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Weekly Newsletter

DVN-I
Automotive Interior

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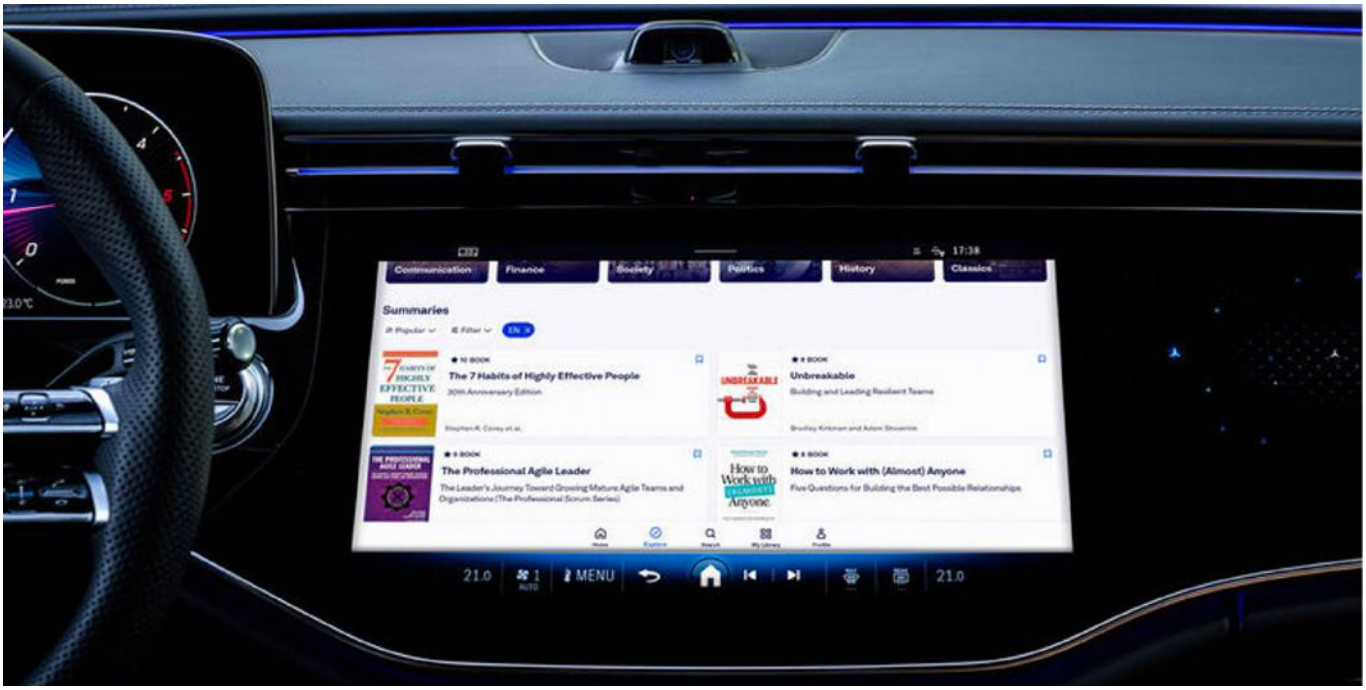
Editorial

CES 2024: A Lot More To Say!



MERCEDES-BENZ IMAGE

Last week we brought you the first part of our DVN Interior CES coverage. Such was the proliferation of technology that it is worth a second focused newsletter, to be followed by an extended CES DVN Report bringing you everything relevant about lighting, lidar, and interior Innovations.

This week's in-depth piece looks at AI, EE architecture, and digital cockpits. As we described last week, AI was everywhere at CES, centered around better communication between the car and the driver. AI is changing the user experience to make it safer, smarter, and more intuitive, and more desirable.

Automakers are integrating chatbots into their software. Mercedes raves about a new "hyper-personalized customer experience", using generative AI and proactive intelligence. Hyundai cars will constantly learn and will become a new mobility ecosystem that can recognize users' and meet users' needs early.

AI is also supporting BMW iX and its advanced finger-operated controls. The Fisker Ocean's center display rotates from vertical to horizontal. The Polestar 2's adaptive air filter increases its performance when it detects pollen and pollutants. The Genesis GV70 has active noise-cancellation in the cabin. The Nissan Ariya has its center console in a new position. On and on and on, with so many examples generating new vehicle interior USPs. Artificial intelligence is redefining the human-machine interaction.

We're glad you're here with us! If you have not yet full access to all DVN Interior newsletter and reports, do **join in**!

Sincerely yours,

Philippe Aumont
DVN-Interior General Editor

In Depth Interior Technology

CES 2024 Part II: AI, EE Architecture, Digital Cockpits

HISENSE DEMONSTRATOR WITH HOLOGRAPHIC HUD (DVN IMAGE)

CES 2024 was a big show for AI, with countless announcements and products trying to capitalize on AI hype. Companies highlighted the enormous potential of AI to improve products and services with cutting-edge applications that will transform how we communicate, do business, and take care of one another.

AI isn't new, as such; it's been present for some years, but this year the focus was not on AI able to operate vehicles with no driver. It was much more centered around better communication between the car and the driver—probably a byproduct of the whole industry backing off from earlier predictions, now considered premature and overly optimistic, about the speed with which driverless cars would come to predominate. Turns out, human drivers will be the norm for the foreseeable future, so cockpits are crucial. AI is changing them.

The vehicle cockpit is evolving to provide occupants with a highly digital experience. There'll be a single user interface through which a driver can access data from different sources and manage various digital assistants. It will combine multiple screens dedicated to the driver, side-passenger, rear passengers, and even telematics.

The goal is to enhance safety by reducing distraction; maximizing personalization; tracking the health and wellness of occupants, and delivering a stress-free in-vehicle experience, while monitoring vital parameters enabling early detection of emergencies. That is the visible and functional side of the digital cockpit. The back-of-house stuff is also important, with its electronics architecture to reduce the cost and complexity, and to improve computing power.

AI also helps to understand context by integrating information from a variety of sources: GPS tells where the car is, and information like speed limits. Radar and lidar detect objects, traffic lights, bicyclists and pedestrians, and animals, especially when weather conditions reduce visibility.

Here's a look at our selected digital cockpit, AI, and electronic architecture highlights of CES 2024:

Stellantis, BlackBerry, Amazon: Virtual Cockpit Development Tool

DS 4 (DS IMAGE)

Stellantis and BlackBerry are collaborating on a 'virtual cockpit' said to allow much faster delivery of infotainment technology and cut development costs. It recreates car controls and systems in the cloud, and the companies say it will drastically slash development times—in some cases from months to hours.

The cockpit platform is part of Stellantis' Virtual Engineering Workbench development tool. BlackBerry's QNX Hypervisor provides the software, while Amazon Web Services provides cloud services.

The collaboration was announced to coincide with CES 2024, where BlackBerry showed an unbranded demonstration of their QNX Hypervisor platform. Stellantis Chief Software Officer Yves Bonnefont says, "Essentially, we're able to get closer to our customers' needs through this technology with faster development cycles, faster feedback loops, and quicker delivery of the technology they know and love".

Stellantis expects to generate €20bn in revenue from software and connected-car services by 2030 as part of their Dare Forward 2030 plan. The group is developing three software-based technology platforms: STLA Brain, STLA AutoDrive, and STLA SmartCockpit.

Hyundai Mobis

HOLOGRAPHIC DISPLAY (HYUNDAI MOBIS IMAGE)

Hyundai Mobis showed their latest EV tech: a holographic transparent display screen, one of 20 new mobility innovations they declare are ready for immediate mass production. The display appears on a transparent panel, making it easier for drivers to keep their eyes on the road, as with a HUD. The company said the transparent display can magnify images on the front windshield. This way, drivers can check key info without taking their eyes off the road for too long.

They also introduced their future mobility vehicle for the first time. They showed their innovative display series, including their world-first rollable display and swivel display, which we've **previously reported** on.

ROLLABLE VEHICLE DISPLAY (HYUNDAI MOBIS IMAGE)

They also unveiled the Quantum Dot and Local Dimming Display (QL) display, another of their innovations we've **previously covered**, and a 3D display featuring OLED-level performance.

QL DISPLAY (HYUNDAI MOBIS IMAGE)

Elektrobit

DVN IMAGE

Elektrobit is a wholly-owned, independently-operated subsidiary of Continental, specialized in automotive software. They presented their newest curved-screen display to make for an immersive in-vehicle experience. It's powered by Unreal Engine and Android Automotive, and features innovations such as the recently announced Elektrobit Theming Engine, allowing automakers, fleet managers, rental car operators, and shared-mobility service providers to personalize the look and feel of a vehicle at will. The idea is to make opportunities for revenue generation, improved customer management, and enhanced brand loyalty beyond a vehicle—or fleet's—point of purchase.

Elektrobit software and services have been employed by automakers, including newcomers like Sony Honda Mobility with their Afeela software-defined vehicle.

Eyelights

EYELIGHTS IMAGE

Eyelights, a Toulouse, France-based startup, showed their new vision of the cockpit. It's defined by natural driving interactions made possible by generative AI and accelerated computing optimized by Nvidia. They demonstrated how they'd transform the windshield into an augmented reality screen.

Visible to all passengers, Eyelights windshield display technology combines the virtual and real world. The technology has demonstrated a 32-per-cent better reaction time than traditional displays because the driver's eyes remain focused on the road. It also includes an AI copilot, based on ChatGPT, to deliver more intuitive conversations and unrivaled cockpit customization capabilities.

Eyelights AR technology opens up new experiences for everyone in the vehicle. While the driver remains focused on the road with crucial safety information overlaid on the windshield, the passenger can enjoy a cinema experience and interact with a 3D avatar copilot. Everything will be gamified and cartoonified!

Eyelights leverages the Nvidia accelerated computing platform to support multi-modal and highly intensive tasks such as real-time AR overlay and user interactions with 3D graphics content, as well as merging various interaction channels, such as AI speech, gestures and eye tracking.

Seven major makers have taken up with Eyelights, including BMW announcing recently that Eyelights windshield display technology will be standard equipment on the Neue Klasse.

Eyelights's demo car Features included:

- Augmented reality windshield (black and transparent display)
- Holographic 3D cluster
- Car Cinema for the passenger
- Avatar projection on side windows
- Human machine interface based on eye tracking
- AI and Avatar Co-pilot
- Headrest Sound bubbles
- Force and capacitive sensors to interact with virtual screens

Eyelights brought their future cockpit experience to CES with their five ecosystem partners: Nvidia for accelerated computing; AGC for multilayer glass; Arkamys and Treves for sound systems, and Nanomade for force and capacitive sensors.

Harman

HARMAN IMAGE

Harman's presentation was all about amplifying life experiences across their Automotive, Lifestyle and DTS businesses; it included automotive products like Ready Care and Ready Vision, HUD, to the debut of a seat-based audio experience SeatSonic, as well as their new JBL One Ecosystem, JBL Authentics series.

The Ready Vision system displays important information such as speed and route on the lower portion of the windshield without obstructing the overall view. Harman touts this as an example of AR for automotive cabins. Ready care is their in-cabin monitoring product. Both products are driven by Samsung Neo QLED, the Ready Upgrade Advanced with Samsung Exynos processor that powers consumer experiences.

Ultrasense

DVN IMAGE

Ultrasense Systems, headquartered in Silicon Valley, offers a suite of sensors, subsystem modules, full products, and software focused on pioneering smart surfaces with rapid product integration capabilities.
The company's main line is in delivering multisensory silicon and modules integrating functions like touch, haptic, and lighting with extensive software algorithms and machine learning. The core silicon supplies sensor fusion capabilities through novel multi-physics detection and feedback for hard and soft surfaces including metals, glass, plastics, wood, and leather.

DVN IMAGE

In-plane sensing technology is the ability to enable multi-mode sensing and HMI control in the plane of the smart surface. It drastically reduces the size and weight, enabling modern designs and varietal configurations while reducing parts count and build complexity. This brings advantages in sustainability and recyclability, increases driving range, and enables modern designs and new user experiences that were not possible before such as supporting controls for retractable steering wheels that require elegant slim form factors.

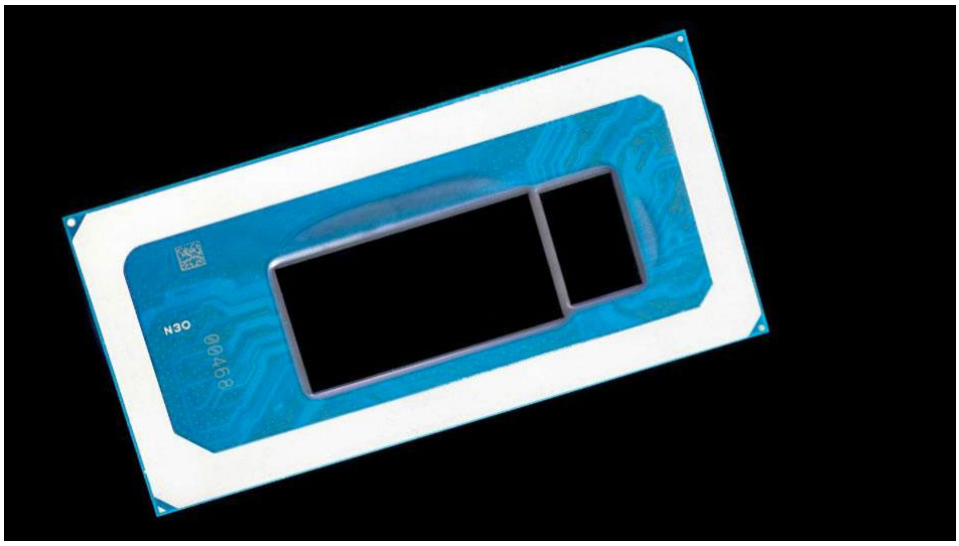
With several demonstrators at their booth, including shy-tech with cap-force in-place sensing with TouchPoint HMI controller, steering wheel, tactical haptic surface, door release, and more.

Bosch

The trend toward software-defined mobility goes hand in hand with a centralized vehicle and electric/electronic architecture. Bosch unveiled their concept for fusion of infotainment and driver assistance functions in a software-intensive central computer on a single SoC. Named the Cockpit & ADAS integration platform, it processes a variety of functions from the two domains of infotainment and driver assistance simultaneously. This includes, for example, automated parking and lane detection, paired with smart, personalized navigation and voice assistance. Advantages for vehicle manufacturers: less space and cabling required, meaning lower costs.

Many digital players, such as Intel, Nvidia and Qualcomm, highlighted new forms of consolidated vehicle architecture that can combine many microprocessors into two or three system-on-chips.

Intel



SDV CHIP (INTEL IMAGE)

Intel imagined AI everywhere with customer and partner momentum, and announced new mobile and desktop processors as well as a commitment to software-defined vehicles. The new family of AI-enhanced SDV SoCs address a critical industry need for power and performance scalability. The family of SoCs feature AI acceleration capabilities from Intel's AI PC roadmap to enable the most desirable in-vehicle AI use cases, such as driver and passenger monitoring.

A demo showed 12 advanced workloads, including generative AI, e-mirrors, high-definition video conference calling, and PC games, running concurrently across multiple operating systems, including mixed critical-use cases. The demo shows how automakers can consolidate legacy ECU architecture to improve efficiency, manageability and scalability while integrating their own custom solutions and AI applications. Zeekr, for example, will use Intel's new SDV SoC to bring enhanced AI 'living room experiences' to their vehicles.

Nvidia

MERCEDES MB. OS DEMONSTRATOR (DVN IMAGE)

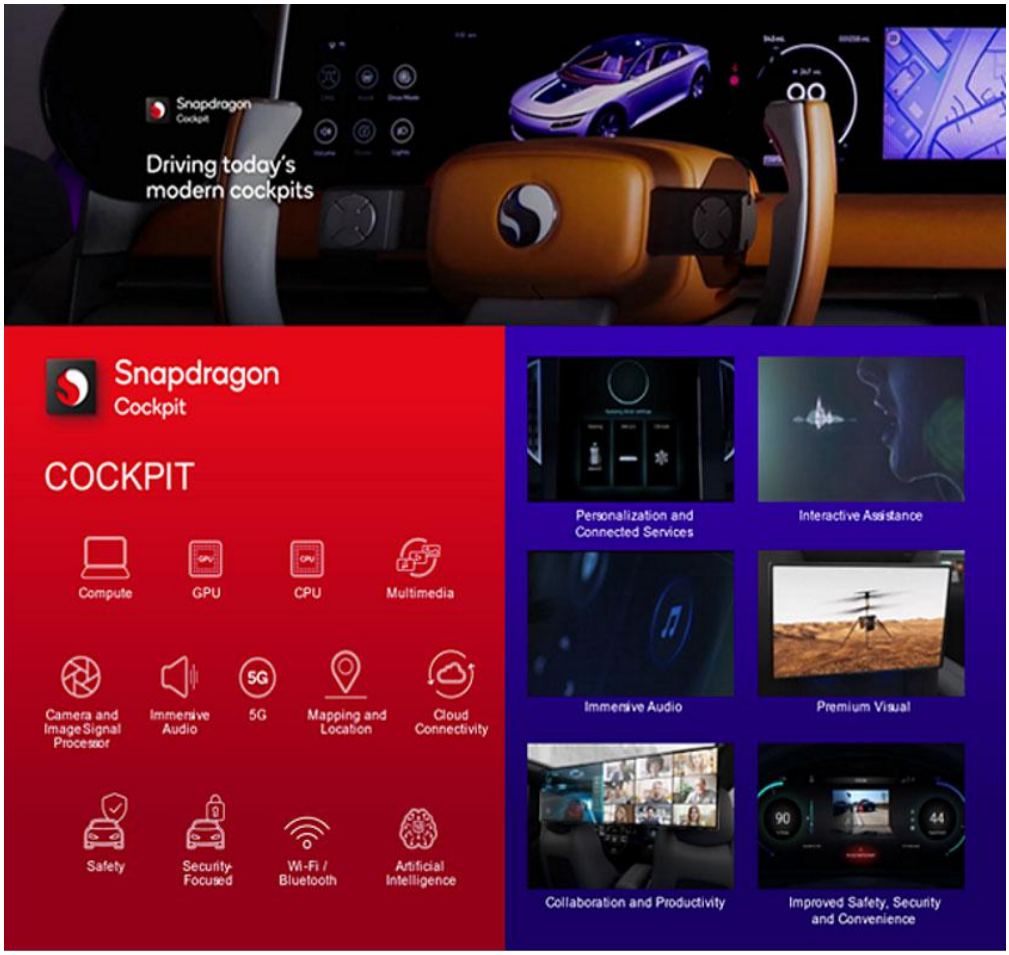
Nvidia said their automotive partners have unveiled a range of new technology, showcasing the power of AI in automotive design, engineering, and performance.

Among the biggest partners is Mercedes-Benz, with a variety of software-driven features and advancements within the Mercedes-Benz MB.OS showcased in a number of cars, including the CLA Class Concept we **reported on** last week. The Concept CLA is equipped with Nvidia Drive Orin SoC as the core platform for automated driving and display.

Nvidia support is also part of Cipia Cabin Sense, a driver and occupancy monitoring system ready for serial production this year.

Nvidia products were also present in displays at CES from Ansys, Luminar, Cerence, Peeble, Polestar, and Zoox.

Qualcomm



The Qualcomm Snapdragon Cockpit Platform delivers advanced functionality to help automakers create immersive, intuitive, in-vehicle experiences by leveraging enhanced graphics, multimedia and AI capabilities that can be scaled across vehicle tiers and personalized for every occupant.

Qualcomm, with support from diverse ecosystem partners, showed off their new Snapdragon Cockpit Experience Toolkit and the latest digital cockpit advancements as a part of the Snapdragon Digital Chassis concept vehicle.

The AI employs deep neural networks (DNNs). Modelled on the way information is processed by the human brain, DNNs learn how to traverse the real world of driving by learning from experience, rather than by being told what to do by a programmer. The DNN works by accepting multiple inputs, assigning different weights to them and drawing inferences. It requires an extremely high-performing yet energy-efficient computing platform in order to do all of that in real time.

Automakers are moving toward large-format HUDs, integrating the infotainment system, vehicle information, hazard warnings, navigation arrows, and all the rest. This makes challenges with HUD packaging size. AR-HUDs offer enhanced vision systems by integrating ADAS with autonomous features, such as navigation aids and lane-keep assist alerts, in real-time, displayed on a large portion of the windscreen. ADAS visual alerts on larger AR-HUD displays require head or eye-tracking and image distortion correction. Holographic projection is becoming increasingly feasible.

Interior News

Forvia Horizon Concept for Fresh User Experiences

INTERIOR NEWS

At CES, Forvia showcased a big bunch of products, spreading over their three strategic pillars: Electrification & Energy Management, Safe & Automated Driving, and Digital & Sustainable Cockpit Experiences. Combining the complementary strengths of Faurecia and Hella, Forvia received four CES Innovation Awards.

Horizon is an interior concept which provides fresh user experiences in a midsize SUV package. Exterior innovations included high-tech lighting and projection technologies, ensuring safety for occupants and other traffic participants. Selected lighting and sustainable materials communicate roominess and gracefulness. Forvia claims that no technology is shouting at the occupants, all is about serenity.

Then there were Forvia's HMI features: 3D graphics content floats in space and HMI feature selections are made by eye tracking. The entire interaction model is targeting a safer, more pleasing driving experience.

The interior is transforming into various configurations, all respecting safety and design integrity. Front seats will take a comfortable, relaxing position while the vehicle is recharging. The passenger seat is equipped with long-range tracks so, in a single movement, it can be positioned in place of part of the rear bench, enabling its occupant to interact fully with rear passengers. Thanks to a furniture-like table pod detaching itself from the instrument panel and moving backwards when the front seat is moved backwards, the passenger can also enjoy a dedicated work surface, while broadening their visual horizon and increasing their sense of space.

The Supremo seat is at the forefront of sustainable design. It is based on a compact structure thanks to recliner and tube positioning, thus freeing up extra space for batteries and footroom for rear passengers. When the vehicle is recharging, occupants can enjoy optimum comfort in a high-reclined position, thanks to the design of the seat’s compact frame as well as a headrest soft as a pillow.

CES 2024 Innovation Awards winners were proudly displayed at the Forvia booth, as **we've reported**.

Yanfeng's New Interior concept

INTERIOR NEWS

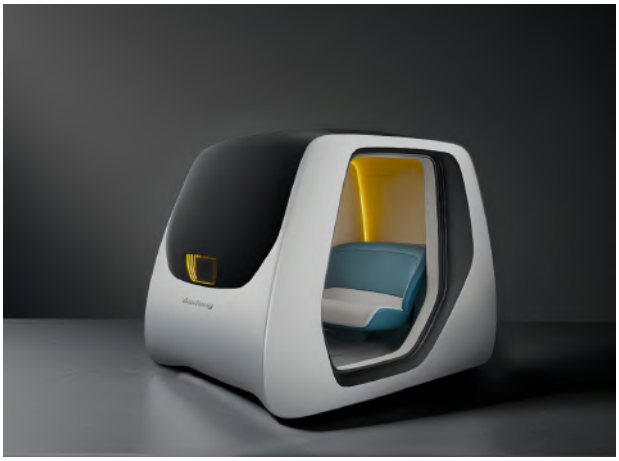
YANFENG IMAGES

Yanfeng displayed their latest seating, interiors, electronics, and safety systems innovations at this, their first go at CES. They debuted their EVI (electric vehicle interior) concept for future vehicle architecture; it eliminates the traditional instrument panel, and incorporates all key features and interior functions into a smart cabin seat, including an active headrest with integrated audio, safety systems, smart surfaces, and storage and charging integrated into the seat. In case of regular old-fashioned manual driving, the center console display becomes a steering element by dint of a smart cinematic arm, while the pedals move forward to be accessible. Besides functional benefits, like roominess, the concept also simplifies the assembly process, reduces weight, and eases end-of-life recovery.

They also showed off their 'Hover Seat', providing new levels of comfort by adding 'seat sensing posture ID' technology. The seat, based on zero-gravity research, adaptively forms to the curvature of the occupant's body and tailors the travel experience and comfort to occupant specifics. The seat features precise memory settings that allow users to save and recall their preferred seat configurations, massage functions, and more.

Also at the booth: ClickRim, a modular steering wheel concept with connectable segments that allows the automated wrapping of the steering wheel, integration of hands-on detection and heating functionality, and a

broad choice of cover materials. It contains proprietary self-aligning shells and an electrical connection system. This product creates a steering wheel with a notable reduction in labor to finish the assembly. It also has sustainability features as well.



The Cymaticx sound flow cabin features immersive acoustic experiences for vehicle interior spaces. Based on the new self-developed Ouranos Sound Domain Controller platform, integrating a variety of innovative acoustic technologies such as Holosound immersive audio, somatosensory augmented sound, Sonix acoustic follower algorithms, and special flexible thin film transducers.

Valeo Immersive Experience

INTERIOR NEWS

DVN IMAGE

Valeo showed many of their ADAS and interior products, including sensors and new HMI architecture and projection solutions. Different demonstrators were used in exclusive, private, customer-only parts of the booth, thus ensuring that Valeo non-customers couldn't see.

The ImagIn Q4 demo car, put together by Valeo and Sennheiser Mobility, is a multisensory exploration where light meets an immersive sound audio system to create the illusion of a sound stage around each passenger, transforming every ride into a breathtaking soundscape. The Valeo ImagIn interior lighting system is composed of projection modules, smart adaptable user interfaces, and software dedicated to projection and content management. It combines visual projected content— Valeo has developed improved technologies for daytime projection—with smart surfaces and sound for an immersive and intuitive experience for all passengers. The system has 26 loudspeakers, including in the headrests.

There's a smart adaptable user-interface based on gesture detection, and software dedicated to projection and content management. It will extend the useful surfaces and make them accessible for all passengers thanks to HMI in the front and the back of the vehicle. Beyond its practical utility, it transforms the vehicle design without impacting the hardware, combining visual projected content with smart surfaces and sound for an immersive and intuitive experience. Five patents are involved. The Immersive sound zone algorithm for headrest audio in all seats, along with animated visuals, increases the acoustic zonal separation between each seat row, allowing passengers to enjoy bespoke travel experiences.

Marelli's Design-Led Innovations

INTERIOR NEWS

DVN IMAGE

Marelli showcased their design-led approach to develop their software-defined vehicle interior concept (SDV-I), which leverages AI and is one of the first automotive applications of an OLED display. Marelli's SDV-I supports new display technologies including the next-generation Horizon View, Marelli's award-winning pillar-to-pillar display that boasts improved brightness and contrast compared to the previous generation, and a 12" hidden display that seamlessly blends into the cabin. It has up to four zone control units so content can be personalized by vehicle occupants.

The OLED movable display was developed by Marelli with the support of BOE Varitronix as part of a long running cooperation. A holographic display hosts a virtual assistant, an advanced HMI that acts as an in-vehicle copilot, creating a unique driving experience and transforming the interaction between the car and its occupants.

The driver can easily create a persona profile to define car settings: seat position, temperature, ambient lighting, music preferences, and ground illumination; the persona profile is stored in the cloud and transitions across different vehicles, ensuring a consistent personalized experience regardless of the vehicle.

Marelli's SDV-I also features their context-aware mobility experience ('CAMEX') solution, which enables interaction with the vehicle through analysis of the entire environment within and around the car. Leveraging Eyeris' in-cabin monocular 3D sensing AI (see **DVN coverage**), including depth-aware DMS and OMS, CAMEX analyzes users' face, body and hands in 3D space to understand complex behaviors and discern subtle moods, adapting vehicle settings and functionalities accordingly, as well as prompting interactions with the virtual assistant. The vehicle's external environment also assumes an active role in shaping the driving experience, from adjusting the A/C to cool down the driver according to their taste on a warm summer day, to suggesting a detour for a stop at their favorite restaurant.

Ambient lighting solution offers multiple combinations of colors, intensity levels, and cabin areas to adapt to user preferences, also in combination with decorative and smart surfaces. Particularly in combination with CAMEX, this becomes a powerful feature for occupant-vehicle interactions.

Their new sound zoning allows the driver to transform the car into their own personal conference room. An optimized background noise cancellation system will effectively isolate the speaker's voice from any background noise, including music being played, allowing for clear and uninterrupted speaker calls even with passengers not participating in the call.

LG: 'Alpha-able' Personalization for High-Tech Luxury

INTERIOR NEWS

Here's LG's idea of what future mobility will look like, integrating ADAS, automated driving), and in-vehicle infotainment technology. Called 'Alpha-able' (stylized as 'αble'), the concept car was developed in collaboration with Magna atop a platform that promises personalized user experiences.

Three key themes—transformable, explorable, and relaxed—underpin the future mobility concept. LG aims to transform the conventional car into a versatile space reminiscent of home or office environments, and this is where the company's prowess in cutting-edge display technologies and home appliances comes in.

Rollable, flexible, and transparent OLED displays adorn the concept car's interior, displaying tailored information and content to allow passengers to unwind while on the go. The αble recognizes hand gestures, with a particularly cool one revealing a second OLED screen at the front, which combines to offer passengers a wide view of the outside, which A-pillars would normally hinder.

THE ABLE RECOGNIZES HAND GESTURES TO REVEAL A SECOND OLED SCREEN UP FRONT (LG IMAGE)

While the αble is capable of autonomous driving, LG has provided passengers the option to take control, with a yoke-style steering wheel revealing itself from the center console where it usually stays folded and hidden away.

LG has equipped the able with an easily accessible refrigerator. Futuristic captain-style seats that rotate allow passengers to travel in comfort with gaming screens that drop from the ceiling—no more of that yucky feeling of withdrawal caused by being in a space where it is not possible to play video games at all times.

LG IMAGE

The concierge service comes from the trunk, with modules that slide down the center console to present passengers with gaming controllers and drinks.

Gentherm Software for Wellness

INTERIOR NEWS

Gentherm, specialists in thermal management and pneumatic comfort technologies for the automotive industry and in medical patient temperature management systems, unveiled WellSense at CES. It's a software-defined system that delivers customized in-cabin comfort sensations the company says promote wellness and well-being.

The technology leverages science-based physiology research as the foundation for proprietary software that orchestrates heating, cooling, lumbar and massage comfort effectors. Gentherm CEO and President Phil Eyler says, "Trends are shifting towards consumers using their vehicles as a third living space, offering an additional revenue opportunity for OEMs to address consumer health and wellness needs. The launch of WellSense is the next evolution of our software enabled technologies that positions the Company at the nexus of health, wellness, comfort, and energy efficiency".

The WellSense software development kit can be combined with additional vehicle features like in-cabin audio, visual and aromatic stimulation to deliver unique sensations that go beyond traditional comfort regulation to help promote individual wellness and wellbeing.

Senior VP and CTO Vishnu Sundaram says, "We see opportunities at the intersection of the software defined vehicles market and consumer desire for total well-being to deliver health and wellness-based experiences leveraging our expertise in thermal and pneumatic comfort. WellSense is not only a scalable solution that fits future SDV architecture, but also a system that delivers a symphony of sensations that promote passenger relaxation and rejuvenation".

WellSense currently offers a library of experiences around the following themes:

- Physical wellbeing: heating and massage stimulate muscles, ease tension, and relax the mind to support lower back health
- Cognitive wellbeing: coördinates thermal and pneumatic technology to help keep a driver alert.
- Healthy Lifestyle: helps promote fitness by offering pre- and post-workout solutions. Further support for a healthy lifestyle is offered through experiences to help target stress management.

Grewus Haptics for Safer Seating

INTERIOR NEWS

Grewus, based in Hamburg, Germany, has been developing and making haptic actuators and acoustic components since 2007. Those kinds of components are increasingly being used on automotive smart surfaces. At CES, Grewus showed a demo seat, developed with the integration support of Typ 1, demonstrating the value of haptics in a vehicle seat.

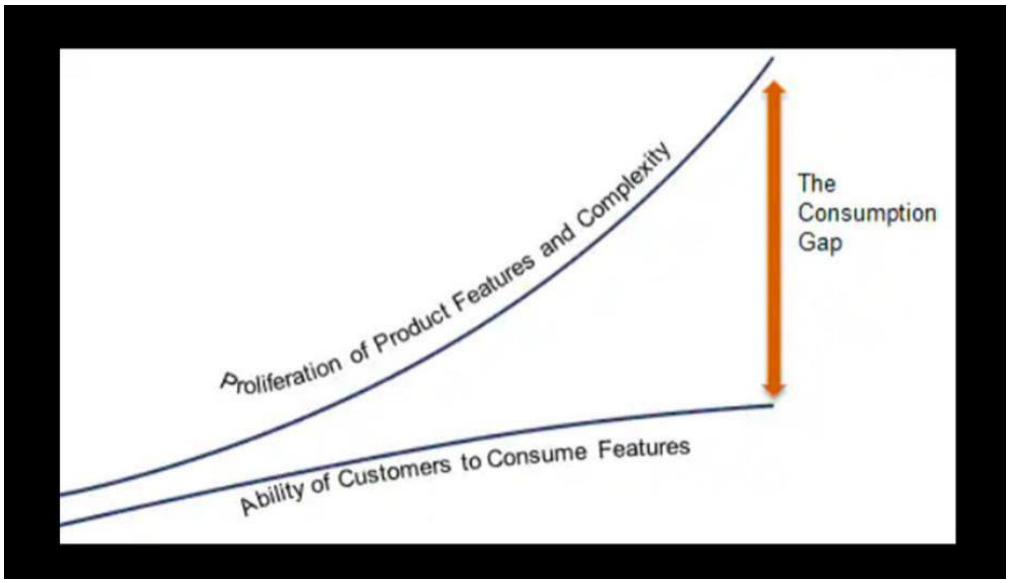
Using haptic actuators powerful enough to be felt by seat occupants, and small enough to be packaged into the seat without spoiling comfort, helps the seat to become an affective element of the HMI system. Haptic feedback to the seat occupant, especially the driver, delivers warning signals immediately understood and felt in case of a safety hazard. It is even important in case of autonomous and electric vehicle It is as well a local alert, which will not bother any other occupant of the vehicle.

The Design Lounge

Dice

THE DESIGN LOUNGE

By Athanassios Tubidis



'Our technology solution is so amazing; it can solve problems that don't even exist!' This phrase is a vivid illustration of the reason why a staggering percentage of digital transformation initiatives never meet their goals. The trend is also called 'first to the market': create the solution, then communicate on the problem solved.

During CES 2024, the mobility sector had its fair share of personalized digital experiences. Many press conference scripts, based on descriptive vocabulary, referred to AI-infused mobility platforms promising to deliver customized, individually curated, services. Personalized spatial capabilities were provided by incorporating individual lifestyles into the mobility space to embrace users across a wide spectrum of needs, along with free mobility…All proposed applications were linked to an unmanned, large scale mobility system that surpasses the limits of the existing logistic practices, based on new software applications. People-mover, plug-and-drive pods, based on modular robotics could, in the future, come to you when transportation is needed. Individual mobility modules could dock within a building's elevator system, or roll around town alongside pedestrians and then could be loaded into larger shuttles that allow multiple pods to move as a group. From macro to micro, mobility platforms, all together compose a modular Lego-like mobility system (often called, as an oxymoron, 'the ecosystem'). All that without yet mentioning the telepresence bot, a short of a robotic pet that could occasionally serve as a tourist guide, or the unmanned air taxis. Everything is designed to be general purpose, autonomous and universal. Alternatively, there is a bridge for sale in Brooklyn.

New and sparkly ideas can be psychologically appealing, offering a sense of progress and modernity, because humans have a natural inclination towards anything new. The technology contradiction though lies in the shiny appeal of the new tech solutions often diverting attention from practical utility. This trend underscores the importance of aligning tech adoption with a well-defined strategy to ensure meaningful impact.

A lot of companies had to find a real problem after they developed the solution, else the shiny new object syndrome, known in its CES24 corridor version as 'a hammer looking for nails'. This is a timely reminder that the value of technology lies not in its novelty, but in its capacity to enhance operational efficiency and meet specific business needs. Tech is just a force multiplier (to be used consciously).

However, there is a third party that drives that obsession with shiny products: Venture Capitalists. They often do not want anything useful but boring. This is still the reality because money also drives creation. While the iPhone has progressed since its inception, the solutions it provided referred to problems we didn't realize we had. And while they have fundamentally remained the same, because human need for interaction is, well, the same, our lifestyle has radically changed. Innovation is not merely a technological change or a shift in organizational culture. It is both and more…

Bold, persistent experimentation might be our best tool for rethinking. it is the reason why generalists triumph in a specialized sector. Conceptual reasoning skills can connect new ideas and work across contexts

In a world that car obesity does not get any better by just swapping batteries for motors, the Korean automaker Hyundai deliberately went the other way. In the specific case of their DICE pod presented during CES 2024, the hypothesis is that if everything is wireless then everything is everywhere, everything is mobile, for example a hotel room, a telephone booth, an office space, 'home', …what happens if we materialize the cloud? Moreover, while you can redefine anything that was static up to now, can you really redefine cars? 12years ago, during CES 2012, Mercedes presented a similar concept, and surprisingly with the exact same name (!) the Mercedes DICE, in an attempt to redefine car interiors.

Maybe in order to redefine the cars of the future we need to step out of their universe. It might be that the new world is not about replacing cars, neither about their evolution into something else. It might be about a new parallel system that instead of mobility addresses transportation, referring to the passengers instead of the drivers, taking care of the excess capacity, for instance the number of passengers that we claimed reduced over the years in the traditional five-seater automobile usage. Now, that clarifies everything, because unlike Mercedes twelve years ago, Hyundai, during dice presentation, did not mentioned a single time the word 'car'.

News Mobility

Zeekr Shows Prototypes for Robotaxis from Waymo

NEWS MOBILITY

ZEEKR IMAGE

At CES, Chinese car brand Zeekr unveiled their prototype MPV developed for Google subsidiary Waymo. The idea is for it to be used in the Waymo One self-driving US robotaxi fleet.

The MPV has no B-pillar, which leaves significantly more space for the doors; they can be opened up to 1.40 meters wide, making it easier for old and tall people and children to get in.

The car is based on the SEA-M platform, which is specially designed for autonomous driving up to L^4. Among other things, the SEA-M architecture supports chassis-by-wire: electronic control of the vehicle without mechanical components. Electrical signals and electronic control units replace the steering column, among other things. This is the only way the car can function over longer distances without the driver.

Zeekr CEO Andy An said, "Zeekr cars equipped with driver assistance systems from Intel subsidiary Mobileye will also be sold in Europe as early as the second half of this year". The cars will be equipped with six EyeQ 5 chips from Mobileye for L^4 autonomous driving and, according to the manufacturer, will be the first mass-produced, predominantly self-driving car for the mass market.

Xpeng's Flying-Car Dreams

NEWS MOBILITY

XPENG IMAGE

The flying car has been a fantasy for decades, but the plans are gaining plausibility. Chinese manufacturers are now launching an ambitious initiative, and one such prototype was on display at CES.

Wang Tan is cofounder of Xpeng AeroHT. He says, "We want to build flying cars". The white-and-blue prototype was not just a futuristic exhibit, but also represents ten years of technological development. "We have built four generations of eVTOLs and have been flying them since the end of 2022," says Tan. In addition to the likes of Boeing and Airbus, other startups are also working on these electrically powered aircraft, which can take off vertically and resemble very large drones.

AeroHT plans to launch their first flying machines in China as early as next year, though in a different form to the one shown at CES; the "Land Aircraft Carrier" is to be a combination of a small electric plane for two people and a giant car.

Customers can drive into the countryside in a large, off-road vehicle and let the plane drive out of the cargo hold at a remote location. Once the propellers have unfolded, the flight can begin up to an altitude of 100 meters. For safety reasons, the aircraft has two parachutes to bring it to the ground undamaged if more than two of the six propellers fail.

AeroHT is currently building their own factory for the production of the small aircraft in Guangzhou. The carrier vehicle is being built by the parent company Xpeng.

General News

Bosch Cariad Solution to Park and Recharge

GENERAL NEWS

BOSCH IMAGE

Bosch, along with Cariad, are working on an automated valet parking service that includes driverless charging of EVs, with the target to smoothing the way to electromobility, and its twin hassles of parking and charging.

Bosch's solution, which is based on its existing automated valet parking system, guides an EV driverlessly to an unoccupied parking space equipped with a charge spot, where a charging robot recharges the car automatically. Once recharging is complete, the vehicles then maneuver to another parking space, freeing up the charge spots for the next EV to be recharged.

It's already being tested in two parkades in Germany: Cariad's staff parkade in Ingolstadt, and Bosch's development parkade in Ludwigsburg.

Manuel Maier, vice president of the cross-domain L^4 parking product area at Bosch, said, "Our two services —automated valet parking and automated valet charging—make the mobility experience much smoother for users. Making it straightforward to recharge electric vehicles allays people's misgivings about range, and is essential if electromobility is to find widespread acceptance. With this in mind, Bosch and Cariad can make parking and charging even more efficient and convenient".

Bosch's existing automated valet parking technology is said to be the world's first driverless L^4 parking service. It's been in operation at the P6 parkade at Stuttgart airport for about a year now, and Bosch is also starting to roll out the infrastructure technology to other parking garages throughout Germany.

AI Shapes China's View of CES

GENERAL NEWS

CONTINENTAL IMAGE

Specialist portal Cheyunwang reported from CES that American chip manufacturer Nvidia has become the "leading global supplier for smart driving". According to the report, the number of Chinese car manufacturers buying hardware for their e-cars from Nvidia is growing.

In addition to Nio and Xpeng, two EV startups inChina, Nvidia recently won Li Auto, Great Wall Motor, Zeekr and Xiaomi as new customers "to provide hardware for these companies' future e-car models for functions such as autonomous driving".

The South China Morning Post in Hong Kong noted that Chinese companies were in full force at CES this year: "While there were just under 500 in 2023, this time there [were] well over 1,100 companies".

According to other Chinese press reports, one reason for this is that the most conspicuous focus of CES this year has shifted from e-car presentations to the topic of artificial intelligence. It is precisely in this field that a growing number of Chinese suppliers have a lot to offer. "The integration of artificial intelligence and automotive software and hardware, especially the application of AI in smart cockpits and for smart driving functions, is what makes this year's CES so exciting," wrote Cheyunwang.