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Weekly Newsletter

DVN-I
Automotive Interior

NEWSLETTER #189

Editorial

LA Auto Show Shows Future Of Interior Tech

LUCID GRAVITY (LUCID IMAGE)

Automobility LA 2023, the Los Angeles Auto Show, happened last week. And this week, we bring you Part I of our coverage. For decades, LA been a hot spot for automotive innovations. It's a smaller show now than it used to be, but a more focused one— automaker attendees don't just fill space by shoving in everything they make; they really bring their best and brightest. And this year, the increasing centrality of the cabin was brightly on display.

The second model from Lucid, the Gravity 7-seater SUV, was a star of the show. Toyota's voice assistant is impressive, and their touchscreens have customizable layouts with tech seamlessly integrated. Hyundai's Ioniq 5 has a dual-screen solution, one as instrument cluster, one as infotainment. Another dual-screen setup is in the Toyota Signia, and it looks like a good tradeoff between screen size and packaging limitation. Sustainability is really on center stage now in more and more vehicles, as shown on the Kia EV3 and EV 4 concepts, with material such as sustainable bioplastics, natural dyes, and recycled cotton.

It's really exciting seeing the actual reality and increasing trend of the interior gaining traction as the primary main differentiator and innovation stage in the automotive world. Clearly, the future of the EV interior is roomy, immersive, and flexible. Next year's DVN Interior Workshop will focus on HMI, seats, comfort, and sustainability. Stay tuned as we build the conference lineup; find more information on **online**.

It's great to be with you!

Sincerely yours,

Philippe Aumont
DVN-Interior General Editor

In Depth Interior Technology

Interiors On Display at LA Auto Show · Part I

AUTOMAKERS AT AUTOMOBILITY LA 2023

The Los Angeles Auto Show used to be the where automakers and especially designers liked to debut their concepts and new vehicles. Innovation launches have spread eastward to CES in Las Vegas, and vehicle debuts are no longer confined to specific shows; they happen here and there, at auto shows or at standalone events staged by automakers.

So Automobility LA was a smaller show this year in terms of the number of vehicle models shown, but it was a focused show, with emphasis on new debuts and revised models. The Lucid Gravity was a shining star of the show, along with other interesting introductions. They all showed, through their interior, where design and technology are headed as we motor along toward the EV-dominant future.

In this week's Part I of our coverage, we bring you the big, showy introductions. Next week, we'll circle back for a closer look at some of the interior details that might have been less splashy at the show, but still illustrate the rapidly-advancing state of the art and science. Onward to the big show:

Lucid Gravity

LUCID IMAGES

Lucid's new Gravity, the second model after their Air, is a 7-seater, Ultrapremium electric SUV. Prices start at USD $80k, and soar to $250k for a the top-of-the-line Sapphire.

Lucid EV technology and packaging deliver an expansive, luxurious interior for up to seven adults and their belongings, without the huge exterior and poor maneuverability often associated with traditional full-size, three-row SUVs.

Gravity represents a definitive evolution of Lucid's user interface, called Clearview Cockpit, featuring an intuitive 34-inch curved and uninterrupted OLED display that float above the new squircular steering wheel, matched with the driver's line of sight. The 'Pilot Panel' has a quick-access touch bar, alongside a new glass center console that slides open for additional storage, and more small storage spaces in the front seat than the Air sedan. There's also Lucid's newest software with over-the-air updates, ensuring continued vehicle improvement.

The Gravity features a front trunk storage space along with the rear cargo area leading to more than 3,000 liters (112 ft^3) of cargo space, including folding 3rd seats with remarkable legroom. The sliding second-row seats combine with integrated convenience tables for an elevated back-seat experience.

Toyota Crown Signia

TOYOTA IMAGES

The Crown Signia Limited comes with leather-trimmed seats with double stitching, quilting, and piping. The XLE has a combination of fabric and SofTex-trimmed seats; both have power eight-way driver and passenger seats. Memory-seat functions and three-level heating and cooling are available.

The cabin also features a 12.3-inch color driver information cluster, along with a 12.3-inch touchscreen infotainment system. Both have customizable layouts. With an active Drive Connect subscription, customers can take advantage of a voice assistant using the phrase "Hey Toyota" to wake it up. Wireless Apple CarPlay and Android Auto are standard and Android users can also access Google Assistant.

A spacious rear cargo area eases packing with second-row seats that can lie fully flat. Seamlessly-integrated tech includes a multimedia display, optional panoramic view monitor (**video**), and optional 11-speaker JBL Premium Audio system.

Toyota Camry

TOYOTA IMAGES

Toyota's evergreen bestselling Camry features a new 7-inch digital gauge cluster as entry-level equipment; top models get a 12.3-inch cluster. The more expensive models also offer an optional 10-inch HUD with speedometer, warning indicators, and turn-by-turn navigation.

An 8-inch touchscreen infotainment display is standard; a 12.3-inch screen is optional. Both include standard wireless Apple CarPlay and Android Auto, wireless charging, and USB-A and -C ports. It also has 4G Wi-Fi with a 30-day, 3-gigabyte trial included. Luxury models now offer faux suede, new seat designs, and quieter cabins.

Hyundai Ioniq 5

HYUNDAI IMAGES

The Ioniq 5 cabin is roomy for passengers and cargo. The long wheelbase allows for plenty of second-row legroom. There's a small (less than 1 ft^3 / 28-liter) front trunk.

There's a dual-display infotainment setup comprising two 12.3-inch screens. The one ahead of the driver serves as the instrument cluster, while the one beside it is the infotainment touchscreen. Apple CarPlay and Android Auto are included. Over-the-air updates are possible. There are three USB ports in the front row and two in the second row; higher-end trims get a wireless charging pad up front. A HUD is also included on the upper models, as well as a Bose premium audio system and a digital rearview mirror; panoramic glass roof, driver's seat ottoman (leg rest), and ventilated front seats. But wait, there's more: color-adjustable ambient lighting, a heated steering wheel, and upgraded interior upholstery, too!

Kia Sorento

KIA IMAGES

Body styling follows the 'Opposites United' design ethos presented at the Milano Design week. The new midsize all-hybrid Sorento SUB takes design cues from the larger Kia Telluride. The cabin has a horizontal orientation with an optional panoramic curved display that integrates dual 12.3-inch screens (this is becoming a Hyunai-Kia signature). A panoramic panel with 4.3-inch digital instrument cluster 12.3-inch screen is standard.

Kia EV3, EV4

Kia's EV3 crossover and EV4 sedan were first announced in October as concept vehicles, and that hasn't changed here in LA. The EV3 is inspired by the Kia's soon-to-launch EV9 (see **our coverage**) three-row electric SUV, but is smaller. The EV3 presents with boxy lines reminiscent of the Kia Soul, complete with the high and slightly sloping roof. The steering…lozenge?…with its interesting compound curvature, might be the ideal mix of traditional wheels and unusable yokes.

KIA IMAGES

The EV4 concept is a sedan looking like an EV6. It has a 'cocoon-like' interior, but really, both concepts have cabins styled in sci-fi-minimalism. Kia is experimenting with materials in the EV3 and EV4 and is looking to try sustainable bioplastics, natural dyes, and recycled cotton.

Ford Mustang

FORD IMAGES

A California Special package was presented, geared toward California's "optimistic and carefree driving culture," said Mustang brand manager Joe Bellino in a release. "We're refocusing on those elements for the 2024 Mustang GT California Special, which brings vibrant style that looks as at home on Colorado Boulevard as it does on the Pacific Coast Highway."

The interior has perforated 'Navy Pier' upholstery and ebony black leather. It also has 'Raptor Blue' and 'Metal Gray' threads woven into the dashboard and doors. A California Special instrument panel badge and GT/CS floor mats are also included.

Subaru Forester

Subaru presented the sixth generation of their compact crossover. The base Forester gets dual 7-inch touchscreens. The lower one controls the climate and vehicle settings, while the upper one has all other functions including wired Apple CarPlay and Android Auto.

There is interesting texture on the dashboard, and some trims get nice two-tone door panels. Interior tech has been upgraded over the previous Forester: an 11.6-inch touchscreen is now available, with wireless Apple CarPlay and Android Auto. Navigation is standard, including the what3words navigation system.

VW ID Buzz

VW IMAGES

Again, with Californian driving culture, the modern version of the VW Microbus—presented first at LA 2017—was on display, and should be on sale soon in 2024. It is roomy, with three seating rows, offering six and seven seat configurations, where you can fit an entire volleyball team inside (VW's words).

This vehicle features an electrochromic panoramic sunroof, multicolor ambient lighting, and comfortable seating for all three rows with a multitude of adjustments and heating and ventilation options. Modern technology includes a fully-connected infotainment experience with wireless device connectivity and multiple charging ports. Just for fun, a classic Microbus was on display, done up as the Mystery Machine from the 1969-'76 Scooby Doo cartoon series.

AUTOSPIES IMAGES

Interior News

Grammer Center Console is Bridge to Digital Cockpit

INTERIOR NEWS

GRAMMER IMAGES

Grammer AG, headquartered in Ursensollen, Germany, makes interior parts with innovative thermoplastic components and driver and passenger seats for trucks, trains, buses, and off-road vehicles, for driver and passenger seats. Grammer employs around 14,000 people, with sales of around €2.2bn in 2022.

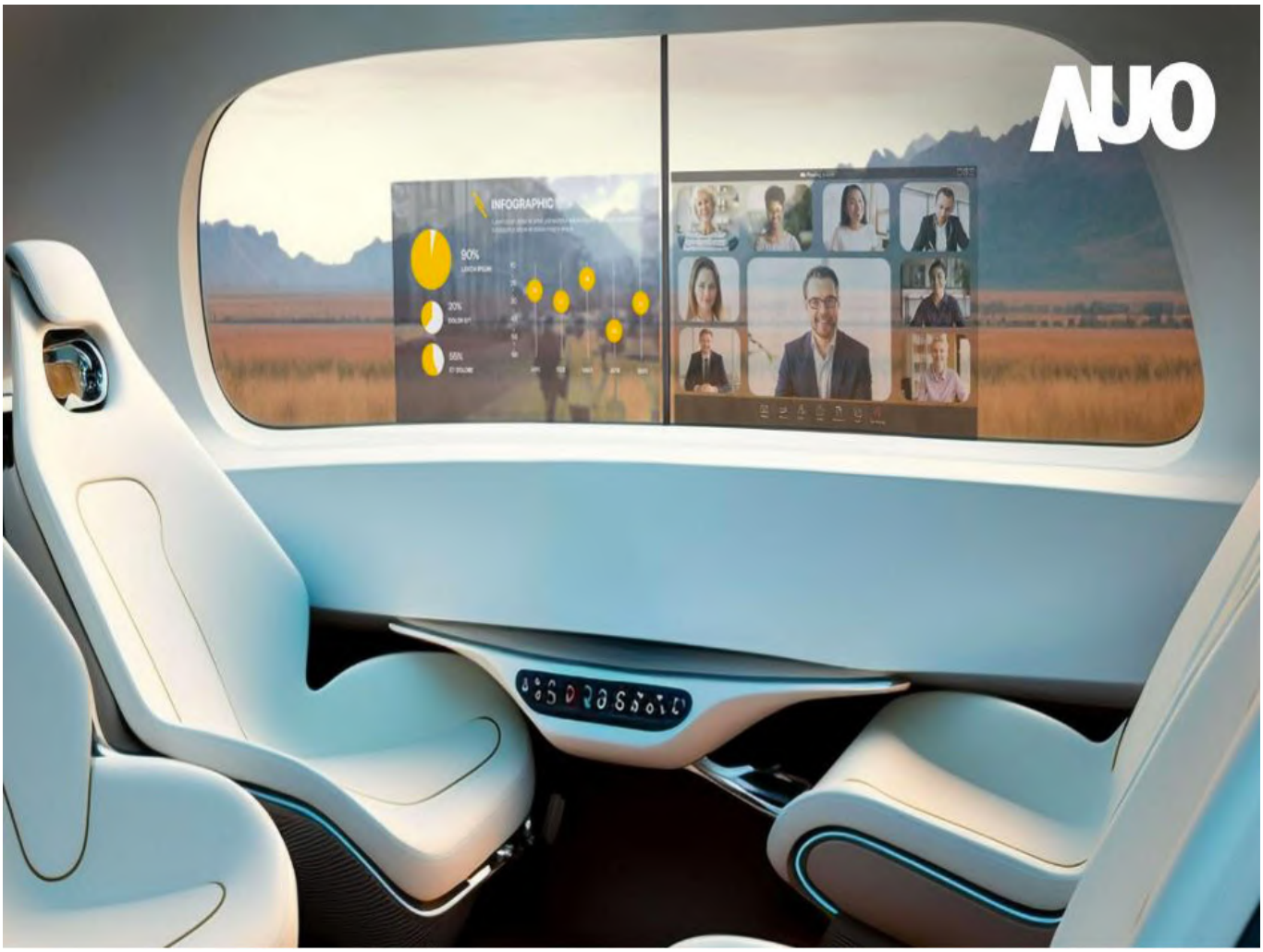
As bridge between the rear and the digitalized cockpit, the Grammer center console includes features such as a butterfly-lid storage compartment cover with trim that matches the interior, a center section including a roomy storage compartment and USB socket, as well as a carrier for the infotainment screen in the interior design of the new Mercedes-Benz GLC.

Grammer CEO Jens Öhlenschläger says, "The design of the center console impressively demonstrates how we combine the requirements of modern vehicle interiors. In addition to a strong design that fits perfectly into the interior concept, a high level of functionality is also required. Our many years of development experience have helped us to translate the customer's wishes into a component that can be produced in large volumes". The center console also offers numerous storage areas. One highlight is the display carrier, which gives the driver and front passenger the best possible access to the infotainment system. Grammer has developed a stable solution that is both lightweight and efficient.

Grammer produces the center console near the vehicle's production site in Bremen, ensuring just-in-time delivery.

AUO to Show Interactive Window, Rollable RSE at CES '24

INTERIOR NEWS



AUO IMAGES

Taiwan-based AUO, a provider of advanced display technology, was founded in 1996. They operate across Asia, the U.S. and Europe, with a global team of 38,000 people.

At their CES '24 exhibit, AUO will showcase their Best of Innovation Honorees 'Interactive Transparent Window' and 'Rollable RSE (Rear Seat Entertainment)'.

AUO President and CEO Dr. Frank Ko says, "The AUO Smart Cockpit 2024 not only demonstrates our vision and capability to bring advanced smart displays to the global mobility industry, but also our commitment to change the way automakers can design their interiors. Our achievements at the CES Innovation Awards illustrate how we can make the possibilities of future mobility a reality with our technology".

The AUO Smart Cockpit 2024 enables an immersive experience for drivers and passengers through advanced display solutions, including their newest microLED and 'AmLED' (AUO Adaptive miniLED) displays.

The Interactive Transparent Window integrates highly transparent microLED displays into side windows, including touch functionality. It offers standard entertainment features, online video conferences, and interactive AR experiences. By connecting with exterior cameras, it provides passengers with warnings of approaching vehicles and the surrounding environment when disembarking from the vehicle. This innovative microLED display solution is recognized as a CES Best of Innovation Honoree.

And AUO's Rollable RSE is a rear-seat entertainment display which leverages the bendability of microLED technology. The display can be rolled up and concealed within the front seat backrest when rear passengers aren't using it, offering greater design flexibility. This gives rear-seat passengers a comfortable and spacious ride with a clear, bright, high-definition image quality in the space-limited cockpit.

Forvia's CES 2024 Innovation Winners

INTERIOR NEWS

SKYLINE IMMERSIVE DISPLAY (FORVIA IMAGE)

Forvia has received four CES 2024 Innovation Awards. Hosted by the Consumer Technology Association, the CES Innovation Awards is an annual competition that recognizes outstanding design and technology in 28 product categories. Winners are selected by a highly decorated panel of judges.

Skyline Immersive Display

Forvia's Skyline Immersive Display is an innovative pillar-to-pillar display positioned at the intersection of the windshield and the instrument panel, creates a safer driving experience by reducing the need for redirection of the driver’s attention from the road to displays that are conventionally below the driver’s outward line of sight. The high-resolution displays and HMI appear only when required, reducing cognitive load and improving safety. Graphical content across all displays is driven by the same electronics, enabling a seamless interface on any surface and allowing greater design opportunities beyond the capabilities of today's displays. HMI will no longer be formed on planar black surfaces, but on freely-formed, even 3D and integrated into interior surfaces, offering new æsthetics and communication possibilities like text, emojis, and symbols.

eMirror Safe UX

FORVIA IMAGE

The eMirror Safe UX software platform help drivers better see and understand their driving environment by replacing conventional side and rearview mirrors with a camera-based system designed to provide drivers with better visibility, safety alerts as well as energy efficiency. The software expands the driver's field of view and reduces blind spots through features like Transparent View, Reactive Dimming, and Advanced Image Processing (see **in-depth DVN-I coverage and interview**). It also saves power and diminishes distraction by tracking the driver's gaze direction to dim displays not being viewed, and improves visibility in challenging lighting and weather conditions. The software is hardware-agnostic, doesn't require extra sensors and can be installed and updated through over-the-air updates, providing compatibility with existing vehicles.

Light Tile for Transparent Door

FORVIA IMAGE

Light Tile for transparent door provides a see-through view on door panels and creates an extended window effect. It is a new kind of ADAS: if any risk is detected before opening the door, the information will appear through the transparent door to help occupants react in darkness or critical conditions where the human eye may not see properly and respond fast enough. The Light Tile is integrated in the door panel upper area and provides a display of the vehicle environment. The flexible tile technology is thin (typically 3mm) and provides edge-to-edge homogeneity while allowing a scalable system of shape, size, resolution, and light output as well it can also be used for other purposes such as dynamic ambient surface lighting. The transparent door uses existing eMirror cameras and image distortion algorithm.

New HMI in the Porsche Panamera

INTERIOR NEWS

PORSCHE IMAGES

The revised Panamera has what Porsche is calling a new, driver-oriented cockpit.

The 'Porsche Driver Experience' operating concept was introduced in the Taycan. In the horizontally- aligned cockpit, the driver looks at a freestanding, 12.6" curved display in which the information is shown in three configurable areas. A separate display in front of the front passenger seat has a special film on it controlling the view angle so it can show movies even while driving, because it cannot be seen by the driver.

There's continuous ambient lighting along the entire dashboard panel. A HUD is available as an option. The selector lever for the automatic transmission has been moved to the right behind the steering wheel next to the infotainment display, while the climate control panel on the center console offers touch surfaces and physical switches.

The revised seats are designed to offer more comfort with new foam materials, while the Executive models get a newly-contoured rear seat system. Also new: the option of leather-free materials including Race-Tex and Pepita fabric. Porsche says the cargo space behind the rear seats can hold two extra-large golf bags

Mercedes-Benz's Newest OS with Qt

INTERIOR NEWS

Mercedes-Benz and Finland-based Qt Group have advanced their partnership harnessing the capabilities of the Qt framework—including design, development, and quality assurance tools. The goal is to facilitate the creation of Mercedes' operating system, MB.OS, for integration into all of their vehicles and displays. Qt's support will streamline cross-platform development, leading to a quicker time-to-market.

The OS, which encompasses the auto maker's user-experience system, is a new architecture that advances the software-defined vehicle concept, including new digital displays and improved driver assistance. Qt says their framework and tools let automakers take ownership of their onboard software in-house, and that upgrading to Qt 6 is a crucial part of Mercedes' software-defined vehicle development; it is expected to transform the performance, ease of development and maintainability of in-vehicle applications.

Applying Qt across all vehicles and screens—HUDs, passenger screens and rear-seat entertainment systems, digital instrument clusters, and more—shows the Qt framework's scalability, the company says.

CCL Design’s New Tech for Mini's Interior Surface Finishes

INTERIOR NEWS

MINI IMAGE

CCL Design designs and manufactures a wide range of printed, functional and decorative products for electronics, automotive, and industrial sectors. They have received encouraging feedback from Mini following the auto brand's first application of CCL's DEW (Decoration Embossing Wrapping) technology. DEW combines multiple in-house techniques and expertise with newly-developed expertise.

According to CCL, DEW offers designers freedom to create fine and complex textures on virtually any automotive interior component or surface. It delivers serial quality prototyping, speed-to-market benefits and significant tooling cost advantages compared to other surface finishing techniques.

The technology is a post-injection process and can also be used on existing parts where redecoration of the surface is desired. It does not need any special adjustment to the injection molded part or tool – a quality was essential for the success of CCL Design’s initial proposal to Mini.

CCL's Matthew Bright says, "We were delighted to present our concept to Mini earlier this year. The Design group at Mini were looking for customized IP panels with bespoke textures, working with intricate designs across four special editions. The project was fully delivered within a few months, including the development, tooling, and production phases".

MINI IMAGES

As well as making a wide range of complex surfaces feasible, DEW technology can also correct distortion from stretching during the wrapping process. Using only one injection mold, the customer can create multiple surface finishes quickly and cost effectively.

DEW is fast and flexible, therefore, CCL Design can deliver high quality prototype components for show cars, concept cars or special events easily in a matter of weeks.

“The technology’s capabilities are continually being expanded. Our in-house European R&D division just released color matching and printed graphic features. Future includes back lighting, exterior applications, and a range of sustainable surfaces,” added Jordi Caton, new developments and markets manager at CCL Design. DEW technology has been developed in partnership with SMP Automotive Technology and TMG.

MINI DEVELOPMENT CLAY MODEL – IMAGE MINI

The Design Lounge

Code Name: Ginger*

THE DESIGN LOUNGE

COFFEE CORNER
DVN
Interior

By Athanassios Tubidis

OVAL OFFICE OF THE WHITE HOUSE

What do a medical infusion pump, a portable dialysis machine and a flexible heart stent, have in common with urban mobility and the future of the automobile? Except ambulances, medical and automotive have little to share if not for some specific moments and people such as the respected and proven inventor Dean Kamen, an otherwise eccentric millionaire, always dressed in denim to daily commute with his helicopter off his privately owned island. Indeed, while still a student in the 1970s, he made a fortune by inventing and selling medical equipment, revolutionary for the time. However, his relation to transportation and anything on wheels started much later, when he observed the almost impossible task of someone on a wheel-chair trying to get over a sidewalk…

That was in 1990 and it gave him the idea to create an advanced robotic wheelchair with six wheels and a motor, which could go up the stairs. This was the first wheel chair that could match the height of a standing person, and later called the i-bot. Nevertheless, the 'eureka' moment came when he realized that on the same principle he could have created an all new vehicle addressed to a wider pool of populations for their daily commute.

'…because the current state of technology finally allows to make things differently than everything done so far, the self-balancing technology is the key of changing transportation forever in crowded cities and will render the car useless. This will be for walking what was the calculator to pen and pencil or the automobile to the horse and buggy…'

And on this premise Kamen undertook the challenge to literally reinvent the wheel, pairing up with wealthy entrepreneurs such as Jeff Bezos and Steve Jobs who in his strong words also specified that this will be as important as PC (personal computer) for transportation, known as PT for personal transport.

Minutes before officially revealed in a TV show, Kamen stated that all the knowledge about how to walk was transferred in that machine, the world's first self-balancing human transport. The hype at the announcement was similar to the hype of today's Tesla announcements and indeed with the exact same message: *'this product is going to revolutionize transportation forever'*, getting everyone faster and further to anywhere they

walked. That made people believe, back then, it was some sort of a Hydrogen powered personal hovercraft or a teleportation device. Once revealed, it looked something like an ordinary two-wheeled handcart that, even if it could stay upright by itself, the t-shaped scooter still looked somewhat underwhelming to the public's expectations. Yet, Segway PT (personal transport) was going to make walking better! But, it didn't. What happened?

In 2001, it was hard to find a single person that was not looking forward to ride on it, while in the 2020s, with all types of electric scooters, skateboards, mono-wheels thriving, it was hard to find a single Segway on the road. Why? It was with no doubt the optimal combination of hardware and software; was there something missing? Was it maybe more of a product than a solution? An invention rather than an innovation? Was the design wrong? Or maybe investors didn't see enough value creation? Was it not contextual enough to the actual urban circumstance?

It is true that rather than being a natural extension of a human body, as thoroughly publicized, its mechanical and somewhat asymptomatic nature was brutally revealed in times an accident would occur. Some very awkward fails were broadcasted and assumed most of its market failure, including president G.W. Bush during his holidays and Hussein Bolt, the running specialist himself ironically, being swept out by an out-of-control Segway, moments after winning his gold medal. But there was something deeper. The device had possibly inherited some of its previous soul, very plausible and valuable, of assisting a handicapped, relatively static and non-mobile body posture, a bit like a wheel chair, by limiting thus all improvised body moves, gestures and body expressions.

Kick boards, skates and bmxs produced many more accidents and falls that are somehow dialed into the usage itself, depicting some of the coolest urban trends and urban mythology that still look awesome to this day. With Segway though, accidents looked very clumsy while humans where fighting the self-balancing mechanism in order to instinctively correct and maintain their upright posture against all sensors and gyroscopes. There was no cool factor riding on a Segway after that, neither it was a flattering mobility look for anyone.

If Dean Kamen had talked, instead of gyroscope engineers, to one of the greatest walking experts of the time, Giselle Bundchen, his invention would have turned differently and possibly more appealing. The fact is that the Segway, tilted by five gyroscopes that would self-balance, while several sensors would monitor the right center of gravity a 100 times per second, while traveling at triple the speed of a walking human, was one of the best machines ever invented. But it might be that humans, to this day, prefer themselves to be in-charge of their own center of gravity and walking style.

The book "Code Name Ginger**," by Steve Kemper, gives a behind-the-scenes look at the creation of the Segway. Kamen's work-in-progress was touted by technology gurus as the most seminal achievement since the introduction of the internal combustion engine.*

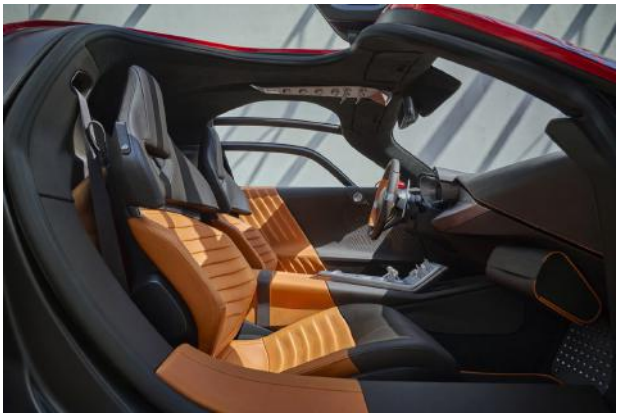
Alcantara Combines Design, Surface Finish, Color

THE DESIGN LOUNGE

LAMBORGHINI URUS (LAMBORGHINI IMAGE)

Invented in Japan and manufactured in Italy, Alcantara is a super-soft microfiber. Its only real competition to leather, and it's increasingly in demand. Founded in 1972, Alcantara sells their proprietary product worldwide. It is a subsidiary of the Japanese chemical group Toray Industries in Tokyo.

The world's only production facility for Alcantara is in Nera Montoro, near Terni, Italy, almost 100 kilometers north of Rome. It is also home to research and development as well as a testing laboratory with 30 employees.



ALFA ROMEO 33 STRADALE WITH ALCANTERA

Rolls-Royce, Aston Martin, Ferrari, Maserati, Lamborghini, Bugatti, McLaren, BMW, Jaguar, Tesla, Hyundai, Alfa Romeo, Lancia, DS, Opel, and Dodge are among the auto brands equipping top models and exclusive small-production cars with Alcantara.

Head designer Filippo Taiani shows the variety of colors, patterns, and textures of the high-tech material. The showroom contains interior parts and car seats with seat and backrest surfaces made from Alcantara, as well as seating furniture, lampshades, shoes, handbags, laptops and even haute couture dresses made from the synthetic fiber. The walls in the corridors leading to the showroom are also upholstered in velvety-soft, light gray Alcantara.

At Alcantera, work is also being done on 'smart textiles': patterns printed with special ink that change color depending on the temperature. Or the material embroidered with LEDs that Rolls-Royce uses for a starry sky in the vehicle. Or sample pieces with perforated surfaces that have a colored background or are decorated with cork, wood or chrome inlays. The automotive range extends from the design, development and implementation of individual pieces, for example for concept cars.

Also three-dimensional structures, metallic effects and rivets are feasible. All decors and surface textures can be created individually at the customer's request using technologies such as laser cutting, laser engraving, electro-welding or thermo-welding. Alcantara material can also be woven.

Alcantara has been used for automotive interiors since 1980. The material, which looks and feels like suede, offers several advantages over leather: It is lighter, more durable, easier to care for, and more slip-resistant. Recycled polyester has also been processed since 2020. In a pilot plant, the supplier is testing processes that enable a higher proportion of recycled material. In future, bio-polymers, waste products from the sugar industry, will also be used.

News Mobility

Auto-to-Manual Driving Transition Behavior Evolving: Report

NEWS MOBILITY

MERCEDES IMAGE

The Dekra Road Safety Report 2023 deals in particular with the issue of disengagement: the decoupling from automated driving. "Traffic situations that push the system to its limits and cause the driver to take over manual control represent a particularly critical point in level-3 and -4 vehicle control," says Dekra traffic psychologist Dr. Thomas Wagner. The frequency of such disengagement is already being recorded in California. The Department of Motor Vehicles there has obliged all vehicle manufacturers to submit annual reports in which they must provide information on, among other things, disengagements that have occurred in highly automated (test) vehicles.

According to Dekra, the evaluation of these reports for the period from 2014 to 2019 showed that system-initiated disengagements on the Californian road network decreased with increasing time and experience with automated driving. The researchers attributed this to improved system adaptation, even in complex traffic situations.

At the same time, however, a slight increase in manual disengagements was observed. "This suggests stagnation or a decline in trust in the technology, but could also be due to the fact that drivers develop a better understanding of the system's limitations as they gain more experience in using it," explains Dekra expert Wagner. “Generally speaking, the disengagements were more often triggered by the drivers than by the vehicle system."

According to Wagner, artificial intelligence solutions for typical human characteristics in road traffic are still in their infancy. These include, for example, acting intuitively, accommodating people in partnership, dealing with conflict situations or gesture-based communication between road users. "This obviously disrupts the harmony of the traffic flow and provokes human intervention in automated vehicle control," says Wagner.

In a separate study, scientists from the University of Virginia in Charlottesville (USA) analyzed the data records of the Californian reports together with the available accident statistics and investigated the relationship between disengagements and accidents. A total of 770 disengagements and 124 accidents were included in the analysis. This showed that such maneuvers did not generally lead to an accident. We don’t know the influence of DMS in disengagement.

General News

BMW Bulds Mini Countryman in Leipzig

GENERAL NEWS

BMW IMAGE

BMW has started production of the Mini Countryman at their Leipzig plant; it is the first Mini model to be produced in Germany. The Countryman will be built in line with the BMW 1 and 2 Series models. BMW says they have invested around €700m in the Leipzig plant since 2018 to build the Countryman there. By the end of 2024, 900 new jobs are to be created.

The third generation of the Mini Countryman is available as an all-electric car for the first time. BMW can produce two brands and three drive systems on the production lines in Leipzig: combustion engines, plug-in hybrids, and fully electric vehicles. BMW is using cross-brand production in Leipzig for the first time in the plant network.

The BMW Mini Countryman was produced since at 2014 in Born, Netherlands, in the formerly known as Nedcar plant, today owned by VDL. Production of the electrically powered BMW i3 began at the Leipzig site ten years ago.

India, China, Auto Company Filings Growth

GENERAL NEWS

Asia-Pacific countries such as China and India featured prominently within the filings of the companies throughout Q3-23. Other key countries that also found substantial mentions include the UK, Brazil, and Mexico, reveals the Company Filings Analytics Database of GlobalData.

Misa Singh, Business Fundamentals Analyst at GlobalData, comments: “The mentions of India and China related to industries such as automotive were driven by R&D, demand for EV and collaborations.”

For instance, Ford discussed their plan to turn around and gain traction in China. The company’s internal combustion business is now profitable, and they have also restructured their EV business.

Volkswagen plans to transform both Audi and Volkswagen brands in China. The German automobile manufacturer, in partnership with Xpeng, plans to bring two new models in the upper segment in 2026. They also are in partnership with SAIC in Shanghai for Audi regarding sharing modules, components, and software technologies. Furthermore, Volkswagen also plans to increase their engineering capacities in China.

That’s a few automaker examples, and a similar trend is happening with suppliers, as the Chinese Government no longer requires non-Chinese companies to enter joint ventures with Chinese companies.

Stellantis is getting ready to launch Jeep Direct's online sales in China and is expanding by producing Citroën Ë-C3 and Ë-C3 in India.

Tesla is working on infrastructure and factory design in parallel with the engineering development of new production in Mexico.