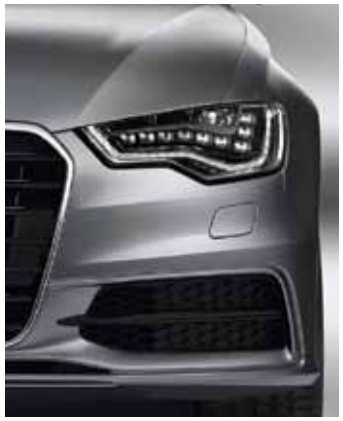
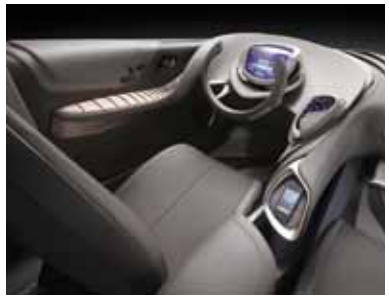
faurecia

Technical perfection, automotive passion

A touch more...





2011 LA Auto Show

Press Kit

A touch more from Faurecia

For the new generation of automotive design and performance, Faurecia is offering consumers a touch more technique and technology.

Just as fashion designers transfer touches of haute couture to their ready-to-wear lines, Faurecia brings premium touches to standard vehicles. Faurecia innovation also has created seats that move with you as you position yourself behind the wheel to climb hills and round corners.

Other surprises from Faurecia add a touch more to the driving experience as well. Decorative trim elements turn out to be functional switches and buttons. Instrument clusters are replaced by an infoskin. Second-row passengers enjoy the same kind of instrument-panel environment as those in the front seats. Faurecia combines style with a touch more safety for pedestrians and shapes lightweight flexibility to create new types of efficient emissions control systems for electric hybrids and diesels.

This year at the LA Auto Show, consumers will be able to touch more Faurecia-fashioned innovations than ever before. To see them now, just touch www.FaureciaLAAutoshow.com.

Faurecia at the 2011 LA Auto Show. A touch more...

Table of Contents

faurecia

Seats that move with you.

Innovation always begins with a question—how can we improve a product, what changes should be pursued, where can upgrades be applied? Faurecia Automotive Seating innovations begin with the question, why?

Why can't the seats automatically adjust themselves to the body and movements of individual occupants?

Why can't seats look down the highway and anticipate how drivers will need to change their posture to handle the next driving challenge?

Why can't seats be as sleek and attractive as instrument panels? For that matter, why can't passengers in the second row have an instrument panel of their own?

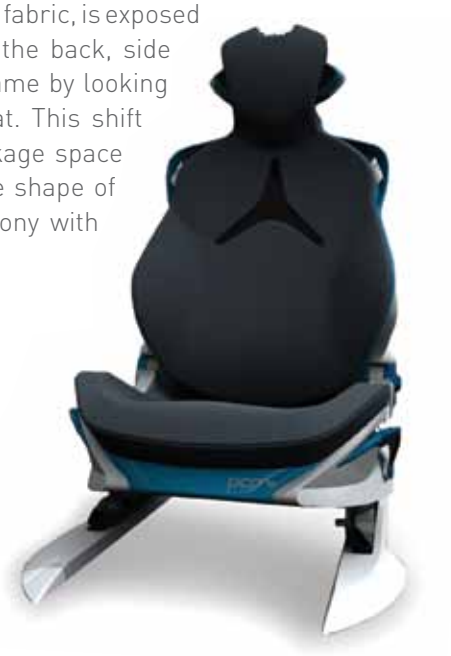
Why do seats need to be bulky and heavy, with foam padding in areas that no one ever touches when riding in the vehicle?

Faurecia has answered each of these questions with entirely new concepts that offer a touch more in technology to transform the seat into a dynamic, customized element of the riding experience. No longer does the seat just sit there. With Faurecia innovation, the seat of the future will support the driver in new ways, entertain passengers and lighten the environmental footprint of cars and trucks across the globe.

The Faurecia Performance Seat

Faurecia has built a touch more upon its design of a composite backrest for seats to create a new kind of high-performance seat for smaller and midmarket vehicles that offers light-weighting, comfort and attractive design in a very different style. The look, feel and materials of the Performance Seat draw on approaches used in sportswear and fashion to create a contemporary, high-tech appearance. The Performance Seat is also 30 percent thinner than conventional seats and weighs 20 percent less.

At the core of the Faurecia Performance Seat are a composite backrest, developed in conjunction with BASF, and a plastic cushion module. Together, they form the seat's framework. This structural section is made from specially formulated nylon, continuous glass-fiber reinforcement and a metal recliner adapter that are combined through an injection molding process. The structure, rather than being covered and hidden by heavy foam and fabric, is exposed to view. Occupants can see the back, side and even the front of this frame by looking through openings in the seat. This shift in architecture reduces package space and weight by optimizing the shape of the structure to be in harmony with the shape of the occupant.



The plastic cushion module represents a new application of composites to seating. Similar to the backrest in composition, the module introduces plastics as a way to reduce the weight and packaging volume of what traditionally has been a metal seat frame, as well as to integrate components more easily into the seat. Faurecia has developed the plastic cushion module in partnership with Rhodia.

While the use of composites for the seat's framework represents a significant advancement, perhaps the most important comfort-related innovation in the Performance Seat is its compliant shell. This shell, which is fitted in front of the backrest frame, conforms to the varying posture, body size and body types of drivers and passengers by changing as the occupant moves. It dynamically and automatically assumes a shape that matches the occupant's body, providing greater pressure distribution than standard seats do. When the occupant moves, the shell changes shape to give increased support to the lumbar area, upper shoulders and pelvis, all in a synchronized fashion. The occupant's passive touch, therefore, provides more active support, comfort and safety.

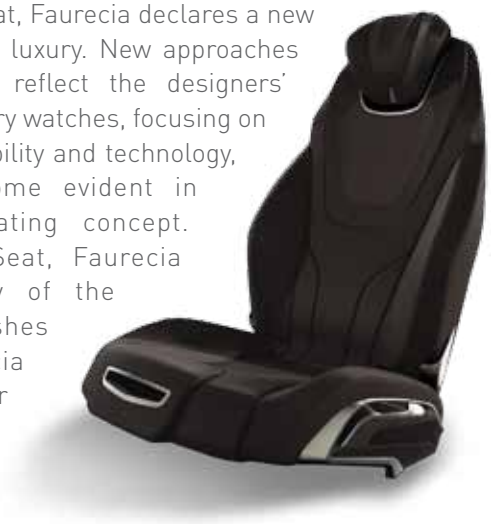
The compliant shell is automatic and adjustment-free. This concept replaces 75 percent of the foam that normally would be used to pad the seatback, dramatically reducing the seat's weight, and offering an exceptional technological advancement for modest vehicles. The Performance Seat's complete dynamic system is a first in the auto industry.

Both the backrest and the plastic cushion module of the Performance Seat are covered in a thin pad of foam and fabric, and the way that the fabric is combined with the foam is another Faurecia innovation. Using a technology called cover carving, Faurecia bonds the fabric to the foam, enabling creation of unique shapes and concavities that are difficult to create with conventional trimming methods. The foam pad in the backrest, with its bonded fabric cover, is as thin as 15 mm. The cover and foam install directly to the compliant shell, snapping on with retainers.

As a result of this design, no foam or trim is wasted. The bonded fabric and foam are used only in areas where the occupant's body contacts the seat; the remainder of the seat simply exposes the composite structure. Conventional seats add weight with foam and coverings over the front, back and sides as a way of hiding the framework. The Performance Seat shows off its framework as an attractive architectural element.

The Faurecia Premium Seat

With its Premium Seat, Faurecia declares a new aesthetic for seating luxury. New approaches to surface finishes reflect the designers' inspiration from luxury watches, focusing on flawless detail, reliability and technology, touches that become evident in this advanced seating concept. In the Premium Seat, Faurecia incorporates many of the same surface finishes developed by Faurecia Interior Systems for use on premium instrument panels and doors.



Like the Performance Seat, the Premium Seat uses the composite backrest. Because it is an injection-molded element, the backrest allows for many distinctive components to be integrated into it. For example, a full infotainment system is attached via molded-in features located on the upper back panel, which makes the screen an integral part of the seat instead of a device that looks like a bulky aftermarket system that was bolted onto the seat. Passengers view the screen through a nicely contoured lens, much like that on a premium instrument cluster. In similar fashion, the ventilation system for the rear compartment can be integrated into the seat.

This capability to integrate a variety of components into the seat back allows Faurecia to create an instrument panel-like environment for passengers in the second row that provides more style, more touch and more control. For the first time, these passengers have access to a high level of content without adding package volume, keeping weight low while maintaining a first-row level of comfort.

Luxury is also expressed in a number of additional ways in the Premium Seat. Ligneos, a real wood veneer used by Faurecia Interior Systems to provide a natural look to doors and instrument panels, is incorporated and clearly visible in the back of the Premium Seat. The seat also uses many types of decorative metal finishes, real metal veneers and leather. Piano black finishes, like those often found on consumer electronics, add a sleek touch, as do an array of LED lighting sources that create a welcoming ambiance for second-row occupants. LED lighting washes over the decorative finishes, and its color can be adjusted by vehicle owners to coordinate with the rest of the interior—which itself can shift hues.

Exceptional comfort is built into the Premium Seat with Faurecia's extensive portfolio of pneumatic adjustments, complementing mechanical systems that offer as many as 22 separate comfort settings, including a cushion-length adjustment for a touch more comfort. Pneumatic bladders in the seat change shape to furnish lumbar support, lateral support adjustability and a massage function.

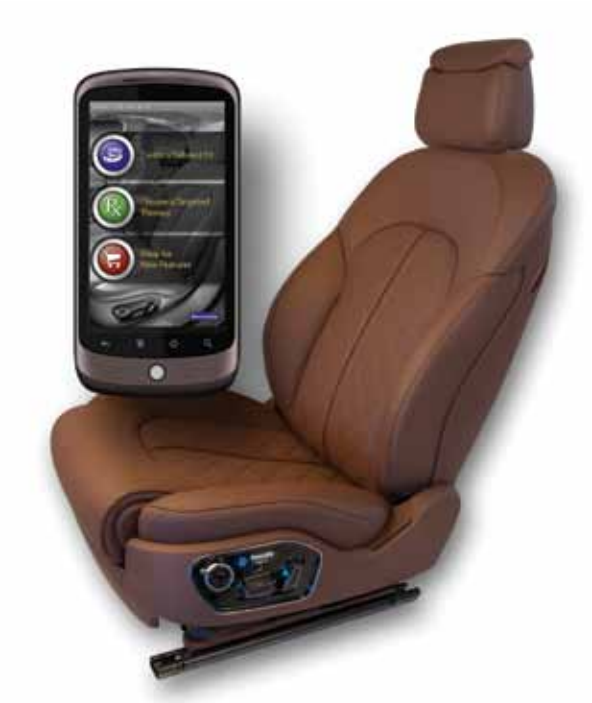
The surface of the seat is constructed with flat seams, producing a more luxurious look and comfortable feel than with raised seams. This technique makes very efficient use of material, wasting less of the trim cover than traditional processes. Moreover, the seats are made with perforated leather that allows the transmission of cooling and heating through the seat's surfaces.

The Premium Seat employs cover carving, with leather covering the composite back, and bridges the gap between the backrest and the cushion of the seat, producing a surface that curls from backrest to cushion for seamless comfort.

SmartFit™ 2.0

Over the past year, Faurecia has continued to develop its SmartFit™ automated seating adjustment application. SmartFit™ uses a smartphone to take your picture and guides you through an easy-to-follow process for creating a tailored fit for your body.

Based on the acclaimed Audi A8 premium seat, SmartFit™ 2.0 adds a touch more, building on the SmartFit™ platform to add two new downloadable applications. At the LA Auto Show, visitors have a chance to experience SmartFit™ and offer feedback that will be incorporated in the full development of these new applications.



GPSFit

The first app, called GPSFit, combines the information from the original SmartFit™ "fitting" with the road type, vehicle speed and other environmental conditions to dynamically and predictively adjust the occupant's posture to ensure the best possible driving experience.

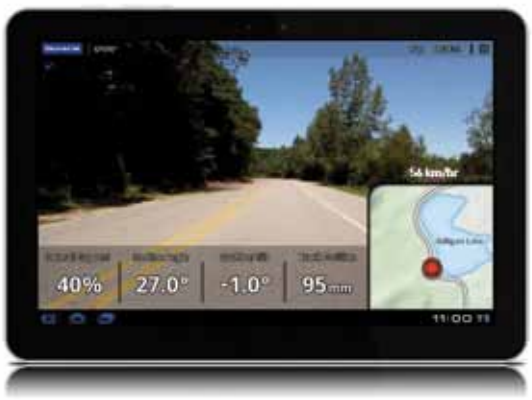
GPSFit pulls speed and road data from the vehicle's GPS, determining whether the vehicle is on an Interstate or a country road, for example. With GPS and the smartphone's own apps, the system can determine if traffic issues are imminent, if a weather alert has been issued and other factors that will impact driving conditions down the road. GPSFit then influences the seat fit and posture settings to be more appropriate for the changing nature of the task at hand. If, for example, a driver is moving down a highway in a relaxed posture, then exits to a busy local road, the seat will automatically change to a more alert posture, while the owner is still driving, keeping hands and feet in appropriate contact with pedals and the wheel.

If the driver is about to enter a series of turns, the seat can change to furnish a more performance-oriented posture, the backrest angle can adjust to offer a better point of view, and the cushion angle can shift to provide better support during braking and lateral support adjustment to properly hold the driver in the seat.

MicroFit

The second new SmartFit™ app is called MicroFit. This innovation adds intelligence to the seat's pneumatic system, providing an additional level of comfort and support not possible through the gross movement of the seat alone. While SmartFit™ initially adjusts cushion height, backrest height, reclining position and tracking, MicroFit uses the pneumatic system to read the pressure levels of the occupant's body on the seat surface. Based on those pressures, from sensors on five bladders in the backrest and two in the seat cushion, MicroFit automatically balances the pneumatic system, giving a touch more support to areas where too little pressure exists or relief where too much pressure is indicated.

Visitors to the LA Auto Show will be able to go through a fitting and then use a tablet PC equipped with MicroFit to show a schematic drawing of the seat and the various zones being measured. A color coding system shows measurements as green, red or out of range. MicroFit can operate continuously to move all systems into a predetermined optimal pressure setting. When the driver or passenger moves, the seat will compensate for that movement, dynamically and constantly changing the seat profile. Alternatively, the occupant can order a momentary adjustment instead of continuous changes.



Prêt-à-Porter with premium style.

For the LA Auto Show, Faurecia Interior Systems is demonstrating brand-new ways to add more luxury and sophistication to standard vehicles by applying fashionable touches usually found only in upscale interiors. With a touch more style and functional beauty, Faurecia's new interiors are designed to meet the consumer's increasing desire for comfort, well-being, connectivity, lightweight materials and personalized technology.

Faurecia's Prêt-à-Porter Interior Systems demonstrator—which includes the instrument panel, console, driver's door and flooring—shows how premium materials and advanced design can be applied to any level of vehicle and how decoration can serve a functional purpose. Much as affordable Prêt-à-Porter (ready-to-wear) fashions often reflect elements of haute couture, Faurecia's innovations in this demonstrator can bring high-end, affordably designed, fashionable materials and features to mass-produced vehicles for the mainstream consumer.

The demonstrator incorporates seven important areas of development:

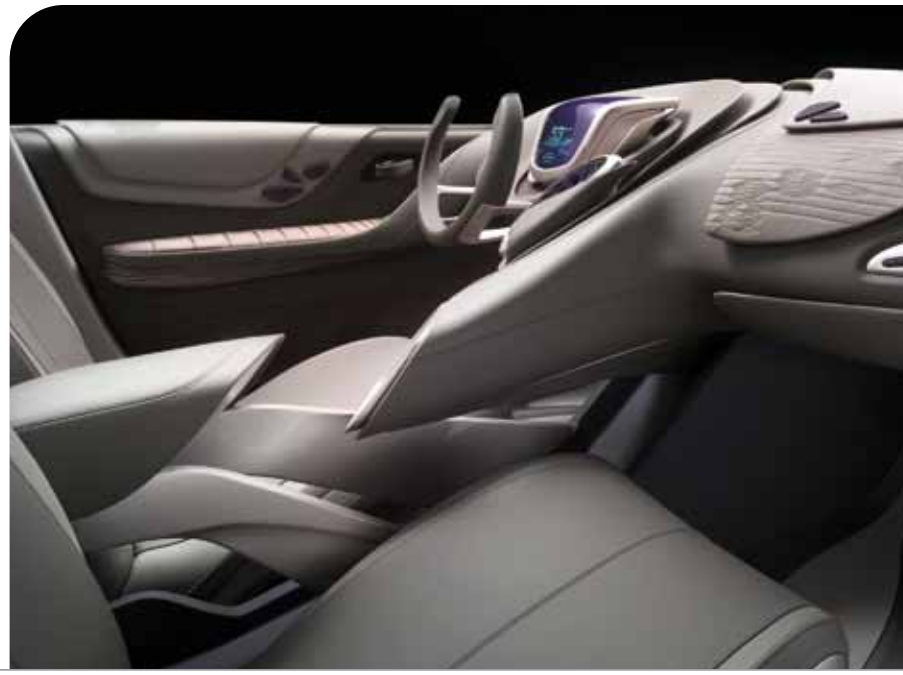
- Premium materials and decorations
- Cut-and-sew solutions
- Embedded human-machine interface (HMI)
- Smartphone integration with wireless charging
- Seamlessly integrated ventilation
- Comfort and wellness features
- Light and visible structure

Premium materials and decorations

Every aspect of the Interior Systems demonstrator uses authentic materials: real woods, leathers, aluminum and quality textiles, applying these premium materials in a smart fashion to give consumers value inside the vehicle in the locations where they want it most.

The skins and trim that mark high-end comfort and luxury are gently transferred to highly affordable interiors. Both the A and B surfaces receive the haute couture treatment, in the same way that the lining of a suit or purse may be just as elegant and well-crafted as the outside surface. In conventional vehicles, the B side of surface materials is usually hidden behind layers or covers; but with Faurecia's Prêt-à-Porter, every facet of the interior can be touched or seen, and each projects the quality of premium materials.

Faurecia has fashioned a new concept for decorations across the interior. Instead of applying decorative trim around or over a functional unit, such as an air vent, the vent itself becomes a decoration–or a decoration serves as a vent. In this way, Faurecia combines the function of a part with the decoration of that part, creating one element rather than two, while both saving weight and producing a sleek new look. Similarly, on the door panel, where rivets holding the panel layers together once were simply covered by vinyl, Faurecia uses small, jewel-like decorative pieces as buttons in their place.

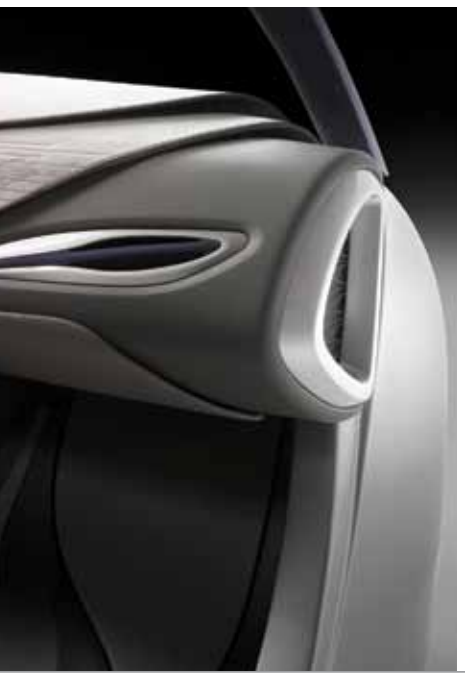


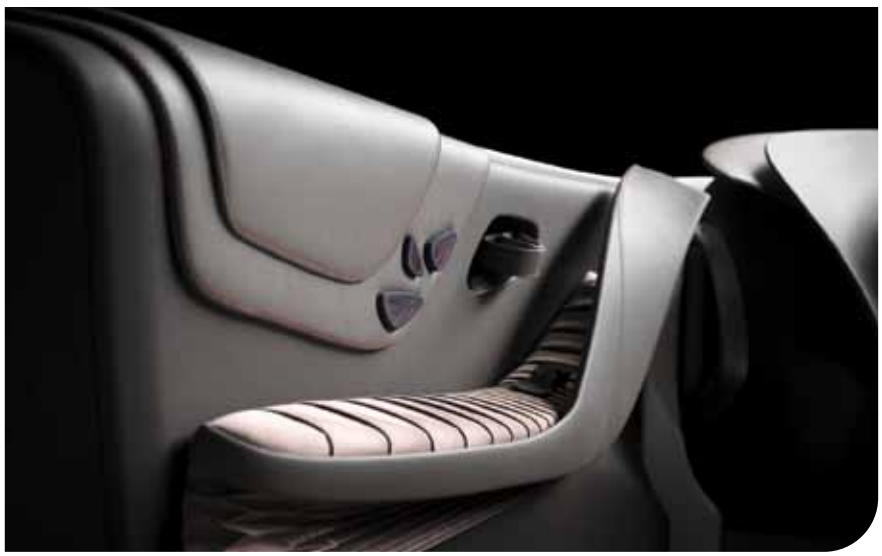
Instead of adding spotlights or a lighting pipe to illuminate the floor area, the Prêt-à-Porter demonstrator chooses to bring lighting through the surface of the instrument panel material, placing the lighting source behind the surface, again to highlight materials, improve perceived quality and combine the lighting functions and surface into one attractive system.

Cut-and-sew solutions

Faurecia is North America's industry leader in cut-and-sew quality, with expertise transferred from work on luxury vehicles in both Europe and the United States. Now that expertise is being applied across vehicle lines. Faurecia's Prêt-à-Porter dictates that both the A and B surfaces of all materials used in the vehicle materials should reflect the highest quality, because materials should not be used merely to cover up components. Rather, they should be integral to the interior's design. Selection of materials should be based on the occupant's behavior and need for comfort and connecting, not solely on the function of the module to which it is applied. Design in this instance, then, becomes a matter of combining the right module structure with the right materials.

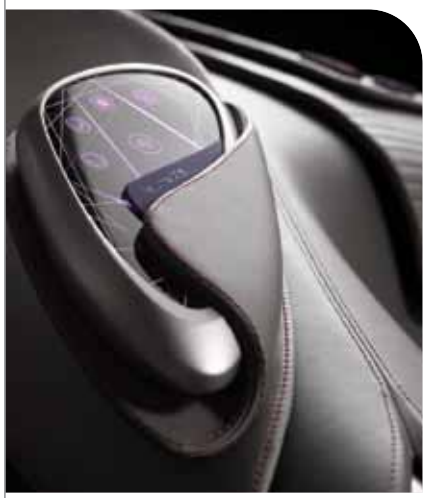
The Interior Systems demonstrator shows how the A and B sides of fabric can be treated separately for specific purposes while maintaining their premium quality. In the same way that the vehicle's owner might change a shirt or a dress, depending on the occasion, the vehicle's interior, with its foldable layers, can communicate a particular style or theme. Additionally, the behavior of the material itself is crucial to the styling. For instance, an interior could be composed of skins with leather on the A side and various fabrics on the B side. Interiors can even be made culture-specific by changing the decoration of an air vent or the color of a fabric. As original-equipment manufacturers expand their global offerings, a single platform can be rolled out in a fashion that addresses regional differences with different paint, skins, decorations and trims.





Embedded human-machine interface (HMI)

The Interior Systems demonstrator is equipped with an innovative "infoskin", a display rear-projected onto a layer integrated into the steering wheel. On the infoskin screen, the driver can view information related to the vehicle's status, including speed, navigation data and infotainment system controls, and the airbag can be built into the unit behind the infoskin screen.



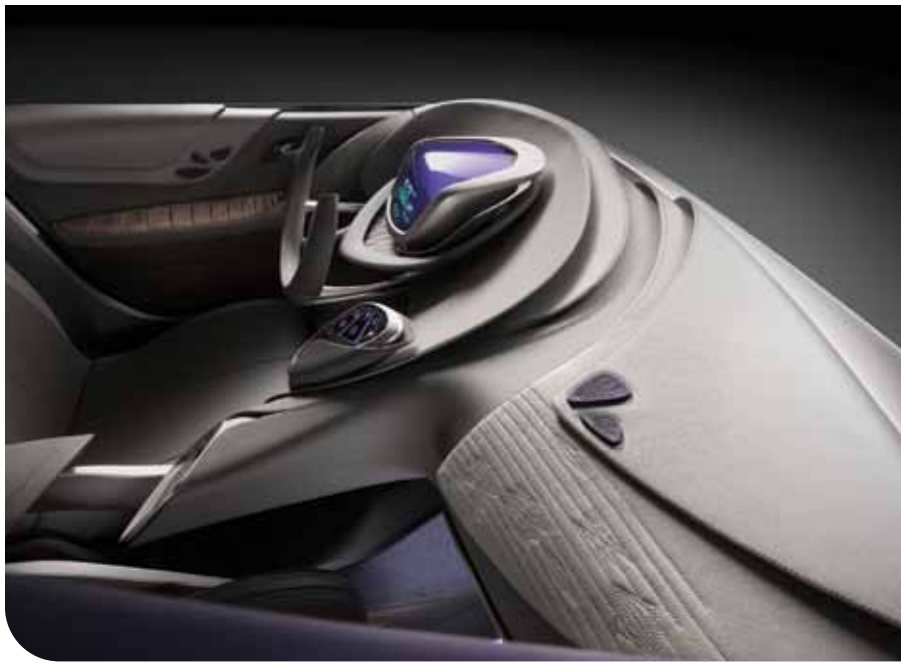
Replacing the instrument cluster, an interactive decorated surface with backlighting is integrated into the center console and forms a stylized screen set in a high-gloss black finish. Backlit icons on the screen serve as switches that perform a number of functions:

- Comfort—adjusts the ambient lighting and displays such features as temperature, humidity and playlists
- Navigation—uses the owner's smartphone, avoiding the need for a separate vehicle GPS, and displays GPS information on the driver's infoskin
- Entertainment—with a center-console Smart Dock, music from the smartphone—as well as phone conversations—can be played through the vehicle's speaker system

Therefore, with a touch of personalization, the driver and the front-seat passenger each has a separate infoskin device.

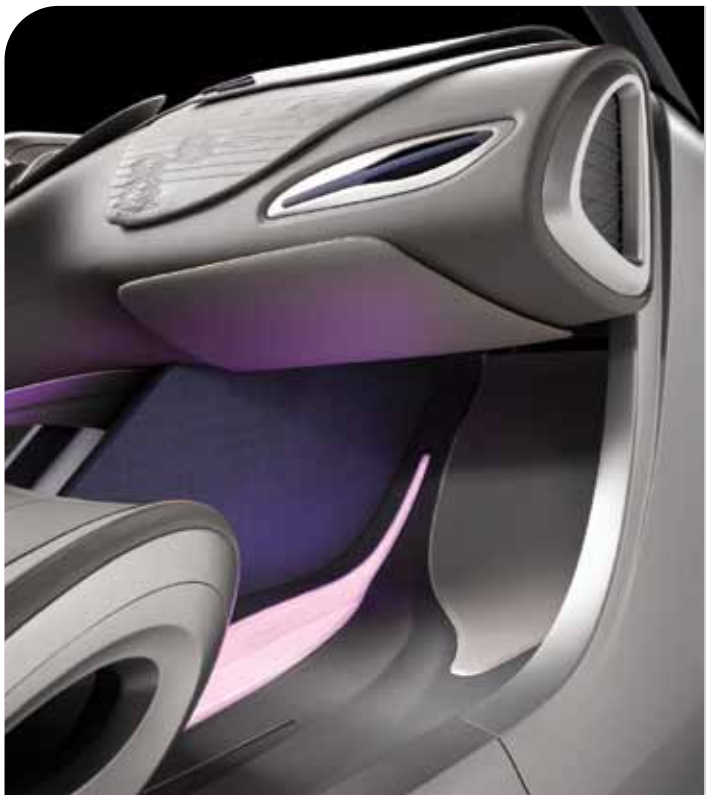
Smartphone integration with wireless charging

Charging multiple mobile devices has always been a struggle among vehicle occupants, cables and sockets. The Interior Systems demonstrator, however, provides a passenger-side drawer that slides out to reveal a high-quality lining and a charging pad. A passenger can simply place a mobile phone in the drawer and it will charge wirelessly, without the danger of spilling liquids on it. A phone in the bin can be used while charging by connecting through Bluetooth or voice control. On the center console is a storage area where the phone can slide into a Smart Dock to hold it in place. The console also provides a second wireless charging station. Again, the Interior Systems demonstrator provides separate, dedicated areas for driver and passenger for their individual preferences regarding phone charging, storage and hands-free use.



Seamlessly integrated ventilation

Replacing the traditional large, open air vents, the Prêt-à-Porter demonstrator integrates ventilation with the multi-layered surface of the instrument panel. On either side of the infoskin are areas that guide the air ventilation. This nearly invisible air ventilation capitalizes on the Coandă effect—the tendency of an air stream to be attracted to a nearby surface. On the driver's side of the demonstrator, air flows along the layered surfaces and is directed toward the driver from behind the instrument panel surface, making the décor a functional part of the ventilation system.

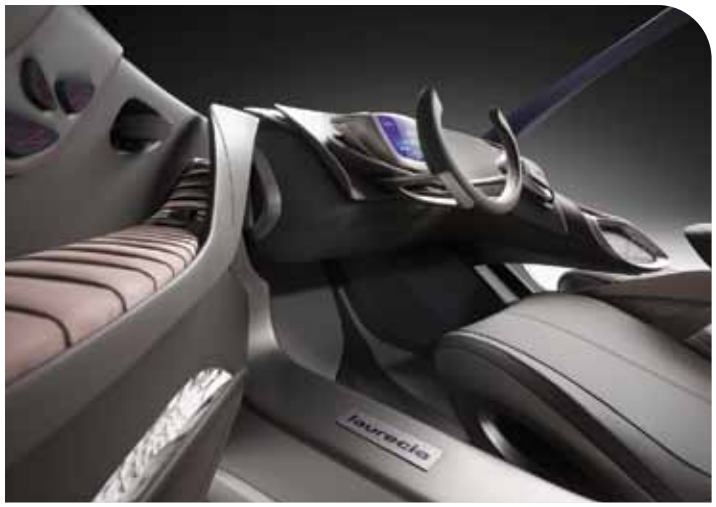


Comfort and wellness features

Faurecia's Interior Systems concept focuses on pleasant and ergonomic kinematics. It provides storage areas that are at once usable and elegant, unlike the large plastic bins that consumers are accustomed to seeing inside vehicles. Occupants will feel comfortable placing a premium pair of sunglasses or a mobile phone in these storage areas, where they are cradled without the fear that they might be scratched or otherwise damaged.

Comfort and wellness are further promoted by lighting that softens the interior and creates a mood as it glows from behind the interior's material surfaces. The built-in massage function on the floor allows the passenger to enjoy foot and leg massages.

Even the driver's armrest is designed for increased comfort. Pneumatics in the arm rest on the door panel allow the driver to adjust the rest up or down through a power control.



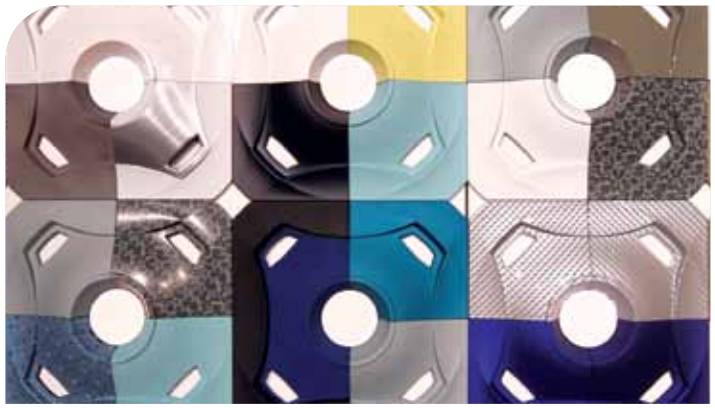
Light and visible structures

The Faurecia demonstrator celebrates the interior's structure. In a way similar to office chairs that show off their comfortable structure, the Interior Systems demonstrator's center console uses second-generation "Spico," an asymmetrical structural architecture that provides flexibility in attaching modules while leaving the console open for storing a purse and other items. The console structure is visible, producing a feeling of lighter weight and more flexibility for storage without multiple layers of materials for covers. Light-weighting is also promoted in the demonstrator through a unique crossbeam architecture and assembly process.

With each of these innovations, Faurecia Interior Systems transfers premium quality to standard vehicles, making the automobile's future a touch more comfortable, flexible, light and attractive for every consumer.

Collections by Faurecia

Faurecia fashions may well be the trending topic at the LA Auto Show with the display of "Collections by Faurecia," an array of materials, finishes, styles, decorations and technologies available for instrument panels, doors, consoles, seats and other interior components.



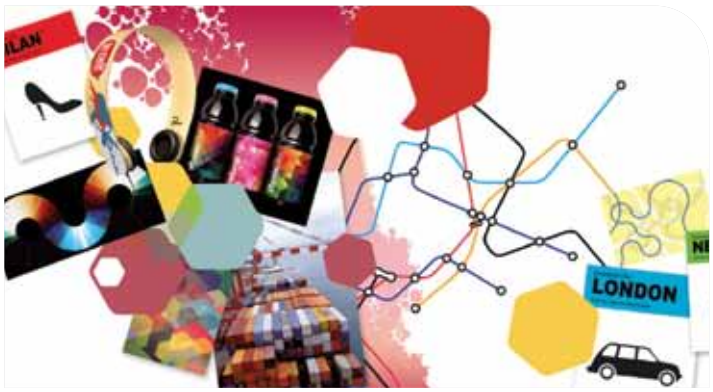
Faurecia provides a complete collection of decorative options for a wide variety of requirements, from entry-level vehicles to luxury models, from sporty crossovers to classic sedans. To show the richness of these interior décor options, the Collections display incorporates a large mosaic of parts that illustrates Faurecia's capacity for employing various technologies and decorative finishes to produce harmonious colors, surfaces and materials for today's vehicles.

Each trim variant is illustrated in the form of a *tessera*, or tile. The tile's shape is specifically designed to demonstrate the range of geometric possibilities offered by Faurecia's production technologies, and several tiles can be combined to form graphical mosaics that can be changed at will.

Among the materials used in the mosaic are wood, aluminum, plastic, leather and composites. More than 30 treatments can be implemented from these materials and processes, including paint-and-varnish, matt/gloss, laser engraving, printing, pigmentation, sewing and silk screen printing.

Additionally, Collections by Faurecia has identified five particular trends for 2012 that are the inspiration for the display's trend tables. Each table calls on its own variety of technologies and decorative parts. Faurecia calls these trends:

- Basic
- Origami
- Webpixel
- Natural
- Sophisticated



Each of these trend collections consists of multiple pieces that together illustrate a distinctive expression of color and trim. All the tables lay out parts that are similar in shape and size but very different in appearance, with each styled in customized fashion by using various textiles, leathers, metals, plastics and paint surfaces, allowing a touch more personalization for vehicles of any class and category,

In showing how materials, textures, colors and trim can work in harmony with each other and with production techniques, Collections by Faurecia reflects parts created with such technologies and materials as injection molding, single and multi-layered painting, in-mold film, metallic paint effects, slush, real aluminum and Faurecia's Ligneos real-wood material.

Primarily a visual tool for communicating technologies, color and design material while collaborating with engineers on decoration and creative design, Collections by Faurecia comprises thousands of parts that currently are available from Faurecia. In all, Collections displays five trends, 15 technologies, 250 color and graphic design creations, and 4,000 individual pieces.

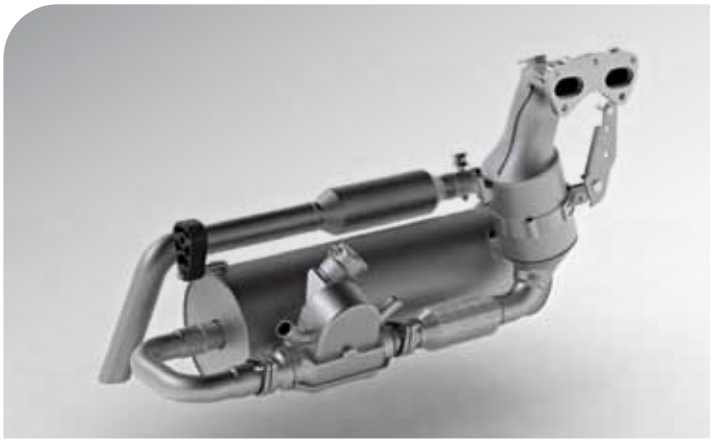
Ready-to-wear on any vehicle, Collections by Faurecia may become an annual fashion statement to display the newest trends in outfitting distinctive interiors.

New approaches for the new generation of vehicles.

As the auto industry has intensified its focus on reducing emissions, improving fuel economy and implementing more efficient manufacturing processes, Faurecia Emissions Control Technologies has led the way with products and processes that offer a touch more innovation for improvements in each of these areas. From the exhaust manifold to the tailpipe, Faurecia introduces technology tailored for the new generation of efficient gasoline and diesel engines as well as hybrid powertrains.

Exhaust system for electric hybrids

Faurecia has developed a complete compact exhaust system for gasoline engines that serve as range extenders for electric hybrid vehicles. These small, internal combustion engines recharge the vehicle's battery and increase the overall driving range, and they require a particularly lightweight, compact exhaust system.



To meet this challenge, Faurecia has created a prototype range extender exhaust system. Instead of the traditional vehicle's long exhaust line, the compact exhaust system is designed to fit into a relatively small envelope of space, providing typical noise-vibration-harshness (NVH) control and supplementing the passenger compartment heating needs. It consists of two principal subsystems:

- A combined manifold and catalytic converter, called a "maniverter," that collects exhaust gases and eliminates such pollutants as hydrocarbons, carbon monoxide and nitrogen oxide. Because the catalytic converter is mounted close to the manifold, it heats up rapidly and therefore quickly becomes operational to reduce pollutants.

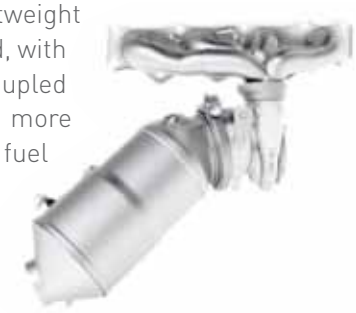
- Two separate mufflers. A main muffler for sound dampening is accompanied by a small resonator muffler and, ultra-thin-wall pipes, (just 0.8 mm in thickness). The resonator is tuned to efficiently attenuate sound at a narrow frequency range, and the muffler is tuned to a broad operational range of frequencies that provide the needed NVH control .

The compact exhaust system may be enhanced with Faurecia's Exhaust Heat Recovery System (EHRS). The EHRS, integrated into the system, captures waste exhaust heat and uses it to warm the passenger cabin.

For a touch more in acoustic control, and to further reduce the weight of the exhaust system, electric and adaptive valves are also available as options. The adaptive or electric valve plays an important role in enabling the use a significantly smaller main muffler and a smaller exhaust system overall. The valve helps to reduce sound caused by the natural resonances of the exhaust system geometry.

Turbo-manifold and close-coupled converter

For state-of-the-art gasoline twin turbo engines, such as the BMW 2.0 liter 245hp engine, Faurecia Emissions Control Technologies has created a lightweight fabricated twin-scroll type manifold, with air-gap insulation, and a close-coupled converter. Together they provide more torque and power, as well as lower fuel consumption.



The twin-scroll manifold helps reduce the power-production lag time inherent to turbos. It enables better control of the flow and pressure distribution of exhaust gases, directing them into a twin-turbo system to gain improved low-speed response and high-end power.

Additionally, the catalytic converter is closely coupled with the manifold, helping ensure that the converter lights off promptly and properly.

The Faurecia system's fabricated manifold is 20 percent lighter than conventional cast manifolds, and its hydroformed pipes allow it to operate at gas temperatures up to 980°C, for high-performance driving.

Induction brazing

Faurecia's advanced lightweight process technologies for emissions control products now includes induction brazing. Brazing is a metal-joining process whereby a filler metal is heated and distributed between two or more close-fitting parts by capillary action.

In the automotive industry, this Faurecia technology is unique for complete exhaust systems. It brings advantages of reduced weight by enabling the use of thinner materials (down to 0.6mm) that cannot be joined easily by gas metal arc welding. It also delivers higher quality, since it is spatter-free and without distortion, and better durability than a line using welded joints.

Faurecia's brazing process allows for all the joints in a complete exhaust line to be connected at once, rather than sequentially. As a result, the number of sub-assembly components is reduced, the manufacturing footprint is smaller and the fit of the completed assembly to a vehicle is more accurate.

Brazing is particularly adapted for complete hot- and cold-ends, manifolds and tailored tubes. Faurecia has proven this technology for various products and is already in production on:

- Fuel vaporizer (Ford)
- Tailored thin-wall tubes (Audi Q7, Mercedes-Benz S-Class and Porsche Panamera)
- High-performance manifold flanges (BMW M3)

Faurecia will start production of a fully brazed cold-end exhaust system in early 2012.

Hydroforming

Another lightweight process technology used by Faurecia for its emissions control business is "hydroforming". Hydroforming is a state-of-the-art manufacturing process, already widely used for tubes and manifolds. Its principle is to inflate a tubular part inside a tool by a pressurized liquid to give it a pre-defined shape. This technology is now being used by Faurecia for muffler shells to provide a perfect underbody fit, since non-cylindrical shapes can be obtained at the same cost as cylindrical shapes. It also allows more design freedom to make oblique inlets or outlets, and to use variable wall thicknesses (for example, 1mm at inlet/outlet and 0.6mm in the center muffler section), thus reducing overall mass. As a general rule, this technology is less costly than a stamped muffler of similar internal volume. After passing all necessary Faurecia testing phases, Faurecia's hydroforming technology currently is being promoted to several major automakers.

Sound design

The world's favorite cars have become memorable not only for the way they look but also for the way they sound—and the most influential factor impacting the characteristic sound of a particular model is the design of its exhaust system. The exhaust sound adds a touch more distinction to a vehicle's brand image and even allows enthusiasts to identify a particular sports car just by its recognizable way of appealing to the ear.

Today, Faurecia is able to model the sound of an exhaust system, especially through the design of its muffler. The inner structure of the muffler's walls and tubes shape the sound as surely as the walls and tubes of a brass musical instrument.

Faurecia is actually able to design the sound of a particular vehicle platform's exhaust system using simulation and computer-aided design technology. Rather than build many iterations of physical prototypes to obtain the desired sound, Faurecia Emissions Control Technologies uses software to test a computer model of the exhaust system and compare it to the targeted sound. As a result, Faurecia has significantly shortened the development time of its exhaust sound design and has lowered production cost.

At the LA Auto Show, a multimedia demonstrator allows visitors to experience the exhaust sounds of various vehicles, including two developed by Faurecia: the BMW M3 4.0–liter V8 and the Alfa Romeo Giulietta 4-cylinder 1.8 liter engine.

On the recently launched Ferrari 458 Spider, although the sound design development remains the reserved area of Ferrari engineers, Faurecia offers a key contribution in supplying the complete sports exhaust line [from manifold, to converter, all the way to the triple tailpipes]. In particular, Faurecia has developed a pneumatically controlled exhaust valve. The objective was to enable the typical Ferrari V8 sound (with open valve) while offering optimized noise levels (with closed valve).

Ammonia Storage and Delivery System (ASDS)

Restrictions on nitrogen oxide (NOx) emissions are rapidly becoming tighter around the world for both commercial and passenger vehicles. Anticipating ever more stringent international emissions legislation on nitrogen oxide, Faurecia, the world leader in emissions control technologies, is presenting the ASDS (Ammonia Storage and Delivery System), its breakthrough NOx reduction technology for diesel engines.

The Faurecia ASDS is a pure ammonia Selective Catalytic Reduction (SCR) system – as an alternative to liquid SCR systems – which delivers very precise amounts of ammonia to a catalyst in the exhaust line. This step enables highly efficient removal of NOx from diesel engine exhaust gases for both passenger cars and commercial vehicles.

Faurecia is confident that this technology will offer significant advantages to automakers when meeting Euro 6, Tier 2 Bin 5 and future Euro 7, Tier 2 Bin 2 emissions regulations for Diesel NOx reduction.

For more information on ASDS, please visit www.FaureciaLAAutoShow.com.

Out front with technology and lightweight design.

For vehicles of every size, class and market, Faurecia Automotive Exteriors applies its own touches of technique and technology to front-end modules, adding style to the vehicle and helping to protect occupants and pedestrians.

Pedestrian safety technology

As demonstrated by a Citroën DS3 front end, Faurecia excels at combining style with a touch more safety capability. In producing the vehicle's front grille and fascia, Faurecia Automotive Exteriors created a pedestrian-protection design that was among those receiving the top rating in Europe for reducing pedestrian shock. Behind the grille (which is produced with an in-mold process) and front fascia, Faurecia has incorporated absorbers specifically designed to limit pedestrian shock. The system includes a polypropylene plastic beam behind the fascia that has been designed to absorb energy. In some vehicles, this system enables the elimination of cross beams.

In computer simulations that correlated remarkably well with physical tests, Faurecia showed that its design results in less injury to pedestrian legs and hips at speeds varying from 2 ½ mph to as high as 30 mph, meeting all the requirements of regulators, insurance companies and original equipment manufacturers. In fact, Faurecia's simulation capabilities exceed those of OEMs in their accuracy compared with physical vehicle tests.

The Citroën DS3 front end

The Citroën DS3 front end also has been created to reduce overhang. Many pedestrian absorption technologies consume more room in each direction to meet their requirements. Faurecia Automotive Exteriors, however, expertly tunes absorption systems, producing to produce a short overhang that results in more styling freedom for vehicle designers without compromising safety.

A full range of fascias

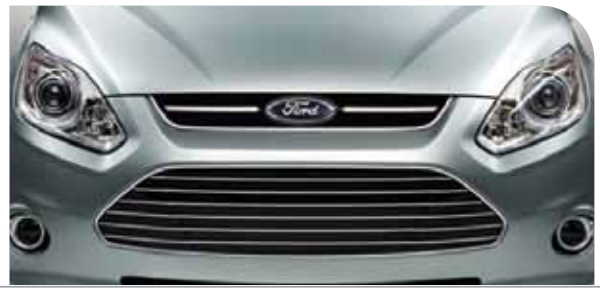
From the entry-level Renault Clio to the mid-level Ford C-Max to the premium Mercedes-Benz SLS AMG, the world's most desired automotive brands turn to Faurecia to develop front ends with a touch more flexibility, weight savings, design features and safety.

Mercedes-Benz SLS AMG

Faurecia created a classic premium look and durability for the Mercedes-Benz SLS AMG front end. Illustrating Faurecia's reputation for unrivaled quality, the SLS AMG faces the road with a cutting edge flat paint, created through a process that incorporates environmentally friendly water-borne primer, without solvents. The SLS AMG front end helps Mercedes-Benz touch the road with a lighter footprint and a distinctive style.

Ford C-Max

The Ford C-Max is a compact European multi-purpose vehicle that transforms the utilitarian minivan into a stylish choice for a new generation of consumers. It represents the mid-market vehicles that benefit from Faurecia's flexibility in front end design and production. The front end has also been designed to offer better protection for pedestrians, with a reshaped fascia to help cushion the impact. Employing traditional painting techniques, Faurecia is helping to launch an entirely new look for a line of vehicles configured to meet the needs of growing families in this century's second decade.

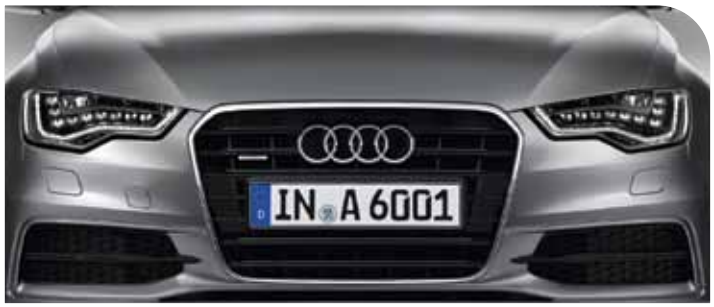


Renault Clio RS

For the sporty Renault Clio RS, Faurecia Automotive Exteriors fashioned a prototype fascia and air deflector using its in-mold process, which eliminates the need to add chrome components to the fascia. Instead, a substance that produces a chrome-like appearance is injected into the mold, producing an integrated part that weighs less but is just as attractive and durable as conventional bumpers. The air deflector is produced using a "mold-in-color" technology that builds color directly into the component without a trip to the paint line.

Audi A6

For the Audi A6, the front-end carrier offers a lightweight, hybrid solution: over-molding of an aluminum sheet with a polyamide glass fibers (30%). With this process, Faurecia can reduce the carrier's weight to reach a target of 2.6 kg. (5.7 lbs.), the benchmark for a structural front end in Europe.



With this carrier, Faurecia Automotive Exteriors configures 10,000 variations of Audi front-end modules complete with specific combinations of engine cooling systems, radiators, crash beams and other components.

Faurecia Automotive Exteriors has the ability to handle such extensive diversity while sequencing each front-end module so that it meets the particular vehicle for which it was built at the right time and the right place on the OEM's assembly line. An Audi front-end module is delivered in sequence every 60 seconds in a highly efficient process that offers consumers a touch more personalization and the manufacturer a significant savings in time and labor.

After assembly of the front-end module on the vehicle, Audi assembles the A6 or A7 fascia. These two fascias are also made by Faurecia and share a number of common parts. They represent Faurecia's ability to achieve excellence in terms of fit, finish and flexibility.

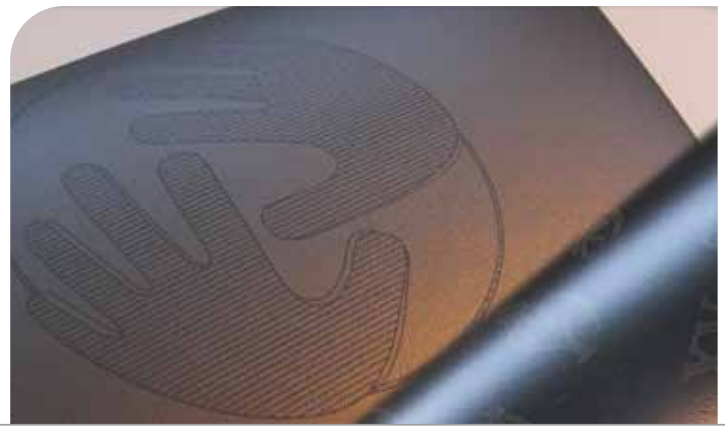
Specialized technologies

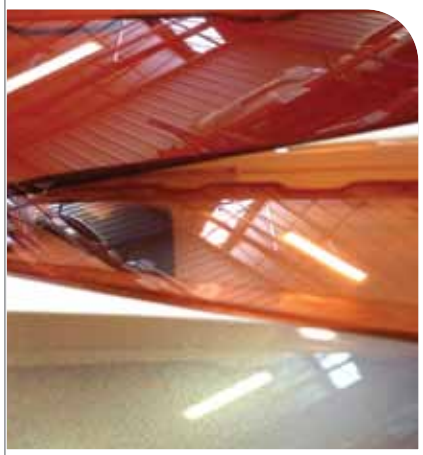
Faurecia Automotive Exteriors is applying a number of innovative technologies to production and testing operations to help automakers reduce costs, lighten vehicle weight and speed their products to market.

Decoration

Faurecia's process for in-mold decoration offers many advantages to the manufacturer and the consumer. With in-mold techniques, chrome-like materials, fashioned from plastics, can be produced with the same look and durability as much heavier metal parts.

Faurecia also builds a personalization option into its process, allowing for a fascia or grille to be laser-marked with customized emblems, symbols or wording. The auto maker does not need to invest in new tooling to capitalize on this feature; it simply requires an additional step in the conventional paint-line process. Paint is applied, the mark is laid down and the product is finished with a clear coat.





Another Faurecia option is the creation of translucent parts. Without any special tooling, Faurecia changes the material used for external panels to fashion a UV-controlled, scratch-resistant, translucent segment in a wide range of colors. The manufacturer may incorporate lighting behind the segment to produce a distinctive glow. The process uses a common mold for a broad scope of applications.

Crash management

In developing pedestrian-impact systems and other safety structures, Faurecia Automotive Exteriors applies its acclaimed expertise in computer simulation for crash testing. Faurecia has obtained exceptionally accurate correlations between simulated crash performance and the performance of the actual vehicles in laboratory-based sled tests. When the data is reviewed side-by-side, the correlations becomes clear. Because vehicle designs can be validated in a virtual environment, automakers can realize tremendous savings in their vehicle development costs. Only the best designs, discovered through computer simulation, need to be considered and tested in physical form.

Faurecia is able to support the crash-testing process for original equipment manufacturers at any level. For instance, Faurecia can carry out just the simulation and then offer support during the manufacturer's own crash testing; or the OEM can outsource the entire testing process to Faurecia, calling on Faurecia's capabilities to completely design highly efficient crash management parts and associated testing to prove their functionality.

NewTech paint technology

A highly efficient, cost-effective way to paint vehicle exterior body parts, Faurecia's NewTech paint line integrates all the best practices deployed in the auto industry. It incorporates the latest robots, the best manufacturing processes into a more compact system that requires less investment by the automaker, expediting return on investment. A principal advantage of NewTech is that it employs plug-and-play modules for maximum flexibility, so the painting process can be adapted to each customer.

Modular, because of Faurecia's "block-by-block" approach (injection, cleaning, flame treatment, primer, paint, polish, drying, quality control, assembly), the NewTech line is completely adaptable to the demands and specific needs of each automaker. For example, OEMs can choose from several types of cleaning modules:

- Manual
- Cryogenic (robot discharge of carbon dioxide)
- Power wash (high-pressure jet wash and dry)

Similarly, paint modules can apply one or more layers of paint, in a solvent or water mixture, with or without priming.

Savings accumulate rapidly with NewTech, which provides:

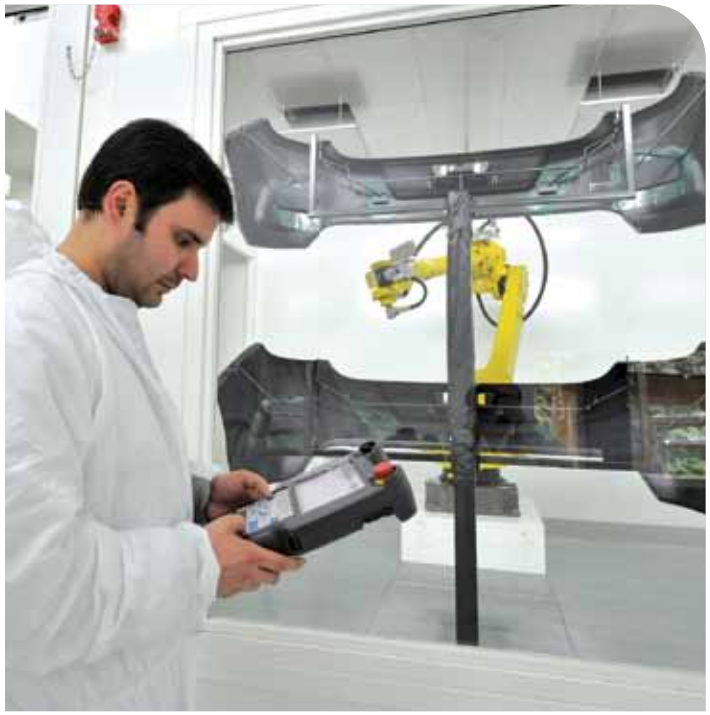
- A 25 percent reduction in energy use
- A drastic reduction amounting to a 95 percent decrease in air pollution emissions
- The re-use of the heat generated by the destruction of polluting emissions to heat the factory

Each module is designed to reduce the manufacturer's investment by 25-30 percent, in equal volume, compared to "classic" means. The investment is made only as needed, such as during the launch of a new vehicle, or for a new line.

As a result of NewTech's optimization of paint usage, the total production cost of exterior parts can be reduced. This savings results from the fact that 70 percent of the paint is cast onto the part, versus 40-50 percent with the conventional process.

With its many strengths, NewTech has become the new standard for the Group's production of painted plastic exterior parts. Following this first application at the Audincourt (France) site, several greenfield plants have already been launched for NewTech, including Brazil and Argentina. Other projects are in discussion with automakers in the rest of the world (North America, China...).

A touch more technology yields a lot more savings and safety for manufacturers and vehicle buyers, as the automotive market benefits from the attractive offerings of Faurecia Automotive Exteriors.



Notes

CONTACTS

US/Canada

Stacie Tong
Faurecia North America
Director, Communications
+1 248 484 3185
stacie.tong@faurecia.com

Jenn Korail
Airfoil Public Relations
+1 248 304 1429
korail@airfoilpr.com

Mexico

Iván Moreno
Alterpraxis
+52 (55) 5985 7820 ext. 23
ivan.moreno@alterpraxis.com.mx

International

Olivier Le Friec
Faurecia Group Communications
Manager, Media Relations
+33 (0)6 76 87 30 17
olivier.lefriec@faurecia.com

Technical perfection, automotive passion

faurecia