

THE ALL-NEW LEXUS ES

The Lexus ES has enjoyed three decades of success in the mid-size saloon category and is now set to forge a more ambitious path with its seventh generation model. Long renowned for its comfort, refinement and luxury appointments, the new ES builds on its established strengths with an all-new chassis that allows for a more dynamic exterior design and even better driving performance.

It stands as a further expression of Lexus's design direction and commitment to crafting vehicles that provide more excitement, emotional connection and passion, helping bring its vision for its future to a wider audience. Traditional buyers will find the new ES more spacious, quieter and safer than ever before, while a new generation of customers will be introduced to a saloon with sharpened performance, class-leading safety technology and a level of craftsmanship rarely found in this market segment.

THE ROOTS OF THE ES

The original ES launched the Lexus brand in 1989, alongside the LS flagship saloon. Since then, its popularity has been built on class-leading comfort and Lexus's commitment to delivering a human-centred experience, expressed through intuitive driving behaviour and a driver-focused cockpit.

Lexus has gained valuable insights by listening to the opinions of luxury car buyers and applied the intelligence gained to extensive testing of the ES on different types of roads worldwide. Today, the ES is Lexus's most popular saloon, having amassed more than 2.3 million cumulative global sales.

READY FOR EUROPE

The seventh generation model is the first ES to be introduced to the UK and Western and Central Europe. It follows the LS flagship saloon and LC luxury coupe in carrying forward a new chapter in Lexus design that has a much stronger emotional quality. The eye-catching styling, made possible by the use of an all-new Global Architecture-K (GA-K) platform, will have particular appeal to customers in the region, together with a more engaging driving experience and even higher safety provisions. The UK, Western and Central European markets will introduce the ES 300h, powered by a new self-charging hybrid system. In other global markets, ES will also be available with different petrol engine options, as the ES 200, ES 250 and ES 350.

Lexus achieved more than 75,000 sales in Europe in 2018, its highest total yet, marking a fifth consecutive year of growth. The new ES saloon becomes a core model in its line-up, contributing to the brand's ambition to reach 100,000 annual new car sales in Europe by 2020.

NEW DIMENSIONS IN ES DESIGN

- 'Provocative Elegance' design concept, underpinned by use of the new Global Architecture-K platform
- Spacious and comfortable cabin that represents the future of Lexus interior design

EXTERIOR DESIGN AND THE CONCEPT OF 'PROVOCATIVE ELEGANCE'

The new ES is built on the all-new Global Architecture-K (GA-K) platform, giving Lexus the opportunity to explore new territories in mid-size luxury saloon design. The car is longer (+65mm), lower (-5mm) and wider (+45mm) than its predecessor. The longer wheelbase (+50mm) allows the wheels to be pushed closer to the car's corners, with wider front and rear tracks (+10 and +37mm). Its stance and proportions reflect its new-found performance capabilities and give the ES the kind of eye-catching appeal that will make people take a second look.

Yasuo Kajino, the ES Chief Designer, describes the car's new look as 'Provocative Elegance': "The ES has always been an elegant luxury saloon. For this generation, we have added daring design elements that challenge buyers' traditional expectations," he said.

The new GA-K platform allowed for a lower bonnet line, which gave Kajino's team the freedom to produce a distinctive silhouette with a strong downward slant, creating a dynamic yet fluid shape. Up front, the ES's face is dramatically different, with variations according to model grade. The ES and Takumi versions display elegant bars that radiate from the centre of the signature Lexus spindle grille, while the F Sport model – featured for the first time in the ES range – adopts a black cross-hatch pattern of interlocking 'L' shapes that correspond with cut-out sections at the car's front corners.

In a break with past generations, the design features a rearward-sloping fast roofline that emphasises the vehicle's lower stance and slippery aerodynamics. The rear end is clean and sharply chiselled, with LED lamps that wrap around the quarter panels to generate a continuous styling line when viewed from any angle. F Sport models add a rear bootlid spoiler, badging and a dark lower rear bumper valance to add emphasis to the look. Three different 17 and 18-inch alloy wheel designs are available across the ES and Takumi grades, with the F Sport version running on 19-inch wheels that are similar in appearance to those found on the Lexus LC coupe.

A palette of 12 colours includes new beige and green shades: Ice Ecru is designed to capture the effect of light reflected off fresh snow, while Sunlight Green is inspired by ocean water in sunlight. Two exclusive colours – Azure Blue and F Sport White – are available for the F Sport, complementing their high-energy design.

CABIN DESIGN THAT REPRESENTS THE FUTURE OF LEXUS INTERIORS

When designing the look and feel of the ES's cabin, Kajino's team's starting point was the Lexus Future Interior concept, which blends a driver-centric cockpit with a spacious and comfortable area for the front passenger. The driver's focus is kept on the road ahead by locating the centre display screen, instrument panel and, where fitted, head-up display in a tight cluster within their field of view. Lexus calls this concept 'Seat in Control,' a simple idea that says from the moment you get in, all the controls you need are within reach and all the information you want is in plain view. Arm rests slide comfortably under your elbows and buttons can be pushed without taking your hands off the wheel.

The head-up display is another means of reducing driver distraction. Fitted as standard on the ES Takumi and available for the F Sport as part of the Takumi Pack option, this projects relevant vehicle information onto the windscreen in the driver's line of sight. Fully adjustable to suit the driver's preferred parameters, the colour display is the largest in the luxury car class. In addition to basic functionality, such as speed, fuel level and shift position, the display can also present speed limit signs, Lane Tracing Assist warnings and navigation directions.

What the driver sees is also enhanced by what they feel. The driving position in the ES has been refined with a more natural steering wheel angle, revised pedal positions and even a 10-way adjustable seat as standard. The steering wheel itself is borrowed directly from the LS and features an ergonomically shaped rim and optional wood trim and integral heating elements. Heated front seats are also standard for the driver and front passenger, along with a new suction-type ventilation (Takumi grade and Premium option pack) that draws directly from the air conditioning system for a quicker cooling effect.

The Lexus Navigation system on the ES Takumi and Takumi Pack option comes with a 12.3-inch multimedia display and second generation Remote Touch touchpad control.

Rear passenger comfort has long been a hallmark of the ES and the new model upholds this quality, in spite of the sleeker, sloping exterior roof line. A lower hip point and carefully configured headlining preserve headroom while the longer wheelbase ensures generous legroom.

The interior colour options include a new combination that reflects the 'Provocative Elegance' design theme. The Rich Cream option matches cream upholstery with a brown headlining to give the cabin a modern, yet warm look and feel. Other choices include Black, Chateau and Topaz Brown.

ELEVATED COMFORT IN THE NEW ES

- New ES maintains the model's long-held reputation for excellent cabin spaciousness and quietness
- New ES seats designed for perfect body holding and comfort
- Painstaking measures to secure ultimate cabin tranquillity through noise blocking, insulation and absorption

Roominess and quietness are long-established as core qualities of the Lexus ES saloon. The all-new model sustains this reputation, with undisputed class leadership in spaciousness thanks in no small part to a 1,022mm couple distance – which is best in class.

The quality of the cabin has been secured with a forensic approach to designing the best seats in terms of comfort and body holding, regardless of the shape or size of the occupant, and to achieving the quietest and most tranquil interior ambience.

Lexus knows there is a direct link between quietness and quality and that a calm and peaceful cabin is a key element in the *omotenashi* hospitality that defines its vehicles. The all-new ES takes on-board quietness to a higher level, using new technologies and design features first seen in the Lexus LS limousine to enhance its established reputation as one of the most serene models in its class.

To achieve its goals for the new ES, Lexus focused its efforts in three areas: countermeasures to tackle noise and vibration at their source; sound insulation, to prevent noise intruding in the cabin; and sound absorption, making extensive use of special materials to soak up unwelcome noise. The advances made with the all-new model surpass anything achieved before, delivering a calm and welcoming environment at all times, from the moment you enter the car to cruising at high speed.

Perfecting the ideal seats – a three-year design project for the new ES

Great seat design is a critical part of any new car's development and Lexus undertook a three-year project to produce the ideal seats for the all-new ES, working through numerous prototypes to find the best combination of support and comfort, no matter the size or shape of the occupant.

For the design team this meant ensuring you feel at ease and your posture is just right with full support for your lower back, whether you're highway cruising, or pushing the new ES through bends on a twisting country route. For the driver, there was the added requirement for the seat to communicate how the car is behaving, but with no unpleasant vibrations.

The seats have a simple structure, with polyurethane foam wrapped around an iron frame. It's the flat cushion and raised side sections that support the hips and keep the body stable, while subtle depressions in the cushion's surface allow for smaller occupants to enjoy the same level of body-holding as larger people. In typical Lexus attention to detail, a thin, soft layer added to the top of each seat lets your head sink into the cushion, adding to the feeling of stability.

Where the ES F Sport is concerned, the designers took their inspiration from the LC coupe to produce seats that offer even greater body holding. Leading engineer Takeshi Kawano explained: "It's because the ES F Sport is such a sporty car that I felt we needed to stabilise the driver's body so that they wouldn't move at all, even when driving on a racing circuit at full speed. We've tested the seats, and we can tell you that even when going around a corner at high speeds, the driver's position barely changes."

Creating a whisper-quiet cabin

No detail was too small when it came to giving the new ES a perfectly quiet and calm cabin environment. Lexus engineers took three years to achieve their goal, using the LS flagship saloon as their benchmark. They knew it was important not produce the kind of deadening, disconcerting silence of a recording booth, but to produce a comfortable, undisturbed ambience that lets you enjoy the audio system to the full, or share a conversation with ease.

To eliminate potential noise sources, the ES underwent extensive wind tunnel testing, leading to tiny but telling adjustments to the position of the door mirrors, wipers and other parts that intruded in the airflow over and around the car. The next step was insulation measures to prevent external sounds getting into the car, filling openings or sealing them with sheet metal. Finally, noise absorption materials were added in key areas, such as the suspension towers, wings and underfloor to soak up sounds and vibrations.

When calculating what needed to be done, the design team had to take into account factors such as road conditions or the weather, which can change from moment to moment. It was a huge challenge that took a lot of time and patience, but the results succeed in making the famously quiet Lexus ES a more tranquil vehicle to travel in than ever before.

A NEW ERA IN SELF-CHARGING HYBRID POWERTRAIN PERFORMANCE

- All-new, fourth generation of the self-charging Lexus Hybrid Drive system, featuring new 2.5-litre engine, new transaxle and new battery
- Total system output 215bhp/160 kW, combined cycle fuel economy from 48.49 to 53.55mpg (WLTP data)
- Hybrid control system designed to provide accurate and linear acceleration response, with drastic reduction in “rubber band” effect
- New 2.5-litre engine achieves world-best peak thermal efficiency of 41 per cent (allied to a specific engine output)

FOURTH GENERATION LEXUS HYBRID DRIVE SYSTEM

The ES 300h is equipped with a new, fourth generation self-charging Lexus Hybrid Drive system that can deliver exceptional fuel efficiency, responsive performance and minimal emissions for a mid-size luxury saloon. It couples an ultra-efficient 2.5-litre Atkinson cycle four-cylinder petrol engine with a lighter, more compact and more power-dense electric motor. Total system power is 215hp/160kW and combined cycle fuel economy is from 48.49 to 53.55mpg (WLTP data).

The engine is all-new and incorporates fast-burn combustion technology that helps make it the most thermally efficient engine to feature in a production vehicle (with thermal efficiency as high as 41 per cent with a top-level specific output). The result is more power without increasing emissions or fuel consumption. Features that help achieve such results include straight intake ports, increased valve angles and laser-clad valve seats. A variable-capacity oil pump, multi-hole fuel injectors, VVT-iE electric intelligent variable valve-timing on the intake valves and a variable cooling system also contribute to the engine’s heat and combustion management. No fewer than 60 prototypes were built to achieve the best possible performance and more than 10 million kilometres of road testing were carried out.

Designed specifically to work with the 2.5-litre engine, the new transaxle has a multi-axle arrangement of the electric motors in place of the previous coaxial set-up, which reduces the overall length of the package by nearly 30mm. The traditional planetary gear set has been replaced by a parallel shaft gear and a multi-function gear that incorporates a power split planetary ring gear, parking gear and counter drive gear into a single compact unit.

The nickel-metal hydride battery that powers the electric motor has been relocated from the boot to underneath the back seat. This was made possible by a 120mm reduction in the height of the battery and the adoption of a more compact cooling system. Moving the battery

under the seat not only frees up extra boot space, it also improves the car's front-to-rear weight distribution for better handling.

Several new features have been incorporated into the ES 300h to improve overall driving satisfaction and engagement. The hybrid control system is designed to deliver a more linear acceleration feel by aligning engine speed more closely with vehicle speed, reducing the "rubber band" feel commonly associated with hybrid systems. Engaging the Sport drive mode further enhances acceleration by boosting torque at lower speeds, while paddle shifts can be used to move through six simulated gears for more precise control.

CHASSIS AND SUSPENSION INNOVATIONS FOR EXCELLENT RIDE, HANDLING AND COMFORT

- Dynamic performance underpinned by new front-wheel drive GA-K platform
- New suspension design with Dynamic Control Shocks with world-first ultra-low velocity valve
- Highly responsive rack-assist Electric Power Steering
- Extensive chassis testing on European roads and high-speed racetracks

The engineering team for the new Lexus ES, led by Chief Engineer Yasuhiro Sakakibara, had a clear goal: transform the model's image. That meant turning a saloon known primarily for comfort and quietness into one that is equally capable of delivering class-leading handling and power that you can feel and hear.

According to Sakakibara, the new ES has been built to deliver a fundamentally higher level of performance than any of its predecessors. He said: "We knew that this ES had to feel responsive and easy to drive, no matter what kind of road it was on. That can only be achieved with a solid foundation."

The starting point was the new GA-K platform. It is an exceptionally rigid, front-wheel drive chassis that rivals the GA-L rear-wheel drive platform used for the LC coupe and LS saloon in terms of torsional stiffness. Various grades of high-tensile steel reduce weight compared to previous platforms, while enhancements such as an all-new multi-link rear suspension design, rack-mounted electric power steering and a V-brace behind the rear seat gave the engineers the flexibility to tune the ES with a new-found precision.

The chassis team sought to create a sense of comforting predictability coupled with a feeling of quick response to every movement.

SUSPENSION THAT ADAPTS TO ITS SURROUNDINGS

With a solid base to build on, Sakikabara's team turned its efforts to designing a suspension that could be tuned to deliver both exceptional comfort and precise handling. The resulting design uses MacPherson struts at the front and a trailing arm, multilink set-up at the rear, with anti-roll bars at each end.

Yoshiaki Ito, chief test driver, described the ES's heightened level and refined definition of comfort: "We want every kind of driver to feel a sense of complete control when they are behind the wheel. It's a level of comfort that goes beyond merely delivering a smooth ride."

Although the design of the front suspension is similar to the previous ES, several changes have been made to improve overall responsiveness. The angle of the strut itself has been revised to better align it with the load path from the wheel for improved ride quality, while an increase in caster angle (+2 degrees) and caster trail (+8mm) help improve straight line stability. New Dynamic Control Shocks are capable of responding to even the smallest movements thanks to a non-overlapping auxiliary valve that allows damper oil to flow in either direction before entering the main valve (see separate story below).

The new ES F Sport is equipped with a new Adaptive Variable Suspension, details of which are given in the F Sport chapter of this press kit.

The rear suspension design has a trailing arm, multilink setup that also benefits from the responsiveness of the new Dynamic Control shocks. Higher placement of the trailing arm mounting point and a larger bushing size result in improved control over road irregularities. Wider spacing of the anti-roll bar bushing mounts also contributes to overall roll reduction.

More precise steering inputs are delivered by a new rack-assist type electric power steering system. Unlike the previous ES which used an assist motor mounted on the steering column, the new set-up puts the assist motor directly on the steering rack, which returns more precise feedback to the steering wheel. The new lay-out also allows for greater steering wheel adjustability with 30mm of additional tilt and 40mm of additional telescopic range.

Innovations in suspension design

Lexus's determination to take the ES's famous smooth, quiet and refined ride to a higher level prompted a world-first engineering solution: a new Swing Valve Shock Absorber fitted with an ultra-low velocity valve. Simply put, this makes sure the right level of damping force is provided, even when there's just the slightest movement in the wheels and suspension, for example when pulling away slowly.

The secret to the system's effectiveness is the way the oil flow is controlled inside the new valve arrangement. The additional ultra-low velocity valve allows for operation at very low speeds, with the main valve coming into play at low and higher speeds. In each case, supple ride comfort is the result.

The development team also came up with a new double wishbone rear suspension, with components located with pinpoint accuracy to gain the rigidity needed for excellent steering response and handling stability. The complete chassis system was put through rigorous testing on European road surfaces of all types, as well on high-speed race tracks.

CLASS-LEADING SAFETY PROVISIONS WITH LEXUS SAFETY SYSTEM+, CONFIRMED IN EURO NCAP TESTING

- ES achieves a five-star rating and one of the highest average Euro NCAP safety testing scores under the organisation's more stringent 2018 test criteria
- Significantly enhanced Lexus Safety System+ with additional cyclist and night-time pedestrian detection functions
- Lexus CoDrive provides SAE level 2 of driver assist support
- Highly rigid body thanks to deployment of new Global Architecture - K platform

The class-leading quality of the safety provisions in the all-new Lexus ES has been independently confirmed in official Euro NCAP testing. The model secured the maximum five-star rating with one of the highest average points scores the organisation has recorded under its tougher 2018 assessment criteria.

Key to the ES's excellent safety performance is the latest version of Lexus Safety System+, an advanced package of active safety technologies (featured as standard on all versions of

the car sold in the UK). The development of Lexus Safety System+ demonstrates the brand's commitment to making sure the benefits of advanced safety technologies are not limited to high-end, high-specification models, but are made available across the board.

As implemented in the new ES, Lexus Safety System+ adds new capabilities and increases the range of driving scenarios in which it can provide extra alerts and safeguards to help prevent an accident from happening. The new features include additional daytime cyclist and night-time pedestrian detection as part of the comprehensive Pre-Collision System (PCS).

Already capable of detecting vehicles and pedestrians in the car's path, the PCS now addresses one of the most common accident scenarios on the road today by being able to identify cyclists as well. The system has also been enhanced to detect pedestrians at night by increasing the radar's sensitivity and dynamic range.

The combination of all-speed Adaptive Cruise Control and Lane Tracing Assist corresponds to Level 2 automated driver support (as defined by the Society of Automotive Engineers) – aimed at enhancing safety while the driver remains in control of the vehicle.

Another new safety advance offered in the ES is a two-stage Adaptive High Beam system (AHS). This not only turns the headlight high beams on and off automatically for the driver, its 24 individual LED light array can adapt the light pattern to provide an enhanced field of illumination while reducing glare for oncoming drivers.

The new ES also has impressive passive safety provisions, underpinned by the quality of its ultra-rigid new GA-K (Global Architecture - K) platform. In the cabin, occupants are protected by an array of 10 airbags.

SUPREMELY IMMERSIVE AUDIO EXPERIENCE WITH MARK LEVINSON PUREPLAY

- 17-speaker Mark Levinson PurePlay system delivers a new level of immersive audio quality
- Performance achieved through precision staging, world-class speaker design and advanced tuning and decompression technology
- New ES marks first use of Mark Levinson PurePlay in a vehicle
- 10-speaker Pioneer audio also specifically designed for the interior of the new ES

The Mark Levinson PurePlay concept makes its debut in a 17-speaker Surround Sound System specifically designed for the all-new Lexus ES (standard on Takumi grade and Takumi pack option). Its world-first architecture has been created to immerse each individual in the car in the most powerful, precise and pure audio experience yet.

PurePlay leverages multiple unique approaches to deliver outstanding in-vehicle performance with precision staging, world-class speaker design and placement, and unparalleled tuning and decompression technology.

The ultra-quiet interior of the ES provides an ideal environment in which to enjoy the quality of the system. Mark Levinson was involved from the start of the new car concept programme, so that it could contribute to securing the best possible acoustic quality in the vehicle's interior.

The array of speakers – two more than in the previous generation ES – includes 14 90mm Unity™ speakers, installed at seven points around the cabin, in a line from the instrument panel, through the top of the door panels, effectively surrounding the driver and passengers.

Placing the speakers at shoulder level enhances the acoustics and creates a tonal synergy. These perfectly timbre-matched locations deliver a consistent tonal colour between all the mid-range speakers and tweeters, effectively creating two identical sound stages for the front and rear passengers. As a result, each person in the car is enveloped in sound, creating a listening experience that is consistent in every seating location.

The system also features two nine-inch elliptical woofers in the front doors and a powerful 265mm subwoofer – the largest ever installed in a production Lexus – behind the rear seats. There's pleasing attention to design detail as well, with the visible speaker grilles finished with an organic pattern inspired by the veins of a leaf.

Mark Levinson makes use of impressive technology to achieve both superb reproduction quality and energy-efficient performance. This includes new Quantum Logic Surround to help build an accurate and full-bodied acoustic stage and high-clarity sound definition. The ES's audio system also benefits from ClariFi 2.0, which plays sound as close to the original as possible, particularly with music from low-quality sources, such as highly compressed digital files.

Technology apart, the human ear remains an essential tool: the ES's system is tuned by a team of expert acoustic engineers with exceptional aural sensitivity. Their skills help ensure that the sound produced evokes the authentic emotional quality of the music being played.

BESPOKE PIONEER AUDIO SYSTEM

The new ES is also offered with a 10-speaker audio system (standard on ES and F Sport grades), designed specifically for the vehicle by Pioneer. It integrates a number of advanced technologies to provide accurate reproduction of any sound source, creating a real-life, immersive soundscape that adds another layer of enjoyment to any journey.

Pioneer's digital signal processing technology can produce CD-quality sound from compressed MP3 audio files, with clear sound even when playing at low volume.

The architecture features 90mm CST speakers on the left and right of the instrument panel that combine both a tweeter and a mid-range speaker. A single source is thus used to play back the full mid to high range, giving realistic reproduction of vocals and the effect of the artist singing live in front of the listener.

The speakers are positioned at the optimum angle to create a dynamic and rich sound field, with sound efficiently delivered to the listener both directly and reflected off the interior window glass. The result is a wide, deep, three-dimensional sound.

THE FIRST ES F SPORT

- The first ES generation to offer an F Sport version
- Exclusive sports-themed styling and equipment features
- Interior trim inspired by traditional Japanese *katana* sword-making techniques
- Adaptive Variable Suspension and additional Sport S and Sport S+ drive modes help deliver a more engaging driving experience

The seventh generation ES is the first in the history of the executive saloon range to be available as a Lexus F Sport model. It is distinguished by exclusive, sports-themed exterior and interior design features, wheels colours and equipment features.

Going beyond sporty looks, the ES F Sport also benefits from special chassis tuning and the provision of Adaptive Variable Suspension (AVS). The result is a more engaging driving experience, but without sacrificing the comfort and refinement that are intrinsic to the traditional quality and character of the ES.

EXCLUSIVE F SPORT DESIGN ELEMENTS AND CABIN APPOINTMENTS

The ES F Sport is distinguished at a glance by a wealth of sporty detailing that complements the car's low, eye-catching lines. The bespoke features include a close-mesh pattern in the signature spindle grille made up of interlocking 'L' shapes, set within a jet black frame.

The same black plating is also applied to the rear combination light surrounds, while the model also adopts a discreet, integrated bootlid spoiler, lower rear bumper valance and F Sport badging.

The car is fitted with 19-inch forged alloy wheels, similar in design to those found on the Lexus LC Coupe. Two exclusive colours – Azure Blue and F Sport White – are available for the F Sport, complementing its high-energy design.

The cabin features sports front seats embossed with the F Sport emblem and a striking new aluminium Hadori trim, inspired by traditional Japanese *katana* sword-making techniques (see separate story, below). The F Sport steering wheel and the shift lever are wrapped in highly tactile perforated leather and there is a set of sports-style aluminium pedals. Also exclusive to the F Sport, the leather upholstery can be specified in a bold Flare Red colour.

F SPORT WITH EXTRA CAR CONTROL FEATURES

For an even higher level of dynamic performance, the ES F Sport adopts Adaptive Variable Suspension (AVS) in place of the Dynamic Control Shocks and adjustable dampers featured on other versions. Similar to the system first introduced on the Lexus LC coupe, this provides 650 levels of automatic, seamless adjustment to the damping force at each wheel to deliver optimal ride quality and precise control on any road surface.

Adjustments are based on information from sensors that measure both linear and vertical G loads, vehicle speed, steering angle, yaw rate and master cylinder pressure, in addition to information from the engine control computer and skid control computer.

AVS brings with it additional Sport S and Sport S+ settings for the Drive Mode Select system. Throttle response and the transmission program are made sharper in Sport S, while for even sportier driving, Sport S+ mode adjusts the throttle, transmission and steering parameters along with the adaptive dampers.

Inspired by the fine traditions of Japanese sword-making

Lexus has a great reputation for seamlessly combining contemporary styling and materials with craftsmanship and aesthetics rooted in Japanese tradition. Such is the case with new Hadori aluminium trim featured exclusively in the ES F Sport. It's directly inspired by a centuries-old method of polishing the long, curving blade of the *katana*, the sword wielded by Japan's famous *shogun* warriors.

Designer Toshihide Maseki recruited experts in the ancient craft to produce a prototype by hand. This was then replicated using machine technology, right down to capturing minute, randomly created lines that give the technique its special, hand-crafted look.

Maseki explained: "Although being refined is an important quality in craftsmanship, a product is incomplete without the addition of more human, more instinctive elements that are not based on simple calculation. Being machine-made but artisanal, being refined but having impact – these may seem like contrasting elements, but through a lot of trial and error, we were finally able to achieve this combination."

Driven by intuition: Lexus creates the world's first filmed advert entirely scripted by AI

Lexus pioneered the world's first advert to be scripted entirely by artificial intelligence (AI) and directed by an Oscar-winning director.

The 60-second film, *Driven by Intuition*, forms a key part of the launch campaign for the new Lexus ES executive saloon in Europe. It was created using a bespoke AI scriptwriter that was developed by Lexus in partnership with creative agency The&Partnership London and technical partner Visual Voice. IBM Watson was used to analyse a range of external audio, text and visual data.

The story was brought to life by Oscar-winning director Kevin Macdonald, whose credits include *The Last King of Scotland*, the Whitney Houston biopic *Whitney* and the Oscar-winning documentary *One Day in September*.

This world-first collaboration between AI and a renowned craftsman aimed to test the boundaries of how humans and machines can work together in perfect harmony, exploring the importance of intuition in the relationship between the two to showcase the responsive features of the new Lexus ES.

The result is an engaging short drama that tells the story of a Lexus Takumi master craftsman who completes his painstaking work and releases the new Lexus ES into the world, only for it to be taken away and threatened with destruction.

At the crucial moment, the car's automatic emergency braking system cuts in to save the day, demonstrating the value and effectiveness of the intuitive technology built into the car.

Vincent Tabel, Senior Manager Brand and Communications, Lexus Europe, said: "Here at Lexus we love to push the boundaries of technology and design, that's why we wanted to do something completely different – a world first – to launch the new Lexus ES.

"The ES is both intuitive and innovative, so we wanted the advert to reflect this. The resulting film surpasses our expectations of what an AI is capable of, from its creativity to its human emotion."

UK MODEL RANGE AND PRICING

The introduction of the all-new Lexus ES is an important milestone for Lexus in the UK, being the first ES model to be made available to British customers. The model which will be offered exclusively a self-charging hybrid, with front-wheel drive.

The ES 300h will make its debut in a range of three versions: the entry-level ES, the F Sport and the top-of-the range Takumi, a new grade which takes its name from the Japanese master craftsmanship that is applied to every Lexus vehicle.

The on-the-road prices are:

Lexus ES: £35,150

Lexus ES F Sport: £38,150

Lexus ES Takumi: £45,650

Core equipment features for each grade include: -

Lexus ES

Second generation Lexus Safety System+

17in alloy wheels

Lexus Navigation with eight-inch central display

DAB

Front and rear parking sensors with Intelligent Clearance Sonar and reversing camera

Power-adjustable, heated front seats

Power-adjustable steering column with Easy Access function

Sunroof

Tahara upholstery

Rear privacy glass

Dual-zone climate control with nanoe humidity sensor

Lexus ES F Sport

F Sport interior and exterior styling details

19in alloys

F Sport seats

Hadori aluminium inlay

Adaptive sports suspension with performance dampers

Auto-folding door mirror function

Memory function for driver's seat and steering wheel

Lexus ES Takumi

Power bootlid with hands-free kick sensor

Heated and power-reclining rear seats

Semi-aniline leather upholstery

Shimamoku wood inlay

Lexus Navigation with 12.3-inch display

Head-up display

Wireless charger

Card key

Mark Levinson premium surround sound audio

360-degree camera

Triple-zone air conditioning

Triple-eye LED multi-weather headlights with Adaptive High-beam System

A range of equipment option packs is also available, giving customers the opportunity to add bundled additional technology, comfort and convenience features.

The Lexus ES can be specified with a **Premium Pack**, OTR price £3,500.

This adds: -

Smooth leather seat upholstery

Front seat ventilation

Power rear screen sunshade

Triple-eye LED multi-weather headlights with Adaptive High-beam System

18-inch alloys

Blind Spot Monitor and Rear Cross Traffic Alert with automatic braking

The Lexus ES F Sport is available with a **Tech and Safety Pack**, OTR price £700.

This adds: -

Triple-eye LED multi-weather headlights with Adaptive High-beam System

Wireless device charger

Heated steering wheel

The Lexus ES F Sport can also be specified with a **Takumi Pack**, OTR price £4,000, which includes all the elements of the Tech and Safety Pack plus: -

17-speaker Mark Levinson surround sound audio

Head-up display

Lexus Navigation with 12.3-inch display

Head-up display

Power rear screen sunshade

Power bootlid with hands-free kick sensor

Metallic or mica paint can be specified for £670, with more sophisticated Sonic White, Sonic Titanium and Azure Blue finishes available for £920 (both prices OTR).

ES TECHNICAL SPECIFICATIONS

| HYBRID SYSTEM | | | | |
|--|--|-------------------|-------------------|-------------------|
| Type | Lexus Hybrid Drive, series/parallel, full hybrid | | | |
| Full system power (bhp/kW) | 215/160 | | | |
| ENGINE | | | | |
| Type | 4 cylinders, in-line, Atkinson cycle | | | |
| Valve mechanism | 4 valves per cylinder, DOHC with VVT-iW (intake) and VVT-i (exhaust) | | | |
| Bore x stroke (mm) | 87.5 x 103.4 | | | |
| Displacement (cc) | 2,487 | | | |
| Compression ratio | 14.0:1 | | | |
| Fuel system | Intake port (multi-point) | | | |
| Fuel type | 95 octane petrol, or higher | | | |
| Max. engine power (bhp/kW @ rpm) | 176/131 @ 5,700 | | | |
| Max. engine torque (Nm @ rpm) | 221 @ 3,600 – 5,200 | | | |
| ELECTRIC MOTOR/GENERATOR | | | | |
| Type | AC synchronous, permanent magnet | | | |
| Max. power (bhp/kW) | 120/88 | | | |
| Max. torque (Nm) | 202 | | | |
| Max. voltage (V) | 650 | | | |
| HYBRID BATTERY | | | | |
| Type | Nickel-metal hydride (NiMH) | | | |
| Nominal voltage (DC V) | 244.8 | | | |
| Number of cells | 204 | | | |
| TRANSMISSION | | | | |
| Type | E-CVT | | | |
| Motor reduction ratio | 3.389 | | | |
| Differential gear ratio | 3.389 | | | |
| Driven wheels | Front | | | |
| PERFORMANCE | | | | |
| 0-62mph (sec) | 8.9 | | | |
| Maximum speed (mph) | 112 | | | |
| FUEL CONSUMPTION | | | | |
| Combined – WLTP (mpg) | 48.49 to 53.55 | | | |
| Fuel tank capacity (l) | 50 | | | |
| EMISSIONS & INSURANCE | | 17in wheel | 18in wheel | 19in wheel |
| CO ₂ – NEDC correlated data | Combined (g/km) | 100 | 103 | 103 |
| | Extra urban (g/km) | 98 | 101 | 101 |
| | Urban (g/km) | 112 | 114 | 114 |
| Insurance groups | 33E – 38E | | | |
| SUSPENSION | | | | |
| Front | MacPherson strut | | | |
| Rear | Trailing wishbone | | | |
| BRAKES | | | | |
| Brake type | Front | Ventilated discs | | |
| | Rear | Solid discs | | |

| | | |
|----------------------------|----------------------------------|--|
| Brake size | Front (diameter x thickness, mm) | 305 x 28 |
| | Rear (diameter x thickness, mm) | 281 x 12 |
| Parking brake | | Electronic |
| STEERING | | |
| Steering gear type | | Rack and pinion |
| Turns lock-to-lock | | 2.7 |
| Minimum turning radius | Tyre (m) | 5.8 (17in wheels) 5.9 (18in, 19in wheels) |
| | Body (m) | 6.2 (17in wheels) 6.3 (18in, 19in wheels) |
| Power steering type | | Electric power steering (EPS) |
| EXTERIOR DIMENSIONS | | |
| Length (mm) | | 4,975 |
| Width (mm) | | 1,865 |
| Height (mm) | | 1,445 |
| Wheelbase (mm) | | 2,870 |
| Track | Front (mm) | 1,525 |
| | Rear (mm) | 1,520 |
| Overhang | Front (mm) | 1,005 |
| | Rear (mm) | 1,100 |
| Ground clearance (mm) | | 150 |
| Drag coefficient (Cd) | | 0.26 |
| INTERIOR DIMENSIONS | | |
| Length (mm) | | 2,168 |
| Width (mm) | | 1,533 |
| Height (mm) | | 1,145 |
| Couple distance (mm) | | 1,022 |
| Headroom | Front (mm) | 953 |
| | Rear (mm) | 949.5 |
| Legroom | Front (mm) | 1,077.5 |
| | Rear (mm) | 998.6 |
| Shoulder room | Front (mm) | 1,421 |
| | Rear (mm) | 1,372.4 |
| Hip room | Front (mm) | 1,395.8 |
| | Rear (mm) | 1,380 |
| Boot capacity – VDA (l) | | 454 |
| WHEELS AND TYRES | | |
| Wheels | | 17, 18 or 19in alloy |
| Tyres | | 215/55R17 235/45R18 235/40R19 |
| Spare | | Tyre repair kit |
| WEIGHTS | | |
| Kerb weight (kg) | | 1,680 – 1,742 |
| Gross vehicle weight (kg) | | 2,150 |

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ES EQUIPMENT SPECIFICATIONS

| SAFETY & HANDLING | ES | F SPORT | TAKUMI |
|--|-----------------------|-------------------------|---------------|
| Lexus Safety System+ with Pre-Collision System, Adaptive Cruise Control, Lane Keeping Assist with Sway Warning, Automatic High Beam and Traffic Sign Recognition | ✓ | ✓ | ✗ |
| Lexus Safety System+ with Pre-Collision System, Adaptive Cruise Control, Lane Keeping Assist with Sway Warning, Adaptive High-beam System and Traffic Sign Recognition | Opt pack ¹ | Opt pack ^{2,3} | ✓ |
| Driver & front passenger airbags | ✓ | ✓ | ✓ |
| Driver & front passenger side airbags | ✓ | ✓ | ✓ |
| Driver & front passenger knee airbags | ✓ | ✓ | ✓ |
| Rear outer passenger side airbags | ✓ | ✓ | ✓ |
| Curtain Shield airbags | ✓ | ✓ | ✓ |
| Front passenger airbag cut-off switch | ✓ | ✓ | ✓ |
| ABS | ✓ | ✓ | ✓ |
| Auto Glide Control | ✓ | ✓ | ✓ |
| Vehicle Stability Control (VSC) | ✓ | ✓ | ✓ |
| Traction Control (TRC) | ✓ | ✓ | ✓ |
| Vehicle Dynamics Integrated Management (VDIM) | ✓ | ✓ | ✓ |
| Hill Assist Control | ✓ | ✓ | ✓ |
| 2x Isofix child seat anchors on outer rear seats | ✓ | ✓ | ✓ |
| Auto-location tyre pressure warning system | ✓ | ✓ | ✓ |
| Blind Spot Monitor and Rear Cross Traffic Auto Brake | Opt pack ¹ | ✗ | ✓ |
| 4 driving modes – EV, Normal, Eco, Sport | ✓ | ✗ | ✓ |
| 5 driving modes – EV, Normal, Eco, Sport, Sport+ | ✗ | ✓ | ✗ |
| Adaptive Variable Suspension | ✗ | ✓ | ✗ |
| Lateral performance dampers | ✗ | ✓ | ✓ |
| Active noise control | ✗ | ✓ | ✓ |
| INSTRUMENTS & CONTROLS | ES | F SPORT | TAKUMI |
| Colour head-up display | ✗ | Opt pack ³ | ✓ |
| Intelligent parking sensors, 4x front, 4x rear, with braking function | ✓ | ✓ | ✗ |
| Intelligent parking sensors, 4x front, 4x rear, with rear pedestrian detection and braking function | ✗ | ✗ | ✓ |
| Reversing camera with guidelines | ✓ | ✓ | ✗ |
| 360° Panoramic View Monitor with guidelines | ✗ | ✗ | ✓ |
| Drive Mode Select control | ✓ | ✓ | ✓ |
| Push-button start | ✓ | ✓ | ✓ |
| Smart entry and start | ✓ | ✓ | ✓ |
| Card key (in addition to standard keys) | ✗ | Opt pack ³ | ✓ |
| Speed-sensitive electric power steering (EPS) | ✓ | ✓ | ✓ |
| Analogue clock with LED illumination | ✓ | ✓ | ✓ |
| Electronic parking brake | ✓ | ✓ | ✓ |
| AUDIO, NAVIGATION & INFORMATION | ES | F SPORT | TAKUMI |
| Pioneer 10-speaker system with CD player and Remote Touch Interface | ✓ | ✓ | ✗ |
| Mark Levinson 17-speaker audio system with 12.3in display and Remote Touch Interface | ✗ | Opt pack ³ | ✓ |
| DAB radio | ✓ | ✓ | ✓ |
| Bluetooth | ✓ | ✓ | ✓ |
| Lexus Navigation with 8in multimedia screen and Remote Touch Interface | ✓ | ✓ | ✗ |
| Lexus Premium Navigation with 12.3in multimedia screen and Remote Touch Interface | ✗ | Opt pack ³ | ✓ |
| Aux-in and 2x USB ports in centre console | ✓ | ✓ | ✓ |
| 2 USB ports in rear of centre console | ✓ | ✓ | ✓ |

| | | | |
|--|-----------------------|-------------------------|---------------|
| 12v accessory outlets (1 front, 1 rear) | ✓ | ✓ | ✓ |
| COMFORT & CONVENIENCE | ES | F SPORT | TAKUMI |
| Auto-dimming rear view mirror | ✓ | ✓ | ✓ |
| Rain-sensing wipers | Opt pack ¹ | ✓ | ✓ |
| Dusk-sensing headlights | ✓ | ✓ | ✓ |
| One-touch power front and rear windows | ✓ | ✓ | ✓ |
| Power boot operation with kick-sensor | ✗ | Opt pack ³ | ✓ |
| Dual zone climate control with Climate Concierge and nanoe technology | ✓ | ✓ | ✗ |
| Triple-zone climate control with Climate Concierge and nanoe technology | ✗ | ✗ | ✓ |
| Electric rear screen sunshade | Opt pack ¹ | Opt pack ³ | ✗ |
| Electric rear screen sunshade and manual rear side sun shades | ✗ | ✗ | ✓ |
| Tie-down hooks x4 in boot | ✓ | ✓ | ✓ |
| Shopping hooks in boot | ✓ | ✓ | ✓ |
| Side storage beneath boot deck board | ✓ | ✓ | ✓ |
| Front centre arm rest with storage | ✓ | ✓ | ✓ |
| 2 cup holders in centre console | ✓ | ✓ | ✓ |
| Rear arm rest with 2 cup holders and storage | ✓ | ✓ | ✓ |
| Map pockets on front seat seatbacks | ✓ | ✓ | ✓ |
| Wireless charging tray | Opt pack ¹ | Opt pack ^{2,3} | ✓ |
| SECURITY | ES | F SPORT | TAKUMI |
| Anti-theft system with siren, intrusion and tilt sensors and immobiliser | ✓ | ✓ | ✓ |
| Remote central double locking with deadlocks | ✓ | ✓ | ✓ |
| Speed-sensitive auto door locking | ✓ | ✓ | ✓ |
| Locking wheel nuts | ✓ | ✓ | ✓ |
| Window etching with VIN | ✓ | ✓ | ✓ |
| SEATING, UPHOLSTERY & TRIM | ES | F SPORT | TAKUMI |
| 8-way electrically adjustable front seats | ✓ | ✗ | ✗ |
| 8-way electrically adjustable F Sport front seats | ✗ | ✓ | ✗ |
| 10-way power-adjustable front seats with memory setting for driver's seat | Opt pack ¹ | ✗ | ✓ |
| 10-way power-adjustable front seats with memory setting for driver and passenger seats | ✗ | ✗ | ✓ |
| Heated front seats | ✓ | ✓ | ✓ |
| Ventilated front seats | Opt pack ¹ | ✗ | ✓ |
| Heated rear seats | ✗ | ✗ | ✓ |
| Power lumbar support (2-way driver and passenger) | ✓ | ✓ | ✗ |
| Power lumbar support (4-way driver, 2-way passenger) | Opt pack ¹ | ✗ | ✗ |
| Power lumbar support (4-way driver and passenger) | ✗ | ✗ | ✓ |
| Driver and front passenger seats with adjustable cushion length and calf support | Opt pack ¹ | ✗ | ✓ |
| Easy entry and exit steering wheel function | ✓ | ✗ | ✗ |
| Easy entry and exit steering wheel and sliding driver's seat function | Opt pack ¹ | ✓ | ✓ |
| Fixed rear seat with through-hatch to boot | ✓ | ✓ | ✗ |
| Power reclining rear seat with through-hatch to boot | ✗ | ✗ | ✓ |
| Power adjustable steering wheel | ✓ | ✓ | ✓ |
| Transmission paddle shifts | ✓ | ✓ | ✓ |
| Perforated leather paddle shift trim | ✗ | ✓ | ✗ |
| Leather steering wheel trim | ✓ | ✗ | ✓ |
| F Sport steering wheel with perforated leather trim | ✗ | ✓ | ✗ |
| Heated steering wheel with wood inserts | Opt pack ¹ | ✗ | ✓ |
| Leather shift lever trim | ✓ | ✗ | ✓ |
| Shift lever with perforated leather trim | ✗ | ✓ | ✗ |
| Tahara upholstery | ✓ | ✗ | ✗ |
| F Sport Tahara upholstery | ✗ | ✓ | ✗ |

| | | | |
|---|-----------------------|-------------------------|---------------|
| Smooth leather upholstery | Opt pack ¹ | x | x |
| Semi-aniline leather upholstery | x | x | ✓ |
| Aluminium sports pedal set | x | ✓ | x |
| Black grain trim inlay | ✓ | x | x |
| Black Shimamoku trim inlay | Opt pack ¹ | x | ✓ |
| Brown Shimamoku trim inlay | x | x | Opt |
| Hadori aluminium trim inlay | x | ✓ | x |
| Aluminium front scuff plates with Lexus logo | ✓ | ✓ | ✓ |
| Aluminium rear scuff plates | Opt pack ¹ | ✓ | ✓ |
| Carpet mats | ✓ | ✓ | ✓ |
| LED ambient lighting | ✓ | ✓ | ✓ |
| EXTERIOR | ES | F SPORT | TAKUMI |
| Single-eye LED headlamps with Automatic High Beam | ✓ | ✓ | x |
| Triple-eye LED headlamps with Adaptive High-beam System | Opt pack ¹ | Opt pack ^{2,3} | ✓ |
| LED daytime running lights | ✓ | ✓ | ✓ |
| Cornering lights | ✓ | ✓ | ✓ |
| LED rear lamps and active brake lights | ✓ | ✓ | ✓ |
| Sequential turn indicators | Opt pack ¹ | Opt pack ^{2,3} | ✓ |
| Lane-change turn indicator function (3, 5 or 7 flashes) | ✓ | ✓ | ✓ |
| Automatic headlamp levelling | ✓ | ✓ | ✓ |
| Rear spoiler | ✓ | ✓ | ✓ |
| F Sport bumpers | x | ✓ | x |
| Rear privacy glass | ✓ | ✓ | ✓ |
| Electrically adjustable, heated, folding, wide-angle door mirrors | ✓ | x | x |
| Noise-reducing acoustic windscreen | ✓ | ✓ | ✓ |
| Windscreen de-icer | Opt pack ¹ | ✓ | ✓ |
| Water-repellent front side window glass | ✓ | ✓ | ✓ |
| Electrically adjustable, auto-dimming, heated, folding, wide-angle door mirrors with reversing tilt function and memory | Opt pack ¹ | ✓ | ✓ |
| Sunroof | ✓ | ✓ | ✓ |
| 17in alloy wheels | ✓ | x | x |
| 18in alloy wheels | Opt pack ¹ | x | x |
| 19in alloy F Sport wheels | x | ✓ | x |
| 18in 10-spoke alloy wheels | x | x | ✓ |
| Tyre repair kit | ✓ | ✓ | ✓ |
| Metallic/mica paint | Opt | Opt | Opt |
| OPTION PACKS | ES | F SPORT | TAKUMI |
| ¹ Premium Pack: 18in alloys, triple-eye LED headlights with LFS and Adaptive High-beam System, smooth leather upholstery, ventilated front seats, Blind Spot Monitor, Rear Cross Traffic Alert with auto brake, heated steering wheel | Opt | x | x |
| ² Tech and Safety Pack: wireless charger, triple-eye LED headlights with Adaptive High-beam System, heated steering wheel | x | Opt | x |
| ³ Takumi Pack: wireless charger, triple-eye LED headlights with Adaptive High-beam System, heated steering wheel, Lexus Premium Navigation with 12.3in multimedia screen, Mark Levinson audio, head-up display, power sunshades, power boot operation with hands-free sensor | x | Opt | x |

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