DVN-I
Automotive Interior

Thu, 9 September 2021 Weekly Newsletter NEWSLETTER #77

Editorial

First Impression: IAA Munich Mobility

The IAA Mobility Show 2021 opened in Munich this Monday to showcase the future of mobility, and will end on 12 September. Watch for our detailed report next week. In the meantime, first impressions: the show is organized around three places, The Summit, a traditional trade show on the main fair place, with a nice open venue around a center patio, Biergarten like; the Open Space, mostly outdoor interactive exhibits around the city, and the Blue Lane, which is said to "connect the city center and the trade show with a test track where forward-looking mobility becomes a real experience".

Major German auto brands are exhibiting, including BMW, Audi, Mercedes, Porsche, Mini, VW, and a few others like Renault, Hyundai and

Ford. Many are missing, though, including the Stellantis constellation. Major interior suppliers are very present, showing their innovations, including Bosch, Brose, Continental, Faurecia, Hella, Hyundai Mobis, Magna, Mahle, Samsung, Siemens, Valeo, Webasto, ZF, and others. Automated driving and sustainability are present everywhere.

Audi is officially presenting in the city one of their new concept cars, the Grandsphere, and we present it this week for you in the Design Lounge. It looks like a new benchmark in premium mobility; it's been conceived and designed from the inside out, emphasizing the importance of comfort, safety, and convenience in the interior.

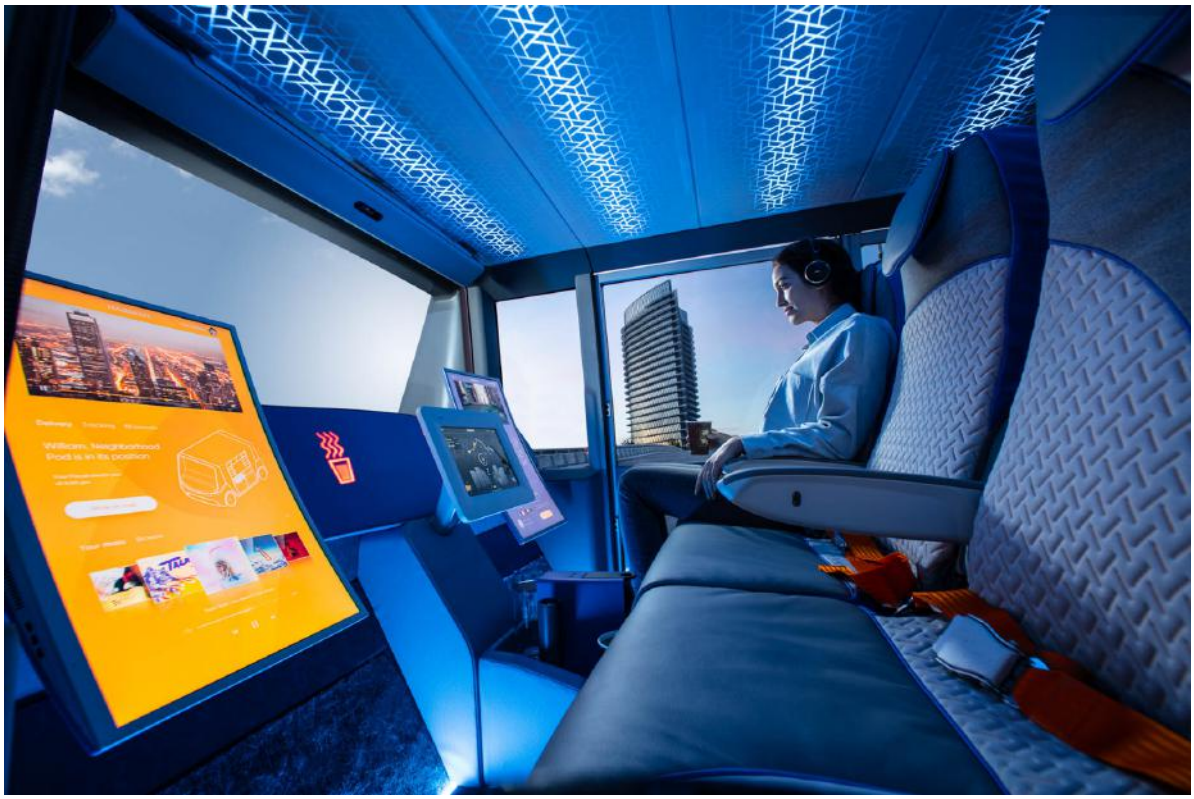
The DVN US Workshop is almost here! It's being held on 21-22 September in Novi, near Detroit. If you haven't yet registered, head over here **here** to do so, whether you plan to join on site or on line.

Sincerely yours,

Philippe Aumont
General Editor, DVN-Interior

In Depth Interior Technology

Are AVs and EVs Driving an Interior Material Revolution?



Are EVs and AVs influencing material selections for automotive interiors? If the answer is yes, then how?

POLESTAR CONCEPT EV WITH FOCUS ON SUSTAINABILITY (POLESTAR)

New vehicles are increasingly built with new technologies, which in turn integrate new materials. That’s obviously true for electric motors, batteries, hydrogen systems, and other mechanical components. Those aren't in the interior domain, though, so we won't have to grapple—at least not directly—with the challenges hydrogen and electric cars and digital technologies are exerting as they require new raw materials, the demand for some of which is expected to exceed today's production capacity many times over.

Electric and hydrogen cars are centrally about sustainability, with a long-term goal of carbon neutrality. Interior design and materials must be aligned to advance the same message; everything must not only be sustainable, but also must be *perceived* as sustainable. Sustainability, to offer a credible and attractive value proposition, simply can't be addressed with a data sheet carrying all the appropriate numbers. It has to look and feel sustainable.

As vehicles gradually grow increasingly autonomous, the interior is becoming a space for doing more than driving or passively passenging; it's being described as the 3rd living space, along with home and office. This, too, requires the right materials for this new reality of design and functionality.

In these new vehicles, car manufacturers and their suppliers face the challenge of integrating smart functions such as display and ambient lighting and touch control, in addition to a wide range of visual and haptic surface properties. The resulting parts must be durable, practically

manufacturable, and both cost-effective and affordable to achieve broad acceptance in the industry.

As interior lighting is increasing, materials and light must be developed as an integral system, because one can't be perceived without the other. For instance, materials shouldn't be overly reflective under direct lighting, or there can be unpleasant glare and cheap-appearance perceptions. Or in case of backlighting, materials must have some degree of translucence.

The main thing is that new materials will be needed in the interiors of the future, in term of functionality (touch surfaces), look and feel (perceived sustainability), durability (car usage), while of course complying with weight and cost requirements. The pandemic has brought antibacterial, antimicrobial, and antiviral properties to the fore as a key characteristic of new surface coatings and materials.

Rinspeed MetroSnap as a materials show case

METROSNAP RINSPEED CONCEPT AT CES 2020 (IMAGE: OSRAM)

Osram showcased their components for interior and exterior autonomous vehicle lighting, in-vehicle displays and sensors through the use of Swiss carmaker Rinspeed's third-generation MetroSnap concept car (See CES coverage in DVN Interior 30 January 2020).

Wellbeing of the pod's occupants is catered for by technology developed by material experts, such as Swiss foam specialists FoamPartner, with expertise in acoustically and thermally effective foams; Austria-based Lenzing and their Tencel™ Lyocell fibers (cellulose fiber made from dissolving pulp using dry jet-wet spinning), in a joint quest to create more circular interior solutions. Refibra™, an innovative botanical material based on eucalyptus, has been treated with Stahl's latest bio-based coating and topcoat systems to improve its performance properties to improve sustainability and comfort; South Korean Kolon Glotech with traditional Korean Sanggam printing on the center console, the interior trim panels and on the "skateboard" shrouds; Dutch chemical company

Stahl for sustainable leather and various plastic surfaces; for textile with Strähle+Hess and knitted fabric made from recycled PET.

A novelty in this car is the airplane seats, which serve to demonstrate the changing role of seating that comes with shared mobility. Cars will be used more like a fleet, similar to mass transport by airplanes. This requires rugged interior materials and coatings highly resistant to dirt, stains, wear, and damage, but also have a luxurious appearance.

The use of leather in the car is being re-thought. Tesla has moved away from leather, and Land Rover is opting for other materials. The environment, animal welfare, and sustainability are important reasons why, and there are numerous initiatives to make the process more transparent. Stahl is also developing sustainable solutions for leather tanning and finishing.

The interior components of the MetroSNAP use authentic blue pull-up leather. This gives it a vintage, crafted look and feel. Implementing this design effect in mobility is a market first that enhances the experience of the new ‘third living space’ mobility environment. In addition, they applied their original PolyMatte® for a matte look and soft feel.

Continental to increase focus on materials for EV and AV interiors

WHAT WE MIGHT SEE IF WE HAD MICROSCOPE VISION (IMAGE: BIOCOTE)

Continental has highlighted the increasing use of their interior materials in EVs and outlined the ways they see the demands of manufacturers evolving to match the needs of the EV buying public.

In 2020, Continental Surface Solutions produced a total of about 100,000,000 m^2 of surface materials. That figure seems primed to increase, with orders already booked worth a total of about a billion euros over the entire model cycles of the vehicles concerned.

Due to the reputation of electrically powered and autonomous vehicles as sustainable and resource-saving, special demands are placed on the surface materials used for their interiors. For many EV buyers, complete avoidance of animal-sourced materials is high on the agenda. In response to these demands, Continental's surface specialists are increasingly concentrating on sustainable and recycled materials.

However, these materials need to perform at least as well as their traditional counterparts. For example, the fabrics used for light-colored or white car seats need to be resistant to discoloration from clothing worn by drivers and passengers, such as blue jeans and other colored fabrics. Surfaces with special light effects are also in growing demand.

Continental says their translucent Acella Hylite concept creates light effects by backlighting surfaces. And while the pandemic has applied the brakes to the trend toward shared vehicles, it is expected to resurge if a sufficient percentage of society gets vaccinated so the pandemic will end. In the meantime, far more priority is being placed on the hygienic properties of surface materials, and this is likely to remain the case even after the pandemic will end.

This means that from Continental's perspective, future car-sharing concepts will require interior surfaces and fabrics that are antimicrobial; rugged; long-lasting; soil-resistant and easy to clean, and disinfectant-resistant.

Covestro and Partners Develop Smart Surface production process

COVESTRO COLLABORATED WITH VOTTELER LACKFABRIK, REICHLE TECHNOLOGIEZENTRUM AND MERCK KGAA. (COVESTRO)

Continental notes that car manufacturers and their suppliers face the challenge of integrating smart functions such as display and ambient lighting and touch control, in addition to a wide range of visual and haptic surface properties. The resulting parts must be durable, practically manufacturaable, and both affordable and cost-effective.

To achieve this, Covestro's DirectCoating process has been combined with Votteler's Puriflow paint system and Reichle's laser texturing processes. The properties of Votteler's paint enable surface textures ranging from soft leather to hard metal to be recreated on the substrates from Covestro. Reichle provided laser-textured PU-RIM molds for the project.

Using the DirectCoating process, a plastic substrate is first produced in an initial cavity by injection molding. The resulting part is then transferred to a second, minimally larger, mold. The cavity between the substrate and the laser-engraved RIM mold corresponds exactly to the desired

volume of the coating that is then injected. This creates a coated precision part in just two steps. The resulting part is claimed to require little rework, is highly resistant to chemicals and daylight, and can be integrated with smart interior sensors or other devices.

Covestro, cooperating with with materials developer Votteler Lackfabrik; laser texture specialist Reichle, and pearl-effect pigment maker Merck, Covestro says they have developed a concept for the manufacture of interior components with seamless surfaces suitable for the integration of intelligent cockpit features, to create greater design freedom for engineers while still allowing cost-effective production.

General Silicones' Antiviral Silicone Rubber Sheets for Protective Covers

COMPO-SIL SHEETING

Experienced silicone product manufacturer General Silicones (GS), founded in 1970 in Taipei, Taiwan, says their antiviral silicone rubber sheets have passed the stringent ISO 21702:2019 test performed by Boken (SGS) laboratories. The examination is one of the most demanding tests to verify the antiviral properties of non-porous surfaces. The confirmation of the antiviral properties neatly adds to the recently announces verification of the antifungal properties of the silicone rubber and the antibacterial properties of the silicone. The antiviral silicone formulated by GS prevents the growth of microbes and viruses and significantly reduces their survival time on the silicone rubber surace.

Smart surfaces for human-machine interaction will only grow in popularity over the coming years. The automotive industry is just one example industry that predicts explosive growth for the integration of interactivity into panels and dashboards for the coming years. The recent partnerships of GS with touch panel makers and automotive suppliers demonstrated the advantage of Compo-SiL® for control surfaces. The now-confirmed ability to design products with added antimicrobial

properties enables businesses to increase benefits and product safety for clients and the public.

Carbon Free Steel?

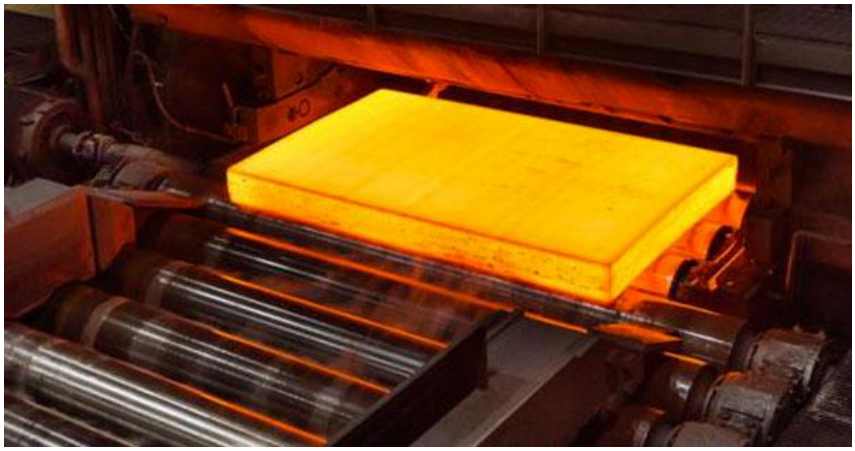


IMAGE: SSAB

The Volvo Group and Faurecia will introduce the world's first carbon-free steel, in the automotive sector. The supplier is Swedish steel company SSAB Öxelund, who uses Hydrogen Breakthrough Ironmaking Technology (HYBRIT) to replace coal and coke during production.

SSAB’s goal is to decarbonize the steel industry and to commercialize "green steel". They plan to have all their traditional furnaces replaced by carbon-neutral ones by 2040. Together with Volvo Group, they want to make the world's first vehicle made from sustainable steel, most likely a truck. In interior, steel is mainly used for seat structure, door module, and cockpit cross-car beams.

Green steel made via HYBRIT technology is a joint project involving two heavily state-owned partners: mining company LKAB and energy company Vattenfall. In this process, the blast furnace is replaced by an electric arc furnace fueled by hydrogen.

The previous stage, refining the raw material, is also conducted fossil-free. The product is an iron sponge, which is then processed into steel.

Volvo Group will start using fossil-free steel this year, firstly for the construction of prototypes and machinery. They hope to start series production for vehicles on a low-volume basis in 2022, gradually moving to mass production "in a few years". Newly-made green steel will also complement traditional and recycled steel in the group's truckmaking branch.

Eelco Spoelder, EVP Faurecia Seating, says “From 2026 onwards we will move towards a fossil-free value chain all the way to the end customer. This will help reducing our and our customers’ climate impact".

All in all, think of the numerous components and elements in the interior: upholstery, dashboard, seats, screens, door panels, steering wheels, roofing & flooring, leather, plastics, mattings, seatbelts, airbags and so many others. The materials have to offer an appealing look, enhanced sustainability, functional performance and improved reliability to automobiles, leading better and upgraded design of automotive cabins, these demands are impelling the development and refinement of new technology every day.

Interior News

DS4 Refinement Engineered

INTERIOR NEWS

IMAGE: DS AUTOMOBILES

DS Automobiles will launch their DS 4 compact premium car by the end of this year with a plug-in hybrid option. It's built on an upgraded version of Stellantis' EMP2 architecture for compact and midsize vehicles, with 70 per cent new or exclusive parts. It will be built at Opel's Ruesselsheim factory in Germany, which will also build the new Opel/Vauxhall Astra on the same architecture. Later, it will most likely share components with Alfa Romeo and Lancia as part of Stellantis' new premium brand group. The DS 4 is the fourth model since 2017 designed specifically for the brand, positioned by CEO Carlos Tavares as a French alternative to Audi, following the DS 7 compact SUV, the DS 3 small SUV and the DS 9 midsize sedan

Its design was influenced by the brand's Aero Sport Lounge concept, which integrated SUV and crossover design cues into a compact hatchback shape.

The car has a new user interface with a 5” touchscreen called DS Smart Touch positioned low on the center console that uses gestures and fingertip movements to control various functions on the infotainment

system. The main interface is a 10” central screen, called the DS Iris System, that can be programmed to remember each user, as a personal assistant. This new interface takes the usability of a smartphone with a tactile, seamless and responsive interface based around the idea of profiles that can be completely personalized with icons.

IMAGE: DS AUTOMOTIVE

Other new interior features include an extended HUD (Head-Up Display) that uses an optical illusion to seemingly project information on the road ahead, which DS calls "a first step toward augmented reality." Audio is handled with a 690W Focal system with 14 speakers and acoustic side glass, which DS says is a first in the segment. "Invisible" slim, vertical air ducts free up space on the dashboard.

DS Drive Assist combines adaptive cruise control and lane keeping assistance to allow semi-autonomous driving on highways and in traffic jams, provided the driver keeps a hand on the steering wheel.

The new evolution of the EMP2 platform introduces new parts made from composite materials, hot-pressed structural parts and more compact elements such as the air conditioning unit, freeing up more storage space elsewhere. There is 430 l of cargo space with hands-free opening and a powered tailgate.

DS Air, that invisible air vent, is an innovative ventilation system with very compact central vents high up, fitted with blades that can’t be seen. Airflow separated by a cone ensures it can be directed perfectly both high and low. The Quick Launch function enables the cockpit to be air conditioned (hot or cold): the air vents, the heated or cooled seats and, as an option, the heated steering wheel can be controlled with a single movement.

Seats have specific shapes, cooled and massaging, concept inspired by a shell, creating a new comfort zone made up of a single part, curved and without a break. It uses high density foam to achieve a new level of comfort.

An air purification system actively protects the cockpit with sensors for PM2.5 particles inside and exterior pollution detection. The management of air coming into the car is optimized by the addition of a filtration system that can purify the air inside in just a few minutes. The quality of the air is recorded and displayed on the central screen.

IMAGE: DS AUTOMOTIVE

The feeling of harmony inside is emphasized by ambient lighting that can be personalized, indirectly intended to accentuate the side features and contribute to the overall sense of calm.

GST Seton AutoLeather: Now Pangea

INTERIOR NEWS

IMAGE: PANGEA

GST Seton AutoLeather, one of the major automotive leather suppliers, has renamed themself Pangea. The new name, they say, represents their philosophy and their relationships. Founded in 1832 as a tannery in the States, today they're a group with 5,000 employees on four continents. Pangea is the name of the super-continent that united all the lands that emerged before the fragmentation of the continents themselves. The reference to the origins of the planet for the group embodies what the company calls “the principle that guides our work: not to destroy what nature has created, but rather to preserve and improve it”.

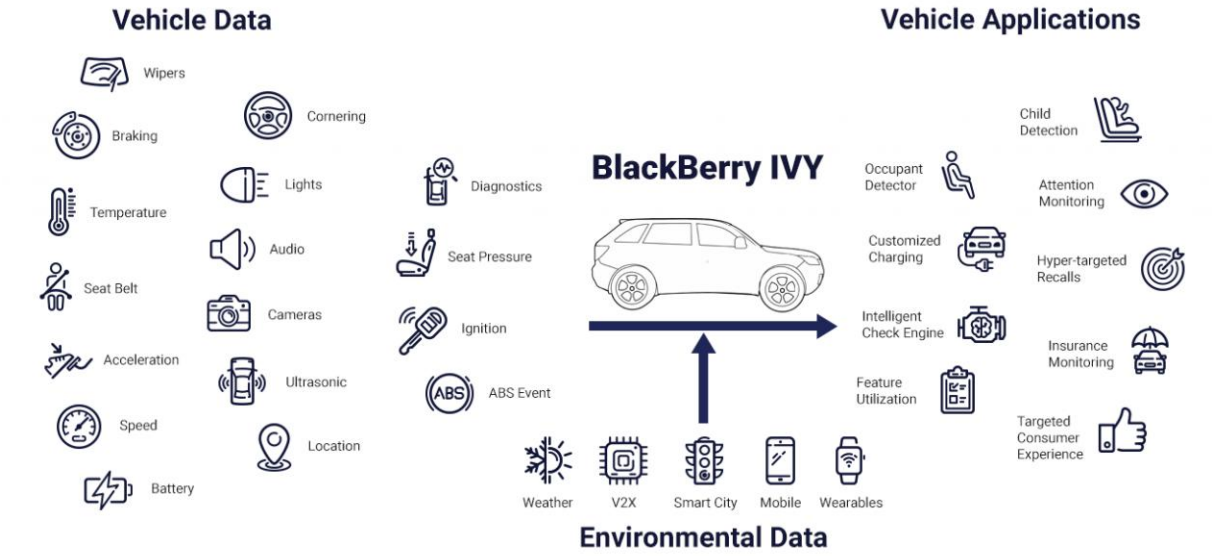
In 2018 GST escaped bankruptcy after a period in receivership, with a corporate restructuring. The multinational, with North American roots and deep penetrations in Far East Asia, keeps manufacturing and commercial offices also in Germany and Hungary. The leather market is still very fragmented, Pangea's turnover is around USD $500m, on a total market estimated around $30bn.

The rebranding choice signals the reinforcement of the company values, as a time where leather is under pressure because of environmental concerns (See DVN Interior In-Depth July 22, 2021). Strategy is, more than ever, to innovate with sustainable leather processes, while still retaining the inherent premium beauty and genuineness of leather.

The company recently relocated their global headquarters and corporate development center to Rochester Hills, Michigan. Pangea's 5,800-m^2 facility houses 85 employees.

BlackBerry's New Intelligent Vehicle Data Platform

INTERIOR NEWS



Amazon Web Services (AWS) has announced a multi-year, global agreement with BlackBerry QNX. Together they've developed an Intelligent Vehicle Data Platform named BlackBerry IVY to help automakers and suppliers create personalized driver and passenger experiences and improve operations of cloud-connected vehicles.

Modern cars and trucks are built with thousands of parts from many different suppliers, with each vehicle model comprising a unique set of proprietary hardware and software components. These components, which include an increasing variety of vehicle sensors, produce data in unique and specialized formats. BlackBerry IVY is an integration support, through critical data access, collection, and management.

For instance, BlackBerry IVY could leverage vehicle data to recognize driver behavior and hazardous conditions such as icy roads or heavy traffic and then recommend that a driver enable relevant vehicle safety features such as traction control, lane-keeping assist, or adaptive cruise control. IVY could then provide automakers with feedback on how and when those safety features are used, allowing them to make targeted investments to improve vehicle performance.

BlackBerry IVY could also provide insights to parents of teenage drivers who may choose to receive customized notifications based on insights from vehicle sensors when the number of passengers in the vehicle changes, when the driver appears to be texting, distracted, or not observing speed limits, or when the vehicle occupancy level rises above the parents' desired safety threshold. Similarly, parents of infants can

receive a reminder to engage the child safety lock when the vehicle detects a child in the rear seat.

BlackBerry says Strategy Analytics has determined their QNX software is now embedded in more than 195m vehicles, an increase of 20m from the year before.

Preh's Steering Wheel Of Tomorrow

INTERIOR NEWS

IMAGE: PREH

Tomorrow's mobility is gradually developing into autonomous driving. Without a driver, will then the steering wheel still play a role? The Preh Group shows how technologies for multifunctional steering wheels will continue over the next 20 years.

Fully autonomous vehicles are still far out, and when available, they'll most likely limited to shared mobility. Which means a driver is still in for long! And the steering wheel as well!

Therefore, the significance of the multifunction steering wheel as a "control center" will continue to increase and even become more complex—for the foreseeable future, the driver will still have to perform a large part of the driving task themself. The large-format display will then retract to reveal the view through the windscreen, driving-relevant information will be displayed or projected, and the steering wheel will return from its rest position to active mode. The driver takes over and has all primary operating functions under control via the steering wheel.

IMAGE: PREH

In 2006, Preh's designs had a round button with four-way operation and central push function. Today, there are highly integrated switches with touch control button, for controlling the function selection in the display and "satellite switch" with integrated display and rotating ring. A central advantage of the steering wheel controls is that the necessary averting of gaze from the road traffic while selecting a function is negligible. Multifunctional switches make various functions available within the reach of the thumb. The challenge in the development and production of such systems lies in the integration of all electronic components in the smallest possible space.

MULTIFUNCTIONAL SWITCHES BASED ON PROGRAMMABLE DISPLAYS (IMAGE: PREH)

One of the latest developments from the HMI specialist is a multifunction switch with a completely closed touch-sensitive surface and passive haptic feedback. It is found in the Model 05 of the Chinese brand Lynk & Co.

"Closed surfaces are very much in vogue," explains Dr Matthias Lust, Head of Preliminary Development at Preh. "Via the integrated sensor technology, the position of the finger can be determined very precisely, opening up additional options."

A modern extension of previous functional steering wheel designs also lies in so-called satellite switches, which are located in the lower half of

the steering wheel diagonally to the right and left of the steering column. In Mercedes-Benz-AMG models, for example, these have an integrated color display and a rotating ring.

Matthias Lust: "The trend is towards free programmability and thus towards maximum variability. Active haptic feedback and three-dimensional tactile aids also ensure minimal averting of the gaze. Unintentional operation, for example during a strong steering wheel turn, is prevented by defined force thresholds."

Tesla Keeps Tabs on the Driver With Cabin Camera

INTERIOR NEWS

IMAGE: MOTOR1.COM

Tesla has had a cabin-facing camera in its vehicles for years now, but the automaker has barely used it. Earlier this year, Tesla finally released their driver monitoring system using its cabin camera. The automaker started with newer vehicles coming with its Tesla Vision system that powers "Autopilot" without the use of radar.

Tesla "Autopilot" is a suite of Advanced Driver-Assistance System (ADAS) features that amounts to SAE L^2 vehicle automation.

Tesla's approach to driver-assist features has been criticized for several reasons, but a recurring comment has been the lack of strong driver monitoring capability.

It has been limited to trying to keep the driver's hands on the wheel while using "Autopilot", meaning using steering wheel sensors, detecting torque when being applied to it. Therefore, Tesla can't even tell if the driver's hands are on the wheel unless they are actively turning the wheel, therefore applying torque.

But the real thing that you want to be monitoring is the driver's attention, which Tesla says needs to be on the road at all times, even when Autopilot is active.

Today, Tesla started pushing an update that expands the use of its driver-monitoring system to more vehicles, with a sound alert if drivers are not being attentive.

Tesla wrote in the release notes: “The cabin camera above your rearview mirror can now determine driver inattentiveness and provide you with audible alerts, to remind you to keep your eyes on the road when Autopilot is engaged. Camera images do not leave the vehicle itself, which means the system cannot save or transmit information unless you enable data sharing. Last comment, as many customers have concerns about the use of the cabin-facing camera, but the automaker is making sure that you only share what you want to share.

The Design Lounge

Audi Grandsphere Concept Car

THE DESIGN LOUNGE

Audis' Grandsphere concept is the second of three new BEV vehicles (the Skysphere was introduced at the Monterey Car Week) this year giving a glimpse of Audis BEV vision. Whereas the Skysphere was inspired by imagining past 'grand-touring' vehicles as a future BEV, the Grandsphere is inspired by the 'first-class' aircraft experience translated into a road-based mobility solution.

At 535 cm long, 200 cm wide, and 139 cm high, the Grandsphere concept fits squarely into the upper segment premium vehicles like Audis' current A8. It's focus however, is on how autonomous driving enhances this 'first-class' experience.

Contrary to todays ‘screen oriented’ vehicles, the Grandsphere in full autonomous mode, eliminates all the traditional displays and now solely relying on the digital projections onto a ‘wood-panelled’ instrument panel. By eliminating the steering wheel and column, a sophisticated feeling of open space highlights the atmosphere/ambiance, craftsmanship and materials.

A mini ‘desktop like’ space for the driver and passenger replaces the traditional and bulky instrument panel so that a new focal area is between the seats. A multi-functional floor console including cooled storage and utility creates a ‘coffee table’ type of effect while the projected screens/display become more of a background/ambient element.

Although focused on creating a fully autonomous ‘first class environment, the driver still needs to take control. This is achieved with compact drivers’ ‘pod’ that is hidden behind the wooden instrument panel with a ‘squared-off’ steering wheel and integrated cluster/display.

Using a truly a minimalist approach, this ‘pod’ also integrates the side view display ‘mirrors’ into a thinly curved single package. As all the driver to vehicle interfaces are now in a single compact all-inclusive unit, no extraneous vehicle controls will remain once the ‘pod’ is retracted back

into the instrument panel for fully autonomous driving. This clearly separates the driving function as a secondary task for the Gransphere.

Finally, the material usage especially the elimination of traditional leather or vegan/artificial leather is unique for this classification of vehicle. Instead, the use of tightly woven high-quality cloths and precise metal detailing creates the ‘first class’ premium/luxury environment for Audis Grandsphere.

Along with thin pillars and a fully glazed roof, this ‘first-class’ airline experience of Audis Gransphere seems to be fully realized.

News Mobility

_Car Interiors Unplugged: On Hiatus

Car Interiors Unplugged will resume after summer.

Electromobility: Next E.Go Mobile Plans Larger Numbers

NEWS MOBILITY

IMAGES: NEXT E-GO MOBILE SE

Almost a year ago, the Dutch investor Nd Industrial Investments took over the former Aachen-based start-up E.Go and turned it into Next E.Go Mobile. Production of a special edition of the Next E.Go Life model, limited to 1,000 units, has been underway since June. But the company's plans are much bigger.

In an interview with our sister magazine "kfz-betrieb", Sales Director Matthias Kreimeier explained: "With additional products and production locations as well as further digital features, we already see our future in larger quantities in international sales in the EU and beyond. Our battery system, including the ability to change the battery in less than 15 to 20 minutes, is unrivalled."

With its offer, the company is primarily targeting city dwellers. "We believe that e-vehicles are especially useful in the city, because they don't need large batteries that you have to constantly lug around in an energy-intensive way. The typical city car covers an average of 28 km/day, with many short trips and several start-stop cycles," says Kreimeier. The fact that the Next E.Go Life only has a range of 170 km is therefore not a problem. "The car and battery are designed from start to finish for urban use, which is not a sacrifice but a gain in quality of life and a relief in everyday life. The planned features of our battery system, including the ability to change the battery in less than 15 to 20 minutes, are also unrivalled," says the sales chief.

Capable of accommodating up to 4 passengers, the Next E.Go Life and its interior is not a lightning bolt on the technical side and seeks above all to meet the practical needs of city mobility.

Next E.Go Mobile wants to rethink urban mobility. As a German company, they also aim to "build one of the most sustainable cars on the market", said Kreimeier. For example, an outer body made of recyclable plastic or colored parts without energy-intensive painting should contribute to this.

The special edition of the Next E.Go Life costs around €17,000 before subsidies. Not little for a subcompact car. But this version has the full equipment, Kreimeier pointed out. The entry-level version should cost just over 10,000 euros after deducting the environmental bonus. "In the near future", the product range is also to grow. With the SUV E.Go Life Cross and the E.Go Life Sport, the company plans to introduce two more models. Matthias Kreimeier announced: "We are currently working hard to get them ready for production, because the demand for them is already huge."

Baidus First Robocar: L5 Interior

NEWS MOBILITY

BAIDU CO-FOUNDER AND CEO ROBIN LI AND CCTV HOST BEINING SA IN BAIDU'S ROBOCAR (IMAGE: BAIDU)

Baidu unveiled their first robocar at Baidu World 2021, their annual flagship technology conference. The robocar has no steering wheel as the tech giant envisions that future vehicle will be more like robots.

It is equipped with L5 autonomous driving capabilities, which is claimed to be safer than human drivers. With multi-mode interaction, such as voice and face recognition ability, the vehicle can analyze customers' potential needs to offer relevant services. Besides, the robocar can also self-learn many things and continue to upgrade, making it capable to serve various scenarios.

The vehicle looks futuristic with falcon wing door, glass roof and exterior sensors integrated together. Inside the vehicle, there is no steering wheel, pedals, but it is mounted with such intelligent device as large screen, intelligent console.

IMAGE: BAIDU

By the end of June, Baidu Apollo L4 autonomous driving vehicles have run 7.5 million test miles, up 152 per cent year over year. Apollo has received 278 autonomous driving permits and has over 2900 patents. Besides, Baidu also launched its upgraded autonomous driving service platform, Luobo Kuaipao to accelerate the commercial operation of its autonomous driving services. Baidu also anounced that it has started to mass produce the Kunlun II, its 2nd-gen AI chip. With 7 nm process technology, the chip, boasting top computational capability which is over two-three times that of the previous generation, can be used in digital cockpit, autonomous driving, smart traffic, smart assistants and other areas.

General News

China's EV Ahead Of European Manufacturers

GENERAL NEWS

ARCFOX ALPHA S AUTOPILOT TEST (IMAGE: YOUTUBE)

While every European OEM is presenting new e-cars and design studies, Chinese producers are blasting out everything they have to offer in terms of high-tech at trade fairs like the Shanghai Auto Show, or Chengdu more recently. Almost every manufacturer is showing at least one model that is prepared for autonomous driving in various situations.

A good example of this is the Huawei Group. Huawei has long announced its intention to invest heavily in the areas of infotainment development and autonomous driving. Nevertheless, the company recently achieved a small surprise: the Arcfox Alpha S e-vehicle developed by BAIC relies entirely on software from Huawei, names HiCar. This includes an advanced function for autonomous driving, and digital cockpit. According to the company, the vehicle not only drives semi-autonomously on motorways, but also in the city. In addition, there is an automatic parking function.

The car is intended to show what Chinese industry is capable of. In addition to the announced achievements in software, the electric vehicle is supposed to have a range of 700 km. The price (without taxes) is supposed to be around €55,000. That would be a challenge to the EU manufacturers, but also to Apple's competitors. While the iPhone manufacturer has not even found a partner for its car project, Huawei is already putting a finished vehicle on the stage.

Innovations are also driven by Chinese start-ups. For example, Pony.ai, a company founded in 2018 by two former Baidu managers that has raised over 1.1 billion US dollars so far. Peng Jun, co-founder and CEO of the startup, announced shortly before the Shanghai Auto Show that they plan to massively expand their own robot taxi service this year.

Horizon Robotics, which was founded in 2015 and has received a total of 1.6 billion US dollars in investments, is also driving progress in China. Among other things, the company supplies AI chips for autonomous vehicles to customers such as GAC and BYD and also produces complete systems for autonomous driving.

Of course, the companies all still have to prove that their software for autonomously controlled vehicles works safely.

What should be particularly hard vis a vis Europe is that Chinese manufacturers can already offer all these innovations in the upper middle class up to €60,000. As an example, the Mercedes EQS, which has just been presented, can keep up, but its price will be in the six-figure range. It will be years before the technology reaches the middle class.

In addition, Chinese manufacturers are slowly setting their sights on the EU market. The Geely offshoot Lynk & Co. is already offering its mid-size plug-in hybrid SUV on a subscription basis for the bargain price of just under €500. Those who take out the subscription can cancel monthly and even sublet the car to other people to save costs. BAIC and the former British manufacturer MG are also making a move into the European market.

Chery Holding, BOE Smart In-Car Cockpit Solutions

GENERAL NEWS

IMAGE: CHERY HOLDING

Chery, a state-owned automobile manufacturer headquartered in Wuhu, Anhui, China; and Boe Technology Group have signed an agreement to work together on smart in-car cockpit solutions, IoV (Internet of Vehicles) business, and the solutions for multiple smart IoT (Internet of Things) scenarios.

BOE, a leader in the display industry, have established the "1+4+N" business structure centered on semiconductor display and composed of four business groups, namely Mini LED, Sensors and Solutions, Smart System Innovation and Smart Healthcare. They have so far rolled out many technologies and products like OLED display, BD Cell, and multi-connected screen for automotive dashboard, center console, window display, and HUD (Head-Up Display).

As part of joint efforts to develop in-car smart cockpit solutions, both parties will leverage their industrial resources and technical strengths to build a joint innovation lab dedicated to the development of application scenarios.

In terms of IoV, the two companies will boost the innovative R&D and in-depth applications of liquid crystal antenna, thin-film-based antenna,

privacy glass, window display, and OLED automotive lighting.

Chery Holding said they are deploying automotive intelligent technologies while grasping deep technical insight in the field of traditional automobiles. They started developing automotive intelligent and connected technologies in 2010. As of today, Chery's in-house developed intelligent-connected onboard system "Chery LION Intelligent Cloud" has advanced to the 4.0 version and had over 500,000 users. In addition, Chery has already put its Level 2+ autonomous driving technology into volume production and aims to achieve the application of Level 4 technology in 2025.