Thu, 19 June 2025
Weekly Newsletter

DVN Interior

NEWSLETTER #266

Editorial

Interior Design For Safety, Sustainability: Is Recycling The Recipe?

KIA EV 3, 4 CONCEPT (KIA IMAGE)

DVN Interior is focused this week on a holistic approach combining interior design, safety, and recycling; by combining these elements, we create a space that is beautiful and functional, safe, and environmentally friendly.

We bring you an interview with Zeekr Chief Interior Designer Daniel Hoffrock, in which new DVN Interior Consultant Andreas Friedrich and Hoffrock talk about the Zeekr Mix interior philosophy.

In this week's in-depth piece, we explore how passive safety keeps progressing — even with ADAS avoiding crashes, there will always be a need to protect occupants in case a crash does happen. So we look at what Volvo and ZF are doing on seatbelts, Ford's efforts to improve comfort, and what alcohol detection and lockout adds to the story.

Then there's sustainability. DVN Interior attended the Euro Moulders Annual Conference, which underscored the urgency and opportunity in aligning industrial design, sustainability, and recycling practices to strengthen the economic case for polyurethane in automotive applications.

We also look at the momentum of sustainability efforts, like Wyron's sustainable yarn in Lotus cars, the Fiat Grande Panda with sustainable materials, and Toyoda Gosei's 'Horizontal Recycling' technology for car parts.

And don’t miss the introduction of Tenchen Controls, a major seat supplier in China.

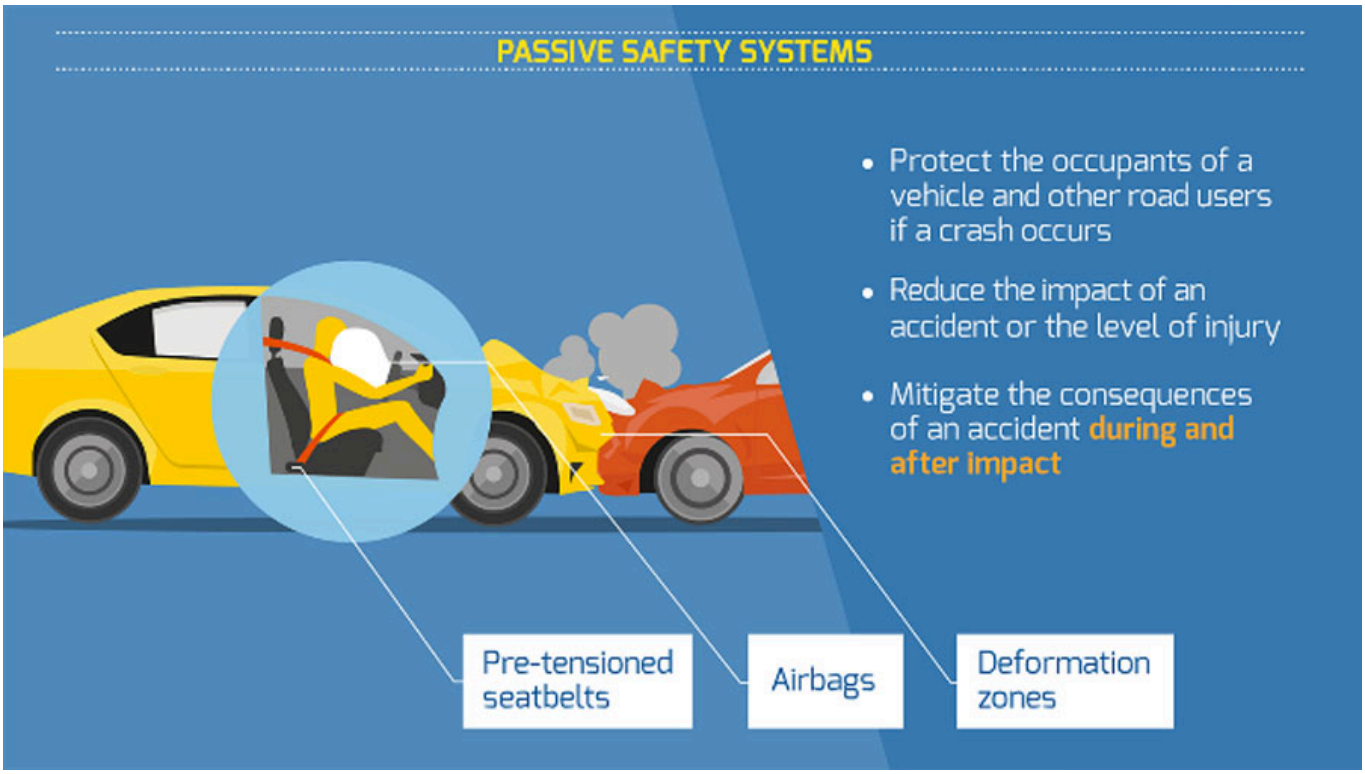
We're glad you're with us to explore the exciting world of car interior innovations!

Sincerely yours,

Philippe Aumont
DVN-Interior General Editor

In Depth Interior Technology

Passive Safety Keeps Progressing



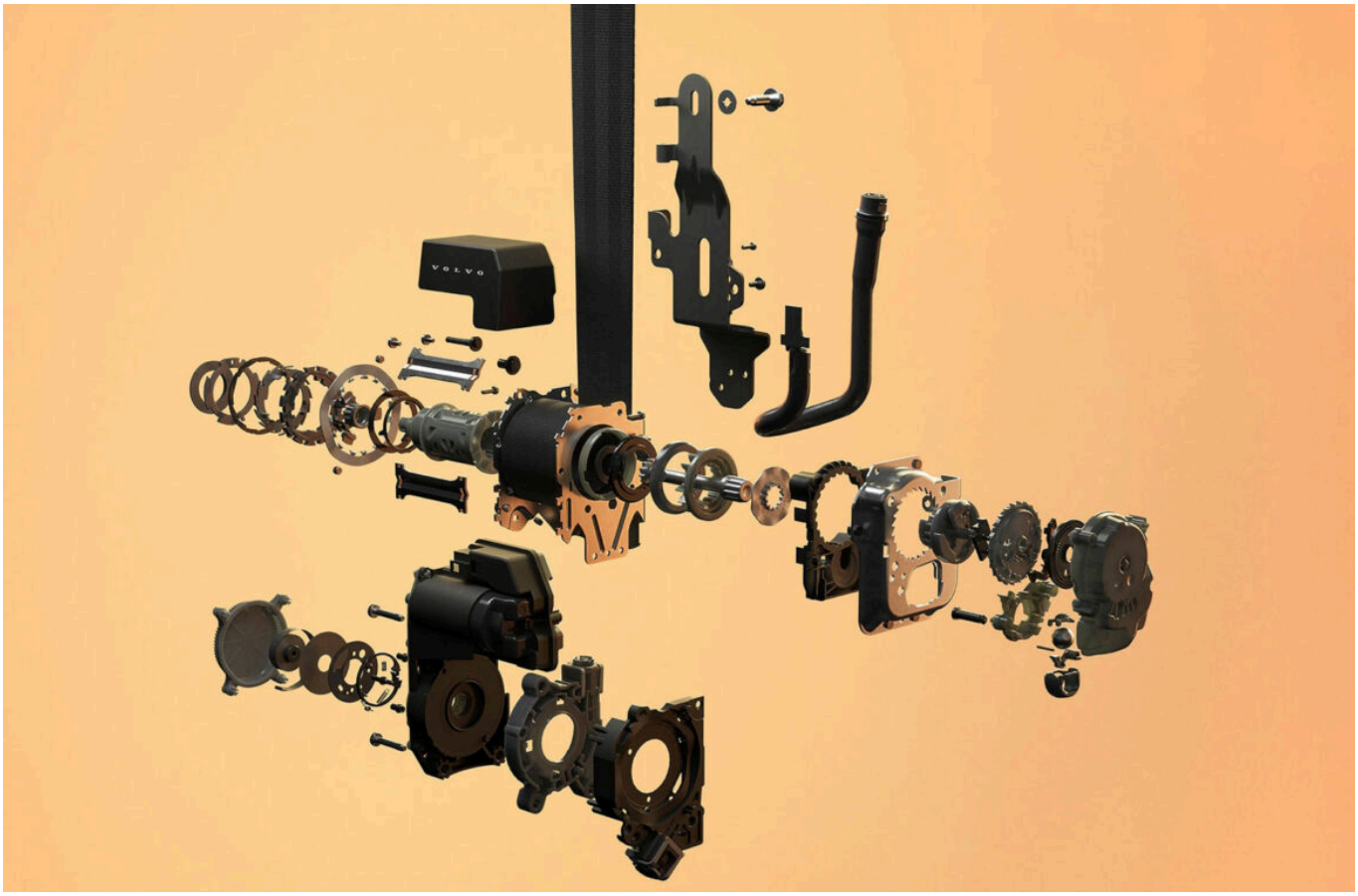
ROAD SAFETY FACTS GRAPHIC

Recent innovations in passive safety systems for passenger cars include advanced technologies and materials to improve occupant protection during accidents. These include advanced and smart airbags, new materials such as high-strength steels, pre-tensioning seatbelts, and adaptive safety systems to dynamically adjust the safety features of a vehicle based on real-time driving conditions. For example, adaptive airbags can inflate differently depending on the specific circumstances of a crash, providing tailored protection for occupants. That is basically what Volvo and ZF did:

Volvo ZF Multi-Adaptive Safety Belt

'SINCE 1959' ON THIS SEATBELT TONGUE REFERS TO VOLVO'S WORLD-FIRST 3-POINT SEATBELT IN THAT YEAR. (VOLVO IMAGE)

Volvo, who introduced the 3-point automotive seatbelt in 1959 and promptly made it royalty-free for the world's automakers to use, now wants to make seatbelts much smarter — starting with the EX60 slated for the 2026 model year: the new Multi-Adaptive Seatbelt is designed to adapt individually to different occupants and traffic situations and retract individually into the seat in the event of a crash. The safety world premiere is controlled by the vehicle's central computer, and so it can evaluate and use real-time data from interior and exterior sensors at lightning speed. This allows it to adapt the belt force and restraint performance much more individually to the people in the seats than was previously possible.



THE BELT MECHANISM (VOLVO IMAGE)

Volvo has patented the new seatbelt together with German supplier ZF Friedrichshafen, who say it uses real-time data from advanced vehicle sensors to adapt to both traffic situations and the person wearing the seatbelt.

Volvo says this technology will have just as great an effect as the original three-point belt. "By using real-time data and AI, we see the potential to save another million lives," said Åsa Haglund, Head of the Volvo Cars Safety Center.

Onboard computers can process trillions of data points in a fraction of a second. According to Volvo, exterior sensors record environmental data to detect an accident risk and, if necessary, predict the type and intensity of the expected collision.

Inside, sensors tell the system how many people are in the car, where they are sitting, and how tall and heavy they are. This enables the system to calculate how each person wearing a seatbelt in the vehicle can be optimally protected.

Modern belts already use force limiters to control how much force is applied to the belted body in the event of an accident. According to Volvo, three load profiles are taken into account. The Multi-Adaptive Seatbelt, on the other hand, has eleven different profiles.

Volvo hasn't published the development costs, or said when they'll install it in models other than the new EX60, but they say the system has been developed "very cost-effectively" and will be continuously improved through over-the-air updates.

And there are also lower-tech tricks to improve the seatbelt:

Ford Seatbelt Releases Chest Pressure

FORD IMAGE

Women have long gone uncatered-for in the design and construction of cars, especially with regard to safety — see previous DVN Interior coverage **here** and **here**. Seatbelts don't fit women well or comfortably, and they can be painful for a person of any gender who is recovering from an operation. To address this, Ford has launched what they call the SupportBelt, a soft foam accessory that attaches to a car seatbelt to relieve pressure on the chest. Designed by those who have struggled with pain while driving after surgery, the SupportBelt's contoured, breathable shape aims to reduce irritation, discomfort and anxiety when traveling by car, whether as a driver or passenger.

Developed in the US and now available in the UK, the idea was born from the personal experience of Lynn Simoncini, a creative director at VML — a marketing partner of Ford. Simoncini found herself in severe discomfort after undergoing a double mastectomy in 2022. The seatbelt's tight pressure made even short car rides difficult. What began as a personal project evolved into a medically-informed design developed by Ford engineers.

This could also used by anyone having too much pressure on the chest, like taxi drivers, under pressure at any moment while working.

The SupportBelt is being offered in partnership with breast cancer support charities including Flat Friends, the Sunshine Group, and Keeping Abreast. Patients can request a SupportBelt via these organizations.

"The SupportBelt demonstrates the profound impact that thoughtful design can have on healing," said Emily Obert, Ford experience design director, who guided the development of the original idea with the help of design intern Rima Shkoukani. To date, it is the only solution of its kind to be both designed and validated by an automaker.

Breast cancer is the most common form of cancer for women in 157 countries, according to the World Health Organization. A patent for the belt accessory has been filed, and Ford intends to share the design more widely with the goal of making it accessible globally.

While passive safety systems focus on protecting occupants during an accident, alcohol detection is a kind of preventive surveillance to monitor drivers for alcohol use, with the aim of reducing the risk of carnage caused by alcohol-impaired drivers. In that sense, it is typically part of active safety measures aimed at preventing accidents before they occur. Like this one:

Ethylowheel: Breath Analyzer in Steering Wheel

ETHYLOWHEEL IMAGES

Ethylowheel is a startup specializing in driver alcohol detection. They are working on a device which can measure blood alcohol levels by simple skin contact, and could potentially be integrated into the steering wheel of a vehicle.

They just received the Impact Award from Association Antoine Alléno during Viva Technology 2025, Europe's biggest startup and tech event which happened last week in Paris. Founded in July 2022, the Association Antoine Alléno's mission is to protect people under 25 years old from all forms of road violence. The association intends to act in three areas of general interest: supporting victims and families bereaved by road violence, raising public awareness and mobilizing to change laws and regulations, and ensuring that they are enforced.

Ethylowheel cofounder and chemical and biological engineer Julie Bruguière says, "When you consume alcohol, four elimination pathways are activated: the liver, the kidneys, the lungs, and the skin. We use small, ultra-sensitive sensors to measure the tiny amount of alcohol eliminated through the skin and correlate it with the alcohol in the blood".

So, could a steering wheel breathalyzer prevent the vehicle from starting if it determines the driver is over the legal limit? "This is getting into political issues," says the startup's other cofounder, Jaime Alonso. "It needs to be discussed with manufacturers: either we lock the steering wheel, or we make a sound like a seat belt". Bruguière and Alonso think their solution reduces the risk of cheating compared to existing breathalyzers, such as those installed in convicted drunk drivers as a condition of their staying out of jail, since the skin measurement is done throughout the journey — not just at the moment of starting the car (when another person could blow into a traditional device for the driver).

This compact detection system effortlessly measures the driver's alcohol level through a simple touch. Its versatility allows for seamless integration into various in-cabin elements or any designated area of the vehicle. That makes it a discreet component designed to empower you with real-time insights into your readiness to drive (or a tiny monitor engaged in constant surveillance, depending on how you view such things). Its features include immediate evaluation of fitness to drive using an easy-to-understand color code, and customization capabilities, allowing personalization with a choice of colors, materials, and engravings.

Interior News

Tenchen Controls: Chinese Seat Supplier

INTERIOR NEWS

TENCHEN VENTILATION - MASSAGE - HEAT SEAT (DVN IMAGE)

During the EAC 2025 exhibition in Hangzhou, DVN Interior met with Zhejiang Tenchen Controls. They're a company founded in 1984, listed on the Shanghai Stock Exchange, and specializing in R&D, production, sales, and service of automobile seats. They have 2,700 employees and have delivered 10 million seats to customers so far. Tenchen was awarded as a 'Green Factory' by China's Ministry of Industry and Information Technology.

They describe themselves as industry leaders in designing intelligent, lightweight, and platform-based seats. In 2000, they started to develop commercial vehicle seating, and passenger car seating in 2016. In 2017, they acquired Acro Aircraft Seating in the UK. In 2018 they started making child seats, in 2019 they set up a production base for seat mechanisms, and in 2020 they created an aluminum + carbon fiber division.

CARBON FIBER FRAME, TRIMMED – PLATFORM SEAT FRAME (DVN IMAGES)

The company's innovation strategy has three main directions:

- User-centric seats with intelligent interface, adjustments, emotion, smart health
- Lightweight seats with aluminum or carbon fiber-based frames
- Platform frames per market segment (low cost, mid-range, high-end)

Tenchen is devoted to developing and manufacturing high-quality seat assemblies. Their offerings include seat frames, mechanisms, foam, seat covers, hardware, and upholstery. Capabilities include market and consumer study, comprehensive concept development, design and engineering, testing and verification, and first-class manufacturing.

Euromoulders Conference: PU Industry Strategic Perspective

INTERIOR NEWS

EURO MOULDER IMAGE

DVN Interior attended the Euromoulders Annual Conference in Benidorm, Alicante, Spain, with 550 participants representing the automotive, bedding & furniture, building, and chemistry industries.

At the conference, experts presented significant developments shaping the global PU (polyurethane) industry — particularly within automotive.

China's Expanding Influence

China has firmly positioned itself as a dominant force in the global PU ecosystem. Backed by large-scale industrial policies, aggressive investment in R&D, and import of international expertise, China now leads 37 of 44 critical technologies worldwide. The county's talent pipeline is now self-sufficient, and producing the next generation of top scientists, reinforcing China's long-term leadership in key material technologies.

Automotive PU Trends

A downward trend in PU usage per vehicle is emerging, driven by evolving auto interior design:

- Simplified geometries and minimal laminations
- Dashboards with full-width screens
- Advanced seat design complexity
- Wider use of PET mono-materials in flooring

This trend encourages substitution with lighter, more modular materials, reducing overall PU consumption.

Circular Economy & Recyclability Challenges

Recyclability is a growing priority, influenced by new EU directives such as ESPR (Ecodesign for Sustainable Products) and ELV (End-of-Life Vehicles). PU recycling is technically viable and increasingly economically feasible but still faces a major obstacle: as an example, material contamination from complex multi-material components in vehicles. Improved dismantling techniques are critical to scaling recycling efforts profitably.

R-Polyol Adoption Progress

Chemists confirm R- (for 'recycled') polyol integration in automotive MDI and TDI applications at 40 to 50 per cent, with companies like Evonik and Huntsman pushing toward 85 to 95 per cent in their labs while maintaining mechanical properties.

Achieving 50 per cent R-polyol via depolymerization, up from the current 20 per cent, is feasible but contingent on better foam separation during dismantling.

Quantified Market Opportunity

In 2022, about 56,000 tons of PU foam were recovered from 4.7 million ELVs, highlighting a large-scale resource pool that remains underutilized.

Strategic Outlook

As highlighted at **DVN Interior Workshop this past April** by Dow, in a joint project with JLR-Adient using the Renuva material (up to 50 per cent R-polyol content), they have developed a recycled PU seat foam and are moving from compliance-driven topics to value-added product strategies.

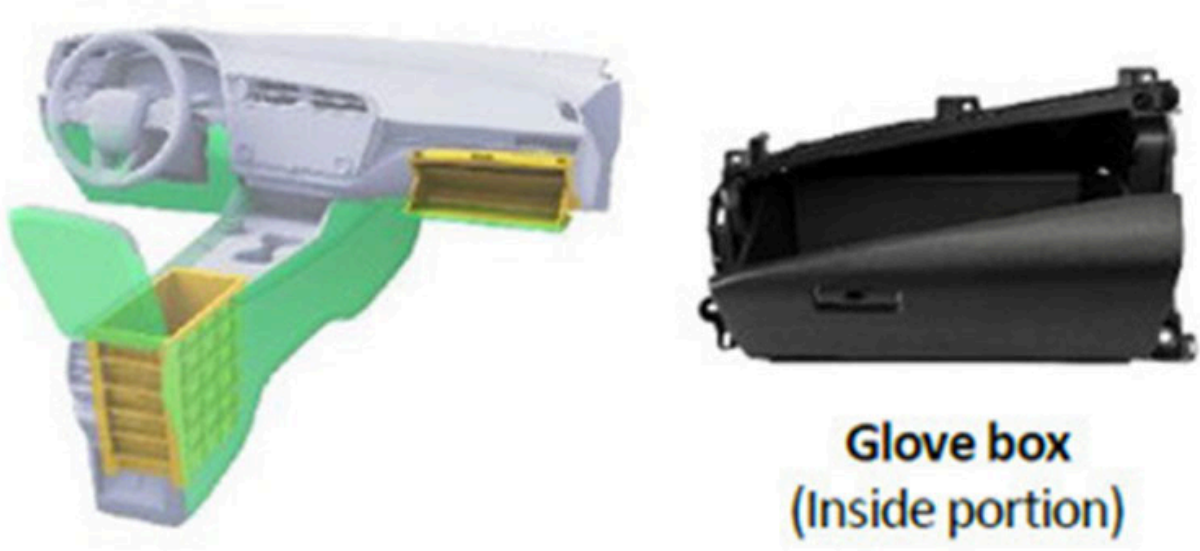
In a post-chip-crisis context, securing alternative raw materials through smarter dismantling and recycling offers real supply chain resilience.

Conclusion

The conference underscored the urgency and opportunity in aligning industrial design, sustainability, and recycling practices to strengthen the economic case for PU in automotive applications. DVN continues to showcase this evolution and provide expert analysis across the mobility industry.

Toyoda Gosei's 'Horizontal Recycling' Tech for Car Parts

INTERIOR NEWS



TOYODA GOSEI IMAGE

Toyoda Gosei, a parts supplier in the Toyota constellation, specializing in rubber and plastics, has developed a new way to recycle high-quality plastic from end-of-life vehicles (ELV). It comes in context of growing demand for recycled plastic in the automotive industry, and strengthened environmental regulations. This technology is designed to contribute to a decarbonized, circular economy, and will be implemented in various vehicle models, starting with the Toyota Camry.

It is often difficult to obtain recycled plastic with performance equivalent to that of new material due to impurities or other factors, so waste plastic has generally been burned to recover heat (thermal recycling) or reused for purposes with lower required performance (downcycling).

Now, Toyoda Gosei has developed a recycled plastic with performance equivalent to new material, even with 50 per cent ELV plastic content (polypropylene, in this case). They've collaborated with Isono to procure quality raw materials for recycling, and leveraged their original material modification technology, meeting the quality standards for automotive parts for practical application. This technology accelerates horizontal recycling — that is, recycling for reuse in the same kinds of parts — and helps shrink CO_2 footprints, Toyoda Gosei says, adding that it's the first time recycled plastic containing 50 per cent ELV plastic has been used in interior parts such as gloveboxes, which require impact resistance.

Toyoda Gosei aims to expand the range of applicable products, such as those associated with vehicle design, and will continue to improve the attributes of recycled plastic.

Wyron Sustainable Yarn in Lotus Eletre, Emeya

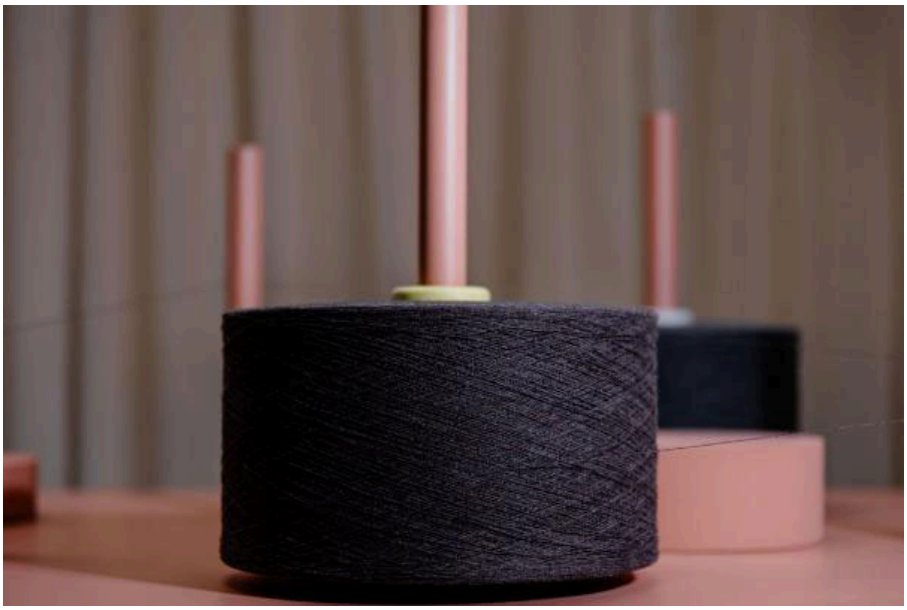
INTERIOR NEWS

LOTUS IMAGE

Cooperation betweenBrain of Materials and Trützschlerhas enabled anew sustainable materialto enter the automotive market.

Brain of Materials is a German-based company specialized in simplifying and innovating material processes for sustainable and CO_2-neutral semi-finished products, pre-assembled and ready-made parts and products. One of their products is Wyron Truecycled® yarn , using Trützschler's 'Truecycled' process.

Covering every step from cutting and tearing textile waste to carding and drawing secondary fibers, Truecycledenables efficient production of sustainable, reliable yarns that serve as a premium alternative to conventional materials.



WYRON TRUECYCLED YARN (BRAIN OF MATERIALS IMAGE)

The open-end yarn consists of 50 per cent post-consumer textile waste and 50 per cent recycled polyester. It is used for the back sections of car seats, providing a sustainable solution without compromising the automotive standards. The yarn is now featured in the Lotus Eletre and Emeya models, proving that sustainability and top performance can go hand in hand.

LOTUS' ELETRE AND EMEYA (LOTUS IMAGE)

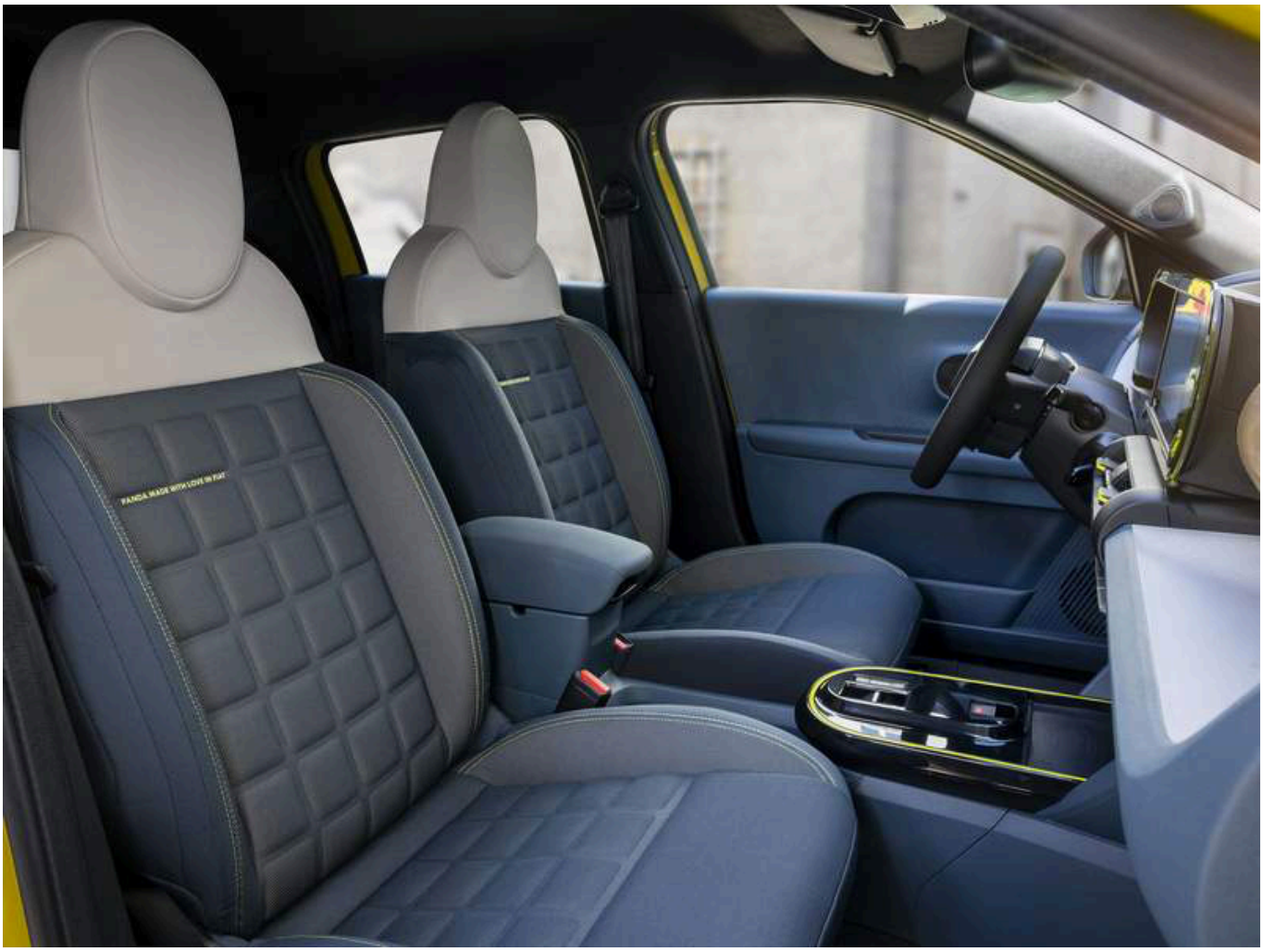
WYRON TRUECYCLED YARN IN SEATS (LOTUS IMAGE)

According to Lotus, the yarn's premium haptics, lightweight properties, and sustainability attributes perfectly suit the spirit of the Emeya and Eletre models. Adding to its sustainability credentials, the production process — from collecting post-consumer waste to spinning the yarn — takes place entirely in Western Europe.

Christian Franke, Trützschler's Head of Projects , says, "we are proud to contribute our decades of know-how in textile recycling and innovative machinery solutions to this pioneering project, By working closely with Brain of Materials for many years, we've ensured that the Wyron Truecycled yarn meets the demanding standards of the automotive industry, while offering high quality and durability".

Fiat Grande Panda: Sustainable Materials, Retro Design

INTERIOR NEWS



FIAT AND NETCARSHOW IMAGES

Fiat has introduced their new Grande Panda hybrid, already introduced in DVN Interior. Following the recent release of the fully electric version, and presentation of a hybrid model, Fiat emphasizes the use of sustainable materials and showcases new technology. Three trims are available: Pop, Icon and La Prima.

The Grande Panda hybrid features a Bambox 'bamboo fiber tex' dashboard. Elsewhere in the vehicle, 140 recycled beverage cartons have been used, repurposing the non-recyclable layers into Lapolen Ecotek, a striking blue plastic with a shimmering aluminum finish, used throughout the interior.

The compact exterior conceals an unexpectedly roomy interior, with best-in-class shoulder width, modular storage and expressive design. The cabin's Blu Tasmania color scheme includes bright yellow accents on the dashboard, infotainment area, and seat stitching

The Pop trim features an infotainment system with 10.25" screen, cruise control, LED lighting, manual air conditioning, and rear parking sensors. The Icon trim adds a higher level of comfort and personalization, with roof rails and skid plates, a central armrest, and privacy glass. And the top La Prima trim adds heated front seats and front and rear parking sensors with rearview camera. It also features high-quality fabrics.

All trims come with a comprehensive ADAS suite, including cruise control, speed limiter, active safety brake, lanekeeping assist, driver attention warning and open-door alerts. The La Prima trim adds front sensors and a rearview camera. Connectivity is supported through the onboard 10" digital cluster, 10.25" central touchscreen, and wireless smartphone mirroring. Fiat offers two service packages: Connect One, including emergency call, roadside assistance and vehicle health reports; and Connect Plus, which adds vehicle finder and other services to improve maintenance, such as vehicle information and vehicle health alert, available through the Fiat mobile app.

Nissan Kicks Interior: More Space, More Function

INTERIOR NEWS

2025 NISSAN KICKS (NISSAN IMAGES)

Nissan is currently facing significant challenges, but they have bright new models including the Kicks, a subcompact SUV**.** For 2025 it has optimized interior room for passenger comfort and cargo space, while maintaining a compact exterior size that makes for easy city driving and parking.

The Kicks features a modern, youth-oriented interior, with a cabin design centred around a clean, horizontally laid-out dashboard with a slightly driver-oriented centre console, ensuring easy access to controls and a more engaging driving experience.

Depending on the trim level, there's a 7" or 8" touchscreen infotainment system which supports Apple CarPlay and Android Auto. Higher trims come with a digital instrument cluster which allows for customizable display options. The SR trim also offers a premium Bose Personal Plus audio system, which includes innovative speakers built into the driver's headrest for an immersive listening experience. Climate control options range from manual systems in lower trims to automatic climate control in upper-level models.

The interior is offered in various two-tone color themes, such as Charcoal with Light Gray or Black with Orange stitching. Materials are carefully chosen, with soft-touch surfaces on the dashboard and door armrests, complemented by contrast stitching to create a more premium feel.

For added comfort and style, the SR Premium Package includes features like ambient interior lighting, heated front seats, Prima-Tex™ trim, and a leather-wrapped steering wheel. A visual highlight of the Kicks is its floating roof design, created by blacking out the A and C pillars, which gives the car a modern look from the outside and a cohesive aesthetic when reflected in the interior trim.

CMF in the Dodge Charger Daytona Interior

INTERIOR NEWS

Red and black surfaces and graphics on screens make for a strong and muscle-emphasizing aesthetic in the Dodge Charger Daytona. The interior of this car is respectful of its late-1960s roots, while providing an acknowledgement of an electric future.

The designers and CMF specialists created an interior for the brand’s (and Stellantis North America's) first-ever BEV. At the same time, they had to develop an interior that would appeal to the Charger faithfully, meaning more than a nod to the 1968 Dodge Charger.

The Demonic Red high-backed seat is trimmed with combination of suede and Nappa leather; it has a fixed headrest and adjustable thigh bolsters. The steering wheel is flattened at both the top and bottom, and behind there is one of the Charger Daytona’s two displays, a 16" screen providing readouts on tire pressure, speed, available power, and much more.

Adjacent to it, and angled toward the driver, there's a 12.3" infotainment touchscreen running Uconnect 5 with onboard voice assistant and wireless Apple CarPlay and Android Auto.

The car has an 18-speaker Alpine Pro audio system featuring a 10" subwoofer.

Dodge says the interior has 'Attitude Adjustment' interior lighting with 64 selectable colors of light across the instrument panel, and door trim inserts with a vertically striped motif are also illuminated so there is a 270° sweep of lighting across the front and the sides. Because there is an abundance of material wrapping (instrument panel, seats, shift boot…), there is plenty of stitching with red and white thread.

It is a coupé, but it is said to comfortably seat five, with 2,917 L of passenger volume. Getting into and out of the back seat is relatively easy.

The Design Lounge

DVN Interview: Zeekr's Daniel Hoffrock

THE DESIGN LOUNGE

DANIEL HOFFROCK AND DVN'S ANDREAS FRIEDRICH (DVN IMAGE)

DVN Interior: Hello Daniel, Can you give us a short background and your professional history?

Daniel Hoffrock: Absolutely. I graduated in 2012 from Coventry University. I moved to Austria for a while because I did a sponsored project for my thesis with a company called Qoros, which was a Chinese company, which is now defunct unfortunately.

I moved to the UK and Ford. I was there for two and a half years. I did the FMAX truck. And I did the exterior facelift of the new big Transit, that came out in 2018.

Then I got an opportunity in Gothenburg with Geely Design In 2016. So, I moved over here. Back then it was only Geely Design, Zeekr and Lynk & Co hadn't been launched then.

So, I was working with interiors on the Lynk & Co 01, 02 and 03, which is the first vehicles. Then I got the lead position on the 05. I was a lead designer for the 05 Interior and took that through to production, which was the 01 but with a sort of coupé back.

That interior was appreciated so much, that we actually put that interior into the facelift version of the 01 and then that became the 01 that came to Europe.

And then I worked on the Zeekr CM1E project, which is the Waymo collab with Zeekr.

And then I worked on the CM2E, which is basically the more private vehicle based on the MMA platform and is now called Zeekr Mix. These are the main projects.

DVN-I: That's fantastic. And your role on the Zeekr Mix was chief designer?

ZEEKR MIX (ZEEKR IMAGE)

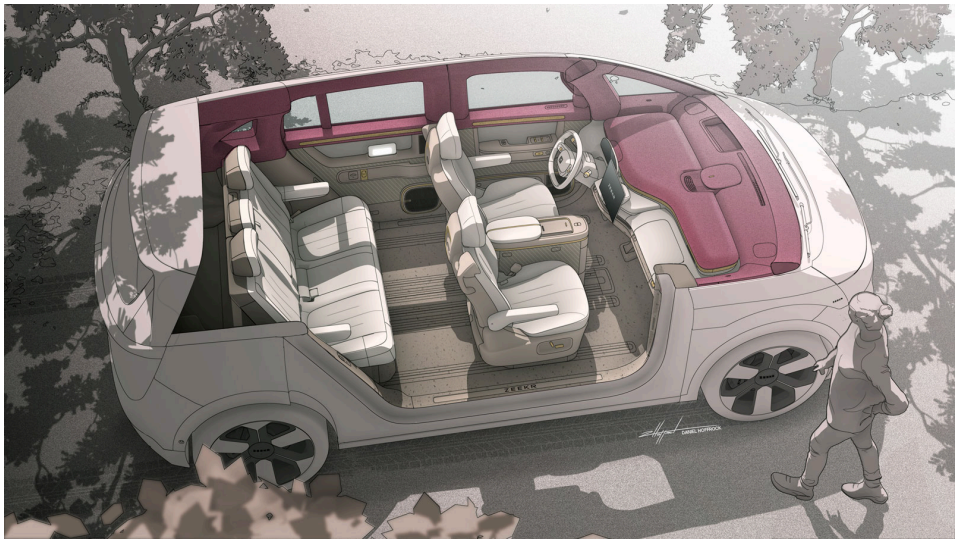
DH: Yes, I was the chief interior designer. It was my job to coordinate the whole interior together to get the right direction. Sergio Loureiro da Silva is the head of interior, and he has the overview of the entire Zeekr brand interiors. I have the overview of the specific project.

DVN-I: And how long did that project take?

DH: The crazy thing is, we did the main bulk of it in less than a year. Which is incredibly breathtaking speed! It was something like we started in the spring of one year and finished in the spring one year later, it was very short.

DVN-I: What three details or features would you highlight from that project that you are very pleased with?

DH: Oh…It's a difficult one, I mean, there are many interesting things. The rotating seats, for instance, are fantastic, the fact that we managed to get this moving floor console with the table setup. That was quite complicated to be able to make this sort of functional space, so it actually works because there's been so many concepts out there that had rotating seats and tables and things, but they've been just show cars.



DANIEL HOFFROCK SKETCH (ZEEKR IMAGE)

To make a production vehicle that has this is something fantastic. And when you see it now you have the seats rotate, you have the table in place, you really feel like a cool place to be.

I'm quite proud of the doors, because they're sliding doors, they must be very flat for clearance to the body work. The fact that we were able to still get this luxury feeling, but without having too much 3D shape, that was quite a challenge. But I think we ended up doing it quite nicely.

DVN-I: And what was the trick in then doing so?

DH: I think we kept quite a simplicity in the shapes that we used, so everything was a little bit sort of squircular. We kept it very friendly, very soft, but also with a nice use of materials.

We have this really nice, embossed microfiber that covers the whole door. We also have this little lamp, a removable lamp, which has this kind of 'furnituresque' feeling, it looks like it could be on a coffee table somewhere.

And I think taking that home feeling and using architectural elements rather than necessarily typically aggressive automotive elements gave it that new fresh feeling, but also made it feel quite premium.

DVN-I: That was only one favorite, and it was the doors, do you have two more?

DH: The asymmetric IP was interesting as well. Because we put the airbag in in the roof instead of on the cross-car beam.

DVN-I: Ah, finally.

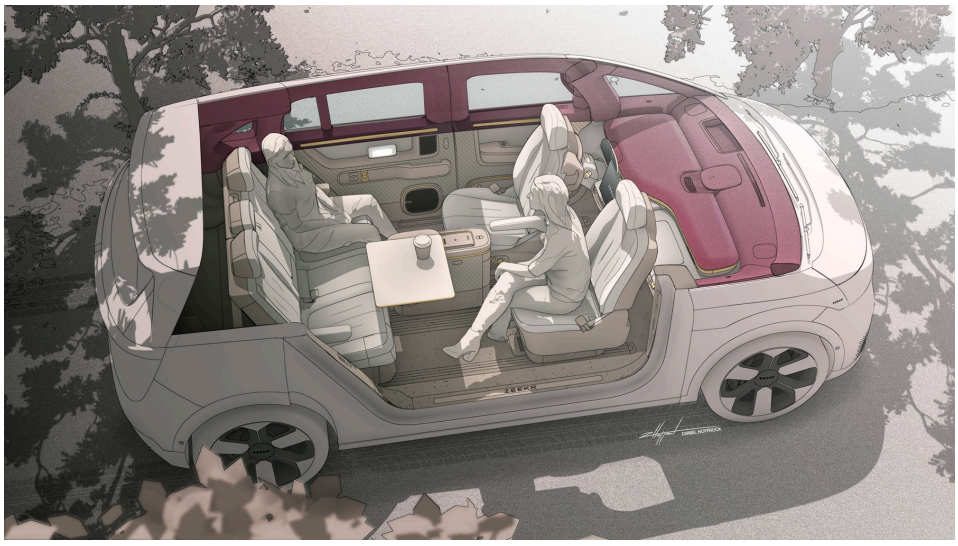
DH: We actually got it into the header, so that meant that we could free up the whole passenger side and push the IP away. And then, of course, that also comes with a tricky connection to the A-pillar that we had to deal with.

But I think it turned out very, very well. So, we're having completely different interface to the doors on each side, whereas normally you do it once and then you copy it over.

The third one then…I think the floor console was quite cool.

It has a refrigerator in it and a very simple kind of pill shape form. But the fact that we managed to get all the attachments in. We have this modular attachment for like cup holders and various different things, it ended up being very cool.

DVN-I: At our recent DVN workshop in Cologne, we looked at how the Chinese are starting to use the vehicles as part of their daily routines where it becomes an extension of their living room; is that something you have noticed?



DANIEL HOFFROCK SKETCH (ZEEKR IMAGE)

DH: That was basically the exact brief for the Mix. It was always intended to be this, expanding your home space. So, it's a home away from home.

Originally there was an idea that you could use it as a shop if you wanted to, you could use it as a camper, you could use it as a living room or as a meeting space. All of that was taking into account.

That's why we ended up with such a flexible space because we started off with that point in mind.

DVN-I: How do you foresee the cockpit layout of the future?

DH: If I was in charge, I feel like I personally would like to see more physical controls.

I understand the appeal of screens and you know, it really does give this kind of high tech feeling, especially when you see these panoramic HUDs. From a usability point of view, it has a potential, I suppose, because you can have information on the whole thing.

Maybe the panoramic HUD becomes more useful in autonomous situations. Could be so because, say, for instance, if it's driving in level three or even at level four, the car can then communicate to you with the panoramic HUD what it's seeing, what it's doing and can give you a sense of security, knowing that it has seen the things that you think you've seen.

But for me, I would like to see less use of large screens in vehicles.

DVN-I: I totally agree, that's also a recent market trend, isn't it?

DH: Because as an interior designer, as an industrial designer a big square piece of plastic that's just in front of you, it takes away all the sculpture and all the interesting things that you can do because this screen has to be in the position that it's reachable and it means that you can't do anything with the sculpture behind. And if you do, you can't see it anyway because the screen's blocking it.

I would very, very much like to go back to a more sculptural interior with more physical controls to give back that sort of premium tactility you get, which you don't have with the screen. You don't have any tactility with the screen at all.

I think in general, we need more physical controls, more sculpture.

DVN-I: Thank you, Daniel, it was a pleasure!

General News

Toyota, Daimler to Merge Trucks in Japan

GENERAL NEWS

Daimler Truck and Toyota Motor Corporation announced their intention to integrate Mitsubishi Fuso and Hino Motors as equal partners in May 2023. The aim is to enhance operational efficiency across development, procurement and manufacturing – including in the ongoing electrification of both product portfolios.

The finalized agreement includes the formation of a new holding company to oversee the merger on equal terms. Both brands will be brought under one corporate roof, with the parity of the merger explicitly highlighted.

The holding company will own 25-per-cent stakes in both Mitsubishi Fuso and Hino. Daimler Truck and Toyota each intend to retain a 25-per-cent stake in the holding. The remaining 50 per cent could potentially be floated in Tokyo, although it remains unclear if this portion will be offered to public investors or whether another strategic investor will come on board.

The new holding company, as yet unnamed, will be headquartered in Tokyo. Longtime Daimler executive and current Fuso CEO Karl Deppen will sign on as CEO.

The strategic emphasis will be on developing CASE technologies – Connected, Autonomous, Shared and Electric – with hydrogen explicitly named as a pillar of the electrification strategy.

Mitsubishi Fuso currently offers the eCanter, a light-duty BEV truck, and is also participating in a Japanese consortium exploring battery-swapping solutions for commercial vehicles. Hino, meanwhile, is pursuing both BEV and hydrogen fuel cell technologies across its markets from North America to Asia. Hydrogen plays a notable role in Japan's national energy strategy, and Toyota is considered a pioneer in fuel cell development.

"We are bringing together two strong partners to form an even stronger company and to successfully shape the decarbonization of transportation. Together, Mitsubishi Fuso and Hino Motors have great potential to leverage scale – and scale is key to win in the technological transformation of our industry," said the Daimler Truck CEO.

Toyota CEO Koji Sato added: "We believe that the future is for us to build together. Today's final agreement is not the goal but the starting line. Our four companies, aiming to achieve a sustainable mobility society, will continue to create the future of commercial vehicles together."