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PRESS INFORMATION

Full electric power: the Audi e-tron S and the Audi e-tron S Sportback

The equipment, data and prices specified in this document refer to the model range offered in Germany. Subject to change without notice; errors and omissions excepted.

***The collective fuel/electric power consumption values of all models named and available on the German market can be found in the list provided at the end of this MediaInfo.*

Condensed information

The Audi e-tron S and the Audi e-tron S Sportback

Audi is showing consistency and continuing with its electric offensive – with the new Audi e-tron S and the new Audi e-tron S Sportback**. Both of the S models with fully electric drive use three electric motors, two of which operate on the rear axle. Their intelligent drive control raises vehicle safety, and dynamic handling in particular, to a new level. In addition to the electric all-wheel drive, the vehicles are equipped with electric torque vectoring with active and fully variable torque distribution on the rear axle.**

Handling 2.0: the driving experience
The new Audi e-tron S** and the new Audi e-tron S Sportback** deliver dynamics in a new dimension. In S gear, they provide their full boost performance for eight seconds – 370 kW of power and 973 Nm *(717.6 lb-ft)* of torque. The standard sprint takes just 4.5 seconds and acceleration ends at 210 km/h *(130.5 mph)*. The nominal values in D gear, i.e. without boost, are 320 kW and 808 Nm *(596.0 lb-ft)* (Audi e-tron S: combined electric power consumption in kWh/100 km *(62.1 mi)**: 28.4-26.8 (WLTP); 28.2 (NEDC); combined CO_2 emissions in g/km: 0; Audi e-tron S Sportback: combined electric power consumption in kWh/100 km *(62.1 mi)**: 28.1-26.4 (WLTP); 27.6-27.5 (NEDC); combined CO_2 emissions in g/km: 0).

The new S models have two electric motors on the rear axle and one on the front axle, making them the first volume-produced electric cars in the world to have three motors. Their drive layout is based on the modular construction principle: An adapted design of the more powerful electric motor that powers rear axle in the Audi e-tron 55** is now installed on the front axle. The front electric motor from the e-tron 55** operates together with a structurally identical counterpart and individual modifications in the rear.

The high-voltage battery system is located under the passenger compartment. Each of its 36 modules contain 12 cells. The battery has a gross energy capacity of 95 kWh, of which 91 percent (86 kWh) is usable. With one battery charge, the Audi e-tron S** and the Audi e-tron S Sportback** achieve ranges of up to 364 km *(226.2 mi)* and 370 km *(229.9 mi)* respectively in the WLTP cycle.

quattro reloaded: electric torque vectoring
In order to improve efficiency, only the rear electric motors are engaged as long as the Audi e-tron S** and the e-tron S Sportback** are operating in normal driving mode. The front electric motor flashes into action when the driver demands more performance, or predictively before traction subsides. Electric all-wheel drive is now enhanced with electric torque vectoring: Each of the rear electric motors sends the drive torques directly to the respective wheel via a single-speed transmission; there is no more mechanical differential. Need-based regulation takes just milliseconds and can manage very high drive torques. With electric torque vectoring, Audi is raising the principle of four-wheel drive to a whole new level – 40 years after the introduction of quattro technology.

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Drivers experience the excellent agility and traction of the electric S models in particular when challenging them on winding roads. Their character has a greater rear bias and is even sportier than that of the technical basis. If the ESC stabilization control is set to “sport” and the Audi drive select dynamic handling system is set to maximum performance in “dynamic” mode, the drive layout facilitates a high level of transverse dynamics and, upon request, controlled drifts as well. When approaching the physical limit, the unloaded front wheel on the inside of the curve is decelerated slightly via the wheel brake to prevent slip and further refine handling. The sharp dynamism, high level of precision, and uncompromising safety are based on the close networking between all control units that manage the drive and suspension systems.

Networking: the suspension of the electrically driven S models
The large high-voltage battery ensures a balanced distribution of the axle loads and is installed in a low position comparable to that of the three electric motors. This lowers the car’s center of gravity, which offers great advantages in terms of handling. The progressive steering, whose ratio becomes increasingly direct as the steering movement increases, emphasizes the sporty character. The suspension has S-specific tuning. The Audi drive select system offers seven driving profiles. For example, it accesses the adaptive air suspension sport – the air suspension with regulated damping can vary the level of the body by up to 76 millimeters *(3.0 in)* depending on the driving situation and settings.

The electric S models are equipped with 20-inch wheels as standard and come with tires that are already 285 millimeters *(11.2 in)* wide. 21-inch wheels are available upon request and even sportier 22-inch wheels will follow at a later time. Fixed calipers with six pistons each are installed at the front above the large brake disks; floating calipers are installed in the rear. The brake calipers are painted black as standard and feature the S logo. Upon request, they can be painted in bright orange and feature the e-tron logo.

The brake is actuated and regulated via a compact module that controls the pressure build-up electronically (by wire), reinforces it electrically and actuates the brakes hydraulically. An electric spindle drive actuates the displacing piston in a flash: The brake pads are in full-pressure contact with the disks after just 150 milliseconds. Depending on the driving situation, the brake control system decides individually for each axle whether the car will decelerate with the electric motors, the wheel brakes, or a combination of both systems.

Versatile: charging options at home and on the road
Owners of an Audi e-tron S** or Audi e-tron S Sportback** can select from numerous different charging options. At home in their garage, they use 230V and 400V sockets with the charging system compact, which allows them to charge with a maximum of 11 kW. Using the myAudi app, they can control the charging processes and timers as well as pre-entry climate control via their smartphone. The optional charging system connect, which will be released shortly after the market launch, enables smart charging functions in interaction with a home energy management system.

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In Europe, the e-tron Charging Service allows customers to access more than 150,000 public charging points with one card. The Audi e-tron S** and the e-tron S Sportback** can charge with up to 150 kW direct current (DC) at many HPC fast-charging stations (High Power Charging). It takes only about half an hour in ideal conditions to charge from 5 to 80 percent with the high charging capacity remaining nearly constant. Customers of Audi's own charging service enjoy favorable conditions in the Europe-wide fast-charging network from Ionity. In the first year, Audi covers the basic fee for the transit rate, which offers a reduced price per kWh of electricity.

Innovative solutions: aerodynamics.
Thanks to the optional virtual exterior mirrors (cameras that send their images to high-contrast displays in the interior) in particular, the Audi e-tron S models achieve very good drag coefficients. Flow-optimized wheel arch extensions also make a considerable contribution to resolving the conflict of objectives between outstanding aerodynamics and a sporty look. The innovative technology was developed by Audi and is now patented. The brand with the four rings is introducing it to volume car production for the first time. This allows the Audi e-tron S Sportback** to achieve a drag coefficient of just 0.26, despite the widening of its wheel arches. On the Audi e-tron S**, the drag coefficient is 0.28.

A second major element in the aerodynamics concept is the controllable cooling-air inlet with ducts to cool the front wheel brakes. It remains closed as often as possible so that the airstream flows over the hood with almost no turbulence. As part of efficient thermal management, each e-tron is equipped with a heat pump as standard. It draws heat energy from the waste heat of the drive components, thereby increasing the range by up to ten percent.

The sophisticated recuperation concept also contributes to the vehicle's efficiency. Drivers can select between three recuperation levels, the highest of which allows them to experience a noticeable one-pedal feeling. When braking, the electric motors decelerate alone up to the range of 0.3 g – in most everyday situations, in other words. The hydraulic wheel brakes only come into play beyond that level. However, the electric motors remain active and can convert up to 270 kW of peak performance when braking from a speed of 100 km/h *(62.1 mph)*.

An extra five centimeters *(2.0 in)* of width: the exterior design
The Audi e-tron S** and the Audi e-tron S Sportback** reveal their electric power at first glance. Their front and rear bumpers have strong contours, and the air curtains are particularly large and expressive. The diffuser insert at the rear end extends almost across the entire vehicle width. The fact that the wheel arches on both sides are 23 millimeters *(0.9 in)* wider makes the cars appear very powerful. Silver attachments at the front and rear end add highlights. This, as well as the aluminum exterior mirror housings are exclusive features of the S models Large parts of the body's lower section can be painted in a contrasting color upon request.

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Both cars can be equipped with digital matrix LED headlights as an option – another world first in volume production that Audi introduced with the e-tron Sportback** in the fall of 2019. Each light is divided into 1.3 million pixels and can be controlled with great precision, which opens up many new functions. In narrow areas, for example, it shows the car's position in the lane and thus helps the driver to remain safely in the center.

Progressive: interior and equipment
The interiors of the Audi e-tron S** and Audi e-tron S Sportback** are designed in dark colors. Electrically adjustable sport seats come as standard. Their leather/Alcantara upholstery as well as the gear selector lever feature S embossing with a rhombus. The decorative trims are made of brushed aluminum and are available in two versions. They are also available in carbon upon request. The contour/ambient lighting package adds progressive highlights in the dark.

Fully digital: controls, infotainment, and assist systems
Like all full-size class models from Audi, the Audi e-tron S** and the Audi e-tron S Sportback** are equipped with the digital MMI touch response control system with the two large central displays. On the third display, the Audi virtual cockpit, the driver can select a special e-tron screen that moves the electric drive to center stage. An optional head-up display complements the display concept. The MMI navigation plus control and infotainment system is included as standard. Behind its many functions is the third generation modular infotainment platform (MIB 3), which completes all tasks with a high computing power. It cooperates with the communication box, which connects the car with the environment and the passengers' smartphones.

Audi connect's online services complement the navigation system, especially the expanded e-tron route planner. It calculates the fastest route including optimum charging stops, taking into account traffic data, the driver's driving profile, and the duration of the charging stops. In some cases, this strategy may result in the system suggesting an alternative route. The directory of charging points, which includes appropriate additional information, is updated online every day. Upon request, charging stations where the driver can pay using the e-tron Charging Service can be preferred when planning the route.

Both models come with numerous assist systems. The standard efficiency assist supports an economical driving style by means of predictive information and, if requested, automatic recuperation. In conjunction with the optional adaptive cruise assist, the system detects the traffic environment and the course of the road by means of sensor and navigation data as well as Car-to-X information. In this way, it can decelerate and accelerate the car predictively. The central driver assistance controller uses the data provided by the sensors to continuously compute a model of the vehicle environment and makes it available to all assist systems.

In the fall: market launch in Europe
The two electrically powered S models will be launched on European markets in fall 2020. In Germany, the base price for the Audi e-tron S** starts at EUR 91,435.29; for the e-tron S Sportback**, it starts at EUR 93,628.58.

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Facts and figures

The Audi e-tron S and the Audi e-tron S Sportback

Drive and high-voltage battery

- Two asynchronous electric motors at the rear axle and one at the front axle achieve a combined peak output of 320 kW and a peak torque of 808 Nm *(596.0 lb-ft)*; in boost mode, they achieve 370 kW and 973 Nm *(717.6 lb-ft)*. (Audi e-tron S: combined electric power consumption in kWh/100 km *(62.1 mi)**: 28.4-26.8 (WLTP); 28.2 (NEDC); combined CO_2 emissions in g/km: 0; Audi e-tron S Sportback: combined electric power consumption in kWh/100 km *(62.1 mi)**: 28.1-26.4 (WLTP); 27.6-27.5 (NEDC); combined CO_2 emissions in g/km: 0)
- Sporty acceleration values: 0–100 km/h *(62.1 mph)* in 4.5 seconds; top speed of 210 km/h *(130.5 mph)*.
- Electric all-wheel drive and electric torque vectoring via the two electric motors at the rear axle; intensive and therefore lightning-fast and highly precise networking of drive, all-wheel, and brake regulation
- Sophisticated recuperation system with energy recovery in coasting mode and during almost all brake applications; choice of three levels; output of up to 270 kW
- Range with one battery charge up to 364 kilometers *(226.2 mi)* for the e-tron S** or 370 kilometers *(229.9 mi)* for the e-tron S Sportback** in the WLTP cycle.
- Battery with 95 kWh (86 kWh net), voltage of 397 volts; 36 cell modules with 12 cells each
- Highly flexible thermal management with four circuits, efficient heat pump as standard

Suspension

- Sporty basic handling character thanks to the low and central installation position of the drive system and battery
- Dynamic handling system Audi drive select with seven profiles, progressive steering, and standard adaptive air suspension sport, S-specific tuning
- Electrohydraulic wheel brake system with very fast pressure build-up; brake calipers painted orange upon request, large brake disks available
- Wheels with a diameter of 20 to 22 inches, consistent tire width of 285 mm *(11.2 in)*

Charging options

- Alternating and three-phase current charging at home with up to 11 kW; charging system connect with smart functions available upon request shortly after market launch
- Fast charging on the road with up to 11 kW or, with direct current, up to 150 kW.
- e-tron Charging Service makes more than 150,000 charging points in Europe accessible with just one card
- myAudi app for remote management of charging and pre-entry climate control

All terms in blue in the text are explained in detail in the technology lexicon at www.audi-mediacenter.com/en/technology-lexicon.

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Exterior design and aerodynamics

- Striking design of front and rear bumpers and diffuser insert; wheel arches widened by 23 millimeters *(0.9 in) each*; silver-colored attachments
- Digital matrix LED headlights available upon request; new technology with 1.3 million micromirrors, new light functions such as lane light and orientation light
- Drag coefficient of just 0.26 (e-tron S Sportback**), flow-optimized wheel arch extensions at the front, optional virtual exterior mirrors with cameras and OLED displays

Interior and controls

- Interior with distinctly calm design language – sporty and progressive color design; electrically adjustable sport seats with leather/Alcantara upholstery, aluminum or carbon inlays, contour/ambient lighting package
- Two large MMI touch response displays, both with haptic feedback, Audi virtual cockpit, and head-up display upon request

Connectivity and equipment

- New main unit (MIB 3) with increased processing power for MMI navigation plus
- Audi connect with many online services, including extended e-tron route planner
- Many assist systems such as adaptive cruise assist (optional) and efficiency assist (standard);
- Series-production launch in Europe in autumn of 2020; base price in Germany: EUR 91,435.29 for the Audi e-tron S** and EUR 93,628.58 for the Audi e-tron S Sportback**

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The cars in detail

Dynamic, fast, and electric: The Audi e-tron S and the Audi e-tron S Sportback

Audi is launching its first two fully electric S models – the Audi e-tron S and the Audi e-tron S Sportback**. Their three electric motors, two of which are located on the rear axle, together provide 370 kW of boost power and 973 Nm *(717.6 lb-ft)* of torque, Vehicle safety and vehicle dynamics in particular have reached a new level: In addition to the electric all-wheel drive, the cars are equipped with electric torque vectoring, which provides active and fully variable torque distribution on the rear axle.**

Audi e-tron S: combined electric power consumption in kWh/100 km *(62.1 mi): 28.4-26.8 (WLTP); 28.2 (NEDC); combined CO_2 emissions in g/km: 0;**
Audi e-tron S Sportback: combined electric power consumption in kWh/100 km *(62.1 mi): 28.1-26.4 (WLTP); 27.6-27.5 (NEDC); combined CO_2 emissions in g/km: 0**

Drive system and suspension

Handling 2.0: the driving experience
The driving experience that the two electric S models offer impresses with the kind of fascinating dynamism that only a superior electric drive can provide. If the driver selects the S gear and fully depresses the right-hand pedal, both cars accelerate from a standstill to 100 km/h *(62.1 mph)* in 4.5 seconds with almost no sound and great smoothness, as the full tractive power is available immediately. Top speed is electronically governed at 210 km/h (*130.5 mph*). The drive delivers its full boost performance for eight seconds at a time, even multiple times in a row, delivering an output of 370 kW and 973 Nm *(717.6 lb-ft)* of torque. The nominal values in the D gear, i.e. without boost, are 320 kW and 808 Nm *(596.0 lb-ft)*.

In terms of handling, the electric S models impress with their excellent agility and traction and their extremely spontaneous response to the accelerator pedal. Their drive character has an even greater rear bias and is even sportier than that of the technical basis. If the ESC stabilization control is set to “sport” and the Audi drive select dynamic handling system is set to “dynamic” the drive layout facilitates a high level of transverse dynamics and, upon request, controlled drifts as well. The driving behavior is predictable at all times, and is characterized by an ultra-high level of safety and reliability.

The drive layout: three electric motors in volume production for the first time
Audi already used the concept with the two asynchronous machines (ASM) as a modular system with the e-tron and e-tron Sportback models. A third drive motor is now being added: The new e-tron S models are the first volume-produced electric cars in the world to have three motors.

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An adapted design of the electric motor that powers rear axle on the e-tron 55** is installed here on the front axle. It is designed for an output of 124 kW or 150 kW with boost. The smaller front electric motor from the e-tron 55** with adapted design now operates at the rear together with a structurally identical counterpart. The tandem achieves an output of 196 kW and 264 kW with boost. Planetary transmissions with one stage transfer the power to the wheels.

Each electric motor is supplied by its own power electronics that converts the battery's direct current into three-phase current. The asynchronous motors can be overloaded and are extremely robust, and they do not produce any drag losses when they run along while deenergized, which is an advantage in terms of efficiency. The front electric motor is installed parallel to the axles for packaging reasons, while the electric motors at the rear axle are installed back to back coaxially. The rotor plate packages have been cast with light aluminum. Coolant flows through the rotor shafts; this coolant comes from a common coolant circuit that the electric motors share. The sophisticated cooling concept enables powerful performance even with high requirements.

95 kWh energy content: the battery system

The high-voltage battery system stores 95 kWh of energy, of which 91 percent (i.e. 86 kWh) is available for use. It operates with a nominal voltage of 397 volts. In the realistic WLTP cycle, the electric power consumption is 28.4–26.8 kWh per 100 kilometers *(62.1 mi)* for the Audi e-tron S and 28.1–26,4 kWh for the e-tron S Sportback. This allows for a range of up to 364 *(226.2 mi)* and 370 *(229.9 mi)* kilometers respectively. The battery is a flat block measuring 2.28 meters *(7.5 ft)* in length, 1.63 meters *(5.3 ft)* in width and 0.34 meters *(1.1 ft)* in height and is located beneath the passenger compartment. Its 36 modules are subdivided into two levels – a long one at the bottom and a short one at the top that occupies the space beneath the back seat. Each module integrates 12 cells.

The cooling system is made of flat, extruded aluminum sections that are divided into small chambers. It is installed beneath the cell space and maintains an even temperature of all modules, ensuring that they always remain in their optimum temperature window of between 25 and 35 degrees Celsius. The framework structure in the battery system's interior ensures that it is particularly rigid. Its housing consists of 98 percent aluminum, and a strong frame protects it from becoming damaged. 35 bolting points integrate it into the body in such a way that its already high level of rigidity is increased by another 27 percent.

New level of technology: 40 years of quattro competence from Audi

40 years ago, the brand with the four rings presented the Audi quattro at the Geneva Motor Show – it was the pioneer of a huge success story. With the e-tron S** and the e-tron S Sportback**, Audi is now raising the principle of four-wheel drive again to a whole new level of technology: In addition to electric all-wheel drive, cars are equipped with electric torque vectoring:

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For reasons relating to efficiency, the rear electric motors in the Audi e-tron S** and e-tron S Sportback** provide propulsion when driving normally. The front electric motor is deenergized, but flashes into action when the driver demands more output, or predictively before slip occurs when driving on slippery roads or cornering at high speed. This electric all-wheel drive is now being enhanced with electric torque vectoring at the rear axle: Each of the two electric motors send their torques directly to the wheel via a transmission; there is no longer a mechanical differential.

Thanks to the spontaneity of the electric motors, electric torque vectoring, that is the distribution of the torque between the rear wheels, takes place within milliseconds. The time offset as compared to a mechanical system is shorter by a factor of four. It can also manage considerably higher torque: When the driver accelerates out of a corner at a sporty speed, the outside rear wheel is subject to 220 Nm *(162.3 lb-ft)* more than the inside wheel. Due to the gear ratio, the difference at the wheels is around 2,100 Nm *(1,548.9 lb-ft)*. The yaw moment that is generated supports the steering characteristics and the curve radius can be retained with a smaller steering angle. Electric torque vectoring also offers great strengths in terms of pure traction: If one of the rear wheels is on very slippery ground during acceleration, e.g. a patch of ice or gravel, it receives no torque. Almost all of the torque is transferred to the wheel that has stronger traction.

A prerequisite for the high speed and precision with which the electric all-wheel drive and the electric torque vectoring work is the close linking of the following control units: the Electronic Stabilization Control (ESC), the drive control unit (ASG), the electronic chassis platform (ECP), and the control units of the performance electronics, which output voltage pulses up to 10,000 times per second. All software functions, apart from the ESC, are Audi in-house developments that benefit from the brand's roughly 40 years of quattro experience.

The ECP is the mastermind among the control units: It makes the crucial contribution to the management of the all-wheel drive and electric torque vectoring. It calculates the ideal distribution of longitudinal and transverse torque on the basis of the data from the sensors that continuously inform it on the car's driving condition and the driver's request. One of its tasks is wheel-selective torque control: At the dynamic limit, the unloaded front wheel on the inside of the curve is braked slightly via the wheel brake. This minor, almost unnoticeable intervention prevents slip and makes handling even more agile and neutral.

Highly efficient: recuperation

The recuperation system contributes roughly 30 percent to the range of the electric S models. It achieves high levels of efficiency, both when the driver releases the accelerator pedal and when they depress the brake pedal. The degree of recuperation can be selected in three levels via rocker switches on the steering wheel. At level 0, the car continues to roll free (coasting), and at the highest level, it decelerates with up to 0.13 *g*, which is accompanied by a noticeable one-pedal feeling. In the MMI control system, the driver can use the efficiency assist to set fully automatic recuperation.

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Up to 0.3 g, i.e. in most everyday situations, the Audi e-tron S** and the Audi e-tron S Sportback** use the electric motors alone to decelerate. The electric motors even remain active in the case of heavier deceleration where the wheel brakes are involved. When braking from 100 km/h *(62.1 mph)*, they can convert up to 270 kW of peak power, more than a formula E racing car, which achieves only around 250 kW. Depending on the driving situation, the brake control system decides – individually for each axle – whether the car decelerates only with the electric motors, only with the wheel brakes (in rare cases), or with a combination of both systems.

Fast and powerful: the brakes
When the electrohydraulic wheel brake system assists with electric brake recuperation, the transition is smooth and homogeneous, and the pedal forces remain constant. Actuation and regulation are performed via a compact module that controls the pressure build-up electronically (by wire), reinforces it electrically, and actuates the brakes hydraulically. An electric motor with a spindle drive actuates the displacing piston, which presses the hydraulic fluid into the line, extremely quickly. The brake pads are in full-pressure contact with the disks after just 150 milliseconds, barely more than a blink of the eye. This can reduce the braking distance considerably as compared to a conventional system.

The fast pressure build-up allowed the developers to slightly increase the air gap between the brake disk and pads. This reduces the losses resulting from short-term unintentional contact between the pads and disks. The wheel brakes are powerful and durable: Six-piston calipers painted black with a red S rhombus and large disks with a diameter of 400 millimeters *(15.7 in)* are installed at the front axle. Audi delivers orange brake calipers with e-tron logos upon request.

Ideal conditions for dynamism: the suspension
All aspects of the suspension of the Audi e-tron S and the Audi e-tron S Sportback are state-of-the-art, and the same applies to the five-link suspensions all around. Their elasto-kinematics and damping rates are tuned specifically for the S models, with stronger stabilizers reducing rolling when cornering at high speed. The ratio of the progressive steering, which is already sporty, becomes increasingly direct as the steering movement increases. The drive layout also promotes dynamism: All the heavy components, in particular the high-voltage battery, are concentrated at a low level between the axles, bringing the axle load distribution close to the ideal value of 50:50.

The driver can exert major influence on the car's character at their own discretion. One of the instruments the driver can use for this is the Electronic Stabilization Control (ESC), which offers the "normal," "sport," and "offroad" programs as well as an off position. The Audi drive select dynamic handling system offers seven profiles: comfort, auto, dynamic, efficiency, individual, allroad, and offroad. It also incorporates the adaptive air suspension sport – the air suspension with adaptive damping can vary the level of the body by up to 76 millimeters *(3.0 in)*.

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When driving at high speed, it lowers the vehicle by up to 26 mm *(1.02 in)* compared to the normal level, and the range benefits from the improved surround flow.

If the driver selects offroad mode, the air suspension raises the body of the Audi e-tron S and the e-tron S Sportback by 35 millimeters *(1.4 in)*. The ESC switches to a stability, traction, and brake regulation that is tailored to use on dirt roads. The standard hill descent control is also activated. It assists the driver by means of automatic brake interventions when driving down a steep gradient that exceeds six percent.

The S models are provided with 20-inch wheels as standard, and 21-inch wheels are available upon request. The even sportier 22-inch wheels will follow at a later time. The tire width is 285 millimeters *(11.2 in)* for all rims. This also contributes to the high transverse dynamics that are typical for the S models from Audi. While the e-tron S and the e-tron S Sportback are driving around the city, almost all the driver and passengers hear is the rolling noise of the tires. The body is carefully insulated to prevent the transmission of structure-borne sound. At low speed, a loudspeaker located in front of the right front wheel outputs a synthetic and legally prescribed driving sound to warn other road users. The wind noise level remains very low, even at higher speeds, as is typical of Audi.

Versatile: the charging offering
Audi offers its customers two systems for charging their electric car in their own garage. The standard charging system compact can be used preferably with a 400-volt three-phase current socket, where it enables charging with an output of up to 11 kW. It is also possible to charge the car using a 230-volt socket. The optional charging system connect, which will be released shortly after the market launch, offers smart charging functions in interaction with a home energy management system, for example charging at times when electricity is less expensive or with solar power, provided that a photovoltaic system is installed. Audi customers can control the charging processes and timers as well as pre-entry climate control via their smartphone with the myAudi app.

On the road, customers can access more than 150,000 public charging points in Europe with the Audi e-tron Charging Service. All they need is a single card. There is a choice of two tariffs: The city tariff for occasional use in urban areas and the transit tariff for long-distance drivers. With the latter, Audi pays the base fee for the customers of its e-tron models for the first year. Customers also pay just 31 cents per kilowatt hour of direct current in the Europe-wide Ionity network – comparable to what they pay for charging their car at home.

The Audi e-tron S** and the e-tron S Sportback** can charge with up to 150 kW direct current at the HPC fast-charging stations (High Power Charging) that Ionity and other providers have installed. Here, their battery can charge from 5 to 80 percent in around half an hour under ideal conditions, with the charging process operating near the threshold to maximum performance up to this mark.

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One important factor in this context is the thermal management of the electric S models, which cools and heats the battery, the electric motors, and the interior. It is comprised of four sub-circuits that can be connected in different ways as needed. During DC charging, it cools the high-voltage battery. The thermal management also enables the battery to have a reproducible drive performance and long life cycle. One of its functions is the heat pump that maintains the temperature of the interior in a highly efficient manner. It can draw up to 3 kW of heat power from the waste heat of the high-voltage components, thereby increasing the range by up to 10 percent depending on the outside temperature.

Exterior

Almost five centimeters *(2.0 in)* wider: the exterior design
The powerful and sporty design of the Audi e-tron S** and the Audi e-tron S Sportback** is embedded into the brand's progressive design language, with strong contours highlighting the wheels. Features such as the octagonal Singleframe, which is for the most part sealed and painted light gray, transport the design into the electric era. Four bars in the lower section of the headlights display the e-tron-specific daytime running light signature if the customer ordered the optional matrix LED headlights.

The two S models with electric drive reveal their dynamic potential at first glance. The front bumper features a striking design and the integrated air curtains are larger and more expressive. The wheel arches on both sides are a full 23 millimeters *(0.9 in)* wider and the diffuser insert in the rear bumper extends almost across the entire width of the rear end. Silver elements add highlights all over the car, from the lip of the front bumper and the Singleframe and all the way to the diffuser insert. The door inserts and housings of the exterior mirrors are made of aluminum, and the front and rear end are decorated with S badges. Audi can paint attachments like the front lip, wheel arches and sill trims in a contrasting color upon request.

Innovative solutions: aerodynamics
The striking design of the electric S models goes hand in hand with aerodynamics based firmly on new technologies. With the virtual exterior mirrors – cameras that transmit their images to OLED displays in the interior – the drag coefficients are just 0.26 for the Audi e-tron S Sportback** and 0.28 for the Audi e-tron S**.

The flow-optimized wheel arch trims at the front wheels are a further world innovation in large-scale vehicle construction. There are narrow horizontal strips in the cutouts in the front area. They guide the airstream cleanly around the wheels when driving straight ahead, thereby encapsulating interfering turbulence in the wheel arches. The design of the standard 20-inch wheels as well as the profile and embossing on the sides of the tires are also optimized in this regard. The flow-optimized wheel arch trims, for which Audi owns the patent, resolve the conflict of objectives between aerodynamics and a sporty look. They add roughly three kilometers *(1.9 mi)* of range, about the same as the virtual exterior mirrors.

** Information on fuel/power consumption and CO_2 emissions in ranges depending on the chosen equipment level of the car.*

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An important element in the aerodynamics concept is the controllable cooling-air inlet with ducts to cool the front wheel brakes. It remains closed as often as possible in order to let the airstream flow over the hood with almost no turbulence. Last but not least, the fully covered underbody including the aluminum plate that protects the battery contribute significantly to increasing the aerodynamics.

The precision of a new era: the digital matrix LED headlights
The Audi e-tron S** and the Audi e-tron S Sportback** can brighten up the night with digital matrix LED headlights as an option – the brand with the four rings introduced them in volume production as a world innovation at the end of 2019. They use a technology abbreviated as DMD (digital micromirror device) that is also used in video projectors: The light is divided into roughly 1.3 million tiny pixels and can thus be controlled with a new level of precision, which opens up many innovative functions.

The most important of these functions is the lane and orientation light for highways. Here, the headlights emit a carpet of light that is up to 50 meters *(164.0 ft)* long. It illuminates the driver's own lane and adapts dynamically when changing lanes. Dark areas where there is no light show the exact position of the car in the lane. On narrow roads or on construction sites, the new light function helps the driver to stay in the center of the lane intuitively. In addition, the new technology can generate dynamic leaving home and coming home animations when locking and unlocking the car. They appear as projections on a wall or on the ground. This feature, where customers can choose from six variants, turns the space in front of the car into a well-lit stage.

Interior and controls

Progressive: interior and equipment
The interiors of the electric S models are dominated by dark colors. A large arc connects the displays of the virtual external mirrors (option) with the hood above the Audi virtual cockpit. The instrument panel is driver-oriented, the middle tunnel's console rests on open side walls.

Electrically adjustable sport seats come as standard. Their leather/Alcantara upholstery and the gear selector lever with the moving button feature the S embossing with a rhombus. The door sill trims and steering wheel are decorated with S badges. Audi can install S sport seats with pronounced side bolsters upon request. Their Valcona leather upholstery features a rhombus pattern and is available in black, rotor gray, or Arras red. The adjustable customized contour seats with perforated leather and climate control are available as an alternative. The decorative trims are made of dark brushed aluminum or, as an option, open-pore carbon; the inlays in the door sill are in aluminum look. The optional contour/ambient lighting package adds progressive highlights in the dark.

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Fully digital: Controls and infotainment:
Like all Audi models of the full-size class, the electric S models have the digital MMI touch response control system on board. It is based on two large touch displays with acoustic and haptic feedback, which are located on black panels in the center of the instrument panel. It is just as easy to operate as a smartphone, which due in part to natural language voice control. On the third display, the Audi virtual cockpit, the driver can select a special e-tron screen via the multifunction steering wheel. This screen moves the electric drive to center stage. An optional head-up display complements the displays.

Connectivity and equipment

High processing power: the new MIB 3
All control and infotainment functions in the Audi e-tron S** and Audi e-tron S Sportback** are operated via the MMI navigation plus. Behind it is the new third generation modular infotainment platform (MIB 3) with its high processing power. It cooperates closely with the communication box, which connects the car with the environment via LTE advanced and with the passengers' smartphones via a Wi-Fi hotspot. After the vehicle is started, the MIB 3 with all of its functions, apps, and services boots up within a few seconds. The navigation has new features: It provides information on the traffic flow for a specific lane and can make predictive calculations on its development.

One of the online services in the broad portfolio of Audi connect is the enhanced e-tron route planner. When calculating the optimum route, it calculates the overall travel time, i.e. the driving time and the charging time, and takes forecasts regarding the traffic situation and occupation of charging points into account. In any case, it plans the sections between the charging stops such that the driver arrives at their destination as quickly as possible. To do this, it may suggest charging twice with high power instead of one long stop with lower power. The directory of charging points, which often includes detailed information on the charging capacity, is updated every day.

Audi connect also includes the Car-to-X services that connect the car with the environment. For example, they can help with finding free parking spots on the roadside or allow the driver to surf the green wave by communicating with traffic lights. The Amazon Alexa service provides access to many thousands of Alexa skills. Features such as the Bang & Olufsen 3D premium sound system round off the infotainment offering.

Even greater confidence: the driver assist systems
Whether parking, in the city or on a long-distance drive, there are many assist systems in the Audi e-tron S** and the Audi e-tron S Sportback** to make the journey even more relaxing and effortless. They are available in two packages. Behind them is the central driver assistance controller (zFAS), which continuously computes an exact model of the environment. Data for this is provided by up to five radar sensors, six different cameras, and 12 ultrasonic sensors.

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The efficiency assist is on board as standard. It supports an economical driving style by means of predictive information and, if requested by the driver, automatic recuperation. In conjunction with the optional adaptive cruise assist, which assists with longitudinal and lateral guidance, the system detects the traffic environment and the course of the road by means of sensor and navigation data as well as Car-to-X information. In this way, it can decelerate and accelerate the car predictively.

In the fall: market launch in Europe
The two electrically powered S models will be launched on European markets in fall 2020. In Germany, the base price for the Audi e-tron S** starts at EUR 91,435.29; for the e-tron S Sportback**, it starts at EUR 93,628.58.

Electric power consumption of the models named above:

Figures depend on the equipment selected

Audi e-tron S:
Combined electric power consumption in kWh/100 km: 28.4–26.8 (WLTP); 28.2 (NEDC)
Combined CO_2 emissions in g/km: 0

Audi e-tron S Sportback:
Combined electric power consumption in kWh/100 km: 28.1–26.4 (WLTP); 27.6–27.5 (NEDC)
Combined CO_2 emissions in g/km: 0

Audi e-tron 55:
Combined electric power consumption in kWh/100 km *(62.1 mi)*: 26.4–22.4 (WLTP); 23.1–21.0 (NEDC);
Combined CO_2 emissions in g/km: 0

Audi e-tron Sportback 55:
Combined electric power consumption in kWh/100 km *(62.1 mi)*: 26.0–21.9 (WLTP); 22.7–20.6 (NEDC)
Combined CO_2 emissions in g/km: 0

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The specified fuel consumption and emission data have been determined according to the measurement procedures prescribed by law. Since September 1, 2017, certain new vehicles are already being type-approved according to the Worldwide Harmonized Light Vehicles Test Procedure (WLTP), a more realistic test procedure for measuring fuel consumption and CO_2 emissions. Starting on September 1, 2018, the New European Driving Cycle (NEDC) will be replaced by the WLTP in stages. Owing to the more realistic test conditions, the fuel consumption and CO_2 emissions measured according to the WLTP will, in many cases, be higher than those measured according to the NEDC. For further information on the differences between the WLTP and NEDC, please visit www.audi.de/wltp.

We are currently still required by law to state the NEDC figures. In the case of new vehicles which have been type-approved according to the WLTP, the NEDC figures are derived from the WLTP data. It is possible to specify the WLTP figures voluntarily in addition until such time as this is required by law. In cases where the NEDC figures are specified as value ranges, these do not refer to a particular individual vehicle and do not constitute part of the sales offering. They are intended exclusively as a means of comparison between different vehicle types. Additional equipment and accessories (e.g. add-on parts, different tire formats, etc.) may change the relevant vehicle parameters, such as weight, rolling resistance and aerodynamics, and, in conjunction with weather and traffic conditions and individual driving style, may affect fuel consumption, electrical power consumption, CO_2 emissions and the performance figures for the vehicle.

Further information on official fuel consumption figures and the official specific CO_2 emissions of new passenger cars can be found in the "Guide on the fuel economy, CO_2 emissions and power consumption of all new passenger car models," which is available free of charge at all sales dealerships and from DAT Deutsche Automobil Treuhand GmbH, Hellmuth-Hirth-Str. 1, 73760 Ostfildern, Germany, or at www.dat.de.

The Audi Group, with its brands Audi, Ducati and Lamborghini, is one of the most successful manufacturers of automobiles and motorcycles in the premium segment. It is present in more than 100 markets worldwide and produces at 16 locations in 11 countries. 100 percent subsidiaries of AUDI AG include Audi Sport GmbH (Neckarsulm, Germany), Automobili Lamborghini S.p.A. (Sant'Agata Bolognese, Italy), and Ducati Motor Holding S.p.A. (Bologna, Italy).

In 2019, the Audi Group delivered to customers about 1.845 million automobiles of the Audi brand, 8,205 sports cars of the Lamborghini brand and 53,183 motorcycles of the Ducati brand. In the 2019 fiscal year, AUDI AG achieved total revenue of €55.7 billion and an operating profit of €4.5 billion. At present, 90,000 people work for the company all over the world, 60,000 of them in Germany. With new models, innovative mobility offerings and other attractive services, Audi is becoming a provider of sustainable, individual premium mobility.

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