DVN-I
Automotive Interior

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Editorial

Combustion Engine Ban: What Effect On Interiors?

VOLKSWAGEN ID.4 EV (IMAGE: VW)

On July 14, The European Commission, proposed a 55 per cent cut in CO_2 emissions from cars by 2030 versus 2021 levels, and a 100 per cent cut by 2035—which would make it impossible to sell new vehicles powered by fossil fuels in the 27-country European Union.

If this proposal survives the many hurdles of European lawmaking, it will herald a whole new era of automotive era. What will it mean for interiors? Probably not such a wrenching radical bang, but new EV architectures will open roomier cabin spaces; noiseless motors will facilitate new interior sound design, the battery weight burden will push the industry to reduce weight elsewhere to the minimum possible, including everywhere and everything in the interior.

EVs are presently still more expensive than combustion-engine cars, but parity is foreseen by experts around 2025-2030, contingent on strong efforts from the whole industry to reduce costs and to have design-to-cost as the development methodology.

As engines are giving way to motors, what about animal leather, long a luxury signature in many markets, but now less highly regarded due to environmental concerns? Will it disappear in parallel? Have a look at this week's In-Depth for thoughts on that subject. We're glad you're in the DVN Interior community! (And if you aren't yet, **come join in**).

Philippe Aumont
General Editor, DVN-Interior

In Depth Interior Technology

Will Leather Still Be Tomorrow's Premium Material?

MAYBACH 62S: LEATHER EVERYWHERE!

Leather has been a part of our modes of travel for ages, from sedan chairs and carriages to our modern-day yachts, public transport, airplanes, luggage, and cars. It remains a signature for premium products.

But there are voices growing louder—in the industry and beyond—surfing on the vegan wave, as it becomes more and more apparent that leather processing effluents are terrible for the environment.

In parallel, automotive designers keep reinventing premium surface materials. The leather supplier market is very active, the latest news being the Hewa Leder takeover by Pasubio (see General News in this edition)

Within this context, let's review the pros and cons of leather in vehicles.

A BLUE COWHIDE—ABOUT 40 FT^2 OF LEATHER

The most commonly recognized full-grain leather used in car interiors is Nappa Leather. Full-Grain leather is texture-treated to retain the natural pattern of the leather hide and conditioned to be more durable than aniline and semi-aniline leather.

Why is leather considered a premium material?

Leather is regarded as a premium automotive material because its high visual and usability qualities—and its expense—have built up a kind of high-end 'brand equity' over many years.

The leather 'brand' is built on heritage, prestige, value and exclusivity. Leather has been a part of our modes of travel for ages, from sedan chairs and carriages to our modern-day yachts, public transport, airplanes, and cars. It's been in cars since the beginning, not just as part of the car itself but also as driver equipment such as gloves.

LAMBORGHINI 400GT WITH GLOVES

Leather is a material with superior characteristics. Like the animal skin it originally was, it is made to move, stretch, and endure. One of the properties in which leather excels is its tensile strength, which is so important for the lifetime of the car seats

used every day, jumped on and off many times per day across a wide temperature range. The tensile strength leather is between 8-25 N/mm^2 for hides of bovine origin. Car leather needs to be even stronger. The automotive industry expects a value of 200 N per 5 cm.

There are several treatments to increase its tensile strength performance, and also its tearing resistance, through tanning, finish, stiffness, and aging of the leather. Logic is always to improve the natural properties of leather.

Another characteristic is long life and endurance. Other materials such as plastic and fabrics are often less durable over years of use, and are hard to recycle or reuse.

Leather can take a remarkable amount of tension and recover, without tearing, and its adaptability prevents cracking.

Finishes and coating can improve its ability to repel liquids, dirt and bacteria—newly important as the pandemic has taught us to care more about this. Leather's easy-to-clean property is one of the main reasons why shared mobility (everything from taxicabs to and airplanes) use it so much, even if a lot of it is after-sales products.

Leather has natural flame retardance; when exposed to intense heat, it will first harden and shrink before actually catching fire. This helps meet regulations like the American FMVSS № 301.

Compostability is another factor in leather's favor; it can be turned into compost in a matter of weeks with only 1 per cent remaining, which is the surface treatment. This surface coating is the last challenge to make leather a 100 per cent biodegradable material that leaves no footprint in our environment after use.

And nothing—but nothing—smells like leather. It all comes with a distinct scent, even if it may fade a bit over time with regular use. There is more than just one leather smell, which means it can be designed deliberately! The final aroma depends on the refatting substances, dyeing and color chemicals and many other substances used in processing the leather.

Vegan Leather

TESLA STOPPED USING ANIMAL LEATHER FOR SEATS IN 2017 (IMAGE: TESLA)

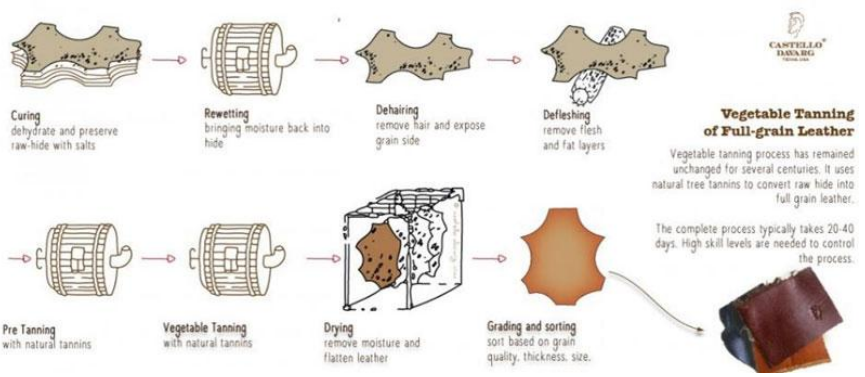
Veganism rejects the commodity status of animals, and so rejects the use of animal products, whether for clothes, luggage, or car trim. Leather alternatives, certainly have achieved higher quality lately, but still have decidedly different structures and properties to genuine leather.

'Vegan leather' suggests it's a plant-based material. That's a misinterpretation, as vegan leather is often made from polyurethane (PU) or polyvinyl chloride (PVC). New advanced developments have invented leatherlike materials from sustainable feedstocks such as pineapple leaves, cork, apple peels, other fruit waste, and recycled plastic.

But today's vegan leather does not possess the same properties as leather, nor can it actually be called leather, as the term is strictly defined according to ISO and other European standards as a tanned hide or skin with its original fibrous structure more or less intact. (vegan leather shouldn't be confused with 'vegetable tanned' leather, which refers to using tannins that originate from plants, such as the tannin in tree bark. Vegetable-tanned leather is genuine leather.)

However, automakers like Tesla and Audi are coming to favor vegan leather. Two new Audi concepts, the e-tron GT and e-tron Q4, will be "animal free." Synthetic leather will replace traditional animal leather and the cushions, armrests, headliner, window trims, and center console will be produced with recycled materials.

Leather Process



LEATHER PROCESS (IMAGE: CASTELLO DAVARG)

Leather production processes includes many steps, from the raw hide to the finished products. Key steps are tanning, crusting, and surface coating. Then leather hides are cut and sawn to become covers for seats, steering wheels, gearshifts, and skins for IPs and doors.

Tanning is the process that converts the protein of the raw hide or skin into a stable material which will not putrefy with moisture. The most commonly used tanning material is chromium, which leaves the leather, once tanned, a pale blue color. This product is commonly called “wet blue”.

Role of water in the leather process

Most tanneries around the world are located near rivers. Water is used in many process steps and sourcing directly from rivers was historically the obvious way.

Water is used as solvent. In the leather making process, water has two functions: to dissolve and carry the chemicals, and to allow the leather to mix and turn in the tanning drum without scuffing or damaging it. Chemicals include chromium as well as other chemicals, enzymes, and dyes.

As each tanning process is different and available methods for higher efficiency vary, most tanneries don’t just discharge water, but also purify it and often recycle it —depending on whether local regulations and/or company environmental and clean-investment commitments require it. This, of course, greatly affects the water footprint.

The beamhouse process is a name for the preparation stage where the hide or skin is made ready for tanning. This is, by far, the most water-intensive process. During the beamhouse process, between 7 and 25 m^3 of water is used per ton of hides.

During post-tanning, the leather acquires its final properties, meaning the leather is made suitable for its final application. This is done through re-tanning cycles, where various chemical agents enter the hide structure.

The automotive industry uses 36-kg hides. This comes down to a water use of around 324 liters per kilogram of leather—324 liters per hide. That’s a lot, but here efficiency is essential and reducing the water footprint has been a key focus point of the industry for years. Water use in leather production is said to have significantly reduced over the last 25 years.

Nevertheless, researchers have developed cleaner leather processing methods to reduce the environmental impact of conventional leather processing and to lower the burden of end-of-pipe treatment. Salt-free preservation systems, enzyme-assisted low-sulfide hair removal processes, chemical-free enzymatic fiber opening, solvent-free finishing systems…the list is long.

Leather Weight

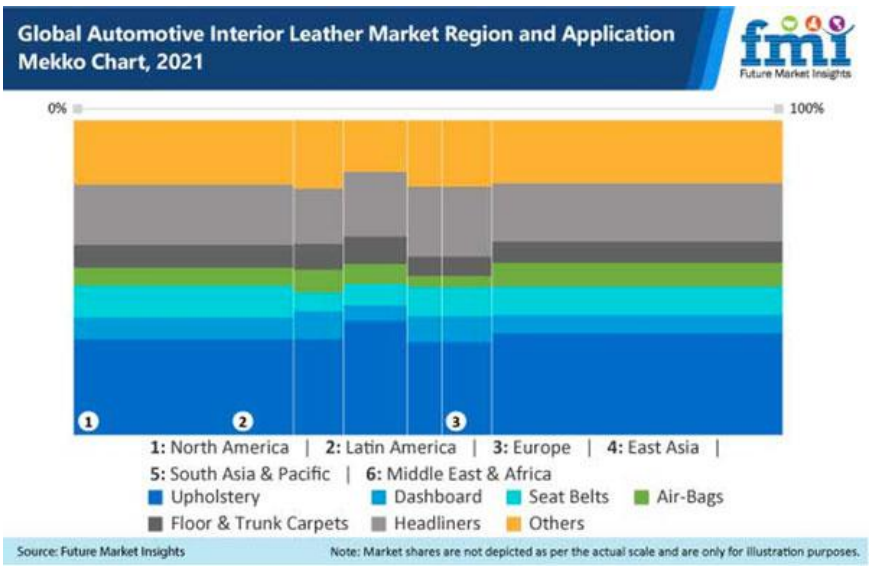
The weight of a leather hide can vary substantially. A thick leather is heavier than a thin leather. Well-oiled leather is heavier than a dry leather. A compressed leather is heavier than a very soft leather with loose fibers and many air pockets in the fiber structure. With 400 grams of weight per square meter of leather, extra light weight leather was developed to comply with the overall weight reduction target of the automotive industry, in order to reduce CO_2 and other emissions.

And reducing the leather weight has a virtuous circle impact, using less water in tanneries with fewer chemicals.

Leather Breathability

Leather has limited breathability characteristics, which makes something of a conflict for climate seats with heat/cool functions in premium cars. Micro-perforations are added to allow airflow, as seen in this **video** from Chinese leather maker Anze, showing their CNC leather punching machine in operation. This same technique is needed for artificial leather.

Growing Market



Future Market Insights (FMI) has forecast the global automotive interior leather market to grow at 4.1 per cent CAGR from now through 2031.

Another Forecast is from Markets and Markets, and is pretty consistent with the FMI forecast:

Conclusion

MERCEDES F015 LUXURY IN MOTION, 2015

The leather industry is continuously progressing, reducing material weight, reducing water and other effluents usage in the production process, reducing and introducing new, cleaner nanotechnology-based chemicals in the production process. As leather is still very much used by automotive interior designers, we think it will outlast the combustion engine even if the latter is banned after 2035.

Interior News

Teslas Will "See" Turn Signals, Hand Gestures, More: Musk

INTERIOR NEWS

Elon Musk, the notoriously cocksure king of Tesla, claims his cars will soon detect other cars' turn signals and hazard warning lights, emergency vehicles' flashing lights, and even hand gestures.

The claim comes along with Tesla offering a new $199/month subscription for "Full Self Driving" on cars equipped with the latest control computer, called HW3; cars without it must first be upgraded for $1,500. Despite the customer-facing names and claims, Tesla have disclosed to regulators that "Full Self Driving" brings equipped cars up to L^2 capabilities—which means the driver must maintain vigilance and control at all times. Nevertheless, Musk calls the software updates “mind-blowing” and says they'll self-improve faster through machine learning.

"It will soon capture turn signals, hazards, ambulance/police lights and even hand gestures", Musk tweeted; he has also said after detection of the lights is added to

the system, the next step will be reactions to these new inputs, as well as having the cars hear sirens and alarms. Tesla recently decided to move forward with a cameras-only machine vision system in their Model 3 and Model Y. Removing radar from these cars meant Tesla also had to remove adaptive cruise control, automatic emergency braking, and limit the speed of "auto steer". All other makers working on autonomous driving and advanced driver assistance systems also use other kinds of sensors such as radar and lidar, which Musk has derided as being "for losers". Asked to explain the new only-cameras strategy, Musk said “The whole road system is designed to work with optical imagers (eyes) and neural nets (brain). That’s why cameras and silicon neural nets are the solution".

TomTom's Virtual Horizon ADAS Software For All Vehicles

INTERIOR NEWS

TomTom has launched Virtual Horizon, which they call the only map-based, all-in-one ADAS software from a single company that helps passenger and commercial vehicles anticipate the road ahead. It extends driver and vehicle awareness beyond what onboard sensors can see, making it easier to anticipate and react to conditions on the road ahead.

The software for automakers provides a connection between digital maps and ADAS functionality, allowing vehicles to see beyond the range of their sensors.

TomTom said Virtual Horizon is designed to ‘democratize’ ADAS by supporting vehicles without embedded navigation, as well as the most technologically advanced automated vehicles.

The software translates highly attributed map data into actionable information for drivers and vehicles alike.

For example, if there is a sharp bend in the road or a change in the speed limit ahead, TomTom Virtual Horizon will warn drivers in non-automated vehicles to prepare to take action, while the software in automated vehicles will enable more informed and intelligent decision-making without the involvement of the driver.

This solution supports all TomTom ADAS Map’s Road attributes, including speed limits, traffic signs, gradient, curvature, lane information and traffic lights.

The new software will make it easy for automakers to comply with upcoming Intelligent Speed Assistance (ISA) regulations, including the legislation adopted by the European Commission for the EU that comes into effect next July.

TomTom Virtual Horizon is now in production with multiple global brands.

Volvo To Develop In-House Vehicle OS

INTERIOR NEWS

FUTURE VOLVO TABLETLIKE CENTRAL DISPLAY

Volvo will take their software development in-house, with vehicle USPs (Unique Selling Proposition) increasingly becoming more defined by software-driven functions and features than by traditional automotive attributes.

The next generation of electric Volvo models, including the company's first SUV on a new electric-only platform, will run on Volvo's own operating system, called VolvoCars.OS, which the manufacturer says will enable faster and more flexible development.

VolvoCars.OS will act as an umbrella system for Volvo EVs, and will incorporate the company's various operating systems across the car and the cloud, creating one coherent software OS environment. The underlying operating systems include Android Automotive OS, QNX, AUTOSAR and Linux.

Through APIs (Application Programming Interface), VolvoCars.OS will give developers access to in-car features such as vehicle sensor data, user interfaces, and cloud-based features.

Rather than relying on multiple electronic control units around the car that control individual features and systems, an increasing amount of in-house-developed software will run on a single, powerful core system. This in-house core system, to be launched in 2022 models, is made up of three main computers. These support each other in operating vision processing and artificial intelligence, general computing, and infotainment functions.

Volvo will collaborate with a number of tech companies on the OS development, including Nvidia for the core systems, and Google for infotainment systems.

A Volvo was the first car with an infotainment system powered by Android Automotive OS with Google Assistant, Google Maps and Google Play built in, and

Volvo says continued strategic collaboration with Google will help them further improve on their systems, as part of the wider OS project, and will see the introduction of a new central display system.

The tabletlike central display is conceived as easily accessible by touch or by voice command, with no information hidden in long menus.

Chemnitz University Trend Study For Automotive Interiors

INTERIOR NEWS

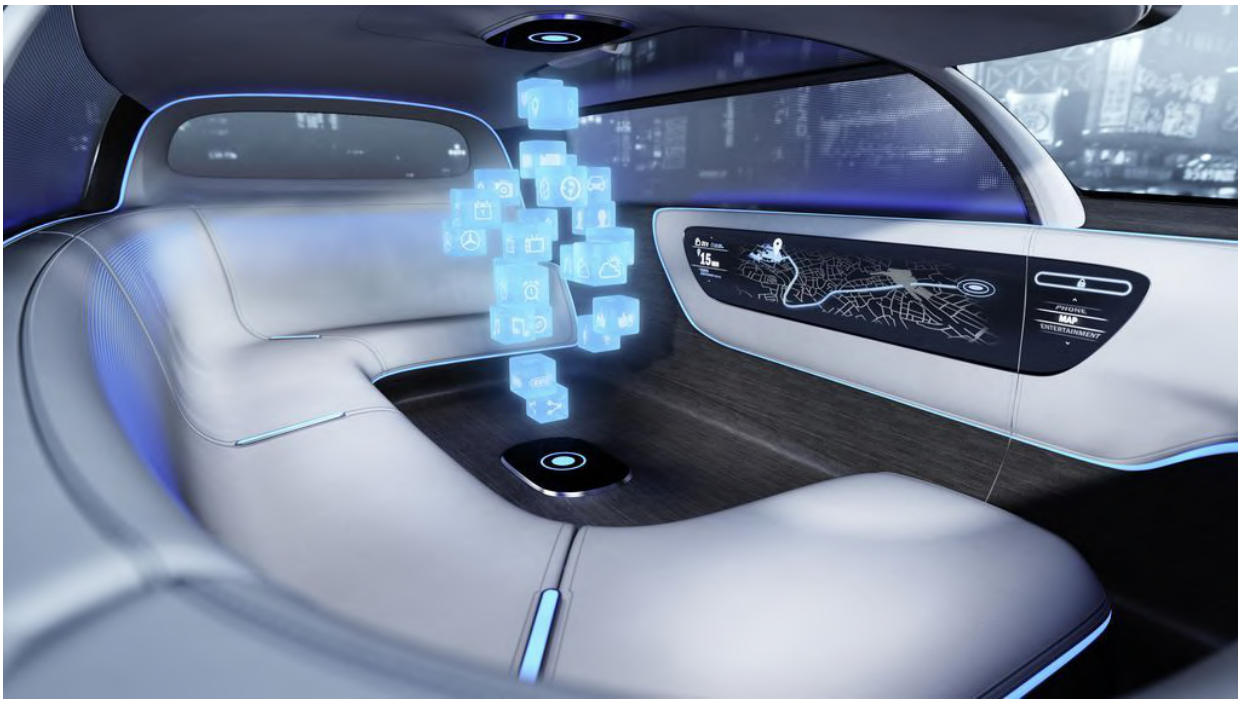


IMAGE: DAIMLER

Until recently vehicle interiors have focused mainly on the driver's workplace, but now the focus is expanding to encompass all users—driver and passengers alike. The focus is on added value for all occupants, to become closer, warmer, more emotional- and experience-oriented, and to convey modernity, progressiveness, and lifestyle.

The Chemnitz Automotive Institute (CATI) has identified about 100 individual technological trends in a study concerning the use of materials, the redesign of interior components, the integration of functionalities, and the associated new manufacturing processes. The trend towards functional integration, which embeds existing and new functionalities as well as new operating concepts in the materials and surfaces of interior components, is of prime importance.

The spectrum of new functionalities ranges from predictive driving information to camera-based occupant and interior sensor technology with a wide range of possible applications to functionalities of 'automotive health' from vital data acquisition to early detection of health risks. Many of these new functions are only made possible by corresponding software applications, partly through the use of artificial intelligence. This new symbiosis of material, surfaces, and functionality makes cross-industry technology cooperation and integration competence a decisive success factor.

Customer acceptance will also be of essential importance, which will mean completely new challenges of usability and user experience—especially with the innovative functional enhancements. The term 'interior of the future' does not stand for a vision of a distant automotive future, but for a disruptive innovation. "This departure into a new world of interiors will become reality with the vehicle generations from the start of series production in 2025 with high growth dynamics"

according to the authors of the study Prof. Dr. Werner Olle and Dr. Daniel Plorin, who evaluated the concept cars of international car manufacturers and startups as well as interior exhibits of globally operating system suppliers. This analysis of technological trends was supplemented by expert interviews with developers at car manufacturers, system suppliers, and development service providers.

Mercedes-Benz Hyperscreen Now On EQE

INTERIOR NEWS

IMAGE: DAIMLER - SYMBOLIC

In April, Daimler presented their new top EV model the EQS, and now the E-Class counterpart EQE follows with production starting in a few months. Mercedes is getting closer to the goal of launching a total of ten electric cars by 2022. By 2030, half of all new Mercedes cars are to have an electric drive.

The EQE wears the typical EQ front mask and has horizontal light bands at front and rear. The platform has short overhangs and a large passenger cell that exceeds the space of an E-Class. The batteries arranged between the axles allow for a particularly flat vehicle floor, hence the EQE offers a large interior space like that of an S-Class. The doors give access to an interior that is as spacious as it is futuristically appointed and already designed for future visions of autonomous driving. The optional Hyperscreen cockpit in the EQS is also likely to be offered in the EQE. It combines three screens under a curved glass surface to form a closed display panel. The Integration of MBUX infotainment offers natural speech recognition, among other goodies.

In autonomous driving, the EQE could reach L^3 and thus drive sections completely independently. Different light signatures send different messages: with a red grille you signal strong braking, with a green grille pedestrians can cross without danger.

The EQE is to be built in Sindelfingen. Thus, the German economy enjoys the privilege of savoring the success of electromobility and to compensate for the loss of the combustion engine, which Daimler only wants to develop further in China in the future.

IMAGE: DAIMLER

More And More Recycled Materials In Car Interior

INTERIOR NEWS

BMW I3 - SUSTAINABLE MATERIALS ARE USED IN THE INTERIOR

Nowadays in many car interiors, we find materials that are recycled or even contain renewable raw materials. PET bottles, fishing nets, and clothing are already popular sources of raw materials for the automotive industry. And the trend will intensify in the future.

It is hard to imagine driving a car on seat covers made of old plastic fibers, but this is exactly what is happening in modern cars. The seat covers in the new Audi A3 are made of 89 per cent recycled PET bottles with a fabric called Torsion. In future, the recycling rate for the covers should be 100 per cent. The processing of a thread made from recycled plastic bottles is not very different from one made from virgin PET; the only difference is that the bottle must first be shredded into granules before the thread is made from it.

The trend towards recycled materials can also be seen in the Range Rover Velar with optional PET-bottle seat covers or in prototypes such as the Volvo XC60 T8, where a good quarter of the plastic components are made from recycled material. In addition to the now almost standard seat covers made from PET bottles, the center console is made from renewable fibers and plastics from discarded fishing nets and sea ropes.

IMAGE: VOLVO

The floor mats contain a mixture of fibers from PET plastic bottles and a recycled cotton blend from remnants of clothing manufacturers. The insulation material under the hood is made from used upholstery from older Volvo cars. The study is more than just an experiment by the designers; from 2025, at least 25per cent of the plastics used in newly launched Volvo models will be made from recycled material.

And Volvo's Polestar 2 electric vehicle will have a completely vegan interior and use many of the materials shown in the XC60 study. Mercedes' Vision AVTR study has vegan seat covers and a floor whose base is rattan. The interior of the BMW i3 features some organic materials and the "Urban Suite" study goes one better. In addition to the PET fabrics, the floor mats are made of a material that can be recycled 100 per cent.

There are around 350 kilograms of plastic in a car, about half of which is recyclable. This also applies to tires. Volvo and Michelin have now teamed up with the Swedish startup Enviro; through a special type of pyrolysis, they can extract rubber soot, pyrolysis oil, steel, and gas from the old tire, which can then be recycled straightaway. Enviro estimates raw materials worth USD $410 are generated per ton of tire. Considering that around 14 million tons of scrap tires are thrown away in a year, the process is worthwhile, as Enviro also wants to keep the costs of the process under control.

The Design Lounge

2022 Opel/Vauxhall Astra

THE DESIGN LOUNGE

The first new vehicle to come out of PSA's purchase of Opel is their volume-leading Astra. Using the exterior design language that debuted with the Mokka, the 2022 Astra also shows us Opel's future interior design direction that uses a more angular surface and aesthetic treatment.

The use of a cluster/UX/HMI display as a dominant theme along with a low-profile or flush center/floor console give this latest generation of the Astra a very sporty but open interior environment. In contrast to most of the latest tablet-style UX/HMI screen, Opel has integrated the main display cluster and HVAC ducts to create a unique three-plane dashboard.

This thin Cluster/UX/HMI display also does away with the traditional instrument cowl or binnacle thus creating a very sharp and clean focal point that stands proud of a very horizontally themed interior with a minimum of protrusions for buttons and switches.

By also integrating the outboard HVAC vents into this panel, the driver-oriented wraparound cockpit theme is enabled in a modern way which is further echoed on the passenger side material break-up of the instrument panel.

An optional HUD is also available that adds usability and depth to the user interface.

The thin cockpit display is contrasted with a set of more traditional switches placed on the horizontal plane below the screen, further adding to the sharply planar aesthetics.

The low-profile or flush switches are highlighted with a linear chrome accent which draws the eye to the horizontal, planar theme of the interior design. There's an interesting slider-type prindle in the center console; it appears to give familiar linear operation without a bulky, protuberant shift stick.

The overall seat surfacing and trim detailing accentuates and finalizes this angular aesthetic onto soft, pliable materials. With this first look at the new design direction form Opel, it will be interesting how it translates into their complete product portfolio offerings.

News Mobility

_Car interiors Unplugged

NEWS MOBILITY

JAGUAR-XF HUD-HEAD-UP-DISPLAY-AUTO

an ongoing series portraying automotive interiors as an evolution of our habitat

28. Digital Reflections_

(this story is part of an ongoing series introducing automotive interiors as an evolution of our habitat)

From a simple accident or perhaps technical coincidence, at the origins of Bronze Age, sand solidified under high temperature, turning into glass. Human curiosity aimed to reproduce the new property: light passing through solid matter. This molecular structure achieved both hardness and permeability (of light). A new parameter and material value constituted, in a single mass, two opposing notions and perceptions. The process of mimicking transparency, this abstract characteristic often originating in liquid sate, became the goal. Thus, transparency entered our lives, radiating light and its random graphic depictions. Its curious

technical origin reassured progress by imitating an aspect. Indeed, it is more of an aspect than a material. The technique of its reproduction extended since antiquity all the way to modern day automotive applications starting at Ford Motor Company's Glass Research Department in the mid-1950s.

Headlights, windshields and displays from then on, are inseparable components of our vehicles and by extension, our mobile lives. We perceive transparency as smooth, flat and shiny but once intricate forms, patterns, prisms and textures applied, as in *Lexus NX headlights* or *Audi A5 taillights*, the immaterial universe of light renders back to the surrounding space a read of its complex character. When a multi layered modern-day windshield coupled to *Jaguar XF Head-up-display*, indeed a mobility-coded message is graphically composed through windshield reflections. Physical and digital information merge into the perspective that lays on the road ahead. In *DS7crossback virtual-cockpit*, an integrated graphic, appears as several 3D objects, through a glossy protective layer, just like jewels behind glass. Preciousness and desirability extends beyond physical and tactile to an almost immaterial desire. The graphic world of UX artifacts and interactive holograms, lit symbols and tails of a somewhat allegorical appeal, integrate to car interiors like self-innate reflections that passively decorate glass surfaces. It is about invisible materials that seal a very visible, yet immaterial, graphic. Whether amplified effect or visual distortion, it suggests a certain superior outcome on the combination of the two, like a new version of luxury, clean, neat and glossy and blink-blink, a kind of a fetish 'non object'.

Materializing the immaterial by filtering and coloring light was a dominant architectural expression in the Middle Ages. Light diffused through stained glass, acted as a novel interpretation of the interior space. Everything reached by rays and reflections became God and *Fiat Lux*, the materialization of the abstract divine presence; a 'virtual active god' in terms better suited to our digital era.

In car interiors, transparency is expressed in bright touchscreens and screen-like objects (slabs) that become mirrors and cameras deconstructing mobility at its perceived elements. Car windows and windshields frame the view of the outside real world and equally filter and diffuse light to the interior. Transparency here does not replace opaque surfaces but rather multiplies readings in a similar way that, in the past, stained glass reflected its complex and colorful brightness on anything indoors. At the height of our technological achievements, we foresee multiple readings within the 'depth' of any transparent surface and by integrating touch controls, readings turn into actions. This is beyond the information and its usage. Like never before, a universe of light reflections with form, color and sequence as random as the information displayed, participate and act virtual modules of coded mobility. This is a special place were physical and digital merge, opaque and see-through, local and remote, material and virtual, factual and relative, remaining as subjective as intimate. From fiat lux to holograms, we have transposed our values and worries to our closest reach. We have created a confined space where visual stimuli arise to gather a very special recording of mobile activity that can be triggered in many different ways.

It is as if we had managed to capture and eternalize beautifully designed reflections behind shiny glass surfaces, store them, harvest them and bring them out whenever we wanted to use them. Reflections that are as meaningful to us as writing our mobile biographies.

_to be continued…

General News

VW “New Auto” Strong Platforms Ensure Success

GENERAL NEWS

IMAGE: VW GROUP

VW CEO Herbert Diess has announced the Volkswagen Group's new strategy: “New Auto—Mobility for Generations to Come”.

Gernot Döllner, Head of Group Strategy, explains that the New Auto strategy will run until 2030 and involve the transformation of the VW Group into a software-driven mobility company. The VW Group aims to find new revenue streams by selling car features and services via internet, and also offer mobility services enabled by autonomous machines. It is based on plans to build scale through the increasing use of shared vehicle platforms and software.

IMAGE: VW GROUP

VW has been using two platforms for EVs: the modular electric drive matrix (MEB) and the Premium Platform Electric (PPE). The next generation of all-electric cars will be developed on a standardized platform on which they will bundle technology, the Scalable Systems Platform (SSP). The SSP allows to innovate rapidly and is the key to autonomous driving. At the same time, the Group is boosting huge economies of scale, since more than 40 million cars from all brands and segments can be built based on SSP.

In terms of software, under the leadership of CARIAD (automotive software company that bundles together Volkswagen Group's software competencies) they are developing a shared electronics architecture for the whole group. The goal is to increase their internal software development from today's 10 per cent to fully 60 per cent by 2025.

One platform for batteries and charging will reduce costs massively and make Volkswagen a leading battery manufacturer, and will offer customer-oriented charging solutions. The fourth major platform bundles the mobility services of the group’s brands and makes them available via a mobility app. As for hardware, the brands will use a standardized kit from the A0 to the premium sector in future.

Vehicles will remain the core business, but digital offerings are becoming increasingly important, as buyers will be able to update and upgrade the software in their cars regularly.

Döllner says “For me, the car is second to none when it comes to fulfilling the need for individual freedom. That will still be true in 2030. However, I think that I will use cars differently than I do today: When I feel like it, I will take hold of the steering wheel myself. On long journeys I will often let the car do the steering, while I relax or use the time to work. I will use my mobility platform of choice to book cars for special occasions as required—be it a robot taxi in the city or a convertible when I’m on holiday".

Pasubio Buys Hewa Leder

GENERAL NEWS

IMAGE: CONCERIA PASUBIO

Conceria Pasubio has bought Hewa Leder in Munich.

Hewa Leder was founded in 1984 in Northern Bavaria. The company originally specialized in the sale and distribution of upholstery leather. In 1994, to manage their upper value chain, they set their own tannery in Brand-Erbisdorf, just outside Freiberg in Upper Fanconia, Germany.

Conceria Pasubio—"conceria" means "tannery" in Italian—is based in Vicenza, Italy. They have six plants, five in Italy and one in Serbia, and employ 518 people. More than 80 per cent of sales are in foreign markets; their leathers go to coat the interiors of the most important luxury cars and yachts.

Hewa Leder is the exclusive supplier to Rolls Royce, as well as to the ultra-luxury and extra-sport series of BMW and Audi, and of leading nautical companies. They employ more than 150 people, and their two plants are located in Germany.

Pasubio's strategic move with this big acquisition confirms that the genuine animal leather business is still attractive.