mobility THAT matters

PressKit

CES 2023

FORVIA

Inspiring mobility

Table of contents

Table of contents

HOW FORVIA IS PIONEERING technology FOR mobility EXPERIENCES THAT matter TO people

The automotive industry is evolving fast. Electrification, connectivity and customization combined with a desire to move in more sustainable ways are changing the way vehicles are designed and consumers use and enjoy them. In a transforming industry, transformative companies are needed. FORVIA, the 7th largest automotive supplier globally, combines the complementary technology and industrial strengths of FAURECIA and HELLA to shape safe, advanced, customized, and sustainable mobility experiences. One in two vehicles worldwide is equipped with FORVIA technology from six business groups:

SEATING **INTERIORS** **CLEAN MOBILITY**
ELECTRONICS **LIGHTING** **LIFECYCLE SOLUTIONS**

Our new Group aims to be a change maker committed to foreseeing and enabling the mobility transition.

At CES 2023, FORVIA is showing the full scope of its innovation capability with technologies addressing megatrends in Electrification and Energy Management, Safe and Automated Driving, and Personalized Experiences in a Digital and Sustainable Cockpit. Through these, FORVIA will illustrate its commitment to becoming carbon-neutral across all operations and products by 2045.

At FORVIA, we shape the future of mobility, and we invite you see how it is taking shape.

A bold leader in sustainability

FORVIA aims to address future mobility needs with sustainable and innovative solutions that benefit our customers, consumers, and the planet.

Both FAURECIA and HELLA are already acting on many fronts to combine business growth and environmental protection by continuously rethinking their products, materials and architectures, and the way they are produced. In 2022, FORVIA became the first automotive industry company to receive the globally renowned Science Based Target initiatives (SBTi) certification, meaning the company will be carbon net-zero by 2045.

In the meantime, FORVIA is working on concrete intermediate targets, meaning today, 2025, and 2030. The group is actively implementing new architectures and materials into the coming product generations. As another step to achieve net zero by 2045, FORVIA has successfully launched a cross business group division, MATERI'ACT, dedicated specifically to the development of sustainable materials.

At CES 2023, learn how FORVIA is charging ahead with its sustainability ambitions while helping automakers achieve their net-zero goals.

Digital & SUSTAINABLE cockpit EXPERIENCES

Masterpiece Cabin Demonstration “Lumières”: A versatile “Third Place”

FORVIA is one of only a few suppliers mastering an extensive range of solutions from materials, comfort, advanced technologies for customization and intuitive interactions, to zero emissions and new modular business models and can bring this together in the vehicle.

One of our central demonstrators at CES, called “Lumières”, is our vision for a sustainable, digital cockpit designed for safer and smarter driving, as well as for the ways people want to spend their time on the move. It’s a showcase for FORVIA technologies from outside to inside – integrating seating, electronics, interiors, lighting to HMI and driving displays. Aligned with FORVIA’s net zero roadmap, it achieves 45% CO_2 emissions reduction through a combination of lightweight architectures, sustainable materials, and energy optimized electronics. These sustainable materials offering a range of ultra-low and even negative CO_2 emissions are used in door panels, center console and seats as well as our first-to-market green steel for seating structures.

Within our demonstrator, we’ve achieved energy savings through solutions such as radiant panels that introduce heated surfaces into door panels and a center console to improve individual thermal comfort and reduce energy consumed. Additionally, we’ve introduced smart dimming on our cluster display, a power-saving viewing technology that saves up to 30% compared to a traditional HMI.

We've also incorporated numerous lightweight innovations within the cabin including:

- An ultra-slim instrument panel using lighter and sustainable materials which also integrates the steering wheel cushion to reduce vehicle weight.
- Slim Light optimized for dynamic surface illumination with up to 70% savings on lighting weight per vehicle.
- Modular and upgradable cockpit architecture that offers the ability to refurbish, replace and add components facilitating new repair, recycling, and upgrading business models.

We have envisioned our vehicle interior as a Third Place that offers an adaptive premium vehicle interior with an 'at home' environment featuring customized lighting, intuitive interactions and versatility in the rear of the cabin. Innovative interior features of this demonstrator include:

- Turntable seat mechanisms allowing dynamic, reconfigurable seating.
- A multi functional swiveling console transforming from an armrest, to a screen support and to a table.
- Integrated bookshelf, reading lamps, and individualized sound headsets.

We also show how our interior lighting expertise helps create a more immersive and personalized experience for better illumination, orientation, and wellbeing, in day and night settings. Combining the necessary lighting and electronics components in one package, these lighting solutions are designed to be cost-effective, scalable and customized in an unlimited number of colors.

Additional world premières integrated into this demonstrator include:

- Transparent hood with a panoramic camera view at wheel level that enables a wider and more comprehensive perception of the surrounding environment.
- Reactive dimming: an intuitive HMI that adjusts the brightness of display based on gaze detection thanks to Driving Monitoring System camera.
- X-By-Wire technology for both steering and braking which replaces mechanical components in the system with advanced electronic control units for enabling automated driving, customized steering and braking feel and reduced vehicle weight.

All these technologies have been seamlessly integrated with a premium design touch that gives the cabin a home-like feeling. In this way we show the potential of making the Third Place a First Place option for consumers and automakers alike.

X-By-Wire: Streamlined and safe

At CES we are illustrating our advanced technology and streamlined design approach through our innovative by-wire electronic systems.

Steer-By-Wire and Brake-By-Wire banish the inflexible steering columns and clumsy pedals of traditional vehicle cockpits, meeting highest safety requirements. Steer-By-Wire introduces advanced electronic control technology for a smooth and customizable steering wheel feel, ideal for the future autonomous driving experience in electric vehicles. It frees up space for the driver's legs and knees, allows for more flexibility in creating a cleaner cockpit design and helps reduce overall vehicle weight.

FORVIA has integrated the steering wheel hub into the IP structure, simplifying design, assembly, and airbag performance for improved safety.

Making its world premiere at CES, our Brake-By-Wire pedals allow for lighter, sleeker brake pedal design that enables more foot-space and comfort for the driver with a customizable braking feel. Beyond their design advantages, these next-generation systems aim to provide a safe and intelligent driving solution that contributes to building driver trust in future automated and autonomous vehicles.

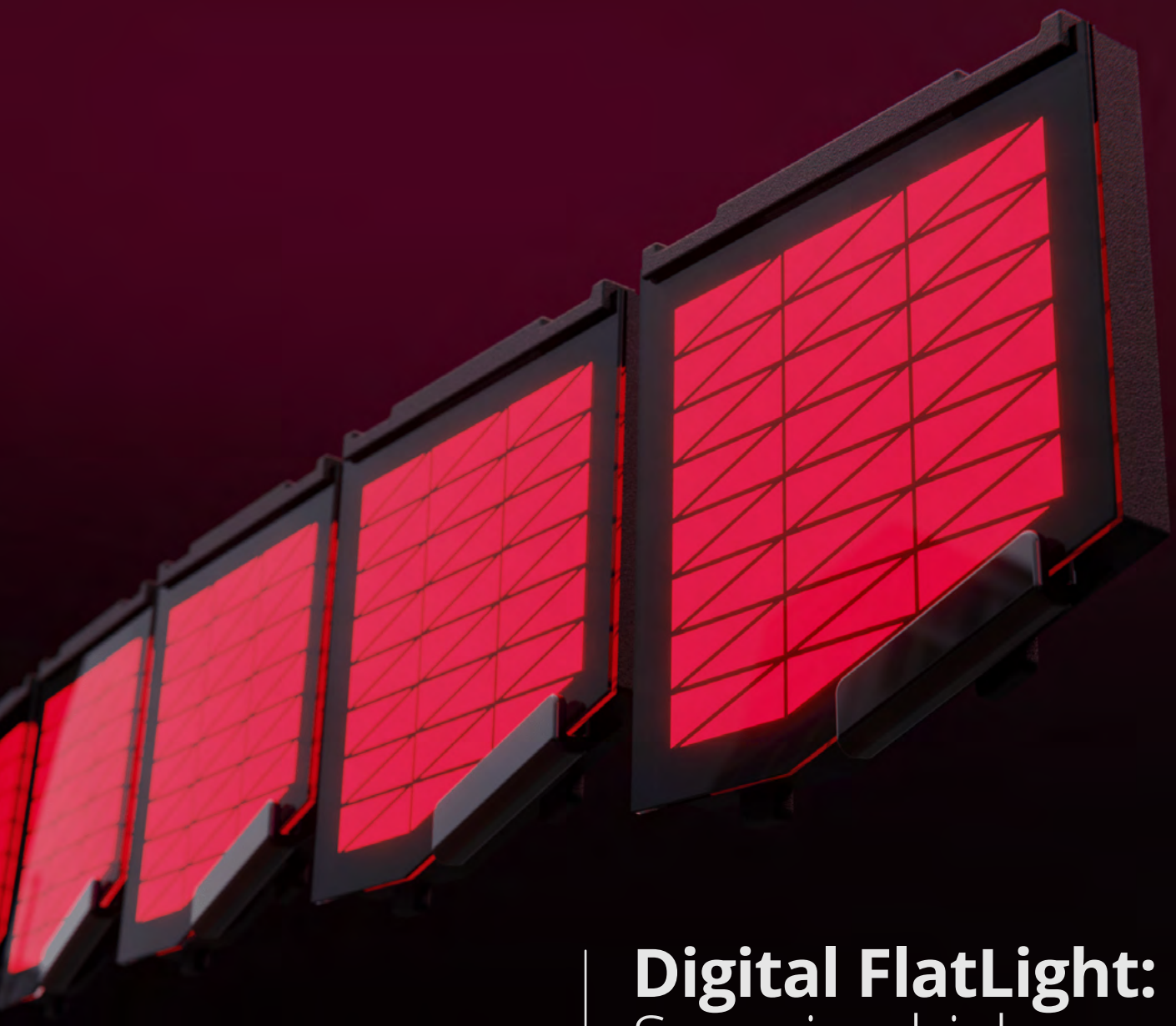
Lighting customization, from outside to inside

Lighting is essential for seeing and being seen - contributing to safe driving, comfort, unique and attractive exterior styling as well as energy savings. By bringing onboard HELLA's expertise in lighting, FORVIA provides dynamic and customizable optical solutions that help address today's key megatrends: energy efficiency, safety, and vehicle branding.

Digital Headlamp System SSL | HD:
Award-winning illumination

Recognized with a CES 2023 Innovation Award, our digital headlamp system is the world's first-to-market high-resolution headlamp based on matrix LED technology with the implementation of new, safety-relevant lighting functions by means of intelligent control of up to 25,000 LEDs per chip.

Our system also reduces the size compared to the previous module generation by up to 75%, which creates new possibilities for integrating headlamps into vehicle architectures, and its patterns and functionalities are generated by software, which allows for over the air updates and new feature implementation over the product's lifetime. With SSL | HD, we can offer additional digital symbol projection opportunities such as vehicle width within a construction zone or driving path illumination. This technology will debut on a soon-to-be announced vehicle within the first quarter of 2023.



Digital FlatLight: Superior, high-efficiency optics

Utilizing 80% less energy consumption of a taillight function, our Digital Flatlight enables customized styling opportunities with a Smart Glass cover with switchable segments that brings digitalization into rearlighting. Only 8 millimeters thick, Digital Flatlight gives automakers increased design flexibility to create unique, signature styling designs for their vehicles and offer opportunities for changing light pattern or dynamic animations including upgradability via software updates.

Front Phygital Shield: Future vision, full integration

Making its world premiere at CES, our Front Phygital Shield (FPS) contains a new foil-manufacturing process and a dynamic polyurethane surface that is self-healing under sunlight. It represents a highly integrated vehicle front module with animated RGB lighting, illuminated Radom, sensorics, and electronics. FPS integrates lighting functions specific for electric vehicles by utilizing the space between the front headlamps that traditionally housed a grille on internal combustion engine vehicles. FPS incorporates multiple LED segments for dynamic surface illumination and provides digital uses cases for individual animations. New functionalities and branding elements can also be included to help automakers differentiate and give their brands signature designs.

Interiors:
Adaptive. Intuitive. Sustainable.

FORVIA is a leading innovator combining sustainable solutions and intuitive interiors that anticipate automaker and user expectations for sustainability, extended life, and advanced experiences. Drawing on FORVIA expertise across technology, manufacturing process and cabin architecture, our latest interiors innovations focus on driver and passenger experiences and how we can make mobility more personalized, intuitive, and enjoyable. Our use of sustainable materials and technology through our new MATERI'ACT brand creates an elegant, vibrant vehicle interior that has minimal environmental impact.

Additionally, we've incorporated **modular interiors and architecture** to improve life cycle management and customization. Through this, we've achieved interior reconfigurability, which is the ability to customize and upgrade functionality, like IP/display and HMI to integrate different size and technologies of displays and renew surface appearance by refurbishing and recycling for vehicle lifecycle management.

We have also developed a unique Center Console (CC) architecture which manages OEM platforms vehicles using a common CC structure. A new Door Panel (DP) concept also allows interchangeable and upgradable armrest which includes different appearance and functions from pure painting to PUR Deco Part and smart surfaces integrated such as touch control panel. The modular interiors includes smart modules interface, allows a scalability approach per OEMs and personalized & upgraded functions according to user needs.

We believe in intelligently designing to make the vehicle interior more 'human' and less tech heavy. From displays, information to controls and lighting, FORVIA creates **smart surfaces** that integrate the technologies controlling key cabin functions across interior parts – from lighting, radiant panels to HMI.

CES attendees will have a chance to interact with our latest instrument panel, door panel, and center console integrations together within our Advanced Design Physical Buck. Sustainable materials and design deliver up to a 70% reduction in CO_2 emissions and lightweight and efficient lighting results in a 30% kWh reduction fostering EV range extension.

Within our Advanced Cockpit Experiences, users will see intuitive interfaces while driving, including:

CID & Cluster content designed to reduce the driver's cognitive load to enhance safety and integrating **Smart light** as dynamic way to communicate and provide warning functions.

For Surface activation, Injected **PC/PUR** technology allows for decoration, display lens and touch panel (in one piece) with effective cost and CO_2 reduction compared to glass.

Thermal comfort featuring large surface lighting and injected radiant panel heating that creates an efficient comfort solution that utilizes 30% less kWh, to improve EV range.

Cockpit of the Future Heat solutions

- Integration of heating solution combined with slim light system.
- Comfort sensation reinforced with dynamic lighting scenario.
- Compatible with large interior surface applications.

IP Airvents

New attractive instrument panel design freedom integrating slim and invisible new concept of airvent. Enhancing interior mood with functional light or animation for different modes.

Sliding armrests and sliding control panels improve accessibility for passengers in resting mode and facilitate cabin versatility for different use cases.

Combined, our sustainable materials and world premiering high-tech lens display create a dynamic, elegant cockpit experience for drivers and passengers alike.

MATERI'ACT

Accelerating sustainable materials development

In October 2022 FORVIA launched MATERI'ACT to accelerate the development of cutting-edge materials with low and ultra-low CO_2 footprint. Our ambition is to achieve 85% CO_2 reduction by 2030 by utilizing a clear path from feedstock to sustainable materials and fostering our cutting-edge technologies with numerous strong industry partnerships. At CES, we're showcasing several material compounds and foil materials ready for commercialization that are configurable for all vehicle segments. A few examples include:

Inicycled – Our new sustainable compound made from 50% recycled content in partnership with Veolia. We demonstrate how Inicycled is used to create high quality surface finishes in wood or stone appearance through our Microject Advanced Patina injection technology.

NAFILean Visible and NFPP Flax are the latest iterations from our award-winning bio-composite ranges. NAFILean is an injection material made from natural hemp fibers and a polypropylene resin offering a 20-25% weight saving vs standard plastic fillers. This new NAFILean Visible solution highlights the natural fibers on the surface in door panels, consoles or seating details.

NFPP Flax introduces an alternative renewable fiber into our range for ultra-lightweight interior parts, with optimal recyclability using a tried-and-tested process to separate fibers from the resin. NFPP, made from 50% renewable materials can make products up 50% lighter and significantly reduce CO_2 footprint.

Ecorium – Innovating for sustainable materials with significantly reduced carbon footprint, Ecorium is an alternative to animal leather that our R&D teams have developed in partnership with TMG, a leader in coating materials for the automotive market. With a multilayer composition made from recycled polyethylene terephthalate (PET) and hemp fibers, Ecorium allows up to 90% lower CO_2 emissions compared to animal leather. Elasticity and high-end touch and feel offer great premium quality and aesthetic appeal. With Ecorium to be installed in vehicles to be launched during the year, FORVIA leads the way in the use of renewable and bio-sourced materials in the car.

Piñayarn, made from sustainable sourced pineapple leaf fibers, is the second 'skin' material co-developed by FORVIA. Made from 60% natural and renewable materials, it offers a premium covering that's 25% lighter and with 98% lower CO_2 emissions than animal leather.

The combined strength of our legacy sustainable materials and MATERI'ACT innovation will strongly contribute to FORVIA's ambition to reach net zero emissions and be CO_2 neutral in its products, while supporting automaker objectives and end-user desire for more sustainable vehicles and materials.

Modular Seat for the Planet: Circularity by design

With its new Modular Seat for the Planet, FORVIA is continuing its innovative seating design approach that is completely rethinking seats from frame to foam, covers and accessories. Focused on comfort and sustainability, we are reducing the carbon footprint of seating inspired by circularity: streamlining design to use less material; choosing sustainable materials that are recyclable, recycled or bio-sourced (including fossil-free steel); avoiding mixed materials to simplify recycling; and making seats easier to assemble and disassemble in less than 5 minutes. Our second-generation Seat for the Planet offers 55% lower CO_2 emissions than a current seat, 40% of recycled content and is 100% recyclable.

This innovation provides additional benefits both for consumers and circular economy: slimline design offers more flexibility and roominess in the cabin and a range of affordable accessories to upgrade easily seat content. By taking a modular architecture, we can offer refurbishment of seating elements which will support longer lifecycles and stimulate new recycling and repair activities.

A good example of the sustainable approach of our Modular Seat for the Planet is a next-generation material called Auraloop, intended to replace polyurethane foam currently used in car seat. Our teams have been jointly developing Auraloop with Indorama Ventures, one of the global leaders in polyethylene terephthalate production and recycling. This brand-new range of cushioning solutions made from an innovative structure of polyester-based fibers, 100% recyclable, also offers a range of new perspectives in terms of seating comfort thanks to a more open fiber structure and permeability for air compared to current seating pad solutions.

From more efficient use of resources: use less, use better, to more sustainable material content, a more lightweight architecture, Modular Seat for the Planet extends product lifecycle.

Modular Seat for Me: Modular, upgradable experiences for an extended life

We have devised a seating architecture that allows us to create a variety of seat models from the same manufacturing platform – reducing complexity in number of parts from 120 to 10, but maintaining diversity of seating designs and models, opening up a new era for business opportunities.

This seat architecture is one response to the challenges most automakers face: extended vehicle life combined with the need for increased in-vehicle comfort. Both of these trends will require giving car owners the option to upgrade certain seating features to extend vehicle life as well as for personalized wellbeing experiences throughout the life of the vehicle.

One example of the comfort solutions that can be integrated into our modular seat is the ASANA Coach. This solution uses a combination of an All-in-One seat sensor linked to seat activations to identify potential backpain and activate countermeasures through massages, haptic vibrations, seat position readjustments and sound effects to the headrest. Our smart algorithm has been designed with cognitive and sport scientists with the aim of helping users feel better at the end of their journey. With its seat sensors and connected activations, this solution can also meet the need for safety-required features like driver monitoring and occupant detection.

Digital Mobility Experience: Human-driven digital cockpit

Safety & immersion

Ability to create an immersive (ie pillar to pillar) display experience that's more flexible (and less expensive) by combining standard HD screen with LED panels. Design freedom, and opportunity to integrate solutions for different use case such as safety. Reactive dimming: use combination of gaze-based driver monitoring linked to eMirror sensor data. Detecting where driver is looking to either dim eMirror screen (to avoid distraction) or brighten the image, to improve safety understanding of surrounding environment.

Digital continuity & sustainability

We feature a plug and display concept which separates content from device with a screen integrated into the back of the front seat. Users can plug in any device via a USB port, like they do on home TV screens. This solution draws on the unique combination of FORVIA's seating, electronics and display expertise.

Cockpit Services Provider

FORVIA's latest digital and connected solutions position it as a premier cockpit services provider to automakers with offerings including:

- Our Aptoide apps market, the leading white label store directly customizable by automakers. Currently, seven automakers are contracted to utilize Aptoide in 17 million cars forecasted by 2025. Aptoide provides a unique ecosystem with more than 250 apps within its portfolio.
- Aggregator of news, games, and location-based service, including seamless payment.

Additional new customizable cockpit services include interior lighting configuration, smart dimming and cloud-based automated parking.

Green HDR:
Easy on the eyes, easy on the environment

Building on our award-winning Perceptual Display Platform technology, our Green HDR enables intuitive display screen clarity while utilizing less energy, making it an ideal solution for electric vehicle manufacturers looking for battery optimization methods. Green HDR establishes an advanced display featuring image enhancement processing, reduction in the number of LEDs, energy saving algorithms, 20-30% hardware cost savings, 30% increased perceived contrast in darkness and brightness, and optimized architecture software on available chipsets.

Safe & AUTOMATED driving

Automated Driving Demonstrator: Building trust in safety-critical technology

As the level of automated driving increases, people need to gain trust in handing over control to the vehicle. A leader in safety critical technology, FORVIA is supporting automakers to reassure users of the safety in handing over control from human to vehicle with the key elements that ensure that people are transported safely, as well as that other road users are protected. At CES 2023 we present our core technologies for automated driving:

- Radar and camera expertise
- Interior monitoring
- Fail-operational by-wire technology

FORVIA offers a range of technologies – including radar, camera and ultrawide band (UWB) - for required safety features such as child presence detection and driver distraction and drowsiness monitoring and improved perception. Explore with us how FORVIA technologies are ensuring maximum safety in assisted driving features, securing the way for future autonomous journeys and enhancing comfort and convenience through automated remote parking systems.

360°
Exterior view

A core feature of our demonstrator is a dynamic 360° exterior view. To achieve a 360° view of a constantly evolving context you need the right combination of long range and near field sensing around the vehicle. From a wide portfolio of proven sensor technologies, FORVIA brings a new high performance, cost-effective radar and camera solution. This is coupled with sensor fusion algorithms to provide a seamless environment perception. Our solutions enable the vehicle to continuously and precisely detect stationary objects or road boundaries and dynamically track moving elements such as pedestrians, bikes or cars, ideal for driving or parking assist.

- Our latest generation 77 GHz corner radar uses an innovative waveguide antenna and latest chip technology to provide an increased field of view, extended distance recognition and greater precision in close proximity.
- A short to mid-range surround view camera to effectively detects road users and infrastructure to a distance of 30m.
- AI-driven system to provide 360° mid-range sensing to protect the vehicle and passengers against potential external impact.

eMirrors and Smart Dimming: Forward thinking

The latest generation of our eMIrror replaces a rearview mirror with exterior sensors coupled with algorithms to enhance the display image in various weather and lighting conditions. This eMirror also features reactive dimming, a gaze-based intuitive HMI that combines data from the eMirror and interior camera and sensors to automatically enhance or adjust the driver display to reduce cognitive load, driver distraction and fatigue.

Environmental Sensors: Good visibility in bad weather

Clear vision for sensors and cameras is essential for automated and autonomous vehicles. FORVIA's latest generations of environmental sensors ensure high precision data enabling vehicles to safely evaluate road and weather conditions and adapt driving accordingly.

- Grip and braking distance are strongly impacted by road conditions, road type and tire status. Our unique SHAKE Road Condition Sensor is capable of accurately differentiating and calculating the amount of water or grit on the road. This current and precise road-condition data will enable vehicles to activate driver alerts or to directly adapt driving dynamics in real time to the actual state of the road for safer and more comfortable automated driving.
- Our latest generation of Rain Light Sensor Gen 5.0 better detects rain type and drop size in addition to its normal functions such as light, sun load, head up display, and humidity sensing to activate onboard functions such as wipers, headlight control, display brightness adjustment and windshield defogging and to act as possible redundant source of information for autonomous vehicles.

Smart Presence Detection: Accessible innovation

Based on our first-to-market ultra-wide band (UWB) Smart Car Access technology, our latest smart software algorithms enable additional safety features including intrusion detection, child presence detection and occupancy detection. For child presence detection e.g., the algorithm detects amongst others, slightest chest movements of a baby or animal even if hidden under a blanket and sends notifications to the linked mobile phone in case of any potential risk or danger. These additional functionalities allow for substitution of other sensors and therefore save cost and weight that would otherwise occur on top.

ELECTRIFICATION & Energy MANAGEMENT

Zero Emissions: Multiple powertrains. One solutions provider.

Climate change affects everyone on our planet. Reducing emissions and improving air quality have been at the heart of FORVIA innovation for over 20 years as we now accelerate towards zero emissions mobility. We are supporting automakers on their electrification journey, with solutions for electric, hydrogen, and hybrid powertrains across passenger cars, commercial vehicles, stationary, and industrial applications.

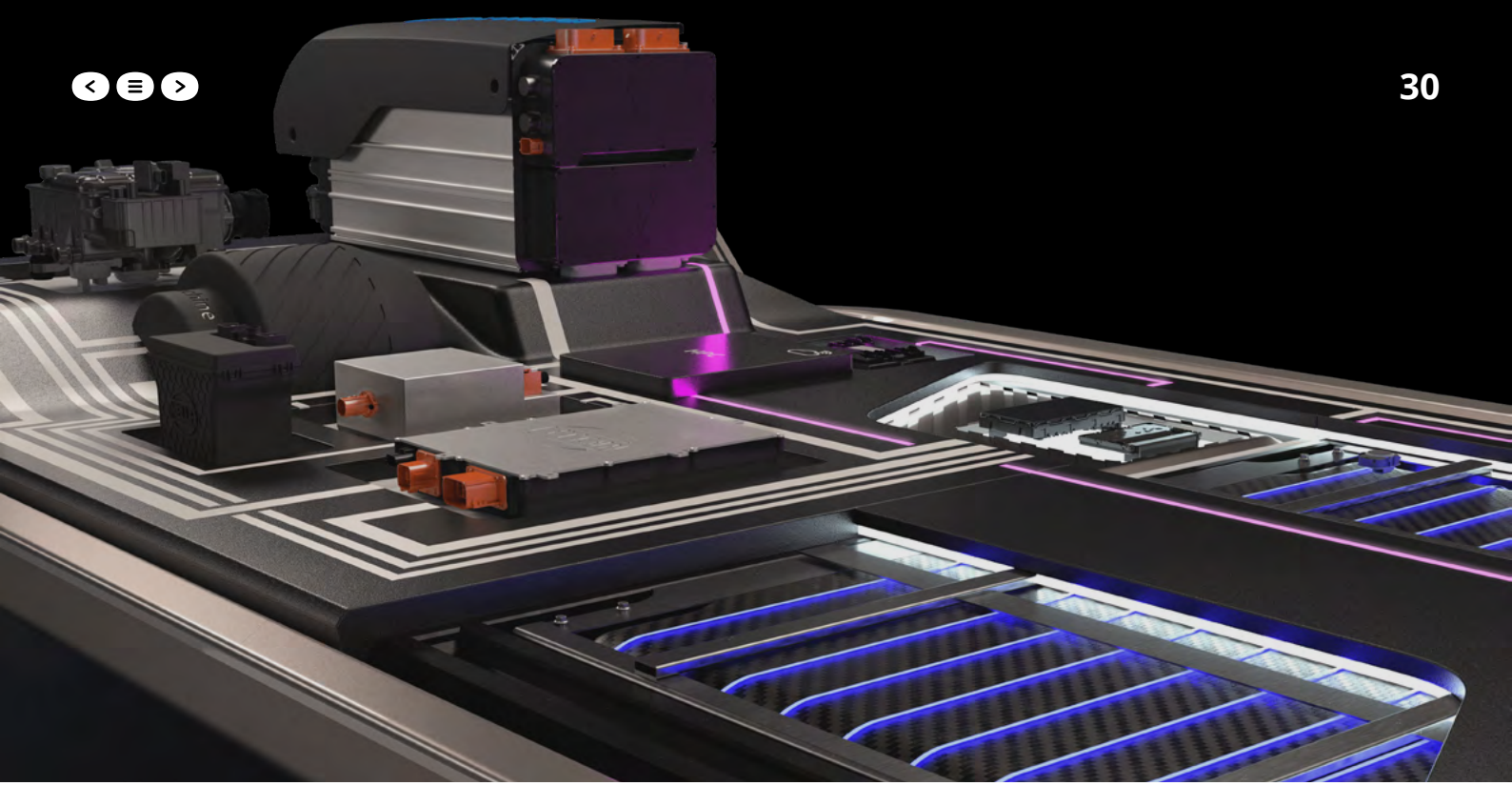
Given the different requirements of users and the uncertainty of raw materials supply for electric vehicle batteries, different types of new energy vehicle types will replace the ICE together.

Hydrogen is an important energy of the future and a key enabler for decarbonizing mobility. At CES 2023, FORVIA presents its full range of technologies for battery electric vehicles, fuel cell electric vehicles, energy and thermal management and electrical/electronic architecture (E/E architecture).

It demonstrates the key benefits for vehicle design and people's future mobility experiences:

- Higher range, with flexible, fast refueling
- Optimized cabin space and cargo volume
- Improved powertrain efficiency and performance
- Safe and sustainable operational solutions for energy management
- Simplified, compact E/E architecture

Using an electric vehicle (EV) skateboard platform, FORVIA will demonstrate for the first time how its latest fuel cell system capabilities, high voltage EV components and scalable zonal architecture fit within a single chassis to support FCEV, EV, and Hybrid powertrain architectures.



Conformable State-of-the Art Hydrogen Storage System:
Safe. Smart. Sustainable.

As one of the industry pioneers in the development of hydrogen storage systems, FORVIA presents an innovative next-generation vision to provide automotive manufacturers with the opportunity to offer a versatile electric vehicle platform capable of integrating electrification solutions: batteries or fuel cells. Key features of our new system include:

- An innovative prismatic composite structure that offers up to 50% more storage capacity and therefore, greater autonomy compared to cylindrical tanks.
- A compact underfloor design that meets electric vehicle packaging requirements.
- Designed for easier recycling and reduced environmental impact.
- Connected sensors for safety monitoring.

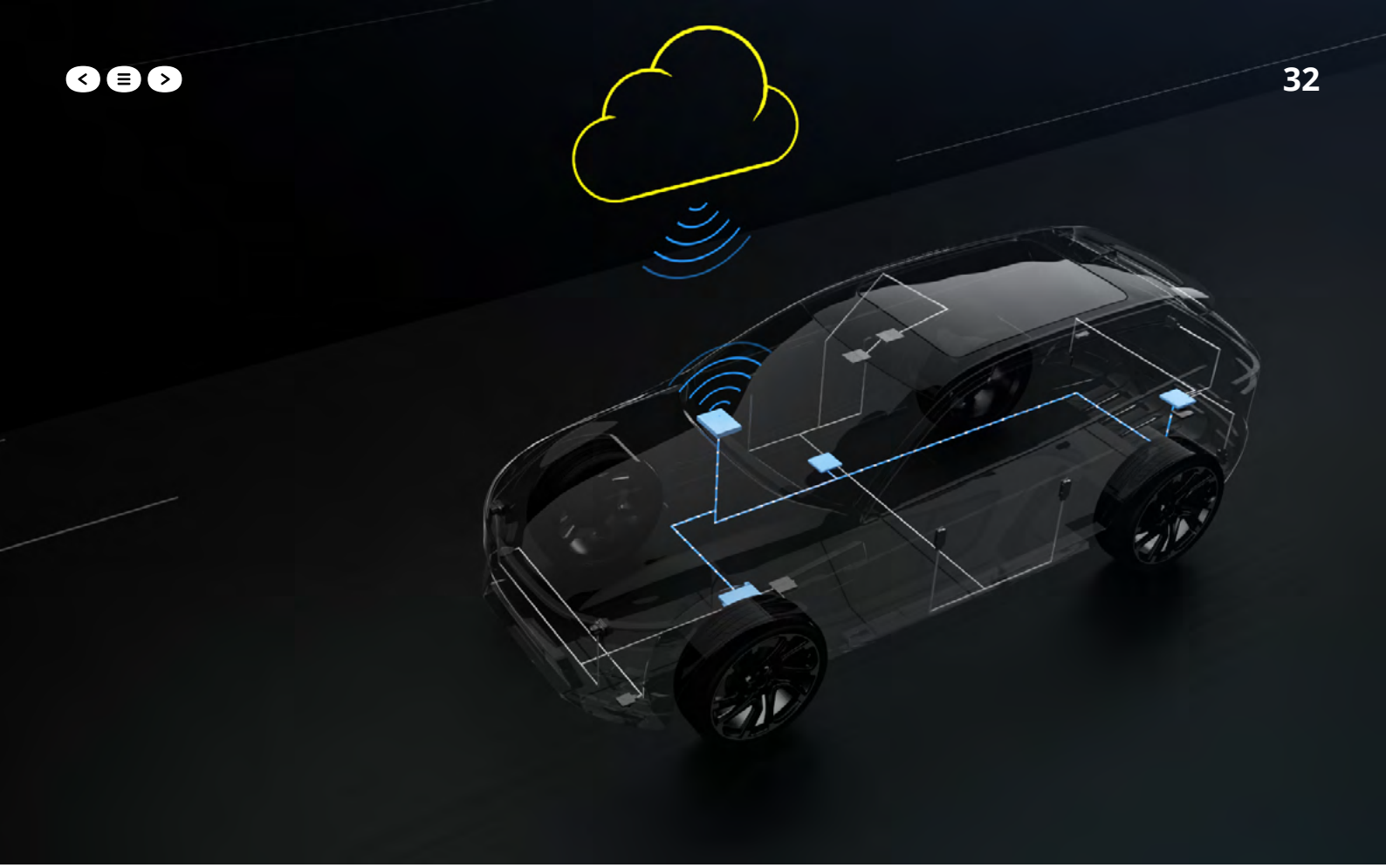
Additionally, our next generation fuel cell stack from Symbio (a FAURECIA and Michelin joint venture) features:

- Over 30 years of combined system engineering experience and 4 million kilometers road-testing has enabled Symbio to optimize the size, weight, power, and energy efficiency of fuel cell stacks, as well as their integration into vehicle architecture.
- H2motive range covering all power and durability needs: stack and multi stack systems from 40kW to 300kW, engineered with the associated power management systems, electronic control units, cooling, air and hydrogen loops that generate and control the electrical power.

High Voltage EV Energy & Thermal Management Technologies:
Experience and ingenuity

With more than 15 years of experience in electrification and market leadership in intelligent battery sensors as well as 48V DC/DC converters, HELLA brings a growing portfolio of electronic components supporting the power, energy and thermal management requirements of electric vehicles into FORVIA. These technologies are all designed to maximize efficiency and reduce size, complexity and cost.

- High voltage battery management system – a modular and scalable solution to manage the safe and reliable function of Lithium-Ion batteries in hybrid and electric vehicles.
- High density onboard charger – For faster charging and smart vehicle-to-grid features at 15% lower weight and 20% lower volume than conventional onboard chargers.
- 12V Lithium-Ion battery – a lightweight replacement for lead-acid batteries for 48V and full electric vehicles, occupying 50% less space than a conventional battery.
- High voltage DC/DC converter – innovative and highly efficient design minimizing packaging and weight for a wide input voltage range from 400 and 800V.
- Coolant control hub - innovative thermal management subsystem that revolutionizes thermal management as it connects up to three cooling and heating circuits for battery, power electronics and electric machines as well as the cabin circuit. As a result, significant material and energy savings can be achieved.
- Electronic lid actuator – smart actuator controlled by gesture, managing the automated or manual charging flap of electric vehicles. A lid-up function additionally ensures increased safety during charging even when it rains.



Zonal Modules: Scalable, service-oriented architectures

Based on 25 years in complex body control module development and its broad know-how across all domains, FORVIA has accumulated significant experience in electronic control module development, efficient power and data management, managing real-time data feeds and highly safety-relevant functions such as steering, braking and energy management. With this expertise, FORVIA takes the step into future E/E architectures: Zonal modules are situated between sensors, actuators, control units and the central HPC (High Performance Computer) to pre-process and distribute information within a geographic zone and to relieve centralized high-power computing. They integrate and reduce the number of discrete components and wiring in a vehicle, thus reducing weight and complexity.

FORVIA's zonal modules are built with seamless connectivity and to the highest safety levels. We are one of the first Tier 1 suppliers to implement secure ethernet connectivity for real-time updating and upgradeability. In addition, we showcase the market's first integrated electronic fuse (eFuse) which ensures fail-operational power supply (up to ASIL D safety standards) for automated driving functions. eFuses replace traditional melting fuses with software algorithms that detect deviations from normal power flow. Potential risks and safety hazards are identified already during onset and mitigation actions can be started to restore safe energy flow: devices with such an ability are operating in a self-healing mode.

Comfortable Compact Seat Structure: Accelerate electrification

FORVIA builds on its market leadership in seating and seat structures to debut our Comfortable Compact Structure, an innovative design for front seat platform enabling improved battery packaging, making it an ideal solution for automakers looking to improve battery storage configurations within electric and hydrogen vehicles. This new frame architecture will offer up to 40km additional range.

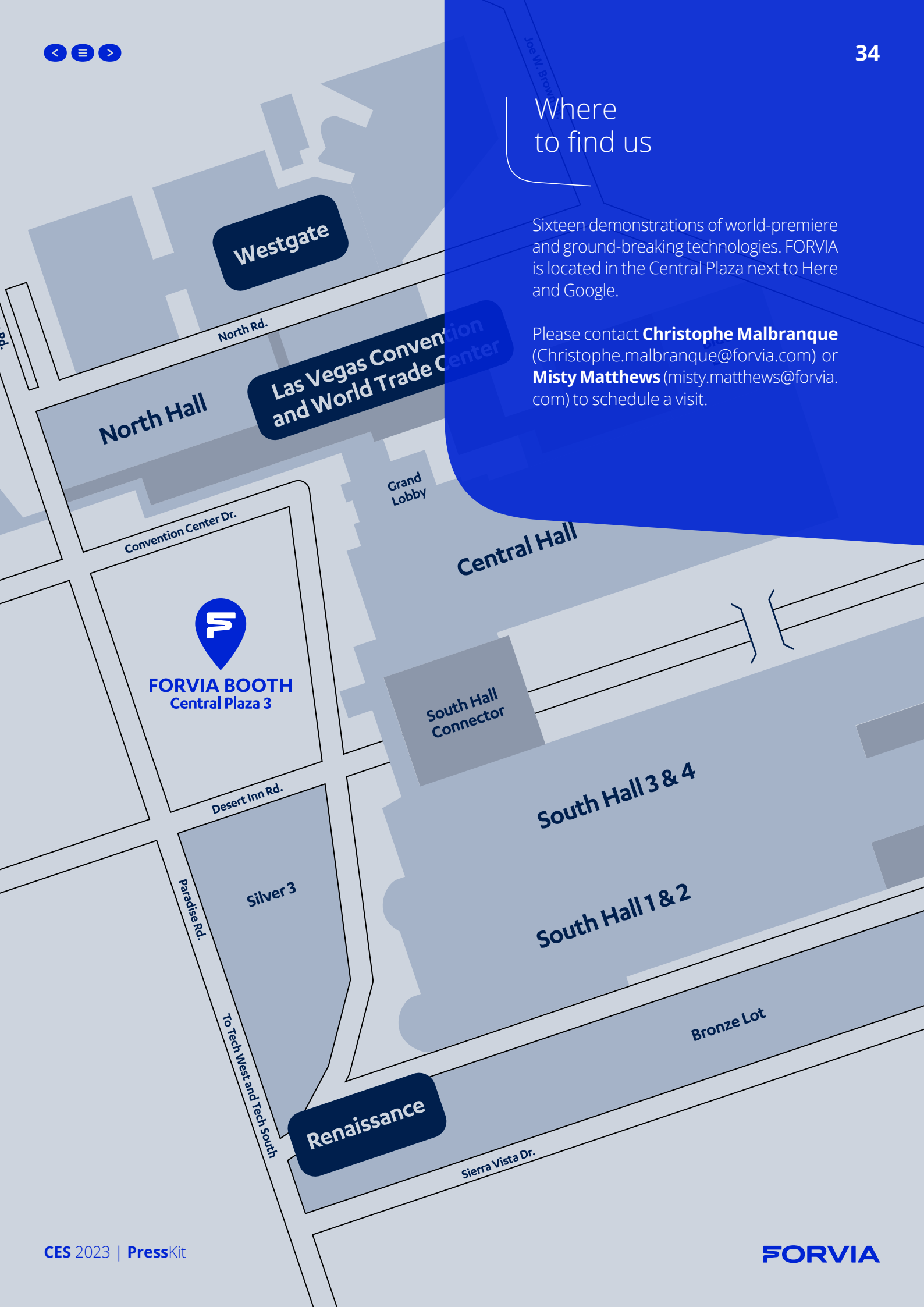
FORVIA's new structure is compact and engineered for global vehicle platforms with standard components. Its design around new packaging constraints increases by 50% rear passengers foot room and cabin versatility. Its new compact cushion creates a more comfortable relaxation experience for passengers, and its silent smart actuators are connected for a more smooth and higher speed adjustment motion, making Comfortable Compact Structure also ready for autonomous driving use cases. Its sustainable - up to 80% lower CO_2 emissions - and streamlined design includes frames and backrests made from 'green' steel.

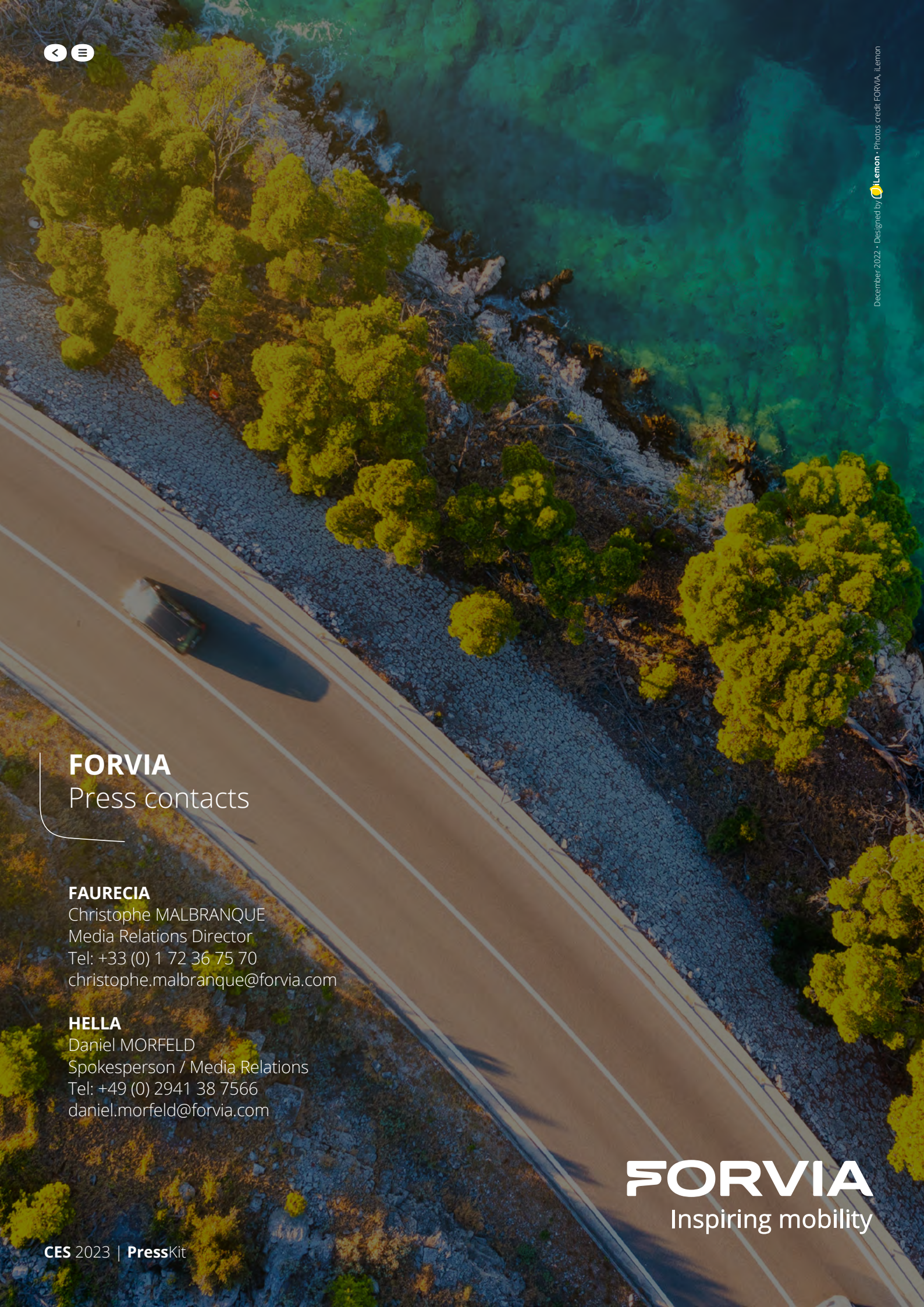
This innovation truly brings together FORVIA's expertise in cockpit design to deliver a creative, value-added solution to electric vehicle manufacturers.

Where to find us

Sixteen demonstrations of world-premiere and ground-breaking technologies. FORVIA is located in the Central Plaza next to Here and Google.

Please contact **Christophe Malbranque** (Christophe.malbranque@forvia.com) or **Misty Matthews** (misty.matthews@forvia.com) to schedule a visit.





December 2022 • Designed by iLemon • Photos credit FORVIA, iLemon

FORVIA
Press contacts

FAURECIA
Christophe MALBRANQUE
Media Relations Director
Tel: +33 (0) 1 72 36 75 70
christophe.malbranque@forvia.com

HELLA
Daniel MORFELD
Spokesperson / Media Relations
Tel: +49 (0) 2941 38 7566
daniel.morfeld@forvia.com

FORVIA
Inspiring mobility