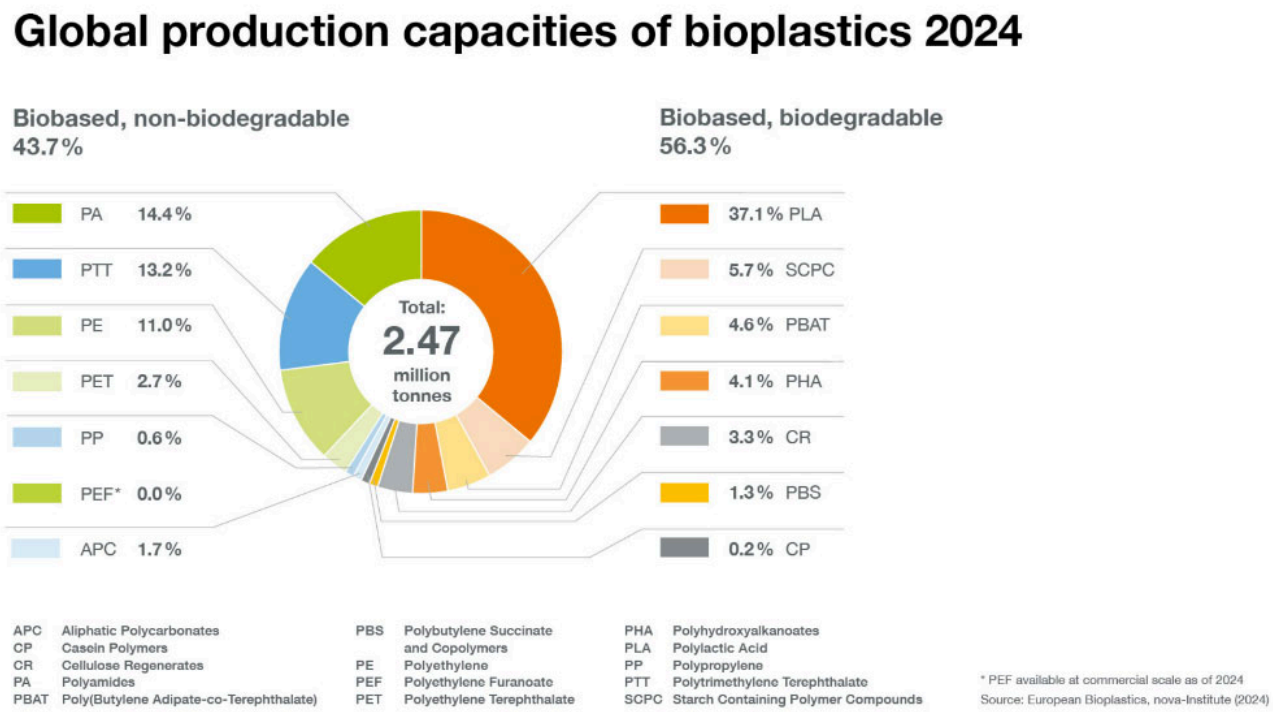
Along with the obvious point of bio-based materials helping to achieve a sustainable interior design, there are two more worthy advantages:

For ELVs, the non-recyclable plastic material known as shredder residue ends up in landfills and contains hazardous chemicals like lead, cadmium, polychlorinated biphenyls (PCBs), and more. Using bio-based and biodegradable material seems a promising solution to overcome the pollution caused by landfill plastic; suvh materials readily decompos if composting temperature are high enough to allows microbes to break them down.

And bioplastics are normally lighter than petroplastics, helping to lower the weight of vehicles and consequently reducing carbon footprint.

Certain challenges are presently slowing down the use of bioplastics:

- Low production; bioplastics represent only roughly 0.5 per cent of the almost 414 million tonnes of plastics produced annually



- Immiscibility; we can't mix bioplastics with fossil-based traditional plastics, so there is a great need to create a proper supply chain and recycling system for bioplastics.
- Particular treatment requirements: Biodegradable plastic waste requires certain prevailing environmental conditions to fully decompose naturally, without which we regress to a linear economy instead of circular.
- Supply chain traceability is mandatory, to ensure that bioplastic products align with stringent automotive regulations and help the their end-of-life management . The data collected through traceability initiatives can also support innovation, leading to improvements in bioplastic materials and production technologies.

And there are some outright negative aspects of bioplastics to consider. Reflexively, you might think one of them is that bioplastics are expensive. But is that still true? They use resources called second-generation feedstock, instead of fossil resources. Recently, the price of fossil fuels have fluctuated a lot, and the cost of the bioplastics have been more predictable, though not always comparable to fossil-based plastic. But some OEMs are making allowances for suppliers to slightly increase the cost of their materials, when bio-based.

There's a lack of experience regarding the ageing behavior and long-term durability of the polymers. Lots of studies on the topic, but for some bioplastics we are still lacking long term data collection to be able to rule out issues on this front.

Probablythe biggest question is whether bioplastic is actually environmentally friendly. Where were its feedstuffs grown, taking how much land and how much water? There are countless studies on the topic, but there's no clear answer yet.

To minimize the issues, some companies are experimenting with combinations of bio-based and recycled materials. An example is Simax's innovative naturally-inspired material range. Through special finishes and embossing, polymers from this range can simulate natural effects such as stone, marble, granite, fabric, wood, or a starry sky. Depending on customer specifications and their CO_2 reduction goals during the product's lifecycle, post-consumer and bio-based materials can be included in the formulation, in different percentages.

SIRMAX IMAGE

Sirmax has developed a recycled plastic door panel material to address problems related to the maintenance of mechanical properties, unwanted odors, and the presence of volatile organic compounds on the surface of interior finishes. The Italian company has formulated a polypropylene with 5 per cent talc added. It contains 30 per cent recycled material derived from post-consumer waste (dumpster waste). This compound from the Green Isofil family resembles the mechanical and aesthetic characteristics of virgin plastic, offering a valid alternative. The Sirmax-branded door panel retains impact- and scratch-resistant properties, resolves stickiness and odor, and, most importantly, its carbon footprint is reduced by up to 21 per cent compared to virgin raw material. This solution can also be applied to other car parts, like the glove compartment and center console.

The innovative Sirmax material family includes Green Isofil (polypropylene with mineral filler, formulated with waste plastics), NewPlen (recycled polypropylene for injection molding, extrusion, and thermoforming), and NewTen (recycled high-density polyethylene for extrusion and blow-molding).

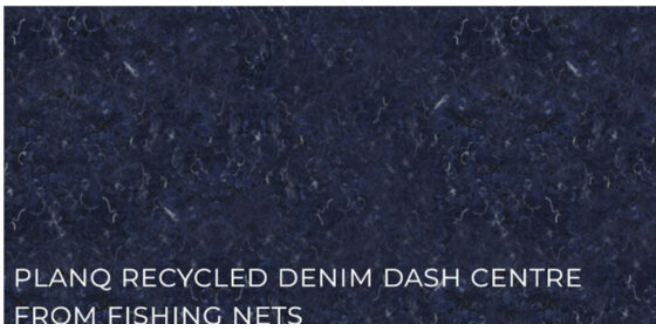
Food waste as a resource

A possible alternative solution to plastic comes from researcher investigating, as possible biomaterials, household waste like coffee pulp, eggshells, red lentils, walnuts, and rice. These combine the two fundamental requirements of regulations: using bio sources and using pre-post-consumer waste (even if not plastic waste).If they become widespread, they could lead toward plastic-free interiors.

While materials like cotton, hemp, and wool are already largely used for seating, headliners, and door panel bolsters as natural soft-trim alternatives to fossil-based textiles, recycled food waste is still not present as a standard material. But it is certainly a promising alternative to be further explored.

One company doing so is Callum Design,who worked together with green-tech Ottan to determine the most appropriate materials capable of replacing plastics yet still meeting the rigorous design, environmental and engineering requirements of a car. The solutions they found include:

- eggshells mixed with resin to create a smooth, opaque material with either a glossy or matte surface. Application examples include the trim surround for the window switches. If walnut shells are added to the eggshells, it increases the recycled content from 78 to 84 per cent.
- rice or lentils can be turned into a smooth, translucent material ideal for illuminated areas of the car such as lamp covers or illuminated switches.
- coffee pulp, with its flame-resistant properties, could replace traditional plastics for glossy, decorative trim such as dashboard inserts.
- to demonstrate that sustainable materials can still offer vivid colors, Callum identified purple carrot pulp which provides a mulberry-like color for trim parts.
- tree leavescan be recycled on a dark, smooth surface offering an alternativenatural finish to wood veneers for the center console or dashboard.



CALLUM MATERIALS AND SAMPLE APPLICATIONS

Moving on to the other target, the use of pre- and post-recycled materials. Can this make a big difference in terms of circular economy efficiency?

Pre-consumer recycled content is made out of manufacturer waste that never actually reached the consumer or transforming industry for one reason or another—scraps, rejects, trimmings—and that is normally already repurposed from companies itself into something new rather than trashed.

Post-consumer content is likely to end up in landfills or, most probably, in our oceans. So of course it is preferable to pre-consumer content, but in case of automotive materials, it might be also more expensive because of the recycling process and the supply chain needed to circulate it back into automotive components.

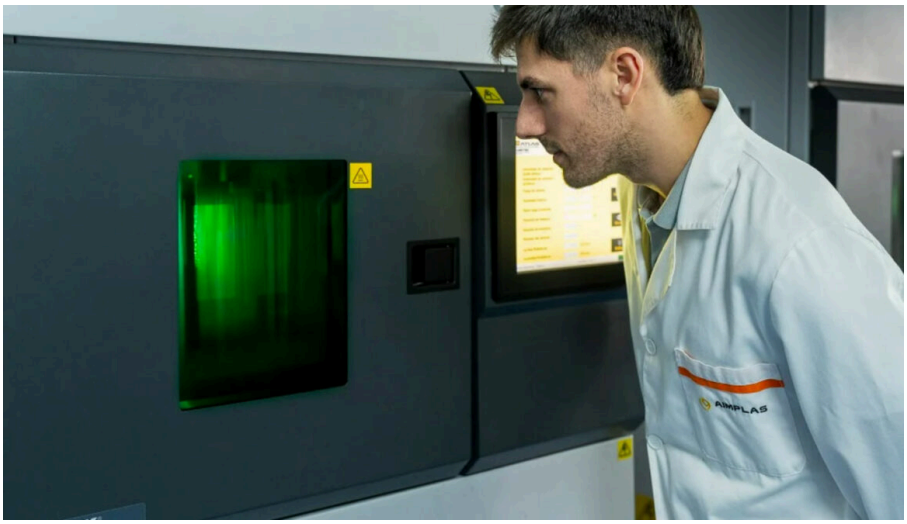
Recycled content is today mainly used in hidden parts of the car, mainly because of aesthetic appearance not meeting requirements.

So, how can we increase the percentage of recycled materials for visible interior components, without compromising aesthetic and performance? Many examples of innovative car makers show that it is not difficult, but it requires a shift in thinking about the window of acceptance, both from the technical (harder) and the aesthetic (easier) standpoints.

Increasing the use of recycled plastic is linked to the balance between of performance, appearance, and comfort, and research is helping to pave the way. A Spanish institute, AIMPLAS (the Plastics Technology Centre), has launched a project called SURFTOP, financed by EU as well, to study the quality of recycled plastics from automotive waste.

The surface properties of plastics refer to the material's surface characteristics, which can affect its appearance (gloss, color, roughness), its bonding capacity (especially for parts that will be painted), and its resistance to wear, impact, scratching, and chemical agents. Inside the vehicle, it is necessary to guarantee low emissions of volatile organic compounds (VOCs) and odors from recycled plastic materials to comply with the requirements of manufacturers.

The project focuses on studying the effects of using recycled material to manufacture parts for the interior and exterior of vehicles and aims to establish and develop technologies that make it possible to comply with vehicle interior air quality (IAQ) requirements while maintaining the surface properties established by manufacturers.



AIMPLAS IMAGE

This project also involves Prisma Soporte Industrial, a company specializing in injection molding and painting of automotive parts, which will help validating the process and functionality of the recycled materials.

So, it looks like OEMs will have soon a bigger choice of tested recycled materials at hand. Designers stand to gain from the results of this study, by counting on a larger range of options to select their preferred surfaces.

Interior News

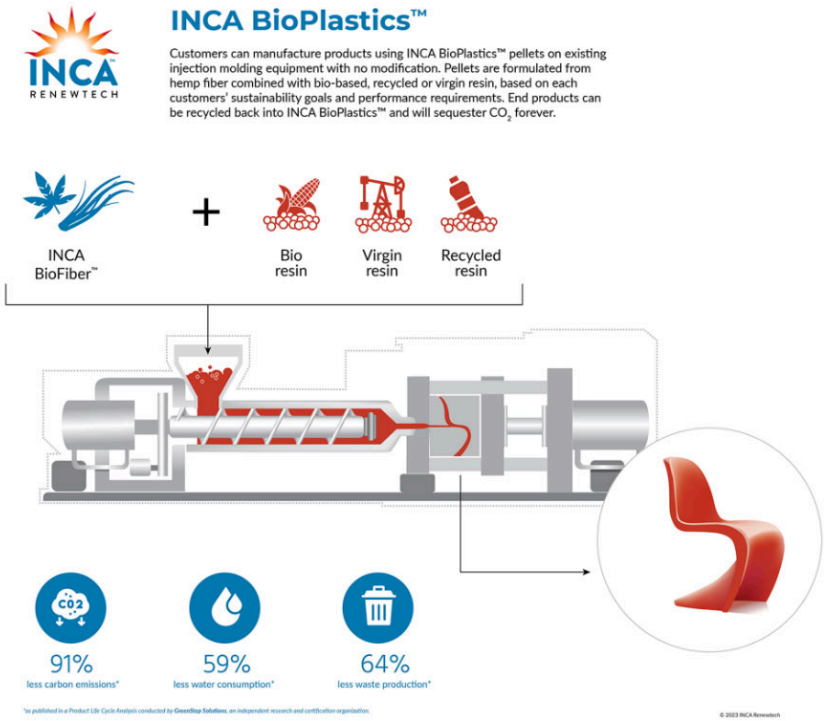
New Inca-Toyota Renewable Hemp Bio-Composite

INTERIOR NEWS

Inca Renewtech is a Canadian company manufacturing, among other products, bio-composite materials based on hemp fibers for auto interiors components, allowing cars to be lighter, safer and more energy efficient.

The company’s corporate identity honors the Indigenous origins of the brand. The Incan Civilization —'Children of the Sun'—created world class art and architecture, sophisticated roads, infrastructure, and communications systems all based on an agrarian economy. They sustainability long before our modern civilization did.

Inca Renewtech has been approved for a $202,534 grant from the [province of] Alberta Innovates Agri-food and Bio-industrial Innovation Program to complete development of their novel hemp-based bio-composites and conduct line trials at Toyotaand automotive tier-1s.
Inca chair and CEO David Saltman says the grant enables production and trialling of several thousand pounds of his company's bioplastics.



INCA RENEWTECH IMAGES

Inca's proposed operation in Vegreville, Alberta, will purchase hemp biomass from farmers growing it for plant-based protein, refine this renewable resource, and produce advanced composites for the automotive and other industries, replacing less sustainable glass-reinforced plastics. This secondary income for farmers will help make hemp one of the most profitable cash crops in the Canadian prairie and expand use of hemp.

Converters can manufacture products using Inca's pellets on existing injection molding equipment with no modification, with 59 per cent less water consumption and 64 per cent less waste production, according to an independent life cycle analysis by GreenStep Solutions.

Scott Oppliger, principal engineer at Toyota Motor Manufacturing and Engineering, said "The shift toward environmentally friendly materials is crucial in our efforts to reduce our carbon footprints and mitigate climate change. Inca's injection- and extrusion-grade pellets not only promise enhanced physical properties in finished products but also significantly improve CO_2-equivalent emissions".

JEC Composites Awards: Future Lightweight Interiors?

INTERIOR NEWS

JLR SOCA IMAGE

JEC Group is a nonprofit organization entirely dedicated to promoting composite materials and fostering their applications globally. Publisher of the JEC Composites Magazine, the industry reference magazine, JEC organizes several events around the world, including JEC World, the leading international exhibition dedicated to composites and their applications, which takes place annually in Paris. Last Edition happened the week before last, under the theme: JEC: Connecting the World with Composites

Composites are getting more and more popular in different industries (aircraft is leading as weight reduction is paramount there), including automotive.

In car interiors, composites are more and more used for several parts, cockpit cross car beam (cockpit supporting structure), seat frame components, like cushion buckets, with some trials along the last 20 years for a complete seat back. The goal and dream was to have the composite structure becoming directly the A-surface. Maybe it was a wrong good idea, future will tell!

The latest issue of JEC Composites listed awards by category. Here are the ones in the Automotive & Road Transportation category, for both parts and processes.

Finalists—Parts

Lightweight Thermoplastic Convertible Roof Beam by Röchling Automotive (Germany)

Sustainably Optimized Composite Automotive by JLR (UK)

Xencor™ HPPA LGF Steering Gearbox Outboard Housing by Syensqo (Belgium)

Winner:
JLR's Sustainably Optimized Composite Automotive

Partners:
Far-UK, CCP Gransden, and iCOMAT, all in the UK.

The SOCA project moves a step closer to net-zero lightweight automotive structure, (re)using the TUCANA project's award-winning design. SOCA achieves 55 per cent lower environmental footprint through sustainable material and technology innovations, while delivering the same structural performance and weight save. SOCA demonstrates that composite can compete with aluminum, including CO_2e. This success was made possible by APC UK funding support, JLR's optimized design & continuous supply-chain engagement, Far-UK's expertise in sustainable engineering, iCOMAT's RTS technology unique manufacturing capability, and CCP Gransden's experience in manufacture and assembly.

Key benefits:

- GWP/CO_2e reduction of CFRP component by up to 70 per cent
- Circular & high-performance recycled carbon fiber
- Compatible with current molding process
- Same performance as original design
- Competitive cost, parity when volume scale-up

Finalists—Process

Thermoplastic composites (TPC) with recycled PET matrix, by Forvia (France)

Thermoplastic Sandwich Molding Technology, by Fraunhofer IMWS (Germany)

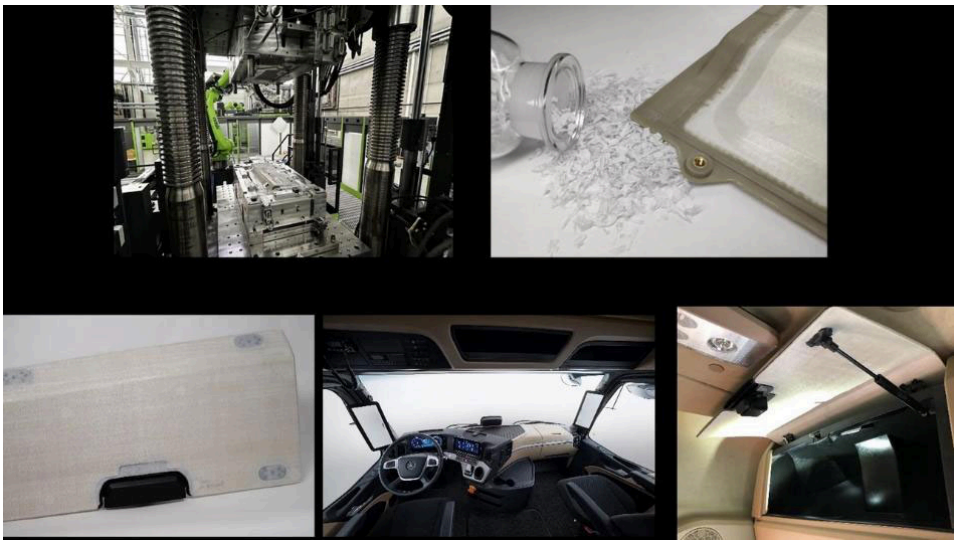
UV Pultrusion for manufacturing GFRP Links, by German institutes of textile & fiber research Denkendorf - DITF (Germany)

Winner

FRAUNHOFER IMWS' THERMOPLASTIC SANDWICH MOLDING TECHNOLOGY

Partners:
Daimler Truck, ElringKlinger, ThermHex Waben, Edevis (Germany), and
Engel (Austria)

Thermoplastic sandwich molding technology enables the fully automated production of 3D-molded components in a material-efficient lightweight sandwich construction. The potential of this innovative hybrid technology was demonstrated using a storage compartment cover from a truck driver's cab.



The large-scale production of functionalized, 3D-moulded lightweight sandwich components was successfully demonstrated by the partners of a collaborative R&D project. With the produced demonstrators of the storage compartment cover, the implementation of the thermoplastic sandwich molding technology could be proven for the first time on a real component. TS-Moulding is a technology developed by the Fraunhofer Institute for Microstructure of Materials and Systems IMWS, which is based on a novel thermoforming process and was specifically designed for the fully automated production of continuous fiber-reinforced sandwich components with a thermoplastic matrix in large series.

Customized lightweight components from ElringKlinger can be used throughout the vehicle. For example, cockpit cross members, door modules, underbody shields or engine mounts.

LG 40" P2P Display for Sony-Honda Afeela

INTERIOR NEWS

LG IMAGES

LG Display has begun serial production of the industry's first 40" pillar-to-pillar (P2P) automotive display. The breakthrough marks a significant step in its efforts to drive the evolution of the software-defined vehicle (SDV) era. LG Display is renowned for their expertise in thin-film transistor liquid crystal and OLED display technologies.

A P2P display is an ultra-large automotive panel that spans the entire width of the vehicle's dashboard, spanning the driver's and passenger's seating areas. LG's 40" offers a comprehensive infotainment experience for drivers and passengers. It simultaneously displays essential information such as navigation, digital dashboards, climate controls and entertainment options, including movies, music and games—eliminating the inconvenience of screen transitions found in most of current P2P displays.

LG's industry-first Switchable Privacy Mode (SPM) technology enhances safety by preventing distractions and allowing passengers to watch movies or play games while ensuring they remain invisible from the driver's seat. As automotive screens grow, viewing angle control technology has become a key safety feature and LG Display's SPM technology maintains ultra-high-definition resolution without compromising

By minimizing physical buttons and maximizing touchscreen functionality, this ultra-large display contributes to futuristic vehicle interior design, with HMI focused on display interaction.

Ansys Simulation Tech to Make Working Parts from Recycled Plastic

INTERIOR NEWS

ANSYS IMAGE

Simulation technology is widely used across the automotive industry. Engineering simulation company Ansys has been using simulation technology to help turn recycled plastic into functioning automotive parts.

By using simulation of materials early in the design process, automotive designers can better evaluate materials for design use, including material variability. This helps reduce cost and time. According to Ansys, the simulation process enables the simulation of a material hundreds of times to understand the design's performance and variability, simply by running the same file repeatedly.

Ansys works with the randomness of the material, and is looking at that material value plus all the parameters and it can have several standard deviations—that is key for using a recycled material or highly variable material in the design.

Recycled materials have special challenges, especially if you're going to take them from municipal waste. With contamination you may have multiple grades, you may even have life-cycles where the materials have been chopped. Another example of materials that are high variability are natural materials and biomaterials. All industries in Europe are trying to get more biomaterials in products, with a very high percentage, and have more recycling where possible. You've already got a very variable material going in there, and then you're going to recycle it. Handling variability in design, starting with the material properties is going to be critical going forward.

Ansys can show how the recycled material behaves, how OEMs can design with it, what the properties are going to be because we can narrow down accurately to see what the recycled material can do and how it performs. It really benefits automotive companies by lowering risks, time and cost. In an example of (say) 100 parts manufactured from this card, the randomised material cards can be simulated 100 times, whereas traditionally you'd have to go out and physically make the part and destroy it each time to get that same representation in the variability. The physical time saved is the big payoff.

Materials are a key input into any simulation. You need to understand your material. If you have the right material properties and if you've got accuracy behind the material properties, then that will translate to an accurate simulation. So being able to manage what that material is, where it is, who's using it across the business becomes important to people.

In the future Ansys will have a range of new materials across the supply chain that will be ready to be used. There will also be a new philosophy on how to potentially design the vehicle so that it will adopt more recycled content, giving a real boost to the idea of the truly circular economy in automotive manufacturing.

Volvo ES90 Premium Comfort Interior

INTERIOR NEWS

VOLVO IMAGES

The Volvo ES90 combines the refined elegance of a sedan, the adaptability of a fastback, and the spacious interior and higher ground clearance of a SUV.

Inside, the focus is on premium comfort, authentic materials and purpose-driven design, that are the hallmark of a Volvo. With its long wheelbase of 3,100 mm, the ES90 provides very generous legroom for second-row passengers, making it an exceptionally comfortable place to travel for adults as well as children. Six interior ambient light themes for sensory wellbeing and a variety of upholstery options further allow you to personalize the car.

The Volvo ES90 also comes with a panoramic roof that provides UV protection of up to 99.9 per cent. And if you pick the electrochromic version, you can adjust the transparency of the glass. So, if you're travelling on a warm summer's day and you want to dial down the sun a bit to reduce glare and boost privacy, you can do so at the touch of a button.

Added support comes from a four-zone climate system with an advanced air purifier, certified as asthma and allergy friendly. It can stop up to 95 per cent of PM2.5 particles from entering the cabin and remove 99.9 per cent of grass, tree and pollen allergens.

It has one of the quietest cabins ever. There are three sound systems available, led by a top-of-the-line Bowers & Wilkins sound system with 25 separate high-fidelity speakers throughout the cabin, including headrest and ceiling speakers. The system also features the lifelike spatial audio of Dolby Atmos that delivers an immersive sound experience. Exclusive to the Bowers & Wilkins system is a special mode replicating the sounds of London's legendary Abbey Road Studios.

Volvo equipped the ES90 with the new-generation infotainment system with Google built-in, which includes services such as Google Maps, Google Assistant and more apps on Google Play. The 5G-capable, seamless and responsive system is powered by the Snapdragon Cockpit Platform from Qualcomm Technologies and designed to provide with all the driving-critical info when needed it, through the 9” driver display and the HUD.

The 14.5” center screen display gives access to navigation, entertainment, climate, phone and more. And to help navigate tight parking spaces, a new 3D view supported by a 360 camera is there to support.

The SPA2 architecture is based on the Volvo Cars Superset tech stack, that is powered by core computing with a dual Nvidia Drive AGX Orin configuration and allows to improve the overall performance and safety technology in the car throughout its lifecycle and roll them out quickly via over-the-air updates.

The ES90 is designed to help protect everyone in and around the car. It was developed to meet the rigorous Volvo Cars Safety Standard, which builds on 55 years of real-world safety research and exceeds official testing requirements. The car comes with a strong safety cage, state-of-the-art restraint systems, as well as optimized deformation zones. The active safety systems are powered by an advanced array of sensors including five radars, seven cameras, twelve ultrasonic sensors, and a lidar from Luminar Technologies. This sensor set enables vision beyond human range to help avoid collisions and hazards on the road.

New Audi A6 Avant Interior

INTERIOR NEWS

AUDI IMAGES

With an overall length of 4,990 mm, the Audi A6 Avant is 60 mm longer than the previous model. The wheelbase of 2,927 mm makes it larger for occupants, and more appropriate for long journeys.

The optional new switchable panoramic glass roof enhances the sense of spaciousness. It spans almost the entire cockpit and rear and allows the interior to either be flooded with light or effectively shaded. Nine segments form the basis for various patterns with areas that can be switched on and off to provide full glare protection. This 'digital curtain' is operated with a button in the roof module.

The digital stage revolves around the Audi MMI panoramic display and the optional MMI passenger display. The thin free-standing Audi MMI panoramic display has a curved design and OLED technology. It consists of the Audi virtual cockpit with an 11.9” display diagonal and the 14.5” MMI touch display. Audi complements the digital stage for the front passengers with the 10.9” MMI front passenger display which is integrated into the dashboard design. It enables the front passenger to look up websites and stream video content and also helps when navigating or searching for the nearest fuel station.

As part of the optional Sound & Vision pack, the vehicle can be equipped with a new, configurable HUD. A wide range of information can be displayed on the HUD, including speed, active assistance systems, navigation instructions, and media information. For the first time, drivers have the option of controlling vehicle and infotainment functions via the HUD. Thanks to the maximized use of the installation space and the adapted display technology, the visible image area is more than 85 per cent larger than before, and the display is significantly more precise.

As a contrast to the digital and technical areas, the new interior of the Audi A6 Avant features a 'Softwrap' application. It extends from door to door across the entire width of the instrument panel, making the interior appear wider. Selected cloths, faux leather, or Dinamica (a premium microfibre resembling suede, made with recycled polyester, made by Asahi Kasei) in the door panels and armrests create a comfortable, refined ambiance.

The seats, Softwrap, door panels, and armrests are optionally available in sustainable materials such as the fabric Cascade and the microfiber material Dinamica, which are largely made of recycled polyester. The textile cover Cascade is reminiscent of natural materials such as wool and is not additionally dyed. It is partially made from recycled materials such as selvedge and recycled polyester. Dinamica looks and feels like suede, but about half of it is recycled polyester.

The contoured lighting along the dashboard and in the doors accentuates the width of the interior, while the indirect light below the Audi MMI panorama display and in the centre console creates a visual effect of floating. The high-quality materials in the doors are also stylishly illuminated. And on vehicles with this feature, the Bang & Olufsen logo is even lit up.

The aeroacoustics enrich audio enjoyment, especially with the premium sound system from Bang & Olufsen. An impressive 3D sound is produced by a total of 16 or 20 speakers, including a highly efficient amplifier and a subwoofer, with 685 or 810 watts respectively. The headrest speakers create a personal surround sound and an immersive musical experience. They also enable very precise audio output: navigation prompts and phone calls are directed specifically to the driver.

The A6 Avant uses Android Automotive OS as its operating system for the infotainment system. The vehicle updates all content via over-the-air updates. Numerous third-party apps can be downloaded from the Audi application store, which, like the smartphone interface, is standard. The Audi smartphone interface transfers the content from the smartphone directly to the vehicle's infotainment system. This makes it possible to control the navigation, telephone, music, and selected third-party apps via the MMI touch display and voice control system. By connecting to ChatGPT (provided by Microsoft Azure OpenAI Service) customers can access AI-based knowledge using everyday speech prompts. The responses generated are tailored to each question and read out individually.

The Design Lounge

Flexible Seating Features, China Examples

THE DESIGN LOUNGE

L TO R, TOP TO BOTTOM: AITO M7 ZERO-GRAVITY SEAT · AITO M5 IMMERSIVE HEADREST STEREO SYSTEM · ZEEKR MIX FLEXIBLE SEATS & INTERIOR · XIAOMI SU7 SEATBACK EXTENSION MOUNTS FOR DUAL TABLETS. (GUANG YANG IMAGES)

Car seats are not just about safety and comfort, they also need to be adaptive, connected, and multifunctional. A few examples of current trends:

- Personalization – Seats must recognize the occupant and adjust automatically for optimal ergonomics. For example, the Zeekr 001 can configure the rear seat tilt level based on personalized settings.

AITO M7 ZERO-GRAVITY SEAT

- Customizability: Flexible configurations that adapt to different cabin layouts, like the Zeekr Mix, allowing dynamic seat arrangements.

ZEEKR MIX FLEXIBLE SEATS & INTERIOR

- Device Integration, supporting extensions such as Xiaomi SU7's seat-back mounts, enabling passengers to attach dual tablets for entertainment or work.

XIAOMI SU7 SEATBACK EXTENSION MOUNTS FOR DUAL TABLETS

- Control & Multimedia Hub; Aggregated screens, control modules, and immersive headrest speakers, such as the Aito M5's headrest stereo, enhance the user experience.

AITO M5 IMMERSIVE HEADREST STEREO SYSTEM

User Experience is what OEMs with Design & Engineering plan to offer as usage of the vehicle and its features, But it is also what consumers do with their vehicles!

Good example with rear seats and cargo; China is known for extended business vehicles with extra rear seat legroom, for instance all the Audi L versions. But, maybe more than anywhere else, rear seats and extra legroom are not only there to accommodate business leaders, but also just to accommodate stuff!

In reality, those spacious rear seats often double as a cargo zone: boxes, suitcases, scooters, golf bags, watermelons…the list is endless.

At the end, what counts is flexibility. Why choose between a VIP lounge and a moving storage unit when you can have both?

Thanks to Guang Yang for his contribution—he will be speaking next month at the DVN Interior Workshop, in the Seating session.

News Mobility

Smart Tires for Autonomous Cars

NEWS MOBILITY

NOKIAN IMAGE

Tires are the only contact between the vehicle and the road. Until now, they have mainly transmitted forces, but soon they will also increasingly collect and transmit information.

It all started with TPMS. Tire-pressure monitoring systems have been mandatory for all new cars in the EU since 2014. It was the beginning of the networking of tires with vehicle electronics. In this context, tire manufacturers like to talk about 'intelligent tires', but this intelligence is still rather one-dimensional. Apart from the air pressure in the tire, nothing else is recorded. However, this is set to change with the next generation of tires.

Continental, for example, is working on a sensor system that will also monitor the tread in the future. The sensors will then report as soon as the tread has reached a critical tread depth. Temperature sensors will also register the heat development of the tires. A rise in temperature often indicates an imminent tire blowout. In addition, temperature sensors can register changes that indicate wetness on the road surface, the threat of aquaplaning or the risk of slipperiness due to snow and ice.

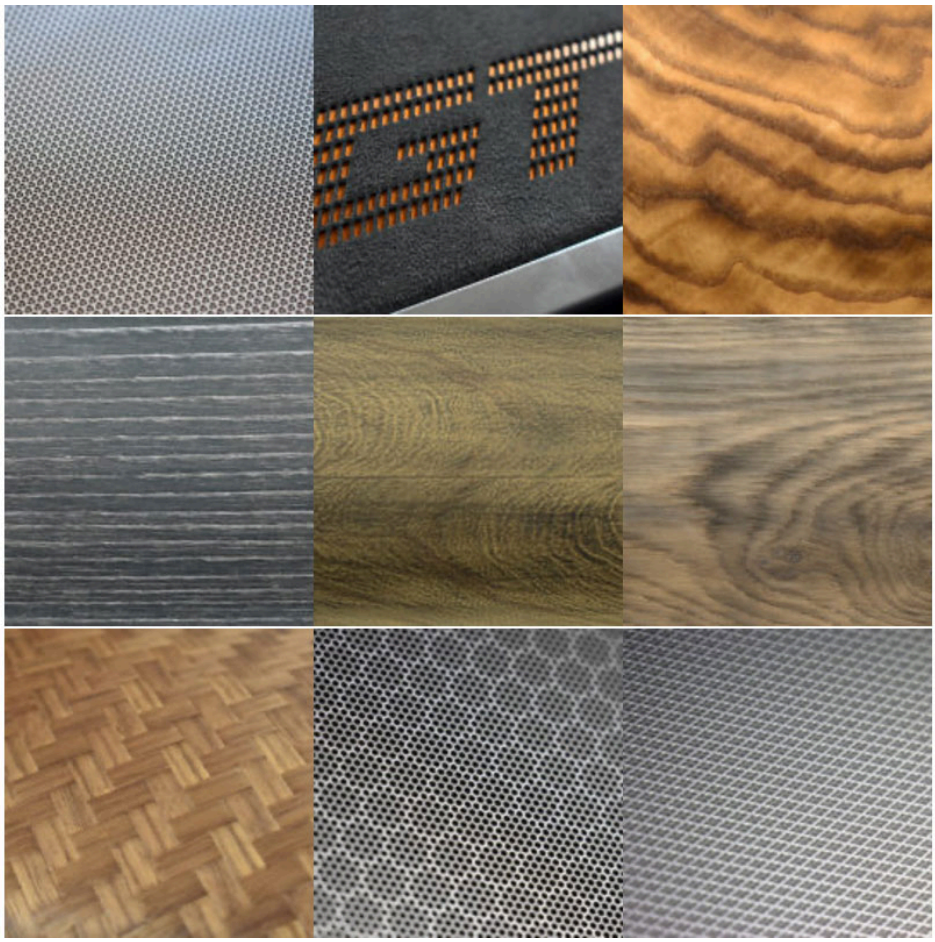
In general, the tires equipped with additional sensors are designed to ensure greater safety. They can inform the driver almost in real time about changes that could be decisive for the behavior of the vehicle. In addition, the tire automatically alerts the driver when it should be replaced - for example, because the tread is very worn, or a small leak has occurred.

Finnish tire manufacturer Nokian says intelligent tires will be on the market faster than autonomous vehicles.

General News

Mutares Buys NBHX Trim Europe

GENERAL NEWS



NBHX IMAGE

Mutares SE has signed an agreement to acquire NBHX Trim Europe from Ningbo Lawrence Automotive Interiors, a subsidiary of Ningbo Huaxiang Electronic ('NBHX').

The transaction strengthens Mutares' Automotive & Mobility segment and will complement the Matikon Group within Amaneos as an add-on acquisition. The transaction is subject to customary approvals, particularly by the Chinese government, the Board of NBHX, and the shareholders of NBHX, as well as merger control clearance. The transaction is expected to close in the second quarter of 2025.

NBHX Trim Europe is a European supplier of decorative surfaces for premium automotive interiors, member of DVN Interior. The company develops and produces interior components from a wide range of materials, including aluminum, wood, carbon, leather, and injection-molded plastics. Headquartered in Bruchsal (Germany) and with additional production facilities in Rolem (Romania) and Abergavenny (UK), the company generated revenue of almost €200m in 2024 and employs around 2,000 people. A representative from NBHX will be speaking at the DVN Interior Workshop on 8-9 April in Köln.

Mutares CIO Johannes Laumann says, "With the acquisition of NBHX Trim Europe, we are strengthening our Automotive & Mobility segment in the area of interiors. We see significant synergies with Matikon and expect to be able to exploit significant synergy potential to increase operational performance using our Mutares Operations team. This add-on acquisition is a significant step in expanding our global footprint in interior applications for the global automotive industry".

Novares Acquired by First Brands

GENERAL NEWS

VW AIR VENT, BMW DECORATIVE TRIM (NOVARES IMAGES)

French automotive supplier Novares is to be acquired by the US company First Brands, through the company Global Technologies. This acquisition has been approved by the European Commission. Novares generated revenues of €1.1bn in 2024.

Novares, a supplier of plastic solutions for automotive, was the subject of a takeover bid in February 2025 from the US group First Brands. The European Commission reported in a press release dated 7 March that this acquisition of sole control of Novares by Patrick James, a US national and CEO of First Brands (formerly Trico), has been approved. This transaction was conducted through the Luxembourg-based company Global Technologies.

Novares, headquartered in Clamart (Close to Paris, France), operates in 22 countries. The group owns 37 manufacturing plants, 6 centers of expertise, 7 technical centers, and 17 other customer service centers. In 2024, they generated revenue of €1.1bn. Pierre Boulet transfered his CEO position in January 2025. Since 2016, Novares has been controlled by the investment fund Equistone Partners Europe, which holds a 76.84-per-cent stake in its capital.

On 1 January 2025, the French group's general management was entrusted to François Sordet, its CFO since 2012. He succeeded Pierre Boulet, who had held this position since joining the company in 2012. The latter remains Chairman of the Novares Executive Board.

First Brands is a global manufacturer of spare parts with a portfolio of around twenty brands (brakes, filtration, wiper blades, fuel and water pumps, etc). In 2023, they acquired the Italian group's Magneti Marelli Parts & Service division. Last year, First Brands completed their acquisition of lighting and accessories business of the equipment manufacturer Lumileds.

Novares will give a lecture at the upcoming DVN Interior Workshop.