DVN-I
Automotive Interior

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Editorial

Technology @ CES: Mobility, Materials, And Mass!

Our CES report in the last Newsletter was focused on car makers, and the more progressive automation in cars to make them easier, safer, and more fun to drive (and easier to sell…!). But CES was so chock-full of innovative technology that we're continuing our coverage this week, looking in depth at mobility platforms.

This year's show was focused more on how to help human drivers rather than how to get rid of them, though there were still significant demonstrators around people mobility, mostly in a geofenced context. We've got coverage of it here in this week's Newsletter. We also share what we saw at CES with regard to materials and weight reduction. Those topics don't tend to make the popular-press headlines so much, but they're centrally important to the DVN-I community.

Shows are reflecting communication efforts of the industry players; does it reflect real R&D efforts in proportion? Not completely, as latency of skills and investments means the market doesn't have the flexibility to shift immediately. A car—or any mobility tool—will always need materials, these materials will always have a cost and a weight, and an industrial process will most likely be necessary to produce it, though, so here we are.

In that sense, it's reassuring to see research and development working toward mass (weight) reduction. The interior represents a substantial proportion of the car's weight, probably around 15% of the total. A gram is a gram is a gram, and wherever it is, it directly influences cost, emissions, and recycling.

Sincerely yours,

Philippe Aumont
General Editor, DVN-Interior

In Depth Interior Technology

Mobility Platform Introductions at CES

Transportation by car is still alive, and continues to progress with electric vehicles, connectivity, and many driver assistance systems. But in parallel, personal cars will not be the solution for restricted big cities, campuses, and any geofenced area. CES this year showed several solutions to ensure the best possible user experience while optimizing investments, minimizing environment impact, and leveraging maximum intelligence.

On-demand and shared mobility services are already offering people greater choice about how they travel. The rise of automotive suppliers, media and digital firms' entry into the automotive realm, and travel apps have made suppliers key to new commercial and passenger urban transport ecosystems. The question remains what passengers (or even goods) can accomplish or experience when drivers are no longer required to stay focused on the road. Then, personalization becomes one of the biggest directions—and it was very visible at CES.

This kind of personalization is an extension of future/smart cockpit and cabin technologies for which suppliers have reconfigured the physical space and hardware inside self-driving cars to accommodate different seating arrangements, new display systems, and more. It's a way to showcase product portfolio, these shuttles loaded with cameras, radar and lidar, artificial intelligence, software, cloud connectivity, and driver-assistance systems. Here's what caught our eye at the show:

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Hyundai Mobis

South Korean electronics and infotainment supplier Hyundai Mobis showed their components through an autonomous pod concept called the M Vision S, already presented in Tokyo.

Mobis showed autonomous driving cameras, radar and lidar, communication lighting—to enable communication with pedestriansor to perceive different needs of passengers and adjust the in-vehicle ambience accordingly—and technology that allows passengers to use gestures to access the infotainment content they desire while the vehicle is in autonomous mode.

Autonomous driving sensors like cameras, radar and lidar, communication lighting, virtual space touch, 3D rear lamp and premium Krell sound system converge in the M Vision S. This technology will also be used as a channel for communicating with the passengers in the car. It will automatically perceive autonomous and manual driving modes and changes in the emotions of passengers, and change the colors of lighting accordingly. Once the car approaches the destination, it will turn a separate mood light on to interact with passengers.

The interior of the M Vision S has been made in the form of a lounge where both work and relaxation are possible through design collaboration with Hyundai Transys. Depending on whether it is in the autonomous driving mode or the manual driving mode, the position of the driver's seat and overall seating arrangement will vary. As it applies the virtual space touch technology, passengers can also enjoy their time while in the car, for instance, watching favorite video clips or movies or listening to music, all with a mere gesture when the car is in the autonomous driving mode.

Aisin

The i-mobility Type-C20 was Aisin's show shuttle. Aisin is partly owned by Toyota, and this was their second concept to be revealed at CES. The automated, shuttle-like ride-sharing vehicle is designed for future community use and is equipped with technologies from three of Aisin's specialty domains: connected; automated; and electrification.

An in-cabin monitoring system and location-based data combine to provide transportation that aligns with specific user needs and destinations. The system also connects with external information resources for local attractions and services.

To demonstrate personal mobility, Aisin showed multifunctional, electric intelligent personal mobility services: human image recognition and an intelligent safety system based on robotics technology prevents it from colliding with people or things. With an optimized route search based on vehicle navigation technology, it easily supports users' travel in a shopping scenario with AI.

The driverless vehicle is intended for short geofenced destinations, such as campus or shopping mall. By using a number of sensors, the shuttle obstacles outside the vehicle to provide safe and comfortable mobility. A slim, durable, Aisin-proprietary electric ramp extends for safe and convenient boarding access for wheelchairs and strollers.

Mitsubishi Electric

Mitsubishi Electric exhibited their mobility-as-a-service product portfolio at the show using the EMIRAI S Concept Cabin equipped with technologies including innovative human-machine interface for enhancing communication both inside and outside the vehicle, and biological sensing technology for safe driving.

It includes a bidirectional power wire transfer for electric vehicle charging, and contactless driver wellness detection, which uses sensors to determine basic driver biometric data. The pod also used Mitsubishi Electric's AI-powered user experience feature to distinguish among the voices of multiple speakers for individual passenger voice commands.

Mitsubishi Electric Driver Wellness Detection system monitors pulse rates, body temperature, and facial information of the driver to determine health. If something looks wrong, the system will try to alert the driver by cooling the cabin, changing the lighting, or issuing audible alerts. If there is no response, the system will then contact emergency services.

When it comes to separating the driver's voice from other voices and background noise in the cabin, an artificially intelligent speech system has been designed. This system uses patented speech algorithms, multi-microphone delays, and camera visuals to determine who is speaking and what is the command.

Osram – Rinspeed

Osram showcased their components for interior and exterior autonomous vehicle lighting, in-vehicle displays and sensors through the use of Swiss carmaker Rinspeed's third-generation MetroSnap concept car.

Rinspeed demonstrated their Snap and MicroSnap vehicles whose chassis and bodies go their own ways to cater for needs to transport goods or passengers. As well, through separation of the two vehicle components, Rinspeed confronts the increasingly diverging life cycles of hardware and software.

This double separation becomes a kind of platform, a sustainable foundation for the transport of people and goods in tomorrow's world. It's even a triple separation, as batteries are also split up between the "pod" (vehicle body) and the "skateboard" (chassis); the vehicle does not need to be parked for charging. The charging process takes place while loading or even cleaning the pod, when the platform can be recharged through another cycle.

Mike Godwin, Osram's director of automotive LED lighting, said "Your pod can do anything that you want. It can be in the city, it can be cargo, it can be food, grab-and-go, it can be any type of use case that really you can imagine with autonomous driving". Inside the vehicle pod, Osram presented their human-centric lighting to adjust ambience based on passenger preferences and biometrics sensing, along with monitoring sensors for occupant detection.

Wellbeing in the pod is catered for by technology developed with Swiss foam specialists FoamPartner, with expertise in acoustically and thermally effective foams; with Austria-based Lenzing and their *Tencel*™ Lyocell fibers (cellulose fiber made from dissolving pulp using dry jet-wet spinning), to improve sustainability and comfort; with South Korean Kolon Glotech with traditional Korean Sanggam printing on the center console, the interior trim panels and on the "skateboard" shrouds; with Dutch chemical company Stahl for sustainable leather and various plastic surfaces; for textile with Strähle+Hess and knitted fabric made from recycled PET.

Outside the pod, Osram provided touch and facial recognition for easier vehicle access and lighting that signifies to pedestrians that a vehicle is autonomous.

Harman

As consumer expectations are shifting away from horsepower and acceleration to wellbeing and digital connectivity, Harman—a subsidiary of Samsung—presented this shift as "Torque to Tech", getting to a new measure of value, named "**Tech Over Torque"**

It includes a series of technology bundles under the name "ExP Integrated Solution Suite" to deliver seamless connectivity and make time in the car time well spent, with advanced driver assistance (Blind Spot Warning, Directional Sound Steering), cloud technologies, and customizable partner ecosystem (music, podcast,) to a warning system that uses 5G wireless technology to prevent car-pedestrian accidents and to facilitate multimodal services.

Attached to its audio roots, Harman's EV Plus+ offering overcomes challenges unique to EVs and offers consumers a no-compromise level of entertainment, communication, and comfort, flexibly and sustainably, without impacting EV range performance. Through acoustic performance and "Ecotect" system design, performance is achieved with reduced weight, complexity, and power consumption when compared to a traditional system. Too, personalized in-vehicle audio, entertainment, and communication features are instantly accessible and upgradable at a touch via the new Audio Marketplace open-ended OTA, powered by Harman.

A demo of Harman's optimization and accomplishment software bundle, for example, showed how the driver can make the vehicle an extension of the office by completing tasks that have been read aloud to the driver, booking meetings with voice commands, selecting stops along the driving route and paying for a parking space ahead of arrival, all using Harman-provided software.

Panasonic

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Panasonic—now a key automotive supplier, ranked № 12 in 2018 by tier supplier revenue—presented a new variant of their e-Cockpit concept, with focus on mobility and immersive experience. Whether sending or receiving infotainment messages on the run, this advanced cockpit system can seamlessly run multimedia streaming or gaming applications for passenger and rear seat entertainment. It is based on Panasonic's proprietary SkipGen 3.0 in-vehicle infotainment system, paired with their next-generation cockpit domain controller, SPYDR 3.0, all installed in a Karma SC-1 concept vehicle.

This platform can drive a variation of head-up displays, infotainment displays, rear seat and passenger seat displays all from a single brain system. Content streaming can range from interactive gaming on today's most popular systems to streaming video via the owner's application of choice.

Dassault – Canoo

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At the Dassault Système booth, Californian company Canoo presented a new kind of skateboard-chassis that will free up space to improve the comfort of car users. Dassault's **3D**Experience platform has enabled Canoo to accelerate their first physical prototype to reality in under two years, thanks to advanced collaboration across their global operations and detailed concurrent development throughout all team disciplines.

Canoo's design innovation is a modular "skateboard" approach in which different vehicle forms and experiences sit on top of a common underbody. It could be a pop-up store, an office or a medical center or whatever.

"Today, we are still on the coach model: the traction, whether it is an engine or a horse is located at the front of the vehicle, the people transported follow and precede their luggage. However, electric cars do not technically need to look like traditional vehicles", said Dassault COO Olivier Bellin.

Canoo plans to offer flexible, subscription-based subscription service in as many cities as possible. The first launch will take place in Los Angeles next year. Depending on the needs, it can adapt its automotive architecture to various types of vehicle, such as a coupe, a racing car or even a delivery vehicle. "This offer will allow us to achieve real segmentation to improve user comfort, both in the vehicle and for the associated administrative tasks", says Bellin.

The Canoo skateboard, on which all kinds of cabins can be mounted, is already "ready for range" for the vehicles. It incorporates ADAS technology as well as a driver control and monitoring device. The car can also count on seven cameras, five radars and twelve ultrasonic sensors as part of its 360° perception system based on deep learning algorithms. So far, it's capable of L^2 autonomy.

Interior News

Nissan's New Sound-Deadening Material

Nissan showed a new lightweight soundproofing material at CES, which they said can help make car cabins quieter while improving energy efficiency.

Unlike traditional sound-deadening materials, this new material uses two layers of lightweight plastic with a honeycomb-like structure in between. The honeycomb's air pockets trap low-frequency vibrations (500 Hz to 1,200 Hz), preventing most road noise from entering the cabin.

Most soundproofing materials now used to dampen road and engine noise consist mainly of heavy rubber board. But Nissan's acoustic material weighs one-fourth as much while providing the same degree of sound isolation, the company said in a statement.

Nissan said their material is cost competitive and in some cases is less expensive than conventional soundproofing materials on the market. That allows it to be incorporated into vehicles where the use of sound insulation materials is limited because of cost or weight.

Nissan has been developing the technology since 2008. At the time, the material was used in high-sensitivity antennas used for electromagnetic wave research.

The material features on the Nissan Ariya concept electric crossover, which the automaker debuted in October in Tokyo and now presented in Las Vegas.

Honda's Lightweight Strategy

Introducing their 2020 Civic, Honda emphasized engineering upgrades including lightweight technologies; among them, some developed through their Honda Xcelerator collaboration organization. It is based on an overall strategy of improving body construction and material and process technology to increase body interior size and stiffness, while reducing weight.

High strength materials, hot stampings and new assembly welding techniques, as well as new acoustic materials end up with a reduced weight and an augmented interior package. It's only kilograms and millimeters, but it keeps improving step by step, year by year.

Honda is using Monolith AI, a library of machine learning algorithms uniquely tailored to advanced engineering applications, with capability to predict and improve performance ahead of time, and avoid costly and heavier iterations along the complex development cycle. Production processes can be improved with The Chairless Chair 2.0 from Noonee, a German company in the field of exoskeletons, which enables employees with standing workplaces to work ergonomically, comfortably and productively. It offers a light-weight design, easily expandable sizing and comfortable seat-pads. The wearable chair enables users to flexibly switch between active sitting, walking and standing—avoiding unhealthy posture and pressure on joints that can lead to injuries. Could be maybe used one day for mobility shuttles to save weight and space!

Pioneer's Advanced Sensor, Data, Product Solutions

Pioneer showed a portfolio of automotive technology and services with a focus on three primary business areas: sensor solutions to support autonomous driving, data solutions to enhance driver safety and security, and product solutions that can add connectivity and infotainment to practically any vehicle. Pioneer Smart Sensing Innovations Corporation, created to advance the driving assistance related business of Pioneer, demonstrated their 3D-lidar-based sensing technologies and innovations for the future, with a wide lineup of 3D-lidar sensors including a mass-production model currently targeted to start full-scale production from this Autumn. It's smaller than before, with extended measurement distance and improved overall performance.

The Pioneer Product Solutions group presented a range of solutions for OE and aftermarket applications, including advanced smart connectivity, high performance audio and visual entertainment, and driver assistance technologies such as blind spot awareness and rear visibility systems.

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FLIR Thermal Camera Technology

FLIR, specialists in the manufacture of thermal imaging infrared cameras, showed their FLIR CITY, a vision of using the company's intelligent sensing, AI, and cloud solutions to help cities become safer, smarter, and more connected. Also, FLIR displayed their FLIR autonomous vehicle for testing thermal technology.

The FLIR CITY is an ecosystem of smart city solutions focused on situational awareness and data-driven operations in the public safety space. From roadways, streets, and intersections to buildings, critical infrastructure, and public spaces, FLIR smart sensing solutions are key technology in the world of smart city public safety operations.

A big attraction was the FLIR commercial test vehicle featuring multiple thermal cameras, demonstrating their integration capabilities with radar, lidar, and visible cameras for autonomous test vehicles, to help deliver superior hazard detection capabilities for assisted driving and autonomous vehicles. FLIR and ANSYS worked in collaboration to integrate a thermal sensor into ANSYS' driving simulator

Thermal technology is planned for car environment situational awareness, but could cover as well driver and occupants state to monitor mood, vigilance and drowsiness. Thermal detection on a human face, at the corner of the lips, combined with sweat detection would explicitly describe driver attitude towards driving.

Digital Vision from Gentex

Gentex, based in Michigan and a longtime specialist in high-content mirrors, showed how the mirror becomes a platform, integrating EDR (Event Data Recorder), blind spot detection camera, dimmable sunroofs, visors, side windows and pillar displays, in-vehicle smoke detector for autonomous vehicles and rideshare operators, smart lighting, and cabin sensing.

Their Full Display Mirror is an intelligent rear-vision system that uses three cameras and mirror-integrated video display to optimize a vehicle's rearward view. The system captures video from a rearward-facing camera and streams it to a mirror-integrated LCD that provides the driver with an unobstructed, panoramic view behind the vehicle. It offers bi-modal functionality: in mirror mode, the product functions as a standard rearview mirror, but with the flip of a lever, the mirror enters display mode, and a clear, bright LCD display appears through the mirror's reflective surface, providing a wide, unobstructed rearward view.

The new generation presented this year includes a touchscreen that allows the driver to adjust the display's view with the touch of a finger. There's also enhanced nighttime driving with active illumination, which uses rearward-facing infrared emitters to illuminate the FDM's rearward view, and lane-line projection, which overlays the rearward scene with digitally generated lane lines to enhance lane keeping and awareness.

Then there was the CMS, which integrates the side-view cameras into the vehicle's exterior mirrors, and fully digital CMS, which replaces exterior mirrors with side-view camera pods and curved interior OLED displays.

An EDR is comparable to the one in every airplane: designed to capture road scenes, accidents, vandalism, and other traffic events. The system can record from forward- and rearward-facing cameras, and comes with an integrated SD card slot for transferring video files.

Gentex is also the longtime supplier of HomeLink, the industry's most widely used and trusted car-to-home automation system. More than 100 million HomeLink-equipped vehicles are on the road around the world today. HomeLink consists of vehicle-integrated programmable buttons that can operate virtually any type of home automation device. It utilizes two transmission modes: radio frequency to activate entry-critical appliances such as garage doors and security gates, and cloud-based wireless transmission to operate home lighting, thermostats, smart outlets, security systems, and other IOT devices.

To enhance the security of connected car features, Gentex showed an in-vehicle biometrics system that authenticates the driver with an iris scan to deliver customized security, comfort

and convenience features. The system consists of a mirror-integrated display, near-infrared emitters, an iris-scanning camera, and system-level intelligence.

ZF's Demo Cockpit: Safe & Comfortable

ZF is the № 5 largest tier supplier, with total revenues of about €40bn in 2018, of which automotive revenues were €30bn. CES was the right place to be updated on all their new technologies:

ZF is a system integrator and offers a full range of L^2+ systems including: ZF coAssist for ADAS with Mobileye, ZF coDrive, traffic jam and highway driving support, and ZF coPilot for advanced computing power and processing scalability, jointly developed with Nvidia, with feet-free and hands-free operation, automated lane change and overtaking, automated garage parking and route learning.

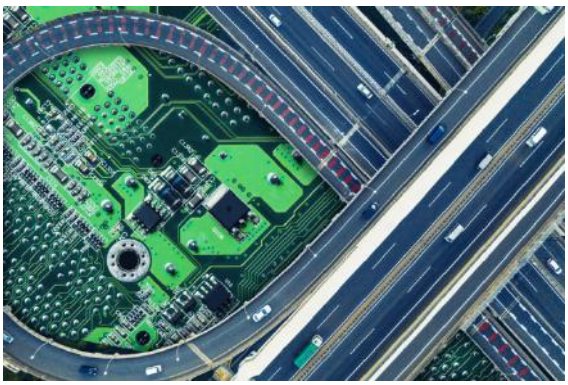
For a pure interior standpoint, in the Safe Human Interaction (SHI) Cockpit humans and on-board systems interact intuitively to help enhance comfort and safety. The system can automatically adjust the seat position to suit each driver, letting them get in and out of the vehicle in comfort. Developed in partnership with Faurecia, the seat can adjust automatically to suit all kinds of driver across a wide variety of situations.

The SHI Cockpit advises when road traffic conditions permit automated driving. The vehicle can take over as soon as the driver lets go of the steering wheel. This is sensed by a hands-on detection function within the steering wheel system. The wheel can rise and retract forward, and the seat moves backward and downward, and inclines to a steeper angle. To enable it to do so, the seat has an extended range of adjustment, and an active seat belt and seat belt clip are integrated in the seat.

To ease boarding the vehicle, the seat receives the driver has a welcome position, in a retracted and inclined position. On board, a 3-D interior camera measures the driver's height and individually adjusts the seat and the steering wheel to match that person when driving manually. To allow the driver to leave the vehicle, the seat moves back to a "good bye" position.

News Mobility

Automated Vehicle Costs Drive Shared Mobility



The car of tomorrow will be a computer on wheels: driver assistance, autonomous driving, occupant monitoring, greater connectivity, electric powertrain will accelerate this development. As a result, the importance of electronic components and software in vehicles is steadily increasing—with drastic changes for the entire industry. This is the key finding of Roland Berger's study "Computer on Wheels / Disruption in Automotive Electronics and Semiconductors".

Analysts at Roland Berger assume the cost share of electronic components in relation to all components will grow from currently around 16 per cent to around 35 per cent by 2025. The financial outlay for electronic modules in a typical premium car is currently USD $3,200. In the case of the "computer on wheels" (a semi-autonomous, electrified car) the cost per vehicle will already be $7,000 by 2025.

This means car of future is going to cost much more. Consequently, this new car generation will be less affordable for private owners, usage of these cars will have to be maximized as any expensive investment, leading to mobility services which can operate all day, every day.

VW's Mobility Vision: L5 May Never Happen!

"This is like we are going to Mars," VW's Alex Hitzinger says of reaching a Level 5 fully autonomous vehicle. "It may never happen."

Alex Hitzinger, CEO of Volkswagen Autonomy, says the first product to get L^4 autonomy under the VW Group's new autonomous-vehicle subsidiary, maybe as a light-duty commercial vehicle, would be a Level 4 version of the I.D. Buzz, a three-row electric minivan, starting around 2025.

"The I.D. Buzz will be the first to get Level 4," he says at a meet-the-press session across town from CES 2020 here. "In order to make it really viable, you have to reduce the complexity of the problem," Hitzinger said.

Without putting numbers on it, Hitzinger says the goal is to generate enough demand for Level 4 autonomy, at least potentially to take advantage of some economies of scale, and explore "scalability" — not just offer a token fleet of test prototypes.

Parent VW created Volkswagen Autonomy last October. The intent is to bundle all VW Group activities for developing self-driving systems from Level 4, up, the company said.

The Design Lounge

Syd Meads: Futurism and Mobility

Entering a new decade, the design community had the unfortunate news of the passing of Syd Mead, the iconic futurism design that has influenced generations of designers. His creativity had a direct impact on the current crop of autonomous mobility concept that we have seen of late and with the announcement last week of GM's Cruise coming to the market in San Francisco, we thought it best to show a brief overview regarding mobility.

Syd Mead's influence on the design cannot be exaggerated. His works here showing the taxi concept used in the film Blade Runner from 1982 gave a dystopian view of the future while also showing a conceptual path for the autonomous vehicles that we are seeing today in 2020.

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  Blade Runner taxi exterior

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  Blade Runner 'Spinner' interior in 1982 using a bank of displays that is now common today (minus the dystopian aesthetic).

Though aesthetically modernized and not dystopian, GM Cruise conceptually follows Syd's vision shown in the Blade Runner film, as an autonomous vehicle that also follows the facing seating arrangement and dual sliding doors entry. A taxi in concept, it is envision to be used for short to medium trips and distances.

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  GM Cruise exterior

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  GM Cruise interior follows Syd layout vision but with a more friendly/clean aesthetic.

Volkswagen also introduced the Cedric 'taxi' concept a few years ago—no word on how Nissan feels about the use of that name—with the same facing seating arrangement, also with dual sliding doors.

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  VW Cedric concept exterior
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  VW Cedric's concept interior is a much more luxurious interpretation thatn the original Syd Mead vision and GM's approach with wood inlays and a more decorative seat trim style

Toyota, at the 2019 Tokyo Motor Show, also show a working autonomous vehicle that was more of an airport taxi, or shuttle as they described their execution. It's anticipated that shuttles like these will be used for certain defined routes during the Tokyo olympics this year.

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  Toyota e-Palette exterior

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  The e-Palette interior is modelled after a small bus/shuttle service carrier.

LG also showed an autonomous concept that used the same layout but incorporated a more luxurious approach, with OLED HD screens and luxury seating from automotive supplier Adient.

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  LG CES concept exterior
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  LG CES concept interior went on the cinematic seating path for their interior execution.

Using the conceptual base from Syd Meads studies, the next step in autonomous taxis is to have a long-distance solution with interior influences used in first-class high-speed trains an aircraft travel as seen in Yan-Feng's concept.

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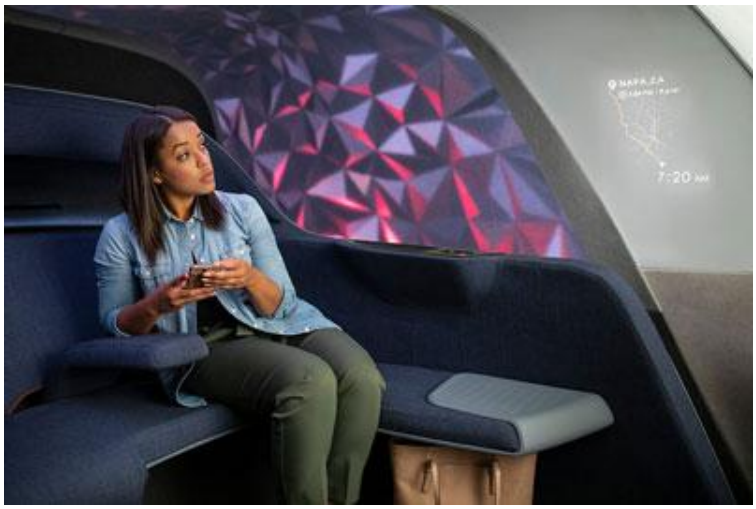
  YFAI XiM20 exterior packaging
- 
  YFAI XiM20 interactive rear lounge
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  YFAI XiM20 'drivers executive desk'

Volvo's 360c autonomous concept has evolved the furthest from the original Syd Mead dystopian aesthetic into a personal, serene luxury future.

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The 360c has side liftgates rather than dual sliding doors, and also eschews the tall taxi/bus proportion for a sleeker, more chiseled look.

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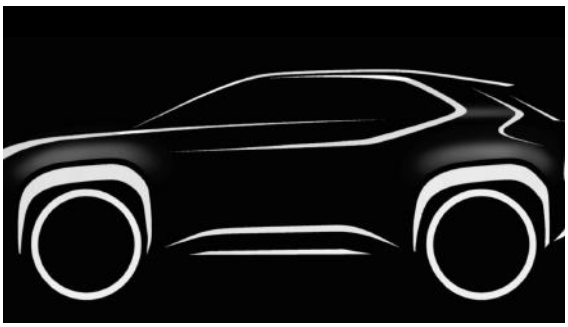
The 360c interior is conceived as 'first class' luxury that also incorporates the ability to sleep along with ability for interaction with a facing seating configuration.

Syd Meads' influence has now evolved from the dystopian to a more pleasant promising future.

General News

Toyota's New "City SUV" for Europe



Toyota announced future production of a "city" small SUV, with a new model based on the same platform as the Yaris small car, the automaker said. It has been presented as a car with a dynamic design and a unique personality.

This unnamed SUV model will be built alongside the Yaris at Toyota's plant in Valenciennes, northern France, capacity 300,000 units per year. Both models use Toyota's GA-B small car platform, a variation of their global TNGA modular architecture.

The SUV will be revealed at Geneva auto show in March ahead of sales starting in spring 2021, and is expected to launch with the same three-cylinder hybrid as the new Yaris small car, which goes on sale in June this year.

The Yaris will launch with the hybrid model only, which uses a lithium ion battery in place of the nickel metal hydride pack used in the outgoing model. Toyota claims a 20 percent improvement in CO_2, which would bring the Yaris' emissions to about 67 grams per kilometer as measured on the NEDC correlated system.

The two cars will account for about 30 percent of the Toyota sales volume in Europe by 2025, if all goes to plan. The Valenciennes plant can flexibly react to swings in demand for either car, but the company expects sales of the SUV to be strong.

The company said the model would be sold exclusively in Europe initially and would consider other markets at a later date, without specifying which ones. This model will compete in Europe with Renault Captur, Peugeot 2008, Nissan Juke, and similar vehicles.