Mercedes-Benz

The Mercedes-Benz A-Class

Press Information

February 2018

The benchmark in the compact class

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The descriptions and information in this press kit apply to the international model range of Mercedes-Benz. They may vary from country to country.

Key facts

Completely new multimedia system MBUX – Mercedes-Benz User Experience:

- An emotional connection between the vehicle, driver and passengers.
- Learning capability thanks to artificial intelligence and able to be personalised
- Comprehensive touch operation by touchscreen, touchpad (optional) on the centre console and touch control buttons in the steering wheel
- Intelligent voice control with natural language comprehension and activation using the keyword "Hey Mercedes" (optional)
- Navigation display with augmented reality technology (optional)
- New Mercedes me services

Intelligent Drive:

- For the first time, the A-Class is able to drive semi-autonomously in certain driving situations.
- Highest safety standard in this segment thanks to extended driving assistance systems with S-Class functions (FAP 4.5; optional equipment)
- Active Distance Assist DISTRONIC and Active Steering Assist now support the driver even more conveniently in keeping a safe distance and steering, and the vehicle speed is now also automatically adjusted on bends, at road junctions and on roundabouts.
- Also on board are e.g. Active Emergency Stop Assist and intuitively understandable Active Lane Change Assist.
- PRE-SAFE® PLUS can recognise an imminent rear-end collision. If the danger of a collision persists, the system can also firmly apply the brakes of the vehicle when stationary, thus minimising the risk of injuries by reducing the forward jolt caused by an impact from the rear.

New range of efficient engines:

- New four-cylinder petrol engine M 282 (1.4 l displacement, up to 120 kW and 250 Nm) with cylinder shutoff (initially in combination with 7G-DCT) and innovations such as the delta shape of the cylinder head, NANOSLIDE® and Eco-Tough coating, petrol particulate filter, new 7G-DCT dual clutch transmission.

- New four-cylinder petrol engine M 260 (2.0 l displacement, up to 165 kW, up to 350 Nm) with CONICSHAPE® (honing of the cylinder walls) and CAMTRONIC (intake camshaft adjustment).
- New four-cylinder diesel engine OM 608 (1.5 l displacement, up to 85 kW, up to 260 Nm) with AdBlue® technology, improved turbocharger, water intercooling and reduced weight.

More driving pleasure and ride comfort:

- 30 mm longer wheelbase, 14 mm wider front track
- Further improved suspension with MacPherson front suspension with aluminium transverse control arms and multi-link rear suspension. With 4MATIC and more powerful engine variants: four-link rear suspension
- Active damping adjustment (optional equipment) with electronic control: in conjunction with the standard DYNAMIC SELECT (four driving modes), there is a choice of comfortable or sporty damping characteristics.
- Further development of 4MATIC all-wheel drive with electro-mechanically controlled multiplate clutch

Modern luxury redefined:

- Avant-garde styling of the dashboard and a cockpit with no cowl create a unique architecture.
- The two displays measuring up to 10.25 inches (26 cm) each blend together under a shared glass cover (except with the basic variant with two 7-inch displays) to form a completely free-standing Widescreen cockpit.
- Ambient lighting with 64 colours and illuminated air vents in a turbine look are optionally available,
- and also optional are seat heating, seat climate control and a Multicontour Seat package incl. massage function for the front seats.

Fully grown-up:

- More shoulder room (+9/+22 mm front/rear), elbow room (+35/+36 mm) and headroom (+7/+8 mm), as well as easier entry to the rear.
- At 370 litres the boot is 29 litres larger than in the preceding model, and more usable.
- All-round visibility has been improved by reducing the pillar claddings by around ten percent

The benchmark in the compact class

Stuttgart/Amsterdam. The new Mercedes-Benz A-Class is as youthful and dynamic as ever, but grown-up and comfortable like never before. It completely redefines modern luxury in the compact class, and revolutionises interior design. Technologically the new A-Class not only takes first place thanks to MBUX – Mercedes-Benz User Experience: it also offers a number of functions that were previously the preserve of the luxury class. In certain driving situations, it is able to drive semi-autonomously for the first time, and MULTIBEAM LED headlamps are available on request. All models of the new A-Class are also powered by new, efficient diesel and petrol engines, and although Mercedes-Benz has retained the sporty appearance, the utility value has increased. The new A-Class can be ordered from March onwards, and the market launch commences in the spring.

"With the fourth generation of the A-Class, we are redefining modern luxury in the compact class. To do this we have opted for a combination of uncompromisingly dynamic design and an intuitive operating concept," says Britta Seeger, the member of the Daimler AG Board of Management responsible for Mercedes-Benz Cars sales. "With MBUX – the new Mercedes-Benz User Experience – we are creating a completely new customer experience."

"New technologies must place the focus on people and make their lives easier. The new A-Class does this in many ways, and becomes an emotional and intelligent companion," says Ola Källenius, the member of the Board of Management of Daimler AG responsible for Group Research and Mercedes-Benz Cars. "One good example is MBUX – Mercedes-Benz User Experience: it combines intuitive and natural operation with intelligent, learning software."

"The new A-Class embodies the next stage in our design philosophy of Sensual Purity and has the potential to usher in a new design era," says Gorden Wagener, Chief Design Officer Daimler AG. "With clear contours and sensual surfaces, we present high-tech that awakens emotions. Form and body are what remain when creases and lines are reduced to the extreme. The interior represents modern luxury at a level previously unattained in this class, and translates intelligent technology into an emotional overall experience."

Exterior design: Exercise in purism

The purist, surface-accentuating design of the new A-Class is the next step in the Mercedes-Benz design philosophy of Sensual Purity. On the basis of a compact two-box design, optimised dimensions and proportions have led to a new interpretation of the Mercedes-Benz A-Class's design.

The exterior of the new A-Class stands for sportiness, dynamism and emotion. The progressive front design with a low bonnet, flat LED headlamps with chrome elements and torch-like daytime driving lamps ensures an emotionally appealing and alluring appearance. The striking radiator grille with Mercedes star, whose silhouette opens out towards the base as a reinterpretation of its predecessor, features pins in a diamond look and a central silver louvre to underline the sportiness of this model.

The vehicle is visually extended by the longer wheelbase and character line along the side. The bonnet slopes down more heavily than in the preceding model series, emphasising the dynamic, upright front. The larger wheel arches for wheels from 16 to 19 inches emphasise the sportiness of the new A-Class and make it sit more squarely on the road. The vehicle has a wider look at the rear end thanks to a more heavily waisted greenhouse, which also emphasises the shoulders, and to the wider-spaced rear reflectors in the modular, two-section rear bumper. The slim, two-section tail lights ensure an emotionally appealing, alluring appearance.

With a C_d figure from 0.25 and a frontal area (A) of 2.19 m^2, the new A-Class is the aerodynamic leader in its segment. For the first time in the compact class, Mercedes-Benz uses a two-section AIRPANEL (optional). This louvre system behind the radiator grille opens its adjustable louvres depending on the cooling requirement. There is an additional louvre system in the air inlet below the registration plate, which further improves system performance.

Interior design: A revolution from within

The interior of the new A-Class is completely redefined with its modern, avant-garde look. Mercedes-Benz has taken a completely new approach, revolutionising the compact class from the inside with a new feeling of spaciousness. The unique interior architecture is shaped in particular by the avant-garde design of the dashboard: for the first time a cowl above the cockpit has been completely dispensed with. As a result, the wing-shaped main body of

the dashboard extends from one front door to the other with no visual discontinuity. The Widescreen display is completely free-standing. The air vents in a sporty turbine-look are another highlight.

The dashboard is divided into two three-dimensional, horizontal sections: the lower section is visually separated from the main body of the dashboard by a "trench", and it appears to float in front of the dashboard. The ambient lighting enhances this effect, accentuating the free-floating impression of the substructure. The 64 colours of the optional ambient lighting make five times as many colours available than before. And it is not just the variety that has increased, as the emotive presentation also sets standards in this segment: the different colours are composed into ten colour worlds to allow an avant-garde lighting display with spectacular colour changes.

The completely free-standing display is available in three versions:

- with two 7-inch displays (17.78 cm),
- with one 7- and one 10.25-inch (26 cm) display and
- with two 10.25-inch displays.

MBUX - Mercedes-Benz User Experience: Unrivalled experience

The new A-Class is the first Mercedes-Benz model to feature the completely new multimedia system MBUX - Mercedes-Benz User Experience, which also ushers in a new era in Mercedes me connectivity. A unique feature of this system is its ability to learn thanks to artificial intelligence. MBUX can be individualised and adapts to suit the user. It thus creates an emotional connection between the vehicle, driver and passengers.

Its further strengths include the high-resolution Widescreen cockpit with touchscreen operation of the media display, the navigation display with augmented reality technology plus intelligent voice control with natural speech recognition, which is activated with the code word "Hey Mercedes". A head-up display is also available. The touchscreen is part of the comprehensive MBUX touch-control concept – a triad consisting of the touchscreen, touchpad on the centre console and touch control buttons in the steering wheel.

MBUX is a revolution of the user experience in the car. Emotively appealing showcasing features underline the comprehensibility of the control structure and

thrill through brilliant 3D maximum-resolution graphics, which are rendered, i.e. calculated and displayed, in real time.

New and improved Mercedes me connect services are being launched with the new infotainment generation MBUX. These include navigation functions based on Car-to-X communication (information from vehicle to vehicle about events registered by sensors, e.g. emergency braking, ESP® intervention, or manual reporting e.g. of an accident by the driver), and Vehicle Tracker, which makes it easier to find the parked vehicle, as well as outputting a message if the parked vehicle suffers an impact or is towed away.

The Mercedes me app collection can be placed as an icon on the screen in a user-friendly way and can be freely sorted on the homepage like all other main applications. In addition, online content such as current filling station prices or the availability of parking spaces in the multi-storey car park are displayed in MBUX. Online updating is a simple way of allowing new content to be made available in MBUX.

Spaciousness and seating: The A-Class has grown up

Despite its sporty look, the new A-Class has considerably more utility value, making it as youthful as ever but grown-up like never before. More shoulder, elbow and headroom plus easier access to the rear are clear benefits, as is the larger and more family- and recreation-friendly luggage compartment. All-round visibility has also been considerably improved. This enhances both safety and the impression of spaciousness.

The capacity of the luggage compartment behind the rear seats is 370 litres – 29 litres more than in the preceding model. Thanks to two-section rear lights, the loading aperture is 20 cm wider than before, and the luggage compartment floor is 11.5 cm longer. In conjunction with the Load Compartment package, the rear seat backrest can be positioned more upright, e.g. to accommodate bulky boxes. The stowage concept is equally practical: The oddments compartment in the centre console ahead of the shift lever has been considerably enlarged. A cup holder on the centre tunnel for mugs, cans and bottles up to 0.5 litres is a new feature in conjunction with the equipment lines. Much detailed effort has also gone into the improved all-round visibility. All in all, the area obscured by the pillars has been reduced by 10 percent compared to the preceding model.

At the same time, comfort features from higher vehicle segments make an appearance: on request, and for the first time in this model series, not only seat heating but also seat climate control and a Multicontour Seat package with massage function are available for the front seats. A total of three different front seats are available for the new A-Class: the basic model, the comfort seat and the sporty integral seat available in combination with the equipment lines.

As well as a special seat design, the Seat Comfort package (standard with the equipment lines) includes height adjustment of the front passenger seat and angle/depth adjustment of the front seat cushions. With the seat climate control, there is a radial fan in each seat cushion. The air taken in through the perforated seat cover flows through the seat structure and is vented downwards and to the rear. With the Multicontour Seat package, the side bolsters and lumbar support can be individually adjusted by an electrically driven pneumatic pump. A massage effect in the lumbar area is provided by air chambers.

Quiet running: there is strength in serenity

Quiet, vibration-free driving characteristics are a major factor in the grown-up, premium driving impression made by the new A-Class. Alongside effective insulation of the suspension from the vehicle body and aeroacoustic measures, the bodyshell itself plays a decisive role. During the development of the A-Class, particular attention was given to high overall structural rigidity and the connecting points between the body, suspension and powertrain. Significant increases in introduction rigidities were especially achieved at the suspension connecting points that are so important to road roar, and the interior noise level was considerably reduced.

The comprehensive noise insulation concept of the new A-Class includes components such as the air and coolant management systems or trim parts in the interior being configured so as to improve noise insulation as well. Wind noises have also been significantly reduced compared to the preceding model.

Intelligent Drive: functions from the S-Class

The new A-Class has the very latest driving assistance systems with cooperative driver support, giving it the highest level of active safety in this segment with functions adopted from the S-Class. For the first time, the A-Class is able to drive semi-autonomously in certain situations. To do this it keeps a close eye on the traffic situation: improved camera and radar systems allow it to see up to 500 m

ahead. The A-Class also uses map and navigation data for assistance functions. For example, **Active Distance Assist DISTRONIC** as part of the Driving Assistance package is able to support the driver in numerous route-specific situations, and predictively and conveniently adjust the speed e.g. when approaching bends, junctions or roundabouts. Also on board are e.g. **Active Emergency Stop Assist** and intuitively understandable **Active Lane Change Assist.**

The new A-Class comes with extended **Active Brake Assist** as standard. Depending on the situation, this can effectively help to mitigate the consequences of rear-end collisions with slower-moving, stopping or stationary vehicles ahead, and even with crossing pedestrians and cyclists, or prevent them altogether.

PRE-SAFE® PLUS can recognise an imminent rear-end collision. If the danger of a collision persists, the system can also firmly apply the brakes of the vehicle when stationary, thus minimising the risk of injuries by reducing the forward jolt caused by an impact from the rear.

The new A-Class is also the first Mercedes-Benz model to have been developed at the new Technology Centre for Vehicle Safety (TFS). The design of the vehicle structures incorporates findings from research into real accidents. Every single bodyshell component was developed according to the loads and stresses encountered, with respect to geometry, material thickness, joining technology and material quality (increased proportion of high-strength and ultra high-strength sheet steel).

The centrepiece of the body's safety concept is the highly rigid passenger cell. Its great rigidity when subjected to accident-induced stress e.g. in frontal, lateral or rear-end collisions and rollovers is above all due to the greater use of high-strength, ultra high-strength and press-hardened sheet steel.

The driver and front passenger each have a three-point seat belt with belt force limiter and belt tensioner. In conjunction with the PRE-SAFE® system (optional equipment), the front seats are equipped with reversible belt reel tensioners. Both of the outer rear seats are fitted with a seat belt with reel tensioner and belt force limiter. The new A-Class is equipped with driver and front passenger airbags, a driver's kneebag and windowbags as standard. Unlike in many competing models, the windowbag also covers the A-pillar for more complete passenger protection. Thorax-pelvis sidebags are likewise standard in the front, and available as optional equipment for the rear.

The optional MULTIBEAM LED headlamps are another example of the technology transfer from the luxury to the compact class. These allow extremely quick and precise, electronically controlled adjustment of the headlamps to suit the current traffic situation. 18 individually actuated LEDs are housed in each headlamp. The daylight-like light colour of the LEDs is easy on the eyes and has a positive effect on concentration. The road ahead is precisely and brightly illuminated. LED High Performance headlamps are a further option. As standard the new A-Class is equipped with halogen headlamps with integrated LED daytime driving lamps.

New, efficient petrol and diesel engines

The following three engine variants will be available on the launch of the A-Class, or shortly afterwards[1]:

- A 200 (**120 kW**/163 hp, 250 Nm; with 7G-DCT dual clutch transmission combined fuel consumption 5.1 l/100 km, combined CO_2 emissions 120 g/km) or six-speed manual transmission (combined fuel consumption 5.6 l/100 km, combined CO_2 emissions 133 g/km)
- A 250 with 7G-DCT dual clutch transmission (**165 kW**/224 hp, 350 Nm; combined fuel consumption 6.0 l/100 km, combined CO_2 emissions 141 g/km)
- A 180 d with 7G-DCT dual clutch transmission (**85 kW**/116 hp, 260 Nm; combined fuel consumption 4.1 l/100 km, combined CO_2 emissions 108 g/km)

All the new A-Class models are powered by new, efficient engines: Two new four-cylinder petrol engines are available at market launch. Innovations in the M 282 with a displacement of 1.4 l and up to 120 kW include cylinder shutoff (initially in conjunction with the 7G-DCT transmission) and the delta shape of the cylinder head. The second new petrol engine is the M 260 with a displacement of 2.0 litres, 165 kW and 350 Nm.
New features include CAMTRONIC for the intake camshaft. Both petrol engine series have a particulate filter as standard.

[1] The above models have been certificated according to Euro 6d-TEMP.

Also new is the four-cylinder diesel (OM 608) with a displacement of 1.5 litres, up to 85 kW and up to 260 Nm. Its highlights are a near-engine mounted emission control system with AdBlue® technology, a turbocharger with optimised responsiveness and water intercooling. A new 7G-DCT dual clutch transmission is also being introduced. Further new engines will follow. The fuel tank has a capacity of 43 litres as standard, with a 51-litre tank optionally available.

On request the new A-Class is available with the permanent all-wheel drive system 4MATIC with fully variable torque distribution. This sporty all-wheel drive system has been developed further, and now offers even more driving pleasure and efficiency. Using the DYNAMIC SELECT switch, the driver is able to influence the 4MATIC characteristics even more than before. 4MATIC components include the power take-off to the rear axle, which is integrated into the automated dual clutch transmission, and the rear axle differential with an integrated multiplate clutch. This is no longer electro-hydraulically powered, but instead electro-mechanically.

Suspension: agile and comfortable

There is a choice of suspension systems for the A-Class, depending on engine variant and driver preference. 16-inch wheels are standard equipment. DYNAMIC SELECT is standard equipment, and at the touch of a button also provides an individual driving experience in conjunction with the suspension with active damping control (optional).

Like all its predecessors, the new A-Class has a McPherson front suspension. The more powerful versions such as the A 250 and all 4MATIC models have a sophisticated four-link rear suspension. The rear axle is mounted on a subframe isolated from the bodyshell by rubber bushings so that fewer vibrations are transferred from the suspension to the body. All in all, the proportion of aluminium in the suspension components is one of the highest in any suspension system in this vehicle class. The entry-level A 200 and A 180 d models have a torsion beam rear suspension.

As standard the new A-Class is equipped with a **comfort suspension** with steel springs and DYNAMIC SELECT. The **comfort suspension** lowered by 15 millimetres has specially configured springs and dampers for more sporty characteristics. The **suspension with active damping control** enables the driver to choose the preferred damping characteristics.

The new Mercedes-Benz A-Class models at market launch:

	A 200	**A 200**	**A 250**	**A 180 d**
Transmission	7G-DCT	MT 6	7G-DCT	7G-DCT
Power output (kW/hp)	**120**/163	**120**/163	**165**/224	**85**/116
at rpm	5,500	5,500	5,500	4,000
Peak torque (Nm)	250	250	350	260
at rpm	1,620	1,620	1,800	1,750-2,500
Fuel consumption, combined (l/100 km)	5.1	5.6	6.0	4.1
CO_2 emissions, combined (g/km)	120	133	141	108
Acceleration 0-100 km/h (s)	8.0	8.2	6.2	10.5
Top speed (km/h)	225	225	250	202
Length/width/height (mm)	4,419/ 1,796/ 1,440	4,419/ 1,796/ 1,440	4,419/ 1,796/ 1,445	4,419/ 1,796/ 1,440
Wheelbase (mm)	2,729			

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Unrivalled experience for the user

The new A-Class is the first Mercedes-Benz model to feature the completely new multimedia system MBUX - Mercedes-Benz User Experience, which also ushers in a new era in Mercedes me connectivity.

The name MBUX – Mercedes-Benz User Experience for the new infotainment system signifies that the user experience (UX: has first priority. A unique feature of this system is its ability to learn thanks to artificial intelligence. MBUX can be individualised and adapts to suit the user. It thus creates an emotional connection between the vehicle and driver. Moreover, new content can be transmitted "over the air" as updates.

Its further strengths include the high-resolution Widescreen cockpit with touchscreen operation of the media display, the navigation display with augmented reality technology (optional) plus intelligent voice control with natural speech recognition, which is activated with the words "Hey Mercedes".

Its highlight is the comprehensive touch operation concept – the combination of a touchscreen, touchpad on the centre console and touch control buttons in the steering wheel. In addition to the intuitive operating experience, less driver distraction is another advantage.

Intuitive operating concept: increased comfort and safety:

MBUX is a revolution of the user experience in the car. Emotively appealing showcasing features underline the comprehensibility of the control structure and thrill through brilliant 3D maximum-resolution graphics, which are rendered, i.e. calculated and displayed, in real time.

Operation is horizontal and makes optimum use of the ten-inch media display's widescreen format. As on a stage, a space is created which not only sets standards visually, but also supports navigation between the individual information levels.

The operating system of the free-standing Widescreen cockpit comprises three levels with increasing information density: On the first level, for example, is

what is known as the **Homescreen**. This is where, alongside the freely selectable main applications (e.g. telephone, navigation and radio), the most important information (such as arrival time, song currently being played etc.) is displayed.

The next level – the **Basescreen** – with the display and controls for the currently selected main application (such as Media and Navigation), is only one step away. The most important information and control options for the given applications are attractively presented at this level. Important functions such as destination or music search are grouped at the bottom edge of the screen.

For seldom-used information and settings there is the **Submenu** on the final level. In **Fullscreen Mode** the entire area of the instrument cluster is used for displaying Assistance, Journey or Navigation:

Augmented reality: navigation with information on the video image

The hard-disc navigation available for MBUX on the basis of HERE map data predicts destinations in advance, suggests interesting destinations (POIs - Points of Interest) or navigates to the next filling station. The onboard navigation also works without an online connection.

Map display supplemented by augmented reality is a completely new feature. A video image of the surroundings taken with the aid of the front camera is augmented with helpful navigation information, for example arrows or house numbers are automatically superimposed directly onto the touchscreen of the media display. This makes it easier for the driver to search for a certain house number, or to find the correct side road for turning off.

Modular structure: MBUX functions

The MBUX functions are modular in structure, so that the precise needs of different customers and markets can be met. They are based on three pillars:

- Basic variant: As standard this has two 7-inch (17.78 cm) displays for the instrument cluster and media display with a touchscreen, multifunction sport steering wheel with touch control buttons on the left and right, a USB interface (Type C), Bluetooth® connection for telephony and audio sources.

- Extended version: As standard this has extended MBUX functions including personalisation, a predictive function and theme worlds, a wifi hotspot.
- Larger media display (10.25-inch/26 cm). The extended MBUX functions can be ordered in addition.

At extra cost, customers opting for the extended version or the larger instrument cluster are able to order e.g. a touchpad, HD navigation (including three years of Live Traffic, Car-to-X communication and map updates), a head-up display and a Burmester® surround sound system.

Other navigation-specific optional equipment such as augmented reality, Traffic Sign Assist and navigation services can be ordered on top.

The larger instrument cluster display (10.25-inch) is available as an option with the large media display.

"Hey Mercedes"

One of the strengths of MBUX is its intelligent voice control with natural language comprehension, which is activated by the words "Hey Mercedes". The new LINGUATRONIC (included in MBUX with extended functions) supports many infotainment functions (e.g. destination input, phone calls, music selection, writing and hearing messages, weather forecast), as well as numerous convenience functions such as climate control/heating/lighting.

Conventional voice control systems in cars call for certain fixed commands from their users. Thanks to natural speech recognition, MBUX's LINGUATRONIC, on the other hand, obeys virtually every command, recognises and understands nearly all sentences from the fields of infotainment and vehicle operation. For example, "Will the sun be shining tomorrow in Amsterdam?" is now understood equally as well as "Will the weather be fine in Amsterdam tomorrow?".

The intelligent language assistance is activated either via a button on the steering wheel or with the command "Hey Mercedes". It's not the human who has to adapt to the machine, but the other way round. Indirect speech is also recognised, for instance if the user says "I am cold" instead of the clear command "Temperature to 24 degrees" in order to operate the climate control.

The voice control is also capable of learning. On the one hand it tunes into the user and their voice and also understands non-native speakers better; on the other hand the software models on the server learn new buzzwords or changing use of language with time. The system also no longer answers stereotypically, but varies in the dialogue output too.

The fundamental way the language assistant operates: the voice entries are freed from background noises, compressed and transmitted. The voice control is a hybrid system. In other words, it uses both onboard software and the cloud to understand speech as well as possible and respond to the user's requests.

Both the computer in the vehicle and the server evaluate the data and send a reply. The system decides which reply is the most likely, then within a few seconds the reply/reaction follows. This means that in contrast to many other assistants, the language assistant also answers even when there is no internet connection.

Tailor-made and capable of learning

MBUX is highly personalisable and configurable. It is also capable of learning and adapts to suit the user.

In the **Widescreen cockpit**, the customer has the opportunity to select from three display styles: alongside Classic and Sport, the Discreet style is also offered as a special feature – all displays are reduced to what is absolutely essential here.

Those opting for the 10-inch instrument cluster can **individually configure** the information shown there: as an alternative to the classic speed display in the left-hand tube, displays such as the analogue clock, trip computer (from start, from reset, range) or information on the current radio station/media title can be placed there. In the right-hand tube, as an alternative to the rev counter, an assistance graphic, the current consumption, the ECO display or a navigation map can be displayed.

The **ambient lighting** with 64 colours and ten colour worlds (optional) allows different moods to be created in the interior (see section "interior design") and numerous individual settings to be selected.

All settings (e.g. seating position, ambient lighting, favourite radio station, orientation of the navigation map right through to personal predictions) can be saved in a **profile**. If two drivers share a car, each can easily call up his/her favourite settings.

Another individualisation possibility with MBUX with extended functions are so-called **theme worlds** such as private, business, relaxation, sport, etc. One person can have several theme worlds. They are activated by clicking on the menu bar. The data record of a theme world can include e.g. climate settings, seat adjustment, radio station, navigation destination, driving mode.

Artificial intelligence is used for the **prediction features**, which are also part of MBUX with extended functions. With these, MBUX anticipates what the user would like next. For instance, anyone who often telephones their mother on Tuesdays during the journey home will receive her telephone number as a suggestion on the display on this day of the week. Anyone who regularly

switches over to a radio station with news at a certain time also receives this as a suggestion.

Furthermore, if the navigation system detects a route frequently driven, navigation to this destination is already started in the background. For example, MBUX suggests the fitness studio on the navigation screen. The driver then only needs to confirm, and all the information on the route, such as congestion warnings, is already to hand.

New services, easy operation

With the multimedia system MBUX, there will also be new Mercedes me connect services in 2018. They are integrated into the MBUX display in the vehicle via the Mercedes me tiles: this means that the customer can link their car with their Mercedes me account via a QR code and can check the status of their Mercedes me connect services, all while sitting in their Mercedes.

New and improved Mercedes me connect services are being launched with the new infotainment generation MBUX. These include navigation functions based on Car-to-X communication (information from vehicle to vehicle about events registered by sensors, e.g. emergency braking, ESP® intervention, or manual reporting e.g. of an accident by the driver), and Vehicle Tracker, which makes it easier to find the parked vehicle, as well as outputting a message if the parked vehicle suffers an impact or is towed away.

Office function in the car/In-Car Office allows access to important data and use of certain office functions directly in the vehicle, including easy participation in telephone conferences (without having to search for dial-up information). Appointments can be displayed and read aloud.

The Mercedes me app collection can be placed as an icon on the screen in a user-friendly way and can be freely sorted on the homepage like all other main applications. In addition, online content such as current filling station prices or the availability of parking spaces in the multi-storey car park are displayed in MBUX. Online updating is a simple way of allowing new content to be made available in MBUX.

The individual Mercedes me Connect services are grouped into equipment packages. Packages available for the new A-Class are the **Connectivity Package Navigation** (comprising navigation and the LiveTraffic service incl. Car-to-X communication, map update in dealerships or over-the-air and the extended navigation services such as car park information, filling station prices), the **Connectivity Package Navigation & Comfort** (with additional office function in the car and Concierge Service) and the **Connectivity Package Smartphone** (vehicle setup, vehicle monitoring, smartphone integration).

Keeping your eyes on the road

The optional head-up display is a new feature in the A-Class. Important information is projected onto the windscreen directly in the driver's field of vision, reducing distraction from the traffic situation. There is also less eye fatigue for the driver, as the eyes do not constantly have to refocus between close-up and long-distance vision. Also new in this vehicle class is configuration via the head-up display itself.

A system of lenses and mirrors projects a full-colour image measuring around 24 x 8 centimetres into the windscreen. It appears to float above the bonnet at a distance of around 2.5 metres. The resolution of more than 60 pixels per degree of viewing angle ensures a needle-sharp image. The driver can adjust the height of the virtual image so that it can be easily viewed. In vehicles with seat memory function this feature stores the individual settings.

The head-up display is activated using the left touch-control button in the steering wheel. It is configured via a settings menu in the display itself, a first in this vehicle class. The driver is able to configure the display according to personal preferences and priorities. Depending on the equipment level and personal settings, it shows e.g. navigation instructions, vehicle speed, speed limits or the settings for cruise control or Active Distance Control DISTRONIC.

A light sensor located near the top edge of the roof automatically adjusts the brightness of the head-up display to the exterior lighting conditions. Brightnesses of 12,000 cd/sq. m. plus can be achieved on sunny days. Since the contrast ratio is better than 1000:1, the system produces a high-quality display even in the dark.

To avoid double images caused by reflection at the outer and inner boundary surfaces of the windscreen, this includes a wedge-shaped composite membrane if the vehicle is equipped with the head-up display. It superimposes the secondary image, which is produced on the outer surface, onto the primary image. The head-up display was already taken into consideration during the design of the new dashboard, and the appropriate space was allowed for it.

High safety standard with functions from the S-Class

The new A-Class has the very latest driving assistance systems with cooperative driver support, giving it the highest level of active safety in this segment with functions adopted from the S-Class. For the first time, the A-Class is able to drive semi-autonomously in certain situations.

The new A-Class has an eagle-eye on the traffic situation: improved camera and radar systems allow it to see up to 500 m ahead. The A-Class also uses map and navigation data for assistance functions. For example, Active Distance Assist DISTRONIC as part of the Driving Assistance Package is able to support the driver in numerous route-specific situations, and predictively and conveniently adjust the speed e.g. when approaching bends, junctions or roundabouts.

The driver is also able to see at a glance which assistance functions have been selected, and to which situations the systems are reacting at present. Clearly understood icons – e.g. a steering wheel with hands on both sides – give information both on the screen and in the head-up display. All the driving assistance functions can be operated via the steering wheel.

Active safety as standard: extended Brake Assist

The new A-Class comes with extended **Active Brake Assist** as standard. Depending on the situation, this can effectively help to mitigate the consequences of rear-end collisions with slower-moving, stopping or stationary vehicles ahead, and even with crossing pedestrians and cyclists, or prevent them altogether. If the distance drops significantly below the safety threshold, the system issues a visual warning to the driver. If it detects a serious risk of collision, the driver receives an additional, audible warning. It also computes the brake pressure required to prevent a collision, if this is still possible. If, having been warned, the driver then steps on the brake pedal, the system is capable of boosting insufficient braking pressure in line with the needs of the situation. In so doing, it makes the best possible use of the remaining distance in order to leave the vehicles behind room to brake. If the driver fails to respond, Active Brake Assist can go one step further and brake autonomously if the danger of collision persists, so as to mitigate the severity of the accident or in the best case even prevent it.

ATTENTION ASSIST with adjustable sensitivity, which can warn the driver in timely manner of inattentiveness and drowsiness, is also included as standard.

Modular driving assistance system: support according to preference

The A-Class offers a modular range of driving assistance systems. In addition to the already extensive standard equipment specification, optional extras right up to the Driving Assistance package also make it possible to individually configure the vehicle with respect to driving assistance. Active Distance Assist DISTRONIC is individually available for comfortable longitudinal control, and in conjunction with traffic sign recognition in the navigation system this allows manual adoption of recognised speed limits.

Already in its purely advisory version, at low speeds the Blind Spot Assist is capable of warning of vehicles, including bicycles, in the danger area. For the first time, when the vehicle is at a standstill it can signal to the driver with a visual warning in the exterior mirror before they climb out that a vehicle is driving past in the critical area. If the driver uses the door handle at this moment an additional acoustic warning sounds. The object driving past must be moving at more than 2 m / s. The function is also available when the vehicle is stationary and up to three minutes after the ignition has been switched off. Blind Spot Assist can be extended with Active Lane Keeping Assist which, already in the basic variant, is capable of warning against unintentional lane departure by vibrating the steering wheel and, if the driver crosses a solid line, of correctively intervening by means of one-sided braking action.

The functionality of Traffic Sign Assist has been extended to include, for example, a warning of pedestrians near zebra crossings, and an extended wrong-way warning function which is now not only able to warn against wrong-way entry into motorway slip roads, but can also warn against driving the wrong way into a one-way street or onto a roundabout. In addition, the detection of stop signs has been coupled with the ECO start/stop function, and is suitably taken into consideration by the latter – the engine remains on.

Driving Assistance package: numerous assistance systems usefully combined

The assistance and safety systems are grouped together in the Driving Assistance package (optional equipment). The individual functions in detail:

Active Distance Assist DISTRONIC with Active Steering Assist: Within a speed range from 0 – 210 km/h, and on all types of road – motorway, country road or in urban areas – the system is not only able to automatically maintain the correct distance from the vehicle ahead, but also to give the driver noticeable steering assistance, even on bends. At speeds up to 130 km/h the system is not necessarily dependent on clearly visible lane markings, as it can also intervene actively if the lines on the road are unclear, as is often the case at road works, or even if there are no lines on the road at all. The system therefore makes driving much easier, especially in bumper-to-bumper driving or tailbacks.

The reduction in speed takes place in varying degrees, depending on the selected DYNAMIC SELECT driving mode (e.g. SPORT, COMFORT or ECO). This means that semi-automated driving for longer periods is also a reality on country roads. Active Distance Assist DISTRONIC controls the distance from the vehicle ahead within a speed range from 0 to 210 km/h, and keeps the car on track. Coasting characteristics, e.g. on downhill gradients, can now also be taken into account.

Active Speed Limit Assist: In conjunction with MBUX, Active Speed Limit Assist - an engageable subfunction of Traffic Sign Assist - is also able to recognise sign gantries and road works signs by camera. Known limits, such as 50 km/h in built-up areas or 100 km/h on country roads, are also adopted from the navigation system. Active Distance Assist DISTRONIC adapts the vehicle's speed to the recognised speed limits automatically (in combination with navigation and traffic sign recognition). In certain cases, the speed can be adapted in anticipatory mode on the basis of map data. On roads without speed limits, such as stretches of German motorways, the recommended speed – in this case 130 km/h - is adopted as the set speed. This speed can be adjusted by the driver. The desired maximum speed is always adopted in the course of the journey when the speed limit is lifted. It remains preset until the vehicle leaves the motorway or until the engine is switched off.

Following vehicles in a tailback: in stop-and-go traffic on motorways and similar roads, stops of up to 30 seconds are now possible within which the A-Class automatically moves off and follows the traffic ahead.

Active Lane Change Assist: When the driver wishes to change lanes on multi-lane roads (recognised by the navigation system) at speeds from 80 to 180 km/h, it is now sufficient to nudge the indicator stalk. Within the next ten seconds, the sensor system checks together with the driver whether the next lane is clear in

front of, alongside and behind the vehicle, also taking into account the speed of any other vehicles. If there is no other vehicle within the relevant safety zone, the driver is supported in changing lane. The initiated lane change is indicated in the instrument cluster and on the head-up display. The system is available in certain countries, depending on certifiability.

Active Emergency Stop Assist: Active Emergency Stop Assist brakes the vehicle to a standstill in its lane if it detects that the driver is no longer actively driving the vehicle while it is on the move with Active Steering Assist switched on. If there is no steering wheel movement over a longer period when Active Steering Assist is active, the system gives the driver a visual and audible prompt to place his/her hands on the wheel. If the driver fails to respond after repeated visual and acoustic prompts, either by moving the steering wheel, accelerating, braking or by pressing the touch control button on the steering wheel, the car is slowed down in the identified lane until it comes to a standstill. At speeds below approx. 60 km/h the following traffic is warned by means of hazard warning lamps. When the vehicle comes to a standstill, the parking brake is engaged automatically and the Mercedes-Benz emergency call system is activated. The vehicle is also unlocked, to allow first responders access to the interior. The functions are aborted as soon as the driver takes control of the vehicle again.

Active Brake Assist: Active Brake Assist with cross-traffic function is able to help the driver avoid impending collisions with vehicles ahead, stationary or crossing vehicles and with people if the driver fails to take any action to defuse the dangerous situation. This assistance takes the form of

- a distance warning from a warning lamp in the instrument cluster, if the distance from a vehicle in front is insufficient
- an additional acoustic warning if the danger of collision is identified
- braking assistance as appropriate to the given situation as soon as the driver applies the brakes
- autonomous emergency braking to avoid a collision with moving, stationary or crossing vehicles ahead if the driver fails to respond
- autonomous emergency braking also for stationary or crossing pedestrians/cyclists.

Evasive Steering Assist: Within a speed range from 20 to 70 km/h, Evasive Steering Assist can help the driver to avoid a pedestrian detected by the assistance system using the radar sensors and stereo multi-purpose camera. If the driver initiates an evasive manoeuvre by turning the steering wheel, the system

provides assistance by adding precisely calculated steering torque to support the movement of the steering wheel. This torque helps the driver to avoid the pedestrian in a controlled manner and then makes it easier to straighten the vehicle up again so that it can drive past safely. While the philosophy behind Evasive Steering Assist is to provide the driver with significant assistance, the initiative to take evasive action must come from the driver. This is because if evasive action were automatic, a previously inattentive driver might be so surprised by the spontaneous movement of the steering wheel that they might react incorrectly and, for example, attempt intuitively to steer in the opposite direction.

Active Lane Keeping Assist: This system is able to warn the driver by means of pulsed vibrations at the steering wheel when the vehicle is unintentionally drifting out of its lane at speeds between 60 and 200 km/h. If the vehicle passes over a continuous line, it can pull the vehicle back into lane by applying the brakes on one side. In the case of a broken line, such intervention takes place only when there is a danger of collision with a vehicle in the next lane (including danger from oncoming traffic).

Active Blind Spot Assist: In the speed range from approx. 12 to 200 km/h, this system is able to provide the driver with a visual alert plus an audible alarm when a turn indicator is actuated, to warn of a danger of side collisions with other vehicles, including bicycles, for example. At standstill this also works when leaving the vehicle, enabling e.g. collisions with cyclists to be avoided when opening a door. At speeds above 30 km/h, the Driving Assistance package can also automatically apply one-sided braking action to help avoid a side collision at the last moment.

Traffic Sign Assist: Image recognition and information from the digital road map in the navigation system allow the permitted maximum speed and any restrictions on overtaking for the current route section and zebra crossings to be computed and shown in the instrument cluster. Additional restrictions such as speed limits in wet conditions (warning when the windscreen wipers are switched on) or speed limits for trucks only are also taken into account or ignored as appropriate in the individual case concerned. The vehicle speed is compared with the speed limit. If set to do so by the driver, a visual/visual-audible warning is given if the speed limit is exceeded. No-entry signs are also recognised and the driver is prompted to check the vehicle's direction of travel. A warning additionally appears in the instrument cluster and on the head-up display if

pedestrians are detected in the area of a zebra crossing. Traffic Sign Assist is also separately available outside the assistance package.

PRE-SAFE® PLUS: Protection against danger from the rear

PRE-SAFE® PLUS can intervene when following traffic presents a danger. To this end the radar sensors in the rear bumper monitor following traffic to detect an impending rear-end collision. If a dangerous situation is recognised, the system warns the driver of the vehicle behind by operating the hazard warning flashers at increased frequency (not in USA/Canada). It also preemptively initiates PRE-SAFE® occupant protection measures, especially the reversible belt tensioners. If the vehicle is at a standstill, PRE-SAFE® PLUS also applies the brakes firmly. This reduces the forward jolt from the impact, considerably lowering the loads acting on the occupants and the risk of whiplash injuries. Moreover, locking the brakes can prevent secondary collisions e.g. on junctions with crossing pedestrians or a vehicle ahead.

Easier parking and manoeuvring: further assistance systems on request

Active Parking Assist with PARKTRONIC assists the driver when searching for a parking space and when entering or leaving parallel or end-on parking spaces. In the case of end-on parking spaces it is active in both forward and reverse direction. It manoeuvres the vehicle into the selected parking space and out again. In the process, acceleration, braking and gear-changing is automatic if the 7G-DCT dual clutch transmission is installed. In combination with Blind Spot Assist, the system can warn the driver of cross-traffic when reversing out of end-on parking spaces, and also initiate automatic braking if necessary. PARKTRONIC gives a visual and acoustic warning of recognised obstacles with the help of six ultrasonic sensors in each bumper. These can be in front of, to the side or behind the vehicle, and are recognised at speeds up to approx. 10 km/h.

If the **Parking package with 360° camera** is specified, an all-round view is provided by the 360° camera with four networked close-range cameras in the radiator grille, boot lid handle and exterior mirror housings. The information is clearly presented in selectable views in the MBUX display.

The **Parking package** combines Active Parking Assist with a reversing camera in the boot lid. Its image is shown in diagrammatic form with superimposed guide lines in the MBUX display. The **reversing camera** is also available separately.

Optimum visibility in all conditions

As standard the new A-Class is equipped with halogen headlamps with integrated LED daytime driving lamps. The optional LED High Performance headlamps and MULTIBEAM LED headlamps are another example of the technology transfer from the luxury to the compact class. With the MULTIBEAM LED headlamps, the control units calculate the ideal lighting configuration within milliseconds. The road ahead is precisely and brightly illuminated.

The MULTIBEAM LED headlamps allow extremely quick and precise adjustment of the headlamps to the current road and traffic conditions. 18 individually actuated LEDs are housed in each headlamp. The daylight-like light colour of the LEDs is easy on the eyes and has a positive effect on concentration.

The functions of the MULTIBEAM LED headlamps are as follows:

- variable low beams for country roads and motorways (motorway mode with range increased by around 50 metres)
- automatic activation of cornering lights when turning to the left and right. These are activated if the direction indicators are operated at under 40 km/h, and also on tight bends at under 70 km/h. Both cornering lights are switched on when revering, so as to illuminate the swivel range
- cornering light with roundabout function. This is activated approx. 70 metres before entering a roundabout, and approx. 40 metres before junctions
- city light for wide light distribution at low speeds within built-up areas

Adaptive Highbeam Assist Plus is part of the optional MULTIBEAM LED headlamps. This brightly illuminates the road over a long range and can remain permanently switched on, as oncoming traffic and vehicles ahead are excluded from the beams by partial deactivation of individual high beam modules. Adaptive Highbeam Assist Plus is active at speeds above 30 km/h when travelling on unlit roads.

Extensive improvements by computer and wind tunnel

Good fuel consumption figures require good aerodynamic qualities. With a C_d figure from 0.25, the new A-Class betters its already very good predecessor despite increased exterior dimensions and the high model variance.

With a C_d figure from 0.25 and a frontal area (A) of 2.19 m^2, the new A-Class is the aerodynamic leader in its segment. To achieve this goal, the aerodynamics engineers have performed intensive detail work during computer-based airflow simulations and optimisations in the wind tunnel and, based on the results, implemented a series of effective measures.

For the first time in the compact class, Mercedes-Benz uses a two-section AIRPANEL (optional). This louvre system behind the radiator grille opens its adjustable louvres depending on the cooling requirement. There is an additional louvre system in the air inlet below the registration plate, which further improves system performance.

The front and rear wheel spoilers have been specifically optimised to achieve low airflow losses around the wheels. In addition the wheel arches are insulated from the engine compartment (depending on engine variant) and the radiator surrounds are sealed. This ensures more precise direction of the cooling air and a more efficient cooling system.

Further detailed aerodynamic measures include:

- sealed headlamp surrounds
- new exterior mirror on the beltline
- aero lip in the bonnet's joint to the front apron
- large roof spoiler, side spoiler, spoiler lips in the tail lights (standard) and on the rear bumper reduce air resistance and lift
- underbody panelling with large engine compartment, main floor, rear axle and diffuser panels
- improved shape of the rear exhaust silencer and heat shield (petrol engine)
- aerodynamically optimised wheels and tyres

Wind noises have been considerably reduced in the new A-Class compared to its predecessor. This was made possible by improvements in several areas. Sources of low-frequency noise were first identified with the help of numerical simulation, and reduced in effect by design measures before detailed fine-tuning on the test benches.

Where the high-frequency wind noises are concerned, particular attention was paid to the shape of the A-pillars in conjunction with the new exterior mirrors on the beltlines. The exterior mirrors were optimised in shape and position. The result was a reduction in wind noise and air resistance. Further important improvements were achieved in the design of the seals in the windscreen surrounds and the sealing of trim elements and detachable parts.

New engines, new transmissions

All the new A-Class models are powered by new, efficient engines: Two new four-cylinder petrol engines are available at market launch. Innovations in the M 282 with a displacement of 1.4 litres and up to 120 kW include cylinder shutoff (in conjunction with the 7G-DCT transmission) and the delta shape of the cylinder head. The second new petrol engine is the M 260 with a displacement of 2.0 litres, 165 kW and 350 Nm. New features include CAMTRONIC for the intake camshaft. Both petrol engine series have low-friction cylinder walls and a particulate filter as standard. Also new is the four-cylinder diesel (OM 608) with a displacement of 1.5 litres, up to 85 kW and up to 260 Nm. Its highlights are a near-engine mounted emission control system with AdBlue® technology, a turbocharger with optimised response time and water intercooling. A new 7G-DCT dual clutch transmission is also being introduced. Further new engines will follow. The fuel tank has a capacity of 43 litres as standard, with a 51-litre tank optionally available.

The following three engine variants will be available on the launch of the A-Class, or shortly afterwards[1]:

- A 200 (**120 kW**/163 hp, 250 Nm; with 7G-DCT dual clutch transmission combined fuel consumption 5.1 l/100 km, combined CO_2 emissions 120 g/km) or six-speed manual transmission (combined fuel consumption 5.6 l/100 km, combined CO_2 emissions 133 g/km)
- A 250 with 7G-DCT dual clutch transmission (**165 kW**/224 hp, 350 Nm; combined fuel consumption 6.0 l/100 km, combined CO_2 emissions 141 g/km)
- A 180 d with 7G-DCT dual clutch transmission (**85 kW**/116 hp, 260 Nm; combined fuel consumption 4.1 l/100 km, combined CO_2 emissions 108 g/km)

The new M 282 petrol engine: four-cylinder with cylinder shutoff

The new entry-level engine in the A 200 is the M 282 with a displacement of 1.33 litres. Compared to the previous 1.6-litre engine, the output of this all-

[1] The above models have been certificated according to Euro 6d-TEMP.

aluminium engine has increased by up to eleven percent and the output per litre by no less than 25 percent. This engine excels with very compact dimensions, low weight and high static and dynamic rigidity. The turbocharger features an electronically controlled wastegate: thanks to flexible charge pressure control, it is also possible to set an optimum charge pressure under partial-load conditions.

This is the first four-cylinder Mercedes-Benz engine to feature cylinder shutoff (initially in conjunction with the 7G-DCT transmission). In the partial load range between 1250 and 3800 rpm, and depending on the power requirement, the intake and exhaust valves of the second and third cylinder are closed by valve clearance adjustment. The remaining two cylinders therefore operate under higher loads, and more efficiently. To minimise friction, the cylinder walls are coated using the patented NANOSLIDE® process. The piston skirts are given an Eco-Tough coating, a special graphite coating for optimised friction and high wear resistance.

Another special technical feature is the delta cylinder head, so called because of its shape. It is slightly higher when installed, but much narrower and lighter than conventional cylinder heads. Further advantages include the semi-integrated intake and exhaust manifolds, which allow compact construction. Daimler holds a patent for the compact arrangement of the high-pressure injection pump with a maximum of 250 bar. The multi-hole injection nozzles are centrally located in the combustion chamber, and injection occurs without the valves being subjected to the jet of fuel.

This new, high-compression four-cylinder engine has a particulate filter as standard. Particular effort was also devoted to noise emissions. The intake air duct features a Helmholtz resonator, the catalytic converter has insulating seals and the cover also has a noise-reducing role.

The new engine will initially be available with the 7G-DCT dual clutch transmission, and later also with a six-speed manual transmission and 4MATIC all-wheel drive.

The M 282 was developed by Mercedes-Benz in cooperation with Renault. It is produced at the Kölleda plant in Thuringia, Germany and in future it will also be produced in Beijing, China. Renault supplies the components of the long block engine.

The M 260 four-cylinder engine of the A 250 is essentially a further development of the previous M 270, with an output increase of over 6 percent compared to its predecessor. Its engine block of diecast aluminium with cast iron cylinder liners conceals a world premiere in large-scale production: CONICSHAPE®, also known in-house as "trumpet-honing". To further minimise piston friction and lower fuel consumption, the cylinder bore is widened at the lower end of the cylinder liners. The resulting, conical shape resembles the mouth of a trumpet. An innovative low-friction oil and optimised piston rings also reduce friction losses. To take account of the higher specific output, the pistons themselves feature cooling ducts. This also ensures more efficient combustion. The balance shafts for smooth engine-running are located in the lower section of the crankcase.

Also new in the aluminium four-valve cylinder head of the two-litre engine is CAMTRONIC, a variable valve timing system that allows two-stage adjustment of the valve lift on the intake side of the valve assembly. In the partial-load range, this variable valve lift adjustment allows less air to be fed to the combustion chamber with a smaller valve lift, which leads to lower gas cycle losses. In higher load ranges the system switches to the higher valve lift to achieve the engine's full power delivery.

Multiple fuel injection ensures optimum combustion despite the smaller valve lift. This compensates the reduced turbulence of the fuel/air mixture in the combustion chamber in the area of the spark plug. The four-cylinder has direct injection with latest-generation piezo injection valves. The position of the injectors has been optimised to achieve low cylinder wall coverage and therefore lower untreated emissions, especially particulate emissions. A particulate filter is included as standard. Thanks to optimised injection with partial valve lift, the engine runs even more quietly in wide operating ranges. A low level of exhaust emissions has been achieved by further development of the well-proven BlueDIRECT combustion system in conjunction with the standard petrol particulate filter.

The single-pipe turbocharger features an electronically controlled wastegate valve. The previously vacuum-operated actuator has been replaced by a precision electrical actuator, which reports its position and has a higher actuating speed, so that charge pressure control and diagnosis are significantly improved. This allows charging to be more precisely controlled.

The oil circuit is supplied with engine oil on a demand basis. Sensors monitor the oil pressure so that the supply volume can be adjusted. The cooling circuit has an electronically controlled thermostat which allows the engine temperature to be optimally set to suit needs.

To make engine operation more comfortable, a new centrifugal damper has been introduced into the powertrain as an addition to the balance shafts. This improves the engines NVH characteristics and allows comfortable driving possible at lower rpm. The exhaust system with flap control has the same purpose.

The engine is configured for front-wheel drive and 4MATIC all-wheel drive, and combined with the 7G-DCT dual clutch transmission. The M 260 engine is produced by the Kölleda plant.

The new OM 608 diesel engine: quieter and cleaner

The entry-level OM 608 diesel engine in the A 180 d is a new development based on the OM 607. It is more powerful (85 kW, 5 kW more), has further reduced emissions, complies with EU 6d temp including the new requirements relating to Real Driving Emissions – RDE, and has optimised noise characteristics.

New technological components include the improved turbocharger with variable turbine geometry integrated into the exhaust manifold. An electric actuator now adjusts the turbine geometry Together this makes for a more immediate charging response. The intake air is now cooled by an engine-mounted water intercooler.

The installed height of the new aluminium cylinder head has been reduced, and the moving masses of the valve assembly reduced. The intake manifold is now integrated into the cylinder head cover. The pressure of the common-rail injection system has been increased to 2000 bar (previously: 1600 bar). The electro-magnetically controlled injectors have eight injection holes. This allows precise combustion control by up to six injections per working cycle. Dual pre-injection is used to optimise combustion noise in wide operating ranges, and the injectors are sealed in their shafts.

The cast-iron engine block has been made lighter, while increasing its rigidity. Weight-optimised steel pistons are used as before. A demand-controlled oil pump is used, with a pressure regulating valve adjusting the oil pressure on the basis of need and temperature-dependent characteristics maps.

For sound insulation, the sump has a polyurethane foam cover, the engine cover an interior foam lining and the design cover an interior PET lining.

For low emissions, the OM 608 is equipped with high and low-pressure exhaust gas recirculation. The compact exhaust aftertreatment system is near-engine mounted. Alongside the oxidation catalytic converter and the particulate filter, SCR catalytic converters with AdBlue® metering are used for the first time in this engine class. The particulate filter also has an SCR coating. A large AdBlue® tank with a capacity of 23.8 litres ensures long refilling intervals, and has its own, externally accessible filler neck next to the diesel filler neck.

At market launch the engine is available with a new 7G-DCT dual clutch transmission. The OM 608 was developed as part of a strategic cooperation with Renault. The Mercedes-Benz specific technology components include:

- engine mounting
- special two-mass flywheel
- dual-clutch transmission
- alternator and air conditioner compressor
- engine control unit with specific software
- ECO start/stop function

Basic data of the new engines at market launch of the A-Class:

		M 282	M 260	OM 608
Cylinders	Number/arrangement	4/in-line	4/in-line	4/in-line
Valves per cylinder	Number	4	4	2
Displacement	cc	1332	1991	1461
Displacement of one cylinder	cc	333	498	365
Cylinder spacing	mm	85	90	85
Bore	mm	72.2	83	76
Stroke	mm	81.4	92	80.5
Bore/stroke		1.3	1.1	1.05
Rated output	kW/hp	120/163	165/224	85/116
at	rpm	5500	5500	4000
Peak torque	Nm	250	350	260
at	rpm	1620–4000	1800-4000	1750-2500
Specific output	kW/l	90	83	58
Compression ratio		10.6	10.5	15.1

The 7G-DCT transmissions: comfortable and economical

In the new A-Class, Mercedes-Benz uses two different 7G-DCT dual clutch transmissions with a wet clutch: The previous transmission has been developed further for the more powerful engines (e.g. A 250). It has been improved in shift performance and reaction time by an optimised friction system and pistons with a lower hysteresis. To transfer the driver's shift commands even more directly, communication between the engine and transmission has been revised. Control of the available drive programs ECO, Comfort, Sport and Individual has also been adapted.

The A 200 and A 180 have a newly developed 7G-DCT dual clutch transmission. For a low dry weight of 67 kg, the actuators exhibit high mechanical and electrical efficiency. The gears are shifted electro-mechanically, the wet clutches are operated electrohydraulically. The software-controlled clutch allows different shift characteristics – from sporty to particularly comfortable – with the driver able to choose between ECO, Comfort, Sport and Individual. As further functions it allows extended coasting and ECO start/stop. This transmission was developed together with GETRAG, who is also the supplier.

More driving pleasure, more efficiency

On request the new A-Class is available with the permanent all-wheel drive system 4MATIC with fully variable torque distribution. This sporty all-wheel drive system has been developed further, and now offers even more driving pleasure and efficiency. Using the DYNAMIC SELECT switch, the driver is able to influence the 4MATIC characteristics even more than before.

4MATIC components include the power take-off to the rear axle, which is integrated into the automated dual clutch transmission, and the rear axle differential with an integrated multiplate clutch. This is no longer electro-hydraulically powered, but instead electro-mechanically.

Via a crown wheel and a ball ramp, an electric motor exerts an axial force on the clutch pack to open or close the plates. The rear axle differential compensates the different paths/rotational speeds of the rear wheels. The advantages of this control system are above all non-rpm-dependent operation across the entire actuation range, pilot control of the clutch while still stationary and higher efficiency thanks to the ball ramp concept.

Drive torque distribution between the front and rear axles is fully variable. Depending on the driving situation, 100 % of the drive torque can be directed to the front axle (e.g. when driving straight ahead with no increased slip at the front axle), or in borderline cases up to 100% can be directed to the rear axle if the friction coefficient suddenly changes.

Using the DYNAMIC SELECT switch, the driver is able to influence the characteristics of 4MATIC even more than before. In the A-Class there are two characteristic curves available for clutch control. Models equipped with 4MATIC have a four-link rear suspension.

Safety and quiet running at the highest level

A rigid and intelligently designed body provides the basis for both crash safety and pleasant acoustics. Safety is also enhanced by specifically deformable crumple zones, and quiet running by numerous other measures. Nonethelesss the weight of the bodyshell has been kept at the level of the preceding model.

The new A-Class is also the first Mercedes-Benz model to have been developed at the new Technology Centre for Vehicle Safety (TFS). The design of the vehicle structures incorporates findings from research into real accidents. Every single bodyshell component was developed according to the loads and stresses encountered, with respect to geometry, material thickness, joining technology and material quality (increased proportion of high-strength and ultra high-strength sheet steel).

The centrepiece of the body's safety concept is the highly rigid passenger cell. Its great rigidity when subjected to accident-induced stress e.g. in frontal, lateral or rear-end collisions and rollovers is above all due to the greater use of high-strength, ultra high-strength and press-hardened sheet steel.

The strength of the entire side wall is increased by a floor assembly with high transverse rigidity. In the front footwells this is brought about by two inner and one outer reinforcing section between the inner shell of the front side members and the central tunnel. There is a continuous seat cross-member in the rear. These are augmented by seats with high transverse rigidity featuring tubular sections in the seat frame.

The upper area of the B-pillar is extremely rigid, with hot-formed ultra high-strength steel, while the lower area is slightly less rigid with deformable, ductile steel. This gives the B-pillars very good deformation kinematics. The steel doors have specific reinforcements, and additional protection is provided by impact elements in the side seat and B-pillar claddings.

The so-called Inertia door handles are the result of in-house accident research. These even more reliably prevent a door from opening during an accident, as the door is locked in place at the handle when subjected to impact-induced forces.

Special measures for the structural safety of the vehicle's front section include the following:

- the robust firewall cross-member of hot-formed, press-hardened steel between the two A-pillars
- several parallel load paths for improved load distribution in a partial frontal collision (offset crash)
- side members at the upper impact level connected to the A-pillars
- effective load distribution from the front side members by means of specially reinforced A-pillars
- a middle impact level with side members having specific crash kinematics
- multi-layered floor structures for optimum energy absorption
- an additional pedal floor cross-member to protect the footwell
- continuous floor side members to improve energy transfer into the underbody structure, with a larger cross-section and material thickness than in the previous model
- compatibility with other vehicles in the design of the front structure in the event of a frontal collision (protection of other road users).

The more compact drive units also play an important role. During a frontal collision, and acting together with the body structure, they allow more homogeneous deceleration and help to ensure the occupant protection for which Mercedes-Benz is well-known. Depending on impact severity, the engine and transmission are specifically displaced and disengaged from the new integral carrier.

Vehicles with a tailgate require a particularly well-conceived rear body structure to compensate for the large aperture. For many years, e.g. in the E-Class Estate models, the structural concept of two peripheral sections has proved successful for Mercedes-Benz: the so-called C-ring at the level of the C-pillar and the D-ring around the tailgate aperture. Thanks to the geometry of the D-ring, it was possible to position the lower section of the C-ring completely below the rear floor while retaining the excellent rigidity of the previous model. This enlarged the load capacity and made a level load area possible.

Restraint systems: partnership with the safety bodyshell

The most important restraint system is the seat belt. The driver and front passenger each have a three-point seat belt with belt force limiter and belt

tensioner. In conjunction with the PRE-SAFE® system (optional equipment), the front seats are equipped with reversible belt reel tensioners. Both of the outer rear seats are fitted with a seat belt with reel tensioner and belt force limiter. These excel with a relatively low level of force for small and lightweight occupants. The centre belt is a standard three-point belt.

The new A-Class is equipped with driver and front passenger airbags, a driver's kneebag and windowbags as standard. Unlike in many competing models, the windowbag also covers the A-pillar for more complete passenger protection. Thorax-pelvis sidebags are likewise standard in the front, and available as optional equipment for the rear.

Child safety: automatic deactivation of the front passenger airbag

A pressure sensor in the front passenger's seat cushion can detect whether the seat is unoccupied or whether an infant or other child seat has been placed on the front passenger seat, and in the latter case deactivate the front passenger airbag automatically. Contrary to other systems that require the airbag to be deactivated with a key, this system reduces the risk of incorrect operation. As no special transponder is required, the system can be used for all conventional, rear-facing child restraint systems. The system is standard or optional equipment depending on the market or region.

i-Size child seat attachments are used for i-Size child seats. This internationally standardised attachment system, the successor to Isofix, is provided for the outer rear seats as standard. It improves protection with a fixed connection between the child seat and the vehicle.

Pedestrian protection: active bonnet

Reducing the severity of an impact is particularly important in the case of a collision with vulnerable road users such as pedestrians, as these have no "crumple zone" of their own. This is where the active safety systems of Intelligent Drive come into their own. If an impact is unavoidable, the further developed measures to mitigate the consequences of accidents involving pedestrians can help.

The active bonnet is an important factor in this. The technical basis is a comprehensive sensor system in conjunction with intelligent algorithms in the airbag control unit, which decides when to trigger. After activation of the

pyrotechnical actuators, the bonnet is raised on its hinge by a significant 80 mm or so within fractions of a second. This creates additional space between the bonnet and the components in the engine compartment. The protective effect is increased by a comparatively flexible cross-member below the windscreen. This is designed in the form of a shackle, enabling it to give way better in the event of a head impact.

Noise and vibrations: there is strength in serenity

Quiet, vibration-free driving characteristics are a major factor in the grown-up, premium driving impression made by the new A-Class. Alongside effective insulation of the suspension from the vehicle body (see section on Suspension) and aeroacoustic measures, the bodyshell itself plays a decisive role.

During the development of the A-Class, particular attention was given to high overall structural rigidity and the connecting points between the body, suspension and powertrain. Significant increases in introduction rigidities were especially achieved at the suspension connecting points that are so important to road roar, and the interior noise level was considerably reduced.

Following examination of the previous model, the guide bearing of the front axle and the rear connection of the subframe were identified as major introduction points. The introductory rigidity at the front axle guide bearing was significantly increased with a compact, rigid integral carrier.

The subframe of the multi-link rear axle is elastically isolated by rubber bushings. The front subframe connection is integrated into the C-ring structure of the bodyshell, and therefore has the rigidity to isolate it. A cross-member is integrated into the multifunction recess to increase the introductory rigidity of the rear subframe connection. This not only gives transverse support to the subframe carrier, but also stiffens the membrane surface of the recess. This reduces sound radiation as a good basis for efficient noise insulation.

To reduce the noise impact to the passenger compartment, the firewall is a high-quality injection-moulded component. In contrast to deep-drawn components, this has the advantage that constant wall thicknesses are possible: large changes in contours do not thin out the material – a classic acoustic weak point. In addition a modular major assembly compartment partition made of plastic is used by Mercedes-Benz for the first time for a platform with transversely installed

engines. This makes models with the top engine variants particularly quiet-running.

The comprehensive noise insulation concept of the new A-Class includes components such as the air and coolant management systems or trim parts in the interior being configured so as to improve noise insulation as well. Sound insulation measures also include the specific use of absorbers e.g. in the area of the C-pillars, in body cavities and with spring-mass systems on the wheel arches. The tool used for all sound insulation measures was statistical energy analysis (SEA). This makes it possible to assess the effect of sound insulation concepts at a very early stage with the help of computer models.

Agile and comfortable

There is a choice of suspension systems for the A-Class, depending on engine variant and driver preference. 16-inch wheels are standard equipment. DYNAMIC SELECT is standard equipment, and at the touch of a button also provides an individual driving experience in conjunction with active damping control (optional).

Like all its predecessors, the new A-Class has a McPherson front suspension. Wheel control is taken care of by one transverse control arm below the wheel centre, the McPherson strut and one tie rod. The transverse control arm in the new A-Class is a forged aluminium component. This reduces both weight and unsprung masses. The steering knuckles are made of cast aluminium.

The wheel-locating McPherson struts feature transverse force-optimised coil springs and twin-tube gas-pressure shock absorbers with auxiliary springs. The support bushing is a three-way design, with the forces applied by the damper, spring and auxiliary spring isolated from each other. Here too, attention was paid to low weight with a hollow piston rod, aluminium head bearing and a perforated spring plate. The tubular stabiliser is connected to the suspension struts by a newly developed, weight and friction optimised torsion bar linkage of hybrid polyamide construction.

When defining the axle geometry, particular attention was paid to keeping torque steer to a minimum and eliminating jolts as far as possible. The form and arrangement of the rubber bushings determines the great agility of the vehicle, also allowing a high level of ride comfort and driving safety.

Steering: also supports automated driving

The gearing of the electro-mechanical rack-and-pinion steering is located behind the wheel centre, and servo assistance is speed-sensitive as standard. The steering assistance function (in conjunction with the Driving Assistance package) is a new feature. The driver's steering movements to stabilise the vehicle are assisted by additional steering torque generated by the electric servo unit.

These include:

- countersteering in case of oversteer
- steering corrections when braking on varying road surfaces (μ-split braking)
- reducing the steering effects of front-wheel drive
- compensation for crosswinds and road camber.

In combination with Active Distance Assist DISTRONIC, transverse control takes place to add active lane-keeping to the intelligent cruise control.

Rear axle: four control arms, high proportion of aluminium

The more powerful A-Class versions such as the A 250 and all 4MATIC models have a sophisticated four-link rear suspension. The three transverse arms and one trailing arm at each rear wheel are configured for maximum driving stability, comfort and longitudinal/lateral dynamics. The rear axle is mounted on a subframe isolated from the bodyshell by rubber bushings so that fewer vibrations are transferred from the suspension to the body.

The wheel carrier and spring control arm are made of aluminium – low unsprung masses allow a particularly sensitive "feel" for the road surface. All in all, the proportion of aluminium in the suspension components is one of the highest in any suspension system in this vehicle class. Newly developed shift rails made of polyamide connect the torsion bar stabiliser with the rear axle.

The entry-level A 200 and A 180 d models have a torsion beam rear suspension. Its U-section rotates in a targeted manner in one-sided compression and rebound, and acts as a stabiliser bar. The torsion-beam rear axle is secured to the body with two bearings and uses the same attachment points to the body-in-white as the multi-link axle's trailing arm.

Single-tube shock absorbers and separate coil springs are used for both the four-link and the torsion-beam rear axle. Here too, effective noise insulation of the coil spring between the body and rear axle is achieved with two elastomer insulators. The connection between the shock absorber and the body is via an aluminium bearing, which by way of its soft gimbal-type mount contributes to a reduction in friction in the damper and therefore to an improvement in response.

Three suspension variants: choice of setups

As standard the new A-Class is equipped with a **comfort suspension** with steel springs and DYNAMIC SELECT. The **comfort suspension** lowered by 15 millimetres has specially configured springs and dampers for more sporty characteristics.

The **suspension with active damping control** enables the driver to choose the preferred damping characteristics. A valve in each of the four shock absorbers is electronically actuated to control the oil flow. The damping characteristics are changed by regulation of the oil flow.

Several different sensors constantly monitor the suspension status, driving situation and driving style of the driver, and adjust the damping at each wheel. Information is also added by the engine, transmission, braking system, steering and driving assistance systems. The damping is specifically stiffened during acceleration, braking or steering manoeuvres to reduce pitching and body roll, and to improve wheel loads and tyre adhesion.

Brakes: ADAPTIVE BRAKE as standard

The new A-Class has a hydraulic dual-circuit braking system in X-configuration with the brake control function ADAPTIVE BRAKE as standard. The dimensions take vehicle-specific circumstances such as axle load distribution, weight and performance into account. The electric parking brake is standard equipment. The rear axle features a combined floating brake calliper with an electric parking brake function.

ADAPTIVE BRAKE puts technology from the top-of-the-line model Mercedes-Benz models into the A-Class. Thanks to electronic control, the hydraulic dual-circuit braking system allows assistance functions that improve safety and comfort. This includes priming of the braking system in critical situations: if the driver's foot moves abruptly from the accelerator to the brake pedal before an emergency stop, the braking system increases the pressure in the brake lines and brings the pads into contact with the brake discs so that maximum braking power is available as soon as the driver hits the brake pedal. This priming of the brakes allows the system to assist the standard Brake Assist.

ADAPTIVE BRAKE also brings safety benefits in wet conditions. The system briefly applies the brakes at regular intervals to wipe the film of water from the

brake discs, ensuring that the brakes are able to perform at their peak. This automatic brake drying function is always activated when the windscreen wiper of the A-Class has been switched on for a certain time, and the finely metered braking impulses go unnoticed by the driver.

After braking to a standstill, briefly pressing the brake pedal a little further is all that is required to activate the HOLD function. The car is then held by the brakes, even if the driver's foot is taken off the brake pedal. In this way ADAPTIVE BRAKE prevents unintentional moving-off at traffic lights or in stop-and-go traffic, or rolling backwards on uphill gradients. The HOLD function is deactivated automatically when the car moves off.

The range of wheels and tyres begins at 16 inches. It comprises steel wheels in size 16 and 17 inches and light-alloy wheels in size 16 to 19 inches. The overall outer diameter of the wheels/tyres is 660 mm rather than the previous 645 mm.

Exercise in purism

The purist, surface-accentuating design of the new A-Class is the next step in the Mercedes-Benz design philosophy of Sensual Purity. On the basis of a compact two-box design, optimised dimensions and proportions have led to a new interpretation of the Mercedes-Benz A-Class's design.

"With clear contours and sensual surfaces, we present high-tech that awakens emotions. Form and body are what remain when creases and lines are reduced to the extreme. Mercedes-Benz has the courage to implement this purism", says Chief Design Officer of Daimler AG, Gorden Wagener. "The new A-Class is both hot and cool at the same time, and like its predecessor it has the potential to usher in a new design era."

The exterior of the new A-Class stands for sportiness, dynamism and emotion. The progressive front design with a low bonnet, flat LED headlamps with chrome elements and torch-like daytime driving lamps ensures an emotionally appealing and alluring appearance. The striking radiator grille with Mercedes star, whose silhouette opens out towards the base as a reinterpretation of its predecessor, features pins in a diamond look and a central silver louvre to underline the sportiness of this model. The prominent air inlets in the lower area of the bumper echo the silhouette of the radiator grille.

The vehicle is visually extended by the longer wheelbase and character line along the side. The bonnet slopes down more heavily than in the preceding model series, emphasising the dynamic, upright front. The larger wheel arches for wheels from 16 to 19 inches emphasise the sportiness of the new A-Class and make it sit more squarely on the road.

The vehicle has a wider look at the rear end thanks to a more heavily waisted greenhouse, which also emphasises the shoulders, and to the wider-spaced rear reflectors in the modular, two-section rear bumper. Depending on the equipment level, the rear bumper is available with a black diffuser or, in the Progressive equipment line, with chrome trim and exhaust tailpipes. The slim, two-section tail lights ensure an emotionally appealing, alluring appearance. The spoiler in high-gloss black mounted on the side of the rear window improves the aerodynamics.

At market launch, three non-metallic and four metallic paint finishes plus the designo paint finish designo mountain grey will be available.

A revolution from within

The interior of the new A-Class is completely redefined with its modern, avant-garde look. Mercedes-Benz has taken a completely new approach, revolutionising the compact class from the inside with a new feeling of spaciousness. The unique interior architecture is shaped in particular by the avant-garde design of the dashboard: For the first time a cowl above the cockpit has been completely dispensed with. As a result, the wing-shaped main body of the dashboard extends from one front door to the other with no visual discontinuity. The Widescreen display is completely free-standing. The air vents in a sporty turbine-look are another highlight.

The interior architecture and the control & display systems of the new A-Class are an avant-garde USP in this segment. The dashboard is divided into two three-dimensional, horizontal sections: the lower section is visually separated from the main body of the dashboard by a "trench", and it appears to float in front of the dashboard. The optional ambient lighting enhances this effect, accentuating the free-floating impression of the substructure.

The lower section of the dashboard provides the basis for the turbine-look air vents and the completely free-standing display. This is available in three versions:

- with two 7-inch displays (17.78 cm),
- with one 7- and one 10.25-inch (26 cm) display and
- with two 10.25-inch displays.

Integration of the air conditioning display into the central screen also considerably helps to maintain the clear line of the cockpit. The air conditioning is controlled by the horizontal rocker switches of via the corresponding touchscreen menu.

Thanks to the omission of a cockpit cowl, the main body of the dashboard with its trim extends from one door to the other behind the seemingly free-floating Widescreen. The optional trim elements are in a "wrap-around" design, and the choice of materials (e.g. open-pore wood) underlines the progressive, modern positioning as the top interior in this class.

The five round air vents have a new turbine look inspired by the world of aviation. Finely designed air vanes in a concentric arrangement create the impression of a jet aircraft turbine. In the Style equipment line the vent surround is colour-accentuated at the depth of the vent geometry, giving the impression of an afterburner. The air vents in the middle are driver-oriented, accentuating the sportiness of the interior.

The door centre panel transitions seamlessly into the armrest, underlining the sensual, flowing design principle. The newly designed 3-spoke steering wheel, door handles, centre console and seats follow a modern design idiom. The ring-shaped, completely closed grab/door-pull handle is of unusual design and particularly ergonomic.

Colour and trim: fresh colours and unusual trim

The interior can be adapted to suit personal tastes in many ways. The fresh colour concept plays an important part in this: the choice includes indigo blue inspired by the denim jeans look, as well as cool neva grey exclusive to the A-Class. Light effects create an additional effect in this context.

Depending on the equipment line, different types and colours of trim elements are available for the dashboard. An overview of the trim elements:

- Style: colour band matching the upholstery in neva grey, indigo blue or black with integrated, contrasting piping in light blue or orange
- Progressive: carbon-fibre look in black or silver
- AMG Line: AMG DINAMICA black
- Optional for Progressive/AMG Line: light aluminium with longitudinal grain, light aluminium with line grain, trim in black open-pore lime wood or brown open-pore walnut wood

Ambient lighting: avant-garde light pattern

From 12 to 64 – with the generation change, five times as many colours are optionally available for the ambient lighting of the new A-Class. It is not just the variety that has increased, as the emotive presentation also sets standards in this segment: the different colours are composed into ten colour worlds to allow an avant-garde lighting display with spectacular colour changes.

The colour worlds can be matched to the different styles of the widescreen display if required, creating a harmonious overall impression. There are also lighting effects that customers can activate individually.

The avant-garde ambient lighting was already taken into consideration in an early development phase, and systematically integrated into the interior design. This is apparent in the area where the upper and lower sections of the dashboard come together, for example. Thanks to a combination of indirect and direct lighting, a very special ambience is created here which might be compared to the night-time illumination of a historic building. The interior of the turbine-like air vents with galvanised surfaces is likewise emotively presented by the ambient lighting.

Comfort features from higher vehicle classes

When developing the seats for the A-Class, Mercedes-Benz used computer-based comfort simulation for the first time in the compact segment. Before the first real seat is actually available, this allows reliable prognoses to be made about the future comfort impression of the seating system solely on the basis of CAD data. At the same time, comfort features from higher vehicle segments made an appearance: on request, and for the first time in this model series, not only seat heating but also seat climate control and a Multicontour Seat package are available for the front seats.

A total of three different front seats are available for the new A-Class: the basic model, the comfort seat and the sporty integral seat available in combination with the equipment lines.

As well as a special seat design, the Seat Comfort package (standard with the equipment lines) includes height adjustment of the front passenger seat and angle/depth adjustment of the front seat cushions. The latter allows the thigh support to be extended by up to 60 mm. The Seat Comfort package is available in conjunction with the comfort or sport seat.

The front seats have comfort features available from higher segments, with optional seat climate control and a Multicontour Seat package incl. massage function. With the seat climate control, there is a radial fan in each seat cushion. The air taken in through the perforated seat cover flows through the seat structure and is vented downwards and to the rear. This surrounds the occupants with a pleasant flow of air. Even when the interior has been strongly heated up in hot weather, the seat climate control rapidly cools the seat surfaces by taking in cooler ambient air. The ventilation level is adjustable in three stages.

With the Multicontour Seat package, the side bolsters and lumbar support can be individually adjusted by an electrically driven pneumatic pump. A massage effect in the lumbar area is provided by air chambers, which are inflated and deflated in a pulsing or wave-like motion when the function is activated.

The rear seats have a 60/40 split as standard, and the backrests can be folded down accordingly. For even more variability, the lines have a 40/20/40 rear seat

backrest split as standard. Customers opting for the Load Compartment package (optional equipment) are also able to adjust the rear backrest to a more upright angle. This allows bulky boxes to stowed, for example, while retaining the rear seating capacity. Other components of the Load Compartment package are a 12 V socket, side nets on the left and right and a reversible mat.

The A-Class has grown up

Despite its sporty look, the new A-Class has considerably more utility value, making it as youthful as ever but grown-up like never before. More shoulder, elbow and headroom plus easier access to the rear are clear benefits, as is the larger and more family- and recreation-friendly luggage compartment. All-round visibility has also been considerably improved. This enhances both safety and the impression of spaciousness.

The capacity of the luggage compartment behind the rear seats is 370 litres – 29 litres more than in the preceding model. Thanks to two-section rear lights, the loading aperture is 20 cm wider than before, and the luggage compartment floor is 11.5 cm longer. But the progress is not only obvious on paper: the developers of the new A-Class attached particular importance to utility and loading convenience, and virtually tested the luggage compartment with an extensive shopping basket during an early conceptual phase.

The list of shopping basket contents covered over 70 different items. Loading was simulated using the CAD data of the vehicle and items, and where necessary the design of the luggage compartment was fine-tuned. The result: not only can a pushchair be accommodated in the boot of the A-Class, but also a bicycle if its wheels are separately stowed. Two additional crates of drinks can be stowed compared with the four of the preceding model. A golf bag can also be carried, or two if the luggage cover is removed. In conjunction with the Load Compartment package, the rear seat backrest can be positioned more upright, e.g. to accommodate bulky boxes.

The stowage concept is equally practical: The oddments compartment in the centre console ahead of the shift lever has been significantly enlarged to accommodate items such as a smartphone, wallet, keys or a garage door opener. A cup holder on the centre tunnel for mugs, cans and bottles up to 0.5 litres is a new feature in conjunction with the equipment lines. The cup holder insert is removable, making a further stowage space available. The owner's manual is smaller in size, and is accommodated in a separate flap in the glove compartment.

The stowage facilities in the door panels have significantly increased in size. 1.5-litre PET bottles or A4-sized magazines can now be stowed in the front door pockets. The rear door panels have bottle holders for 1-litre PET bottles. A new feature in all four door panels is the integrated accommodation of safety vests, which are therefore quickly to hand when needed.

Better all-round visibility for added safety and comfort

Much detailed effort has also gone into the improved all-round visibility. The risk of overlooking vehicles or pedestrians when turning off, changing lane or parking has been significantly reduced. All in all, the area obscured by the pillars has been reduced by 10 percent compared to the preceding model. This very good figure was principally achieved by specifically slimming down the A, B and C-pillars and their claddings. Improved visibility is also assured by positioning the exterior mirrors on the door outer panel rather than in the mirror triangle.

A good view to the rear is ensured by the new rear window wiper. To enlarge the wiped area, the inside of the roof spoiler housing has a recess to allow a longer wiper blade.

More space: increased comfort-related dimensions

Not only has the sense of spaciousness been improved, but the occupants also have significantly more width available, as the table shows:

Key interior dimensions in mm	A-Class (old)	A-Class (new)	Difference
Elbow room, front	1422	1457	+35
Elbow room, 2nd seat row	1410	1446	+36
Shoulder room, 1st seat row	1391	1400	+9
Shoulder room, 2nd seat row	1350	1372	+22
Maximum headroom, front	1017	1024	+7
Maximum headroom, rear	952	960	+8

Something to suit every taste

With automatically controlled air conditioning, MBUX - the Mercedes-Benz User Experience multimedia system, a multifunction sport steering wheel including touch control buttons, a rain/light sensor and the KEYLESS-GO starting function, plus a high level of safety features and DYNAMIC SELECT with the drive programs ECO, Comfort, Sport and Individual, the A-Class is already generously equipped in the basic configuration. It can be further individualised with the equipment lines Style, Progressive and AMG Line, two equipment packages and a range of optional equipment.

All three equipment lines can be combined with all engine variants.

The equipment line **Style** has a radiator grille with diamond pins in black, a silver-painted louvre and a chrome insert. The side sills are painted in the vehicle colour, with a chrome waistline trim strip. The Style models are shod with 16-inch 5-twin-spoke light alloy wheels in vanadium silver as standard. Comfort seats are also standard equipment (with sport seats available as optional equipment), upholstered in ARTICO man-made leather/leather in neva grey/black with orange double topstitching, indigo blue with ocean blue topstitching and black with medium grey double topstitching. Coloured inserts in the air vents and a colour band in the dashboard provide further highlights.

The equipment line **Progressive** has the same radiator grille as the Style line, while the beltline and window line trim strips are chrome-plated. 17-inch 10-spoke light-alloy wheels in vanadium silver round off the picture. The exhaust tailpipes are visible, the rear apron has a chrome-plated trim element. The side sills are painted in the vehicle colour. Eyecatching features in the interior include trim in a light or optionally dark carbon-fibre look and Comfort front seats upholstered in ARTICO man-made leather/Fléron leather in black/black with medium-grey double topstitching or ARTICO man-made leather/bahia leather in brown/black with double topstitching in progressive grey. A multifunction sport steering wheel in leather with black topstitching and trim in silver chrome is standard equipment. Sport seats are available as optional equipment.

The **AMG Line** is decidedly sporty. Striking features of the exterior include AMG bodystyling (AMG front apron and chrome front splitter, AMG side sill

panels painted in the vehicle colour, AMG rear apron in a diffuser look with chrome trim and exhaust tailpipes), as well as an AMG diamond grille with pins in silver chrome and a painted single louvre with chrome insert. The beltline and window line trim strips are chrome-plated. The brake callipers have a black Mercedes-Benz logo. 18-inch AMG 5-spoke light-alloy wheels with a high-sheen finish painted in titanium grey or black (in conjunction with the Night package, see below) are standard equipment. The technical features of AMG Line include the lowered comfort suspension and Direct-Steer system.

Interior features include sport seats upholstered in ARTICO man-made leather/DINAMICA microfibre in black/black with double topstitching in red or in ARTICO man-made leather in black/neva grey with double topstitching in medium grey and AMG floor mats. The 3-spoke multifunction sport steering wheel is in nappa leather with a silver chrome facing. The lower section of the rim is flattened. The topstitching is in red or black, depending on the upholstery. The grip area is perforated.

The **Night package** is available in combination with the Progressive line and AMG Line. Special features of the exterior:

- 18-inch 5-twin-spoke light-alloy wheels with a high-sheen finish in black, in conjunction with Progressive
- 18-inch 5-spoke light-alloy wheels with a high-sheen finish painted in black, in conjunction with AMG Line
- Exterior mirror housings painted in black
- Diamond grille with the louvre painted in high-gloss black
- Rear apron with trim painted in high-gloss black
- Waistline and window line trim strips in high-gloss black
- Heat-insulating, dark tinted glass from the B-pillar to the rear.

Exclusive special model with colourful highlights

The A-Class will be available as an "Edition 1" for around one year after the market launch. Both on the exterior and in the interior, the exclusive special model has numerous colour highlights in Edition green. In addition, equipment features such as LED High Performance headlamps, sport seats and ambient lighting are standard equipment. The Edition 1 is available with all engine variants.

The exterior is based on the AMG Line. The front and rear aprons have inserts in Edition green. Other special features include LED High Performance headlamps and 19-inch AMG multi-spoke light-alloy wheels with the rim flange painted in Edition green. The special model is recognisable by the "Edition 1" lettering on the front wings. As standard the Edition 1 has a diamond grille with black pins and a black louvre with chrome insert. The exterior mirror housings are painted in black, while the waistline and window line trim strips are in high-gloss black. Standard equipment also includes heat-insulating, dark-tinted glass from the B-pillar to the rear.

Interior highlights include the following:

- Upper dashboard with contrasting topstitching in Edition green
- Sport seats upholstered in ARTICO man-made leather/DINAMICA microfibre with contrasting topstitching in Edition green
- Armrest in the centre console with contrasting topstitching in Edition green
- Door centre panels in ARTICO man-made leather with contrasting topstitching in Edition green on the armrest
- Chrome-plated air vents
- Ambient lighting in 64 colours
- Multifunction sport steering wheel in nappa leather, perforated in the grip area and with flattened bottom section
- Light trim with longitudinal grain and "Edition 1" lettering
- Floor mats with topstitching in Edition green.

12 million test kilometres on four continents

After more than four years of meticulous development work and testing, the new A-Class completed its last, extended test drives as the winter came to an end. As well as putting the vehicle as a whole to the test, these challenging testing cycles focus particularly on the new engines. Testing in the climate tunnel is also a key aspect of the winter testing. At the same time, in Nardo, Italy, special endurance runs made the vehicles undergo accelerated ageing over approx. 100,000 km as part of a sophisticated endurance programme.

A few hundred prototypes and pre-production vehicles in the new compact class were tested in ten countries (Germany, Finland, France, Sweden, Spain, Italy, Dubai, South Africa, USA, China) on four continents (Europe, North America, Asia and Africa), covering around 12 million kilometres during two winters and two summers. In the process the test experts were able to build upon the extensive findings from their digital testing work, used to ensure both the buildability of the vehicle and for the simulation of e.g. crash behaviour, aerodynamics and NVH (noise, vibration, harshness). Intensive testing on a range of test rigs rounded off the process.

These include, for example, those of the Powertrain Integration Centre (IAZ), inaugurated in the summer of 2016 - one of the most sophisticated testing facilities in the whole automotive industry. A total of ten vehicle test rigs are used here for fine-tuning of the engine and transmission, amongst other things. The highlights include test rigs with high-precision torque measurement directly at the wheels of the vehicle as well as a test rig with a climatic altitude chamber. The Technology Centre for Vehicle Safety (TFS), inaugurated in November 2016 as the most state-of-the-art crash test centre in the world, also featured in the indoor testing process. The TFS opens up completely new opportunities, for example for vehicle-to-vehicle tests or for the configuration of assistance systems and PRE-SAFE®. In its direct vicinity at the Mercedes-Benz Technology Centre in Sindelfingen are the recently opened wind tunnels in which the A-Class received its superb aerodynamic fine-tuning.

After every development phase the new A-Class was required to pass a maturity test. Every digital development phase (components, prototypes, pre-production vehicles) was subject to approval by the project manager. The

functional validation of the components in real-life testing must be provided both by the team responsible for each specific assembly module and by the complete vehicle test team.

Test runs with the Board of Management are used to allow top management to examine and assess the level of maturity reached by the overall vehicle. Any necessary decisions can be taken directly at the scene. The way is thus cleared to bring the new vehicle across the finishing line (production start-up) as a mature Mercedes-Benz product with all the hallmark characteristics.

Release by Development and the start-up of series production are followed by the final approval for release to customers from Quality Assurance.

A compact revolution: Over 20 years of the Mercedes-Benz A-Class

Only those who dare win: looking back, this might have been the mission statement for the development and market launch of the Mercedes-Benz A-Class. In March 1997 the brand presented the highly innovative vehicle to the international public at the Geneva Motor Show. The new model known in-house as the W 168 series received plenty of attention – and soon attracted criticism. This was because an A-Class overturned during the so-called "Elk test" by a Swedish motoring journalist. And Mercedes-Benz responded: the A-Class was given a revised suspension system and the Electronic Stability Programme ESP® as standard. In this way the brand raised the safety of compact cars to a further improved level. This high standard was to put its stamp on the whole industry. It started the success story that is the A-Class.

In 1993, at the International Motor Show (IAA), Mercedes-Benz provided an initial preview of the future A-Class: the brand presented the near-series study "Vision A 93". The front-wheel drive vehicle attracted lively attention. This was because it impressively demonstrated how Mercedes-Benz was able to resolve a classic conflict of aims in automobile engineering for the first time: the A-Class combined small exterior dimensions and a large, variable interior with a safety level meeting the high standards of the brand within a unique overall concept. For this reason the "Vision A 93" was far more than just a design or technical study. On the contrary, it pointed the way to a previously undefined market segment for the brand. It decisively influenced the development of the future Mercedes-Benz A-Class (W 168).

The premiere of this compact model was embedded in the extensive model initiative on which Mercedes-Benz had embarked. This marked the brand's diversification into several new market segments. This also included rounding the portfolio off at the lower end, with the A-Class itself. The smaller SLK Roadster (1996) was aimed at the lifestyle market. And in 1997 the M-Class founded the Sport Utility Vehicle (SUV) segment, which retains its great importance to this day.

The spaciousness, comfort and safety of a medium-class saloon

The series production A-Class was presented to the international public at the Geneva Motor Show in March 1997. More than twenty technical innovations previously non-existent in this vehicle category were incorporated into the new model series. The centrepiece was the innovative bodyshell constructed on the sandwich principle: this featured a cavity between the floor panel and the passenger compartment. This was part of the sophisticated safety concept, and also provided space for the components of future alternative drive systems, e.g. batteries or hydrogen cylinders.

With respect to spaciousness, comfort and safety, the A-Class achieved the same level as a medium-class saloon. The innovative rear seat and the optionally removable front passenger seat offer the variability of a minivan and enable the five-seater to be transformed into a four-, three-, two- or one-seater. A total of 72 different seat variations were possible.

With respect to passive safety, the new model series was at the same, high level as the Mercedes-Benz E-Class. Apart from the unique sandwich principle, this was also attributable to the restraint systems included as standard. They were specifically configured for the concept of the A-Class with its short deformation paths.

In addition to numerous, sometimes very extensive changes, the facelift for model year 2001 brought a version extended by 170 millimetres (V 168). Large windowbags which Mercedes-Benz had first used in the S-Class now also became optionally available for the A-Class.

The W 168-series A-Class not only enhanced the model portfolio, but also required further production capacities. The then Daimler-Benz AG decided to build a new plant in Rastatt, Germany, and this was officially opened in May 1992. Initially the plant completed the assembly of painted medium-class bodyshells from Sindelfingen before Rastatt became the A-Class plant.

Testing of alternative drive systems

The A-Class was envisaged for the testing of alternative drive systems from its inception. Its sandwich floor made it ideally suitable for this. As early as 1997, a version emerged with battery-electric drive and the so-called Zebra battery. In 2011 it was followed by the E-CELL model with a lithium-ion battery in the

succeeding 169 series. The A-Class was also powered by the fuel cell: at the IAA show in 1997 Mercedes-Benz exhibited the NECAR 3 (New Electric Car) research vehicle with fuel cell drive. This was developed further in several stages, and renamed the F-CELL in 2002.

Up to May 2004 almost 1.1 million units of the 168 series were produced in Rastatt. 882,661 of these were the standard version, and another 204,212 examples had the long wheelbase. In addition another 63,448 units left the production line at the Brazilian plant in Juiz de Fora by September 2005, which produced the A 160 from 1998 and the A 190 from 2000. The lively demand certainly justified the risk the company had entered into with the first A-Class.

Mercedes-Benz systematically built on this success: in spring 2004 the completely newly developed second generation of the A-Class entered the market. It was available in four-door (W 169) and two-door (C 169) versions. The series was systematically expanded into a model family: the next derivative based on the platform was the B-Class (T 245, 2005).

The new generation: compact cars from 2012

From 2011, with the new B-Class (W 246), Mercedes-Benz began to radically reposition itself in the compact car segment. This became particularly obvious in 2012, with the third generation of the A-Class (W 176): this was a decidedly sporty and youthful package that attracted completely new customers to Mercedes-Benz. Further additions to the segment were the CLA (C 117, 2013), CLA Shooting Brake (X 117, 2015) and GLA (X 156, 2014). The B-Class Electric Drive, Mercedes-Benz's first all-electric vehicle, followed in 2014.

No other premium manufacturer can lay claim to such a comprehensive range of compact cars as Mercedes-Benz: five body variants, front-wheel drive and 4MATIC, manual or dual clutch transmission, a whole host of petrol and diesel engines, plus electric or natural-gas drive in the B-Class, and Mercedes-AMG models that take dynamics to a new level. The compact models have already been supplied to customers in 170 markets around the globe. They are produced in a flexible and efficient production network with plants in Europe (Germany, Hungary and Finland) and China, plus Mexico in future.

The expansion and rejuvenation of the product range are key factors behind the sustained market success that Mercedes-Benz has enjoyed. The Mercedes-Benz brand has become noticeably more youthful since the introduction of the third-

generation compact models. The average age of European drivers of the current A-Class generation is now more than 10 years younger than for the preceding model series. Around one in two drivers of a current Mercedes-Benz compact car in Europe previously owned a competitor vehicle. The capture rate of the A-Class is more than 60 percent in Europe.

Five plants on three continents

Rastatt is the lead plant for the compact cars in the global production network. Within the compact car production network, Rastatt controls production at the Hungarian plant in Kecskemét, at Beijing Benz Automotive Co. (BBAC) in China and at the Finnish production partner Valmet Automotive in Uusikaupunki. Around three million units of the third-generation compact car models (A, B-Class, CLA, CLA Shooting Brake and GLA) have been produced since 2011.

In 2018 production of the new Mercedes-Benz compact car family will begin in five plants on three continents. The Rastatt plant will kick off, followed by start-ups in Hungary, Finland and China. The plant in Aguascalientes, Mexico is a new addition to the network. In 2017 a new training centre opened in Rastatt as the central training location for employees of the compact car plants worldwide.

The production network: structured by product architectures

Flexibility and efficiency are two key objectives in the global production network of Mercedes-Benz Cars, which has over 30 locations and around 78,000 employees worldwide. The network is structured around the product architectures of front-wheel drive (compact cars) and rear-wheel drive as well as the SUV and sports car architectures. At the centre of each architecture production network is a lead plant that serves as a competence centre for new model start-ups, tooling strategy and quality assurance. There is also a production network for the powertrain (engines, transmissions, axles, components). The focus of the day-to-day work is on the continuous improvement and advancement of modern production processes that make efficient, flexible and environmentally-friendly production of future hi-tech vehicles with hallmark Mercedes-Benz quality possible. The quality aspirations of the Mercedes-Benz brand are the same in all locations worldwide.

Electric mobility: the plants are ready

The worldwide production network of Mercedes-Benz Cars is ready for electric mobility. Future electric models under the product and technology brand EQ can be integrated into the series production of existing Mercedes-Benz plants on four

continents. Moreover, Daimler is investing over one billion euros in global battery production with two factories in Kamenz, Saxony and further sites in Stuttgart-Untertürkheim, Beijing (China) and Tuscaloosa, Alabama (USA). Like vehicle production, the battery production network can react flexibly and efficiently to market demand. Local battery production is a major success factor in the electric initiative of Mercedes-Benz Cars, and the key component when it comes to servicing worldwide demand for electric vehicles flexibly and efficiently.

Rastatt as the lead plant: all set for the future

The Rastatt plant in Germany acts as the lead plant for the compact car production network, and controls global production planning and project control (tooling strategy, product quality) as well as global quality and supplier management. It also supports smooth start-ups at the other plants by training their employees, for example. The lead plant in Rastatt is working at full capacity, and therefore needs additional capacities. As part of a two-year pilot project, the current GLA will therefore also be produced at the Mercedes-Benz plant in Sindelfingen from the first quarter of 2018 until the end of its lifecycle.

The Mercedes-Benz plant in Rastatt celebrated its 25th anniversary in 2017. E-Class models were the first cars to roll off the production line at this location, which has been home to the compact class since 1997. Rastatt currently produces the A- and B-Class, as well as the GLA compact SUV. The new A-Class is the first model in the fourth generation of compact cars, and in 2018 will replace the preceding model produced in Rastatt since 2012.

Kecskemét: the first European plant outside Germany

The Kecskemét plant in Hungary, opened in March 2012, was the first European Mercedes-Benz passenger car plant outside Germany. The 500,000th vehicle rolled off the production line here in February 2016. Alongside the B-Class, the CLA and the CLA Shooting Brake are produced here for all markets worldwide. In 2018 the new A-Class will be added to the production range of the Hungarian location.

Uusikaupunki: A-Class from Finland

Since 2013, additional units of the A-Class have been produced on behalf of Mercedes-Benz by the Finnish production service provider Valmet Automotive.

The A-Class with front-wheel drive architecture is flexibly produced on one production line in Uusikaupunki together with the GLC midsize SUV. The new A-Class will replace the previous production of the preceding model in this location.

Aguascalientes: new plant in Mexico

The COMPAS (Cooperation Manufacturing Plant Aguascalientes) joint-venture production plant in Aguascalientes/Central Mexico will expand the compact-car production network at Mercedes-Benz Cars in future. COMPAS is a joint project in the cooperation with the Renault-Nissan alliance. Production of Infiniti vehicles commenced in 2017, with the first Mercedes-Benz vehicles in the new compact car family set to roll off the production line in 2018.

Beijing: the GLA from and for China

Beijing Benz Automotive Co., Ltd (BBAC), a joint venture between Daimler and its Chinese partner BAIC Motor. Mercedes-Benz cars with rear- and front-wheel drive architecture, as well as engines, are produced at this location. It produces the GLA, which had its production launch in spring 2015, as well as the E-Class, C-Class and GLC. In 2018 a model in the new compact car family will be added.

Digitisation: modern production with Industry 4.0

Production of the new compact cars uses the latest production methods, and the possibilities opened up by digitisation. The Mercedes-Benz plants in the global production network are inter-connected. This is based on "Integra" software. For example, the Rastatt plant is able to access data from all other locations in the global production network, and – if necessary – remotely access systems and robots, input programmes and test them before operation. This avoids system downtimes and enables improvements to be made for all the plants.

Saving space and time: fully autonomous supply of materials

Where countless cages, racks and charge carriers filled with materials once lined the assembly lines, so-called "driverless transport vehicles" move around the final assembly shop for the new compact cars in the Rastatt and Kecskemét plants. These driverless vehicles supply the workers on the line with precommissioned shopping baskets from the logistics area, delivering them at the

right time, in the right quantity and in the right place. This allows a great deal of space previously required for materials to be saved at the production line, makes the workstations at the assembly line even more ergonomic, there is far less fork-lift truck traffic and noise levels are considerably reduced. Another advantage is a reduction in production time, and therefore increased productivity at the production line.

Done by tablet: calibration of head-up displays

The new A-Class has an optional head-up display (HUD). The image of a head-up display (HUD) must be calibrated after installation, so that the display is exactly in the driver's field of vision. A new and particularly simple process is used to do this in the new A-Class. It can be carried out at selected points on the assembly line. An employee sits behind the wheel with a tablet computer equipped with two additional cameras. One camera calibrates the tablet's position to a certain point in the dashboard. Arrows on the screen tell the employee in which direction to move the tablet. Once this is done, the second camera automatically takes a picture and the image is analysed. Once in position, the calibration parameters arrived at are sent to the HUD's control unit by WLAN, via the OBD interface, and the image is adjusted accordingly. The second camera then checks the position and form of the image.

Did you know that...

…the near-series study "Vision A 93" provided an initial preview of the A-Class at the IAA show in 1993? Using the slogan "New ideas are what the country needs", Mercedes-Benz presented the public with a vehicle concept not typical of the brand in Frankfurt. Which immediately led to the discussion: can this be a true Mercedes-Benz? Visitors to the show were asked for their views, and these turned out to be very positive: around 80 percent liked the idea of a compact Mercedes-Benz along the lines of the Vision A 93.

…the success story of the compact cars from Mercedes-Benz already began 20 years ago, with the launch of the first A-Class? 5,555,555 Mercedes-Benz compact cars have been delivered worldwide since October 1997 - of which three million alone were A-Class models.

…in 2017 more than one in four Mercedes-Benz cars sold was a compact model? In the year preceding the major model change of the A-Class, over 620,000 customers around the world were able to take delivery of their new A- or B-Class, their CLA, CLA Shooting Brake or GLA.

…the A-Class now offers Intelligent Drive at S-Class level? As standard, Intelligent Drive is not only able to brake for vehicles, but also for crossing pedestrians, and with extended Blind Spot Assist also warn against passing cyclists for the first time when stationary. And as the first model in its class, it is available with an extensive Driving Assistance package.

...in the raised position, the optional panoramic sliding sunroof automatically adapts to the vehicle speed? This happens in three stages. Other features include convenience closing using the air recirculation switch, automatic rain closing and the electronic sunblind.

…a heated multifunction steering wheel is also optionally available for the new A-Class? On cold days the heated steering wheel rim quickly warms the grip area of the steering wheel. Other cosy optional equipment: seat heating for the driver and front passenger, auxiliary heater and the two-zone automatic climate control system THERMOTRONIC.

…Adaptive Highbeam Assist Plus dims the headlamp beams when highly reflective traffic signs are approached? Adaptive Highbeam Assist Plus is able to switch off the 18 LEDs in each headlamp individually. This enables the cone of light to exclude oncoming traffic or vehicles ahead. It is available in combination with MULTIBEAM LED headlamps.

…the run-flat tyres (optional equipment) are constructed of two layers in the interests of ride comfort? In addition to the rigid layer for the tyre's structural function, there is a softer layer for smooth driving. Depending on the vehicle load, these tyres enable the vehicle to travel up to another 80 kilometres at a maximum of 80 km/h after a puncture.

…the introduction of the new A-Class in 2012 significantly contributed to a more youthful Mercedes-Benz brand image? In Europe the average age of drivers owning a new A-Class is more than 10 years less than for drivers of the preceding model series. In China one in three customers were under the age of 30.

…the A-Class has a particularly high capture rate? In Europe in 2017, more than 60 percent of A-Class customers previously drove a competing brand.

…the compact car segment around the A-Class is being expanded further? The family of compact cars currently consists of five models: A-Class, B-Class, CLA, CLA Shooting Brake, GLA. In future there will be eight models.

…in 2018, production of the new compact car family will commence in five plants on three continents? The Rastatt plant in Germany will kick off, followed by start-ups in Hungary, Finland, Mexico and China.