

PORSCHE

The new Macan

Press kit

Highlights

The key details of the new Porsche Macan

- **The sportiest vehicle in the B-SUV segment** With the Macan, Macan 4, Macan 4S and Macan Turbo, the line-up currently boasts four models that cover a wide range of high-performance. The top-of-the-range model delivers overboost performance of up to 470 kW (639 PS) and 1,130 Nm, accelerates from 0 to 100 km/h in 3.3 seconds and achieves a top speed of 260 km/h.
- **The Macan with the longest range, and the first with rear-wheel drive:** the focus of the new entry-level model is primarily on increased efficiency. By dispensing with all-wheel drive, the Macan is 110 kilograms lighter than the Macan 4 and therefore requires less electricity for propulsion. This results in a combined WLTP range of up to 641 kilometres.
- **The sweet spot of the model range:** The new Macan 4S is positioned in the upper section of the model range in terms of performance. It bridges the gap between the other all-wheel drive models: the Macan 4 and Macan Turbo. The Macan 4S impressively combines dynamic performance and significantly improved acceleration with agility and everyday usability.
- **Sharpened proportions and Porsche Design DNA:** the new Macan has a purposeful, dominant appearance. It includes the following highlights: the flat front bonnet with pronounced wings, the classic Porsche flyline, and the frameless doors. There are also the up to 22-inch wheels and the taillight strip with a striking 3D look.
- **One of the most streamlined SUVs on the market:** Porsche combines its design DNA with aerodynamics engineered to optimise range and consumption. Among other features, fully variable cooling-air flaps and an adaptive rear spoiler as part of Porsche Active Aerodynamics (PAA), as well as a fully enclosed underbody, help to achieve a drag coefficient of 0.25.

- **An 800-volt system for fast travel:** the new Macan models have a powerful high-voltage battery with a gross energy content of 100 kWh, and 800-volt (DC) charging is possible at up to 270 kW. The state of charge can go from ten to 80 per cent in around 21 minutes.
- **Family friendly with everyday practicality:** The all-electric version is still a true Macan. It has a high level of everyday usability, high-quality equipment, and a family-sized interior space. The SUV has a frunk with a capacity of 84 litres and a rear luggage compartment with a volume of up to 1,348 litres¹. Each model has a towing capacity of 2,000 kg.
- **Typical Porsche E-Performance:** Porsche developed the new Macan with a focus on outstanding driving dynamics. The permanent magnet synchronous motors, the electric Porsche Traction Management (ePTM) with fully variable power distribution, the Porsche Active Suspension Management (PASM) with two-valve technology, the air suspension with level control, the rear-axle steering and the electronically controlled rear axle differential lock (PTV Plus) all contribute to this.
- **Balance between digital and analogue elements:** in addition to sports-car ergonomics, the Porsche Driver Experience in the Macan also offers new ways to interact. There is a new instrument cluster with a 12.6-inch curved display, a 10.9-inch passenger display, a head-up display with augmented reality technology, and ambient lighting with a communication light.

¹ In combination with the BOSE® Surround Sound System and the Burmester® High-End Surround Sound System, the luggage compartment volume in the rear is reduced by 60 and 68 litres, respectively, due to the subwoofer.

- **Technology full of innovations:** the new generation of infotainment in the Macan, featuring Android Automotive OS as the operating system and with advanced integration of Apple CarPlay® and Android Auto, is particularly powerful and reacts at lightning speed. Third-party apps are available for download and update via the new Porsche App Centre.
- **Confidence off-road:** rough dirt tracks and particularly steep ascents and descents can be tackled with greater confidence with the optional off-road design package. The adapted geometry of the front bumper increases the approach angle to up to 17.4 degrees, depending on the model. In combination with the adaptive air suspension, the ground clearance is increased by 10 millimetres to 195 mm when in the 'Normal' setting.

Summary

Next-level E-Performance: the Porsche Macan

Ten years after its launch, the Porsche Macan enters its second model generation – in all-electric form. Through its progressive, timeless design, characteristic Porsche performance, long-distance range and its real everyday usability, the new Macan aims to completely fulfil the requirements of Porsche customers who wish to drive an SUV.

Porsche doubled the size of the model range soon after the launch, and there are currently four variants to choose from. The new Macan with rear-wheel drive is available as the new point of entry to the all-electric SUV model series. When Launch Control is used, it delivers up to 265 kW (360 PS) and offers a combined WLTP range of up to 641 km. With Launch Control, the all-wheel drive Macan 4 produces up to 300 kW (408 PS) of overboost power. The new Macan 4S produces up to 380 kW (516 PS) and is positioned at the higher-powered end of the model range. The range-topping model is the Macan Turbo with up to 470 kW (639 PS) and a maximum torque of 1,130 Nm –

guaranteeing excellent driving performance. The Macan Turbo accelerates from zero to 100 km/h in 3.3 seconds. Its top speed is 260 km/h. The highest achiever in terms of range is the Macan, with rear-wheel drive, at 641 km. Another feature with real-world, practical use: the SUV can tow trailers weighing up to two tonnes with the optional towbar system.

“We are taking the Macan to a completely new level – with exceptional E-performance, the new driver experience and a very impressive design,” says Oliver Blume, Chairman of the Executive Board of Porsche AG. “Our aim is to offer the sportiest model in its segment with the all-electric Macan,” adds Jörg Kerner, Vice President Product Line Macan. Porsche is electrifying one of its highest-volume model lines with the new Macan. After the successful market launch of the Taycan in 2019, this is another important milestone on the road to electromobility.

The Macan is the first model from Porsche to be based on the Premium Platform Electric (PPE), jointly developed with Audi. The PPE gives Porsche the opportunity to bring high-volume electric models, made to the highest technical standards, to the market in the future.

Design: sporty proportions and a coupé-like flyline

Thanks to their sharper proportions and Porsche Design DNA, the new Macan models have a striking, purposeful appearance. “With the all-electric Macan, we are presenting the first Porsche we are making electric that comes from an established product identity,” says Michael Mauer, Vice President Style Porsche. “The new Macan is clearly recognisable by its brand identity as part of the Porsche product family. The famous Porsche proportions have been further developed and optimally adapted to the challenges of an electric vehicle. This has further heightened the sporty, modern and dynamic appearance of the Macan. The design makes it clear: the Macan remains the sports car in its segment, even in electric form.”

Short overhangs combine with a wheelbase 86 millimetres longer than the previous model (2,893 millimetres). The shallow pitch of the bonnet and the strongly pronounced front wings give the entry-level SUV, which is 4,784 mm long, 1,938 mm wide and 1,623 mm high, a dynamic appearance even when it's stationary.

The front lights are split into two parts: the flat upper light units with four-point daytime running lights are embedded in the wings and emphasise the width of the car. The main headlight modules with optional matrix LED technology are positioned slightly lower in the front end. The characteristic Porsche flyline forms a coherent whole with the shallow-raked rear window. In combination with the frameless doors and characteristic side blades, the result is a dynamic-looking design. Strongly pronounced shoulders give the rear a muscular look. The Porsche logo now sits in the centre of the sculptural 3D light strip.

Off-road design package increases everyday usability

An optional off-road design package is available for all models, further improving the everyday usability of the Macan. rough dirt tracks and particularly steep climbs and descents can be mastered even more easily than before. The adapted geometry of the front bumper has increased the approach angle to up to 17.4 degrees, depending on the model (with the air suspension at a specifically raised level). In combination with the adaptive air suspension, the off-road design package also increases the ground clearance by 10 mm to 195 mm when in the 'Normal' setting. For the Macan, Macan 4 and Macan 4S, the off-road front bumper is also available separately.

Aerodynamics: active and passive elements for longer range

Porsche combines its design DNA with aerodynamics that are optimised for range. Thanks to the Porsche Active Aerodynamics (PAA) with active and passive elements, and a drag coefficient of 0.25, the new Macan is one of the most streamlined SUVs on the market – with positive effects on range and energy consumption. The PAA system includes the adaptive rear spoiler and active cooling flaps on the front air intakes. Air curtains below the headlight module, the low-slung front end, and flexible covers on the fully sealed underbody optimise the air flow. At the rear, Gurney flaps and the diffuser blade increase aerodynamic efficiency.

Interior: two luggage compartments and improved interior space

The new Macan is a performance-oriented SUV with a high level of everyday practicality, high-quality equipment and a spacious configuration. Electrification has led to increased luggage space in the Macan. Depending on the model and equipment fitted, the capacity behind the rear seat bench is up to 540 litres (cargo mode). In addition, there is the 'frunk', a second luggage compartment under the bonnet with a capacity of 84 litres. If the rear seat backrest is folded down completely, the rear luggage compartment capacity increases to up to 1,348 litres. With the keyless Comfort Access feature, the tailgate can be opened and closed with a foot gesture. The frunk opens via a swipe gesture over the sensor, which is installed below the Porsche crest – while the key can remain in the pocket.

The driver and passengers sit lower than in the previous model, and the rear passengers have more legroom. The interior is unmistakably Porsche: the width of the cockpit is

emphasised by an integrated black panel. The sloping shape of the centre console heightens the impression of a low and performance-focused seating position in the vehicle. At the same time, large windows give a light and airy feel to the interior space. In addition to the modern digital user interfaces, there are also select analogue control elements – for example, on the air vents and the air conditioning controls.

An LED light strip is integrated into the finely shaped trim strip along the cockpit and doors. It acts as both ambient lighting and a communication light. Depending on the situation, it provides information or warnings – such as when greeting the driver, during charging, or in conjunction with the driver assistance systems. The equipment in the new Macan enables a high degree of personalisation.

Porsche Driver Experience: new design and new function

With the electrification of the Macan, Porsche has introduced a completely new display and control system into its successful SUV model. The Porsche Driver Experience offers a mix of digital and analogue elements. These include an instrument cluster with a 12.6-inch curved display, a 10.9-inch central display, a 10.9-inch passenger display, a head-up display with augmented reality technology, and ambient lighting with a communication light.

Porsche has once again completely upgraded the design of the Driver Experience for all Macan models. It now comprises a welcome animation, an even more modern look and feel, and the new Themes app, which can be used to adjust the background colour of the displays and the ambient lighting to match the exterior colour, with 12 colours to choose from.

The new-generation infotainment system is based on Android Automotive OS. Included as standard, Porsche Communication Management (PCM) in the new Macan takes computing performance to a new level. The intelligent Voice Pilot feature executes voice commands at lightning speed and provides useful assistance, including finding the right route with optimal charging stops. In the new Porsche App Centre, passengers can access popular apps from third-party providers and install them directly in the new Macan.

Electric powertrain: 800-volt technology and innovative bank charging

As in the Taycan, Porsche uses permanently excited synchronous electric motors (PSM) and 800-volt technology in the Macan. To optimise efficiency, silicon carbide (SiC) is used instead of silicon as the semiconductor material in the pulse inverter (PWR) on the rear axle.

The electric motors draw their energy from a lithium-ion battery in the underbody. This has a gross capacity of 100 kWh, of which up to 95 kWh can be actively used. The DC charging capacity is up to 270 kW. At a suitably powerful fast-charging station the battery can be charged from 10 to 80 per cent in about 21 minutes. At 400-volt charging stations, a high-voltage switch in the battery enables bank charging by effectively splitting the 800-volt battery into two batteries, each with a nominal voltage of 400 volts. This enables particularly efficient charging, without an additional HV booster, at up to 135 kW. AC charging at up to 11 kW is possible with household wall boxes. While driving, energy can be recuperated via the electric motors. The all-wheel drive models can achieve up to 240 kW, while the Macan has a maximum recuperation power of 200 kW.

Suspension: the first Macan with rear-axle steering

Porsche developed the Macan with a keen focus on quintessential Porsche driving dynamics and a characteristic steering feel. “Thanks to its particularly sporty seat position and low centre of gravity, as well as its impressive driving dynamics and steering precision, the new Macan delivers a real sports car feeling,” explains Kerner.

Macan 4, Macan 4S and Macan Turbo are all-wheel drive. The two electric motors are controlled via the power electronics almost in real time. The electronically controlled Porsche Traction Management (ePTM) operates about five times faster than a conventional all-wheel drive system and can respond to slip within 10 milliseconds. In addition, the torque distribution is governed by the selected driving programme. Porsche Torque Vectoring Plus (PTV Plus), an electronically controlled differential lock on the rear axle, also contributes to the traction, driving stability and lateral dynamics of the Macan Turbo. Macan models with air suspension are, as standard, equipped with the PASM (Porsche Active Suspension Management) electronic damping control, which can also be added to the steel spring suspension. PASM now also features shock absorbers with two-valve technology. Thanks to the more expansive damper map, this results in a wider spectrum of comfort and performance. This makes the differences between the driving modes even more tangible.

For the first time, the Macan features optional rear-axle steering, with a maximum steering angle of five degrees. This enables a compact turning circle, reduced by one metre to 11.1 metres, in urban traffic and when manoeuvring. It also enables exceptional driving stability at higher speeds, assisted by the consistent and precise front-axle steering for which the brand is known.

Design and aerodynamics

Characteristic Porsche proportions

Thanks to coupé-like lines, a low front end and sporty proportions, the new Macan benefits from the classic Porsche styling that looks dynamic even at a standstill. Yet while the progressive exterior is typical of the brand's design DNA, the designers from Style Porsche have made good use of the creative freedom that electrification offers.

The shallow pitch of the bonnet and the strongly pronounced front wings give the entry-level SUV (which is 4,784 mm long, 1,938 mm wide and 1,623 mm high) a powerful and dynamic appearance. The front lights are split into two parts: the flat upper light units with four-point daytime running lights are embedded in the wings and emphasise the width of the car. The main headlight modules with optional matrix LED technology are positioned slightly lower in the front end. The 'air curtains' below the headlight module improve the aerodynamics, while smaller cooling-air inlets underline the car's modern character. The front bumper lip, with its optimised 3D-look surface texture gives the Macan a progressive look at its front end.

The characteristic Porsche flyline forms a coherent whole with the shallow-raked rear window. In combination with the frameless doors, the result is a distinctly sporty design. Other striking elements in the car's profile are the door surrounds and the sideblades – two classic characteristics of the Macan model line, which are available in up to five designs depending on the model, including Lava Black with 3D texture, in Carbon or in the exterior colour. The side profile of the Macan emphasises the promise of performance. Short overhangs combine with a wheelbase 86 millimetres longer than the previous model (2,893 millimetres). The new Macan is fitted with up-to-22-inch wheels with a staggered tyre fitment. All models come as standard with aerodynamically optimised 20-inch wheels for the best possible efficiency.

Strongly pronounced shoulders give the rear of the Macan a muscular look. Below the adaptive rear spoiler, a continuous light strip spans the rear section and gives the car a high-tech aesthetic. The Porsche logo now sits in the centre of the 3D light strip. It is moulded

three-dimensionally like a glass sculpture. The rear diffuser harmoniously rounds off the lower part of the rear of Macan models.

Altogether there are 14 standard colours and 59 special colours (Paint to Sample) – as well as 10 different wheel designs from 20 to 22 inches in diameter – allowing a high degree of creative freedom for personalisation.

Porsche offers the optional off-road design package in two colour options: in Vesuvius Grey or in the exterior body colour. The front bumper, side skirts and diffuser panels are then painted accordingly. Matching 21-inch off-road design wheels in Vesuvius Grey are also offered. For customers who pick the off-road design package in the car's exterior colour, the side blades are also painted in the corresponding colour. The roof rails can be ordered in Black, Silver or Turbonite (Turbo only). For the Macan, Macan 4 and Macan 4S, the off-road front bumper with an inlay in Vesuvius Grey is also available separately.

Interior: driver-orientated, high-quality and individual

The interior is unmistakably Porsche: the width of the cockpit is emphasised by an integrated black panel. The sloping shape of the centre console heightens the impression of a low and performance-focused seating position in the vehicle. At the same time, large windows give a light and airy feel to the interior space. In addition to the modern digital user interfaces, there are also select analogue control elements – for example, on the air vents and the air conditioning controls.

To the left behind the steering wheel is a completely redesigned control lever. This allows the driver assistance systems to be activated directly. The mode button on the control lever can be used to open pop-ups in the instrument cluster and Porsche Communication Management (PCM), allowing additional settings for the assistance mode to be made directly and quickly. Thanks to the new, particularly ergonomic design of the control lever, the driver does not have to move their hand far from the steering wheel.

An LED light strip is integrated into the finely shaped trim strip along the cockpit and doors. It acts as both ambient lighting and a communication light. Depending on the situation, it provides information or warnings – such as when greeting the driver, during charging, or in conjunction with the driver assistance systems.

The equipment in the new Macan enables a high degree of personalisation. Depending on the model, eight different colour variations can be combined with up to eight possible interior packages and up to four accent packages. Porsche also offers leather-free seats in the Macan and Macan 4.

Exclusive colour for the Macan Turbo

For almost 50 years, the Turbo models have held a position of prestige at Porsche. They represent distinctively high performance and are the pinnacle of every model series. To emphasise their status, Porsche is now differentiating the turbo models more strongly. The top-of-the-range Macan model already bears this sharpened look.

The new Turbonite metallic tone is exclusively reserved for the Turbo models. On the range-topping model, the lettering at the rear, the side window surrounds, the airblades on the model-specific front end, the Porsche crest on the decorative covers of the alloy wheels, the styling trim on the rear bumper, and the sideblades are all finished in Turbonite as standard. Turbonite also features on the exclusive crest on the Macan Turbo. All the range-topping high-performance models will soon feature this crest on their front, as well as on the lightweight alloy wheels and the steering wheel.

Selected interior components also finished in Turbonite. The Macan Turbo comes as standard with a leather package that features Turbonite details: the exclusive colour is found in the form of accent strips and decorative stitching on the doors, as well as on the steering wheel, the centre console, the upper part of the dashboard and door panels, on the armrest and on the floor mats. The seat belts are also Turbonite coloured.

Low drag for longer range

Porsche combines its design DNA with aerodynamics optimised for range. Thanks to Porsche Active Aerodynamics (PAA) with active and passive elements, and a drag coefficient of 0.25, the new Macan is one of the most streamlined SUVs on the market – with positive effects on efficiency and range. The automatically extending rear spoiler, active cooling flaps on the front air intakes, and flexible covers on the fully sealed underbody all have an impact.

The active rear spoiler extends in two stages depending on the speed and the selected driving mode. Whether the optional panoramic roof is open or closed is also taken into account. The cooling-air flaps are fully open during charging to help cool the battery. They are usually closed while driving, which reduces wind resistance and extends the range. If the thermal management system recognises that additional cooling air is required for the battery, power units or interior air conditioning, the variable flaps open as required. The flat underbody features flexible elements near the rear wheels. They ensure that the surface remains closed during the rebound phase of suspension travel and therefore help to minimise air resistance.

Air curtains below the headlight module and the low-slung front end also help to optimise air flow. Two pronounced edges on the sides towards the rear of the car, together with the diffuser blade, ensure aerodynamic efficiency. In combination with air suspension, the ride height can be lowered, depending on speed, which leads to improved aerodynamics and a longer electric range.

Battery and charging

Optimal balance between performance and range

The lithium-ion battery of the new Macan models is fitted low within the chassis and has a gross energy content of 100 kWh, of which roughly 95 kWh can be actively used. A lightweight but tough glass fibre composite underbody guard protects the high-voltage battery against physical damage from below. A cooling plate is integrated into the battery housing. Twelve modules, each with 15 prismatic cells connected in series, are mounted to it. Prismatic cells have their own aluminium shell, which makes them exceptionally stable.

The chemical composition of the anode, which accepts electrons and is therefore responsible for charging the battery, is 100 per cent graphite. Graphite anodes offer a high level of mechanical stability and great cycle stability. They also exhibit a slight change in volume during the charging and discharging cycles. These properties make them very durable and contribute to the service life of the batteries. The chemical composition of the cathode consists of nickel, cobalt and manganese in a ratio of 8:1:1. It is thanks to this cell chemistry that the battery achieves a particularly high energy density.

During development of the high-voltage battery for the new Porsche Macan, there was also a focus on repairability. The 12 modules and other important components can be replaced individually if necessary, allowing the battery to be efficiently repaired.

The electrical control centre of the vehicle, the battery management system (BMCe), is located on the battery cover. It distributes the electrical power between the electric motors and the high-voltage auxiliary consumers and enables DC charging at both 800 and 400 volts. Other tasks include monitoring the individual cell voltages and the entire current flow of the high-voltage system. This contributes to a long battery life. Safety components such as fuses and a pyrotechnic isolation unit are also integrated into the BMCe. If an overvoltage or short-circuit should occur, the high-voltage system is automatically switched off and can no longer be started. This also applies if a crash is detected and a restraint system (e.g. an airbag) is triggered.

Space-saving: the Integrated Power Box

Porsche has developed an innovation for the packaging of the electronic components, for which the company has applied for a patent. The Integrated Power Box (IPB) combines three components: the onboard AC charger, which converts alternating current (AC) into direct current (DC) during charging; the high-voltage heater, which controls the temperature of the high-voltage battery and the passenger compartment; and the DC/DC converter, which supplies the 12-volt vehicle electrical system. With a total weight of 19 kg, the IPB is about 3 kg lighter than conventional components. It is also very compact, which makes it possible to position it under the rear bench seat above the battery in order to save space. This packaging optimises the weight distribution of the vehicle and allows for a large front luggage compartment.

The high-voltage heater can be used to heat high-voltage components, such as the battery, in colder months. This keeps the battery within an optimal temperature range. This applies to both when driving and while charging. Thermal preconditioning is also carried out by the Porsche Charging Planner using the route planning function.

Consistent and fast: charging at up to 270 kW

The powerful battery and the high charging capacity are the key to covering long distances quickly. The Premium Platform Electric (PPE) comprises an 800-volt architecture that enables the new Macan models to achieve a DC charging power of up to 270 kW. The battery can be charged from 10 to 80 per cent (SoC) within approximately 21 minutes at a suitable fast-charging station.

The new all-electric Macan can charge rapidly over a very wide state-of-charge range (SoC range) – with the battery temperature and weather conditions having relatively little impact on the charging time. Up to about 55 per cent SoC, the Macan is capable of achieving more than 200 kW of charging capacity. This enables it to recharge for a range of up to 250 km in 10 minutes. The battery is preconditioned for an optimal charging experience.

At 400-volt charging stations, a high-voltage switch divides the battery. Before charging, the 800-volt electric circuit is switched to create two separate 400-volt electric circuits. This effectively splits the 800-volt battery into two batteries, each with a nominal voltage of

400 volts. This enables charging with a capacity of up to 135 kW – without an additional HV booster. If necessary, the states of charge of the two battery halves are first aligned before they are charged concurrently. The SoC can be increased from 10 to 80 per cent within about 33 minutes.

AC charging at up to 11 kW is possible at standard household wall boxes. Which means, for example, that the battery can be charged from zero to 100 per cent overnight at home in about 10 hours. The Porsche Mobile Charger or the Porsche Wallbox are available for convenient charging at home. The Macan comes with two charging ports at the rear as standard. The AC/DC connection is on the left of the car, with the AC connection on the right. The charge port doors are manually operated as standard. The optionally available electric charge port doors are illuminated and can be opened via a touch gesture using a sensor in the tailgate or, alternatively, via the PCM.

The Plug & Charge function – availability dependant on market – makes charging even more convenient: anyone with a corresponding charging contract will receive a digital certificate. Once this has been installed in the car, the corresponding vehicle function is activated automatically. With the help of the software key, the charging station and car communicate independently as soon as the charging cable is connected. Further authentication via an app, RFID or credit card is not necessary.

Drive system

Powerful latest-generation PSM motors

The innovative drive architecture of the Macan, which is based on the Premium Platform Electric (PPE), is designed for sustained performance. The 800-volt technology, powerful electric motors and sophisticated battery and charging management ensure impressive, repeatable driving performance with combined WLTP ranges of up to 641 km.

Depending on the model, the Macan is equipped with different powertrain combinations. Permanent magnet synchronous motors (PSM) are used exclusively, as they enable high efficiency and consistent reproducibility of the power output. All electric motors in the new Macan use windings made of rectangular copper wire to maximise the amount of copper filling the grooves in the stator. The windings are arranged either in a U-shape, like a hairpin, and welded on one side, or – like in the performance rear-axle motor of the Macan Turbo – as an I-pin welded on both sides.

The electric motor on the front axles of the all-wheel drive models has a diameter of 210 mm and an active length of 100 mm. It alone produces up to 175 kW. The models differ at the rear axle. The Macan and Macan 4 utilise a more compact design with an inverter, which ensures a particularly lightweight powertrain. The electric motor has a diameter of 210 millimetres and an active length of 200 millimetres and boasts an output of up to 265 kW (360 PS). The rear motor of the Macan 4S has a diameter of 230 mm and an active length of 150 mm. The Macan Turbo has a larger and more powerful drive unit on the rear axle with a diameter of 230 mm and an active length of 210 mm. The electric motor with a maximum output of 470 kW (639 PS) provides remarkably high torque, sustained levels of continuous high output, and outstanding power density – as well as a maximum efficiency of up to 97 per cent.

System output of up to 470 kW, and 1,130 Nm of torque

All Macan models meet performance demands. An overview of the overboost performance values when using the launch control:

- Macan: 265 kW (360 PS) and 563 Nm
- Macan 4: 300 kW (408 PS) and 650 Nm
- Macan 4S: 380 kW (516 PS) and 820 Nm
- Macan Turbo: 470 kW (639 PS) and 1,130 Nm.

Power is transmitted to the wheels via a single-speed transmission, designed as a parallel-axis three-shaft gearbox. On the front axle, the all-wheel-drive models use a gearbox with a ratio of 9.2. A lightweight spur-gear differential is used here to keep the gearbox compact. The models differ at the rear axle. The Macan and Macan 4 use a gearbox with a ratio of 9.8, while the Macan 4S uses a 10.0 ratio. The Macan Turbo features a gearbox with a ratio of 9.0, which is designed to withstand larger forces. A special feature here is the additional integration of an electronically controlled rear-axle differential lock for Porsche Torque Vectoring Plus.

Power electronics with silicon carbide semiconductors in the Turbo

The pulse inverter comprises the power electronics that convert the direct current from the battery into three-phase alternating current for the electric motors. The main distinguishing features are the current-carrying capacity and the semiconductor material. The pulse inverter used on the front axle of the Macan 4, Macan 4S and Macan Turbo utilises silicon as the semiconductor material. It conducts a maximum of 350 amps to the electric motor. In the pulse inverter on the rear axle of all Macan models, the highly efficient semiconductor material silicon carbide (SiC) is used for the benefit of higher efficiency. This significantly reduces switching losses in the pulse inverter and enables higher switching frequencies. The rear-axle pulse inverter in the Macan and Macan 4 conducts a maximum of 480 amps; in the Macan 4S this is 600 amps and in the Macan Turbo it achieves an impressive 900 amps.

System management also plays an important role in the overall efficiency of a vehicle. Depending on the selected driving mode and the driving situation, the drive torque of the all-wheel-drive models of the new Macan is distributed fully variably between the front and rear axles. Under stable, moderate driving conditions, the drive torque comes exclusively from the rear-axle drive unit. In this case, the front axle is driven passively and can immediately provide drive torque again if required. This fully exploits the efficiency potential of the SiC pulse inverter while retaining the driving stability of an all-wheel drive vehicle.

Up to 240 kW recuperation capacity plus coasting ability

Recuperation offers further efficiency benefits. Recuperation at up to 240 kW (Macan: 200 kW), depending on the level of brake pedal actuation as well as the temperature and state of charge of the battery (SoC), among other factors. This corresponds to a deceleration of around 4.3 m/s², which is about 40 per cent of the maximum braking power. This means that up to 98 per cent of the total braking energy can be recovered, under everyday driving conditions. If the desired deceleration is greater than the power that can be absorbed via recuperation, the hydraulic brakes are applied. The fine balancing of the braking force via the blending function is imperceptible to the driver.

In keeping with the Porsche philosophy, the Macan can also coast. If the driver eases off the accelerator pedal but does not actively brake, the drive unit is switched off or, at higher speeds, switched to 'zero-torque mode'. This decreases the dissipation of kinetic energy and the car glides as far as possible without energy input. Alternatively, the driver can activate energy recuperation via the PCM. Recuperation then takes place with a moderate deceleration of 0.6 m/s². This roughly equates to the deceleration that typically results from engine drag torque, commonly referred to as the engine braking, in conventional drive systems.

All in all, the efficient high-voltage and drive systems of the new Macan models result in long ranges, despite the characteristic sports car performance. Combined WLTP range:

- Macan: up to 641 km
- Macan 4: up to 612 km
- Macan 4S: up to 606 km

- Macan Turbo: up to 590 km.

Exhilarating sound experience: Porsche Electric Sport Sound

The high-performance driving experience of the new Macan models can be emphasised with a Porsche Electric Sport Sound specially created for the SUV. An intelligent control algorithm provides the appropriate emotive sound to suit the driving situation and the torque and speed of the electric motors. The Macan-specific sound is produced via the entire entertainment sound system, as well as through two dedicated exterior speakers.

Chassis systems

Quintessential Porsche driving dynamics and precise steering feel

Porsche has developed the new Macan with a focus on outstanding driving dynamics and a responsive, direct steering feel. Thanks to a centre of gravity that is up to 140 mm lower than in its predecessor, new Porsche Active Suspension Management (PASM) with two-valve technology, Porsche Traction Management (ePTM), Porsche Torque Vectoring Plus (PTV Plus) and the rear-axle steering available for the first time in a Macan, the car delivers an exceptionally broad spectrum between comfort and performance. With its particularly sporty seating position, impressive driving dynamics and precise steering, the new Macan conveys a genuine sports car feeling. For its first all-electric SUV, Porsche is tapping into the full potential of electrification and raising the bar in every aspect of chassis development.

Aluminium double-wishbone front suspension with a separate control arm level supports the Macan's chassis, enhancing responsiveness, steering precision and directional stability thanks to its kinematics and elastokinematics. At the rear axle, Porsche developed the 'Performance' styling for the Macan. The electric motor has been rotated around the vehicle's transverse axis and positioned as far to the rear as possible. This enables the desired rear-biased weight balance. In the Turbo the weight distribution is 48 per cent front and 52 per cent rear, On the rear-wheel-drive Macan, 54 per cent of the car's weight is on the rear axle.

In the Macan and Macan 4, the drive unit is mounted within the chassis subframe, while the 4S's drive unit is attached directly to the body via four mounting points. The separate connection between the axle and the electric motor creates space for rear-axle steering and for the PTV Plus rear differential lock, which is included as standard in the Turbo.

Porsche Traction Management distributes drive power within milliseconds

The two electric motors in the all-wheel-drive models of the new Macan are controlled individually, and almost in real time, via the power electronics. The electronically controlled Porsche Traction Management (ePTM) operates around five times faster than a conventional on-demand all-wheel-drive system and can respond to slip within 10

milliseconds. In addition, the torque distribution is governed by the selected driving programme. In 'Normal' mode, the drive distribution is designed for high efficiency and range. This means that rear-wheel drive is used as often as possible. In Sport and Sport Plus modes, the focus of the ePTM is on optimising traction; the drive on the front axle is engaged more frequently. In off-road driving mode, the Macan switches to all-wheel drive with a 'rough road' configuration. The differential speed between the front and rear axles is limited by a virtual centre-differential lock, which improves traction. In addition, High Level I is activated, increasing the ride height by 20 mm. A lift of 40 mm is achieved in High Level II.

In addition to ePTM, Porsche Torque Vectoring Plus (PTV Plus) – an electronically controlled differential lock on the rear axle – also aids traction, driving stability and lateral dynamics in the Macan Turbo. The control strategy of PTV Plus depends on the particular driving situation. The rear differential lock and carefully measured, dynamic braking interventions on the rear axle support the steering behaviour and steering precision in a targeted manner. For the Macan 4S, PTV Plus is available as an option.

Rear-axle steering for even more agility and stability

For the first time, the Macan features optional rear-axle steering, with a maximum steering angle of five degrees. This enables a compact turning circle of 11.1 m in urban traffic and when manoeuvring. It also enables exceptional driving stability at higher speeds, assisted by the consistent and precise front-axle steering for which the brand is known.

At speeds of up to about 80 km/h, the rear wheels steer in the opposite direction to the front wheels, with a maximum steering angle at the rear axle of up to five degrees when parking. This makes manoeuvring easier, the turning circle is reduced by around one metre and the steering angle requirement of the steering wheel is reduced by up to 24 per cent. This virtual shortening of the wheelbase by means of rear-wheel steering also results in a more responsive turn-in when cornering. At speeds above approximately 80 km/h, the rear wheels steer in the same direction as the front axle. As a result, the wheelbase is effectively lengthened, further increasing driving stability, for example when changing lanes on the motorway.

The rear-wheel steering is accompanied by a 15 per cent more direct steering ratio on the front axle. The front-axle steering in the Macan is uncompromisingly Porsche-like and offers maximum precision in all steering manoeuvres. Combined with highly responsive dynamics, this results in optimal control. The control unit for the Porsche-developed power-assisted steering identifies and amplifies important steering information for the driver, such as the surface characteristics of the road and the grip level of the tyres. Disruptive vibrations and bumps, on the other hand, are eliminated and not transferred to the steering wheel, giving the driver a clear and direct steering feel.

PASM damper control offers greater performance and comfort

Macan models with air suspension (standard on the Macan Turbo, optional on the other models in Europe) are equipped with Porsche Active Suspension Management (PASM) electronic damping control. PASM can also be combined with the steel spring suspension – standard on the 4S in Europe. The system reacts to the condition of the road but also to speed, longitudinal and lateral acceleration, accelerator actuation, steering input and the ride-height setting of the car.

PASM now also features shock absorbers with two-valve technology. The rebound and compression levels can be individually controlled. This enables very fast switching between performance and comfort, as well as the ability to apply maximum damping force in both directions. Compared to single-valve technology, the force potential in the pressure range is significantly greater. This ensures excellent pitch and roll support as well as a high level of body stability. Thanks to the more expansive damper map, this results in a wider spectrum of comfort and performance. This makes the differences between the driving modes even more tangible. In conjunction with air suspension, each individual driving programme has its own ride-height setting. Depending on speed, the body can be lowered by as much as 30 mm below the standard ground clearance of 185 mm, which benefits the range of the vehicle thanks to the reduced drag. At High Level II, the ground clearance is raised to up to 225 millimetres.

The wheel and tyre setup in the Macan is also characteristically Porsche. This is particularly evident in the staggered wheel fitment: the wheel widths on the front and rear axles differ significantly to accommodate the rear-focused weight distribution – for increased grip and

improved driving dynamics. Further performance potential arises from the wheel sizes (which range from 20 to 22 inches in diameter) and the newly developed performance tyres, which shorten the braking distance by six per cent compared to the standard summer tyres and are characterised by even greater performance in dry conditions. The performance tyre is only available in conjunction with the 22-inch RS Spyder design wheel.

In keeping with the dynamic driving performance, the Macan models deliver characteristic Porsche braking performance in all driving situations – although the high recuperation capacity of up to 240 kW, depending on the model, means that the mechanical brakes are used much less frequently. The brake pads and brake callipers have been completely redeveloped for the all-electric SUV. The callipers have significantly reduced residual brake torque in order to support the range requirements. All models have grey cast iron brakes at the rear with 350 x 30 mm discs and combined floating-calliper brakes. At the front, the Macan and Macan 4 feature four-piston aluminium fixed-calliper brakes with discs measuring 350 x 34 mm, while the Macan 4S and Macan Turbo feature six-piston aluminium fixed-calliper brakes with discs measuring 375 x 36 mm and 400 x 38 mm, respectively.

New off-road design package: available for all models

The off-road design package further enhances the Macan's everyday practicality: rough dirt tracks and particularly steep climbs and descents can be mastered even more easily than before. The adapted geometry of the front bumper has increased the approach angle to up to 17.4 degrees, depending on the model (with the air suspension at a specifically raised level). In combination with the adaptive air suspension, the off-road design package also increases the ground clearance by 10 mm to 195 mm when in the 'Normal' setting.

Display and control concept

Real and virtual always in view

The Macan is equipped with the latest-generation display and operating concept with up to three screens, including the free-standing 12.6-inch, curved-design instrument cluster and the 10.9-inch central display.

The 12.6-inch, fully digital and free-standing curved display is positioned directly in the driver's line of sight. As usual with Porsche, this screen forms the highest point of the dashboard. A central assistance screen simplifies the operation of the driver assistance systems and supports the driver with a large display. Using the steering wheel control, the driver can customise the display of the instrument cluster and the optional AR head-up display.

The central display of the Porsche Communication Management (PCM) system is a high-resolution, 10.9-inch touch display in full-HD quality. Like on a smartphone, the driver can customise where their favourite apps sit for quick access. The optional passenger display also has a diagonal measurement of 10.9 inches. The passenger can adjust settings for infotainment and navigation, browse through media apps or stream video content. This is even possible while the car is being driven. Thanks to special technology, this display cannot be seen from the driver's seat.

Large-scale: the head-up display with augmented reality

For the first time at Porsche, a head-up display with augmented reality (AR) technology is available. Colour AR content is projected almost seamlessly into real-world surroundings with pinpoint accuracy. For example, navigation arrows are displayed at junctions in the correct turn lane. The system uses both environmental data and the position of the car to achieve this. This also supports the functions of some driver assistance systems, such as activated Adaptive Cruise Control, where the selected distance to the vehicle in front is virtually laid over the road in a carpet of dots. Warnings from the driver assistance systems can also be displayed in the AR area. This allows the driver to register notifications and information more quickly and further reduces the risk of distraction. The image on the head-up display appears to the driver at an effective distance of 10 m and corresponds to the size

of an 87-inch display. This makes the head-up display one of the largest currently available on the market. In the status area under the AR display, speed, traffic signs and assistance and navigation symbols are displayed statically.

Colour: the communication light

The Macan comes as standard with ambient lighting featuring a communication light. In the front area of the interior there is a light strip with 56 LEDs running across the instrument panel from one door panel to the other. This colourful animated strip visualises various vehicle states, such as the charging process, and greets passengers with a light display as they enter the car. Characteristic Porsche features such as Launch Control or the selection of drive modes are highlighted with a flourish. The communication light also works with some driver assistance systems, such as Lane Change Assist and Exit Warning, and can provide location-based warnings. For example, a pulsating signal of light in the door indicates danger to the driver if the door is opened when a cyclist is approaching from behind.

Porsche Driver Experience and connectivity

Innovative connectivity and a high degree of personalisation

The new display concept in the all-electric Macan is, in true Porsche style, tailored to the driver's needs with its clear, tidy layout. At the same time, it offers unprecedented customisation as the colour of the digital surfaces in the interior can be matched to the exterior paint using the new Themes app.

Real-time rendering in 3D and exciting image sections

The highlights of the enhanced Porsche Driver Experience include the welcome animation, the high-quality 3D vehicle views, the modern look and feel, the new Themes app and an intelligent voice assistant.

The welcome animation sets a dynamic scene for the Macan with extraordinary 3D image sections rendered in real time. In the 'Car' section of the menu, where the vehicle settings can be adjusted, the 3D representations have also been modernised. Realistic paint depth, dynamic perspectives and stunning vehicle views emphasise the developers' quality standards. The selected driving mode is also illustrated alongside related environmental details such as kerbs (Sport mode) or small stones (Off-road mode).

Modern design and colour selection, including for screens

The graphic elements on the screens have been rearranged. Fewer lines, more cohesive groups, and tiles with rounded corners give a high-quality, tidy feel. Not only does the navigation map automatically switch between day and night display; the surrounding area also adapts. At night, this results in a 'black-panel' effect. The background colour of all screens is set to blue in the default mode, matching the power meter display.

Individuality has been at the core of the Porsche brand since day one. With the Themes app, which can be found in the app launcher, the sports car manufacturer is now taking a new approach to customisation: this allows the colour of all digital surfaces in the interior to be changed and adapted to the exterior colour, for example. Currently, 12 colours are possible; they can be selected intuitively with the help of a colour scheme in the app.

Avatar for the intelligent voice assistant

Instead of a microphone icon, the optimised voice assistant now has an avatar in a modern 'Electrical Sphere' look. The icon is interactive: through pulsating lines, the Voice Pilot gives the user feedback that the assistant is registering a voice entry, processing it or giving a response.

The PCM in the new Macan takes computing performance to a new level. This also applies to the voice assistant, which responds with lightning speed to the 'Hey Porsche' command. It also cooperates with the communication light. Using two microphones, the system recognises who is talking and visually displays this on the central screen. If the driver and passenger talk over each other, there's no confusion: the system simply focuses on who spoke first. With the addition of Turkish, Czech, Hungarian, Portuguese, Taiwanese and Cantonese, the language assistant now understands six more languages than before, bringing the total to 23. At the same time, the voice assistant has become even more intelligent. It helps the driver find specific parking and charging options, and controls music playback as well as selected vehicle and comfort functions.

High-performance and easy to use: new operating system and app line-up

The new-generation infotainment system uses Android Automotive OS as its operating system and starts up in the background as soon as the driver approaches with the key. Vehicle and infotainment functions are therefore immediately available and can be operated quickly and smoothly. Porsche has fundamentally revamped the range of connectivity capabilities in the Macan. Thanks to the new operating system, digital content meshes even more seamlessly with the car. The Porsche App Centre is the new hub for connectivity services. It is constantly evolving and keeps the Macan up to date throughout its lifecycle. In the Porsche App Centre, drivers and passengers can directly install and use their favourite third-party apps just like they can on their smartphones. When the Macan launches, a variety of apps in different categories will be available, and the range will be constantly expanded. In European markets, this includes music services such as Spotify, Amazon Music and TuneIn Radio, the YouTube streaming platform, the Cisco WebEx conference system, and the Home Assistant smart home app as well as various games.

Smartphone integration has also been further developed: with Porsche Connect, the vehicle ecosystem merges with the customer's smartphone. This creates what is known as a blended ecosystem. It does not matter whether the customer uses Apple or Android devices. In both cases, the connection is wireless and seamless. The blended ecosystem leaves the choice to use either the Porsche Ecosystem or a smartphone solution in the vehicle displays, depending on individual preference. For example, you can stream your favourite series via an app from the Porsche App Centre, listen to your audio book app from Apple CarPlay® or Android Auto during a relaxing journey, or control vehicle functions such as seat heating with the car's integrated voice pilot.

When using Apple CarPlay®, Apple Maps is displayed in the instrument cluster and on the central display, as is Google Maps in Android Auto.

Intelligent charging planning for fast, efficient travel

In the navigation app, monthly map updates as well as the updating of relevant map data for route calculation ensure a high-quality customer experience. If the customer is not in the car at the time, they can also plan and send the route to the vehicle from wherever they are via the My Porsche app.

Whenever route navigation is active, the Charging Planner uses intelligent charging planning with optimal charging stops. This helps you travel in a relaxed fashion and without wasting time, even on long journeys. First, the navigation system calculates the quickest or shortest route using real-time traffic information. If the battery charge level is not sufficient to reach the destination, the Charging Planner automatically plans the necessary charging stops along the route. The Charging Planner takes into account the capacity of charging stations, and the resulting charging time is calculated to achieve the optimal fast-charging option. To fully utilise the charging capacity available, the system also regulates the battery preconditioning in advance of the charging stop.

A reliable and transparent range calculation is truly important in everyday life. That is why the Macan continuously informs you, via the instrument cluster, about the remaining range based on the energy available in the battery. In addition to the current consumption, the consumption history is also used for the calculation. Changes in the interior air conditioning

or the driving mode have a direct influence on the remaining range. When towing, the effects this has on consumption are continuously learned, stored, and factored into future calculations when a trailer is connected to the vehicle again.

If route guidance is active, the topography and traffic volume on the selected route are also considered. The system also takes into account certain driving habits of the driver. If, for example, the driver systematically deviates from the typical average speeds on a particular route, the system begins to take this into account over time. By using this additional information, the remaining range can be calculated even more accurately. In addition, this calculation allows the probable state of charge at the destination to be shown within the navigation.

Everyday usability and comfort

High variability and extensive equipment

The new Macan is also characterised by a high level of everyday practicality, high-quality equipment and family-friendly spaciousness. Electrification has significantly increased the versatility of Porsche's B-segment SUV. The luggage compartment volume of the entry-level Macan – a vehicle that is 4,784 mm long, 1,938 mm wide and 1,622 mm – has increased to up to 540 litres. When the rear bench seat is folded down, the volume is 1,348 litres. Luggage space is also available under the bonnet: with 84 litres, the frunk offers sufficient space for small luggage or, for example, the charging equipment. The frunk can be conveniently opened with a hand gesture. The automatic tailgate can be opened and closed with a foot gesture.

The Macan can also be optionally equipped with a towbar system, which can be unlocked electrically. Thanks to the maximum towing capacity of 2,000 kg and a towbar load of up to 80 kg, depending on the market, bigger towing jobs or installing a bicycle rack are no problem.

Sporty seating position and (new in the Macan) massage seat

The driver and front passenger sit up to 28 mm lower in the all-electric Macan compared to the previous model. Heated eight-way comfort seats are fitted as standard in the Macan, Macan 4 and Macan 4S, while adaptive 18-way sports seats and 14-way comfort seats are available for the Macan Turbo. Seat ventilation and a massage function are available as options. As standard, there is more storage space and there are more stowage options in the first row of seats than before, plus two USB-C quick-charging ports in the storage compartment in the centre console, as well as a 12-volt plug socket. A cooled smartphone tray enables wireless charging with 15 watts of charging power. In the rear of the Macan, passengers can sit comfortably on the 40:20:40 split rear bench seat with optional seat heating. The rear-seat position, which is lower than in the predecessor model, also offers people above 1.80 m tall sufficient headroom when sitting in the rear seats. The significantly increased wheelbase of 2,893 millimetres offers greater legroom for rear passengers. Two USB-C fast charging ports are also available in the rear.

New air-quality system protects health

The new air-quality system in the Macan offers occupants protection against particulate matter and pollutants from the air outside the car. The proven cabin air filter and GPS recirculation function are fitted as standard. The latter recognises tunnel entrances based on predictive navigation data and activates the recirculation function automatically ahead of time. This prevents odours and exhaust fumes from reaching the passenger compartment in the first place.

The sensor of the optional air quality system continuously measures the PM2.5 particulate matter pollution in the outside air and vehicle interior and displays the values in the PCM. The automatic recirculation mode, which is activated when limit values are exceeded, and the multiple recirculation runs through the fine dust filter clean the interior air and keep out polluted ambient air. The ioniser increases the ion content of the interior air, thereby noticeably increasing the well-being of the passengers. Allergy sufferers in particular benefit from the significantly more pleasant interior climate and improved air quality.

Surround sound with up to 1,470 watts

In addition to the Sound Package Plus with 10 speakers and 150 watts of total power as standard in the Macan, Macan 4 and Macan 4S, the now even more powerful sound systems from BOSE® and Burmester® ensure a first-class sound experience. With 14 speakers including a separate subwoofer, 14 amplifier channels and a total output of 710 watts, the BOSE® Surround Sound System offers powerful and dynamic sound in every seat. The Macan Turbo comes with the BOSE® system as standard. As the subwoofer is installed under the load compartment floor, the luggage compartment capacity of the top model in cargo mode is between 480 and 1,288 l.

The optional Burmester® 3D High-End Surround Sound System has 21 speakers with a two-way centre system and a 400-watt active subwoofer. The system delivers a total output of 1,470 watts. In addition to the familiar 'Symmetrical' listening setting, the Burmester® sound system also features the new driver-oriented 'Driver' configuration. This increases both the bass precision and the fidelity of voice and instrument playback for the driver. For the BOSE® and Burmester® systems, there is also the new Eco-Mode sound setting, in which the rear

speakers and the subwoofer are not included in the playback. Depending on the volume and style of music, this can save energy.

Light and assistance systems

Competent assistance for the driver

The standard LED headlights in the Macan, Macan 4 and Macan 4S are divided into two light modules arranged one above the other. The upper modules contain the characteristic Porsche four-point daytime running lights. The daytime running light and indicator LED are arranged in alternating order in each of the four strip modules. The lower modules integrate the functional units for the low beam and high beam, including the associated assistance functions. In addition to the high beam assist, the standard LED main headlights also have speed-sensitive headlight control and dynamic range control.

The Macan Turbo is equipped with Matrix LED headlights as standard. This lighting system utilises speed, camera and navigation data to provide ideal illumination. A total of 84 LEDs per headlight generate the high beam together with upstream lenses and reflectors. The system can illuminate the road to a distance of more than 600 m.

A camera recognises vehicles in front and oncoming vehicles as well as reflective traffic signs. This information is used to distribute the high beam intelligently, as individual areas of the matrix can be specifically omitted. This enables optimal visibility with the high beam activated without disturbing other road users or being dazzled by traffic signs. The boost function additionally increases the illumination of the vehicle's own lane in two-way traffic. This guides the driver's eyes, thereby increasing comfort and safety. The technology also enables adaptive functions such as static cornering lighting and motorway high beam. The matrix LED headlights welcome and bid farewell to the Macan driver with a Coming Home/Leaving Home animation. In the Porsche Exclusive Manufaktur version, the headlights can be tinted on request and some are available in Glacier Ice Blue. They also include an exclusive animation with a 'theatre' effect. There are also further options for customisation in the rear: The LED tail lights with 'Porsche' lettering in Glacier Ice Blue or Black also offer a Coming Home/Leaving Home animation.

Driver assistance systems: more safety, more comfort

The new Macan offers a wide range of comfort and assistance systems. They make the car safer and make travelling and parking more convenient. The hazard display via the standard-equipment communication light is particularly impressive. It provides visual support for the Exit Warning and warnings from the Lane Change Assist function.

Overview of standard assistance systems and their functions:

warning and brake assist system • Emergency braking function • Turn Assist • Intersection Assist • Distance warning • Evasion Assist
Traffic Sign Recognition • Camera- and navigation-based information about applicable traffic rules • Visual and acoustic warning possible if speed is too high Break recommendation and attention detection • Analysis of the driver's steering and operating behaviour • Alert message if fatigue or loss of attention is recognised eCall emergency call system
Lane Keeping Assist system • Steering correction takes place if the car unintentionally leaves the lane • Visual warning signal can be activated Emergency stop function • Warning in three levels of escalation if the driver fails to respond • If necessary, automatic emergency stop, hazard warning lights are switched on and eCall is issued
Cruise control system Speed limiter Active Speed Limit Assist

Lane Change Assist • Lane Change Assist • Turn Assist (rear) • Exit warning • Warning of traffic when reversing
Reversing camera • Display of the rear vehicle surroundings in the PCM with guiding lines
Park Assist • System recognises distances to obstacles at the front and rear • With visual and acoustic warning

An optional adaptive cruise control system is available that takes the strain off the driver on long trips. This assistance system allows you to maintain a constant speed and distance from the vehicle in front. The latter function is possible right down to a standstill. Restart is semi-automated.

Porsche InnoDrive including Active Lane Keeping supports the driver with predictive longitudinal control and continuous steering interventions to maintain lane, speed and distances. Speed, acceleration, deceleration and cornering speeds adapt to the route and programmes. The system also reacts proactively to speed limits, bends, roundabouts, right-of-way rules and bottlenecks. The system links online navigation data and information from the vehicle's cameras and sensors as well as available connected services. This transfers the route ahead and the traffic into a high-resolution real-time model. On well-developed country roads and motorways, the system takes over lane keeping in traffic jams with continual steering interventions – even in roadworks and bottlenecks. The system automatically detects lane markings and vehicles ahead in its own lane and the adjacent lane.

Assistance for parking and manoeuvring

The Surround View including Active Parking Assistance supports the driver in three ways when parking and manoeuvring. The driver can start the search for a parking space via the PCM. The system recognises parallel and perpendicular parking spaces using ultrasonic sensors. As soon as a suitable space has been found, the driver can start the automatic parking process via the PCM. The intelligent parking assistant takes over steering, accelerating and braking during this process and automatically manoeuvres the car into and out of parallel parking spaces.

The Surround View function uses four individual cameras to calculate a virtual top view of the Macan, which is displayed in real time in the PCM. The trailer manoeuvring assistant helps the driver when the car is being used as a towing vehicle and needs to be manoeuvred in reverse. After engaging reverse gear, all the driver has to do is activate the system and gently accelerate. The driver can use the PCM to set the angle at which they want to reverse the car. The image from the reversing camera on the PCM shows corresponding guiding lines for orientation. The system automatically turns the steering wheel and steers the trailer on the path selected by the driver.