Thu, 11 April 2024
Weekly Newsletter

DVN-I
Automotive Interior

NEWSLETTER #207

Editorial

Conference Behind, DVN Interior Workshop Ahead!

This week's in-depth article is a report on the interior conference organized by Bayern Innovativ in Ingolstadt, Germany. BI plays a pivotal role as an innovation accelerator in fostering innovation and knowledge management and transfer. In the conference report, by Carsten Befelein, you'll read about how building a car interior user experience combines car interior design, architecture, and CMF; HMI, displays, and digital services. And sustainability is playing an increasingly important role, to get long-term engagement of users.

The **DVN Interior Workshop is now just *two weeks* away**, and the final docket **is now available**; it includes two keynotes, 31 lectures, two roundtables, expo booths, and an exciting program addressing all important car interior topics. You surely don't want to miss it; if you haven't yet done so, hurry and **register**. The event will include the results of our newsletter survey—speaking of which, it's time to vote on question 8.

Sincerely yours,

Philippe Aumont
DVN-Interior General Editor

In Depth Interior Technology

Interior in Automobile Conference ’24

BAYERN INNOVATIV IMAGE

The Interieur im Automobil conference on 20 March in Ingolstadt was an international networking event for innovations in the vehicle interior realm. The organizer, Bayern Innovativ, provided insight into the latest developments.

The focus was on the key topics of connectivity, user experience, and sustainability, with contributions from BMW, Nio, Lucid, Ford, Forvia, Continental, Webasto, Icon Incar, and many more.

TIM KASTENHUBER OF BAYERN INNOVATIV (DVN IMAGE)

Tim Kastenhuber, BI's Mobility Project Manager, described the event as intended to "bring together all disciplines of automotive interiors in Ingolstadt to discuss ideas for the future of interiors. In this way, we want to fulfill our task as Bayern Innovativ to promote the transfer of knowledge and to network companies, science and research on an interdisciplinary basis. In our view, the link between all interior disciplines is performed by the subject area of user experience. As part of our event, we are also happy to give startups the opportunity to present their ideas to an expert audience in the form of short pitches. Our event is complemented by an accompanying trade exhibition, which offers companies the opportunity to present their innovations".

Vehicle interior design is characterized by impressive diversity and overarching trends. It is increasingly developing into a living room on wheels, with infotainment, entertainment, and comfort features.

Key topics included:

Interior as a growth area. The vehicle interior is not only the location of the driving experience, but also acts as the basis for numerous new business models. What role does the interior play in the changing automotive industry?

From the driving experience to the user experience. The interior of a vehicle is undergoing a profound change from the traditional driving experience to a comprehensive user experience of mobility. What are the experience spaces that go beyond pure locomotion?

Sustainability. A central focus is on the circular economy, which plays a significant role in terms of resource availability, utilization and product design in the automotive industry. How are sustainable approaches transforming the industry and having a positive impact on the environment?

The supplier industry as a driver of value creation. More than 80 per cent of the added value in the interior sector is created by the supplier industry. How can these key players shape and drive the future of automotive design and functionality?

People make the difference. Despite all the technological advances, it is ultimately people who use the technology and make the decisive difference. How does the user experience take center stage and what impact this will have on the future of mobility?

Some answers on these questions came in 12 lectures given by speakers from around the world, and in Q&A and panel discussions.

MICHAEL TRUMP OF LUCID MOTORS

Michael Trump, Lucid Motors' Strategic Design Manager, started the lecture series with a keynote entitled, Designing Exceptional Interior Experiences. He talked about the new frontier, how focusing on exceptional experiences built around emotion and human connection. In addition, he spoke of the latest technologies in and on the Lucid Air, which was shown in front of the event building.

MARK GERBAN OF BAYERN INNOVATIV

Mark Gerban, BI's Senior Digital and Payment Expert, gave a lecture about Digital Evolution in the Automotive Industry. He described the evolution of the automotive industry and focused on data, AI, and the digital

impact on the vehicle industry, to gain a comprehensive understanding of the present landscape, the challenges and the emerging future trends.

PETER IVANOV OF VALTECH

Peter Ivanov, Valtech's Automotive Mobility Managing Director, gave a lecture about The Digital In-Car Experience. It's not just the car's interior design and materials that are relevant for a positive customer experience, but also the digital services, displays and HMI technologies to interact with the vehicle and to allow individualization. Ivanov explained why cars had better not be smartphones on wheels.

Dr. Jörg Hetterich, BMW Group's Digital Sustainable Experience Predevelopment Lead, presented "Contribution to a Liveable City with Digital Products. Pilot Case Studies Rotterdam". He showed how digital products contribute to the context of a liveable city.

The basis for predevelopment of digital sustainability features is fast prototyping and piloting with real customers. Using several touchpoints a seamless UX can be created. Forward-looking the combination of sustainability features with a motivational concept has the potential to reduce footprint of cars in the use phase and to reach long-term engagement of customers.

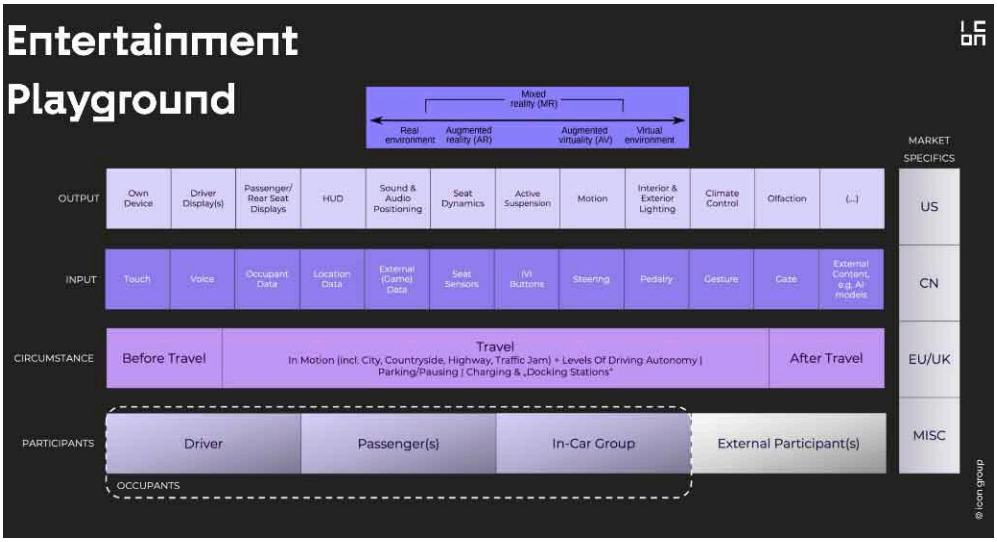
Scott Lyons, from Ford's Media, Entertainment and Gaming Business Development team, gave a lecture about "The Road Ahead for In-Vehicle Entertainment: Building a Foundation".
His Key points:

- Assessing the transformative impact of streaming services, in-car gaming, and personalized on-demand content future of in-vehicle entertainment.
- Exploring the synergy between emerging cabin hardware enhancements and sophisticated software platforms in revolutionizing the automotive experience.
- Investigating the potential for unique, automotive-derived entertainment experiences and how partnerships play a role.

DR. STEFFEN WALZ OF ICON GROUP

Dr. Steffen Walz, Icon Group's Managing Director of Group Management, called his talk "What Automotive Needs to Learn from the Entertainment Industry (AT)".

The entertainment playground is a mixed reality of real and virtual environments, and augmented reality and virtuality (AR and AV). The output, input, circumstance, participants, and market specifics are shown in this graphic:



Jan Körner, Forvia's Senior OEM Account Lead Designer, gave a talk on "Sustainability: Moving Towards a More Sustainable Automotive Industry. How can it Work?"
His key points:

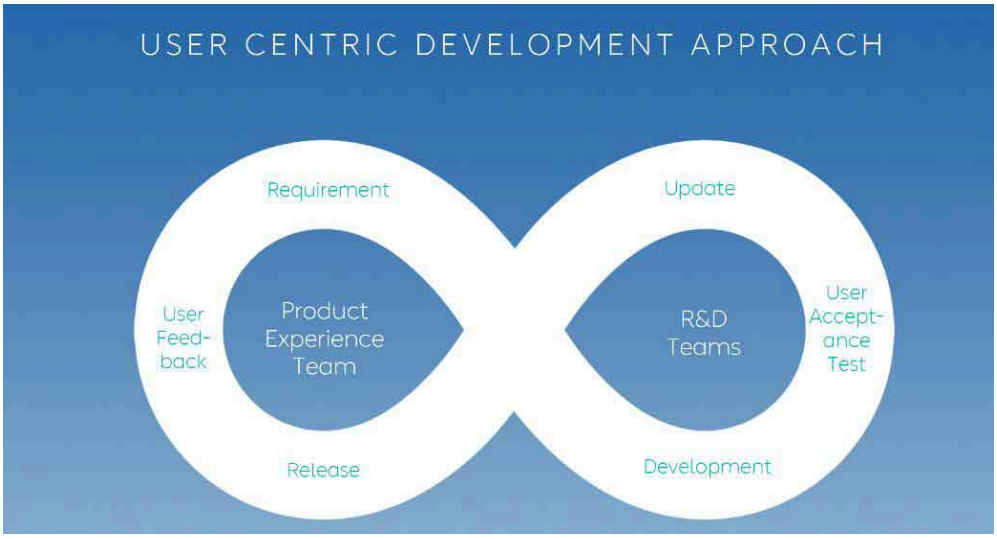
- In designing an HMI, what technologies enable innovative usability and at the same time provide added value in terms of sustainability?
- What role will future usage behavior and areas of application of a vehicle play in the design of the interior?

Ortwin Philips, Premium Sound Solutions' Global Sustainability Officer, contributed a talk about "Material Impacts on Loudspeakers". He educated the attendees about loudspeakers and how innovative solutions, new materials, and different usages can drastically reduce the impact a loudspeaker has—with little or no impact on user experience, quality, and reliability.

Dr. Mathieu Jung, Covestro's Global Mobility Sustainability Lead, presented "Transforming Automotive Interiors with Sustainable Materials". He described how over the past decade, automotive interiors have undergone significant transformations, marked notably by the integration of light and transparent materials and HMI functions. The next critical challenge is the transition towards employing more sustainable materials.

Continental's Ralf Imbery (Global Surface Solutions Design, Marketing and Strategy Director) and Andreas Brüninghaus (Principal Haptics & Appearance Expert) co-delivered a talk about "Visionary Interior Meets User Experience". The focus was on how the interior and its use will change in the future—what are the trends, the new requirements for surfaces in terms of comfort, design, sustainability and functionality? What display systems and technologies will be available in the future so drivers and passengers can interact optimally with the vehicle in every situation?

Nio's European Product Experience Director Benjamin Steinmetz gave a lecture on "User-Centric Product Management and Design". He said there is a rising demand by users for individuality and the transformation from customers to prosumers. The challenge is how to create a user-centric approach and interiors based on user needs.



The last lecture was given by Webasto's Roof Tech Incubator Manager, Thomas Weiderer. It was called "The Future Seen through High-Tech Glass – How Webasto conquers a New Product Segment".

Weiderer talked about the trend towards transparent roofs with switchable glazing, special coatings to prevent the interior from heating up and cooling down, solar cells in the roof to extend the range of electric vehicles, integration of sensors and ambient interior lighting, and even the panoramic roof as a display.

Following the presentations, the topics presented were kicked around in an expert panel discussion.

Snacks and conversation in the transition area to the expo booths

In addition to well-known companies, a number of startups were present—including Carbmee (carbon management platform), ConTech (KI engineering), Karuun (regenerative materials revolution), Leverage Robotics (flexible process automation), Newbeemountain (product configurator), and Tanso Technologies (software-based CO_2 balancing).

TITV: TEXTILES WITH ELECTRONIC INTEGRATIONS

TM TOTAL MATERIA: MATERIAL INFO FOR AUTOMOTIVE

AKAD ENGINEERING: PRODUCT DEVELOPMENT

HAMAMATSU: PHOTONICS FOR AUTOMOT. SOLUTIONS

SPIEGEL INSTITUT: USER CENTERED PRODUCTS

DVN-I: 3D-VIEW TANSO: CO2-BILANCE

COVESTRO: SUSTAINABLE SMART MATERIALS

Bayern-Innovativ info and networking corner: Many thanks to the Bayern-Innovativ team for this successful, 180-participant event!

Interior News

Composite Seatback for Toyota Tundra

INTERIOR NEWS

L&L PRODUCTS IMAGE

Toyota's Tundra pickup engineering team in Michigan had a goal to make the vehicle lightweight and efficient to manufacture, also cost effective, design-flexible, and with more storage space for the user.

To achieve these goals, Toyota worked with suppliers Flex-N-Gate, L&L products, and BASF to develop composite materials for seat structures and the second-row seatback.

The cooperation was so successful that all four companies were nominated as finalists for a 2023 JEC Innovation Award.

The main composite components were manufactured by Flex-N-Gate by injection molding. The composite material was developed in collaboration with BASF. And the pultruded system using Continuous Composite Systems™ (CCS™) was developed by L&L Products.

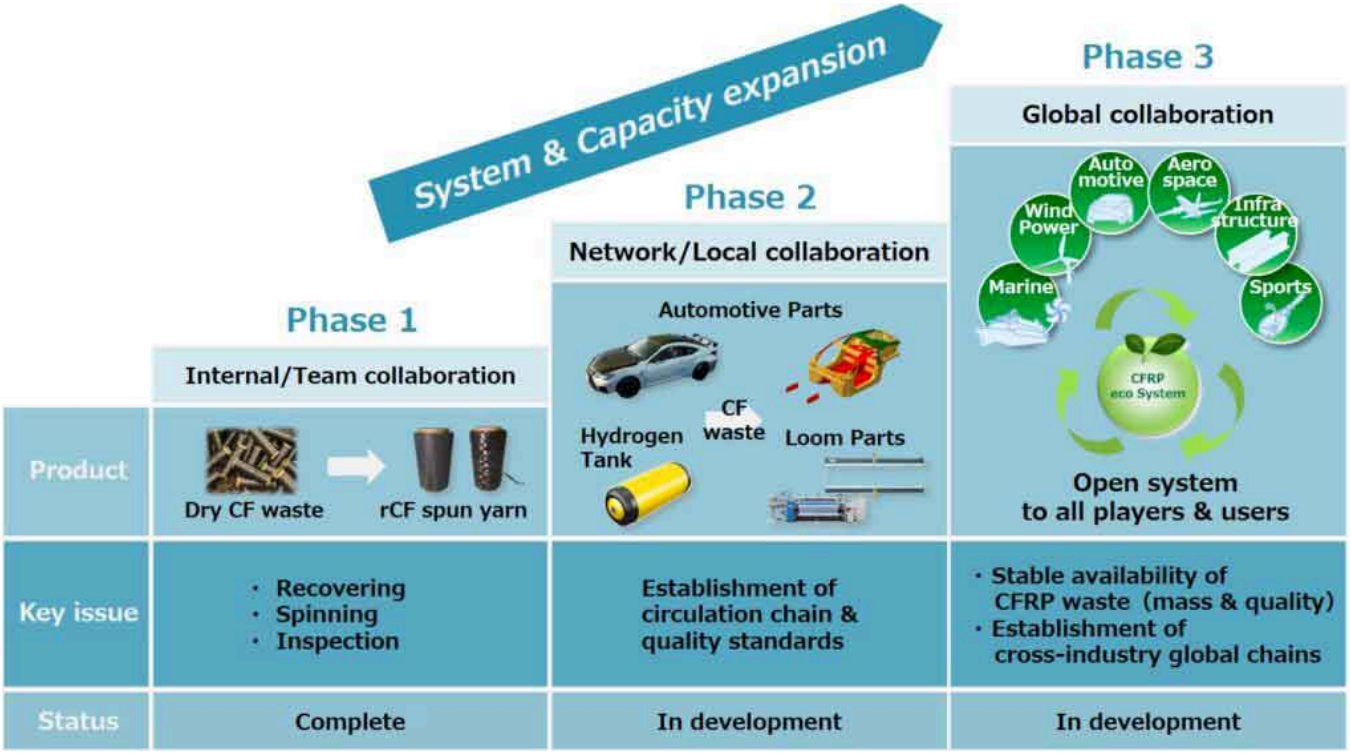
The seat structure is the first interior application for L&L's CCS technology, which uses BASF's polyurethane Elastocoat 74850 pultrusion system. CCS is a fiber-reinforced composite carrier with highly engineered sealants and adhesives in a two-dimensional profile. In this application it was overmolded with BASF's impact-modified polyamide 6 Ultramid B3ZG7 CR to create the 3D shape of the 60% seatback.

Hank Richardson, L&L's product engineering manager, describes the magic as"a combination of resin chemistry tuned for very high stiffness, continuous glass members for maximum flexural strength and optimized part geometry", and says "With this partnership, we were able to eliminate an all-steel assembly which contained 60 stamped and welded parts and integrate into four composite parts which reduced assembly and scrap costs associated with the metal seat structure".

The new composite technology allowed Toyota to design a seat structure 20 per cent lighter compared to the previous model, while meeting vehicle cost goals.

Toyota Industries' Recycled Carbon Fiber Spun Yarn

INTERIOR NEWS



REALIZATION PLAN FOR THE CFRP RECYCLING SYSTEM (TIC IMAGES IN THIS ARTICLE)

In the effort to reduce emissions by using sustainable materials, carbon fiber-reinforced polymers, or CFRPs, have grown popular—see our previous coverage. CFRPs have high strength and elasticity, and can contribute to CO_2 reduction with their light weight. But their production is emissions-intensive, which offsets the weight-reduction advantages And, the limited amount of recycling technology available means most of the material is landfilled at the end of vehicle life.

Toyota Industries Corporation (TIC) is a Japanese machine maker—originally a manufacturer of automatic looms, and still active in that area, it is the company from which Toyota Motor Corporation evolved. To improve the circularity of CFRP, TIC developed a way to transform recycled carbon fibers from CFRP into uniform, consistent spun yarn. And the product is impressive enough to have won a JEC Composites Innovation Award.

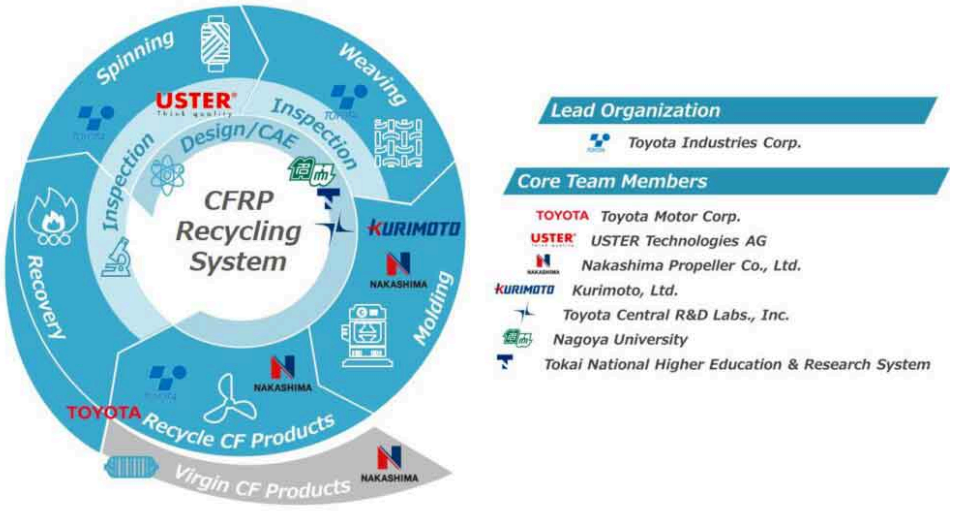
To make the new yarn, TIC adapted a long-established cotton spinning method for carbon fiber.

Most CO_2 emissions in new carbon fiber production come from the calcination process. By using recycled materials, that process is no longer needed, reducing CO_2 emissions by about 80 per cent. But traditional CFRP recycling methods involve using recycled CF as pellets for injection molding, mixed with resin, or making nonwoven fabric by blending a large amount of chemical fiber with recycled CF. These methods face issues of poor performance and usability due to the low Vf and inconsistency in fiber direction. The new Toyota technology, on the other hand, creates non-twisted yarns made only of recycled carbon fibers with a consistent fiber direction. As a result, CFRP using recycled CF spun yarn has properties like those of virgin materials.

Toyota says more testing is needed, but results so far show a flexural strength and modulus of between 70 and 90 per cent of those of new CF materials under the same test conditions.

Being a real, actual yarn, it can be used with the same equipment and production methods as new materials without any new investment. Yarn can also be created by mixing synthetic fibers in any desired proportion, allowing the use in molding processes that don't require resin infusion).It can also be used as prepreg, or applied to RTM (Resin Transfer Molding) and pultrusion molding.

Toyota is also aiming at developing a CFRP recycling market, by means of a comprehensive CFRP recycling system to circularize it. The system is designed to allow open participation by external companies and partners, aiming to expand scale and promote innovation.



The comprehensive CFRP circulation system will be realized and expanded in three phases:

1. In-house circulation system, using scrap from Toyota's manufacturing processes
2. Recycling system within the Toyota Group, using spun yarn
3. Global cross-industrial recycling system, ensuring partners collaboration and establishing commercial distribution in the EU and US, which are CFRP's major markets.

Röhm's Plexiglas Illuminated Airvents for SEAT

INTERIOR NEWS

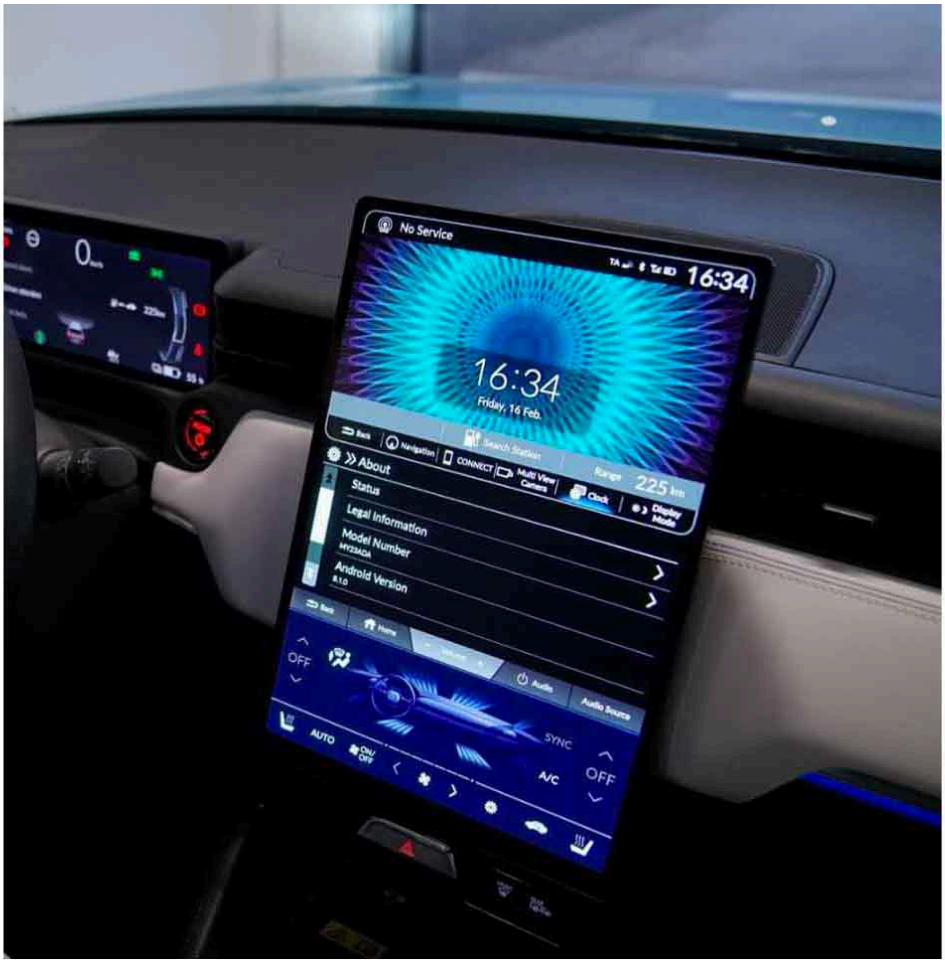
Small, delightful details can make a car very special, like a pleasant ambiance created by interior lighting. The SEAT Ibiza and Arona come colorfully-illuminated round air vents with light guides made from a light-scattering Plexiglas molding compound from Röhm—a global market leader in methacrylate chemistry including, among others, the Plexiglas brand.

The contours of the air vents light up in different colors depending on the equipment line: deep red or cool white for the Ibiza; red, light green, or honey yellow for the Arona. The lighting provides a splash of color and creates a pleasant ambiance when driving at night.

Carolina Gómez Sánchez, a designer for SEAT, says "Both models were due for an interior facelift, and we had the idea of using the air vents as a decorative illuminated element. The use of lighting technology adds to the SEAT Arona's and Ibiza's interior personality. The driver and passenger side newly designed air vents benefit from surrounding LED lights. It means the cabin space is more in-sync with the customer's personality".

Honda e:Ny1 Has 3-Zone Display, Independent Access

INTERIOR NEWS



Honda's e:Ny1 is the maker's second EV. Its interior has a big central touchscreen, a large three-section vertical head unit, with the aircon controls always at the bottom, information and menu displays in the middle, and maps/smartphone mirroring at the top.

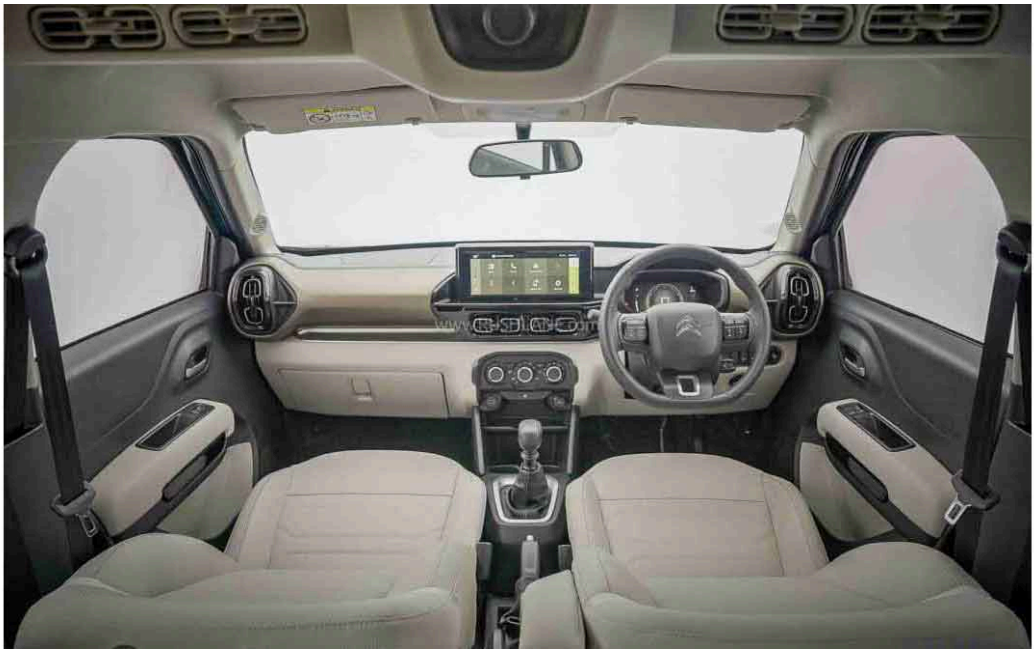
Split screens are gaining popularity, and Honda is moving one step ahead with three horizontals.

The top par is a central hub for essential functionalities such as navigation, seamless smartphone integration, and a comprehensive multi-view camera system. The middle part is where to fine-tune vehicle settings and access vital charging information to stay connected and informed. And the bottom part is dedicated to climate control and seat heating adjustments, ensuring drivers needn't drill down through tiresome, distracting menus and sub-menus and sub-sub menus just to make it a little warmer or cooler or change where the air comes out.

The main benefit of this architecture logic, is that you get simultaneous feature access, eliminating the need for widget switching. It's a new approach to replacing physical buttons.

Citroën Basalt Vision Concept for Developing Markets

INTERIOR NEWS



STELLANTIS IMAGES

Citroën is expanding their model range for India and South America with a coupé-styled small SUV that will be launched in the second half of this year.

They've released photos of a concept called the Basalt Vision, and have not said what the model might be called when it is launched.

The Basalt Vision is the third model on the Smart Car platform—a 'design to cost' architecture aimed primarily at non-European markets—joining the C3 hatchback and SUV. No technical details have been released about the new model, but the C3s are available with both gasoline and full-electric powertrains, and a version has been developed for Europe that will sell for less than €25,000 as an EV.

The Smart Car platform has been engineered in collaboration with Tata Consulting in India. The interior has traditional climate buttons as well as some direct controls on the steering wheel.

Stellantis is successful in South America, where they hold a leading 23.5 per cent market share, with more 878,000 sales in 2023. They are seeking a foothold in India, the third-largest market globally after China and the U.S., but one that is dominated by just a few brands: Maruti Suzuki has a market share of more than 40 per cent, followed by Mahindra & Mahindra, Hyundai, and Tata.

Renault is the best-selling European-based brand in India, with a share of just 2 per cent on sales of about 6,600 cars in February, and just this week announced four new models with their alliance partner Nissan.

The C3 and C3 Aircross are built in India in a partnership with CK Birla; the European version of the C3 is built in Trnava, Slovakia—it has been re-engineered and has revised bodywork and interior.

MBUX Bark Assist: Voice Assistant for Dogs

INTERIOR NEWS

MERCEDES-BENZ IMAGE

Mercedes-Benz is known for their intuitive operation and broad portfolio; occupants can already get answers to questions about sports results, the weather, or their surroundings, and control their smart home from the car.

Now, with the introduction of MBUX Bark Assist, they are catering for their customers' best friends—their dogs.

The intelligent voice assistant is linked to the Mercedes Intelligent Cloud, which can decode the barking of four-legged friends and recognize their needs. In future, dogs will also be able to operate selected vehicle functions independently before the journey begins.

The MBUX Bark Assist allows to control the music selection and it can activate the Energizing Comfort programs as well as the air conditioning and the Shopping Assistant.

The MBUX Bark Assist was available for one day only, on 1 April 2024 (April Fools' Day).

The Design Lounge

Dance Floor

THE DESIGN LOUNGE

COFFEE CORNER
DVN
Interior

The profound relationship between cities and motion has created fascinating connections, between static and itinerant spaces, between environments and moving objects. About a century ago, the introduction of the automobile in urban areas has developed a new perception of the cityscape. The new - object from the outside and environment from inside - in times would reflect and in times would internalize the style of a city in many ways. As an architectural extension of our urban self, it would allow us to inhabit momentaneously city centers, in multiple ways and styles, many times per day. Unlike any linear trajectory related to its ultimate mechanical nature, the highway, here, the stop'n'go mode gained ground, style and often coolness. Thus, the performing art of urban mobility was frequently synonymous to having fun.

But, how far can an automobile be a source of entertainment? Let's rewind back to the 1990s, when a four-seater with a short and high overall silhouette was conceived by Honda. The unique combination of a low and flat floor with semi-standing seats meant that not only the driver but also passengers could enjoy a skateboard-riding feeling, when it comes to having fun. The prototype was designed as a travelling city tool, merging transportation with mobility, utility with amusement, music with motion and intense social happening, rhythmed on Hip-hop vibes, during day or night, in times even turning night into day.

Besides the Blade Runner design, stylewise the Fuya-Jo was striking and eye-catching, but not for the expected reasons. Honda clearly had the ecstasy generation in mind with this vehicle, allowing the occupants to stand and dance their way from venue to venue. The interior has a distinct dance club theme, and the dashboard is designed to resemble a DJ's mixing desk. The steering wheel is shaped accordingly as a turntable.

The exterior was designed around a specific driving posture, but in this case, is an upstanding mannequin, giving peculiar proportions to the entire synthesis. As Honda communicated during its reveal at the Tokyo Motorshow 1999: "*short yet tall 4-seater that induces the same kind of experience as riding skateboards or roller blades, or dancing in clubs.*" Not surprisingly, the sound system incorporated into the Fuya-Jo was particularly powerful.

In a glimpse of an eye, it appears as a cross between an armored vehicle and a forklift. It features a minimal canopy and wheels that look like they were stolen from a semi-truck, but its Lego version.

The nightclub feel, of its interior CMF configuration, extends to a non-slip floor and spill-proof covering, just in case a cocktail fly while navigating a sharp turn. The low floor is an equally wise choice for easier entry and exit during, and especially after, a few drinks. Now if there are two disciplines which - for a variety of reasons - shouldn't be combined, is drinking and driving. Apparently, Honda's designers missed that lecture since the Fuya-Jo is designed with the 24-hour party scene in mind, or perhaps they were so advanced back then that they were already designing with the forthcoming autonomous platforms in mind.

Even though many car magazines saw the vehicle as weird, or that it looks a lot like the cars driven by giraffes in Zootopia, it was a bold design statement and one worth studying.

Through its wonderfully poetic nature and technologic naivety, Honda design team improvised a spontaneous future vision and design expression. Tokyo played an important role on the narrative, painting this object with notions that belong to its intense urban activity round the clock.

The interplay between urban environments and motion continues to inspire creativity and shape our shared spaces. Crowded streets, squares, and public spaces of cities constitute the sets of our daily urban choreography; often indeed, they provide the perfect backdrop for dance performances.

In the early 20th century, tango sparked when people were in proximity, seeking fun, escapism, and self-expression at the crowded condominiums of Buenos Aires. Similarly, hip-hop culture took shape in New York's Bronx, where young people made the streets their dance floor. Block parties and acrobatic dance battles unfolded as hip-hop boomed, with residents claiming their space. The mass of bodies thrumming through urban hubs has always been a motor and generator for movement. Motion has shaped cities as much as cities have shaped motion.

Seen through today's prism, Honda's Fuya-Jo concept is an attempt to merge the two fundamental and somewhat opposing – yet equally important for our urban lives - disciplines: choreography and urban engineering, both designing materials and experiences through time and space.

Aiming at shaping cities that consider human characters, feelings, strengths and weaknesses and the dynamic interactions among them, while large engineering institutions may not adapt rapidly to 21st-century needs, improvisation and live-feedback could offer a new model for reinterpreting mobility and urban spaces. Honda with Fuya-Jo created a groundbreaking experience displaying the youth market's ideas on what they wanted both from the automotive industry and city planning for the years to come.

See the official Honda **video.**

News Mobility

Flexis Pact for EV Vans with Renault, Volvo, CMA CGM

NEWS MOBILITY

RENAULT VAN COCKPIT (RENAULT IMAGE)

Renault, Volvo, and CMA CGM groups have created Flexis, a company to build their next generation electric vans. Volvo and Renault, each with a 45-per-cent stake, each plan to invest €300m over the next three years.

CMA CGM, a global sea, land, air, and logistics provider, through their Pulse energy fund, holds a 10-per-cent stake in Flexis and has stated intent to invest up to €120m by 2026.

The trio describe the JV as "a coalition of three champions in their respective fields to address the needs for electrified vans". They say new expectations for electrified vans are emerging as professional buyers face increasing pressure from climate change and CO_2 regulations while e-commerce and logistics are booming: "The European market for electrified vans is expected to grow by 40 per cent per year until 2030." Today, less than 10 per cent of vans are electric.

Renault is now well versed in electric vehicles and software, reflected in various electrified or full electric variants of its passenger car range, and makes electric LCVs, primarily vans.

Volvo brings expertise in tailored services, uptime, and productivity to the JV while CMA GGM specializes in logistics, notably for the automotive industry, and as "a pioneer in the decarbonization of supply chain".

The new LCVs will be made in France in a retooled Renault plant in Sandouville, Normandy.

The vehicles will be built on a new, full-electric LCV platform which will offer "high modularity for different body types at a competitive cost, and breakthroughs on safety requirements".

With a new connected electronic platform, the vehicle will have what Flexis calls 'unprecedented' capability to monitor users' delivery activity and business performance, reducing by the global cost of usage for logistics users by up to 30 per cent. And connected services will keep vehicle technology up to date with OTA software updates during their entire life cycle.

U.S. Distracted Driving Down A Bit, Still Too High: Report

NEWS MOBILITY

Cambridge Mobile Telematics (CMT), the world's largest telematics service provider, has released their annual report on distracted driving and road safety, "The State of US Road Risk in 2024." The report, which includes analyses from over a billion car trips across millions of US drivers, shows that distracted driving fell by 4.5 per cent in 2023, the first decrease since 2020. The report evaluates the various factors that can reduce distracted driving, including consent-driven usage-based insurance (UBI) programs, hands-free legislation, and increased media coverage of the dangers of distracted driving. CMT estimates this reduction in distracted driving helped prevent over 55,000 crashes, 31,000 injuries, 250 fatalities, and close to $2.2bn in economic damages (from loss of work to medical costs and insurance costs avoided with safer driving) in the US in 2023.

While that is an improvement, distracted driving is still dangerously high in the US. For perspective, US drivers are 187 per cent more distracted than UK drivers. In 2023, US drivers spent 2 minutes and 6 seconds interacting with their phones each hour they drove. While this marks a six-second decrease from 2022, this figure is still 17 per cent higher than it was in 2020.

The report highlights the impact of distracted driving on both crash frequency and severity. For the first time, CMT has published data on how the different types of distracted driving affect the impact speed of a crash. For example, crashes where the driver is making a handheld phone call happened at speeds 31 per cent higher than crashes without a handheld phone call. These heightened speeds increase crash severity; IIHS research shows that a 5-mph rise in speed limits results in an 8 per cent increase in fatality rates.

The report also explores the behaviors of 1.8 million drivers and their crash results. CMT uncovered that drivers who crashed in 2023 were 62 per cent more distracted than drivers who didn't crash. In a separate study, CMT found that drivers were distracted in the minute before a crash in 34 per cent of crashes.

State legislators and road safety groups have also helped decrease distracted driving. The four states that introduced hands-free laws, where it's illegal for people to handle their phones while driving, reduced distracted driving by an average of 7.1 per cent and prevented an estimated 8,200 crashes and 37 fatalities in 2023. Compared to "no-texting" states, where it's illegal to text and drive but not to engage with your phone behind the wheel, the 29 hands-free states saw distracted driving levels 9 per cent lower in 2023.

General News

Aunde Buys Biggest Stake of Toyota Boshoku's Kawashima

GENERAL NEWS

Toyota Boshoku has decided to accept a capital investment in their subsidiary TB Kawashima from Aunde Achter & Ebels. As a result, Aunde will have an 80-per-cent stake in TB Kawashima, which will become an equity method affiliate company.

TBK, established in December 2009 for manufacturing fabrics for automobiles, already has a collaborative relationship with Aunde in India. By developing business jointly together with Aunde as controlling and major shareholder, which has a business base with European and American automakers, TBK will strengthen their competitiveness.

By further strengthening the collaboration, TB Kawashima will evolve into a true global supplier and will enhance new product development capabilities.

Founded 1899 as Achter & Ebels in Mönchengladbach, Germany, Aunde began to specialize in the production of textile for the automotive industry from 1920 onwards. The coöperation currently has 116 sites in 28 countries, employing 24,100 specialists.

Aunde's investment in TBK will be implemented after obtaining clearance from the competition authorities of the relevant countries. Since it is difficult to predict the time required for the procedures at the competition authorities, the investment has not been finalized at this time.

AUO Buys BHTC from Mahle-Forvia Hella

GENERAL NEWS

BHTC IMAGE

Mahle and Forvia Hella successfully completed the sale of their respective 50-per-cent stakes in the joint venture Behr-Hella Thermocontrol (BHTC) to AUO Corporation.

The parties had signed an agreement to sell the shares on 2 October 2023; the transaction has now been approved by the relevant authorities. The total purchase price is based on an enterprise value of €600m.

The sale of the BHTC shares, which has now been completed, is the result of constructive discussions between Mahle and Forvia Hella regarding the future positioning and orientation of BHTC. These talks were initiated against the background of a change of control clause in the joint venture agreement after Forvia (formerly: Faurecia) had taken over the majority shareholding in Forvia Hella.

BHTC, headquartered in Lippstadt, is a leader in the field of climate control and a specialist for system solutions in the field of HMI (Human-Machine-Interface). The company currently employs around 3,100 people worldwide and generated sales of 634 million Euro in 2023.

AUO Corporation is a Taiwanese company that specializes in optoelectronic solutions. It was formed in September 2001 by the merger of **A**cer Display Technology, Inc. (the predecessor of AUO, established in 1996) and **U**nipac **O**ptoelectronics Corporation. AUO offers display panel products and solutions.