

# Editorial

## UX: The New Horsepower



CERES IMAGE

DVN Interior brings you a lot of content on HMI and display, touchscreens—all kinds of new technology radically redefining the in-car User Experience (UX). UX has become the new horsepower, in that it's the basis of competitive one-upsmanship. But it's complicated; as reported in a JD Power study, people are annoyed by technology which solves issues they don't know they have. In that sense, they favor physical buttons rather than touchscreens. This week's in-depth is a contribution of a DVN Interior community member: Andy Travers, CEO of Ceres Holographics, a company helping turn car windshields into displays with HUDs, enabled by holographic optical elements.

As you get ready to jump into 2025, book your expo booth and propose a lecture about your innovations and research developments at the DVN Interior Köln Workshop on 8-9 April. You will have received an email about it, and the [preliminary flyer](#) is part of this week's newsletter.

Merry Christmas and happy holidays to all of you!

**Philippe Aumont**  
*DVN-Interior General Editor*

# In Depth Interior Technology

## Cars Are Not Smartphones!



COMPLEX INTERFACES CAN OVERWHELM DRIVERS, INCREASING DISTRACTION AND REDUCING ROAD SAFETY.

### Special to DVN Interior by Andy Travers, CEO of Ceres Holographics

There has been a continuous and relentless push to 'techify' most of the new vehicles we can purchase and drive. While already populated with more electronics and software than ever for control and monitoring functions, automakers are also increasingly designing them to operate and feel more like the other consumer devices in our lives that we have gotten used to.

Consumers are, somewhat presumptuously, assumed to be enticed by ever bigger and brighter in-cabin displays, multi-function touchscreen controls, and now increasingly 'AI'-enabled assistants for the ultimate personalization of the driving experience. It is assumed that these enhancements—delivered through an onslaught of visual elements—will make the journey more enjoyable, interactive, and informative. We seemingly want the ultimate personal device or home entertainment experience while driving around town or to our far-off destinations.

However, it seems that beyond the basic transport function of a vehicle, the ability to choose the right combination of these visual elements and to design, develop, and quickly implement them in production cars will define the winners and losers in the automotive industry. Indeed, a [recent article in The Economist](#) points out that the biggest innovations in the Chinese car industry are not coming from the traditional automakers, but from consumer electronics giants like Huawei and Xiaomi who, as mobile telecom giants, are applying their expertise in developing absorbing user experiences for phones to the displays and interfaces of a new generation of teched-up cars.

The article recounts an anecdote of a new EV which allowed the driver to play a video game, maneuvering a virtual car on the dashboard display, while at the wheel of the actual car.

### **UX is the new horsepower**

While that's an extreme scenario of today's multitasking drivers, it points out important trends at work as automakers battle to differentiate and paint a futuristic vision of what we will experience while we move about during our day-to-day lives, particularly with consumers in the smartphone generations.

The shift to include those types of features and technologies is well underway as car buyers' purchasing decisions are now based more on what's on the dashboard (and often specifically its ability to work with their mobile device) than what's under the hood in terms of horsepower and fuel consumption.

The thinking that has evolved is that nothing will wow a tech consumer—whether they're shopping for living room entertainment, a smartphone, a computer, or their next set of wheels—more than an oversized brilliant display, made even more appealing by touch (or touchless!) control.

Much of this, of course, was driven by the promise of a rapid transition to full autonomous driving, with carmakers leaping ahead to re-imagine the entire in-vehicle place and experience and create ways to keep occupants entertained when they are less concerned about driving the car (if they're even required to drive it).

But the AV dream is not panning out quite as originally envisioned, or as fast. Safety and practicality concerns continue to present obstacles yet to be satisfactorily met. Cooler heads are prevailing, both in industry and in governments, and now there is a more specific and immediate focus on driver assistance technology, not driver replacement. Importantly, top-brand automakers are realizing that the most valuable and loyal customers are those who enjoy the driving experience itself, and not the ones looking for a car that can drive itself.

On top of that, [industry surveys](#) indicate that consumers are overwhelmed and increasingly frustrated by the amount and complexity of tech populating their cabins. Case in point from a recent review of major European luxury vehicle: "Unfortunately, [the infotainment system] is (...) generally overcomplicated and anti-intuitive".



IN PARTNERSHIP WITH EASTMAN AND COVESTRO, CERES HOLOGRAPHICS HAS INTEGRATED CUSTOM HOLOGRAPHIC ELEMENTS INTO BAYFOL HX® FILM, ENHANCING HUDS WITH MULTIPLE DISPLAYS AND AN UNPARALLELED FIELD OF VIEW ACROSS VARIOUS WINDSHIELD POSITIONS.

### **Wow factor at the cost of safety?**

All of this brings us to the critical point: As much as we'd like these sensor-laden (and sensory-overloading) cars to function like our phones and laptops, we must never forget that the primary objective of today's vehicles is still to get us from point A to Point B safely, and perhaps as a welcome secondary bonus, comfortably and enjoyably!

Unlike our closely-held mobile devices, we don't—we can't—drive or operate a car in a distraction-free or hazard-free vacuum, oblivious to the uncontrolled and random interruptions that road travel presents and that do require our relentless attention.

This can include other drivers of high-tech vehicles, often focused on things other than driving (not to mention the pedestrian immersed in a social media doomscore as they meander across a busy street). Or at the other end of the spectrum, a barely-roadworthy farm vehicle is allowed you to join on the road, though it is not fitted with the latest anti-collision or driver-assist technology.

But in our quest to smartphone-ize the car, we may have been distracted from the fundamental need for safety first. In order to refocus on this priority, there needs to be a rethinking of how consumer electronics-inspired technology and display interfaces can and should work in a car.



The always insightful publication *Driving Vision News* underscores the point in a recent article on HMI: "... unlike consumer devices, car [display] interfaces must prioritize safety, ensuring minimal distraction from driving and allowing operation of the car without unnecessary or excessive cognitive load". It goes on to note that consumer devices and their apps are designed to grab and captivate the users' attention and cognition: "Screens in cars should have the exact opposite effect: as little distraction and cognitive load as possible. The eyes and mind should stay on the road, not on the screen".

Distracted driving remains the top cause of accidents and road fatalities, so it's no surprise that regulators are paying close attention to this smartphone-ization trend. For example, a recent push by insurance companies and road safety organizations such as NCAP is advocating for the reduction or removal of touchscreen-driven control mechanisms that require visual interaction (such as swiping through a touch menu) and a reversion to more tactile knobs and switches that enable drivers to make whatever adjustment or operate whatever control without taking their attention off the road.

Old-school control methods, while less flashy and cool, actually work better when it comes to safety. A recent [study](#) comparing speed, accuracy, and distraction in operating the controls of a 2005 car versus modern cars showed that physical controls are much safer and less distracting than complex touchscreens.

BMW CEO Oliver Zipse controversially went one step further, saying said he is "absolutely convinced" that the large center-console-based screens and touchscreens will soon disappear through legislation.

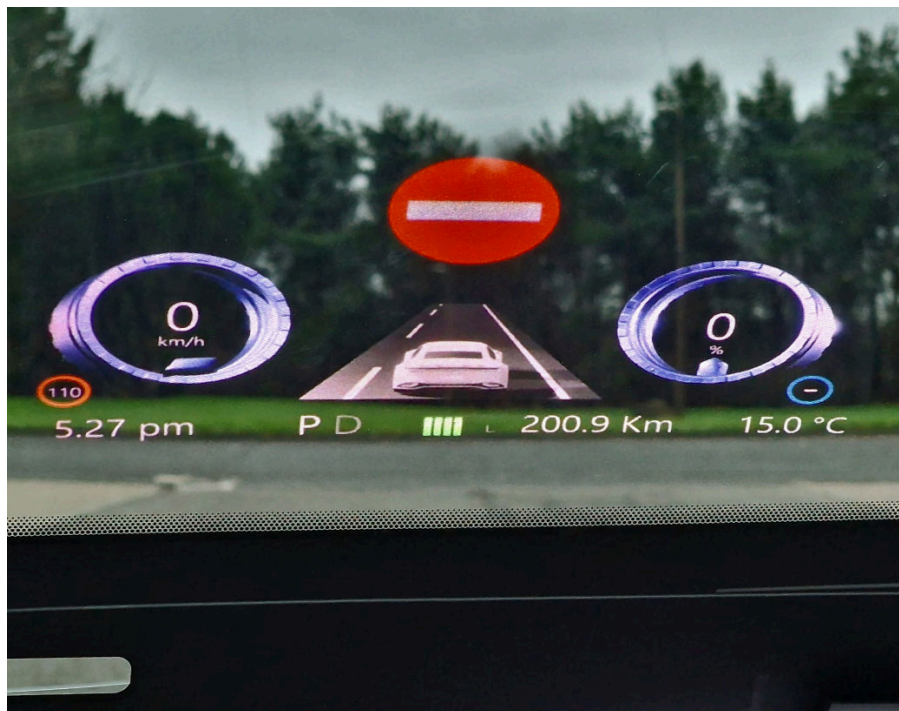
### Don't stop the tech push

None of this is meant to imply that new technology can't be a huge benefit to young or experienced carmakers, drivers and passengers. A multitude of innovations in computer vision, sensing, electrification, and HMI technology have already made driving safer, more efficient, and more enjoyable, and that will continue. The pace of change, driven partly by the emergence of new, more tech savvy entrants, has bolstered the entire industry.

Well established top-brand automakers from the USA and Europe now realize that they must embrace the optimal technology in unprecedented ways, partly as a result of checking their own rearview mirrors and realizing that their competition is pressing them from a multitude of on-ramps, from Beijing to Bangalore.

The blisteringly rapid pace at which Chinese and Indian manufacturers are moving new vehicle concepts from the drawing board to production is startling to the long-established western automakers. They cannot afford to stand still and ignore the tsunami of customer desire.

### Ceres Transparent HUDs



CERES HOLOGRAPHICS, IN COLLABORATION WITH PARTNERS, IS SETTING NEW STANDARDS FOR DRIVER SAFETY AND FOCUS WITH A HOLOGRAPHIC HUD THAT PROJECTS ESSENTIAL DRIVING INFO DIRECTLY ONTO THE WINDSHIELD, KEEPING DRIVERS' EYES WHERE THEY SHOULD BE.

At Ceres we have a front row seat, literally, to the changes happening in the cockpits of cars and trucks of the future. Interest in our transparent head-up display (HUD) technology—originally inspired by jet fighter navigation systems (the ultimate in non-distractive use cases)—has spiked in recent years as automakers look for ways to improve the user experience without compromising on safety. A bright, crisp, clear HUD in a vehicle with well-designed HMI content, and comfortable tactile controls on the steering wheel, delivers optimal information and action requests to the driver while maintaining crucial eyes-on-road behavior.

## Head up, eyes ahead

HUDs have a bit of fraught history in automotive, struggling to overcome challenges related to cost, display performance, package size, ease of implementation and scalability. Holographic displays have long been seen as a potential solution for those issues by automakers, as far back as the 1980's.

But our advances in the design and production of holographic optical elements (HOEs) and industrialized manufacturing capability, along with a viable windshield supply chain emerging, have taken down the barriers.

Serious evaluation of our holographic enabled HUDs is happening at most top automakers as a viable transformational technology that can keep eyes and attention on task, and drivers driving safely and comfortably. HUDs are earning favor over the physical console displays that require a driver to look downward and sideways to view and then process operational information.

The image is a promotional graphic for Ceres Holographics. It features a dark blue header with the text "Creating transparent displays for enhanced safety, comfort and UX." on the left, the Ceres logo (a white crescent moon with the word "CERES" inside) in the center, and the tagline "Bringing the future into focus" on the right. Below the header is a photograph of a car's interior from the driver's perspective. The windshield displays a transparent HUD with various driving metrics: speed (74 mph), fuel economy (18 mpg), and engine temperature (190°C). In the background, through the windshield, a man and a woman are smiling. The bottom of the image has a dark blue footer with a QR code on the left, the website "ceresholographics.com" in the center, and the Ceres logo on the right.

WITH CERES' ADVANCED HOLOGRAPHIC HUDS, DRIVERS ENJOY CLEAR, STREAMLINED INFORMATION DIRECTLY IN THEIR LINE OF SIGHT, SIGNIFICANTLY ENHANCING SAFETY AND REDUCING DISTRACTIONS.

We are greatly encouraged by the progress being made by automakers who see the value of new (and cool!) safety-oriented interfaces to their vehicles. A [recent presentation](#) from Ford at the SID2024 automotive display conference ([reported](#) in DVN Interior) about their development, test, and approval of manufactured HOE-enabled HUD windshields, underscored the benefits and practicality of embedding display technology in windshields. They concluded, after significant user testing at their comprehensive design clinics, that such systems can offer drivers a seamless and non-distracting way to view information and take actions without losing focus on the road ahead.

At some point in the future, driverless cars may whisk us around, freeing us to watch movies, check email, and play video games—all which can also be enabled by HUD technology that takes advantage of the bountiful glass real estate available in vehicles, a more cost-effective approach than multiple LED displays. But for now, and the foreseeable future, safe operation by human drivers must remain a top priority, together with an enjoyable connected experience.

# Interior News

## Continental's Scenic View HUD

### INTERIOR NEWS



CONTINENTAL IMAGE

Continental has come up with an innovation for safety and comfort with a new generation of HUD, visible on the lower edge of the windshield. It brings information visually close to the street, with a spectacular quality of virtual image, and allows a high degree of freedom for new dashboard designs.

A driver's eyes should be directed forward, towards the road. Looking down or sideways, at the front passenger or at a display on the center console, means a risk of not seeing a vehicle ahead braking, or a surprising obstacle such as an animal crossing the road. Less than one second's worth of reaction or braking time can make all the difference between a crash or none. The trend towards screens that display relevant information in the driver's field of vision is therefore not surprising. Continental is now picking up on this trend with the first Scenic View HUD.

Unlike previous HUDs, the Scenic View does not project the display onto the transparent area of the windshield. Instead, it uses a specially coated, black-printed area at the lower edge of the windshield for high image quality and contrast. According to Continental, the high intensity means the image can be seen in razor-sharp quality across the entire width of the windshield, in all ambient lighting conditions. It has a matrix backlight with local dimming, also by Continental.

The projection distance is 1m; the information is displayed directly at the driver's line of sight. It's visible to all occupants of the vehicle, even with polarized sunglasses.



# ZF's Newest Airbags, Steering Wheels at Tech Day '24

## INTERIOR NEWS



ZF-LIFETEC IMAGES

The proportion of safety equipment in new cars is expected to increase significantly, driven by increasing global safety regulations and megatrends in the automotive industry.

Automated driving, electrification of the drivetrain, and new interior concepts are the main drivers of change in the automotive industry. Occupant protection must be adapted to new seating positions for automated driving, while new protection systems can also open up innovative design possibilities for vehicle manufacturers.

Innovations presented at the ZF Lifetec Technology Day 2024 included

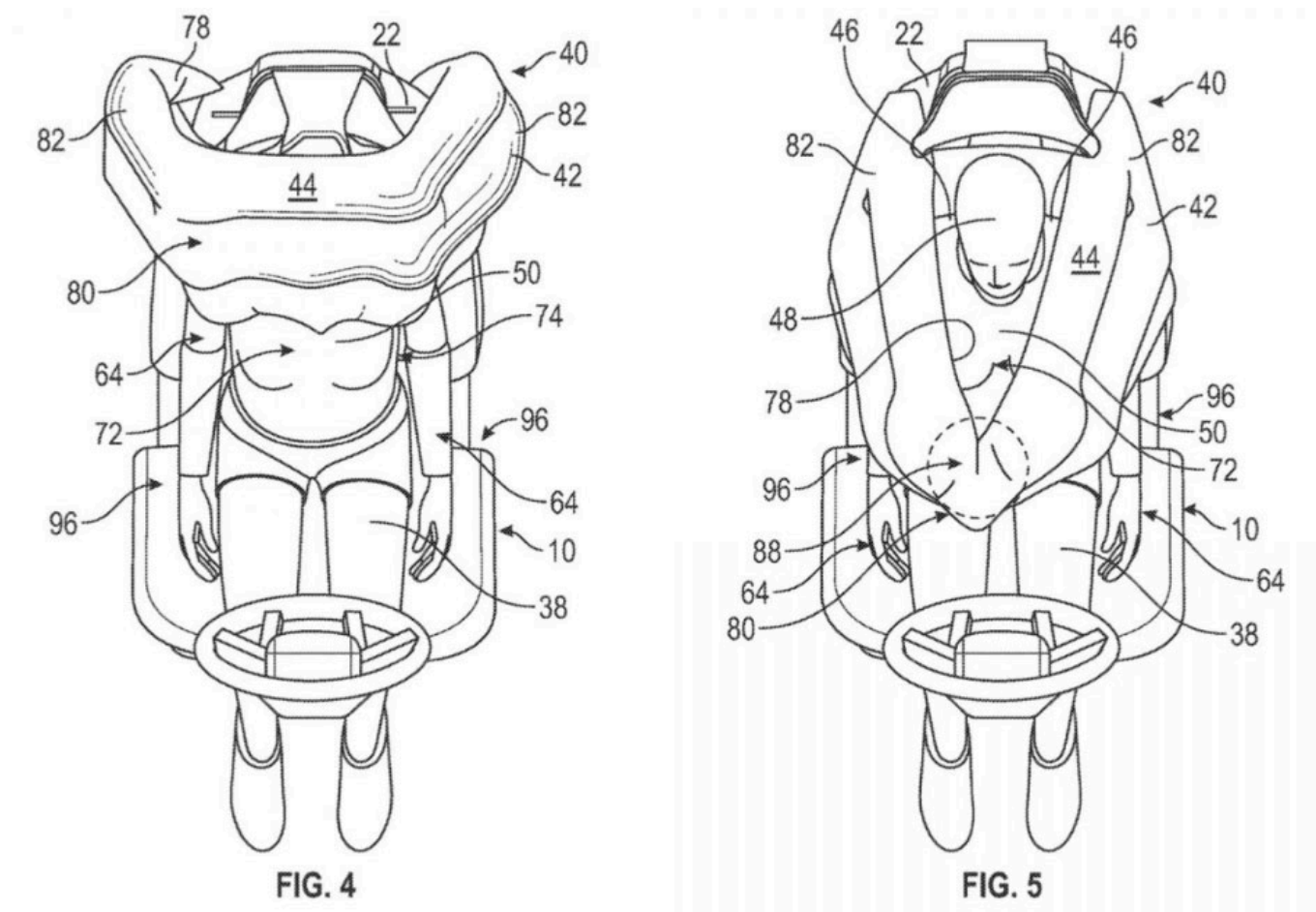
- A steering wheel with an innovative seamless design that allows for customization and an improved user experience
- A driver airbag that deploys in the upper area of the steering wheel instead of the front surface. This frees up space for new functions in the steering wheel hub, previously occupied by the airbag
- A dual-contour driver airbag to protect the driver during normal driving or in comfort seating positions
- An internal side airbag that can be triggered shortly before a side impact, creating an additional crumple zone between the side door and the driver in two stages.

The driver's airbag is now mounted behind the steering wheel instead of in its hub. In the event of an accident, it deploys from behind through the steering wheel towards the driver. This new installation position of the airbag allows the horizontal spoke, including the hub, to be designed in a seamless, smartphone-like design. Pressure-sensitive controls for the vehicle's entertainment and assistance functions are integrated behind a continuous surface. This design blends seamlessly into the digitally designed dashboards of modern vehicle interiors. "With this new concept, we are enabling design freedom for steering wheels without compromising on safety," says Harald Lutz, Head of Development at ZF Lifetec.

Seamless design variants with greater integration of HMI functions and new surfaces will significantly determine the appearance and range of functions of the steering wheel of tomorrow. This opens up possibilities for the use of new materials and shapes, and for new functions. On-demand functions (freely assignable fields), touch displays, or a central screen are conceivable; for example, the combination of a thumb roller with a touch-sensitive screen integrated in the steering wheel as an anchor point, thus enabling the driver to operate the system safely.

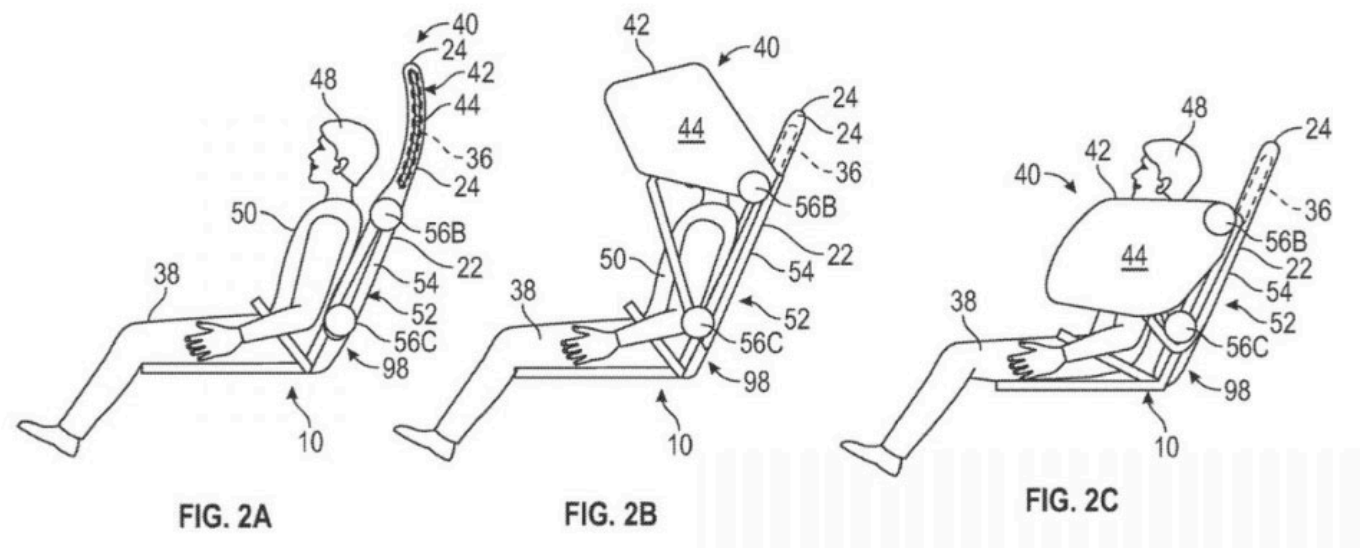
# GM Files Patent: Airbag for Highly Mobile Seat

## INTERIOR NEWS



GM has filed a patent, [US12139091B1](#), for a seat-mounted airbag restraint system designed for seats that can swivel or recline. The filing, dated 12 November 2024, lists Ashish Nayak, Chin-Hsu Lin, and Shan Jain as the inventors.

The patent application describes a seat-mounted airbag restraint system that is designed specifically for vehicle seats that can swivel, rotate, or recline. Unlike traditional airbag systems, which are typically designed for forward-facing occupants, the system described in this patent application protects occupants regardless of the seat's position relative to the rest of the vehicle, making it ideal for autonomous vehicles and seats with unique movements.





The system is described as having an expandable airbag body that transitions from a stowed position within the seat to a deployed position. When deployed, the airbag surrounds a portion of the occupant's thorax, providing protection in the event of a collision.

A key component to this system is a tether strap connected to the airbag. This strap runs through a pulley system with multiple wheels, which helps control the airbag's expansion. The pulley system pulls the airbag into its deployed position, ensuring smooth and reliable inflation.

When inflated, the airbag forms a protective barrier, with the front portion facing the occupant to limit forward motion during sudden stops or crashes. The opposing sides correspond to the occupant's left and right, offering side impact protection.

# Engineering Award for Marelli Passenger Display with Privacy

## INTERIOR NEWS



MARELLI IMAGE

The Passenger Display with Privacy developed by Marelli has received the ‘Challenger’ honor at The Digital Engineering Awards 2024. Marelli’s technology was recognized in the “Engineering Product of the Year” category, during an award ceremony in Dallas, Texas. The Digital Engineering Awards, organized by L&T Technology Services, ISG, and CNBC-TV18, recognize and celebrate global engineering excellence and innovation.

Marelli’s Passenger Display with Privacy is an affordable innovation that offers dynamic zonal privacy, to improve safety and user experience. It allows passengers to conceal specific display zones when interacting with content, thus preventing driver distractions. It combines cutting-edge privacy software with a display panel using standard organic light-emitting diode (OLED) or thin-film transistor (TFT) technologies. This approach allows vehicle manufacturers to introduce high-quality, dynamic, and flexible electronics across a wide range of passenger displays.

The solution consists of two key components: the display panel and the display control element. The display panel can use either OLEDs or TFTs, the latter of which relies on liquid crystal displays (LCDs). The display control element is an active layer designed to modulate the panel’s light characteristics, narrowing the emission angle as needed.

These two components are combined, using software to dynamically adjust predefined viewing angles for drivers and passengers in either public or private mode. In public mode, the display is visible from a wide viewing angle, so that both driver and passenger can see the same content. In private mode, it is visible at a narrow viewing angle so that only the passenger sees the content. Users can activate either public or private mode in specific zones of the display panel, selecting specific content to be hidden from the driver, while previous solutions on the market offered limited privacy restricted to the entire display without zoning options.

The privacy feature is available as an option both on Marelli’s EliteDisplay and ProDisplay hardware development platforms. EliteDisplay uses OLED as the light source and targets the luxury and premium vehicle market, making this high-end functionality affordable by using standard OLED panels instead of custom ones. In this way, the solution makes dynamic privacy available for OLED panels for the first time. The mid-range ProDisplay platform uses TFT and is particularly attractive as it brings the benefits of privacy displays to an even broader range of vehicles.

# Bosch Studies the Car Interior of the Future

## INTERIOR NEWS



BOSCH IMAGE

Watching movies, playing games, working or relaxing—that's a prevailing idea of how the users of tomorrow's automated vehicles will want to use their time while driving. That will require a completely new design of the vehicle interior, which also includes comfortable driving characteristics. This presents manufacturers and suppliers with new challenges. These are the findings of the RUMBA research project led by Bosch, which investigated the requirements for the interior and driving behavior of automated vehicles.

"A completely new living and working space could be created for users in the future," says Bosch project manager Michel Schulz. "Automated cars and commercial vehicles could be transformed into an office, cinema or bedroom. Many service providers see vehicles as a previously untapped but significant market area".

For over three and a half years, experts from manufacturers, suppliers and scientific institutions investigated what users expect from future automated vehicles. For example "steer-by-wire technology would create new freedom with unprecedented possibilities for interior design, offering many innovative functions and features," says Schulz.

As part of the RUMBA project, which is said to stand for "realization of a positive user experience through user-friendly interior design for automated driving functions", experts investigated a number of challenging user requirements. The focus was on the question of how quickly a person can regain control of the vehicle after microsleeping and which factors play a role in this. The distance to the display and control elements and the time it takes to regain manual control are particularly important, especially if the driver had previously adopted a relaxed sitting position.

The studies have shown that many participants are ready to take control within 60 seconds of waking up. However, there was also a loss of driving performance and a deterioration in subjective wellbeing after taking over. This makes it necessary for the vehicle to wake the occupant early so that there is enough time to wake up, orientate, and react. In addition, technology must be able to recognize the occupant's condition in order to determine whether they are awake and ready to take over or still asleep.



# Hyundai Ioniq 9: The Station Wagon Shape is Back, as a SUV!

## INTERIOR NEWS



HYUNDAI IMAGES

The largest model in the electric family of Hyundai and Kia is called the Ioniq 9. Sometime between spring and summer 2025, the five-meter-long SUV with a vanlike character and the Koreans' largest battery to date will arrive in Europe.



Friendly bright colors, the large panoramic glass roof and the ambient lighting that illuminates many areas warmly give the interior a homely lounge character.



The center console can be moved in the x-direction. It can be opened for passengers in the first two rows, has two storage compartments with volumes of 5.6 and 12.6 liters and among other things, a smartphone charging cradle.

The uncluttered cockpit features an extra-large display divided into two segments surrounding the driver in an arc. Computer technology concealed behind the digital surface ensures fast, fluid processes and modern networking. The infotainment platform also has 'AI' integration, with over-the-air updates or features on demand.

It is a spacious interior 7-seaters with 3 rows of seats. In the middle row, customers can choose between two individual seats or a bench with three places. There is plenty of space in the first two rows, with no tunnel to get in the way. The four front individual seats are available with a reclining function, and the front two even have fold-out footrests. This makes it easy to relax during loading breaks. Alternatively, the swivel seats in the second row can be positioned towards the rear. Four people can then sit opposite each other in the rear during breaks.

The Ioniq 9's Relaxation Seats feature Hyundai's first 'Dynamic Body Care system', including a 'Dynamic Touch Massage' function. This system uses pressure and vibration to stimulate blood flow and circulation, reducing fatigue on long drives.

A folding mechanism in the second row also makes it easy to reach the third row. There is room for just under 340 liters of luggage behind the backrest. If the backrests of the third row are folded down, the storage space increases to 900 liters in accordance with the VDA standard. There is also an additional frunk measuring a good 50 to almost 90 liters.



# The Design Lounge

## Bentley's New Expressions of Texture Bespoke Collection

### THE DESIGN LOUNGE



BENTLEY IMAGE



Bentley's Mulliner bespoke studio has showcased the Expressions of Texture collection, a new line co-created by Bentley Rancho Mirage and the Mulliner bespoke team.

The collection features four Continental GT Speed convertibles models specified in satin paint from Mulliner's color palette. Other features include wafer-thin veneers made from 200-million-year-old stone and bespoke embossed upholstery with design inspiration from the landscapes of Colorado Desert's Coachella Valley.

The starry night skies of the Coachella Valley inspired a Continental GT Speed in peacock blue satin with tri-tone carbon-fiber styling. For the interior, a two-tone fascia in peacock blue satin is paired with slate stone veneer divided by an electro-blue pinstripe. Other details include serenity quilting on the seat uppers and tonneau cover.





BENTLEY IMAGE

Sand dunes formed by the desert wind are reflected in another model from the collection, which is finished in ghost white pearl satin with tungsten wheels featuring a silver tempest pinstripe. The blind quilting of the seat uppers and tonneau cover was created specifically for this model over hundreds of hours, with graphics inspired by the desert dunes. This car also has a fascia and console in ghost white pearl satin over autumn stone veneer.

The inspiration for a havana satin GT Speed comes from the rugged mountains that surround the Coachella Valley. Interiors are finished in cognac and burnt oak hide, enhanced by quilted seat backs and tonneau cover with a design representing the topographic features of California's Death Valley. The same topographic map design can be found on the floor mats, while the fascia and console feature havana satin over copper stone veneer, divided by a pinstripe in bronze.

The fourth model is finished in British racing green satin. Bentley says that the tactile softness of Dinamica upholstery, the touch of stone veneer and the yielding contours of quilting offer customers a limitless palette of possibilities.

Mulliner's chief commercial officer David Parker said, "We hope that the Expressions of Texture collection will inspire customers to explore the full range of possibilities offered by the Mulliner bespoke studio. At Mulliner, our goal is to inspire possibilities beyond their imagination".

# MB Craftsmanship Studio, Where Cars Become Unique

## THE DESIGN LOUNGE



MERCEDES-BENZ IMAGE

Designers at Mercedes-Benz use craftsmanship, materials and high technology to create very special models. And for a top model from Mercedes-Benz, which can cost €250,000 (or even more), you take your time.

Welcome to the Mercedes-Benz Manufaktur at the Sindelfingen plant! Here, everything that makes Mercedes-Benz and AMG customers' dreams come true in the field of individualization has come together under one roof. In the Studio, the series vehicles are refined into exclusive models. For example, steering wheels finished with piano lacquer or carbon, tailor-made seats, complete leather interiors, e.g. rose-grey nappa leather, heated and cooled cup holders, refrigerator in the rear with Maybach champagne glasses and rims in 'Champagne Flute' design. Whether leathering, embroidering or sewing - the great craftsmanship required to produce these parts is unmistakable.

The 'Studio' is also a unique showroom where future owners can witness the creation of their car. The special series is limited to 50 vehicles and is offered exclusively in the USA. Depending on the desired volume, the vehicles spend between a few hours and up to two days in the refinement workshop.

The product line is currently limited to certain G-Class and S-Class models, Mercedes-AMG and Mercedes-Maybach. In the first half of 2024, it already refined over 30 per cent of vehicles sold in the top-end segment.



# News Mobility

## GM Pulls Plug on Cruise, Robotaxis

NEWS MOBILITY



GM IMAGE

General Motors will no longer fund the development of a commercial robotaxi business, and instead will absorb their self-driving car subsidiary Cruise and combine it with the automaker's own efforts to develop driver assistance features—and eventually fully autonomous personal vehicles. The automaker's aim is to bring AV technology into millions of GM vehicles, and now they think that's best done by "incremental delivery of autonomous capabilities".

The pivot is a remarkable step for the automaker, which acquired the self-driving startup Cruise in March 2016 for a billion dollars. Since then, GM have poured more than \$10bn into the company in a bid to commercialize autonomous vehicle technology via a robotaxi business.

GM cited "considerable time and resources" needed to scale the business, and an "increasingly competitive robotaxi market" as reasons for the change; they expect the restructuring to lower spending by over \$1bn annually after the proposed plan's completion, slated for the first half of 2025.

Speaking to analysts, CEO Mary Barra said that "GM has made this decision to realign our strategy because we believe in the importance of driver assistance and autonomous driving technology in our vehicles".

According to GM Chief Financial Officer Paul Jacobson, the costs of setting up and operating the robotaxi business would exceed the approximately ten billion dollars that GM has already invested in recent years.

GM will carry on improving their top-rated Super Cruise hands-free driver assistance system. Technology developed by GM and Cruise will be used to develop Super Cruise into a hands-off, eyes-off, L3 system.



# General News

## Baidu-Geely Ji Yue Seeks Funds

### GENERAL NEWS



Ji YUE 01 INTERIOR; Ji YUE 01 CARS AHEAD (DVN IMAGE)

Baidu and Geely's carmaking joint venture, Ji Yue, said last week it will seek to raise new money and carry out some operational adjustments to cope with fierce market competition.

Baidu and Geely founded the company as Jidu Auto in early 2021, and rebranded it last year as Ji Yue. There are two models, the 01 and 07, which together as of September accumulated total sales of 9,767 units, according to China Association of Automobile Manufacturers.

The cars sought to use Baidu's technology and are manufactured by Geely. Currently, Geely holds a 65 per cent stake in the company while Baidu holds the remaining 35%.

The EV maker said on its social media account that it was looking to merge departments and positions that had duplicate functions, cut projects that would not contribute financially to the short term and was actively seeking fresh funds.

Ji Yue's announcement highlights how big consumer preference shifts and a price war in China, are squeezing smaller players and many foreign automakers as rivals such as BYD grow their market share.

Car deliveries would proceed as normal although some buyers could face delays in receiving their cars due to the business adjustments, it said. It also asked suppliers for their "understanding and support" saying it would arrange payments in an orderly manner.

# EV Owners Stick With Battery Models: Survey

## GENERAL NEWS

### Cost of Ownership Tops Reasons for Choosing EV: Survey



Source: Bloomberg, GEVA

Bloomberg

BLOOMBERG

Nine in ten electric vehicle owners will get another battery-powered model when they trade in their car, mainly due to lower operating costs, according to a survey by an international lobby group.

Of about 23,000 drivers surveyed by the Global EV Drivers Alliance, 92 per cent plan to buy an EV again, while 1 per cent said they would return to fossil fuel options. Some 4 per cent of those surveyed said they would opt for a plug-in hybrid, according to the consumer lobby that represents about 336,000 EV drivers.

“What we see, is that there isn’t a big difference between what drivers have experienced in Norway and what is happening in other countries,” said Petter Haugneland, assistant secretary general of Norway’s EV Association. “People who choose an EV are happy with that choice.”

Lower operating costs topped the list of reasons to select an EV, with environmental arguments related to climate coming in second, according to the survey. Charging infrastructure was the main drawback cited by participants, who were drawn from 18 countries including the USA, Austria, Brazil, Canada, France and India.

“If the branch and policymakers want to help potential customers, the need to focus on making the price of the car competitive and improving the charging infrastructure,” Haugneland said.