

## Assistance systems

# Innovative systems for more safety and comfort

The new Panamera Sport Turismo features a wide range of standard and optional assistance systems. Among the most important safety systems is the optional Night View Assist, which uses a thermal imaging camera to detect people and larger animals and provides corresponding coloured warnings in the cockpit. The Porsche InnoDrive comfort system with adaptive cruise control is a particularly ingenious feature: Based on three-dimensional, high-resolution navigation data, it calculates, and subsequently activates, the optimum acceleration and deceleration values, gear selections and coasting specifications for the next three kilometres. In doing so, this electronic co-pilot takes corners, gradients and maximum speeds into account. The radar and video sensors detect other vehicles and speed limits and include them in the control process.

## **Night View Assist can alleviate critical situations in advance**

The Night View Assist is available as an option. A thermal imaging camera in the front section detects the infra-red radiation produced by all living things. Based on this information, a control unit calculates a “thermal difference image” and displays the results in the right display (“Car & Info”) of the Porsche Advanced Cockpit. This is a black-and-white image. As soon as the thermal imaging camera detects people or animals, they are clearly shown in yellow. The driver intuitively recognises these colour changes as an advance warning.

If the system identifies a dangerous situation, the marking switches to red. At the same time, a symbol with a “pedestrian warning” or “animal warning” appears in the “Speed & Assist” display instrument (left of the tachometer). The system is therefore able to distinguish between people and animals, which is important because wild animals in particular are unpredictable. The system also issues a sound warning. If the Sport Turismo has been fitted with the LED Matrix headlights (PDLS Plus) available on request, pedestrians who are classified as being in danger are flashed briefly three times using the Matrix Beam function of the headlights (pedestrians rarely notice this flash function). This makes them significantly more identifiable during the braking or swerving manoeuvre. Unnoticeable to the driver, the brakes are also prepared in advance to decelerate the Porsche as fast as possible.

The Night View Assist is active up to a speed of 250 km/h. In urban areas, the “animal warning” is automatically deactivated to prevent false notifications – for example, a dog on a lead. Technical heat sources such as the engine of a parked car are not detected by the Night View Assist.

## **Porsche InnoDrive including adaptive cruise control anticipates the road**

Porsche InnoDrive with adaptive cruise control is a particularly ingenious feature: Using the navigation data, it calculates the optimum acceleration and deceleration values for the next three kilometres, and activates them via the engine and the eight-speed PDK as well as the brake system. In doing so, the electronic co-pilot takes corners, gradients and maximum speeds into account. It detects the current traffic situation using a radar and video sensors and adjusts the control process accordingly. Exclusively developed by

Porsche, InnoDrive improves efficiency. The predictive navigation data enables vehicle functions such as coasting, trailing throttle fuel cutoff, cylinder shut-off (Panamera Turbo Sport Turismo) and braking interventions to be controlled more efficiently than ever before, which in turn saves fuel.

Porsche InnoDrive also offers clear benefits in terms of comfort and dynamics when using the adaptive cruise control system. The system even recognises roundabouts, and adjusts the vehicle speed to match the circumstances ahead. When “Sport” mode is activated, InnoDrive switches to a dynamic map. As with the classic distance regulator, the radar-video sensors also monitor the distance to the traffic ahead and permanently adjusts this distance accordingly.

## **Adaptive cruise control increases comfort and safety on the motorway**

When the latest Panamera was launched in the middle of last year, the functions and performance of the adaptive cruise control system were vastly improved: Instead of just one radar sensor (normally integrated in the centre of the front section), two are now used in the second-generation Panamera; these are positioned to the left and right in the bumper. The adaptive cruise control system also uses information from the camera sensors. These improvements mean the distance to the traffic ahead is monitored more reliably; vehicles crossing in front from a neighbouring lane are also detected much earlier than before. If necessary, the system brakes the vehicle until stationary. Thanks to a stop-and-go function, the Panamera also pulls off again automatically. If it is stopped for longer than three seconds, a short tap on the accelerator pedal or a restart via the control stalk is needed to move off again. The automatic distance control is active between the speeds of 30 and 210 km/h. Where possible, the system also makes use of the coasting function (engine in neutral, open clutch) to further reduce fuel consumption.

## **Lane Change Assist offers clear safety benefits**

Lane Change Assist uses two radar sensors in the rear bumper to detect the distance to and speed of vehicles approaching from behind in the adjacent lane. If both values are deemed critical, a visual warning is shown in the relevant exterior mirror. This greatly reduces the risk of overlooking another vehicle in the blind spot. The system detects vehicles at a distance of up to 70 metres and can be activated between speeds of 15 and 250 km/h.

## **Lane Keeping Assist including traffic sign recognition**

Lane Keeping Assist is designed to reduce the risk of leaving the lane unintentionally – one of the most common causes of accidents on country roads. The system used in the Panamera Sport Turismo recognises road markings via a camera in the windscreen, and is active between speeds of 65 and 250 km/h. If the driver leaves the lane without using the indicator, the vehicle automatically counter-steers via the electromechanical control. An acoustic and visual warning in the instrument cluster can also be activated via the PCM. One of the components of the system is traffic sign recognition, which uses the same camera as the Lane Keeping Assist.