Thu, 23 November 2023
Weekly Newsletter

DVN-I
Automotive Interior

NEWSLETTER #188

Editorial

Decoration, Attention To Detail, And Technical Expertise, Novem Interview

MERCEDES E-CLASS (NOVEM IMAGE)

Auto cabins are becoming more central to the vehicle's overall appeal, with elegant design, homelike finishes, seats like those in a living room, and other fancy features enhanced by thoughtful attention to colors, materials, and finishes. Increasingly evident at events this year—the IAA, Geneva @ Qatar, Milan Design Week, the Shanghai Motor Show, Automobility LA—we see more and more new surface materials and decorations with light, color, texture, and special effects. On premium high-end cars, there's veritable jewelry inside. But even without that, much as a tie or a scarf enriches even an ordinary outfit, today's cars are full of little things (and some big things, too) that make the interior a nicer place to be. That's what interior design and decoration are all about. We had the chance to visit Novem and interview the team there. That’s this week's in-depth piece, bringing you a better understanding of the company, and the trends and technologies emerging in car interior decoration.

For us at DVN Interior—probably for you, too, if you're reading this—the future of mobility is all in how people are using vehicles, and how the interior should be defined. This is what's happening across literally all vehicle segments; we even saw active transition towards a focus on mobility in Milan at EICMA, the international two-wheeler exhibition, which is the most important trade fair event for the entire 2-wheel sector.

That's all to the good. The more different perspectives come to the mobility table and speak up, the better for us all.

And speaking of us all: it's nice to have you on board at DVN Interior!

Sincerely yours,

Philippe Aumont
DVN-Interior General Editor

In Depth Interior Technology

DVN-Interior Profile and Interview: Novem!

NOVEM IMAGES IN THIS ARTICLE

Novem, headquartered in Vorbach,Germany, is a leading global supplier of high-quality trim and decorative functional elements for premium vehicle interiors.

IMAGE: NOVEM

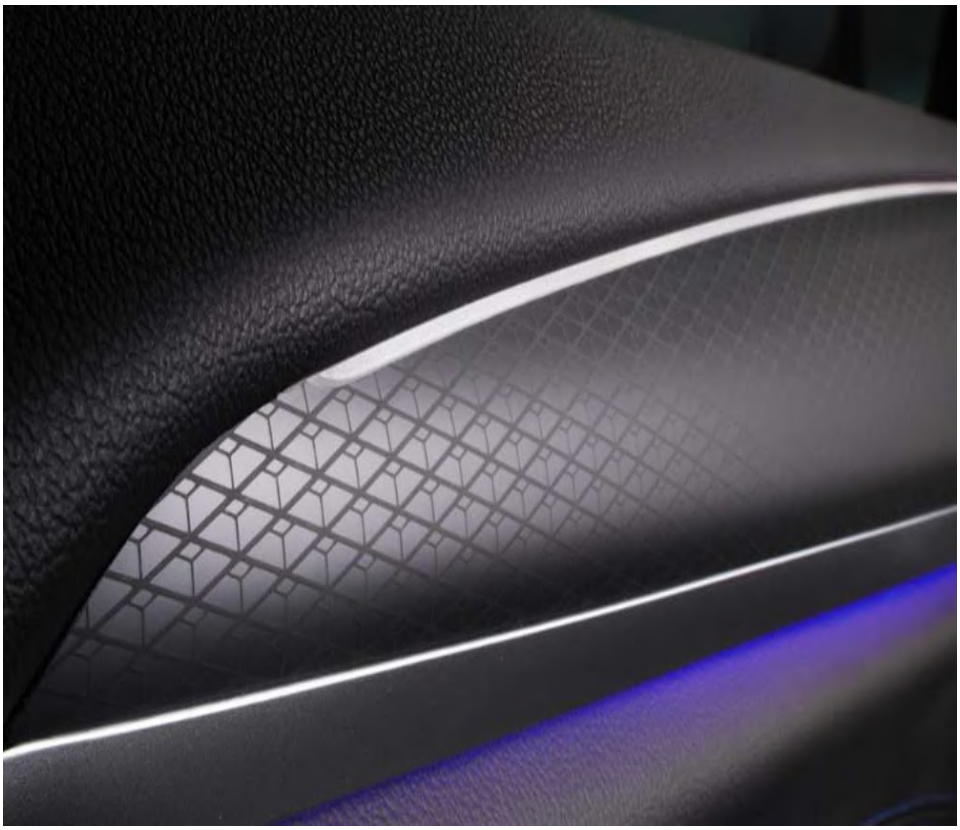
Novem processes high-quality materials such as wood, aluminum, carbon, and premium synthetics as well as unusual-in-auto-interior materials such as porcelain and fiberglass. The result: exclusivity, functionality and visual brilliance in center consoles, instrument and door panels. Novem has around 5,500 employees at 12 locations worldwide, and generated revenue of around €700m in fiscal year 2022-23. For the Novem Group, sustainability means creating value for the environment and people, carefully selecting materials and resources, and compliance with environmental standards.

Product examples

This Novem center console uses sustainable lime wood. Light spots and integrated backlighting emphasize the exclusivity of the material. It is shown here wirelessly charging a phone.

MERCEDES-BENZ S-CLASS DASHBOARD WITH REAL OPEN-PORE BROWN WALNUT WOOD AND ALUMINUM LINES

MERCEDE-BENZ S-CLASS DASHBOARD WITH HIGH GLOSS AND FLOWING LINES



BMW X4 DOOR PANEL WITH ALUMINUM, EMBOSSING, SCREEN PRINTING

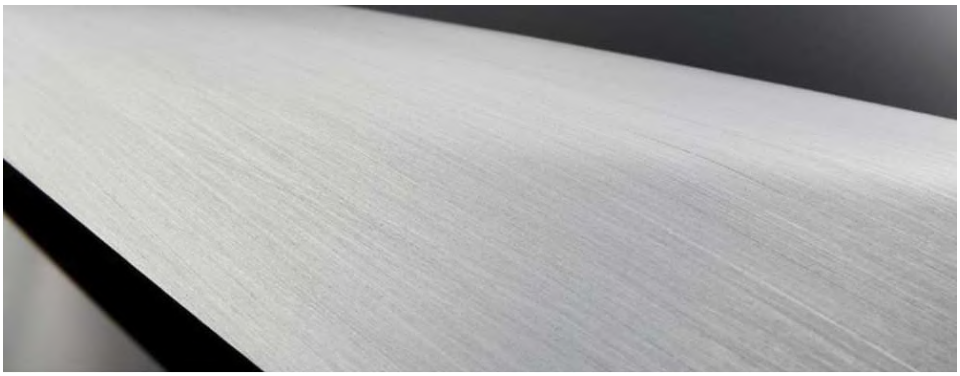
Novem can implement surface adjustments according to customer requirements in the color technical center, which works with technologies such as spray application and screen printing on a variety of materials. Climatic tests, environmental simulations, mechanical tests, and surface tests are done in-house in Novem's accredited test laboratory.

Multi-component injection molding, polyurethane, screen printing, and laser technology are among the techniques refined in Novem's R&D technical centers, where new surface treatment processes are tested and conventional methods are trialled on new materials.

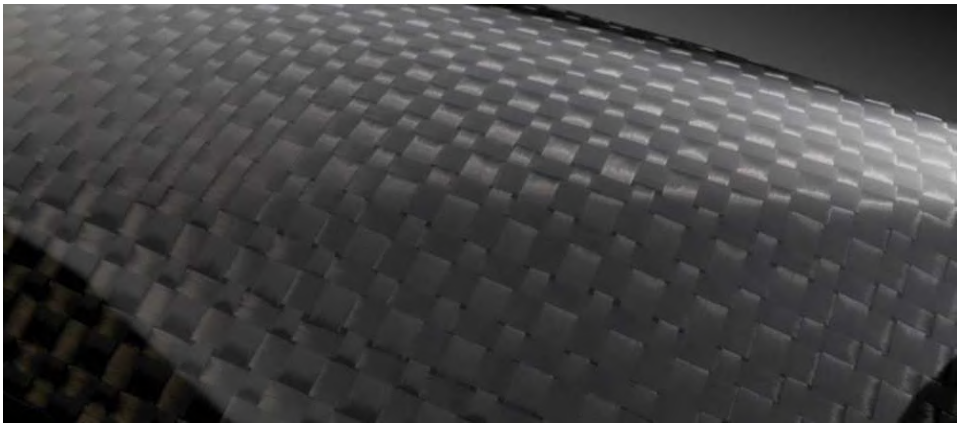
Material examples

Wood, aluminum, carbon, and premium synthetics are included on Novem's long list of materials for amazing vehicle interiors.

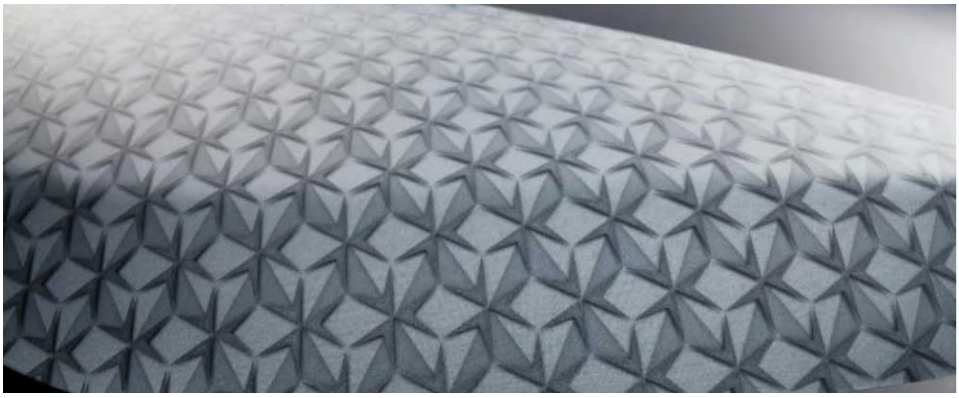
Wood is not just wood. New techniques and material combinations, creative production, and finishing processes bring out individual character and beauty in wood surfaces. Lacquers and open-pored surfaces, for example. Depending on the finish, the raw material sometimes appears shimmeringly brilliant, sometimes pleasantly cozy.



To give aluminum its unique feel and cool appearance, Novem processes it using modern methods such as printing, painting, embossing, brushing, and grinding. At the end of the production process, the aluminum is finished with a protective layer of lacquer.



Carbon fiber is a lightweight, tech-forward material. Novem accentuates its appearance with high-quality coatings to create unique 3D effects and a fascinating depth effect.



Nothing beats premium synthetics for dynamic surfaces and versatile design options. Novem uses creative processing techniques to constantly redefine and reshape the design of synthetics. These range from printing the surfaces and creating a 3D look with depth effect to finishing techniques with hard-wearing lacquers. Spectacular shaping results are achieved with modern injection molding processes such as 2K technology or over- and back-injection. All machining processes can be specifically adapted to the individual wishes of the customers.

Interview: Novem Team

L-R: DR. ANDREAS KARL · ROBERT KRICHENBAUER · CARSTEN BEFELEIN (DVN-I) · UMUT CUETCUE

DVN-I: What are your main products and applications?

Novem: Novem is a globally leading supplier of decorative interior trim parts for the premium automotive industry. Across the range of key materials such as genuine wood, aluminum, carbon and premium synthetics, the company offers unrivalled quality, technology and innovation to a growing customer base including all major premium carmakers worldwide.

DVN Interior: Can you tell us a bit about the history of Novem?

Novem: Founded in 1947, Novem can look back on a success story lasting several decades. In this time, Novem has grown continuously, entering new markets and extending their product and material portfolio. Today we are the global market leader for high-quality trim parts such as center consoles, beltlines, and dashboards as well as decorative functional elements in car interiors. In 2022, we produced around 27.7 million components for a wide range of vehicles, especially in the premium car segment. We manufacture our products for a growing customer base that includes the world's leading premium car manufacturers. Novem Group S.A. has been listed on the Frankfurt Stock Exchange since 19 July 2021.

DVN-I: What are your main technologies? What makes them unique?

Novem: Be it material, technology, or design: our products combine premium raw materials with the latest technology and workmanship. The result: exquisite trim elements and decorative function elements that delight and inspire our customers.

Wood, aluminum, carbon or premium synthetics; with its variety of materials and expertise in technical workmanship, Novem is setting new standards in car interiors. We use only the highest quality materials for our products in order to satisfy our quality standards and open up new, innovative design possibilities.

In the future, more will be required of interior surfaces than just design and sustainability. Interior functionalities are also becoming increasingly complex. Light affords greater interactivity, both in terms of ambience and signaling. Integrated functions turn trim elements into control elements, which blend homogeneously into the interior.

Recognising tomorrow's trends today, we are constantly benchmarking the interior of the future and are already working on attractive solutions for more sustainable materials, for hidden displays, HMI, gesture control or morphing surfaces.

DVN-I: Can you tell us more about your products for the car interior?

Novem: From idea to innovation, we discover promising ideas together, because in our creative team of experts and engineers we create new ideas, create prototypes, and use them to build finished serial products. We have mastered the art of coming up with ideas and overcoming challenges.

In the color and application center, our experienced team tests the resilience of products, new technologies and production processes. The prototype center is where the idea becomes tangible and is adapted to customer requirements with the goal of attaining a product that is ready for series production. Sustainable value creation is something that is close to our hearts, both in production and in dealing with our customers. That is why the Novem Group designs manufacturing processes that are economical, flexible and transparent. When the goal is continuous improvement, the journey is the destination.

Novem takes its responsibility for quality seriously. High quality and safety standards apply throughout the entire value chain: from planning to manufacturing, right down to deliver to our customers. The latest production processes and premium materials ensure that Novem Group customers only receive products that fully meet the highest quality standards.

DVN-I: What are your expectations and targets in electronics and lighting?

Novem: The integration of electronics and lighting plays an important role. Our premium décor materials are well-suitable for such integration as new surface designs are required, using the right light to put the material in the spot. A non-irritation and seamless functional integration will be a differentiator between standard and premium.

DVN-I: What are your markets?

Novem: Novem stands for perfect car interior for the best cars in the world. Premium materials and premium solutions. We operate fully equipped sites in all three automotive regions Europe, America and Asia to serve automakers from those three regions.

DVN-I: Who and where are your customers?

Novem: We already work together with nearly all leading premium car manufacturers. In addition to that, we see a trend towards premiumization where volume automakers seek premium content in their higher equipment lines and sub-brands.

DVN-I: What are the main challenges for Novem in the industry?

Novem: We are well-positioned and have a proven track record. The number of new automaker entrants and sub-brands in the last year is a challenge that we accepted. When looking at Asian automakers we are eager to play an even stronger role there. The growth potential for premium surfaces is huge and we are ready to bring innovative solutions to the market. A fully equipped tech center in our Langfang, China plant was the next step to provide solutions entirely local.

DVN-I: What impact did the pandemic have on your business?

Novem: Lockdowns, reduced hours and working from home have posed many challenges for Novem. But concerted action, the flexibility to adapt, and the systematic implementation of necessary measures have shown we can overcome the pandemic. Thanks to the dedication of each and everyone and the solidarity across our sites, Novem has been able to keep supplying every customer in spite of the pandemic. Also, physical roadshows during the pandemic were not on the daily agenda. For the Novem Group, it quickly became clear that presenting new products would have to look different in a pandemic. The company opted for a digital solution, the Virtual Innovation Show (VIS), to convey a sense of proximity and authenticity. The customer worldwide has appreciated this solution, which we see in acquisitions of new customers and orders.

DVN-I: What else would you like the DVN-I community to know?

Novem: The future of mobility will be created by passionate people, designers and engineers. Novem has a great passion for authentic materials and the latest technology. We definitely believe that high-quality materials will remain a differentiator between good and perfect.

Interior News

Antolin's Touch Control Panel for Tata

INTERIOR NEWS

ANTOLIN IMAGES IN THIS ARTICLE

Tata Motors' new Harrier and Safari SUVs are intended to redefine the premium SUV segment in India. Inspired by the rich Indian tradition of interior decoration, the Safari and Harrier sparkle with discreet details throughout the interior. The premium materials and finishes within the vehicles include a touch control panel beneath the HVAC outlets, developed by Antolin.

This touch control panel serves as an extended surface to operate the automatic HVAC system and various other functions within the vehicles. This panel comprises HMI features including capacitive touch functions for the HVAC, a sleek piano-black deco trim spanning the entire instrument panel, direct ambient RGB light, and advanced electronics. It orchestrates various functions through a hybrid system involving sliders, capacitive switches, and toggles. It regulates dual-zone temperature, warning systems, tailgate opening, fog lights, 360° surround-view camera, front and rear defogging, and more. It also serves as a personal command center. Designed to maximize the end-user interface and customization possibilities, it allows the driver to concentrate on the essence of driving.

A key collaborator in this project, Walter Pack Decorative Technologies, contributed to the distinctive decorative surface using IMF (in-mold forming) technology. When not backlit, the icons are invisible, presenting a monochromatic and streamlined æsthetic.

This new product is the result of the concerted efforts of a global team spanning India, Germany, Spain, China, France, the UK, and North America, aligned with Antolin's motto: *Intelligent. Integrated. Inside.*

Demetrio Galindez, Antolin's Global HMI Product Development boss, says, "Together with our partners at Tata Motors, we faced the challenge of integrating capacitive touch detection, in-cabin temperature sensing, hidden-until-lit features, and RGB ambient lighting into a single, impressive 1-meter-long decorative surface".

Crystal Shapes the Future of Interior Design, Kurz

INTERIOR NEWS

Crystal attributes have an elevating effect on most products, including car interiors. The availability of automotive-grade crystal has facilitated new ways of imparting premium appeal to the luxury interior car market.

Swarovski Mobility, an automotive-focused unit within Swarovski, with a production base in Austria, says theirs is most sustainable crystal on the market. Senior VP and Managing Director Peter Widmann says, "All our crystals, including the ones that we create for our automotive partners at our own production facility, are what we refer to as advanced crystals. They are made in Austria, they're lead-free, and they're produced using sustainable practices. We strive to offer the most responsible and transparent crystals in the market. Conscious luxury is part of our DNA".

Aside from its elegant look, crystal has haptic qualities useful to car designers. For example, Swarovski Mobility partnered with plastic-surface experts Leonhard Kurz to devise a highly capable steering wheel with complex, touch-operated sensors invisibly incorporated. Seamless and intuitive, it gives the driver control of a range of functions with just the lightest touch.

LG WebOS for Genesis

INTERIOR NEWS

GENESIS IMAGE

LG has introduced their in-car operating system to Hyundai’s new Genesis luxury cars, rivalling Google’s Android Auto. New Genesis vehicles will have LG webOS on board, which will enable owners to stream media.

WebOS for Automotive will not form the base of the car’s entire technology suite like Google’s Android Auto. Instead, it’ll be a version of the webOS software that features on LG televisions, enabling passengers to 'comfortably enjoy the variety of content available on TVs at home within their vehicle,' according to the company. This will help provide a seamless transition between home and vehicle.

Google’s Android Automotive is a set of building blocks which car makers can use to develop all of their in-car technology, using a similar toolkit to the one provided to phone and tablet developers.

WebOS is the base software upon which apps such as Netflix, YouTube, and Kayo can be installed on LG televisions. LG says they've sold more than 200 million televisions featuring WebOS since its introduction. However, this is the first time the tech has been introduced in vehicles.

“It provides mobility experiences that bring more value to life on the road by extending their living space to their vehicles,” LG said in a statement.

Porsche Deepens Google Integration

INTERIOR NEWS

VW IMAGE

Porsche wants to integrate Google services more deeply into their infotainment systems. Porsche will use Google for navigation, voice control, and the app ecosystem in future vehicle generations. The first series application is planned for the middle of this decade.

The integration of the Google ecosystem includes Google Maps, Google Assistant, and a variety of apps available via the Google Play Store. Porsche customers will continue to find the familiar Porsche user interface, meaning that Porsche retains sovereignty over vehicle-relevant data, but the user can grant services access to the infotainment via their consent. This is called a 'blended ecosystem'.

Porsche drivers can now access the latest Google technologies and services on the infotainment system. Up to now, Porsche has used an Android system for infotainment, which is based on the VW Group's own software subsidiary Cariad.

Porsche is relying on its in-house app store for infotainment in its next generation of vehicles. "Systems and solutions from partners can also be integrated into the Cariad software platform via defined and standardized interfaces," explained a Cariad representative.

In February, Mercedes-Benz announced a cooperation with Google by the middle of the decade, but said they (Mercedes) will always remain the master of the relevant vehicle data. Since then, the agreement has been regarded as a blueprint in the German automotive industry for the possible integration of tech giants into vehicle entry and infotainment systems.

Changan Mazda, ThunderSoft in Intelligent Cockpit Pact

INTERIOR NEWS

MAZDA DEMIO (MAZDA IMAGE)

Changan Mazda has agreed a strategic partnership with ThunderSoft, a Chinese software company specializing in intelligent cockpits and smart connectivity solutions.

The partnership aims to deepen cooperation in various aspects, including HMI and UI design, and in-car applications. Together, they will create intelligent cockpit products tailored to the Chinese market, contributing to the automotive R&D transformation in the new era of joint automobile ventures.

ThunderSoft is known for their expertise in intelligent cockpit and connected vehicle solutions. Their technologies have been used in various vehicle models, such as the Human Horizons HiPhi-X, the Li Auto One, and Audi's e-tron electronic rearview mirrors and Nio's panoramic view systems.

Under this collaboration, Changan Mazda and ThunderSoft will leverage new project vehicle models to co-create next-generation HMI designs that reflect the essence of Mazda, encompassing 2D and 3D visual design. Additionally, they will advance research on in-car applications with distinctive Mazda characteristics, ultimately integrating the outcomes into Changan Mazda's intelligent cockpit products.

De Luxe Interior in XPeng G9

INTERIOR NEWS

XPENG IMAGES

At the touch of a button, spherical sounds accompany a brief play of light, the door handles extend and the new XPeng G9 awaits its driver. In China for now, but also in Europe in a few months' time. It is a 4.89-meter-long Chinese luxury-class electric SUV that takes on the Audi e-tron, BMW iX, and Mercedes EQC. The equipment of the top version is quite extensive.

A central computer works with two Nvidia Drive Orin chips that can handle an enormous 508 flops (one trillion calculations per second). They are fed by 31 sensors, a high-resolution 360° camera, and two lidars. XPeng says the system can be upgraded to level 5 for autonomous driving and is fed with real-time data via the data cloud using 5G technology.

Systems such as Adaptive Cruise Control, Emergency Brake Assist, Valet Parking Assist, Overtaking Assist, NGP (Navigation Guided Pilot), and DMS, are currently available for automated driving on the highway.

At highway speeds, the interior is very quiet, despite frameless side windows and a high front end. The aerodynamically optimized—and therefore rather conventionally designed—body also contributes to this.

Four electrically-adjustable, heated and ventilated individual seats with massage function plus a narrow middle seat in the rear and two additional seats in the third row, which can be opened electrically, ensure a top-class feel-good factor. All seats are upholstered in leather and a lounge executive chair comes with height-adjustable calf cushions. It is installed at the front on the passenger side, where you have the best view of the panoramic screen of the infotainment system. Legroom and a high panoramic sunroof ensure a van-like feeling of space. The climate control system offers three stimulating fragrances.

Behind the flattened steering wheel, a small display provides information on range, speed and consumption. The traffic environment is also shown graphically. At night, you can even see where cars and trucks are driving near the G9. To the right is a huge 14.96-inch double screen. All driving, charging and comfort modes are controlled via its central section, while films, games and other entertainment programs are shown on the passenger side. Including a karaoke function. Passengers can interact with the G9 using a new type of communication assistant that accepts verbal commands from four zones separately. It only responds via local loudspeakers where people are speaking.

To say goodbye to the driver after parking, programmable spherical sounds and a play of light is activated as soon as you move more than three meters away from the G9. According to Xpeng, 95 percent of all interior materials are recyclable.

Kia EV9 e-SUV Has All-New HVAC System

INTERIOR NEWS

KIA IMAGE

The Kia EV9's thermal system consists of a heat pump, climate control system and defrost and de-icing features. And there's a new and easy to use climate control panel and improved roof vents for additional comfort and convenience.

Most EVs have a basic electric heater for cabin climate control, the EV9 features a heat pump for extra efficiency. For additional efficiency, the waste heat of the e-motors and power electronics system is collected and used to heat the interior. By reducing the energy consumption, driving range is increased.

The EV9 features three seat rows and can accommodate up to seven passengers, with two independent climate control systems. This enables separate climate zones for the driver, the front passenger and the rear passengers. As standard, the seats equipped in the front and the first row are all ventilated and heated, and feature new wiring to further enhance efficiency.

"Having two independent HVAC systems doesn't only increase comfort – it reduces unnecessary power consumption," commented Gregor Krumboeck, product marketing manager at Kia Europe. "They can save energy by turning off the air conditioning for empty seats, or for passengers who don't want it."

BYD U8 Luxury Enters Production

INTERIOR NEWS

YANGWANG U8 (BYD IMAGES)

On 10 November, the first BYD Yangwang U8 Luxury Version cars left the assembly line, to be delivered soon.

The front face of the vehicle adopts the 'door of time and space family front face' design, the dot matrix arrangement on the grille is dotted around the logo, and the headlights on both sides take "interstellar" as the design theme, adopting dense diamond light particles as the lighting unit, echoing the front face design of its 'time gate'.

The U8 interior has a 'Star Ring Cockpit' design, embellished with multiple curves to create a strong sense of envelopment, thus giving the interior a luxury texture.

Then, the U8 Premium Edition boasts a dual-layered cockpit featuring a 12.8-inch OLED Galaxy Curved Center Display, dual 23.6-inch longitudinal screens for the driver and front passenger, two additional screens for rear passengers, and a smaller screen on the console between the rear seats. A 70-inch AR-HUD, intelligent voice control, and three wireless charging spots supporting 50-watt fast charging are also part of the package.

As for the luxury part, it features high-end nappa leather seats with intelligent bolstering and 10-point matrix hot stone massage, Sapele wood from Africa, a 22-speaker Dynaudio Evidence Series high-end audio system

with Dolby Atmos 7.1.4 surround sound, Rhythmic starlit sunroof, and a refrigerator.

Taking all this into account, it's not surprising that the BYD Yangwang U8 Premium Edition is China's most expensive mass-produced EV at C¥1,098,000 (US $150,000). Deliveries to customers in China start in October and an all EV variant might launch next year.

The car also has a 70-inch AR-HUD, a 12.8-inch OLED Galaxy curved screen, a 23.6-inch main and co-pilot screen, and the rear row has two independent 12.8-inch screens, which can support 5-screen linkage.

The Design Lounge

EICMA

THE DESIGN LOUNGE

COFFEE CORNER
DVN
Interior

By Athanassios Tubidis

MV AUGUSTA (DVN IMAGES)

When is a motor show not a motor show anymore? Perhaps, when it changes its name into ‘mobility show’. In post pandemic times, we witnessed motor shows, one after the other, changing-gears into a more diluted version of their heritage.

EICMA, the international two-wheeler exhibition, is the world's foremost trade fair for the entire 2-wheel sector. Post pandemic EICMA in 2021 was a downturn and bit of a disappointment, as well with the absence of some of the most emblematic brands yet, with many more, smaller, unknown, and somewhat insignificant ones (at least for that moment) being absolutely present. Unlike apocalyptic opinions and posts in the media, in 2022, faithful to our yearly ritual, we all decided to go back anyways, and that was when the miracle happened: a sweeping success with a 38-per-cent increase in attendance, to 500,000+. And yet, this year’s edition, 2023, broke by far all previous records and predictions with an additional 19% participation rate. Individual mobility has suddenly become very desirable.

Try to remember the moment when you stood just for a few meters on your bicycle after your parent let go, which is the split second that can be defined as a first sensation and one of the defining flashes of your life, as freedom-to-move and go from near to far. This incident is also the instant discovering and understanding of unstable balance as one of the secret and necessary conditions of motion, according to elementary physics.

Then, for hours and days later, you worked hard on your pedals to maintain this moment by putting more power to it, better posture and improved stance, to make it last, forever. That was equally a moment in time and travel in terms of physical displacement, but also in terms of imagination, that broke free of the limits of your arm reach and walking speed, stretching now much further and faster.

SEGWAY ATV (DVN IMAGES)

Unlike modern cars, motorcycles by their nature did not lose the link with the primary, physical act of mobility. No matter how technologically advanced or assisted could they be, there is a certain physicality engaged in order to ride one.

Meanwhile we have witnessed cars rapidly transforming into modernity with anything electric, connected, autonomous, shared…and along with that, their entire narrative. Car shows, also called motor shows, disappeared one after the other within just a few years, or transformed in much less specialized venues.

Thus, the entire automotive industry is going through a re-exam under new mobility standards. Admittedly, and at least for the time being, the real price to pay is lack of emotions on most new vehicles. Post pandemic automotive shows are comprehensively struggling to find the new magic.

And while we all feel that passion is lost, it might be that there is still a lot of space (and business) to do in a territory larger than we thought, between wheels, tarmac and the sidewalk. It is called EICMA and it is known as the greatest motorbike show in the world.

What makes it unique yet, in its two last editions, unlike all other motor shows, is addressing mobility on a different storyline, essentially emotions.

But there is more to it: the looks for instance. When you design a motorcycle, it is not at all like designing a car. A motorcycle is a composition of many unrelated yet equally important elements. Structure, mechanics, ergonomics, aerodynamics and bodywork are all just as visible, unlike cars where everything is ‘hidden’ under the skin. The particular appearance of a motorcycle might be nothing else but the instant visual synthesis of its functions. Every motorcycle ‘composition’ is visually complex yet self-explanatory as the-necessary-physical-act to implement the machine.

This year’s EICMA reached ever further in the world of mobility by getting higher on that very notion. Diverse two, three and four wheelers under different homologations were revealed, just like at the auto shows, but here the common thread is different. Because everything alludes to the primary sensations of being mobile such as balance, air, sound, posture, etc. these notions are not taken for granted. After over 25 years in the car design business, it felt really as the missing link on anything automotive today.

I would have loved to be part of this round table, after 2021, in Milano, when EICMA execs during their crisis meeting, received a visit from a genie, to realize that instead of a challenging-moment-for-the-industry, it was rather that ‘the new mobility’ was more on their side than to their four wheeled counterparts (automakers). It might also be that because the car industry is ultimately founded on the idea of greater mass displacement is often and quite inevitably, keen to a logistics approach to mobility. In the two wheel industry instead, the imaginary that gives birth to four wheelers, remains linked to motion as the efficiency of putting together a spaceframe (as the minimum necessary structure) complementary to human body, that in cooperation can produce motion, instead of just transportation. Motorcycle riding is an active process and while in constant transition across industry sectors and mobility trends, it was very reassuring to be a firsthand witness to that.

Mario Kart Inspiration to Prevent Drivers Falling Asleep

THE DESIGN LOUNGE

GUNSNROSESGIRL3 IMAGE FOUND ON TWITTER

A Chinese automaker recently shared a video of his nighttime drive on a highway where there are bright laser beams. The explanation goes that this device allows drivers to stay awake, thanks to the strong light visible from great distances.

It is not always easy to stay awake throughout a long night drive. That can prove particularly dangerous, yet many drivers are reluctant to stop to take a break and rest.

China seems to have found a solution as radical as it is original. A video published by a Chinese motorist, subsequently taken up by other Twitter users, shows local authorities using giant lasers to broadcast colored light beams over kilometers.

The driver who shared the video says this practice is very effective. While he felt exhausted from the ride, he says the sight of those giant lasers instantly woke him up and revitalized him for the next few miles. Obviously, the lasers pass over cars, instead of blinding motorists through their windshields.

The whole thing gives a bit of the sensation of being in a cyberpunk film—or in a techno festival, or perhaps in the hours following ingestion of mushrooms illegal in most places. Some internet users even had fun comparing the device to the Mario Kart rainbow road, this circuit that we find in different versions in each opus of the racing game. Needless to say, motorists traveling on this highway are advised not to throw a turtle shell in front of them.

News Mobility

Hyundai's Singapore Smart Urban Mobility Hub

NEWS MOBILITY

HYUNDAI IMAGE

Hyundai's newest facility, the Hyundai Motor Group Innovation Center Singapore (HMGICS), just opened on 21 November 2023. Hyundai says it is part of the group's 'vision to enable progress for humanity' and presents an innovative and unprecedented level of integration between human and robotic processes.

HMGICS will serve as a test bed for human-centric intelligent automotive manufacturing technology, utilising ‘advanced, next-generation production methods significantly evolved from traditional conveyor-belt manufacturing’.

While developing the Hyundai approach to production, sustainability, and customer experience, the company also says HMGICS will also reinforce Singapore’s reputation as a leader in a new era of future mobility thanks to its 'focus on sustainable and transformative solutions'.

HMGICS is fully integrated into the Singapore smart city ecosystem and will reinforce the Hyundai Motor Group and Singapore’s combined vision to create a better and more sustainable future for all, the company says.

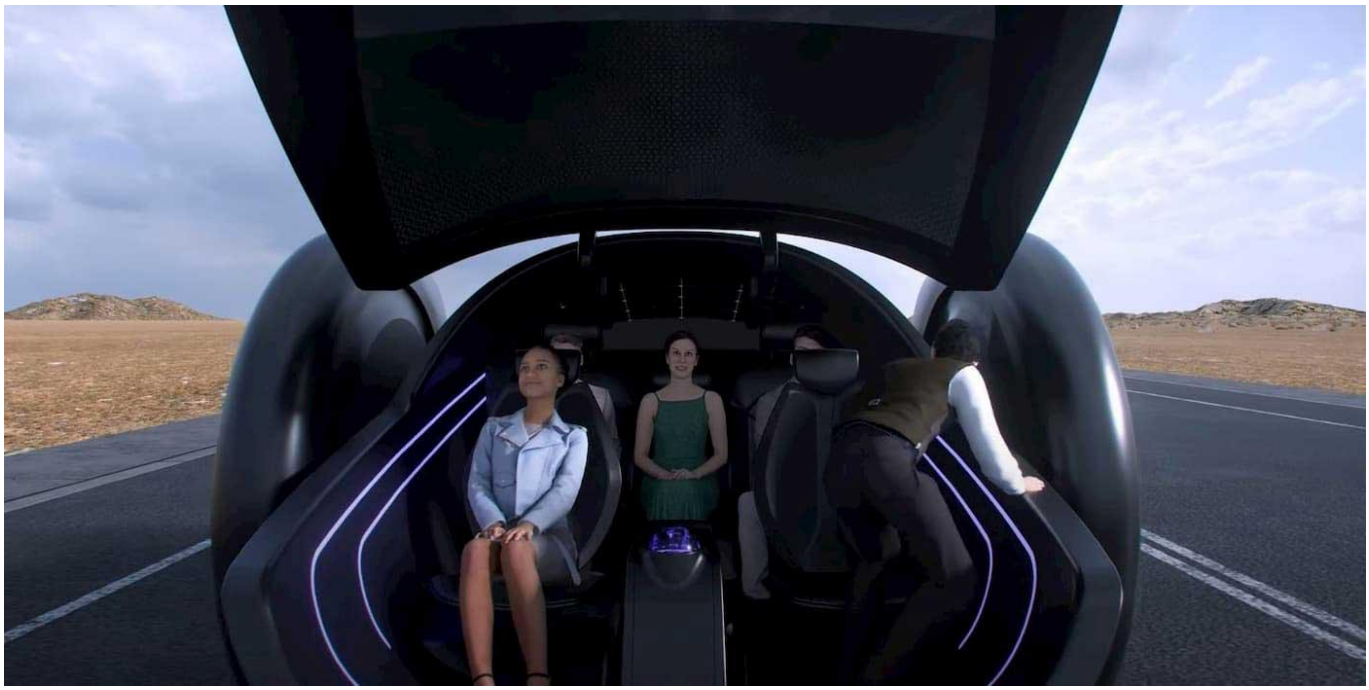
Singapore is the 'smartest' city in the world, according to the IMD’s inaugural Smart City Index. Since 2019, the Swiss-based IMD business school, with academics in Singapore, has produced a Smart City Index offering a balanced focus on economic and technological aspects of smart cities as well as 'humane dimensions' of smart cities (quality of life, environment, inclusiveness).

See Singapore Smart City Introduction

More information about HMGICS

Shane: A Two-Wheeled EV

NEWS MOBILITY



INVENTIST IMAGE

A startup in the USA called Inventist has an unusual two-wheel vehicle called the Shane—and unlike just about every other two-wheeler, this one's wheels are across from each other, not in line with each other. **video**

The car rides on two huge 60-inch wheels. According to the hoverboard inventor Shane Chen, this would have great advantages in confined spaces.

The Shane is designed for up to five people. Access is via the front hatch of the capsule. The car appears to lack a classic cockpit. For the controls there is a center console next to the driver's seat.

The passenger capsule should barely move during the journey. When the electric car accelerates, the wheels move backward. When Shane brakes, the wheels slide forward. This creates a kind of damping of the forces at work. The side wheel modules are also vertically movable so that they can absorb any unevenness completely.

You are also unlikely to feel any bends, because the car is not supposed to negotiate them using traditional steering, but by using different wheel speeds. The concept is well known from the inventor's hoverboards; the only thing missing is the weight shift.

The individual control of the wheels has another advantage: the electric car is able to turn when stationary. This eliminates the need for tedious cranking in tight parking spaces. The Shane can turn 90 degrees in front of a parking space, drive into the middle of the space, and then align itself. By opening the capsule upwards, it would even be possible to get out when there is only a few centimeters of side space between adjacent cars.

Chen is still looking for partner companies who want to build the unusual vehicle with him.

General News

Adient's New Leadership

GENERAL NEWS

DOUG DEL GROSSO (L) AND JEROME DORLACK (R) (ADIENT IMAGES)

Doug Del Grosso has decided to retire as Adient's president, CEO and a Directors Boardmember, from 31 December 2023.

Upon Del Grosso's retirement, Jerome Dorlack—Adient's current EVP and CFO—will be appointed to all three of those positions. Mark Oswald, currently Adient's Vice President and Treasurer, will be appointed executive vice president and CFO, succeeding Dorlack.

"Since joining the company in 2018, Doug has been instrumental in establishing a strong foundation for Adient through his strategic direction and unwavering focus on operational excellence. His leadership has resulted in outstanding operational and financial improvements. The Board sincerely thanks Doug for his exceptional contributions and we look forward to a smooth transition and continued success under Jerome's leadership," said Fritz Henderson, non-executive chairman of Adient's Board of Directors.

"It has been an honor to work with the Adient team and lead this great company. I am truly proud of everything we have accomplished," said Del Grosso. "Looking ahead, Jerome has a proven track record of success at Adient, having successfully led our Americas operations and served as CFO. He is the ideal leader to continue Adient's long-term success."

"First and foremost, I want to thank and recognize Doug for his contributions to Adient over the last five years and the foundation he has put in place. I am honored to be appointed president and CEO of Adient. The company has a legacy of maintaining strong relationships with our customers and offering industry-leading seating products. I look forward to building on the positive momentum established by Doug and continuing to drive the business forward," said Dorlack.

RKM to Build Polestars in Korea

GENERAL NEWS

Polestar, Geely Group and Renault Korea Motors (RKM) have reached an agreement to produce Polestar 4s at RKM's plant in Busan, South Korea, for that market and North America. RKM CEO Stephane Deblaise says it will be the first full EV produced at the Busan plant.

Polestar CEO Thomas Ingenlath says, "We're very happy to take the next step in diversifying our manufacturing footprint together with Geely Holding and Renault Korea Motors. With [the] Polestar 3 on track to start production in Chengdu, China in early 2024 and in South Carolina, USA in the summer of 2024, we will soon have manufacturing operations in five factories, across three countries, supporting our global growth ambitions".

Since 2022, Renault Korea has been focusing on producing high-end electric D- and E-segment cars for domestic and international sale. Busan has annual capacity for 300,000 units.