Thu, 3 August 2023
Weekly Newsletter

DVN-I
Automotive Interior

NEWSLETTER #172

Editorial

New Mobility Drives New Interiors

INSIDE A ZOOX CAR (ZOOX IMAGE) – ZOOX IS HAVING A LECTURE AT DVN LIGHTING WORKSHOP IN SAN FRANCISCO – AUG 29

The progressive introduction of more automated cars has opened up new possibilities for car interiors, with designs focused on allowing the passengers (including the driver) to make the most out of their car journey. Last may, DVN Interior attended the Toulouse Mobility Solutions Show trade fair, presenting solutions that respond to new uses of mobility, for everyone, daily. As summer is conducive to taking a step back, this week's in-depth article about new mobility should foster imaginative thinking towards new usages and related interiors. Another example in the Mobility News section: the Cognizant-Benteler-Holon project, with a new AI system called VERA (Very Enhanced Road Assist) to be presented at the upcoming IAA in Munich.

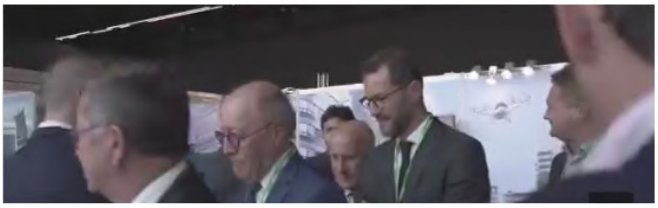
August is not a holiday here at DVN; we are working hard to put the finishing touches on our DVN Triple Workshop in San Francisco on 29-30 August—Lighting, Lidar, and Interior. The Interior Deep Dive docket has been finalized; you'll find it **here**. Don’t miss it, we are looking forward to meeting you all there!

Sincerely yours,

Philippe Aumont
DVN-Interior General Editor

In Depth Interior Technology

Mobility Solutions Show (M2S) in Toulouse



M2S IMAGES

The Toulouse Mobility Solutions Show (M2S) trade fair presents solutions that respond to new uses of mobility, for everyone, daily. In addition to bringing together public and private mobility players, M2S addresses all types of transport—land, sea, air—for goods and people. Understanding the future of mobility is also understanding what people on the move will do in their mobility-tool, and that is understanding of what a mobility-tool interior will be made of!

Transport of goods and people—mobility—represents a strong economic and societal challenge for the years to come. This concerns both industrial manufacturers and software publishers, infrastructure, and network solutions as well as service providers. Startups, societal actors, experts in peripheral professions, and research establishments are invited to a dialogue based on innovation and vision for the future of mobility.

History

“Avion” from the Latin avis (bird) is the name French inventor and engineer Clement Adler chose for his patent application in Toulouse in 1875. Toulouse is the 4th most important city in France, located in the South, not far from the Spanish border.

In the United States and England similar attempts were taking place, using a mechanical device in order to fly, but Adler was credited as the first person to understand the mechanics of lifting something heavier than the air. While hot air balloons were already operational, the dream of motorized flight became an obsession, and in the years to follow, great developments on the sector took off the ground. Adler understood the strategic role of aviation, and from 1907 on he dedicated several of his projects to military purposes. When something is related to war there is a notion of emergency; funds are not questioned and things tend to develop very fast. Thus, motorized aviation became a priority in the early 1900s and Toulouse—far from the east front and enemy lines—was the perfect place to develop the next big thing. Ever since then, the region has been synonymous with aviation at all levels. Now *avion* is French for "airplane", and Toulouse is the homebase and central locus of research, development and assembly for Airbus and their subsidiaries and affiliates, one of the world’s greatest aircraft manufactures.

GOOGLE IMAGE

Context

Ever since those pioneers did their thing, the culture of new things and experimentation remained as a local asset. On the last day of May 2023, all accumulated knowledge and corporate culture was called to contribute to upcoming M2S, Mobility Solutions Show. Adler's visionary question 120 years ago of how we might use the air to go from one place to another, was reinterpreted at M2S in the new context as how we might use any type of energy and resource to go from one place to another, and how we might implement and expand the use of new applications in the vast array of mobile devices. To meet the ever-growing demand on new solutions of high technological content and safety standards for urban and suburban mobility, local aviation knowledge and expertise comes in handy.

DVN IMAGE

Unlike other mobility shows, what really made the difference was the 'outsiders' R&D culture and approach to land mobility, introducing a new spirit of experimentation. Unlike with automotive OEMs, this is custom to aviation. Many insights from flight simulators or distance tower controls were implemented to vehicles, with often spectacular results.

DVN IMAGE

Presentations

According to Umiles-Technalia group, specialists in air and ground applications based in Spain, such uses can be very cost-effective on urban territories where density and the multitude of mobile trajectories are difficult to manage.

DVN IMAGE

Real-time events such as remotely operating in another country, from a cockpit situated in the show, while in the test track a platooning demo was taking place among several vehicles.

DVN IMAGE

The idea of using urban traffic to our advantage was an eye-opening demo. With existing technology, one single driver could perfectly control the entire flow of vehicles (platooning) during congestion, which represents great amounts of time in and out city centers. While gathering and dispatching all vehicles to destinations, control can be taken over by their own local or remote driver. Following the same logic for individual vehicles, a semi-autonomous driving system was demonstrated in real time operating a freight truck in Madrid from a cockpit

situated in the stand at the Toulouse expo Center. Keeping the human in the loop is a milestone of Umiles' philosophy in every proposed application.

DVN IMAGE

While the buzz was growing with distance piloting, platooning and semiautonomous drive demos in both Umiles outdoor test track and indoor booth, local constructors had equally their fair share of success.

DVN IMAGE

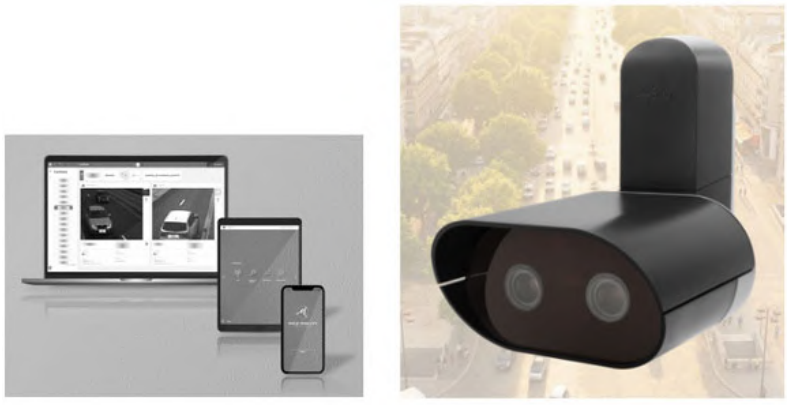
Extensive presentations and test drives were given by Eon motors, because mobility has also a territorial aspect. The idea of creating a vehicle that can serve local needs, felt very appealing to many and actually fun to access and drive at any proximity destination.

DVN IMAGE

At any mobility show around the world, there are always electric passenger and cargo bicycles. However, there was something curious on an otherwise normal-looking powered bike at the stand of Pragma Industries: the first commercially available hydrogen bike! This is a fuel cell electric bike that nevertheless clearly states that a hydrogen fuel cell is the new ‘battery’.

DVN IMAGES

In the polyphony of our mobility scheme, scanning and monitoring are fundamental technologies. Real-time itinerary calculation, law infraction, tunnel safety, overweight vehicle detection, smart parking, vehicle surveillance, congestion, emissions, safety and overall mobility improvement are some of the subjects that MACQ, a high-end AI-based camera specialist, has showcased.

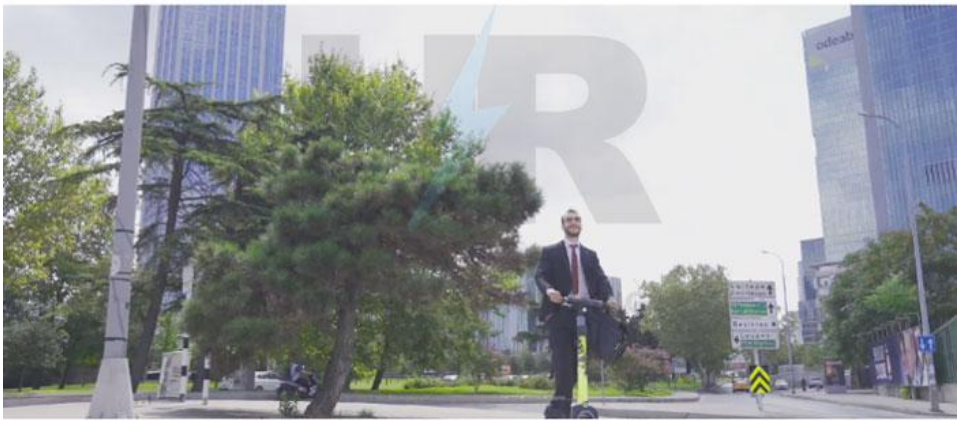


MACQ IMAGES

GRDF (Gas Reseau Distribution France) at its impressive stand, including a Delorean DMC for their back-to-the-future-themed presentation, was supporting local resources on the idea that every region has enough resources to generate energy, often to the level of autonomy. For the Toulouse/Occitanie area (over 70,000 km^2, close to 6,000,000 people in more than 4,000 communities), compelling data showed supporting a local biofuel scenario with great potential of creating a very performing energy distribution network based on native resources.

GRDF IMAGE

HubUR focused on mobility for the suburban lifestyle. Clearly, the most populated stand of mobile devises such as kickboards, mono-wheels, electric scooters, bicycles and motorbikes, light electric 4-wheelers, the entire lineup of wheeled objects and vehicles. The twist: this is a real estate company! In other words, real estate is not about location any more, but how you get there. The new suburban model is called Agora; just as the name suggests, it is a combination of mobile applications and building infrastructure. A suburban new world is emerging during a moment of an urban saturation and polyphony, based on working and moving in vast and extended territories that offer different freedoms than their urban counterparts.



A beautiful scale model was on display, proposing a new mobility infrastructure based on light trains. They are certainly less heavy, even though they look like trains, but they are even ‘lighter’ in terms of exploitation and more performing thanks to a combination of innovative ideas. For instance, they can be chartered and maintained by a local railway company. Light urban/suburban trains can serve in a hybrid passenger/freight configuration. Reviving the secondary rail network has been the greater vision that brought together ten different partners: Telexis, CAF, Wabtec-Faiveley Transport, Railenium, Ferrocampus, Alstom, Capgemini, Cerema and Ektacom, to one of the greatest consortiums aiming to upgrade subordinate mobility networks.

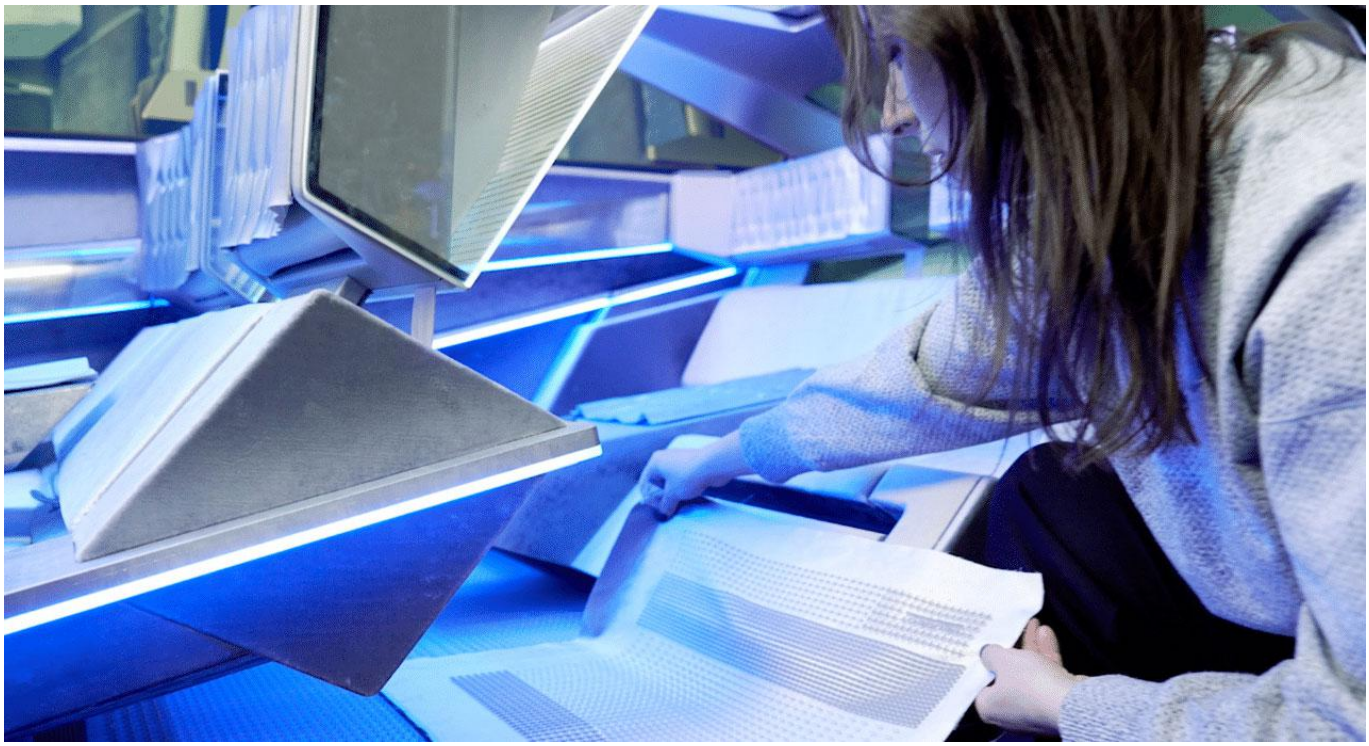
M2S IMAGE

M2S was a vision of mobility from the outer space, not in planetary terms but in the sense of a vision coming far away from the expected automotive industry sector. For just over a century, our itinerant lives related to cars and today that complex problems and mobility topics emerge, all industry sectors are called to contribute. Interestingly enough, the M2S show in Toulouse had a strong local identity due to its aviation legacy and thus attracted leaders of different industry sectors with fresh eye to the complex subject of mobility.

Interior News

Peugeot Inception Stratasys 3DFashion Technology

INTERIOR NEWS



PEUGEOT IMAGE

Peugeot has integrated Stratasys' 3DFashion technology into the interior of their new Inception concept (see DVN Interior CES 2023 Report and The Design Lounge), to deliver a level of resolution not possible with conventional componentry.

The car features revolutionary interior design, replete with advanced materials produced exclusively using Stratasys J850 TechStyle 3D printers.

Stratasys is an American-Israeli manufacturer of 3D printers, software, and materials for over 35 years, for polymer additive manufacturing as well as 3D-printed parts on-demand. The company is incorporated in Israel. Engineers use Stratasys systems to model complex geometries in a wide range of polymer materials, including: ABS, polyphenylsulfone (PPSF), polycarbonate (PC), polyetherimide, and Nylon 12. It has a broad range of solutions available, including PolyJet, FDM, SL, P3, and SAF, along with a collection of in-house printing materials available worldwide driven by advanced software solutions.

Aligning with Peugeot's new electric vehicle design architecture, the Inception concept benefits from a minimalistic cockpit designed to 'reinvent the driver experience'.

The seats are upholstered in a velvet produced from 100-per-cent recycled polyester, and this material is also used on the floor and features 3D patterns created using Stratasys's 3D printing technology.

Peugeot Advanced Design Team (responsible for the future vision of the Peugeot brand) CMF Designer Maud Rondot says of her company, "At Peugeot, we always like to combine function with aesthetics. Our objective with the Inception concept's seating area was to modernize the velvet material used and decompartmentalize the design by extending it to also serve as a visually impactful floor mat."

Rondot also explained that unlike conventional vehicle floor spaces which would require a protective overlay, the Inception concept instead uses direct-to-textile 3D printing to deliver a combination of functionality, texture, and aesthetics.

During the development of the concept, the Peugeot Advanced Design also focused on the relationship between materials and light. This resulted in a metallic shade of velvet being selected to play with light and deliver a futuristic feel. The J850 TechStyle 3D printer was then used to create the semi-transparent 'micro-architectures'.

Magna to Build Three New Plants to Supply Ford

INTERIOR NEWS

MAGMA IMAGE

Magna will spend $790m to build three new factories in Tennessee to support upcoming Ford electric pickup production at the automaker's BlueOval City factory. Magna, North America's largest auto supplier, ranks № 4 on the Automotive News global supplier ranking, with annual parts sales to automakers of $37.8bn in 2022. At the new plants they will build complete seats, vehicle frames, and EV battery enclosures, starting in 2025. The plants are expected to employ up to 1,300 people.

Two of the factories will be built at BlueOval City, Ford's 3,600-acre manufacturing complex in Stanton, Tennessee, where electric pickup trucks and EV battery cells will be made. The complex includes a supplier park, and Magna's plants there will be the largest supplier factories on site.

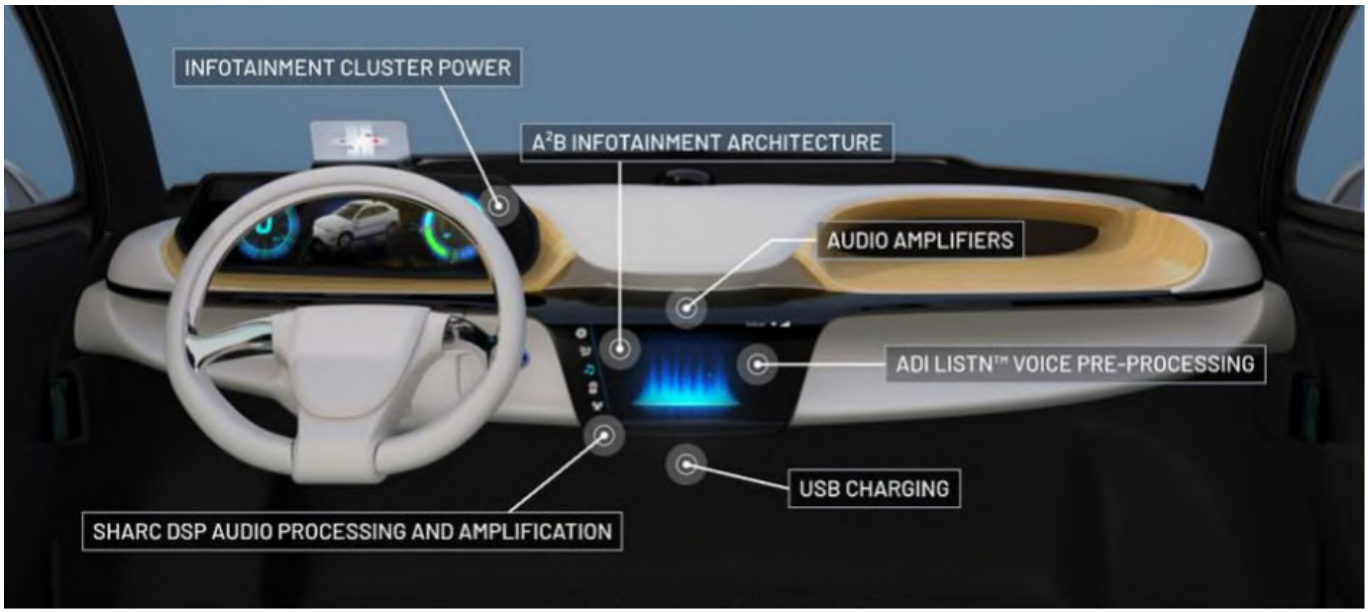
The complete seat activity will take up 14,000 m^2 (151,000 ft^2) and produce polyurethane foam and assemble complete seats for just-in-time delivery. That plant will employ about 300 people, the company said. It is pretty unusual to have PU foam production in a JIT plant, however, it makes a lot of sense as transport of these bulky components have high CO_2 impact.

All the components built at the three factories will support production of electric trucks at BlueOval City. The truck will be built on Ford's dedicated battery platform, but will be a separate model from the F-150 Lightning.

Ford expects their new $5.6-billion, 372,000-$m^2$ (4 million ft^2) assembly plant to have annual capacity of about 500,000 vehicles when it comes online in 2025.

Foxconn, Analog Devices Work on Cockpit Electronics

INTERIOR NEWS



ANALOG DEVICES IMAGE

Taiwan's Hon Hai Technology and US semiconductor manufacturer Analog Devices have agreed to work together to develop digital cockpits and high-performance battery management systems for EVs.

Analog Devices is a global semiconductor company combining analog, digital, and software technologies into solutions that help drive advancements in digitized factories, mobility, and digital healthcare, combat climate change, and reliably connect humans and the world. They posted revenue of more than $12bn in FY22, and employ approximately 25,000 people globally.

Hon Hai, also known as Apple's main manufacturing subcontractor Foxconn, has been expanding aggressively in the global EV sector in the last few years to reduce their dependence on Apple. Hon Hai recently unveiled several BEVs based on the open vehicle platform they developed as the leading company of the MIH Consortium.

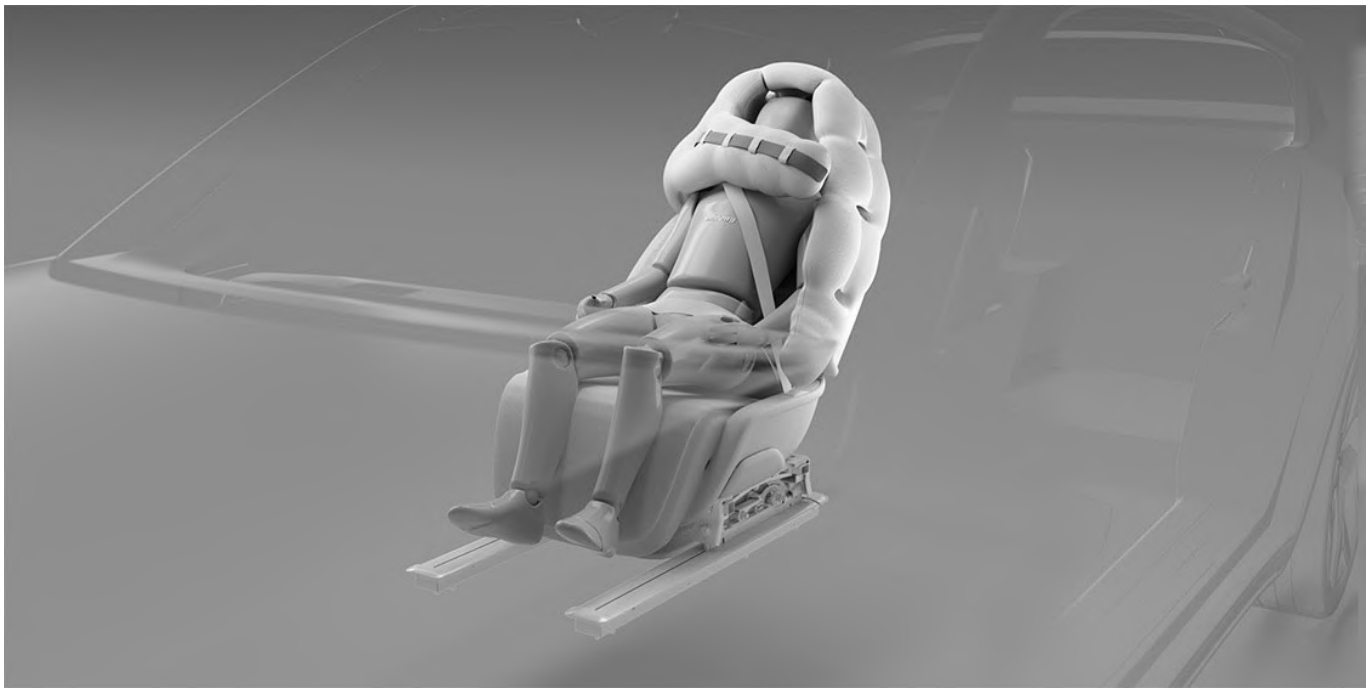
Following the signing of the memorandum of understanding this week, Hon Hai said "Our two companies are positioned to forge a transformative path by advancing software defined and more sustainable, feature-rich vehicles".

Analog Devices CEO and Chairman Vincent Roche said, "The global automotive industry continues to digitalize and differentiate at the semiconductor level to deliver a more personalized, immersive and sustainable driving experience."

Hon Hai CEO Young Liu said, "We look forward to working with [Analog Devices] to leverage its high-performance automotive electronics technology. [Their] flexible hardware and robust software solutions, combined with Foxconn's expertise in electronic design, system-level integration and manufacturing prowess have the potential to deliver scalable vehicle platforms to create a more enjoyable and user-friendly cockpit experience".

Yanfeng Passenger Seat Safety Technology for Relax Position

INTERIOR NEWS



YANFENG IMAGE

Yanfeng has a new passenger seat safety technology: a new seat intended to reduce injuries from collisions when occupants are seated in a large angle reclined forward seating position.

New smart cabins have different seats than current vehicles which include large angle reclined forward positions and movements such as rotation. That is especially true for (partly) autonomous vehicles, where new use cases are popping up, including relax positioning.

Yanfeng claims to have made significant progress in collision protection for such applications, and has gained 60 patents. “The company has been exploring this field for many years, attempting to reduce the serious injuries caused by road accidents with new product technologies,” said Ni Jiawen, CTO of the Yanfeng Tech Centre.

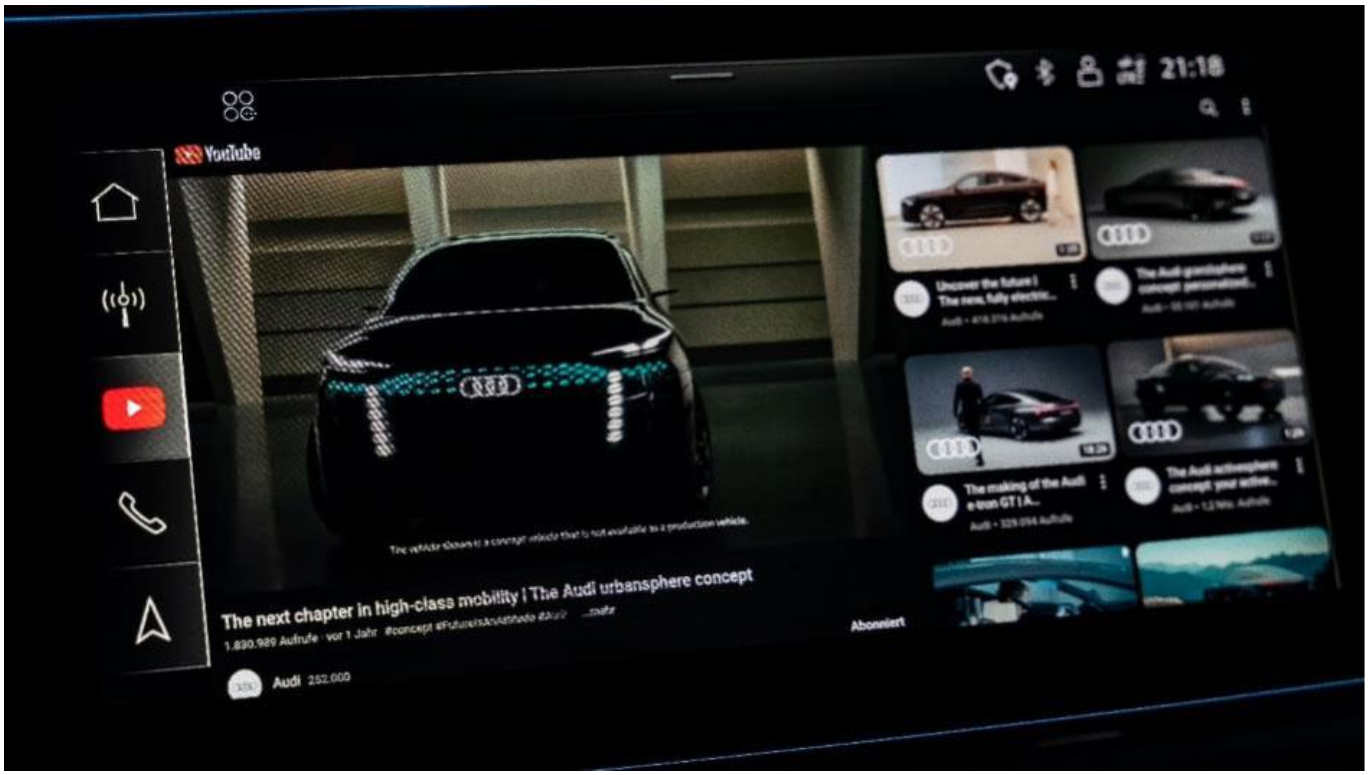
A Pre-crash Seat Rapid Return system ensures that when the ADAS or SDS determines a collision is imminent the passenger seat is rapidly adjusted to a safer position. The Follow Up Seat system returns the seat to the appropriate backrest angle after collision if ADAS or ADS fails to detect an unavoidable collision of if there is no pre-crash function. The company said this improves restraint protection for the occupants.

All Belt to Seat allows for seat belt locking under different seatback angles. The Buttock Airbag in the front of the seat aims to reduce the inertial rush forward in the early stage of a collision. This is to offset the lumbar spine force, reducing spinal pressure.

And the Hoodie Airbag system is an “all-in airbag” which, when deployed, protects the occupant’s head, neck, and chest in different collision scenarios.

Audi adds YouTube with Cariad, Harman

INTERIOR NEWS



AUDI IMAGE

A new app store developed by Volkswagen Group software company Cariad and Harman Ignite, provides third party apps via the touch screen using a data link connected to a SIM in the vehicle.

Harman Ignite Store is a connected vehicle platform that enables automakers to develop, manage and operate their own in-vehicle app store. Compliant with Android Automotive OS, Harman Ignite Store was recognized as Fast Company's 2020 Innovation by Design Award and has been selected by large global OEMs as their solution of choice to offer in-vehicle experiences to the consumer.

Apps are installed directly into the infotainment with no need for a smartphone ‘intermediary.’

Apps include music, video streaming, gaming, navigation, parking and charging assistance, productivity, weather updates, and news.

The feature is launching now in Audi models with other VW group brands to follow.

Some 2024 model year Audis models with compatible hardware and software will also have YouTube access.

New Mercedes-Benz CLE Interior

INTERIOR NEWS

MERCEDES-BENZ IMAGES

Mercedes-Benz calls their new CLE "the largest coupe in the midsize segment." It is about 16.5 cm longer than the previous C-Class coupe, has a longer wheelbase (same as new C-Class) and taller than the previous E-Class coupe by a few cm. The growth and changes in proportions have created a cabin with more headroom, knee room and shoulder room in the rear, and the trunk has room for up to three golf bags.

The interior with its 12.3” digital instrument panel and 11.9” vertical touchscreen is all C-Class. Additional sportiness is created by the dynamic ambient lighting in 64 colors. Ambient lighting with indirect light on the trim strip of the instrument panel, the cup holders on the center console, the overhead control unit, the door handles, the seat adjustment unit and in the front footwell is standard equipment. With the optional Ambient Lighting Plus, a light band sweeps from the center console along the lower edge of the instrument panel to beneath the outer air vents on each side. A strip of light runs in each of the doors along the lines of the armrest and beltline to the rear row of seats, which reinforces the generous feeling of space.

The seats specially developed for the new CLE have integrated speakers (two per front seat), which complement the standard 17-speaker Burmester 3D surround audio system. The CLE features the MBUX infotainment system with online music streaming, voice assistant, user personalization and Android compatibility for third-party apps like Zoom, Angry Birds or TikTok. The voice assistant now includes a setting where it will always be listening for commands without being activated by the keyword "Hey Mercedes"—it only works if you are alone in the car.

Customers can choose from a variety of interior materials and colors, including quilted and perforated Nappa leather, open-pore black wood veneer, aluminum inlays, walnut wood and more. For the first time in a Mercedes, the seats are unlocked with a Nappa loop located at the upper edge of the backrest to provide access to the rear seats.

The New Genesis G90

INTERIOR NEWS

GENESIS IMAGES

Genesis, the luxury brand of the Korean Hyundai Group, is bringing their new G90 sedan to Europe. The strikingly designed model is said to redefine the 'luxury design experience', and is characterized by its 'Athletic Elegance' design language, more classic than showy.

Two body variants are offered. With a short wheelbase, the notchback sedan is 5.28 meters long; the long version is 5.47 meters—exactly the size of a Maybach S-Class.

GENESIS IMAGE

The customer can choose between four and five seats with a short wheelbase, and four seats in the long version. These can be individually heated and ventilated, and are equipped with massage functions as well as ventilated and heated footrests with massage function.

When you have taken a seat in the executive chair in the rear, the front passenger seat slides forward. The lounge couch (standard in the long-wheelbase version) is like a sofa with a massage function, electrically adjustable backrest, soft headrest cushion and footrest that can also be extended electrically.

The doors of the G90 open and close partially electrically, and the ruler in the rear uses his own touchpad to command an entire court that makes life as pleasant as possible for him while traveling—including a Bang & Olufsen sound system with the power of 1700 watts from 23 speakers.

Up front, the screen is standard size, with many buttons and keys so that all essential functions can be selected directly and quickly. The workmanship seems top-notch, and the materials are of high quality.

The thick acoustic glass blocks out stress and wind noise. All-wheel drive is to be standard, at least for the long version, as is an air suspension or rear-wheel steering for a comfortable, relaxed, and classic way to travel on four wheels.

With the new model, Genesis aims to further expand its presence in the luxury sedan segment. First deliveries in Europe are planned from December 2023.

The Design Lounge

Electric

THE DESIGN LOUNGE

DVN IMAGE

By Athanassios Tubidis

With the launching of Nissan Leaf (2018), the brand announced that the widely anticipated new model would come with e-Pedal, a revolutionary technology that transforms the way we drive. Allowing drivers to accelerate or decelerate, e-Pedal technology is the world's first one-pedal operation bringing the car to a complete stop even on hills, stay in position, and start again driving instantly. In heavy traffic and during city commutes, drivers will greatly reduce the need to shift. Nissan e-pedal uses regenerative braking, a system that converts the kinetic energy of a moving vehicle into electric energy that can be stored or used, improving efficiency and range. The development of these technologies is part of Nissan Intelligent Mobility, the company's blueprint for transforming its upcoming products and joining the ever-growing EV trend.

Rewinding 189 years from today, US patent № 132 is the first US patent issued (1834) for an electric motor. The patent claims: *'applying magnetic and electromagnetic power as a moving principle for machinery in the manner above described, or in any other substantially the same in principle'.* On a 9" by 14" wooden base, supported on four curved legs, carrying a circular frame, in which four rough electro-magnets are painted in red, it was made to revolve within a ring of steel magnets. The steel magnets in the ring are arc-shaped and can be lifted out of the frame. * The invention belongs to Thomas Davenport (1802-1851), a blacksmith from Vermont, that he used his electric motor, back then, to power an (electric) car.

This was before Abraham Lincoln was elected president (1860), before the transcontinental railroad was even an idea (expressed in 1845), way before Alaska was part of United States (1867) and just before the first electric telegraph was built based on the work previously done by inventors, Michael Faraday and Andre-Marie Ampere (1837).

Focusing closer to the early 1800s, several 'electric' innovations had followed Alessandro Volta's developments which were enabling chemical storage of electricity (1800), the so-called voltaic pile (= battery). English chemist Michael Faraday invented an electric motor driven by voltaic pile in 1821. Between 1832 and 1839 the Scotsman Robert Anderson developed a battery-powered horseless carriage with a non-rechargeable battery,

and Sibrandus Stratingh, a Dutch chemist, developed an ‘electromagnetic carriage’, one of the oldest electric vehicles still in existence.

Electric vehicles had a nearly 50-year head start on combustion engine vehicles. Once batteries were invented, electric motors followed. Soon, people began putting those batteries and motors on carriages. Until Ford's Model T, battery-propelled electric vehicles dominated any vehicular travel, moving faster than a horse.

Earlier this year, on April (2023), Farnborough festival of electrification was showcasing, among others, the latest domestic technologies and applications right next to a great number of electric vehicles of all shapes and sizes (*see… ‘Fully charged’ Coffee Corner, May 18, 2023*) Unexpectedly, I had a unique chance and great honor, of meeting-in-person one of those pioneering attempts of electrically enhanced, battery-powered, horseless carriages. The specific original sample, developed back then, with a non-rechargeable battery (like Scotsman’s Robert Anderson’s principal), was on display during its restoration phase by a local museum. The vehicle was intensely surrounded, somehow ‘protected’, by its own deep-smell atmosphere composed by old wood, leather, solid rubber, metal and dust. The dense aromatic microclimate and distinct contrast to the rest of the high-tech show, acted like a time-travel bubble, persuading those approaching, into an observation ritual of the mobility relic and all its archaic mechanics, materials, and vastly outdated details.

In the picture above, the detail that struck me was a potentiometer, at the place of the brake pedal, in order to see the energy recuperated while breaking downhill. I have strong suspicions that Nissan knew its piece of history, in 2018 while launching Nissan LEAF with the regenerative braking e-Pedal.

* *W. James King, Development of Electrical Technology in the 19th Century (Smithsonian Institution, 1962), 264*

News Mobility

Cognizant–Benteler–Autonomous Minibus

NEWS MOBILITY

BENTELER IMAGE

Cognizant Mobility, Benteler, and Holon work on a production-ready autonomous mover, because they see a great opportunity in independent and sustainable mobility. Cognizant is an American multinational information technology services and consulting company, headquartered in Teaneck, New Jersey. Benteler Automotive develops and produces components and modules in the areas of chassis, body and engine, exhaust systems and system solutions for electric vehicles. Holon is a mobility brand of Benteler.

The concept of the mover—an autonomously and electrically operated minibus or van—meets the requirements of tomorrow's mobility in many criteria. Passengers demand individualized on-demand services that are also climate-friendly. With the Mover concept, traffic and environmental pollution in urban areas can be reduced without sacrificing the comfort of individual transport.

BENTELER IMAGE

For Cognizant Mobility, four key drivers are crucial in the development of modern E/E and IT architectures for safe and autonomous vehicles:

First, the reuse of certain assets generated and refined in previous vehicle programs. It helps speed up the design process. Secondly, traceability, because it avoids problems during subsequent system integration, reduces effort and thus shortens development time. Third, cyber security by design, an increasingly important discipline for all vehicle projects. Fourth, a modern, open mindset with the right spirit and true global teamwork.

Cognizant Mobility will give at the IAA Mobility in September in Munich, a preview of a new AI system called the VERA (Very Enhanced Road Assist). The AI teams have created an avatar that can answer passengers' questions and have any conversation with them. The VERA is based on several components that stem from recent advances and breakthroughs in deep learning and generative AI.

In the area of public transport, the VERA can compensate for the absence of real contacts in autonomous people movers and thus not only answer questions about the route and make suggestions about highlights of the city or the like, but also bring a great deal of security for passengers. In the medium term, the VERA should address people who seem to have medical or other problems and need help. Its human way of speaking and interacting should take away the fear of autonomous systems, which are initially off-putting for many people precisely because of their perceived lack of humanity.

The technical implementation will be done e.g. by natural language processing to understand and generate natural language on a high level. The challenge is to provide the VERA with enough contextual information and knowledge to make the system's responses robust for the intended scenarios.

General News

SMR - Samvardhana Motherson Acquires Dr. Schneider

GENERAL NEWS

BMW X5 AIR VENT SYSTEM (DR SCHNEIDER IMAGE)

Samvardhana Motherson International Limited, via their wholly-owned subsidiary SMRPBV, has entered into an agreement to acquire assets and shares of the Dr. Schneider Group entities.

Dr. Schneider Group is a manufacturer of high-end, innovative, integrated electronic interior polymer components and systems, such as smart surfaces and lighting modules. The company is a technology leader in air vents and decorative interior polymer components with illumination, and reported revenues of €472m for CY22. They employ about 4,500 people in 7 facilities in Germany, Spain, Poland, the USA, and China.

Schneider has strong focus on R&D and product innovation, resulting in over 200 patents. More than 90 per cent of their products have been developed in-house by a dedicated team of 240+ engineers, operating out of its fully equipped R&D center in Germany. They also have in-house tooling capabilities for the entire product range. Nevertheless, they had to file for insolvency in September 2022 due to an unsuccessful operational and financial restructuring.

Motherson is a leading tier-1 supplier of polymer-based interior modules. There is a lot of synergy between Motherson and Dr. Schneider as aesthetics and interior illumination are playing important roles in the growing trend of 'premiumization'. With this acquisition, Motherson will gain access to innovative electronic interior polymer components and can offer these innovations and technologies to other emerging countries and to medium segment customers by leveraging its existing global footprints and customer relationships.

New End-Of-Life Vehicles Regulation

GENERAL NEWS

ARL IMAGE

Every year, over six million vehicles in Europe reach the end of their life. Inadequate handling of vehicles at the end of their life results in lost value and pollution.

The European Commission published their **proposal** for a new end-of-life vehicles regulation. Among other provisions, it forecasts that six years after the adoption of the legislation—around 2030—plastics in new type-approved vehicles must include 25 per cent recycled content, as a percentage of the total weight of plastics in the vehicle, leaving automakers to choose which parts and plastic types they focus on to achieve the target. Plastic is critical for the car interior ecosystem, as most plastic in a vehicle is in the interior.

The Commission is proposing measures to enhance the circularity of the automotive sector, covering the design, production and end-of-life treatment of vehicles. This initiative will improve access to resources for the EU's economy and contribute to the EU's environmental and climate objectives, while reinforcing the single market and contributing to address the challenges associated with the ongoing transformation of the automotive industry.

The proposed regulation, replacing the current directives on **end-of-life vehicles** and on **reusability, recyclability and recoverability**, is expected to have substantial environmental benefits, including an annual reduction of 12.3 million tons of CO_2 emissions by 2035, better valorization of 5.4 million tons of materials, and increased recovery of critical raw materials. The implementation of the regulation will lead to long-term energy savingsat the manufacturing stage, reduced dependency on imported raw materials, and the promotion of sustainable and circular business models.

The Commission has revised the existing legislation and proposes a single regulation that focuses on several key elements to improve quality in design, collection, and recycling, while facilitating reporting obligations:

- 'Design circular': enhancing circularity in the design and production of vehicles will help to ensure these can be easily dismantled.
- 'Use recycled content': 25 per cent of the plastic used to build a new vehicle will be required to come from recycling, of which 25% must be recycled from end-of-life vehicles.
- ‘Treat Better': The measures will lead to recovering more and better-quality raw materials, including critical raw materials, plastics, steel, and aluminum. 30 per cent of plastics from end-of-life vehicles

should be recycled.
- 'Improve governance': The new rules will reinforce producer responsibility by establishing national Extended Producer Responsibility schemes under uniform requirements.
- ‘Collect more and smarter': To put a stop to vehicles disappearing, the proposal foresees better enforcement of the current rules and increases transparency.

The Commission proposal for a regulation on circularity requirements for vehicle design and on management of end-of-life vehicles will now be considered by the European Parliament and the Council in the ordinary legislative procedure.

Find more information in the EC **press release**