

# Press kit

IAA MOBILITY 2021

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## Faurecia @ IAA

Major megatrends have long been shaping our world and technology disruptions are beginning to shift the center of gravity in the automotive world. For Faurecia, one of the world's leading automotive technology companies, this means **changing the way we think and design vehicle technologies** in line with the Group's commitment to become CO<sub>2</sub> neutral. By focusing on key trends, such as electrification and human-centric design, an environmentally driven industry to vehicle automation, we aim to address future mobility needs with safe, affordable and sustainable solutions that benefit our customers, consumers and the planet.

On the road towards a CO<sub>2</sub> neutral mobility, **Faurecia will showcase its latest innovations for a sustainable cockpit and zero emission mobility at the IAA at booth B70 in Hall A1.**

Customers, partners and media will discover how Faurecia innovates to reduce the CO<sub>2</sub> footprint of its products by using sustainable materials and processes plus designing to extend product life and recyclability. Faurecia will also be demonstrating our ultra-low emissions technologies and new hydrogen solutions to support the transition to Zero emission mobility.

# CO<sub>2</sub> Neutral: an ambitious but realistic roadmap

Faurecia has an ambitious goal to reduce its controlled CO<sub>2</sub> emissions by 50% until 2030, rethinking the way we develop, procure, manufacture, distribute and dispose of products and moving towards a more circular economy. Our roadmap for CO<sub>2</sub> neutrality has **3 steps** and has been approved by the Science Based Targets Initiative:

**By 2025** become CO<sub>2</sub> neutral in our production, by investing in energy-efficiency projects including digitizing our energy systems in plants, equipping sites to produce renewable electricity as well as purchasing green electricity produced offsite.

**By 2030** we reduce the CO<sub>2</sub> emissions, of our controlled scope 3 (all except "use of products") by over 40% including purchased goods and services. We will achieve this through working with our suppliers for low-carbon raw materials, reducing our transport impacts, as well as redesigning products or proposing more sustainable alternatives.

**By 2050** we aim to be CO<sub>2</sub> neutral for total emissions including the use phase of our products.



## Eco-design and circular economy

The environment is the starting point to inspire ways to improve our carbon footprint across production and logistics, as well as eco-design to extend vehicle life through **refurbishing, retrofitting and upgrading**.

We focus innovation efforts on developing new technologies to strengthen circular economy - from high performance materials, separation and sorting to more efficient recycling and upcycling of materials. One example of end-of-life product recyclability is the European multi-brand repair service provided by Faurecia Clarion Electronics.

By repairing and replacing electronics components - including monitors, infotainment, engine and body control units and instrument panels - **Faurecia can reduce product carbon footprint by up to 85%, cut waste by 90% as well as reducing consumption of new resources by up to 80%** versus replacing with a new part. Faurecia is currently the only Tier 1 supplier offering aftersales services and repairs for over 20 automakers' products.



## Solutions for a sustainable cockpit

Our vision for the Cockpit of the Future has always focused on enhancing individual onboard experiences.

We're now embracing the challenge of designing safer, more comfortable, and personalized experiences with all the digital convenience people expect on the move with sustainability in mind.

To reduce the CO<sub>2</sub> footprint of products in line with our CO<sub>2</sub> neutral ambition, Faurecia is committed to developing and including more sustainable materials **(recycled, recyclable and/or bio-sourced, fossil-free steel)** in our products and extend the life of materials.



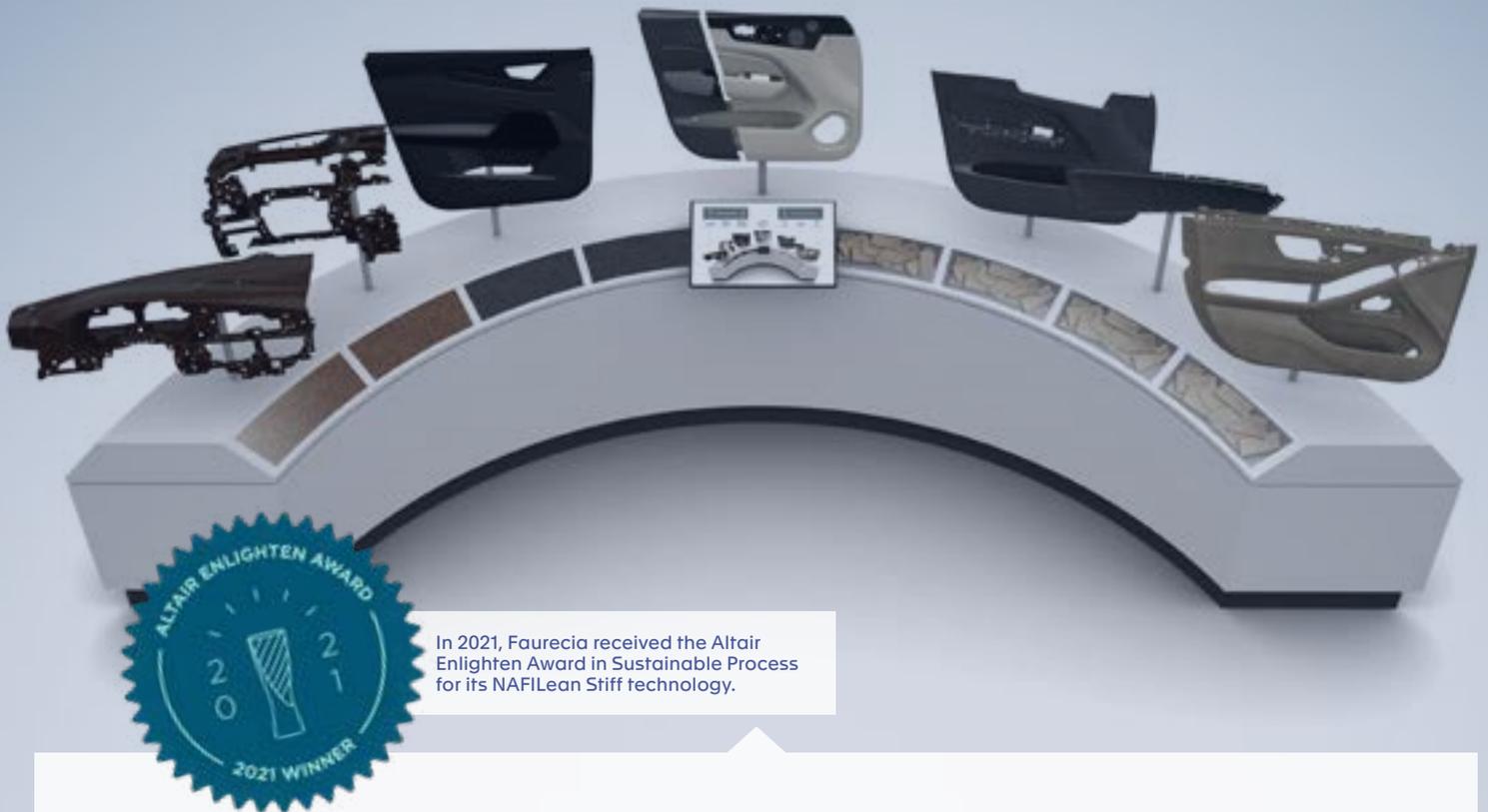
## Interior for the Planet

Faurecia has been the market leader in sustainable vehicle interiors since the 1980s, supporting some 40 programs from different carmakers across the globe thanks to pioneering techniques in injection and compression molding.

By 2030 we aim to reduce the CO<sub>2</sub> footprint of the materials we use **by 87%**, in particular through expanding and improving our NAFILean® and NFPP bio-composite solutions used for structural parts such as instrument panels and door panels. The NAFILean® range demonstrates Faurecia's sustainable end-to-end management – from locally sourced biomaterials, eco-design to energy conscious production and recycling.

Faurecia has worked for several years with an agricultural cooperative in France's Burgundy region to produce the hemp fibers used in NAFILean®.

The range has grown from one product in 2011 to four today allowing us **to make products 25% lighter and save nearly 30% in CO<sub>2</sub> emissions.**



In 2021, Faurecia received the Altair Enlighten Award in Sustainable Process for its NAFILean Stiff technology.

Since 2003, the biofiber composite NFPP has been one of Faurecia's most lightweight and sustainable solutions, **bringing weight reduction of up to 50% on structural parts.**

Faurecia is now working on CO<sub>2</sub> negative emissions products (CO<sub>2</sub> reduction of up to 107%) which use biomass and up to 100% recycled plastic polymers, as well as rCF NFPP, the lightest solution on the market which expands the range of functional applications that can be integrated into parts, thanks to a layer of 100% recycled carbon fiber.

At IAA, we showcase the fibers we use, our bio-composite ranges and some of the interior parts they are used to create, including with surfaces that highlight sustainable and natural materials.

We also share our vision of how we can innovate to create **tomorrow's low-emission interior.**

Our multi-layer solution demonstrates Faurecia's technology integration expertise. It can combine lighting, thermal elements, surface sensors, controls and trim within one lightweight structure, with up to **40%** weight saving vs a covered ABS door panel insert.

It's an example of sustainability and design flexibility – giving OEMS more freedom to seamlessly integrate and personalize cockpit functions and features such as radiant panels in the door for individual thermal comfort and energy saving.



## Seat for the Planet

Faurecia's Seat for the Planet innovation program takes a complete seat approach – from frame, to the foam, covers and accessories – in redesigning to reduce seating's carbon footprint, guided by three principles.

**1 Using sustainable materials** (natural, recycled or recyclable, fossil-free steel) with lower CO<sub>2</sub> emissions. Sustainable materials developed by Faurecia include Ecorium Sense – a new bio-based alternative to leather with premium touch and grain, seat foams made from recycled, recyclable and bio-sourced materials and low carbon textiles using recycled PET.

**2 Using less, avoiding mixed materials, and reducing waste in manufacturing.** By using only as much material as necessary, designers have reduced the seat backrest's width and textile surfaces, and optimized strength with less steel, by combining with semi-structural foam.

**3 Designing for easy assembly and disassembly.** A typical car seat includes a range of different materials. By reducing the complexity in parts and types of materials through its sustainable seat architecture, Faurecia is aiming to make it easier to facilitate recycling and encourage reconditioning and refurbishing.

The first generation of complete seat solutions incorporating such features **offer up to 15% weight savings and 70% reduction in a emissions** compared with conventional seats. This brings additional benefits for the vehicle: overall weight reduction improves driving range and slimline design offers more flexibility and roominess in the cabin, all without sacrificing Faurecia's priorities: comfort and safety.

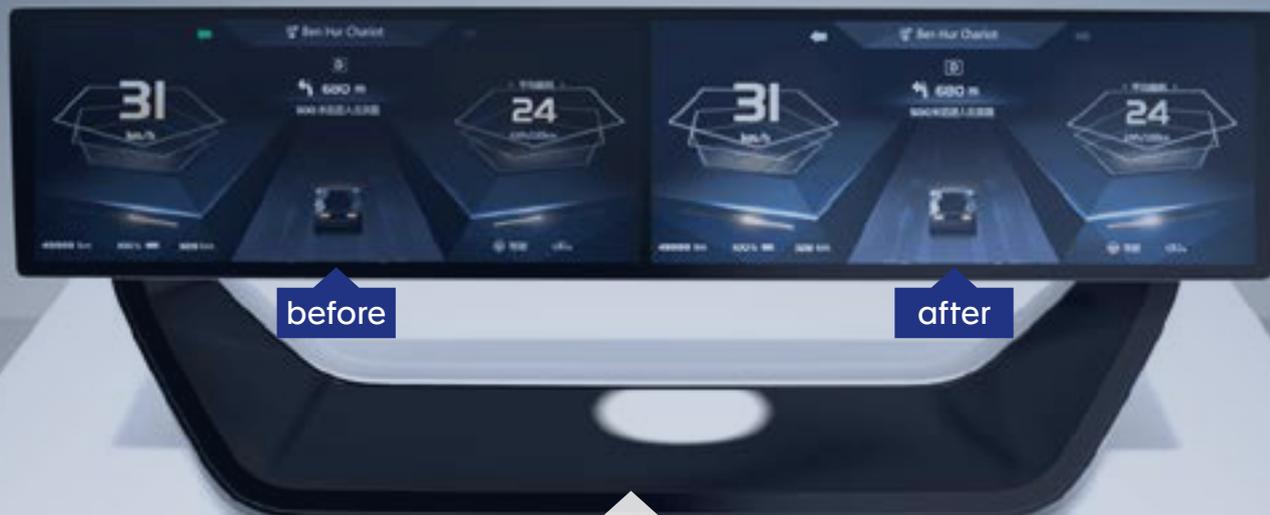
# Modular seating

Designing seating to be modular and to extend product life and usage is also another sustainable focus, for the benefit of automakers and car owners.

Faurecia is rethinking the way it produces seats with the dual aim of reducing complexity with fewer parts but maintaining the diversity of seating designs and models for different OEM brands.

**Our aim: offer versatility in different seating elements (head-rest, bolster, cushions, valances); ensure optimal Just-in-Time efficiency, adapting to customer demands; and extend product life, for example through a new business model of upgrading, refurbishing or refitting seating features.**





## Energy savings technologies

Today's vehicles integrate increasing numbers of electronics, cameras, sensors and displays. Faurecia has been finding ways to save energy in onboard technology, an important factor to optimize the range and autonomy of electric cars.

**IRYStec** software integrated in Faurecia's displays enhances visibility at the same time as saving energy. It personalizes the display according to the driver's vision and ambient light giving a safer and more comfortable user experience at a lower cost. This gives up to **30% better perceived brightness and contrast** as well as **up to 30% energy efficiency savings and reduced thermal heating**.

Faurecia's **e-mirror** range replaces the conventional exterior wing mirror with a compact, intelligent, and lightweight sensor designed to ensure safer driving conditions as well as improve fuel economy. It brings into the cabin better visibility of the surrounding environment thanks to IRYStec processing for difficult weather conditions like rain, fog, or glare. Combining sensor images with situational analysis software, Faurecia's e-mirror detects and alerts about blind spots, lane-keeping and nearby vehicles, bicycles, pedestrians, or obstacles, as well as better visibility to help with parking. E-mirrors bring significant weight reduction and fuel savings for commercial vehicles. Even for a typical SUV, compared to an external door mirror, an e-mirror reduces aerodynamic drag by 2.6%. Drag accounts for 30% of energy consumption in combined city/highway driving and 60% in highway driving. **The e-mirror also reduces fuel consumption by up to 1.6%, representing 2-4.6g/km less CO<sub>2</sub>, and can extend battery range for BEV or FCEV by up to 2%.**





## Zero emission hydrogen solutions & low emissions technologies

Societal and political pressure to reduce automotive emissions has never been higher. Anticipating stringent new regulations and increasing demand for electrified vehicles, we've made sustainable mobility a strategic priority. Faurecia supports all market segments from passenger vehicles to commercial vehicles and industry with efficient aftertreatment solutions and zero emission fuel cell and battery technologies. At IAA we showcase three different aspects of Faurecia's innovation and integration expertise.

Hydrogen mobility is rapidly gaining momentum and Faurecia is at the heart of a growing ecosystem of partners supporting its industrialization and adoption at scale. **We cover 75% of the hydrogen powertrain with hydrogen storage systems, as well as fuel cell stack systems** through Symbio, our joint venture with Michelin. Faurecia has a roadmap to develop hydrogen solutions adapted to different use cases in passenger cars, commercial vehicles, logistics, industries and beyond over the coming decade.

## Hydrogen powered light commercial vehicles

Fuel cell technology is particularly suited to the intensive use of light commercial vehicles which need a longer driving range and faster refueling to minimize downtime. Manufacturers and operators of light commercial fleets are beginning to value the advantages and different configurations of fuel cell electric vehicles which vary from a range extender to a full fuel cell power system. Hydrogen fuel cell vehicles offer key benefits such as **zero CO<sub>2</sub> or pollutant emissions, flexibility, short refueling time, greater autonomy, payload capacity and reduced total cost of ownership for this application.**

We are showing our expertise in optimizing the system architecture and integration of tanks and stack systems in a light commercial vehicle chassis. In a solution that has been adopted by Stellantis for its fleets of Peugeot, Citroën and Opel vans, Faurecia has designed a dual power solution



that fits into the same packaging as a full electric battery configuration. This makes it easier and more cost-effective for manufacturers who can use the same manufacturing platform for fitting vehicles.

Drawing on four years' R&D focus on optimizing the safety, reliability and storage capacity of tanks, our systems **maximize the amount of hydrogen stored (120 liters) to provide a 400km range for hydrogen powered vehicles, in a best-in-class weight/performance ratio.**

Symbio has developed for these Stellantis fleets a compact, low-weight fuel cell system delivering 45kW gross power. This system provides optimized power output for this mid-power architecture and has been designed for an easy integration.

With the first Stellantis vehicles on the road before the end of this year and thousands to follow in 2022, this represents the first light commercial hydrogen mobility system at scale, proving Faurecia's capability as a full systems provider.



### **Sustainable tank (re-useable and recyclable)**

In developing our next generation tanks, we're innovating for a more durable, sustainable, and longer life product. We aim to improve the environmental footprint of our hydrogen storage systems through Faurecia's **'use less, use better, use longer'** principles.

Three key areas of focus help us optimize tank design without compromising performance or safety - so we use less carbon fiber, we reduce our CO<sub>2</sub> footprint in terms of sourcing and manufacturing, and we will make tanks fully recyclable.

The lifetime of a heavy-duty truck can be limited to 10 years, whereas Faurecia tanks are homologated for up to 20 years use. Using embedded sensors to monitor the health and durability of our tanks, we can begin to explore ways to give a second life to our products. Within our hydrogen ecosystem we are actively researching options to take back and reuse the tank and its materials.

## Ultra-Low emissions technologies

Driven by stricter emissions regulations enforcement like Euro 7 or local incentives like urban Low Emission Zones, the technical challenge for the future aftertreatment systems is to provide a full compliance with ultra-low emissions in all driving conditions.



As part of its focus on ultra-low emissions, Faurecia developed the **Electrically Heated Catalyst (EHC)** for gasoline and diesel applications addressing the fact that **80%** of the emissions on real drive conditions come from cold start.



The EHC is activated in low-temperature phases, and uses electric energy transformed into thermal energy to heat exhaust gases and the ceramic catalyst cells using proprietary technology with very low thermal inertia. The EHC is enabling catalyst cells to reach their full efficiency temperature in the shortest time (less than 10 seconds).

For gasoline engines, this temperature is around 400°C and, in such conditions, **up to 95% of the pollutants can be converted.** By bringing the catalyst temperature faster to this level, the EHC developed by Faurecia **reduces the emissions at cold start by 85% in Real Driving Emissions (RDE) conditions.**

## Quiet ICE vehicle

Faurecia has also developed many innovative acoustic solutions which minimize the size of the exhaust system. These innovations are a

**key enabler to Plug-in Hybrid Electric Vehicles (PHEV) architectures** that need to regain underbody space to allow large battery packs.

We are proudly presenting the **Advanced PHEV Exhaust Architecture** without a Rear Silencer, which is a unique combination of the latest technologies in a system approach **engineered by our proprietary Smart Acoustic Performance optimization methodology.**

This exhaust line is already compliant with 2024 Noise Regulation and allows a **30% volume reduction** for increased trunk and battery space and features 2 key innovations: The Pace Award Winning Resonance Free Pipe (micro-perforated patches) and the Electric Actuated Valve EAV positioned in the intermediate pipe. Equipped as well with an EHC, this exhaust line enables the clean and quiet PHEV vehicle.



# Faurecia Key figures:



**€14.7BN**

SALES IN 2020



**266**

SITES WORLDWIDE



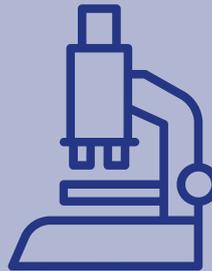
**114 000**

EMPLOYEES



**103**

NATIONALITIES IN  
35 COUNTRIES



**39**

R&D CENTERS



**€1.187BN**

GROSS R&D  
EXPENDITURE



**1 in 3**

VEHICLES WORLDWIDE  
INCLUDES A FAURENCIA  
TECHNOLOGY



**€607M**

THREE YEARS  
CUMULATED INNOVATION  
2018-2020



**€1.1BN**

INVESTMENT 2021-2025  
IN SUSTAINABLE  
TECHNOLOGIES

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