Fri, 4 October 2024
Weekly Newsletter

DVN Interior

NEWSLETTER #230

Editorial

Bioengineering In Car Interior, A Natural Fit

MERCEDES BIONIC CAR, 2005 (MERCEDES-BENZ IMAGE)

In preparation for the 22-23 October DVN Interior workshop in Torino, we've recently run in-depth pieces on the likes of how sustainable interiors affect CO_2 footprint, and ecodesign for sustainable product regulation. This week we will look at interior sustainability in terms of bioengineering.

According to a study by the Capgemini Research Institute on the bioeconomy, over 70 per cent of companies expect to be able to achieve their sustainability goals much faster with the help of biosolutions. So today's in-depth article is to help you understand what it all means, and what is at stake.

We've got coverage on more ways sustainability is a major car interior trend, with Antolin partnering with Persiskin, Covestro partnering with Li Auto, and Hyundai-Kia developing more energy efficient heating and cooling technologies.

The stars and planets are aligned right now to really transform our industry, so don't miss the opportunity to get more informed and connected with the community at the Torino Mobility and sustainable interior design workshop! The docket and registration are available **online.**

I'm looking forward to meeting you there later this month.

Sincerely yours,

Philippe Aumont
DVN-Interior General Editor

In Depth Interior Technology

Bioengineering In Car Interiors

INBIO RESEARCH PROJECT IN GERMANY (REUTLINGEN UNIVERSITY IMAGE)

Biological engineering, or bioengineering, is a science-based discipline founded upon the biological sciences in the same way that chemical engineering, electrical engineering, and mechanical engineering are grounded in chemistry, electricity and magnetism, and classical mechanics, respectively.

Bioengineering is an exciting and rapidly evolving field focused on creating sustainable, eco-friendly, and innovative materials for vehicle interiors.

Bioengineering includes the likes of:

- biopolymers, which are biodegradable materials derived from renewable sources like plants. They are being used in various car interior components such as dashboards, door panels, and seat covers. Biopolymers help reduce the reliance on petroleum-based plastics and lower the overall carbon footprint of vehicles.
- natural fibers from sources like bamboo, hemp, organic cotton, mushrooms, and more are being used for upholstery and other interior components. These materials are sustainable, and provide a natural, different, and sometimes luxurious feel.

Why Bioengineering?

Petroleum-based polymers are widely used in the automobile and aviation industries. Traditional car interiors are filled with plastic components that contribute to long-term waste and pollution. This, and their lack of biodegradabilit are leading researchers to look (nudged along by increasingly stringent environmental regulations) for more ecologically-compatible biopolymers and biocomposites. Biopolymers have potential applications in various exterior and interior parts of an automobile, including steering, doors, wheels, electrical components, engine parts, exhaust systems, and so on.

Interior Bioengineering and Sustainability

KIA EV3 (KIA IMAGE)

According to the study "Engineering biology: The time is now" by the Capgemini Research Institute on the bioeconomy, over 70 per cent of companies expect to be able to achieve their sustainability goals much faster with the help of biosolutions. Other motives include cost reduction, product optimization and—especially in Europe—greater safety of product and production processes.

According to Felizitas Graeber, Managing Director of Capgemini Invent in Germany, biotechnology enables innovations that "can be found in all sectors of industry—from energy and utilities to the automotive industry, healthcare and agriculture".

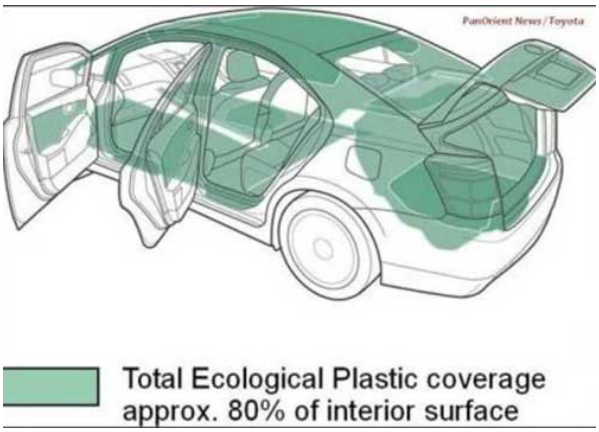
The study found that almost all managers surveyed (99 per cent internationally, 100 per cent in Germany) expect bioengineering to bring about major changes in their industry in the next two to ten years and beyond. In Germany, 58 per cent expect this to happen in the next two to five years, and most organizations in the industry (96 per cent internationally, 99 per cent in Germany) are already working on biosolutions: 40 per cent were in the exploration phase, for example; 56 per cent were conducting research and pilot projects or using biosolutions on a commercial scale. Most organizations are planning to increase investment in biotechnology.

According to the study, fields of application for bioengineering have become established in the automotive industry; interior is at the top of the list, with bioplastics and leather alternatives for interior parts (seats, trim, floor, and trunk). In automotive, it also includes bio-based paints and coatings, bio-based alternatives for battery materials and battery recycling, and biofuels.

Respondents saw digital and engineering technologies as key factors in reducing costs, optimizing bioprocesses, shortening time-to-market for biosolutions and mitigating environmental and social risks. They rated AI as the technology with the greatest transformation potential. Robotics for process automation and digital twins of bioreactors that predict production results were also named as important measures for reducing costs and scaling up more quickly.

It Started Long Ago:

Toyota Sai, 2010



图源：丰田

Toyota has been at the forefront of bioplastic innovation, incorporating plant-based materials into the interiors of several of its models, starting with the Toyota ‘Sai’ Interior, back in 2010. By replacing petroleum-based plastics with bioplastics, automakers can significantly reduce the carbon footprint of their vehicles, all while offering drivers a sustainable, high-performance product and experience that doesn't sacrifice style or comfort.

At Tokyo 2019 Motor Show, a Japanese consortium proposed wooden cars made of plant-based cellulose nanofibers.

Called the Nanocellulose Vehicle, or NCV, it was said to reduce weight by around 10 per cent compared to a car built from standard materials, thus saving about one person's worth of household carbon emissions for a year.

Made essentially from wood chipped, pulped and boiled in chemicals to remove lignin and hemicellulose, it's a highly condensed, lightweight and incredibly strong material that's also very recyclable.

Reutlingen University inBiO Project, 2019

INBIO STEERING WHEEL (REUTLINGEN UNIVERSITY IMAGE)

The aim was to develop and realize a concept for an innovative, sustainable, and user-friendly interior. As one element of the project, trim components made of bio-based materials such as cotton and wood were developed. An overall goal was to design a user-friendly interface, that reduces complexity without reducing functions. The bio-based materials integrate control and feedback functions that can be easily implemented in common CAN-bus systems used by the automotive industry. Four materials were chosen after balancing the material properties and the identified customer expectations. These materials were cottoning fabric, cork, leather, and a product called Nuo, which is a veneer laminated to a textile fabric before it is laser-cut.

Automaker & supplier examples

BMW

BMW I VISION CIRCULAR 2021 (BMW IMAGE)

In 2021, BMW stated they'd decided to give preference to 'secondary materials' for future vehicles within the framework of selected product, material and supplier requirements, holding them to the same standards of quality, safety and reliability as 'primary materials'. The BMW i Vision Circular was emblematic of this

approach. The vision vehicle is made from recycled materials and renewable raw materials, among other things.

Vehicles with vegan interiors have been available from the BMW Group since 2023, thanks to innovative materials with leatherlike properties. In future, these can also be used for the surfaces of steering wheels, where they must meet particularly high requirements in terms of feel, appearance and wear resistance. According to BMW, the new material for the steering wheel surfaces saves around 85 per cent of CO_2e emissions along the value chain, compared to leather. BMW also sees a further opportunity to reduce the CO_2e footprint in the supply chain in the increased

GM

GM IMAGE

Biomaterials company MycoWorks and General Motors unveiled a concept car featuring mycelium bio-based materials, developed through a partnership established in 2022. The concept electric vehicle, caled the Cadillac Sollei, integrates MycoWorks' Fine Mycelium in an iridescent form within the charging mats on the console and door map pockets.

Volvo

VOLVO EX30

The EX30 marks a major step for Volvo and Alliance member Bcomp, as customers can now select two interior trim packages featuring the natural aesthetics of woven ampliTex flax fibers. The compact SUV focuses on sustainability and is designed to have the lowest carbon footprint of any model in Volvo Cars' history, with Bcomp's flax fiber composites now offered as an optional trim for the dashboard and doors.

Mercedes

Mercedes-Benz's sustainable business strategy calls for reducing fleet consumption through lightweight construction. The Mercedes Vision EQXX electric concept uses a fully bio-based material developed by UBQ Materials and made from organic and unrecyclable household waste. UBQ is used in the 'bionic' structure of the vehicle's body shell and in interior structures such as the headrests.

Israel-based UBQ Materials focuses on closing the loop between the ecosystems of waste and materials. Their bio-based UBQ thermoplastic is made entirely from residual waste, including organics and hard-to-recycle materials. The company is expanding globally, working to provide the world's largest businesses, municipalities, and consumers with a climate-positive solution for a circular economy.

Sherpa

Greenlander, in partnership with investor and flax material specialist Depestele, showcased the Sherpa, which they describe as 'the ultimate 4×4 expedition vehicle' built to leave less impact as it travels, at JEC World Paris this year; see video. The Sherpa, formally launched at the Caravan Salon in Dusseldorf this summer, combines plant-based fibers like flax with bio-based resins and sustainable core materials like cork, wood and recycled PET foam to create durable and lightweight components. As well as the low impact materials, Greenlander also provides a unique business model, offering the composites items as a service and taking them back at the end of their life where they can

Covestro + Beyond Leather

COVESTRO IMAGE

Covestro has partnered with Beyond Leather Materials to develop Leap, a bio-based leather alternative. It contains 85 per cent biomaterials, and is made using apple waste generated from juice and cider manufacturing.

Leap uses Insqin technology based on polyurethane dispersions made with partially bio-based content. Around four million tons of apple waste is produced every year, and Beyond Leather's approach reuses this waste to make a leather alternative.

Apple waste contains high content of short fibers and polymers, which can be activated to give a strength and suppleness to the final material, recreating the functional and aesthetic properties of leather. The waste blend is applied to a Tencel textile backing and finished with the protective coating containing Insqin to make Leap.

Forvia Materi'Act NafiLean

FORVIA MATERI'ACT IMAGE

Forvia Materi'Act NafiLean is a 100-per-cent recyclable biocomposite materials, NafilLean-R is a blend of 20 per cent natural hemp fibers recycled polypropylene, delivering a 73-per-cent CO_2 reduction and cutting weight by 20 per cent. This product is a finalist for the 2025 Automotive News PACE Awards.

Aimplas Forest project

AIMPLAS IMAGE

Aimplas, the Plastics Technology Centre (Valencia, Spain) leads an EU-funded research project on advanced lightweight bio-based or recycled materials to facilitate the decarbonization of the transport sector. The project consortium comprises 14 partners from eight countries, developing innovative bio-based polymers & additives and recycled carbon fibers for sustainable and safe transport applications.

These biocomposite candidates will be obtained using one-shot manufacturing techniques, involving Out-of-Autoclave (OoA) processes to build and test prototypes with improved multifunctional properties (mechanical resistance, fire-retardant, EMI-shielding) for transport application

Value chain analysis is crucial for every involved business to develop the eco-system, and to gain an understanding of the material availability, costs, benefits, and everything to support reliable automotive mass production.

The Torino DVN-I workshop in front of us is a great opportunity to keep the discussion going. Program docket and registration are available **online.**

Interior News

Covestro, Li Auto in Sustainable-Material Pact

INTERIOR NEWS

COVESTRO IMAGE

Under a newly-announced agreement, Covestro and Li Auto will form a joint innovation platform to drive the development of sustainable engineering plastics with alternative feedstocks, such as bio-waste and recycled sources.

Key initiatives will involve integrating materials with bio-circular content into automotive lighting, functional interior, exterior parts and smart system components. The two brands also agreed to explore innovative processes and business models for using recycled lighting materials in new automotive parts.

The companies plan to collaborate in developing lighting, smart systems, and thermal-management solutions. This will include high-performance optical-grade materials, smart surface technologies, and thermally-conductive solutions.

Liao Mengjun, VP of R&D at Li Auto, said, "Li Auto is dedicated to implementing the ‘Smart + Electric’ strategy with innovative materials and designs, aiming to offer users a safer, more comfortable, convenient and refined travel experience".

During the MOU signing event at Covestro’s integrated production site in Shanghai, the two companies also unveiled two jointly developed materials: innovative light-diffusing and infrared-transparent Makrolon polycarbonates. The light-diffusing polycarbonate enables a more refined and evenly distributed illumination for headlamps; and the new infrared-transparent polycarbonate achieves a high transmittance of near-infrared—over 85 per cent.

Persiskin Auto: Interior Surface Skin from Persimmon Waste

INTERIOR NEWS

ANTOLIN INNOVATION-SUSTAINABILITY DIRECTOR JAVIER VILLACAMPA (L), PERSISKIN CEO JAIME SANFELIX (R) (ANTOLIN IMAGE)

After a collaboration agreement announced last year (covered in DVN Interior), Antolin and Persiskin are announcing plant-based persiskin Auto® to promote material sustainability.

Persiskin Auto is a plant-based skin developed with the Spanish startup Persiskin, which offers an eco-friendly and high-performance alternative to traditional animal leather and other synthetic coverings.

After nearly two years of intense collaboration, persiskin Auto emerges as a product composed of a high content of persimmon waste, a fruit whose production has a high degree of waste (around 50 per cent of the harvest is not used). This waste is converted into a material with up to 80 per cent biological content. This innovative material can be customized in terms of touch, roughness, engravings, gloss, and color. It can be marked, sewn, or laser-engraved according to customer specifications.

This innovation collaboration will offer car brands a sustainable alternative to traditional interior coverings (synthetic or traditional animal leather), reducing the use of chemicals and water consumption.

Persiskin Auto will be ready for application in door panels, instrument panels, consoles, and seats by 2025, once the final functional validation tests are completed.

Persimmon is a seasonal product, but the waste can be stored, ensuring the availability of raw material throughout the year. Farmers dedicated to this type of cultivation can economically benefit from the material production project. Additionally, this production does not affect food consumption as it focuses on using residual material from surplus harvests.

Several vehicle manufacturers have shown interest in Persiskin Auto, and Antolin is collaborating with the design team of a major European brand to include it throughout the interior of a new vehicle scheduled for launch in 2028. Simultaneously, continuous efforts are being made to improve the material formula and increase the amount of incorporated waste.

With the expertise of their teams and mastery of the involved technologies, Antolin is positioned as an expert company in the development of all types of sustainable materials, promoting eco-design and the development of solutions that contribute to fulfilling the commitments made by the company and the rest of the automotive industry in terms of decarbonization.

Hyundai-Kia: More Efficient EV Heating, Cooling

INTERIOR NEWS

KIA IMAGE

Heating and cooling the cabin reduces the range of an electric car. Hyundai-Kia wants to minimize this with new temperature control technologies.

The Kia EV9 has nine heating panels, located on the steering column, the driver's and passenger's door, the center console, and under the glove compartment floor. And at a 'Heat Tech Day' in Seoul, Kia and Hyundai presented three near-series solutions.

A nano-cooling film on the windows, for example, reduces the heat input into the interior when exposed to sunlight. Windows coated with the cooling film can block infrared radiation better. The three-layer film also lets heat can escape from the interior more easily. In a comparison between a car prepared with nano-cooling film and an untreated car, temperatures of 48.5 and 36 °C were measured, a difference of 12.5 degrees.

Then there's the Radiant Heating System, which involves heating elements that warm the occupants' legs within a few minutes. The foil-like high-temperature heating elements emit radiant heat and thus help to bring the interior to a comfortable temperature more quickly in cold weather and save energy, compared to heating only the air within the cabin.

The third innovation is a windshield heated by a metal layer so it can be defrosted and dehumidified faster than conventional heating elements with tungsten wire. The invisible 48-volt system is said to defrost the windows within five minutes at minus 18 degrees—significantly faster and more energy-efficiently than a conventional air conditioning-based defogging-defrosting system.

HaleyTek, BlackBerry Introduce Cockpit Software Platform

INTERIOR NEWS

HALEY TEK IMAGE

HaleyTek, based in Gothenberg and part of the Volvo ecosystem, has launched their Generic Automotive Platform (GAP), which is advanced software that provides access to a seamless Android automotive development environment and which integrates BlackBerry‘s QNX.

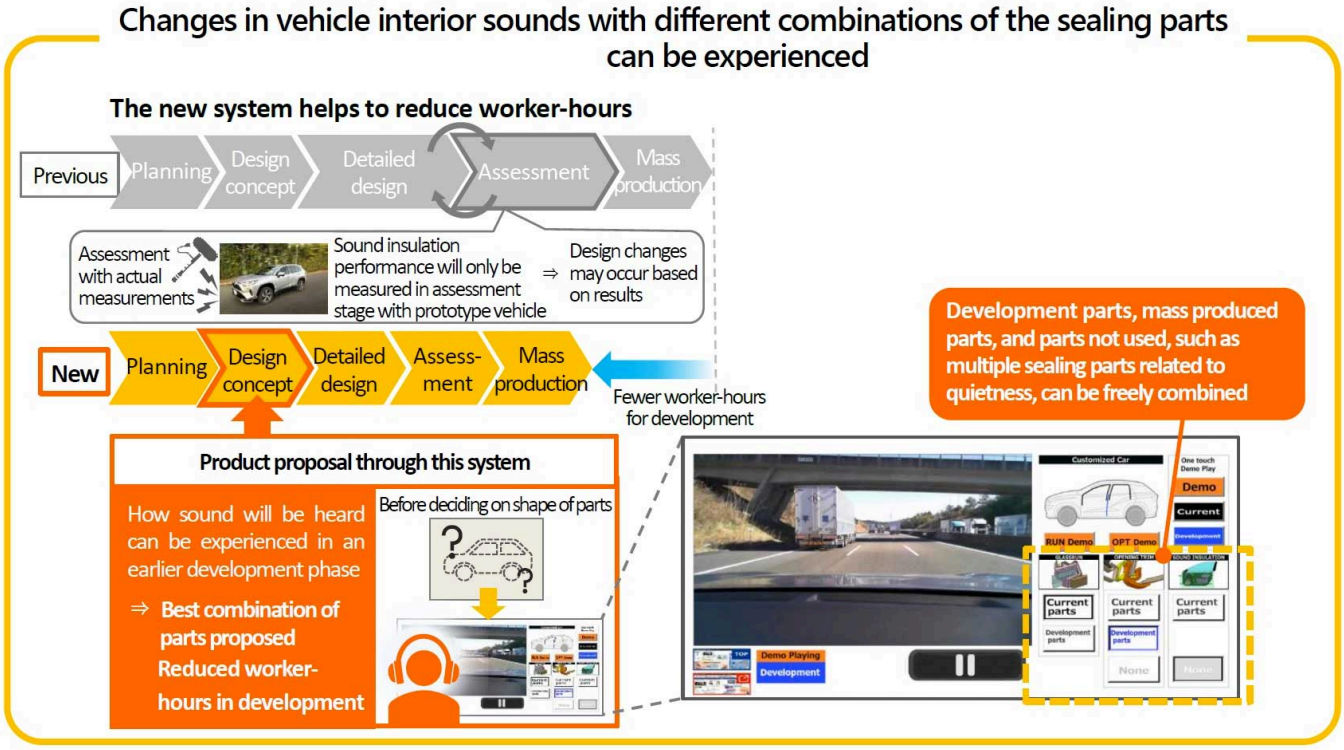
The VirtIO-based cockpit software will help accelerate the time-to-market for next-generation infotainment systems. BlackBerry is providing the QNX Hypervisor for Safety and QNX Sound platforms for GAP, which will enable automaker access to two technologies: software-defined audio (SDA) and VirtIO. SDA supports software-based acoustics while also unlocking bill-of-material (BOM) savings and the ability to generate subscription revenue through personalized audio features post the sale of the vehicle. It also supports over-the-air (OTA) Android for updates that will extend the lifecycle of these systems.

HaleyTek CEO Jan-Erik Larsson says, "Embracing open systems like VirtIO enables true hardware software separation, opens up all the benefits of cloud-first development and reduces the custom integration efforts for our entire ecosystem across OEMs".

And John Wall, SVP and head of BlackBerry QNX, said, "Through our SDA platform, we have already helped auto makers achieve hundreds of millions of dollars in savings while creating new revenue opportunities, and we look forward to passing these benefits on to HaleyTek’s customers too".

Toyoda Gosei's Cabin Sound Simulation System

INTERIOR NEWS



TOYODA GOSEI IMAGES

Toyoda Gosei, part of the Toyota constellation, has developed a new system that enables automotive developers to experience changes in vehicle interior sounds with different combinations of the sealing parts installed on those vehicles—the weatherstrips. This contributes to the creation of more comfortable moving spaces through improved quietness in cabin.

The electric vehicles and fuel cell vehicles that are coming into wider use are quieter than traditional vehicles since they are driven by motors and have no engine noise. This means more wind noise and road noise reach the ear, and demands better sound insulation parts. To meet these needs, Toyoda Gosei has been developing high-performance sealing parts.

The new system makes it possible, in the design concept stage before deciding the shape of parts for new models, to hear driving sounds with sealing parts under development installed. This will lead to proposals for the best combination of sealing parts for the creation of quieter cabin space. It also helps to minimize the design changes in parts that have traditionally occurred following performance assessments of prototype vehicles, which is promising for the reduction of development worker-hours.

Attached to door and window frames to improve quietness by keeping wind, rain and noise out of the vehicle cabin, and by facilitating the smooth opening and closing of window glass, are parts like opening trim weatherstrips ①, door glass runs ②, and door weatherstrips ③.

This system was achieved with the assessment technology using actual measurements of sound that Toyoda Gosei has cultivated up to this time. The company is planning to further raise the predictive accuracy of the new system by combining machine learning with 'artificial intelligence', to predict and reproduce how sound will be heard even before part prototypes are made. By proposing parts that raise quietness in the early stages of vehicle development, Toyoda Gosei aims to contribute to quieter and more comfortable mobility in society.

New BMW 7 Interior is Premium Benchmark

INTERIOR NEWS

BMW IMAGES

The interior of BMW's top-of-the-line 7 Series is unparalleled on the market. There's a 31” cinema screen that can be folded down from the roof liner in front of the rear seat and turns the car into a movie theatre—including darkening of the windows. For the stressed-out top manager, the right rear seat can be moved into an almost reclining position in a feature called 'Executive Lounge', and it can run a variety of massage programs. It's controlled by touchscreens in the doors—a first for BMW—which also regulate the automatic climate control. Everything together looks like business class in an airplane, only installed in a car.

If the owner wants to take the wheel and drive, they have the latest BMW iDrive operating system, a large curved display (familiar from the iX) and various 'MyModes' to choose from, which regulate the light, sound and ambience individually according to mood.

Because seventy per cent of 7-Series cars sold in Asia are the extended-wheelbase models, only the long version is available there—and it is even longer: the wheelbase has only grown by half a centimeter and now measures 3.22 m. But overall, the car is 13 centimeters longer, with overall length approaching 5.40m. So, it's now even more comfortable in the rear, especially on the new lounge loungers, which are designed to be even more comfortable and have even more electric freedom of movement.

In addition to the new amount of space, there is also a completely new ambience, which further intensifies the course taken in the iX: around the slim curved display behind the steering wheel, there are even more consoles made of crystal glass and even fewer switches, there are sensor fields for the climate control and, for the first time, fully electric doors, and the rear seat passengers feel like they are in the control room of a

TV studio. The huge 31" movie screen that folds down from the ceiling on request and there are two displays the size of a smartphone instead of switches, even in the doors.

In the second row, you feel like you're in a completely new car, lying on your leather sofa as soft as butter and hardly noticing anything of the world outside, also due to the dual-chamber air suspension, rear-axle steering and active roll control.

During the model cycle, the car will likely offer L^3 autonomous driving so that you can put your hands in your lap behind the wheel. And if you don't want to wait that long for autonomy, you can now force the luxury liner into comparatively complicated driving maneuvers from the outside, at least in the parkade.

The Design Lounge

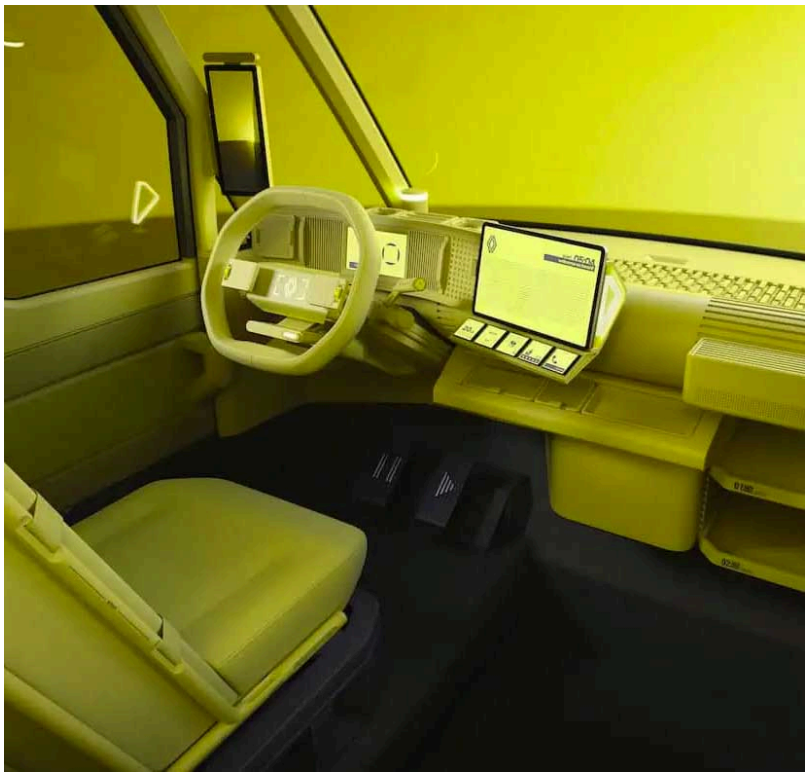
Renault Estafette Concept

THE DESIGN LOUNGE

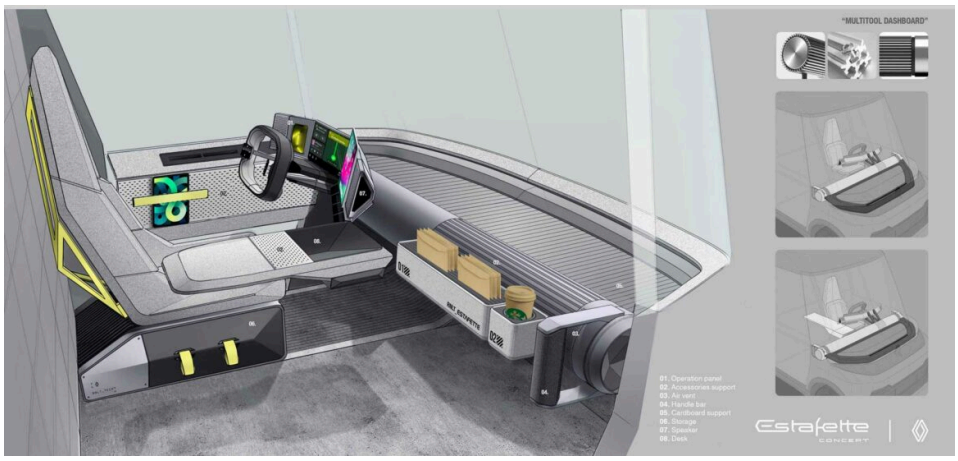
COFFEE CORNER
DVN
Interior

Renault has revealed their vision about the future of mobility, with two world premieres at IAA Transportation 2024 in Hanover last month. Renault Group is using the new FlexEVan platform that Renault developed with partners Flexis to build their vision of the next dream utility vehicle—65 years after the Estafette revolutionized the van universe. The specs are based on professionals' requirements and feedback, and the two main goals are keeping drivers and goods safe, and keeping loading and unloading fast and easy.

Founded in 2024, Flexis is an automaker and fleet mobility solutions provider based in France. Flexis designs, develops and manufactures electric commercial vans, and provide fleet management solutions based on a Software Defined Vehicle (SDV) architecture. To meet the unique need for low-carbon, efficient logistic solutions, Flexis vehicles and solutions, meet the combined needs of last-mile delivery professionals, their drivers, and the cities they operate within. The first Flexis electric vans are expected to be built at Renault's Sandouville plant in 2026. An independent company, Flexis is the result of a joint venture between the Renault Group, the Volvo Group, and CMA-CGM.



They also revealed the Renault Master H2-Tech Prototype: a step in zero-emission technology, developed by HYVIA, their joint venture with Plug, focused on leading the way in hydrogen mobility.



The cockpit area is all zesty yellow and has a single seat for the driver; the foldaway seat next to it is exclusively for training. The seat is on a platform, so the driver is in a comfortable, secure position. All they have to do is swivel the seat to stand up without any extra strain on their legs or torso. And anyone up to 1.90 m tall can stand up perfectly straight inside. The platform under the seat has seven drawers: three on the door side, and four on the other side.

The dashboard is packed with technology, and has no visor in the steering wheel area. It is divided into a 7” screen displaying dashboard information and a 12” screen towards the middle, facing the driver. The base of the screen, the surface at the center of the steering wheel and the area towards the door include a series of widgets providing one-tap access to the driver’s favorite features. The multimedia system’s open technology can run a variety of software applications developed specifically for the trades using the vehicle.

Two 10” vertical screens at the end of the dashboard display the rear views from the outside cameras.

Towards the center, you can’t miss the cylindrical shape on the dashboard. This area is a solid counterpoint to the airier, techy feel in the screens to the side. The grooving on the cylinder and under the dashboard is built to hold a choice of open or closed storage modules.

A second, matching cylinder provides extra storage space beneath the windscreen, supplementing the overhead bin.

Patterned small squares add a 3D feel to the flat surfaces and the screen wallpaper.

A sliding door divides the cockpit from the cargo area. It closes automatically when the driver returns to the cockpit or exits the vehicle, so the goods in the back are always safe. The cargo area has four foldaway shelves where the driver can arrange goods in a clear and logical manner.

The Estafette Concept is Renault Group's first vehicle built around an SDV (software-defined vehicle) electronic architecture. It is opening the door to the next generation of electric utility vehicles, which will be intelligent, scalable and modular. This SDV architecture was developed by Ampere, Renault Group's pure-player specialist in intelligent electric vehicles, is directly connected to the cloud, and plays an essential role in increasing the vehicle's operational and cost efficiency. It links customers to new services, updates the vehicle throughout its life cycle, learns about the user's habits and contributes to reducing cost in use by about 30 per cent.

News Mobility

'AI' Cameras Instead of CV Mirrors Saves Lives: Gauzy

NEWS MOBILITY

Trucks and buses using 'AI'-powered camera systems can reduce city street accidents by 40 per cent and reduce energy costs by 4 per cent for commercial fleets.

Stripping rear-view mirrors from heavy-duty trucks, buses and coaches can reduce collisions with other road users by 40 per cent.

That's the claim from Gauzy, a company specialising in light and vision control technology; after making specialized vehicle mirrors for 60 years, they now focus on replacing one of the oldest driver-assistance systems with camera arrays and multiple in-cab digital displays.

That's because when road users, especially in urban environments including pedestrians, cyclists, e-bikes/scooters, motorcyclists and even micro-cars, are involved in collisions with 40-ton vehicles, they always come off a very poor second best.

These sorts of accidents involve the commercial vehicle's owners in insurance and legal litigation, often leading to the vehicle's downtime during the investigation, not to mention the ongoing costs to the company of the driver's post-traumatic stress in cases involving fatalities.

So, says Gauzy's CEO Eyal Peso, fitting a camera system to large vehicles makes commercial and ethical sense for owners of commercial fleets operating in congested city centers. He says, "Replacing the rearview mirrors with an advance camera system provides the driver with a safer capability with no blind spots whatsoever.

"In London, 3,300 iconic buses drive with no mirrors using our technology and we are on the way to convert 8,000 buses. We are the only company in the U.S. that is approved to remove mirrors from vehicles.

"The displays are positioned on the A-pillars so not to interfere with the driver's view. There are alerts and alarms when the system spots a potential accident."

He also points to the added advantage for fleet owners of much improved aerodynamics, reducing energy consumption up to 4 per cent across the converted fleet.

General News

Webasto High-Tech Glass Includes Interior Lighting

GENERAL NEWS

WEBASTO IMAGES

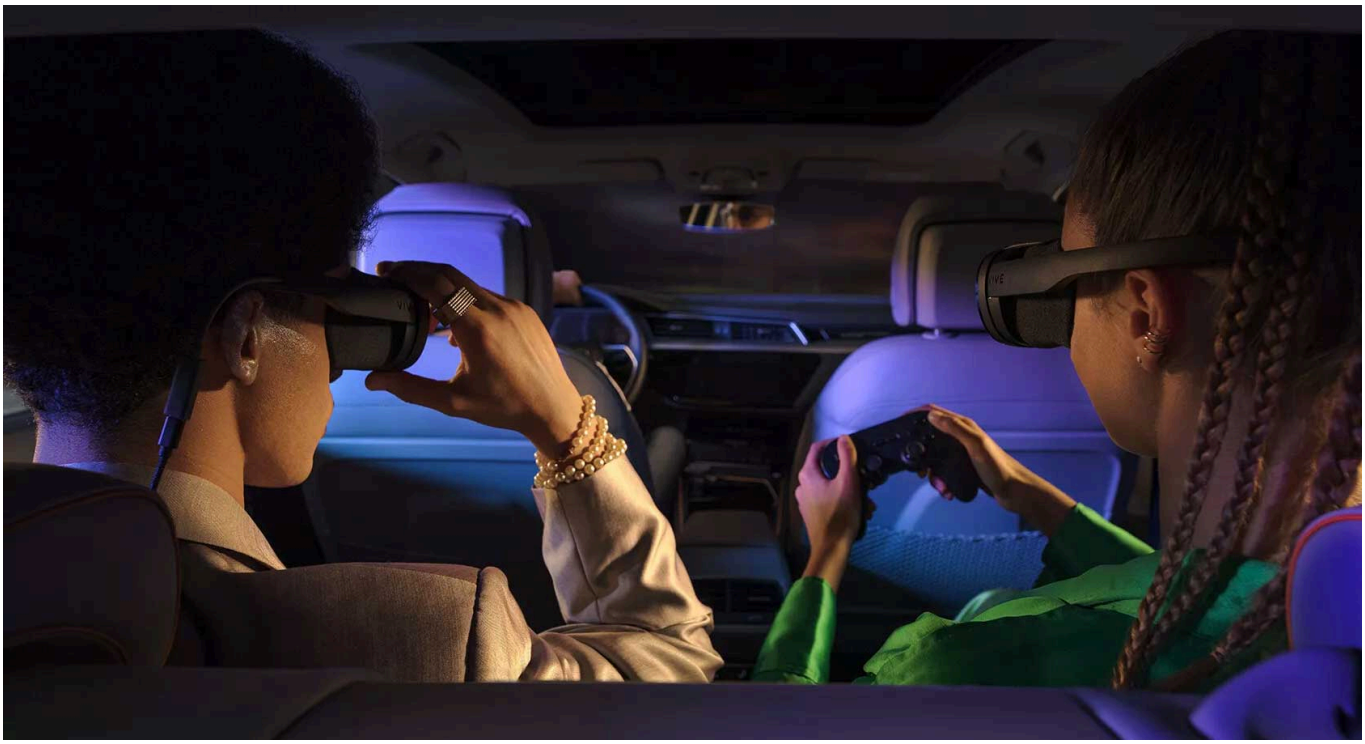
Webasto officially commissioned their new production line for high-tech glass at their plant in Grevenmacher, Luxembourg, on 21 September. According to the company, the strategic product focus is on large-format panoramic glass roofs and pioneering technologies such as switchable glazing and ambient lighting.

The expansion of capacities includes an extension of the production area by around 13,000 square meters, and the integration of state-of-the-art production technologies. According to the press release, the new facilities not only increase production efficiency and capacity, but also enable significant energy savings. Webasto is using this opportunity to further modernize production and manufacture larger glass roof systems for passenger cars to a high quality.

"By investing in one of the most modern production lines for high-tech glass in the world, Webasto is further expanding its innovative strength in the field of roof systems," said Jan Henning Mehlfeldt, member of the Webasto Management Board. "After only two years our plant in Grevenmacher is now optimally positioned to meet the growing demand for roof systems with high-tech glass in the automotive industry."

Holoride Reboot: Infotainment In

GENERAL NEWS



AUDI IMAGE

Holoride gets off to a fresh start. The company had to file for insolvency in May after an investor bailed out.

The company is headquartered in Singapore and now holds all the technologies and patents of the former Holoride GmbH. The shareholders of the new group are Jing Jing Xu, Tony Chen and Nils Wollny. Wollny is also CEO of the group of companies.

The people previously employed by Holoride have been taken over by the Munich-based subsidiary Holoride Technologies Europe. The head office in Singapore is intended to facilitate access to Asian markets.

Holoride will expand their scope of development as part of the new group. To date, the focus has been on integrating blockchain technology into the company's infotainment system. In future, Web3 applications for the mobility sector are to be developed.

With the new foundation, Holoride will offer their technology to industrial customers from the mobility, tech, entertainment, and tourism sectors for licensing. They can then develop and market individual and brand-compliant applications for their customers. Holoride intends to act as a general contractor or system integrator if required.

A software suite should be available at the beginning of 2025. It will support other devices in addition to the existing virtual reality formats in moving cars: Smartphones, tablets and wearables such as augmented and mixed reality glasses. It should also be possible to integrate the proprietary software for localizing vehicles into existing infotainment systems or retrofit them.

Holoride has also developed a gaming platform for extended reality content in the car. VR glasses are coupled with sensors in the vehicle. The content in the game adapts to the car's movements in real time.