Thu, 28 July 2022
Weekly Newsletter

DVN-I
Automotive Interior

NEWSLETTER #122

Editorial

Sustainability In Every Corner Of The Interior

POLESTAR PRECEPT CONCEPT FOR SUSTAINABLE MATERIALS, 2020 (POLESTAR IMAGE)

Sustainability is rapidly pervading every corner of the automotive industry and market—and every corner of the traditionally plastic-laden interior. Every day brings new concepts and applications in sustainability, which has always been a focus of DVN Interior (and likely always will be). This week's in-depth article looks at the incredible activity and diversity of sustainability innovation, and sustainability is one of the two discussion themes for the DVN Interior Think Tank Seminar on 29 November. We're keen to get your ideas for related topics and issues to discuss, and for questions to be debated at the event, so please continue to **send us your thoughts** as we work to prepare the event..

This week's news also looks at improving safety and user experience: an "energizing" seat and an infotainment tourguide from Mercedes; Plastic Omnium's light projection technique; Emotion3D's new type of DMS; the interior of a new Chevrolet EV, and BMW's been trying out a pay-in-perpetuity subscription model for features like heated seats. Truly, auto interior innovation is zooming along at Warp 9…increasingly sustainably!

We'll be taking a short summer break—we hope you will too. We'll see you back here on 18 August. Enjoy your summer!

DVN

PHILIPPE AUMONT
General Editor, DVN-Interior

In Depth Interior Technology

Contribution to Sustainability: from Fishing Nets to Olive Leaf

MERCEDES F 015 "LUXURY IN MOTION" SELF-DRIVING CONCEPT AT CES 2015 (MERCEDES IMAGE)

What do the BMW iX; recycled fishing nets; a new elastomer from Mitsui; and Recticel's new foam have in common? They each make their own contribution to sustainability.

The push for sustainable interior materials is not new, and consumer demand is fuelling it, particularly among younger people who really care how their vehicles are made, and their whole-life ecological footprint.

At the same time, worldwide initiatives and regulations are mandating sustainable materials. Meanwhile, technology is empowering designers to come up with new uses for old materials, make fabrics and surfaces “smart,” and enable new levels of customizability. As everywhere else in and on a vehicle, substantial changes are coming to all interior materials—including seats; dashboard; trim panels; floors; ceilings; insulation, and all the electronics used in screens and instrumentation.

AUDI GRAND SPHERE CONCEPT (AUDI IMAGE)

Electrification adds to the sustainable-materials push. If we're to minimize powertrain carbon impact, the industry has to be consistent, and minimize carbon impact of all the rest, including interior materials, which has one of the most critical content, being made mostly out of (generally unsustainable) petroleum-based plastics.

The industry is addressing the topic, and has been working on it a long time, but what's really new is the growing scope and seriousness of the efforts. Nowtimes there's not a single press release about a new e-car without a paragraph about recycled materials. Volkswagen highlights the animal-free seat covers in the ID.5, while the carpet door panels in the Volvo C40 are made from 100-per-cent recycled PET bottles. Audi calculates that 26 former 1.5-liter plastic bottles are woven into the Q4 e-Tron's seat trim. Nio is designing the dashboard of their upcoming ET7 sedan using not plastic, but Karuun—a lightweight material is made of renewable rattan wood.

There is also a prerequisite to use smart materials that can limit distraction while creating new cockpit experiences. Consumers want their vehicle interiors to be a serene place where they can relax and unwind. At the same time, they also have an appetite for everything-all-the-time infotainment. Smart materials offer an opportunity to facilitate both. They provide attractive blank surfaces that look like wood and leather, but are stealthily transparent and can immediately reveal display screens and control surfaces when desired. These kinds of new materials, in turn, make for new design opportunities such as innovative lighting, haptics, and new æsthetics; smart surfaces can limit distraction by displaying only the information a driver needs at the moment, and virtual buttons and controls an be placed almost anywhere within most convenient reach.

As for the types of materials of greatest interest, there is a very long list of them. They include sustainable textiles which use recycled plastics from water bottles or plastic ocean waste such as old fishing nets. The list also includes used wine corks, waste products from Tequila factories, etc.

Drew Winter is Wards Intelligence's principal cockpit-of-the-future analyst, and author of . He says, "What the textile industry favors most is post-consumer and post-industrial waste. Post industrial waste is usually scrap from their own yarn factories. Post-industrial waste is good because the textile manufactures know exactly what the material properties are. The bio waste most avoided is anything that could be turned into food for humans or animals."

Then there are good old-fashioned metals, like steel and aluminum. Steel's use in the interior is mostly for seat structure and cross-car beams, and steel is very readily recyclable. Steel E-Motive, an initiative of WorldAutoSteel, the automotive group of the World Steel Association and its engineering partner Ricardo, is a vehicle engineering program that is developing virtual concepts for two fully autonomous and connected electric vehicles designed for Mobility-as-a-Service (MaaS) applications. They are using advanced high-strength steel technologies and products to design AV concepts to enable MaaS solutions which are safe; affordable; accessible, and environmentally conscious.

So, sustainability has a wide range of vectors in the automotive sector. However, it's important to note that cars themselves are the most recycled consumer products; each one is a bonanza of recyclable, highly valuable steel; aluminum; copper, and more. The effort now is to move more auto-building materials onto that list. Here are some spot-check case studies:

BMW iX

BMW's iX bristles with sustainable mobility concepts. The FSC-certified wood and interior parts made from recycled fishing nets that feature its interior, for just two examples.

The iX interior features elements sourced from recycled or natural materials. It also offers a choice of alternative eco- and animal-friendly materials. But even the animal-leather option is better than before, from the sustainability standpoint; it is treated with a natural olive leaf extract, which is said to avoid the environmentally harmful production residues from other treatments.

Aquafil Fishing Nets

From old fishing nets are first made granules, and then from them a black yarn, from which can be made, for example, doormats.

Hyundai began financially supporting the Healthy Seas organization in 2021. Since then, a dozen cleanups have been realized in seven countries across Europe. Fishnets tear loose during storms or get tangled on the sea floor. They stay there for thousands of years because the nylon they're made of does not disintegrate like earlier nets made of hemp. The ghost nets decimate fish populations, poison or strangle other marine life, and strain tourism.

Aquafil, from Arco, Italy, has a use for those old fishing nets—a big enough one to make reclaiming them from the ocean worthwhile. The company specializes in synthetic yarns for clothing and carpets. Just over a decade ago they developed a nylon yarn called Econyl, made entirely from recycled material. Econyl thread is still more expensive than virgin nylon 6, but

the rising price of crude oil is reducing the price difference. No new oil is needed for Econyl. The chemical process does not require any additives. One kilogram of waste yields 900 grams of Econyl, and the products can be recycled again and again.

At high temperatures, the chemical bonds of the waste materials—those fishing nets we mentioned—are broken, and a clear liquid is produced. Cooled down again, steaming threads run out of the machine, where sharp knives rotate at the end of the line. The plastic ends up as fine granules, which are melted down again and treated in a closed system. The plastic leaves the production line as fine filaments via an extruder. Several such hair-thin threads form the Econyl thread or yarn. It's used now in a number of models in the automotive industry. BMW uses Aquafil's Econyl material in the i3 and iX; Volvo in the V90 Cross Country; Mercedes in the S-Class, and Porsche in the Taycan. The floor mats in the Cupra Born are also made out of Econyl. Jaguar Land Rover is also one of Aquafil's customers; they plan to use Econyl in future models.

Mitsui's eco-friendly, high-temperature elastomer

POTENTIAL INTERIOR APPLICATIONS (MITSUI IMAGE)

Japan's Mitsui Chemicals has developed an environmentally-friendly grade of their Milastomer product line by using a recycled polyolefin as a principal component of the thermoplastic elastomer. By switching the polyolefin component to a recycled material, the company says they've been able to reduce the product's CO_2 emissions and overall burden on the environment without any loss of performance compared with the original formulation.

As a flexible plastic, available in a wide range of hardness grades, Milastomer offers high heat resistance; light weight, and low density when compared to other flexible resins. Its principal components are rubber and a polyolefin or other such plastic material. It is currently primarily used in automotive applications such as engine and interior parts—dashboard trim; consoles; armrests; pillars; seat back covers, and more—and is also used by the construction industry.

Recticel halogen-free foams

RECTICEL
Engineered Foams

Halogen Free

Recticel Engineered Foams has developed a range of halogen-free foams (there's an **online video**) to meet the challenges of changing legislation, consumer preferences and environmental sustainability. The new foams use special processing technologies to create specific æsthetic and tactile effects for seating covers and accessories, headliners and door panels. Benefits include the ability to fully integrate IAQ (interior air quality) in product designs; a safer, healthier manufacturing environment; compliance with new and forthcoming regulatory requirements, and support for corporate social responsibility and sustainability performance…not to mention meeting shifting consumer preferences.

Interior News

"Optimized" DMS-OMS from Emotion3D and Aimotive

INTERIOR NEWS

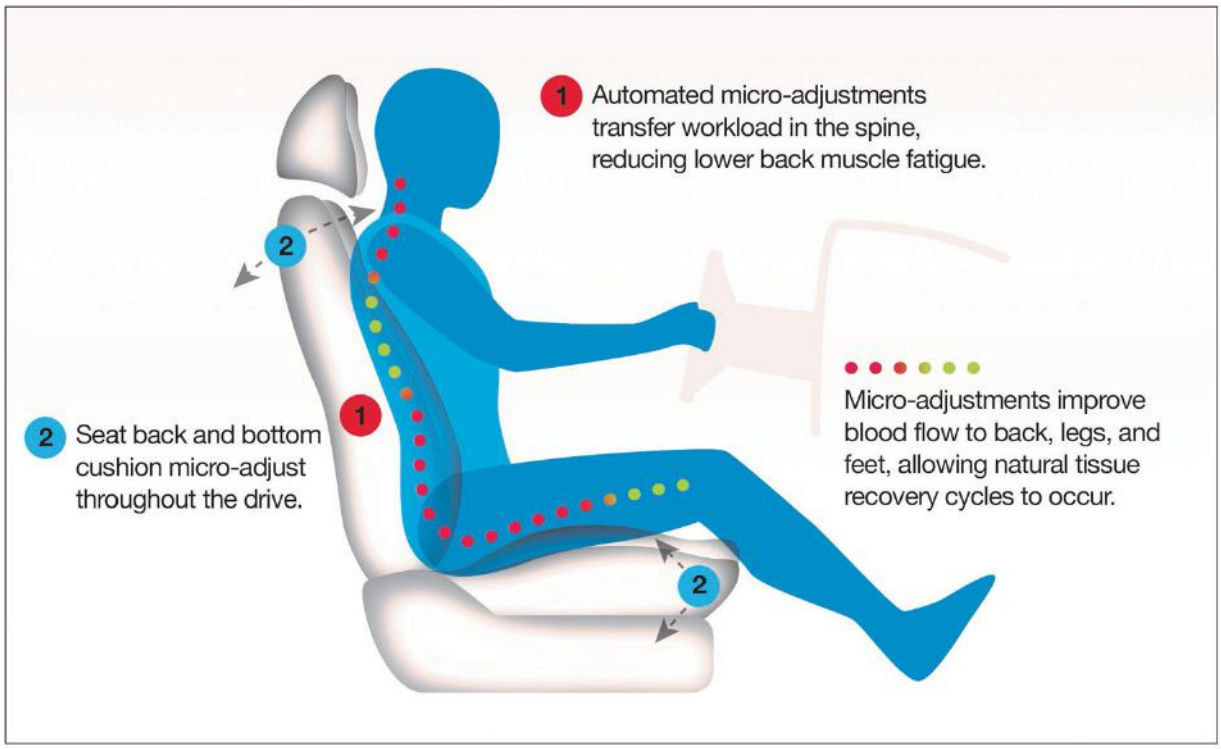
Hungary-based Aimotive is a modular automated driving technology supplier. Austria-based Emotion3D is an in-cabin analysis software vendor we've **previously profiled**. The two companies say they've finished porting and optimization of Emotion3D's DMS-OMS solutions using the Aimotive's Aiware NPU (Neural Network Processing Unit) to accelerate their proprietary CNNs (Convolutional Neural Network). The complete solution is now available for licensing on the Nextchip Apache5 SoC.

Emotion3D CEO Florian Seitner says "Thanks to Aimotive's powerful and efficient Aiware NPU plus great tools, complemented by their unique and extensive automotive software and solutions know-how, we have been able to realize the full capabilities of our Cabin Eye AI software stack quickly and easily", adding that the combined technologies will allow automakers and suppliers to bring cutting-edge DMS-OMS to market faster and more affordably.

Nextchip's Apache5 is a SoC for deep learning (CNN) based ADAS applications. Apache5 features an Aiware3P-based NPU and automotive ISP (Image Signal Processor), resulting in a high-performance embedded ADAS processing solution.

Mercedes' "Energizing" Seat with CMG Software

INTERIOR NEWS



CMG IMAGE

Indiana-based Comfort Motion Global (CMG) has, over the last 15 years, developed and refined what they're calling a “proactive” motion seating software technology that improves blood flow and reduces occupant fatigue through automated micro-adjustments (1° or less) of the driver and passenger seats. Studies conducted with passenger vehicles at Ball State University showed an increase in driver alertness; reaction times improved by 200 milliseconds between the static seat and the motion seat, which translates to about 17 to 20 feet of stopping distance, according to CMG's chief medical officer and R&D director, Dr. Paul Phipps.

The proprietary technology recently launched on a range of Mercedes-Benz vehicles.

Based on years of biomechanical testing and medical research, this motion seating technology reduces occupant fatigue and improves overall wellness and safety through automated micro-adjustments of the driver and passenger seats. This innovative technology can be programmed into any memory seat and can additionally actuate any other systems in the seat such as lumbar support; bolsters; HVAC, and massage functions.

The system, controllable by the user via the vehicle's touchscreen, is a flexible software arrangement where the seat back and bottom cushion micro-adjust over time throughout the drive. These adjustments collectively redistribute the occupant's weight in the seat, continuously transferring compressive and shear stresses to new and different tissues. With each small motion, it transfers the workload in the spine and supporting muscles to a new area so that no one area does all the work. This allows the natural tissue recovery cycles to occur, improving circulation and decreasing tissue fatigue and discomfort.

Traditional massage seating, conversely, is reactive: it treats the pain that results from sitting in a static position. Massage technology also requires additional hardware such as mechanical rollers and pneumatic bladders while never addressing the source of the pain, which relates to remaining in a static position.

Mercedes is calling it Energizing Seat Kinetics, initially introduced in their new memory-seat equipped GLE; GLS; A-, and B-Class vehicles.

Chevrolet Blazer EV Interior

INTERIOR NEWS

CHEVROLET IMAGES

The Blazer EV will be an all-new model within the Blazer family, with its own distinct body and interior, not a combustion-engine Blazer fitted with an EV propulsion system.

The midsize crossover interior is a major upgrade. There's a large 17.7” infotainment screen centered on the dashboard. There's also an 11” display for the digital instrument cluster. What there isn't, is a start button in the cabin. Instead, the vehicle senses the key, and the driver simply needs to press the brake pedal to boot up the vehicle.

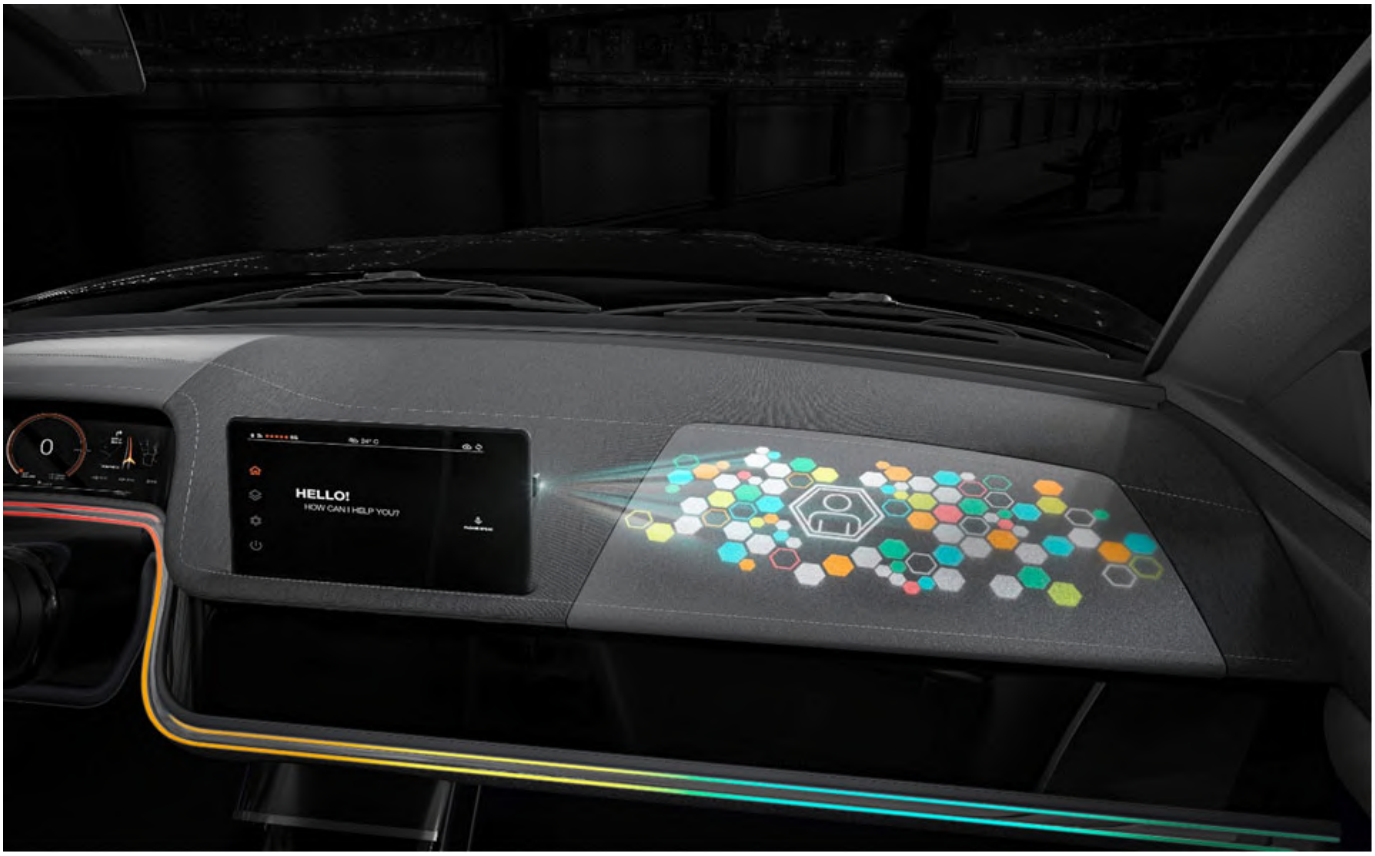
The RS trim has blue and red contrasting stitching, and the SS trim—it means "Super Sport", but there are large swaths of the world where it has other associations dating back to Nazi Germany—is available in a mix of Adrenaline Red and Argon Orange trim. These models also get a flat-bottom steering wheel and HVAC vents that look like turbines. They come with heated and ventilated front seats.

The car comes standard with the Chevy Safety Assist suite of tech, including automatic emergency braking; forward collision alert; front pedestrian braking; following distance indicator; lanekeeping assist with lane departure warning, and smart headlamps. Reverse automatic braking and park assist are also available.

Thesplit and folding sliding rear seats give animpression of space, enhanced by a big panoramic roof.

Plastic Omnium's Digital Lighting Projections

INTERIOR NEWS



PLASTIC OMNIUM IMAGE

At the beginning of this month, AMS Osram sold their automotive lighting systems business unit to the French company Plastic Omnium, while also remaining a supplier of automotive LED products and optical components to Plastic Omnium. Dirk Linzmeier is Chief Technology Officer of Plastic Omnium Lighting, and Michael Rosenauer is Head of Development. In an interview, both describe the development of digital projections and technical backgrounds.

Digital projection systems offer various options for customizing the exterior and interior. For example, new digital projections extend the classic welcome scenario, which is projected in front of the driver and front passenger doors when entering the vehicle, to the dashboard. There, the projection is synchronized with the ambient lighting and adjusted according to the mood of the passengers. For example, there are various modes to choose from "Relaxation" to "Action/Sport. This individualization goes far beyond predominantly functional use and combines projections with real emotions - the vehicle develops into a home.

Digital Micromirror Modules (DMD) form the basis of the digital projection systems. The modules can flexibly project different types of light carpets in front of the driver and front passenger doors to improve visibility when entering the vehicle. For example, this technology facilitates orientation and is able to display warning symbols next to the vehicle or even communicate warning signals to the surroundings. The end customers get new animation packages and individual customization variants in a subscription model that can be conveniently controlled via app on their own smartphone. In this way, they can design their very own living room on wheels. Impressive digital projections, whether on the dashboard or the headliner, create a "wow effect" and thus a high-quality and fascinating driving experience.

A concrete example is the BMW 7 Series as a series project. This is equipped with the latest development of a dynamic light carpet and can project four different pattern designs. In addition to the projection modules already available on the market for the side mirror or the door sill, there are already developments that allow a certain dynamic.

BMWs Have Heated Seats—For Those Who Keep Paying

INTERIOR NEWS

BMW IMAGE

BMW recently started requiring subscriptions for individual additional functions. The strategic intent is to generate a steady income stream long after a vehicle has been manufactured and sold, by continually wringing money out of the vehicle's owner—surely we can't go too far down this road and still call that person an "owner".

For example, the heated seats cost €17 per month in Germany, with additional options for a one-year or three-year term, as well as an unlimited term for €390. A heated steering wheel costs €9 per month. A high beam assistant is available for €8 per month, and the driving assistant costs €40 per month. All the hardware is built into the car; it's just switched off unless you pay—and keep on paying. If you don't subscribe, you don't get access. The first BMW announcement for these monthly fees was made in Korea.

Cars today are more connected to the Internet than ever before, allowing automakers to remotely add, update, unlock (or lock), and enable (or disable) features in a vehicle. In theory, this could keep cars up- to-date for longer…and it could just as easily allow automakers to decide any given car model is no longer supported, therefore no longer operable. Tesla's notoriously bellicose CEO Elon Musk magnanimously turned off software-based battery capacity limits via OTA updates to allow Tesla "owners" to escape at least one hurricane…and he has also been known to remotely downgrade individual vehicles in response to Twitter posts he didn't like. Critics call it digital serfdom—we don't actually own anything; we just pay endless fees for the use of things controlled from above—but automakers are eager to exploit this kind of lucrative business model.

Lexus, Toyota, and Subaru, for example, make their customers pay to lock or start their vehicles remotely via an app. Super Cruise, the hands-free feature available in some Cadillacs and Chevrolets, costs around €25 per month. And Tesla charges about €199 per month for their best L^2 driving assistance system in the U.S.

The trend has drawn pushback from customers; BMW recently abandoned a plan to charge about €80 per month for Apple CarPlay in the U.S. It could take some back-and-forth for automakers to better understand what customers are willing to pay for, and how much.

Mercedes' Infotainment with Tourguide

INTERIOR NEWS

MERCEDES IMAGE

Mercedes-Benz has announced a new Mercedes Me service: the Tourguide acoustic travel guide.

Right on time for the summer holiday season, the Tourguide service is launched as part of the MBUX Voice Assistant (MBUX = Mercedes-Benz User eXperience). When prompted, the acoustic travel guide reads out interesting and entertaining information about attractions along the route on German autobahns, providing a fun way to pass the time when travelling on holiday.

Right after the announcement of their partnership with California-based company ZYNC, they upgrade their in-car entertainment with an additional service: the Tourguide, which is being promoted as a new "V2A" (Vehicle to Attraction) widget—we'll have to see if that term catches on. If the Tourguide is activated, MBUX Voice Assistant automatically reads out interesting details about points of interest along the route.

It can initially be used exclusively in Germany for nowbut it will come other countries soon. The system responds to the approximately 3,400 brown touristic signs along German autobahns.

The Design Lounge

Škoda Vision 7S Concept: 6-Seater With Central Child Seat

THE DESIGN LOUNGE

ŠKODA IMAGE

The Vision 7S concept will be unveiled in full soon, to herald Škoda's new visual identity. Partial glimpses revealed so far show its six-seat interior, plus a child seat integrated into the center console.

Škoda says the interior of the new Vision 7S concept has a symmetrical wraparound design with a full-width horizontal dashboard to create a roomy feel. Overall, it’s intended to be a very minimalist space.

Presumably riding on a dedicated electric platform, the Vision 7S must have a completely flat floor to fit an extra-long center console. The 2+2+2 layout enhances comfort for all passengers with front-seatlike room in every position, and the central built-in child seat is a snazzy innovation. Škoda says it's the safest place inside the vehicle for a small child, but details have not yet been released about how big a seat the center console can accommodate. Meanwhile, for the grownups, the body-hugging seats have built-in orange seatbelts and the front ones feature integrated backrests; seat placement configuration can be changed for driving or for relaxing.

Other interior fixtures include a giant glass screen, and a dashboard with a small digital instrument cluster joined by a tabletlike touchscreen. The big screen tilts depending on whether the autonomous driving mode is activated or not; it's vertical when the car is manually driven, and switches to a horizontal position during autonomous driving.

Clever touches inside the cabin include front seatbacks featuring iPad holders and integrated backpacks; door panels with interactive haptic and visual elements; haptic controls on the steering wheel; a rotating infotainment touchscreen, and a handset for infotainment operation.

There are smartphone and tablet holders to provide for rear entertainment. Not every control is on the big main display; the console between the front seats incorporates some physical buttons along with rotary dials for the climate settings.

Škoda has used sustainable materials in the interior. It's unclear whether the Vision 7S will morph into a production model, but it's worth hoping!

‘Instagramability’ of an Interior Space

THE DESIGN LOUNGE

COFFEE CORNER
DVN
Interior

In early 2000, a group of designers was taking a flight from Detroit to Hollywood, signing a contract with their counterparts in the entertainment industry, aiming at creating together a design brief based on a script. The uniqueness of the specific project was not referring to the design itself but to a more abstract notion: the 'experience' towards the time spent in a car interior.

The story they tell is the one of car interiors as self-defining art form, encompassing attitude; gesture; movement, and style. This, extended in the work method of the creatives as the story unfolds. Every cut, line, drape and stich…each fabric, leather and fiber, revealed a tale of agency from a myriad of perspectives. Some in the team described themselves as ‘architects of experiences’ while putting in place their design process from theater play to brush strokes, to paper patterns, to toile mockups and to the final thing as a combination of angular details and curvilinear forms.

The second half of the project is voiced by something like photographic portraits capturing the mood of the heroes on the brink of a self-ruled journey. The euphoria of traveling coincided with freedom, self-definition and experiential values timed within the unconventional car interior. Much like a photographer’s itinerant studio that embraced these innovations, each shot (journey) documented the modernity, cosmopolitanism, glamour and style consciousness of individuals with a desire to experience it. Far prior to selfies, self-representations and the pride of ‘being’ during the ride, was now visible on own terms.

‘Ariston’ was a pioneer of interior lighting addressing the outcome of the journey through notions as perceived-temperature (with light hue changing according to specific areas) or mood-equalizer (referring to interior light temperature shifting with reference to external weather conditions, surroundings and/or specific time of the day or night scene). Any activating switch, button or screen was absorbed by its supporting surfaces. Embroidered ‘soft’ buttons on seat bolsters and pillows, FOLED screens behind ‘jelly’ fabric on the IP, backlit fiber-optic-composite door-panel surfaces and all 3D switches hidden within door hinge and stowable steering wheel movements, gave just and only continuous smooth (soft and hard) surfaces for the light to play on its hues and shadows. Ariston is made out of light and texture, ambient nimble and touch, reflections and materials, ‘what you see and what you feel’, preparing the way for what was coming for an entire world of change. Car interiors were seen not anymore as physical entities but as properties of light, a shooting stage of a journey.

Since then, interior and ambience lighting improved significantly in quality and price, becoming increasingly popular, bringing about new habits and perceived quality definitions such as the ‘instagramability’ of an interior space as in the best photographic, photogenic representation of the experience within.

Ariston fashion is long overdue. But it is more than an interior showcase. It was a stepping stone towards a more inclusive and equitable itinerant living space that reflects the fullest range of a creative endeavor. Oddly, its world press release at Frankfurt motor show in the afternoon of 9/11/2001 was interrupted by events that changed not just automotive, but the entire world.

News Mobility

Oxbotica: Zero-Occupancy Autonomous Vehicle

NEWS MOBILITY

OXBOTICA IMAGES

Oxbotica, with leading expertise in autonomous vehicle software, has completed the first safe and sustainable deployment of a zero-occupancy, fully autonomous, new-type electric vehicle on public roads in Europe.

The all-electric AppliedEV vehicle, driven by Oxbotica, is operating in Oxford with no human driver, marking the next step in commercializing AV technology. The target for the first public on-road business deployment with Ocado Group, an online good retailer, will be from 2023 onwards.

Oxbotica will also now accelerate commercial deployment of autonomous vehicles globally. Working with partners, such as ZF, bp and NEVS, it will enable autonomous passenger shuttles and industry-specific platforms, all driven by Oxbotica's core product: Oxbotica Driver.

Oxbotica Driver uses a combination of radar vision and laser-based sensors to provide the vehicle with a rich understanding of its surroundings, with multiple AI continuously checking and explaining decisions. This process is a foundational requirement for the safe deployment of zero-occupancy autonomous vehicles and underpins the development of innovative insurance solutions for the future of transportation. See Oxbotica's **video**.

It is also a significant milestone for the insurance market and the development of insurance solutions for autonomous vehicles as part of the UK's evolving mobility network. The insurance program, arranged by broker Marsh and created by Apollo Group's ibott initiative through their MGA in partnership in the UK with insurer Aioi Nissay Dowa Europe, is the first of its kind in the UK and is tailored specifically for the risks associated with L^4 autonomy on open roads.

Baidu Robotaxi Has Detachable Steering Wheel

NEWS MOBILITY

APOLLO RT6 (BAIDU IMAGE)

Baidu has unveiled a new version of their self-driving robotaxi they say costs about half as much to make as the previous model. New Apollo RT6 robotaxis are set to be mass-produced at a unit cost of C¥ 250,000 (€37,000).

Baidu aims to deploy the vehicle, which has a detachable steering wheel, on their riding-hailing service next year, with the goal of eventually putting tens of thousands of the robotaxis on the road.

Beijing-based Baidu is expanding beyond internet advertising with this push into artificial intelligence technology and autonomous driving, making them less of a target in the Chinese Government's crackdown on technology firms such as Alibaba and Tencent.

Baidu's ride-hailing platform Apollo Go, established in 2017, has 300 driverless cars in major Chinese cities including Shanghai and Beijing, and may become profitable in some regions in three years—that's according to VP Wei Dong, in a Bloomberg News interview last April. Baidu has said they plan to expand Apollo Go into 65 Chinese cities by 2025, rising to 100 by 2030.

The Apollo RT6 has L^4 autonomous drive capabilities that need no human. However, automakers and tech companies must still wait for safety, insurance, liability, and related issues to be sorted out, at least in the world's seriously-regulated markets.

General News

Mercedes Wins "Most Innovative" Award

GENERAL NEWS

MARKUS SCHÄFER, MERCEDES BOARD MEMBER AND CTO, RECEIVING THE AWARD (CAM IMAGE)

Mercedes-Benz Group has won this year's Automotive Innovations award, recognizing the most innovative automotive group in the world. The awards are presented by the Center of Automotive Management (CAM) and the auditing and consulting firm PwC. As the Mercedes-Benz brand, the company is honored in a further four categories. With an index score of 134, the Stuttgart-based group ranks first, as it did last time in 2019, ahead of Volkswagen (125) and Tesla (87). SAIC (71), in fifth place last year, moved up to fourth place as the best Chinese group, ahead of Geely (70). BMW achieved sixth place this time after fourth place last year. The decisionmaking basis is an annual study based on the CAM innovation database.

PwC cited Mercedes-Benz's highest global innovation rate of almost 50 per cent among global automakers as a reason for success. Among other things, Mercedes-Benz scored in the area of electric drive with the Mercedes-Benz EQS. In the technology field of connectivity, Mercedes-Benz impressed with functions in the area of lighting systems and steering that can be updated over the air.

Among the premium brands, Mercedes-Benz leads by a wide margin. As in the previous year, Tesla and BMW also made it into the top three in this segment. Mercedes-Benz's strengths are primarily in the area of electric drive, but also in connectivity and innovative operating and display concepts. The Mercedes-Benz EQS also wins the award for the most innovative model in 2022, followed in second place by the new C-Class, also a Mercedes model, and in third place by the BMW iX.

Around 400 original innovations from automotive suppliers were also evaluated as part of this study. The awards are presented in four categories by an expert jury for the most outstanding innovations.

In the field of drives, an innovation in the field of "cell chemistry" from BASF was able to assert itself. High-energy HEDTM-NCM cathode materials ensure higher energy density and thus enable longer electric car range and lower costs.

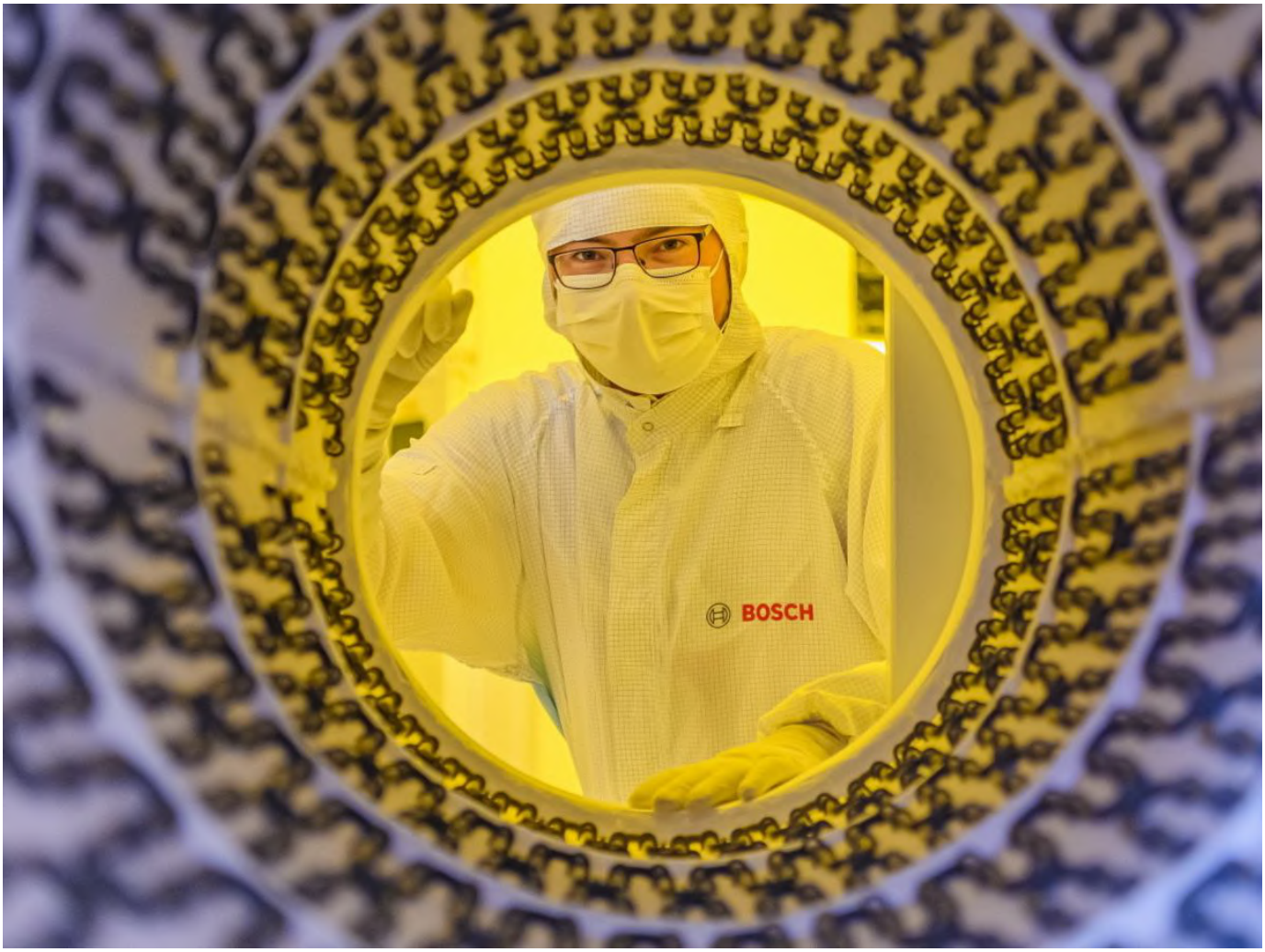
Hyundai Mobis is the winner in the Chassis, Body & Exterior category with the E-Corner module, which combines the steering, braking, suspension and drive systems. It allows flexible use of platforms thanks to a variable wheelbase and a wheel rotation of 90 degrees for driving sideways and turning on the spot.

Kautex-Textron came in with a software-controlled cleaning system called Allegro Premium for environmental sensors, the cleanliness of which is of essential functional and safety importance for assisted or autonomous driving tasks. The system increases the customer benefit of assistance systems because it increases the availability of systems under difficult weather conditions.

The "Interior and Interface category was led this year by Bosch with their Ridecare car-sharing services. The first Ridecare series feature is smoke and damage detection. Using cloud-based data analysis and artificial intelligence, sharing providers receive important information transparently and in real time about whether a vehicle is damaged or smoked inside. The innovation is thus an accelerator for the spread of car sharing, as it addresses the aspect of interior cleaning that is often criticized in practice.

Bosch Massively Accelerates Semiconductor Business

GENERAL NEWS



BOSCH IMAGE

Bosch plans to invest another €3bn in their semiconductor division as part of the IPCEI microelectronics and communications technology funding program. The company had already announced last year their intent to massively accelerate their microelectronics business. For example, new semiconductor development centers are being built in Reutlingen and Dresden. This should significantly increase the production of chips. In addition, a test center for semiconductors is being built in Penang, Malaysia, which is scheduled to go into operation next year.

The European Union and the German Government are once again providing funding under the umbrella of the European Chips Act to build a strong microelectronics ecosystem. The aim is to double Europe's share of global semiconductor production from 10 to 20 per cent by the end of the decade. The newly launched IPCEI program Microelectronics and Communication Technologies ("Important Project of Common European Interest on Microelectronics and Communication Technologies") will primarily benefit research and innovation.