DVN-I
Automotive Interior

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Editorial

Beijing Auto Show — Live And In Person!

The Beijing Auto Show just ended 2 weeks ago. Measures were in place to limit the number of attendees (not obvious in the picture!) and face masks were required. Aside from the usual opportunity presented by motor shows, to get a look at the product themes and innovations, it was a singularly good opportunity to understand how the Chinese market is recovering.

The answers: China is indeed recovering right now, and most of the new concepts and production vehicle at the show were Tesla Model S competitors. Our in-depth this week

presents the luxurious and futuristic interiors on these EVs.

With less of an interior stretch, off-road vehicles are being modernized in a direction that can fairly be called "authenticity", wherein interiors should better match with the nominal off-road mission of the vehicle. That's the topic of this week's Design Lounge, as a new generation of vehicles like this comes to market—the Ford Bronco, Suzuki Jimny, Jeep Wagoneer, and other suchlike.

DVN Interior brings you all the relevant news, views, and analysis about car interiors and mobility. Have a look at **this short video** of our DVN-I Conference last month, embracing all the many dimensions of the automotive interior domain.

If you're not yet a member, come **join us**! We eagerly welcome you to the rapidly-growing DVN-I community.

Sincerely yours

Philippe Aumont
General Editor, DVN-Interior

In Depth Interior Technology

High End EVs, Futuristic Interiors at Beijing Auto Show

The Beijing Auto Show was an early casualty of the coronavirus, having originally been scheduled for April. Even a second wave that directly affected Beijing around mid-June did not lead to the show's cancellation. In fact, it is the only major international motor show to have taken place in 2020! This reflects as well the revival of the Chinese auto industry, post Covid-19, and, even with limited number of new models, it confirms market rebound in the direction of EVs and high-end vehicles.

Compared to same-month 2019, China's auto sales rose 8.8% in August and 7.4% in September—the fifth straight rise after plunging during the lockdown. Nissan CEO Makoto Uchida says "The recovery in the Chinese market has been very remarkable, and our key segments have returned to the previous year's level if not slightly better". When almost all residents were told to stay home in February, sales collapsed a record *79%* to their lowest since 2005. Many experts even predict a full 2020 year with "single-digit" growth over last year. William Li, Nio's founder and CEO, says "Life continues without any big impact from the pandemic".

The vehicle mix has shifted toward the premium, with high-end vehicles accounting for a record 15 percent of the Chinese market in August, up from around 10 percent for all of last year, according to China's Passenger Car Association.

A Tesla popularity-boom in China has kicked premium EV interest into high gear. EV startups like Nio, Xpeng, Li Auto and WM Motor have together raised more than USD $8bn this year. And Audi has been in talks with their longstanding Chinese partner FAW Group about creating a second joint venture to build electric cars in China on Audi's PPE platform.

Now, let's have a look at the most interesting cars shown in Beijing!

Beijing Radiance Concept: Competitor to Tesla and Lucid?

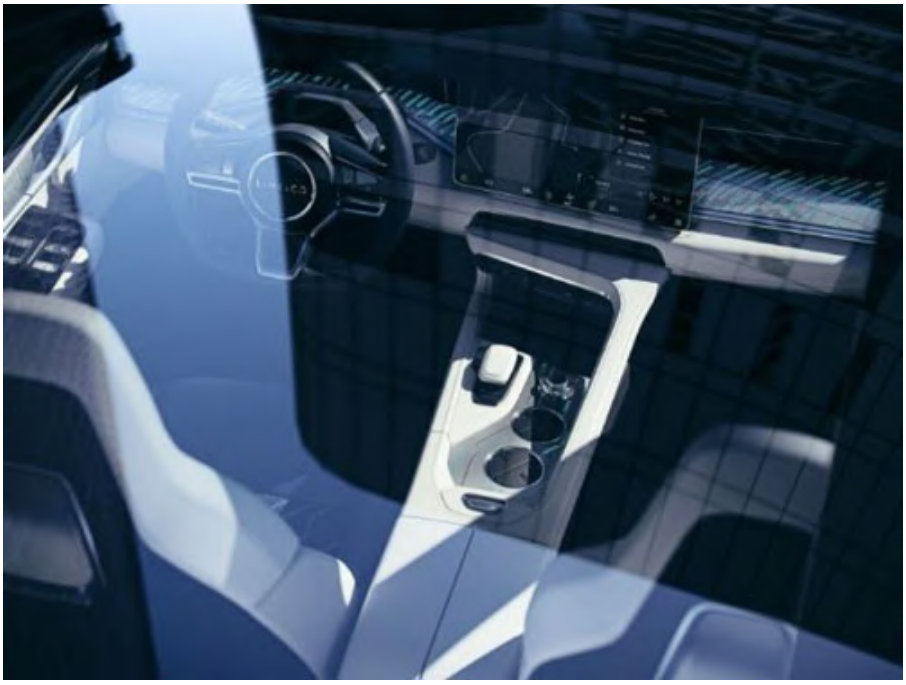
Unveiled last November, Beijing Auto is the energetic new brand from BAIC, who says it's built on Eastern heritage and design philosophy to appeal to the upwardly-mobile classes currently growing in Chinese cities.

The Beijing Radiance Concept's spacious interior expresses a kind of modern Eastern beauty and luxury. A particular highlight is the seats, equipped with futuristic-looking headrests and a tabletlike screen that’s mounted inside the steering wheel, a feature first seen on Byton's M-Byte SUV.

This car follows the Chinese trend of a long wheelbase and a very open, spacious interior; designers think of it as a statement referring to traditional architecture such as Beijing's Forbidden City. An 800-km range and L^4 autonomous driving capability are lofty promises, but that is, after all, what concept cars are for: reach for the stars!

There are three driving modes: Standard, Business, and Relax. In Business mode, the front seats rotate to create a meeting room environment. In Relax, the seats rotate and can recline. In both cases the car drives autonomously, and each mode is accompanied by dedicated ambient lighting that psychologically smooths the transition and helps define the space. There's a huge panoramic glass roof that floods the cabin with natural light.

Lynk & Co Zero concept, see video



Lynk & Co, part of the Geely Group named with what might be called "homage" to Ford's Lincoln Motor Co, has already confirmed the Zero will go into production next year. It's built on Geely's Sustainable Experience Architecture (SEA) which was created specifically for electric vehicles, as an "open source", meaning that Geely intends to sell it to third party manufacturers so that they can use and improve it. Discussions are already started,

especially with Daimler (in which the Geely holds a 9.7% stake), but Geely already has a lot on their plate with nine brands in their portfolio, including Volvo and Smart.

Lynk & Co is planning to use an interesting business model, with direct-to-consumer sales in most markets, cars fully personalized using equipment packages, and a subscription-based service. Users can operate the service, which is set to include numerous lifestyle benefits, for a month at a time in addition to being able to share vehicles out on a short-term basis to other consumers.

FAW Hongqi H9

FAW launched their new Hongqi H9 vehicle—a Chinese Maybach of sorts. It's equipped with several products made by Faurecia's Interiors and Clean Mobility business groups, as well as Faurecia Clarion Electronics' high-end electronic solutions for the cockpit domain controller. The cockpit bears a mix of old-fashioned and new-fashioned elements—the stand-up portion of the dashboard display, for example, behind the steering wheel, has an upright, boxy look reminiscent of 1970s and '80s practice, but the whole dashboard is an up-to-date piano black affair with displays tidily integrated.

FAW Hongqi HS7+

The Hongqi HS7 SUV has had its wheelbase stretched to become the HS7+. Longer-stretched vehicles are a popular thing in China, and this crossover is the long wheelbase variant of the regular HS7 that came out a couple of years ago, but with 50 cm (20 inches) added between the two axles and 9 cm (3.5 inches) of extra height. Inside, the new HS7+ offers oceans of legroom in the back. It has individual rear seats separated by a console with an integrated screen, and the front and rear passenger compartments have been divided by a partition wall that boasts a dashboard-like design. The example shown in

Beijing has white and green leather with green piping, which sparks hope for a wider breakout from the black-white-grey-beige palette.

Dongfeng Voyah/Lantu i-Land

Voyah is the English name of the car called Lantu in Chinese (it means "blueprint" or "wonderful future", according to Dongfeng) is planned to become the Dongfeng Group's premium brand. The first model presented under the brand is the i-Land concept, developed by Italdesign. It looks a European sportscar, with an open interior and no B-pillars, and a butterfly door setup. In the cabin, there are three very comfortable-looking seats; the front passenger seat is replaced by a huge padded footrest. The dashboard has a series of floating screens dedicated to driver assistance and infotainment systems.

GM/SAIC Buick Electra

In parallel to the auto show, SAIC-GM, GM's joint-venture in China, unveiled their Buick Electra concept vehicle developed by GM PATAC (Pan Asia Technical Automotive Center). It's a new electric crossover concept equipped with a GM Ultium battery system to enable a range of 660 kilometers.

Another concept with butterfly wing doors, it supports facial recognition and a hidden floating skateboard, of all things, is integrated with the stoplight under the rear bumper to expand users' personal mobility options.

The rear-view mirror automatically pops up when starting the car. Combined with the central mirror in the overhead system, the driver gets a 360° view projected on the central curved screen. The steering wheel is retractable, and the seats are suspended on a transversal structure (maybe only for the concept car?).

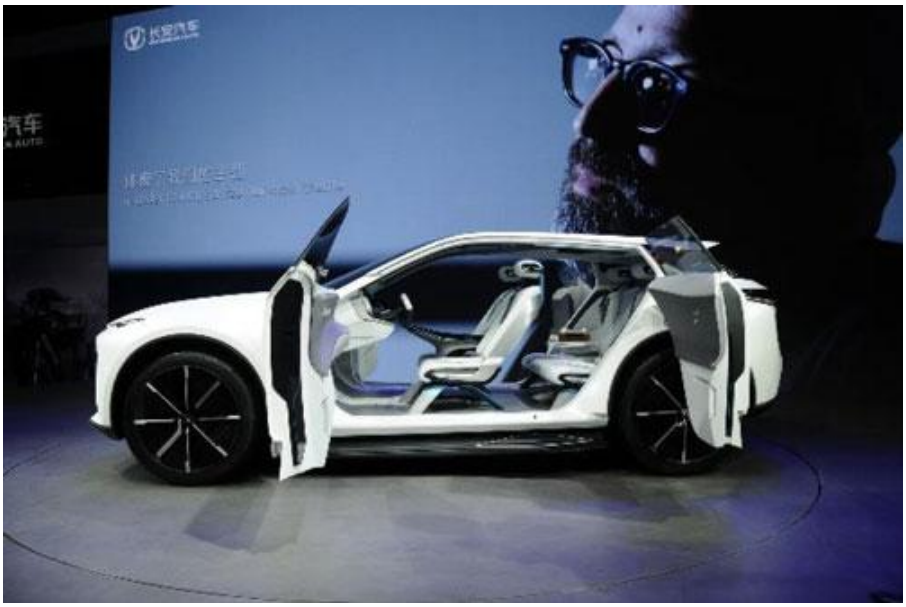
Roewe R-Aura

SAIC, through its own Roewe brand born in 2005 after SAIC's MG-Rover takeover, is planning to launch their first EV in a new EV sub-brand, simply named R. The Aura concept has no images yet showing the interior, but a large screen for the infotainment system can be seen from the outside. It is announced to get cameras to replace mirrors, onboard 5G connectivity, and facial recognition for unlocking or starting. We're staying tuned and will report on the interior as soon as someone will open the door!

FAW Bestune E01 EV Crossover

Bestune, formerly known as Besturn, is a brand under First Auto Works (FAW). Their E01 is a large electric SUV. The company has released images of the interior, showing a high-tech place with a twin screen on top and a smaller screen at the bottom of the center stack. The pod in the top center of the dashboard is for the 3D holographic assistant, a feature first introduced on the Bestune T77. The car gets a speaker system designed by trendy Danish speaker maker Jamo.

Changan Vision V



After introducing the UNI T earlier this year, Changan has now presented their Vision-V Concept as a preview of a future production model that would slot above the UNI T.

Changan's new show car has suicide rear doors (which might not make it to production) and a futuristic looking interior. The dashboard is composed of a set of large digital panels that transmit all the information of the infotainment system, instrumentation and multimedia system to the driver and passengers. The designer aimed to make the overall volumes much lighter, making the surfaces almost floating for the least possible impact on the purity of style. Antibacterial, breathable, and easily sanitized materials are used for the interior upholstery.

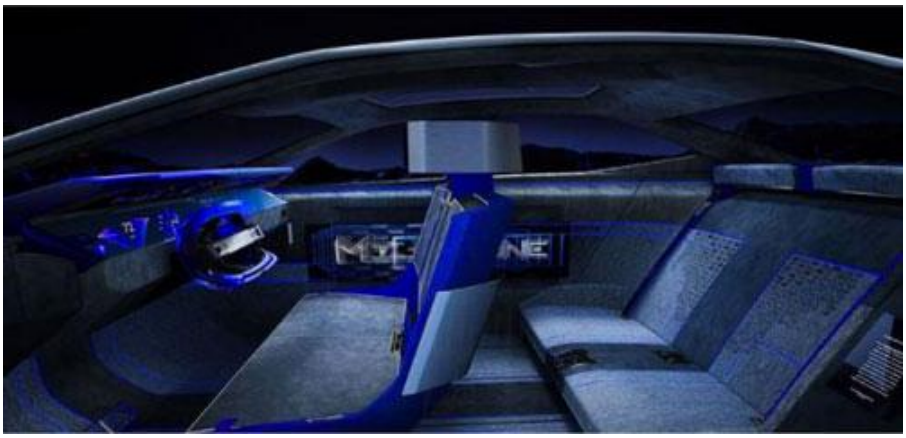
GWM Futurist

Great Wall Motors' Futurist concept is an unusual blend of retro styling and today's technology. "Round" and "Chrome" themes appear everywhere—look at that 1950s-style horn ring on the steering wheel!—but the closer one looks, the more modernity one sees.

Honzon Auto Nezha V

Nezha, a Chinese all-electric brand launched by Honzon Auto, offered the first look at their third production model. The Nezha V is slated to hit the market late this year. It's 4,070 mm (160") long, 1,690 mm (66.5") wide, 1,540 mm (61") tall, and rides on a wheelbase of 2,420 mm (95"), so it can be considered a small SUV. Its cockpit features a 13" display at the center console—like in a Tesla, there aren't physical buttons here. According to the company, the in-car system supports AI-enabled voice control and various interaction functions such as full-scenario remote control and smart home connectivity.

Qoros Milestone design study



The Qoros Milestone bears an avant-garde interior design, and has four sliding doors that can be operated by using hand gestures.

The interior has a built-in holograph that turns the windshield into a giant display area manageable with a remote control that detaches from the steering wheel. The Milestone was envisioned with a fully autonomous mode in mind as it can morph into a roomy two-seater by sliding the front seats back to cover the rear bench. The absence of conventional B-pillars makes for easy ingress and egress. On the dashboard, Qoros places huge digital displays under cover, plus large displays installed in the doors. The steering wheel (is it actually a wheel?) is specially designed with screens, and can also be completely hidden.

Facelifted VW Phideon/Hu Yao

VW PHIDEON REAR SEAT ENVIRONMENT (WITH A FRIDGE IN THE CENTER!)

The 2021 Phideon—called the Hu Yao in Chinese—replaced the Phaeton in 2016. This hyperluxury car emphasizes the rear seat compartment (where the owner is seated, naturally, while being chauffeured around). There's a small refrigerator between the rear massaging seats, with an optional air suspension setup to soak up road bumps. There's a Dynaudio sound system—that's a Danish brand, also found in Bugatti cars. The front interior has an enlarged 9.2" infotainment touchscreen. Including, as option, a night vision system and a head-up display.

Audi Q5L Extended Rear

The Q5L Sportback long-wheelbase model is a China-exclusive variant built locally by the FAW-Volkswagen joint venture. Based on the existing Q5L SUV, the Q5L Sportback has a 2,908-mm wheelbase, that is 89-mm longer than the global model. Visually, the stretched wheelbase is easy to notice when looking at the longer rear doors, which give the Q5L Sportback a more flowing profile than the standard car. The extended wheelbase also means more knee- and legroom for rear passengers, and headroom is surely also increased somewhat on account of the reduced rearward slope of the roofline.

This, then, has been a look at the interior trends in the many high-end EVs on display at Beijing—with all the makers apparently viewing Tesla as the only benchmark to beat! Interiors in high-end cars are always very spacious in China, home of extended-wheelbase architecture. Seats are slim, floating in the future, at least in the concept cars; we'll have to see how much of that float remains when the various models are production-ready. And digital technology is everywhere in the cockpit to ease the human-machine interaction, through large screen, and voice activated system—always building a USP out of a unique user experience.

Interior News

Starry Ambient Lighting of Rolls-Royce

INTERIOR NEWS

IMAGE: ROLLS-ROYCE

Previous DVN Interior Newsletter presented the Rolls-Royce Ghost's acoustic refinements. Rolls-Royce, like most luxury brands, has some of the most vibrant ambient lighting on modern cars. The interior lighting becomes more and more complex, personalized, polyvalent, and digitalized. The number of lighting functions and applications has increased steadily in the last years. Meanwhile, carmakers set brand identifiers in the car interior with ambient lighting.

The Rolls-Royce Phantom is packed up to the top with luxury features ranging from book-matched wood veneer to power-closing coach doors, but one feature stands out above them all, literally: the Starlight headliner and door trims.

The headliner features a series of fiber-optic lights mounted inside the ceiling of the car. But the design of the lights depicts the constellations exactly as they were over Goodwood on the day the first new Phantom was unveiled at the home of Rolls-Royce. If an owner wants different constellations—their birthday sky, for example, or any other specific configuration—the perforated leather can be personalized through up to 1600 holes, each carefully counted. Fiber optic lights are set into these holes. The artisan assembler then ensures that the height of the fibers is correct on the concealed side, and that they’re set perfectly on the visible leather surface.

IMAGE: ROLLS-ROYCE

For the new Ghost, the "Bespoke Collective", made up of the brand's designers, engineers and artisans, created the "Illuminated Fascia" to subtly evoke this kind of starry sky, which is becoming as much a part of the brand's iconography as the Spirit of Ecstasy radiator mascot, the pantheon grille, and the double-R monogram. The constellation and word mark are located on the passenger side of the dashboard, and are completely invisible when the interior lighting is not in use.

Jaguar-Land Rover's Recycled Plastics

INTERIOR NEWS

Jaguar-Land Rover say they will use a greater percentage of recycled materials in their vehicle interiors. They're working with Italian-based supplier Aquafil, whose Econyl® nylon products are produced from ocean and landfill waste.

The next-generation Jaguar and Land Rover models will feature floor mats and trims made with this material, soured from recycled industrial plastic, fabric offcuts from clothing manufacturers, and fishing nets from the farming industry and those abandoned in the ocean– known as "ghost nets"

The nylon waste is reclaimed by Aquafil from all over the world. In a single year, the company says they recycle up to 40,000 tons of waste, with the recycling process reducing the carbon impact of nylon production by 90% compared with oil-based products. Performance is said to equal that of virgin material. This recycling process eventually produces BCF thread to be used for carpet flooring and textiles—that's "Bulk Continuous Filament", meaning one long continuous strand of fiber that is used to make a section of carpet. Econyl carpet yarn can be provided in 170 different dyed colors.

Re-using materials and reducing carbon footprint is one of the many actions in the "Destination Zero mission" project, JLR's ambition to make societies safer and healthier, and the environment cleaner, through relentless innovation and adapting products and services to the rapidly-changing world.

BASF's New Glossy Interior Material

INTERIOR NEWS

BASF has a new specialty polyamide that combines the chemical resistance of semi-crystalline polyamides with the high gloss and the depth of view of amorphous plastics. Ultramid® Deep Gloss (maker's video **here**) is particularly suitable for making automobile interior components that need no coating or painting to provide glossy, highly resistant surfaces. It is characterized by a balanced property profile: high gloss level and excellent resistance to scratching along with high chemical and good UV resistance. It reproduces structures true to detail, thus allowing an interplay of light and shadow high in contrast.

Automotive industry requirements regarding emissions and odor were taken into account in the material's development, and BASF is now offering Ultramid Deep Gloss in a variety of colors.

With variable glass-fiber reinforcement rates, Ultramid parts with medium to very high stiffness can be manufactured, for functional visible parts such as air ventilation lamellas, steering column levers, armrests, cup holders, and door handles.

Audi e-tron GT 'Progressive' Sound

INTERIOR NEWS

Audi is teasing the production version of its e-tron GT electric supercar and unveiling the 'progressive' sound of the vehicle. External sound is a new legal requirement to alert pedestrians (including those with hearing impairment). Interior sound can be a void-filler for people who might be annoyed by the near silence of an EV cabin. And importantly it's part of the driving experience in the inside, where it's optional—drivers can choose the intensity or turn it off altogether.

The result is a sound that's not quite as science-fiction as what we find in the Porsche Taycan, but also not just a recreation of a gas engine.

Development of this e-sound with musical creativity and technical competence; designed on a computer, in the sound laboratory, and in the car: 32 individual sound elements; weighted and modulated based on drive management data

Every e-Tron GT will come equipped with a loudspeaker up front that will transmit the exterior sounds from zero to 20 km/h (in the EU) or 19.9 MPH (in the US), with the sound trailing off until it becomes inaudible around 60 km/h. An optional upgrade will add a loudspeaker in back and two more speakers located inside the rear door panels for those looking for a bit more audio experience.

Audi has produced a **video** about the sound of the e-tron GT.

Magna's Next-Generation EZ Entry Seat

INTERIOR NEWS



Magna International, the Canadian-Swiss auto supplier, has introduced their fully automated, next-generation EZ Entry seat. It's a seating solution concept applicable for manual and power seats.

An app has been developed to operate the power solution. With just a touch of a button on a mobile phone or smart device, the power version of the seat can pitch, recline, and move forward or backward, including to a nearly flat cargo mode.

Seat-control buttons can be located inside of the vehicle on the seat or the door. Sensors in the seat will be able to detect obstacles such as groceries, pets and child seats prior to changing positions. Moving the seat does not disrupt safely attached child seats, while giving easy access to the 3rd row

This next-generation EZ Entry seat is more intuitive, lighter (2.9 kg less than the 2016 version), more sustainable, and easier to operate, which is of higher importance for manual versions. Its bill of materials has fewer parts and up to 25 percent less plastic. Pinch points are eliminated, and foot room is increased to get in and out of the 3rd row. Cargo management is easier with 2nd row seats that can fold flat for loading surface.

It replaces the previous generation of the 2016 Stow 'n' Go system, following the first market introduction in the 2004 Chrysler Minivan.

"It's a front-row experience in the back seat," said Joe Meyer, director of engineering, said during the demonstration.

Rightware UI Software for Rapid HMI Development, Ford F150

INTERIOR NEWS

Finnish software development company Rightware has released information on the software used to develop the Ford F-150's all-digital dash.

According to Rightware, Ford and a number of other manufacturers (GM for the Cadillac Escalade, Peugeot for the 208, Karma for the Revero) use Rightware Kanzi UI, an HMI software tool, to design and develop HMIs including digital instrument clusters, infotainment systems, and head-up displays. With its agile workflow and modular architecture, Kanzi accelerates UI design by allowing designers and engineers to work independently and in parallel without disruptions. Automakers and their tier-1 suppliers can smaller design teams that have greater creative freedom as they develop evermore complex multi-display connected cockpits

Rightware say the F-150 instrument cluster features seamless 2D/3D creation in Kanzi, as the UI design combines 3D objects with more minimal 2D elements. It is illustrated by the example of the vehicle display transitioning smoothly in the primary screen to that of a supporting visual element, blended with gauges in a secondary screen.


C H
0 psi 20
0°
L H
E 524 F
MI TO E
1.7
1000 X RPM
0
7
0°
0°
20
MPH
0
120
PRNDM
12345678910
120°F
Strawberry Fields Forever
SW
00014.5 MI

Dacia Smart Phone Mirrors in Car HMI

INTERIOR NEWS

Renault Group's affordable-car brand Dacia is introducing new versions of their small cars—the Sandero, Sandero Stepway, and Logan. New comfort, safety and convenience features include an optional continuously variable transmission (CVT), sunroof and backup camera, as well as LED lights, electric steering, and keyless ignition.

The new models are now built on the same Renault-Nissan Alliance CMF platform as the latest-generation Renault Clio and Captur. The CMF platform is stiffer than the current Nissan-derived B0 and includes new electronic architecture to enable more connectivity and driver-assistance features.

Designers also revamped the different interiors, replacing some hard-plastic surfaces with soft-touch materials, installing more-supportive seats and re-orienting the dashboard horizontally rather than vertically to emphasize width and strength. Electric steering reduces effort by 36%, Dacia says, and an electric parking brake frees up storage space between the seats.

There's an interesting affordable HMI solution with the installation of a central infotainment system, offered as an option, with an 8” mirror screen, and which serves as the interface with your smart phone, with Apple Car Play and Android Auto capability. And there’s a built-in central holder with USB port to clip in a smartphone.

The Sandero, Sandero Stepway, and Logan are built at Dacia’s factory in Pitesti, Romania, as well as the Renault Group factory in Tangier, Morocco.

The Design Lounge

The 'Authentic' Off-Roader, Modernized

THE DESIGN LOUNGE

With the introduction of Ford's new Bronco (See DVN Interior, 30 July 2020), it's the appropriate time to look the latest off-road vehicles currently available and upcoming onto the market.

As the current CUV and SUV trend has displaced the traditional car (and minivan) in the North American vehicle market, the CUV/SUV has evolved into carlike vehicles that have no pretense at off-road heritage. These are tall, roomy vehicles made for everyday road use even though many are based on a traditional truck/SUV platform. In contrast, the outdoor, **nomadic** and **glamping** lifestyle trends have re-opened the opportunity for an authentic off-road vehicle but with on-road capability.

Previous interpretations of this type of vehicle could be seen in Toyota's FJ Cruiser and even Honda's Element. Though inspirational and met with critical success, these vehicles didn't last very long in the marketplace. This might have been from their lack of 'authenticity' as seen through the eyes of the consumer, or maybe it was just the restrictive suicide-door format.

The latest designs from the likes of Suzuki, Ford, Jeep, and Land Rover are incorporating 'authentic off-road' capability into their primary design briefs.

The latest Ford Bronco, for just one example, showcases the latest execution of the 'authentic off-roader' that harks back to the original 1960s Broncos, but as a modern, functional interpretation.

One of the key driving elements of the new Bronco is the removable, storable doors. This key feature reminds of the original off-road experience (the earliest Jeeps, for example) but with the modern functional aspect of a storage back. The one element highlights the interior design as the doors needed to be thin and of a frameless-window design that achieves this storability.

2021 FORD BRONCO

This feature then highlights the wide wheel arches and wheel/tire combination that readily achieves the required ‘authentic off-road’ aesthetic.

2021 FORD BRONCO

In the interior, the inclusion of a functional modern UX/HMI was necessary while also incorporating functional, rugged material combinations. Instead of defining high-end luxury with traditional leather and metal materials, the functional aspects of waterproofness, clean-ability and durability are emphasized.

2021 FORD BRONCO

A mounting bar for mobile devices has also been integrated into the IP. It holds these devices in a line-of-sight view; they're not sliding around in rubberized pockets.

2021 FORD BRONCO

A rugged floor extension is available that extends the load area.

Suzuki, too, returns to a traditional durable and functional æsthetic with their latest Jimny. Like the new Bronco relative to its forebears, the exterior and interior echo the slab-sided forms and round headlamps of the original Jimny.

2020 SUZUKI JIMNY

2020 SUZUKI JIMNY

2020 SUZUKI JIMNY

Materials are assembled with exposed fasteners, while also including the latest UX/HMI features and displays required of today’s vehicles.

2020 SUZUKI JIMNY

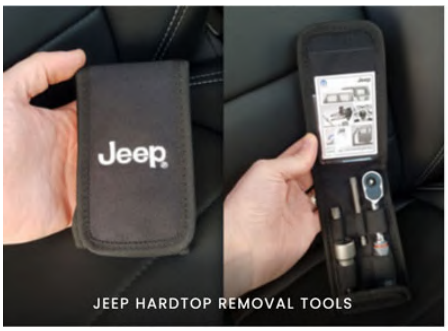
Again like the Bronco, a swing tailgate opens up to a rubberized flooring that allows for easy cleaning.

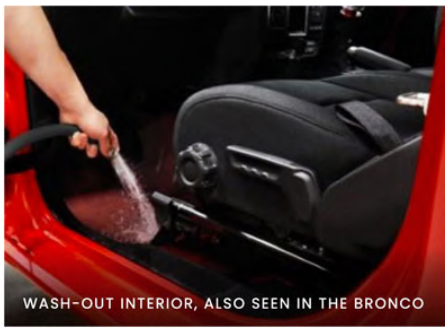
Jeep's latest Wrangler hews to an 'authentic off-roader' concept. Its integrated roll bars, removable doors, fold-flat windshield, and genuine off-road capability along with the slab-sided volumes and shapes are instantly recognizable.

2020 JEEP WRANGLER

2020 JEEP WRANGLER

The off-road authenticity extends to the interior with rubberized surfaces, washable flooring, and easy cleaning materials used throughout the interior while also integrating them into latest high-tech items and displays for both the clusters and center-stack area (washable rubberized surround for the displays).





JEEP WRANGLER CARGO AREA HAS A VARIETY OF OPTIONAL/FUNCTIONAL EQUIPMENT AND STORAGE

JEEP WRANGLER SEATBACK STORAGE/ATTACHMENT STRAPS FOR VARIOUS AFTERMARKET ACCESSORIES.

2020 Land Rover Defender exterior is a modernized classic.

The 2020 Land Rover Defender interior is not a retro interpretation, but a fully modern interior with 'authentic off-road' functionality.

The 2020 Land Rover Defender 5 seat/cargo with rubberized washable flooring, as is …

… the 2020 Land Rover Defender 7 seat/cargo area, that incorporates the same use of materials and flat load floor.

The 2020 Land Rover Defender bucket seat/console is made of durable materials with expansive storage space within its volume, while…

… its three-across seating displaces this with a front row middle seat.

The 2020 Mercedes G-Class exterior heavily references the original Geländewagen vehicle that has been beloved for generations, while…

… the interior is modernized and loaded with Mercedes' latest UX/HMI interface and displays.

Surprisingly, the G-Class cargo does not have a rubberized rear compartment for easy cleanability. Instead it's fully-carpeted, which does limit the 'authentic’ off-road' capability of the interior space.

As we have seen here, the 'authentic off-roader' theme has become entrenched within all segments of the SUV market today. This offers the customer a functional off-road focused alternative to the plethora of SUV-shaped vehicles that are really designed and intended only for on-road usage. The on-road SUV/CUV vehicles have not only displaced the minivan segment but has eliminated the traditional sedan market in North America, thus offering the opportunity for the ‘authentic off-roader’ to re-emerge. (What percentage of 'authentic off-roader' travel will actually be done off road? That's a separate question altogether!)

Further evolution of this type of vehicle can be seen with the emergence of BEVs camping onto this trend—Rivian, Bollinger, and others will be covered in our next edition of The Design Lounge.

News Mobility

_ Trajectories, our mobile signature

NEWS MOBILITY

(a designer's look at our mobility-centric culture).

9. 'Routing'_

(this story is part of an ongoing series on mobile trajectories as defining element of our cities)

The last known transformation of mobile trajectories is happening between digital and actual, physical paths. This is a direct derivate of a new industrial model that wants the vehicle OEMs in competition with application builders for the same territory. A multimodal versus multi app transportation sets the business pace and mobility in the new connected world is shaping in real time through information flow. Who or what defines the mobile experience between owner, driver, passenger, carmaker and operator, and who is really the final customer, remains to be explained, since information never follows a fixed linear path?

Hundreds of thousands of networks and billions of devices connected make the internet of today. Data, divided in tiny bits transported separately, is reassembled upon final destination to its original size and format. Routing is the process of selecting a path across one or more networks and routers are the traffic-managers that choose alleys according to destination and 'administrative distance', in other words, complexity. Often the best way to travel is not necessarily the most direct since parameters multiply so fast that anytime things can go horribly wrong. In order to always and constantly reassure arrival to final destination, routers have options and choices that make the network ‘fault tolerant’ therefore, reliable. Cheapest and fastest in this case does not mean money but, politics and relationships between contracts, companies/destinations; based on reliability, delivery is multipliable and scalable!

In 2008, the number of internet users through mobile cellular broadband, surpassed the number of fixed cable lines; at this speed, cellular networks begun to blur with the vast but fragmented constellation of Wi-Fi spots. At least two additional things are connected to internet for every human’s personal device. The metropolitan nervous system is wireless while the internet of people gave away to the internet of things. However, there is still no algorithm that can find out when people want to switch from train to bike or access to inventory by proximity; there is no such thing as a perfect route. Mobility data becomes a new currency and routing, a political instrument: how should modern routing look, is partly the answer of how should modern roads look. We are witnessing the birth of a new civic movement, as smartphone becomes a platform for reinventing cities from the ground up. Each one of us holds a smart-city construction kit.

For thousands of years, we have migrated to cities to connect, while cities accelerated time and reduced space. In countryside, car is a property, in urban territory, a shared commodity. ‘Everyone can benefit from the city because city is, everyone’ phrased in Plato’s Republic.

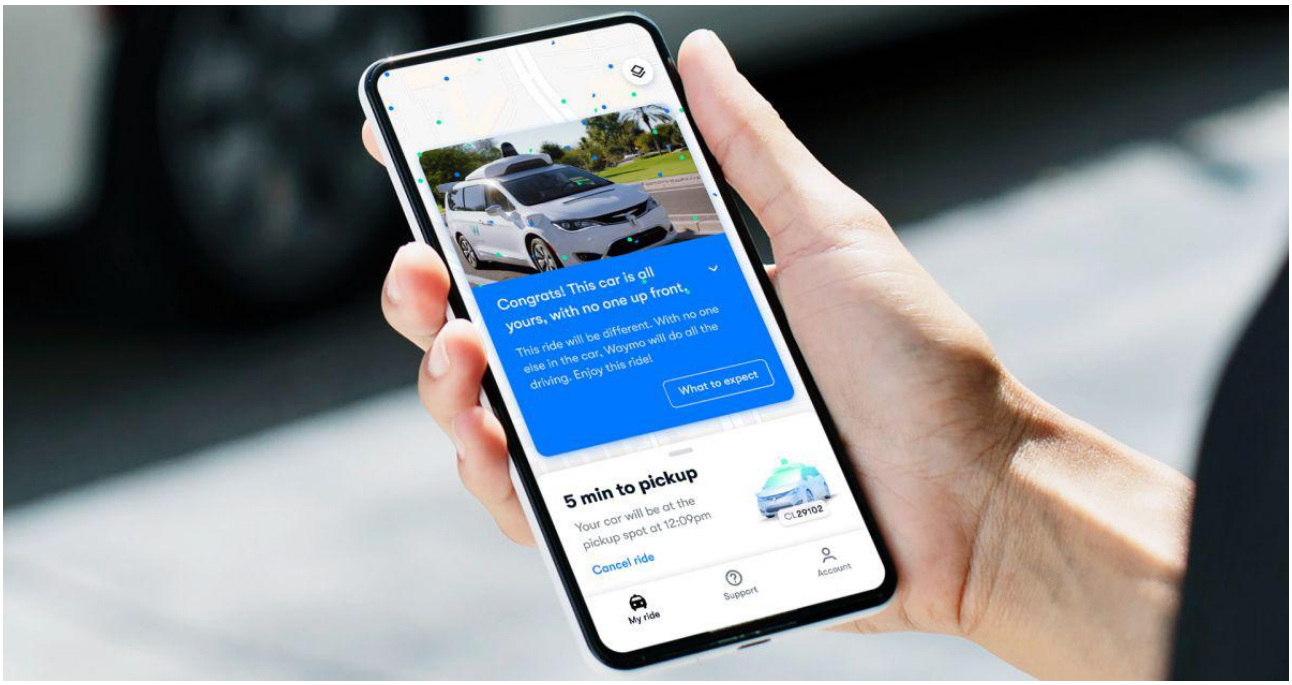
The friction between information on infrastructure and infrastructure itself, will unlock the city into a new type of commuting typology and maybe a new segregation of mobility will still be amongst physical and digital trajectories but this time dictated by a different opposition rule. the element of randomness.

_to be continued…

*INDUSTRIOUS*_____

Waymo Clean Robo-Taxi Service in Phoenix

NEWS MOBILITY



Waymo will relaunch and expand their fully-automated robo-taxi ride hailing service in Phoenix, Arizona, rebooting its effort to transform years of autonomous vehicle research into a revenue-producing business.

Waymo, the self-driving vehicle technology unit of Google parent Alphabet, say they will start offering rides in minivans with no driver on board to current members of the Waymo One service in Phoenix. Within a few weeks, Waymo plans to open access to anyone who downloads the smartphone app and wants a ride within a 100-square-mile area of Phoenix.

Waymo chief John Krafcik said during a conference call that the company for now will offer only rides in driverless cars, which are hybrid Chrysler Pacifica minivans. Some of the Waymo vans in Phoenix will still have attendants on board.

Service was discontinued due to the pandemic; the next step is to convince customers it’s clean and safe with new enhanced health and safety policies and procedures (the vehicles will be cleaned more frequently, cabin air flush refreshes the cabin air on a regular basis, screening those who maintain the fleet) throughout their fully-owned fleet. No further expansion plan has been announced yet.

Driverless Parking at Stuttgart Airport

NEWS MOBILITY

IMAGE: MERCEDES BENZ

Park the car at the parking garage and watch it find its own parking space: At Stuttgart Airport, this will soon be in pilot operation.

Mercedes-Benz, Bosch, and Apcoa are working on the world's first commercial automated L^4 valet parking service. A simple command via a smartphone will send the new S-Class (the first vehicle that features a pre-installation for L^4) to park itself in Stuttgart Airport's parking garage. The luxury saloon already features the technology and will be the first series production model to be able to perform such an operation.

Apcoa Parking is Europe's longest-established full-service parking management company; they manage over 1,400,000 parking spaces across 13 countries. They're starting the new effort in their own back yard; company HQ is there at the Stuttgart Airport.

Buyers can optionally have Intelligent Park Pilot, which makes the car ready to receive a command via smartphone. The system recognizes the customer vehicle and the barriers open automatically. For the first time, new video cameras from Bosch will form the technical basis instead of the previously used lidar sensors. They detect vacant parking spaces, monitor the driving corridor and its surroundings and detect obstacles or people in the lane, the vehicle deviates accordingly or stops. A computer system installed in the parking garage calculates the vehicle's route to the free parking space. With the information from the cameras, the cars can drive independently within the parking lot; and

also on narrow ramps, which makes it possible to move between floors. While the vehicle is automatically parked, the occupants can already set off. Apcoa is testing barrier and payment procedures.

Bosch, Mercedes-Benz, and Apcoa intend to install the infrastructure in the P6 parking lot at Stuttgart Airport. Bosch and Mercedes-Benz have developed the "Automated Valet Parking" setup, (AVP) which is now to be ready for series production.

The project started in July 2019, when Bosch and Mercedes-Benz received the world's first special permit to operate Autonomous Valet Parking for selected E-Class vehicles without a driver in real-life parking garage traffic at the Mercedes-Benz Museum in Stuttgart.

IMAGE: MERCEDES BENZ

General News

New Headquarters for Recaro North America

GENERAL NEWS

Recaro Automotive, known for their racing seats, takes possession of new Detroit-area headquarters in a move that emphasizes the supplier's new independence, after it was spun off by Adient in January.

The supplier is controlled by Raven Acquisition, a U.S.-based LLC formed by a former Recaro executive and TCE Enterprises, a family investment LLC with extensive automotive experience.

The company uses the Recaro name under a licensing agreement with Recaro Holding of Stuttgart, Germany, which also controls Recaro Aircraft and Recaro eGaming. However, the Recaro Group continues to act as a licensor.

The German company traces its lineage to the early 1900s. The Recaro name, a combination of earlier names (REutter CAROsserie), first appeared in 1963; it went on to produce innovations such as the first bucket seat in 1967 and first racing-specific seat in 1974.

With its new offices and corporate structure, Recaro will continue to develop, produce and market racing seats, seats for commercial vehicles, for both OEMs and the aftermarket. It has 425 employees in three locations in the U.S., Europe and Japan and posted sales of $150 million during fiscal 2019.

The open house in the company's new quarters in Clinton Township northeast of Detroit gave Recaro a chance to show off prototypes of performance seats, ergonomic seats, new lightweight seat bolsters and heating elements and special applications that can fit into many different vehicles. Recaro also will continue to focus on products for vehicles such as the Ford F-150 Raptor, which includes manual headrests, backrests for torso support and electronically activated lumbar support, tilt, backrest and height adjustment.

BorgWarner Finishes Delphi Tech Buy

GENERAL NEWS

BorgWarner announced on 2 Oct they have completed their acquisition of Delphi Technologies. The combination of BorgWarner, based in Ann Arbor, Michigan, and Delphi Technologies is expected to strengthen BorgWarner's electronics and power electronics products, capabilities and scale, creating a leader in electrified propulsion systems that BorgWarner believes is well-positioned to take advantage of future propulsion migration.

Delphi Technologies brings industry leading power electronics technology and talent, with an established production, supply and customer base. The combined company will offer customers a suite of integrated and standalone offerings of power electronics products (including high voltage inverters, converters, on-board chargers and battery management systems) and capabilities (including software, systems integration and thermal management). Delphi has struggled to shift its reputation to new technology, after its spin-off from Delphi Automotive at the end of 2017, probably due to the innovation content of the other half of the spin, Aptiv.

Aptiv includes Signal and Power Solutions, and Advanced Safety and User Experience, which provides advanced software and sensing systems, computing platforms, advanced safety systems and automated driving, user experience and infotainment, as well as other vehicular electronic controls.

BorgWarner worldwide parts sales to automakers is $10.2bn in its 2019 fiscal year, when Delphi Technologies made $4.4bn in 2019.