DVN-I
Automotive Interior

Thu, 16 July 2020 Weekly Newsletter **NEWSLETTER #32**

Editorial

DVN-I Conference Roster Is Heating Up!

The DVN Interior conference participant roster is shaping up nicely with confirmed speakers from the likes of Covestro, EPIC, Faurecia, ISELED, Marelli, Osram-Continental, Recticel, Valeo, Texas Instrument, and many startups. With another batch of confirmation to be announced soon, the conference will cover all emerging technology you need to embrace to better understand what is the car interior of the future. **Sign up here!**

In this week's Design Lounge, you'll find the latest chapter in our mobility trajectory series, looking at Škoda/SEAT design language in context of the broader VW Group's philosophy. And this week we bring you the first in an on running series of article on interior lighting integration—a subject of growing importance, and we're here to help you get and stay up to speed on it. We'll start out by presenting a variety of lighting integration technologies.

Our In-Depth presents the booming new Chinese EV industry—now's the time to take a serious look at which vehicles from what makers might first set wheel in the Western world, their interior approach and how they're leveraging EV-specific architecture and digital equipment and differentiating EV versus ICE interiors.

We're glad you're here and proud to present this latest edition of DVN-I. Not a subscriber yet? **Register here**!

Sincerely yours,

Philippe Aumont
General Editor, DVN-Interior

In Depth Interior Technology

EV vs. ICE? DVN-Eye on Chinese EV Interiors

SINGULATO'S TIGERCAR P0 CONCEPT • BEIJING AUTOSHOW, 2016

Is there a thing such as an EV-specific interior, compared to the interior of a combustion-engine car?
As most of the world's regulations and incentives are pushing for electric-powered cars, the recipe for market success has shifted. Now the goals are to be quiet, comfortable, economical and exciting; connected and versatile and sanitary. And, of course, increasingly autonomous.

A lot of new entrants are joining the market without ICE legacy platform. Many such entries are…well, we can't quite say "coming from China", since most of them are still confined to that market. But it's a sure bet at least some of them will be offered in other markets before long, hence this present DVN-I scrutiny. Meanwhile most incumbent car manufacturers all over the world are putting out EV models of their own, either from existing platforms or new ones.

Electric motors are smaller than an internal combustion engine, and although there's a battery pack somewhere, there's no transmission or transaxle. That frees up a lot of space to put toward roomy interiors and a peaceful drive.

Base EV configurations already contain many options. The high base price of EVs, driven by the cost of the battery, obliges automakers to include more options in the base configuration of an EV than in a comparable ICE, thus losing a high-margin income stream. They include comfort and convenience options popularly associated with premium cars—park assist cameras, high resolution intelligent displays, touchscreens, advanced climate

control, phone chargers, Bluetooth connectivity, automatic wipers and lights, attractive and unique designs, environmentally-friendly components, and so on.

Batteries add a weight burden, so makers compensate in some cases with greater use of lightweight materials like aluminum, magnesium, composites and suchlike for structural components. According to a McKinsey study, some of the second-generation mass-market EVs use aluminum for only five to 10 per cent of the total mass of these components, which is close to the figure for an average ICE vehicle. But in luxury EVs, aluminum accounts for about 40 per cent of vehicle weight, mainly to boost acceleration and dynamic performance. We're talking here about body-in-white parts such as seat frames and instrument panel crossbeams.

Even though significant government incentives for consumers to buy EVs are in place in multiple European markets, established automakers are having a hard time selling them. That's a situation that could give Chinese automakers, with their price advantages (and sometimes technology advantages, too) a window of opportunity to launch their own EVs in those markets. This window will close in around 2025, which is when the next CO_2 reduction targets take effect and European automakers will have to ramp up their EV volumes one way or another.

The Chinese government, which owns or holds a stake in many Chinese automakers, is those makers to aggressively export. Mainland China has a total yearly capacity of about 40 million units; as domestic demand is presently just over half of that level, state-owned automakers are ramping up exports to sustain business and jobs.

However, they're being cautious. Chinese makers have had costly, embarrassing difficulty with previous attempts to enter Europe's very demanding markets where quality, reliability, and safety are prized—consider Great Wall, Qoros, Landwind, and Brilliance. "I'm very careful about launching a model," BYD Auto Europe Managing Director Isbrand Ho said in a recent interview, "If you launch successfully, you can rely on that success for many years to come. If you launch improperly it will take many years to fix that".

The best location for a launch has to be strategically selected to maximize the chance of success. For EVs, that could suggest places like Norway with its high EV population, or the Netherlands with its strong penchant for eco-friendly products, or the UK for a brand with local roots, like MG. Some brands are relying on a traditional dealer network, while some of the more premium brands are focusing on some very visible stores in big cities, with extension everywhere through online sales.

Several plans have been postponed after the pandemic because of unfavorable financial situations—Nio and Byton, for example—but they will resume once they recover. Others, with cash reserves, are going full speed to leverage the opportunity window.

We see different product positioning, with selling propositions around price (Suda), SUVs (MG), direct Tesla competition (Polestar, Nio), and digital-centric architecture (Byton). Across all these different approaches, consumer perception is key, and the vehicle interior takes a leadership role in it.

Suda EV: Entry Segment

Established in 2010 in Sanmenxia, Suda develops and produces new-energy vehicles and their core components. In 2017, annual production of 100,000 Suda BEVs (Battery Electric Vehicles) was approved by China's NDRC (National Development and Reform Commission). In March 2019 the first mass-produced Suda EV was officially launched.

Their product, the SA01BC, is a "Logan-like" EV, a compact 4-seater 3-box sedan. It uses internally proven technology supported by international suppliers with fully amortized technical solutions—parts bin engineering, if you like. With this approach, the car is just like an ICE model, but with electric rather than petrol power, and without any thrills.

They started export with 12,000 EVs to Germany this year under a contract signed with German distributor DCKD. In addition to Germany, the private Chinese company plans to export EVs to countries in Central and Southeast Asia.

SAIC-GM-Wuling: Value-Priced EV

SAIC-GM-Wuling has begun taking orders for a 2-door electric boxlet with a starting price of around €4,000—the lowest-priced EV a global automaker has launched in China. The mini EV will be distributed under the Wuling brand; SAIC-GM-Wuling's main products are Wuling-badged minibuses and Baojun-branded entry-level cars.

It's a short vehicle: 2,917 mm long, 1,493 mm wide, and 1,621 mm tall. These dimensions maximize interior room. The 4-seater, inspired by Japanese kei cars, has 12 storage compartments, a foldable bench rear seat, and up to 741 liters of cargo space.

Bordrin: EV Startup

Bordrin was created four years ago by a former senior engineer at Ford. The EV startup displayed their first product, the Bordrin iV6 electric crossover, at the Shanghai auto show in April 2019. Product positioning is a bit upscale with a sleek and simple interior featuring a central tablet screen. Architecture looks not EV-specific.

Under an agreement the company signed with FAW Xiali in September 2019, the iV6 was set to be produced at FAW Xiali's plant in the north China port city of Tianjin before the end of this year.

SAIC MG ZS: E-SUV


SAIC (Shanghai Automotive Industry Corporation) is one of the Chinese big four automakers (the others being Dongfeng, FAW, and Chang'an). SAIC production totals up to more than 7 million units a year, counting those made in joint ventures with VW and GM as well as those made under SAIC's own brands including Roewe and MG.

MG's success came despite selling the ZS EV in just 5 European markets, led by the UK, where the SUV accounted for 10 percent of the country's electric vehicle sales in the first quarter, making it the UK's № 3 battery-powered model behind the Tesla Model 3 and the Nissan Leaf.

Produced in the Zhengzhou Plant in Henan Province, ZS EV's competitive range and affordable price makes it first to reach success in the UK since MG came under Chinese ownership in 2005.

It has traditional SUV styling, with an EV architecture maximizing interior roominess and features such as 6-way powered and heated leather seats, leather-wrapped steering wheel, panoramic dual sunroof, an 8" screen, Apple Car Play and Android, a rear camera, a 6-speaker stereo, and even a PM2.5 interior air filter. There's tactile navigation, road sign recognition, and a driver-assist package including automatic emergency braking with cyclist and pedestrian detection, radar cruise, traffic jam assist (steering and speed) and motorway lane assist, and blind spot detection.

BYD Tang 600: E-SUV


BYD, with its corporate headquarters in Shenzhen, will return to the European electric car market this year, starting in Norway, with their second-generation Tang SUV. Among other revisions, it has a completely new interior.

BYD's new Blade Battery technology brings benefits in term of safety (temperature, limited fire risk), energy density, range and—crucial for interior space—packaging, with a 50% cut in battery pack cubic volume!



Packaging benefit translates into a roomy interior with a 6-seater option, and above average storage volume and cup holders. The central console with its 10" tablet touch screen is rotable; it can be used in vertical portrait mode (as in a Tesla) or in horizontal landscape mode (like in most other cars).

Aiways U5: E-SUV

We presented this car last March, but it merits another look. Roomy interior packaging is immediately visible, thanks to its new EV architecture. There's a floating center console and elegant sport seats, set off by smart ambient lighting. There's also a tri-fold display in front of the driver acting as the instrument panel, joined by a 12.3" LCD infotainment display in the middle of the dashboard.

Byton M-Byte: Premium E-Crossover

Going more premium, Byton has promised a 2021 launch for their M-Byte crossover in certain European markets. BAIC Chairman said last year he wants to launch the Arcfox electric brand in Europe, but he didn't give a timeframe. The M-Byte, meanwhile, has been postponed due to the pandemic. Take a look at that unique whole-width screen!

Nio ES 8: Premium E-SUV

Nio has postponed plans as well for a 2021 launch of their premium electric SUVs in Europe, citing difficulties imposed by the COVID-19 pandemic, but they're still determined to establish sales in Europe. The ES 8's vertical tablet screen within a straight and sleek dashboard positions this product into premium segment, leveraging EV architecture to provide a roomy interior.

Polestar 2

Even more premium, Volvo Cars' Chinese-built EV brand is on track to launch their Polestar 2 this year in seven European markets, with customer deliveries of the electric sedan starting in August. Its interior architecture is impressive at this concept phase, with showroom-slim seats. We'll be keen to see what might change for the production model. There's a strong effort toward sustainability, with composite structures, vegan leather, textiles from recycled PET bottles, and cork-based vinyl for seat bolsters and head restraints.

Other Chinese automakers such as Great Wall Motor and Jianghuai Automobile also hope to export EVs to Europe in the near future.

Clearly Chinese industry, propelled and protected by the Chinese government is preparing a vey strong EV wave, with price as a unique selling proposition implemented with high-value cars and with premium offerings leveraging EV architecture and digital equipment to maximize customer appeal.

Interior News

New Seat Design for Honda's Next Jazz

INTERIOR NEWS

During development of the next generation of their B-segment Jazz, Honda designers, scientists, and engineers worked to maximize driver and occupant comfort.

Interior comfort, ergonomics, and body muscular stress research were conducted to gain a deeper understating of exactly which parts of the body need support and how that support can be best configured to increase comfort.

The end result of this work is a body-stabilizing seat frame including supportive mat structures at the bottom and back of the seat, replacing the S-spring design of older models.

The wider seat bottom allows the seat pad depth to be increased by 3 cm—the extra softness is immediately noticeable upon sit-down. This new structure, combined with the increased padding, allows the cushion to flex properly, with no bottoming out.

An enhanced back structure increases lumbar and pelvic support to create a body stabilizing effect. According to Honda, this helps prevent fatigue—particularly in the hip and waist area on longer journeys. The new structure also makes it easier to maintain a comfortable and stable driving posture, even when cornering and on uneven road surfaces.

The seats are tapered toward the top of the seatback to provide the cushion volume to fully support and envelop an occupant's back; this tapered design provides a wider space between the front seats, too, making it easier for front and rear occupants to communicate. The lowest point of the seat height is 1.4 cm closer to the floor; this and the more rounded front corner cushions make for easier ingress and egress.

Attention was also given to the rear seat, where moving the seat hinges outside the seatback frame allows the padding thickness to increase by 2.4 cm for more seating comfort.

Ergonomics of the brake pedal and steering wheel have also been improved to reduce the physical stress of driving, and to reduce the need for the seat position to be adjusted for comfortable pedal operation. There's better thigh support, and longer shoulder-seat separation. This batch of improvements comes from a new, deeper brake pedal position in the footwell, with an increase in foot angle of 5°. The steering wheel center is up to 1.4 cm closer to the driver, combined with a steering wheel angle that is now 2° more upright.

With the fuel tank in the center under the front seats, rear seat flexibility has progressed for completely fold-flat or flip-up positions.

New VW Arteon Gets Upgraded Interior

INTERIOR NEWS

VW's goal with the refresh of their coupé-styled 4-door Arteon hatchback was to make it more attractive in a bid to boost sub-target sales, while keeping cost increase to a minimum. The result is an interior with a new instrument panel, air ducts, center console, upper door trim, fabrics, and leather.

It also includes an all-digital cockpit, updated infotainment, improved driver-assistance features, plus special lighting for higher equipment levels—like illuminated trim panels, doors, and IP in 30 changeable colors.

Based on VW's modular transverse platform (MQB), the Arteon maximizes interior space with rear legroom of 1,016 mm and a 565-liter trunk on the shooting brake version.

When Travel Assist partially automated driving is engaged, the steering wheel can detect whether the driver simply touches the steering wheel, often enough to demonstrate that they're paying enough attention. Previously, the driver had to slightly move the steering wheel at least once every 10 to 15 seconds, or else a warning signal would go off.

The premium sound option offers four sound settings—Pure, Chill Out, Live, and Energy. Fraunhofer IIS' "Sonamic Panorama" algorithm brings further spatiality to the listening experience by separating the individual sound sources from a stereo recording and evenly distributing them in a U-shaped soundstage that surrounds the driver and passengers. The audio system is from Harman Kardon, with 12 speakers powered by a 700-watt, 16-channel ethernet amplifier. The infotainment interface, meanwhile, is VW's MIB3 including wireless app connect.

Ford F-150's Stunning New Interior

INTERIOR NEWS

The Ford F-150 pickup truck is the best-selling vehicle in the USA. With the 2021 model, Ford has put in a giant interior upgrade. There's a bigger touch screen, new HMI logic, improved connectivity, an innovative motorized desk—see how it works in this **online video**—and sleep worthy fold-flat seats.

According to Ford, customers are spending more and more time in their [trucks], using them for work and recreation. This reality led Ford to focus on comfort, versatility, and connectivity.

The '21 truck has the newest version of Ford's Sync infotainment system, with over-the-air software update capabilities. It will come with a larger central touch screen, with a much-simplified HMI. Breaking away from digital clusters that mimic the look and behavior of physical analog gauges, Ford has got rid of artificial needles and simulated chrome. Instead: simple, clean design with a focus on legibility. The amount of information presented simultaneously is greatly reduced, and key elements remain in one place so the driver's eyes needn't hunt and re-learn where to go with every variation.

Ford set up a partnership with navigation specialist TomTom to supply the Sync in-car navigation system; the F-150 is one of the first two models to be equipped (the other being the Mach-E).

It's a global multi-year deal to power real-time traffic service, with twice the computing power of the previous generation. TomTom claims they can predict traffic changes such as congestion before they happen by processing more than 70 million driving hours every day, from millions of connected devices, and leveraging Sync's increased computing power to update navigation systems every 30 seconds.

As for that desk, it's available even if a bench front seat is specified. The bench-seat version of the moto-desk rotates into position from the back of the middle seat when it’s folded down. And speaking of seats, there's now an option for what Ford calls Max Recline Seats. These front seats fold into an almost-completely- flat sleeping surface, nice for a nap to refresh from long hours on the road or job site.

Lighting Integration in Automotive Interior Components • Part I

INTERIOR NEWS

Benchmark Lighting Integrations

State of the art of lighting integration in interior components is mainly driven by RGB-LED modules in combination with short, long, small, or broad light guides for indirect contour and area lighting, or backlighting of A-surfaces with static or dynamic light performances.

The focus for lighting integrations in interior components is on door panels, because of the many styling, functional, signaling, and psychological effects in this area. But there is also an increasing number of light integrations in instrument panels, center consoles, seats, steering wheels, door sills, and headliners, and in special in panoramic roofs by using the large transparent area as a luminous surface.

Audi, BMW, and Daimler are still in the lead with the number of light integrations and innovations in the interior components. But Jaguar, MINI, Opel, Peugeot, Renault, VW and many other car makers offer a lot of interior lighting features in nearly all car segments. Makers from America and Asia are fast followers for interior lighting applications and integrations. We foresee this trend continuing after the investment and development delays caused by the pandemic.

Some examples of interior lighting integration:


Audi with indirect, contour and smart area lighting in deco trims, cupholders and below center console


BMW with double stripes of indirect & contour lighting and an interior concept with manifold lighting integrations


Daimler with indirect and area lighting, illuminated components and new display and interior lighting concepts

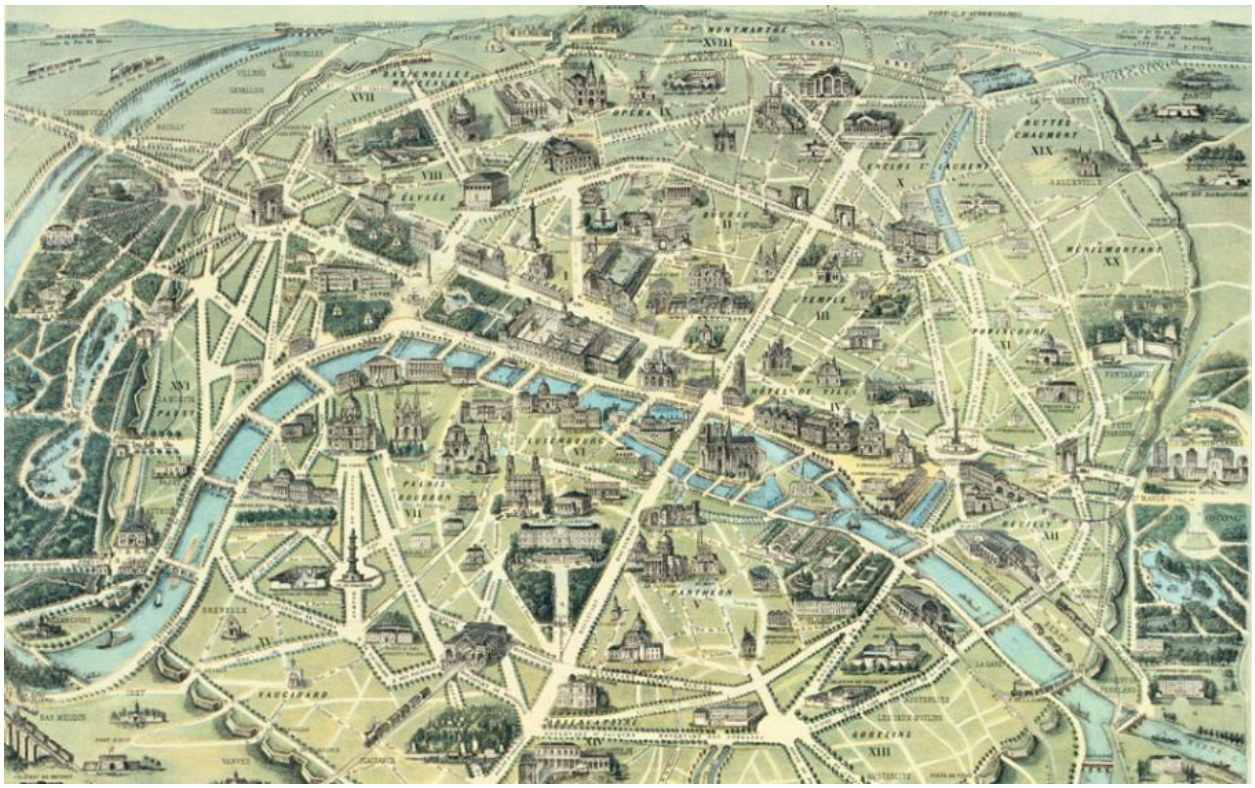

MINI with contour lighting, illuminated door opener, and communication light in combination instrument

Forthcoming editions of this series will delve into contour lighting, indirect lighting, and luminous headliner technology and technique.

News Mobility

Trajectories, Our Mobile Signature

NEWS MOBILITY



MAP OF PARIS DURING HAUSSMANN "GRANDS TRAVAUX" - 1864

(*A designer's look at our mobility-centric culture*)

2. Disruptive city planning

This is the second in DVN-I's series of articles on trajectories as æsthetic depictions of our mobile self, in which we continue with the typology of displacements that reflect new economic, social and spatial organizations.

With speed being the third reading dimension of every trajectory, all aspects of the journey are distinguished. Long fast sweep segments, straight constant speed lines, or slow curvy arcs—and combinations of all these. Technical progress on tires, suspensions, brakes and steering brought better control of the carriage and drew smoother trails. By 1740, the outspread network is a mosaic of all sorts of drawn trajectories. This choreographic pluralism boosted by the cross section of different means of transportation gives rise, late in the 18th century, to the first sidewalks separating mobile paths and categorizing pedestrian pathways.

Baron Haussmann, the first celebrity urban planner, wished during the reconstruction of Paris to institute a policy facilitating the flow of people, goods, air, and water; he was convinced by the hygienist theories inherited from the Enlightenment and which had spread following the cholera epidemic from 1832. This campaign was entitled "Paris embellished, Paris enlarged, Paris sanitized". *(«L'urbanisme hier et aujourd'hui. Et*

demain...?», Jean-Claude Poutissou, in Les Publications de l'AUEG) . Haussmann's obsession with the straight line, called the "cult of the axis" in the 19th century generated vast spatial constructions intersecting staging monuments in vast perspectives in the form of avenues or large squares. The resurrection of Paris included sidewalks for the first time —Parisians could now dress up and wear nice shoes. Hence, city streets were transformed into places to see and be seen among the fashionable elite, redefining the experience of urban life in the process. After the railway track, a second mobility segregation took place with space dedicated to pedestrians. A category on its own with slow, extremely fluid and flexible trajectories that can crack rules and infiltrate any vehicle paths, even coexist within, like in the subway that has been described as a moving sidewalk.

In the last decades of the 19th century, population growth in Paris caused a considerable densification of the central districts and the operations carried out by Haussmann influenced the urban planning of several cities bringing about major demographic and social changes.

*INDUSTRIOUS_*

Momenta Robotaxis: Driverless and Profitable in '24?

NEWS MOBILITY

Momenta is a Chinese autonomous driving startup in Suzhou, founded by a former Microsoft research scientist who helped launch face recognition giant SenseTime. Momenta is the first autonomous driving company in China to reach a USD $1bn valuation, in 2018. It counts Daimler as a major investor, and is listed on Daimler's "M&A Tech Invest" portfolio as deep learning software partner for perception in autonomous driving. Being Chinese, Momenta also benefits from state support with government-guided funds.

Momenta announced recently that its entire robotaxi fleet will operate without safety drivers in 2024, while some of its vehicles will already be driverless by 2022. Just this month, Momenta secured its first license to recruit passengers for its robotaxis running on chosen public roads in Suzhou.

The challenge is twofold: make it work safely and make it profitable. They procure core hardware parts from international and domestic vendors including NXP, Nvidia, and Texas Instruments, for example, as semiconductor suppliers.

MOMENTA'S AUTONOMOUS DRIVING TEST IN A COMMERCIAL DISTRICT. (MOMENTA)

On the technical side, as stated by their CEO in several recent interviews, "I've repeatedly told our R&D team that they are hired not as problem solvers but as architects. Why? Because Level 4 involves long-tail scenarios. You may be presented with millions of problems. Sure, we can solve 100 problems with 100 people, but we can't hire one million engineers to answer one million questions… So, if you can build an automatic problem-solving system, automation will take care of a lot of the work for us."

On the business model side, they have a franchising model in mind, like McDonald's. They'll have a set of operational standards and replicate them in other cities, where they will collaborate with the local government, taxi services, operational companies, and other stakeholder parties.

DiDi to Expand Autonomous Driving Development

NEWS MOBILITY

Fierce competition in China for autonomous driving! After successfully obtaining road test qualifications in Beijing, Shanghai, Suzhou, California, and other places, and the first batch of manned demonstration application licenses issued by Shanghai DiDi is accelerating development in that field.

Didi strengthen its partnership with BAIC, expanding last January creation of JV for new-energy vehicles. Under the agreement, Didi and BAIC said they will jointly develop high-level customized self-driving models through in-depth cooperation in automobile technologies, artificial intelligence and ride-sharing areas. They will focus on the research, development, and commercialization of L^4 autonomous-driving cars.

Thanks to late May SoftBank investment of USD $500 million, DiDi Chuxing plans to hire up to 200 employees this year to strengthen its autonomous driving department and accelerate the expansion of autonomous taxi services in Shanghai and other regions. The CFO of the company said that the autonomous driving department will have 500 to 600 employees by the end of 2020.

Presently, the vehicle used for DiDi's autonomous driving efforts is the Volvo XC60, which costs more than €50,000. In addition to vehicle costs, it is also equipped with nearly 20 sensors, including various lidars, radars and cameras, for a total vehicle value of more than €120,000. DiDi's announcement that they will have a million fully autonomous driverless cars by 2030 illustrates the magnitude of the investment.

The Design Lounge

VW Group Design Language • Platform Design: Škoda, SEAT, Cupra

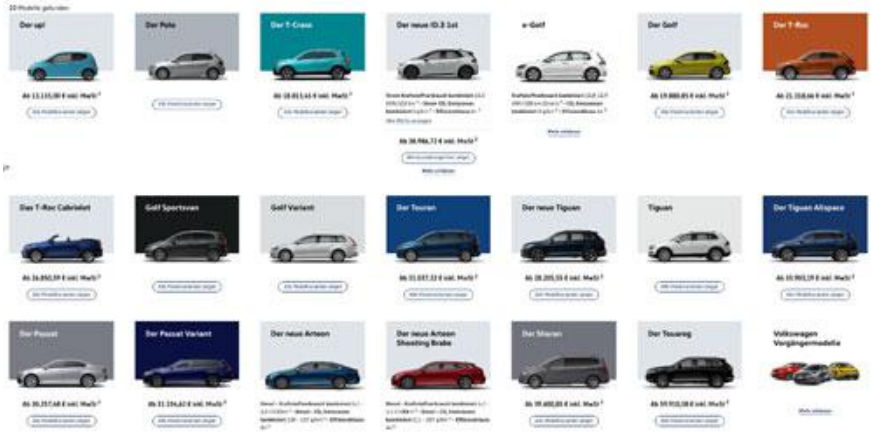
THE DESIGN LOUNGE

CUPRA FORMENTOR

Platform design, is a method used by every automaker to help reduce costs and introduce feature and technology content across their model lines. This quickly becomes very complex as each particular automaker uses these platform architecture techniques along with a feature and level content (base, sport, premium, etc.) that crosses not only brands but also regional, market, and segment needs across the globe. This then becomes a 3-axis matrix that needs to be navigated with variable costs, volumes, and consumer needs.

The challenging questions at hand: what is the best cost-feature solution for each specific segment and how do these items enhance the brand and therefore the sales proposition? Is brand differentiation or vehicle segment differentiation more critical? Here we look at how the VW Group navigates cross platform design for their EU volume brands of Škoda, SEAT, Cupra and Volkswagen regarding the lower-mid segment vehicles. With the inclusion of UX/HMI into all segments and vehicles, this cross-platform approach has become critical on how to achieve the best cost/value results.

VOLKSWAGEN EU



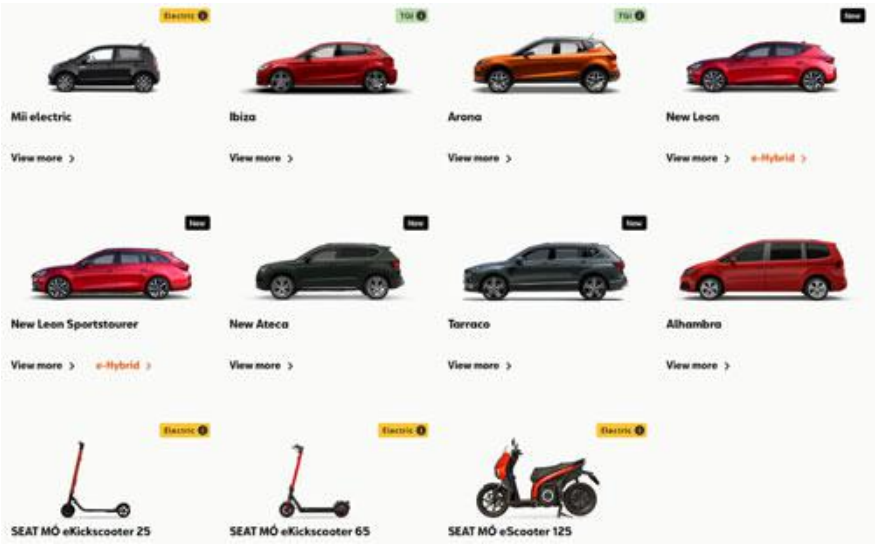
Volkswagen's 2020 product offering is very broad regarding segmentation, but their vehicles are always positioned as a high-price option per segment just beneath their premium brand of Audi.

Volkswagen's approach is to use higher quality materials and maximize perceived quality so the VW brand can price their vehicles accordingly. Regarding Volkswagens platform approach generally, it is split with core platform development with Volkswagen for the lower segments and Audi for the upper segments, allowing for some variations in between.

ŠKODA EU

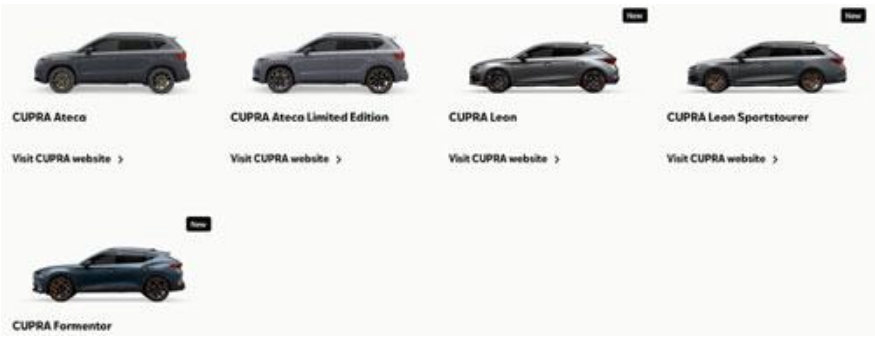
Since Volkswagen's acquisition of Škoda, the brand has been based upon a high-value-for-price proposition for its vehicles. This was done by using the reliable previous-generation Volkswagen drivetrains that gave the brand a cost/performance advantage. With the large influence of UX/HMI now, this approach cannot be used any longer, for previous-generation UX/HMI elements and systems are not competitive.

SEAT EU



SEAT has been positioned as VW Group's entry-level sporty and mobility brand, now also venturing with 2-wheeled mobility solutions.

CUPRA EU



Newest of the VW Group marques, Cupra is being positioned as the new performance upgrade to the SEAT brand. The new Formentor and elBorn evince the maker's plans for further differentiation from SEAT's positioning.

With this background positioning of VW Group's Škoda, SEAT, Cupra and Volkswagen marques, we can now look at the platform executions that are offered by segment, and their priorities.

Entry Level segment (A-Segment) vehicles

For the A-segment vehicles the Volkswagen UP, SEAT Mii, and Škoda Citigo iV share all of the core underpinnings with only small visual differentiations on the exteriors.

Škoda Citigo iV | Volkswagen UP | SEAT Mii

Price is critical for A-segment vehicles, so for the interior designs and feature content the three brands are identical. The UX/HMI uses a smartphone holder instead of an integral high-resolution display, and only color & material options are used to differentiate the brands while also adding upgrade potential.

VOLKSWAGEN UP INTERIOR

ŠKODA CITIGO IV INTERIOR

Entry SUV segment (CUV-Segment) vehicles

SEAT ARONA

VOLKSWAGEN T-CROSS

ŠKODA KAMIQ

CUPRA ATECA

CUPRA FORMENTOR

Initially defined by the Nissan Juke and Renault Captur, this has been the newest and highest growth segment in Europe. Currently it is rapidly expanding with additions such as the Cupra Formentor.

Comparing the Cupra Ateca to the newest Formentor reveals the transition from VW Group's previous interior design architecture that incorporated a massive center display integrated into the instrument panel with large vents, to a new arrangement with a tablet-center-screen theme and lowered air ducts to create an airy interior environment.

This overall theme and interior architecture are carried throughout all brands in this platform with the variations being:

- an integrated center display for the VW T-Cross
- bold color insert options for the VW T-Cross
- unique door pulls and air vents for the Škoda Kamiq
- stepped instrument panel insert trim for the SEAT Arona and Cupra Formentor

CUPRA ATECA

CUPRA FORMENTOR

SEAT ARONA

VOLKSWAGEN T-CROSS

ŠKODA KAMIQ

C-Segment vehicles

During our last Design Lounge edition, we reviewed the visual characteristics of the Golf line up to the new Golf 8. We can now see how this platform is also carried across into the other brands with the new Škoda Scala and SEAT Leon. You can also plainly see the cross-platform usage of the major interior components form their CUV platform cousins.

Golf 8 Škoda Scala SEAT Leon

GOLF 8

SEAT LEON

ŠKODA SCALA

Škoda has also carried over this theme into their new Octavia. The interior materials and content needed an update and upgrade to provide new, demanded UX/HMI features. No longer is Škoda just a reliable good-value car based on previous-generation VW technologies; now it's an up-to-date, stylish vehicle in its own right.

ŠKODA OCTAVIA

EV vehicles: the ID series

Also covered during out last issue was the VW ID3. Now we can also compare how the Cupra elBorn differentiates itself form it. The overall architecture is identical, but a subtle drivercentric theme is introduced. There's a new instrument panel surface that wraps and partially integrates the center display with the A-Pillar. Using an enclosed floor console tunnel with copper metallic detailing creates a more serious and sporting tone for the interior.

VOLKSWAGEN ID3

CUPRA ELBORN

VOLKSWAGEN ID3

SEAT ELBORN

General News

Amazon Last Mile with Zoox and Rivian

GENERAL NEWS

Amazon will acquire Zoox, a self-driving startup founded in 201 that has raised nearly a billion USD in funding, and which aims to develop new self-driving passenger and goods vehicle autonomous driving technology including software, AI, and their own ride-hailing platform all at the same time. Amazon will pay $1.3bn in cash for the takeover, with a plan to create at least $100 million in stock awards to retain the 900-plus employees of Zoox.

Amazon's autonomous ambitions to dominate American retail have been visible since 2016, when the company made its first parcel delivery via unmanned drone. In January 2019, they showcased a six-wheeled Scout delivery robot. One month later, they made an

investment in Aurora Innovation, the self-driving technology company formed by former Google, Tesla and Uber executives.

At roughly the same time, Amazon led a huge investment round in electric vehicle startup Rivian, and has since ordered 100,000 of that company's delivery vans, slated to hit the road by 2024.

How Zoox acquisition would complement or compete with Rivian's EV platform remains unknown. Amazon could utilize Zoox's self-driving system on Rivian's electric vans, but there's also value in the bidirectional capabilities of the Zoox prototype, particularly in congested urban environments. Bidirectional means the vehicle can reverse directions without turning around. Or Rivian could be the industrial arm of Zoox. Or use Rivian's batteries, motors and electronics, and get economy of scale.

Whatever which way it shakes out, clearly Amazon is progressively vertically integrating journeys of people and goods.

Frankfurt IAA: New Davos of Mobility?

GENERAL NEWS

Automotive industry association VDA announced that the 2021 IAA (Internationale Automobil-Ausstellung) will be organized in Munich instead of its traditional location in Frankfurt.

Germany's biennial auto show aims to position itself as the leading trade fair for mobility in smart cities, attracting startups and stimulating social debate over mobility issues, with auto industry, academics and politicians for debates and presentations.

The revamped show will have a sharper focus on a limited number of innovative concepts that can highlight future trends.

The association wants to give the show the same event-like character found in popular tech shows such as the Web Summit, while attracting the same kind of well-known speakers and leading minds that attend the World Economic Forum in Davos, Switzerland.

"Trade fairs are undergoing a transformation. With more and more consumers informing themselves online and shopping for the best prices before purchasing a car, traditional auto shows no longer offer the same value. You better interact on line with customers 24 hours a day, when exhibiting during 2 long weeks for exhausted visitors is a bit obsolete.

"The Summit must be the Davos for mobility, where the who's who meet each other," said the VDA speaker. "That's why the Summit is not meant to be the largest auto dealership in the world where the complete model range is on display, rather the latest in technological ideas can be found."

Consumers will be able to inform themselves of the latest trends in various parts of Munich under the umbrella "Open Space" where artwork, entertainment and food can be enjoyed as well. A proving ground called the "Blue Lane" will give the chance to experience the latest trends in low-emissions mobility.

Faurecia Buys IRYStec

GENERAL NEWS

IRYStec Software Inc., from Montreal, Canada, has been acquired by Faurecia.

Founded in 2015, IRYStec's Perceptual Display Platform Vision (PDP Vision) technology delivers Display and Image Processing technology, to easy integrate, display user experience with better visibility, safer viewing with potential to reduce panel power (and heat) and cost. Automakers and tier-1s are collaborating with IRYStec to provide drivers and passengers with the world's first software platform that intelligently adapts the displayed content to the ambient light driving conditions, panel technology and the driver's unique vision to deliver the optimal in-car viewing experience.

Faurecia IRYStec, as the company is now named, will be part of the Faurecia Clarion Electronics group.