16 May 2008

Press Information

The new Mercedes-Benz C-Class Estate

Mercedes-Benz Australia/Pacific Corporate Communications
A Daimler Company

The new C-Class Estate: Unrivalled spaciousness, exemplary safety, optimum comfort and tangible agility

Sydney - Following the successful market debut of the Saloon, Mercedes-Benz is now unveiling the Estate version of the new C-Class to an eager Australian public. Three models of the new C-Class Estate will be available for Australian customers: the supercharged four-cylinder C 200 Kompressor Estate (available in May 2008), the turbo-diesel C 220 CDI Estate and the exciting high-performance C 63 AMG Estate (both available from September 2008). The Estate takes the trademark strengths of the Saloon, such as safety, agility and comfort, and combines them with a significant increase in spaciousness and versatility. Quite apart from being able to hold a maximum of 1500 litres, giving it a larger load capacity than any other premium-class estate in this market segment, the new C-Class Estate also offers a host of handy features for easy loading and safe transportation, such as a tailgate which opens and closes automatically at the push of a button. Just like the Saloon, the Estate version of the new C-Class has also been awarded an Environmental Certificate, which attests to the environmentally-oriented development process as conforming to the international ISO standard. In terms of safety, the new Estate blazes a trail with innovations of the likes of PRE-SAFE®, and distinguishes itself as the safest car in this vehicle class. Eight airbags, belt tensioners and belt force limiters, as well as crash-responsive NECK-PRO head restraints all make up part of the standard safety specification.

Three different C-Class Estate models for Australia

Three models of the new C-Class Estate will be available for Australian customers: the supercharged four-cylinder C 200 Kompressor Estate (available in May 2008), the turbo-diesel C 220 CDI Estate and the exciting high-performance C 63 AMG Estate (both available from September 2008).

The C 200 Kompressor Estate is priced from $58,890 and is powered by the same supercharged four-cylinder petrol engine as its sedan sibling, producing 135 kW of power and 250 Nm of torque.

The redeveloped supercharged four-cylinder petrol engine under the bonnet of the petrol C 200 Kompressor Estate now runs modified engine management, a more dynamic supercharger and is fitted with improved pistons, all combining to boost output by 15 kW over the previous model.

The $63,100 C 220 CDI Estate comes with the same torque-rich 125 kW turbo-diesel power unit fitted to the popular sedan model and is the first diesel-powered C-Class Estate to be offered for sale in Australia.

This new-for-Australia model benefits from the same engine changes made to its sedan sibling. Improvements have been made to not only to the injection system, the turbocharger and the intercooler but to more than 90 other components too. The upshot is smooth power unit that delivers more power and higher torque.

The enhanced engines in both the C 200 Kompressor and C 220 CDI estate models are backed by the smooth-shifting five-speed automatic transmission. A manual transmission is not available.

Following its exciting local debut at Bathurst's Mount Panorama circuit last month, the C 63 AMG sedan now gets a wagon sibling which packs the same 336 kW / 600 Nm punch and is priced at $141,300.

The car's AMG-designed and developed 6.2-litre V8 petrol engine develops a peak output of 336 kW and a maximum torque of 600 Nm and, like its equally dynamic sedan brother, this high-revving, naturally aspirated performance engine delivers unrivalled figures in this hotly-contested segment. The C 63 AMG Estate accelerates from zero to 100 km/h in 4.6 seconds; its top speed is electronically limited to 250 km/h.

Power transmission rests in the strong and capable hands of the AMG SPEEDSHIFT PLUS 7G-TRONIC. Equipped with AMG steering-wheel shift paddles and featuring three drive programs, the seven-speed automatic offers everything from a seriously sporty to a comfort-oriented driving style, and incorporates a ‘throttle blipping’ function when changing down gears.

This is the first AMG-forged C-Class estate to hit Australian shores since the C 43 AMG Estate in the late 1990s.

Three different model lines

The new Estate adopts the C-Class Saloon's customer-focused concept for the design and equipment lines. There is a choice of three model lines - CLASSIC, ELEGANCE and AVANTGARDE - which highlight the vehicle's comfort or agility to differing degrees.

The AVANTGARDE line features a large Mercedes star positioned in the centre of the radiator grille that emphasises its sporty, agile nature. This traditional distinctive mark of sporty models from Mercedes is now being employed in an estate model for the first time by the Stuttgart-based automotive brand. In the ELEGANCE model, a three-dimensional, louvred radiator grille with a high-gloss paint finish accentuates other brand-typical attributes such as comfort and luxury. The CLASSIC model, meanwhile, is deliberately more restrained and traditional.

New benchmark figure: maximum load capacity of 1500 litres

During the concept phase for the new Estate, the designers and engineers at Mercedes took the expectations of the brand's customers as their yardstick. Consequently, spaciousness, versatility and functionality were given top priority. Compared to its predecessor, the rear of the new Estate is slanted far more steeply, a crucial factor for enlarging the vehicle's load volume. This now varies between 485 and 1465 litres (VDA measuring method), depending on the position of the 1/3 : 2/3 split-folding rear seat -- more than any of the model's

rivals in this class of premium estate car are able to offer. Measured against the outgoing C-Class Estate, load capacity has been increased by as much as 146 litres.

This makes the Estate a thoroughly practical vehicle in every respect. It is able to accommodate, for example, four golf bags including trolleys or nine large packing cases. The largest possible cuboid that fits into the load compartment now has a volume of 827 litres - that is an increase of 66 litres compared to the previous model and between 50 and 100 litres more than other premium estate models in this class are able to handle. The maximum usable interior length is a whole 2.82 metres, as measured between the tailgate and the front passenger footwell -- 17 centimetres more than previously.

Convenient loading: EASY-PACK tailgate and load-securing kit

Thanks to a host of practical details, the new Mercedes Estate can be loaded more easily, more conveniently and more safely. For instance, two bag hooks and four rings for anchoring loads are included in the load compartment as standard.

Stowage compartments with net covers and a collapsible shopping crate can likewise be found in all models, as can the combined luggage cover and retaining net.

The new optional EASY-PACK tailgate opens and closes as the push of a button, representing a first in this segment. Finally, the optional EASY-PACK load-securing kit presents drivers with even more possibilities for not only partitioning the load compartment -- that measures around 1.80 metres long and up to 1.20 metres wide – but also for securing the load being carried.

The new C-Class Estate also makes an ideal good towing vehicle and, indeed, offers a towing capacity of as much as 1250 kilograms (for a braked trailer). The self-levelling suspension that is optionally available keeps the vehicle at a constant ride height regardless of the load it is carrying.

Accredited environmental protection: a twelve per cent cut in fuel consumption

Environmental considerations played a key role in the development of the Mercedes-Benz C-Class from the very start. This is corroborated by the Environmental Certificate that was awarded by the TÜV Technical Inspection Authority in Germany.

Mercedes-Benz is the only automotive brand in the world to have obtained a certificate under the terms of ISO standard 14062 for environmentally acceptable product development.

With brand new or redeveloped engines under the bonnet offering greater power and torque, the C-Class Estate is both economical and clean. In the case of the C 200 KOMPRESSOR petrol model Mercedes-Benz modified the engine management and fitted a more dynamic supercharger and improved pistons to boost output by 15 kW. At the same time, the fuel consumption figures for the two models could be cut to 8.3-litres/100 kilometres (down from 9.0-litres/100 kilometres). These figures are according to ADR 81/01.

For the new-to-Australia C 220 CDI Estate, Mercedes-Benz also gave the four-cylinder diesel engine a thorough overhaul too, making improvements not only to the injection system, the turbocharger and the intercooler but to more than 90 other components too.

The upshot is an engine that delivers more power and higher torque, combined with fuel consumption that is around twelve per cent lower. The new C 220 CDI now has an output of 125 kW (previously: 110 kW) and musters up 400 Newton metres of peak torque (previously: 340 Newton metres) from 2000 rpm. Fuel consumption comes in at just 6.8 litres for every 100 kilometres.

Sporty agility: shock absorbers that change with the driving situation

The unique blend of agility and comfort that forms one of the exceptional strengths of the new C-Class is basically down to the standard-fit AGILITY CONTROL package.

This features shock absorbers which automatically adapt to the current driving situation for a noticeable improvement in ride comfort when driving normally. As soon as a more dynamic driving style is adopted, on the other hand, the maximum damping forces are set to stabilise the estate effectively.

The dynamic handling package that is available as an option bestows the new C-Class Estate with a degree of agility worthy of out-and-out sports cars. The driver is able to choose from two drive modes which determine the fundamental suspension characteristic: Comfort and Sport. Within these modes, the shock absorbers at each wheel are regulated by means of an infinitely variable electronic control. What's more, the body is lowered by 15 millimetres and the suspension equipped with shorter springs and thicker torsion bars. The dynamic handling package also encompasses the new speed-sensitive power steering with a more direct ratio and variable centring.

The body index devised by engineers at Mercedes clearly illustrates just how agile the new C-Class Estate is out on the road. This index is calculated from the readings for various driving manoeuvres, thereby forming a new composite formula for a vehicle's dynamic handling abilities. The larger the body index, the better the suspension is linked to the body and the firmer the suspension's tuning. The standard AGILITY CONTROL suspension gives the C-Class a body index of 1.91 to 2.01 hertz, while the new model attains sports-car-like values of up to 2.46 hertz with the dynamic handling package fitted.

Hallmark Mercedes quality: the safest car in its class

The C-Class Estate has come through an exhaustive programme of testing, during which it demonstrated its typical Mercedes-like levels of safety in over 100 crash tests in all. The occupant protection concept is underpinned by an intelligently designed bodyshell, 70 percent of which consists of high-strength and ultra-high-

strength grades of steel. The front-end structure comprises four impact levels which act independently of one another and enable forces to be distributed over a wide area while bypassing the passenger cell. The occupants are protected by a total of eight airbags as standard.

The driver, front passenger and the passengers on the outer rear seats also benefit from belt tensioners and belt force limiters.

The NECK-PRO head restraints in the front have a crash-responsive design, meaning that they move to cushion the heads of the driver and front passenger at an early stage in a rear-end collision to guard against the risk of whiplash.

The integrated child seats, which fold out of the rear bench seat have undergone further development and are now also fitted with a wraparound head restraint.

Standard features such as Brake Assist and Electronic Stability Program make vital contributions to accident prevention. The ESP® system now incorporates additional functions: not only does it monitor the tyre pressure it also helps to enhance safety when towing a trailer with an automatic trailer stabilisation function.

The anticipatory occupant protection system PRE-SAFE® gives the new Estate the edge over other models in this segment. This system (which is fitted as standard equipment on all three models of the C-Class estate) makes use of the time before an imminent accident to prepare the vehicle and its occupants for a collision. The result is a considerable reduction in the loads exerted on the passengers upon impact.

Excellent comfort on long journeys: newly developed seats and air conditioning system

Inside, the attractively styled dashboard, the high-class materials and appealing colour schemes create a homely atmosphere. For the first time, the colour concept has been extended to the load compartment too. On CLASSIC and

ELEGANCE models, the customer's selected appointments colour is used for both the carpeting and the side trim. On the AVANTGARDE line, the rear compartment is carpeted in black too.

Newly developed seats, which can be specified with a multicontour function as an option, as well as a powerful air conditioning system (naturally fitted as standard equipment) add to the Estate's excellent comfort on long journeys.

The new Estate from Mercedes-Benz is the first model in this class to offer the option of individually adjustable three-zone climate control (called THERMOTRINIC). And the expansive panoramic sliding sunroof can be found on the list of optional extras for an estate car for the first time too.

The colour display in the centre of the dashboard is linked up to the controller on the tunnel console. This is where the driver can operate the audio and navigation systems or the telephone. A clear menu control structure makes it simple to access all of these functions and more besides.

Alternatively, there are the direct selection keys in the centre console: the car radio, CD/ DVD player, navigation system or telephone can be switched on at the push of a button. Subsequent operating steps are performed using the controller in unison with the colour display in the dashboard.

State-of-the-art technology: voice-controlled infotainment devices

Mercedes-Benz developed new infotainment units for the C-Class: Audio 20 and COMAND (Cockpit Management and Data System) APS. They both feature a keypad for entering telephone numbers and radio frequencies, as well as a Bluetooth interface which allows mobile phones to be connected wirelessly to the hands-free system.

With the COMAND APS multimedia system, the navigation data is stored on a hard disc. A high-resolution map which can be viewed from different perspectives

appears on the tilting colour display. The COMAND APS also comprises a DVD player, along with a music server for storing up to 1000 tracks.

The LINGUATRONIC voice control system is automatically included on C-Class Estate models equipped with the COMAND APS system. For the first time, the new improved system is now able to recognise whole-word commands when entering a destination, selecting a radio station or calling up a name from the telephone directory. The driver no longer needs to spell out the names of countries, towns or roads, for example, but is able to speak them as whole words instead.

The new Mercedes-Benz C-Class Estate: the key Facts at a glance

Model	Power	Torque	Fuel Cons.	Load Cap.	Seats	Price*	Available
C 200K T	135 kW	250 Nm	8.3 L / 100 km	485 - 1500 L	5	$58,890	Now
C 220 CDI T	125 kW	400 Nm	6.8 L / 100 km	485 - 1500 L	5	$63,100	September
C 63 AMG T	336 kW	600 Nm	13.7 L / 100km	485 - 1500 L	5	$141,300	September

* Prices do not include dealer delivery and statutory charges

Selection of appointments and technical highlights of the new C-Class Estate

ADAPTIVE BRAKE: This newly developed braking system includes assistance functions for even more safety and comfort.	Standard
Adaptive front airbags: The front airbags deploy in two stages, depending on accident severity.	Standard
AGILITY CONTROL package: A selective damping system adapts the shock absorber responses to the driving situation. The AGILITY CONTROL package also includes more direct steering and a short-throw gearshift.	Standard
Bi-xenon headlamps: Gas-discharge lamps for low and high beam improve safety at night.	Optional (standard on C 63 AMG)

Bluetooth interface: The mobile phone is wirelessly linked to the hands-free system.	Standard
COMAND APS: The navigation system's data is stored on a hard disc for even faster route calculation and improved graphical depiction of the route on the display. A music server for up to 1000 tracks is also integrated.	Optional (standard on C 63 AMG)
EASY-PACK load-securing kit: Four freely adjustable load-securing rings, a telescopic bar and a retractable belt can be attached to two aluminium rails in the load compartment floor.	Optional (not available on C 63 AMG)
EASY-PACK tailgate: An electromechanical drive opens and closes the tailgate automatically.	Optional
ESP®: This safety system is able to reduce the risk of skidding in bends, and warns of pressure loss in the tyres.	Standard

Dynamic handling package: Shock absorber and transmission settings can be modified at the touch of a button – either for extra comfort or sporty agility. The steering is more direct, and in Sport mode the accelerator characteristics are adapted. If an automatic transmission is specified, the shift characteristics are modified too.	Optional (not available on C 63 AMG)
Headlamp Assist: A sensor on the windscreen automatically switches the headlamps on when darkness falls.	Standard
Trailer stabilisation: This supplementary ESP® function detects when the trailer is weaving dangerously and stabilises the car/trailer combination by means of brake pulses at the Estate's front wheels.	Standard

Belt force limiters: This technology reduces the force exerted by the belt strap on the seat occupant during a crash.	Standard for the front and outer rear seats
Belt tensioners: Any slack in the seat belt strap is instantly taken up during a crash to reduce the forward movement of the occupants caused by the impact.	Standard for the front and outer rear seats
KEYLESS-GO: The doors and boot lid can be opened without a key. The engine is started at the touch of a button.	Optional
Child seat recognition: A transponder system automatically recognises whether a rear-facing child seat is installed, and deactivates the front passenger airbag if this is the case.	Optional
THERMATIC automatic climate control: This improved system controls two temperature zones and offers numerous adjustments for individual passenger	Standard

comfort.	
THERMOTRONIC luxury automatic climate control: This system provides three-zone climate control, and includes further functions such as diffused, draught-free ventilation, an air quality sensor and residual engine heat utilisation.	Optional (standard on C 63 AMG)

Luxury multifunction steering wheel: The radio, telephone, navigation system, display and other devices can be operated from the steering wheel.	Standard
LINGUATRONIC: The voice control system operates the radio, CD/DVD player, CD/DVD changer, navigation system and telephone – now by whole-word commands, including navigation destinations or telephone directory entries.	Optional; standard in conjunction with COMAND APS
Memory function: Three memory settings are stored for both the driver's and the front passenger seat. The settings for the steering wheel and exterior mirrors are also stored.	Optional (standard on C 63 AMG)
Multicontour seats: Inflatable air chambers enable the seat contours to be adjusted individually to provide ergonomic support.	Optional (not available on C 63 AMG)
NECK-PRO head restraints: Crash-responsive head restraints support the heads of the driver and front passenger at an early stage during a rear-end collision, reducing the risk of a whiplash injury.	Standard
Self-levelling suspension: The system keeps the vehicle's ride height constant regardless of the load it is carrying. All components are integrated directly into the rear shock absorbers.	Optional (not available on C 63 AMG)
Panoramic sliding sunroof: A large glass surface extending from the front windscreen to the load	Optional (not available on C 63

compartment. The front section slides to the rear at the touch of a button.	AMG)
PARKTRONIC: Ultrasonic sensors assist the driver when parking.	Standard
PRE-SAFE®: Anticipatory safety measures are taken to protect the occupants before an impending collision.	Standard

Sidebags: These airbags reduce the risk of injury in a collision from the side.	Standard for driver and front passenger as wel as outer rear seats
Roller sunblind: Both doors in the rear can be fitted with roller sunblinds for the windows.	Optional
Harman Kardon LOGIC7® surround sound system: A multi-channel system with innovative digital technology allows all passengers to enjoy surround sound. A unique Dolby 5.1 sound can be experienced in combination with the DVD player.	Optional (standard on C 63 AMG)
Windowbags: This large airbag extends from the A to the C-pillar like a curtain in a crash from the side.	Standard

- END OF SHORT VERSION -

Model range: As multifaceted as daily life

- Perfect synthesis of agility and comfort plus spaciousness and versatility
- Top marks for load, payload and towing capacities
- Load compartment concept and functionality geared towards everyday life
- EASY-PACK system for convenient loading and safe transportation
- Three clearly defined and comprehensively equipped model lines

The estate car is the all-rounder of the motoring world and the new C-Class Estate is indeed a true master in multi-tasking.

Firstly, it takes all of the exceptional qualities of the Saloon - safety, comfort and agility - and combines them with extra spaciousness and versatility. And secondly, the Estate succeeds in quite exemplary fashion in fusing form and function, incorporating sophisticated Mercedes design on the one hand and everyday functionality on the other.

For motorists who deliberately choose an estate car for being every bit as multifaceted as their lifestyles, the new C-Class Estate therefore ticks all of the right boxes. Whether it's for family, work, leisure pursuits, sport, shopping trips or travelling on holiday, the Estate is the perfect companion for (almost) any task.

A multi-talented vehicle which pairs good looks with high utility.

A car every bit as multifaceted as daily life: this thought was foremost in the minds of the Mercedes designers and engineers as they created the new Estate. As a result, priority was given to everyday practicality. The experts in Sindelfingen sought to develop a "real" estate car: a vehicle free of compromises for a large target group with an eclectic range of wishes and requirements. A car that offers plenty of space first and foremost - load space for the numerous different transportation tasks that young families, sports enthusiasts and business people have to handle on a daily basis.

This philosophy has given rise to an estate car which redefines standards in its market segment. The new C-Class Estate offers ...

- ... the greatest load capacity of any premium estate model in this segment: a maximum of 1465 litres, as measured in accordance with the VDA method. This is an increase of as much as 146 litres compared to the predecessor model. The load compartment measures between 950 and 1200 millimetres wide, giving it far more breadth than previously;
- ... the best versatility in this model segment: The rear seat backrests have a 1/3 : 2/3 split-folding design and can be folded forwards in a single action, allowing the interior to be adapted to the transport task at hand quickly and conveniently. The EASY-PACK system that can be ordered as an option enables additional partitioning of the load compartment, courtesy of a telescopic bar and a retractable belt. The power tailgate, which opens and closes at the touch of a button, is being offered by Mercedes-Benz for the first time in this vehicle class;
- ... the highest payload capacity in this class of estate car: a maximum of 605 kilograms (DIN measurement);
- ... the highest level of safety in this vehicle class: as well as eight airbags, PRE-SAFE® anticipatory occupant protection, NECK-PRO head restraints, belt tensioners and belt force limiters, the standard specification also comprises extremely sturdy, crash-tested rear seat backrests, a combined luggage cover and retaining net, plus four load-securing rings. This affords the occupants maximum protection from items of luggage or other objects in the load compartment that could be catapulted forwards in a collision;

As impressive as it might be on paper however, it is the everyday practicality of the new C-Class Estate that really counts. For the Mercedes engineers took their cue from day-to-day life and focused on the objects that might be encountered in practise while designing the load compartment - from golf bags to packing cases, from drinks crates to parasols and from a washing machine to a pram.

Hundreds of computer simulations and over four dozen real-life loading tests were conducted in order to mould the load compartment in such a way that all of these articles and many more besides can be easily accommodated.

The fruits of such a meticulous development process can be seen, for one thing, in the size of the largest possible cuboid that fits into the load compartment of the new Estate. It measures 943 x 599 x 1465 millimetres and has a volume of 827 litres. That is a whole 66 litres more than on the outgoing model and betters other premium estate models in this segment by between 50 and 100 litres.

AGILITY CONTROL, automatic climate control and ADAPTIVE BRAKE as standard

The Estate's other two exceptional qualities, agility and comfort, are rooted in the sophisticated technology it inherits from the C-Class Saloon, that promises a driving experience that is more spontaneous and active than ever: the steering is more direct and the shock absorbers adapt automatically to the changing driving situation, improving ride comfort on the one hand and handling dynamics on the other. And all as part of the standard-specification AGILITY CONTROL package.

A body whose torsional stiffness is around twelve per cent higher than on the previous model, the standard THERMATIC automatic climate control, as well as newly developed seats make for excellent comfort on long journeys. Customers may also opt for a three-zone THERMOTRNIC automatic climate control system.

Active safety is given a boost by standard-fit systems such as Brake Assist, ESP® and the ADAPTIVE BRAKE system. Both the Saloon and Estate versions of the C-Class are the only models in their respective classes to offer the support of the PRE-SAFE® anticipatory protection system as standard equipment on all models.

Three lines, each with their own look and specification

In the same way that it has adopted the progressive technology of the C-Class Saloon, the new Estate also employs its successful model line concept. CLASSIC,

ELEGANCE and AVANTGARDE present Mercedes customers with the opportunity to match the Estate's specification and appearance to their own personal tastes. This gives them the scope to emphasise the hallmark characteristics of the C-Class - comfort and agility - as they choose.

The youthful, progressive line is named AVANTGARDE. This is where the sporting genes of the Mercedes-Benz brand come to the fore, most noticeably in the radiator grille with its broad, wing-like slats and the large, centrally positioned Mercedes star - a modern interpretation of the traditional badge of sportier Mercedes models.

The Stuttgart brand has now incorporated it for the very first time into an estate model, as an unmistakable expression of the vehicle's inherent strengths: agility and performance. Standard 17-inch light-alloy wheels in a five twin-spoke design, 225/45 R 17 wide-base tyres, bird’s-eye maple interior timber trim and other stylish details accentuate the sporty, effortlessly superior appearance of the AVANTGARDE model, without at the same time neglecting other time-tested C-Class attributes such as safety and long-distance comfort.

In the ELEGANCE line the emphasis is placed more on the traditional values of a Mercedes-Benz - and especially on comfort and elegance. The external appearance is enhanced by the attractively integrated, three-dimensionally shaped louvred radiator grille as well as chrome inserts in the bumpers, the side rub strips and on the tailgate. Fine wood trim in eucalyptus (optional: burr walnut) brings typical Mercedes flair to the interior, which also provides a welcoming ambience with its warm colour tones and colour combinations. In this line too, the Estate remains true to its fundamental character and offers not only typical Mercedes comfort, but also the dose of handling agility needed to perfect the driving experience.

The CLASSIC line is designed to appeal to all motorists who do not wish to give away the potential of their C-Class at first sight. Both inside and out, the Estate is characterised by classic restraint; however its extensive range of standard appointments encompasses all the technical innovations that account for the

superior status of the new Mercedes Estate where safety, comfort and agility are concerned. The standard equipment of the CLASSIC line at a glance:

- AGILITY CONTROL suspension with selective damping system
- Airbags for driver and front passenger
- Armrest with roller-top compartment
- Electrically adjustable and heated exterior mirrors
- Outside temperature display
- Brake Assist and ADAPTIVE BRAKE system with hill-start assist
- Black roof rails, anodised
- Combined luggage cover and retaining net
- Collapsible shopping crate
- ESP® with acceleration skid control (ASR)
- Headlamp assist
- Power windows (4)
- 1/3 : 2/3 split-folding rear backrest, with armrest and twin cup holder
- Status indicator for the rear seat belts
- Belt tensioners and belt force limiters for the front and outer rear seats
- Air-conditioned glove compartment
- Map pockets on the front seat backs
- THERMATIC two-zone automatic climate control
- Coat hooks on the pull handles on the inside of the tailgate
- Light-alloy wheels
- Steering column adjustable for height and reach
- Lumbar support in driver’s seat
- Multifunction steering wheel with four buttons
- Front fog lamps
- NECK-PRO head restraints for driver and front passenger
- Stowage nets (x2) in load compartment
- Tyre pressure loss warning system
- ELCODE locking system with infrared/radio remote control
- Sidebags for driver and front passenger as well as outer rear seat passengers
- Bag hooks (x2) in load compartment

- Front seats electrically adjustable for height and backrest angle
- Tinted glass
- Windowbags
- Trim in piano lacquer look

The ELEGANCE and AVANTGARDE lines include the following additional appointment features compared to the CLASSIC:

ELEGANCE (selection)	AVANTGARDE (selection)
• Beltline trim strip in polished aluminium	• Beltline trim strip in polished aluminium
• 205/55 R 16 wide-base tyres	• 225/45 R 17 wide-base tyres
• B-pillars painted in high-gloss black	• B-pillars painted in high-gloss black
	• Tail lights with grey-tinted curving band
• Luxury multifunction steering wheel in leather with 4.5'' display in instrument cluster	• Luxury multifunction steering wheel in leather with 4.5'' display in instrument cluster
• Radiator grille painted in high-gloss atlas grey with chrome inserts	• Radiator grille in matt brilliant silver with chrome inserts and Mercedes star
• 7 J x 16 light-alloy wheels	• 7.5 J x 17 light-alloy wheels
• Lighting package incl. illuminated front footwells, rear reading light, plus courtesy lights front and rear	• Lighting package incl. illuminated front footwells, front and rear reading lights, plus courtesy lights front and rear
• Foglamps with chrome bezels	• Foglamps with chrome bezels and twin louvres
• Leather-covered shift/selector	• Leather-covered shift/selector

lever	lever
• Bumpers, side rub strips and tailgate with chrome inserts	• Bumpers, side rub strips and tailgate with chrome inserts
• Burr walnut fine wood trim	• Black bird’s eye maple wood trim

Optional extras: cutting-edge technology lifted from the luxury class

Buyers of the new C-Class benefit from all the technological might of the Mercedes-Benz brand. The Estate can also be optionally equipped with all manner of innovations taken from the brand's flagship models promising even greater safety, comfort and agility as well as even better in-car entertainment - from the panoramic sliding sunroof to the surround-sound system.

Another highlight is the optional dynamic handling package comprising two driving modes - Sport and Comfort - as well as infinitely variable, electronic control of the shock absorbers, a more direct steering ratio and adaptation of the accelerator and shift characteristics.

On the infotainment side, the new Estate offers a range of audio and navigation systems featuring the very latest technology, such as the COMAND APS furthermore comes with a music server for around 1000 tracks. LINGUATRONIC voice control, which can now recognise whole-word commands for the navigation, radio and telephone systems for the first time, is included as standard on models ordered with COMAND APS.

The load compartment's versatility and load-securing facilities can be further improved by opting for the EASY-PACK system, comprising a load-securing kit with aluminium rails, four extra load-securing rings, a telescopic bar and a retractable belt. A newly developed EASY-PACK tailgate which opens and closes at the touch of a button is available for the new C-Class Estate as an option too. And Mercedes-Benz also offers special roller sunblinds for the side windows in the rear.

Some of the optional extras available for the new Estate include:

- Bi-xenon headlamps with cornering light function and headlamp cleaning system (standard on C 63 AMG)
- COMAND APS, incl. hard-disc navigation, LINGUATRONIC voice control and music server (standard on C 63 AMG)
- EASY-PACK load-securing kit with four load-securing rings, telescopic bar and retractable belt
- EASY-PACK tailgate with electromechanical drive
- Dynamic handling package with Sport mode
- KEYLESS-GO
- Leather upholstery
- Multicontour front seats
- Self-levelling suspension
- Panoramic sliding sunroof
- Roller sunblinds for the side windows in the rear
- Tilting/sliding glass sunroof
- Heated front seats
- Harman Kardon LOGIC7® surround-sound system
- THERMOTRONIC with three-zone climate control
- Electrically adjustable front seats with memory function

AMG sports package: exclusivity for sporty-minded drivers

The AMG sports package injects added dynamism and sportiness into the new C-Class Estate. A combination of exclusive features, many of which are not available individually, gives the Estate a yet more powerful presence even at standstill. AMG bodystyling, 17-inch AMG light-alloy wheels, sports front seats and a three-spoke leather steering wheel with gearshift paddles convey a far greater sense of individuality.

All the features of the AMG sports package at a glance:
Exterior:

- AMG bodystyling consisting of a front spoiler, rear apron plus side skirts

- 17-inch AMG light-alloy wheels in a high-sheen, six twin-spoke design, with size 225/45 R 17 tyres at the front and size 245/40 R 17 at the rear
- Large, perforated front brake discs with aluminium brake callipers and Mercedes-Benz lettering

Interior:

- Sports seats for driver and front passenger
- Upholstery in fabric/ARTICO man-made leather
- Three-spoke steering wheel with gearshift paddles
- Aluminium-look gearshift/selector lever with leather boot
- Sports pedals made from brushed stainless steel with black rubber studs
- Black fabric roof liner
- Floor mats with AMG lettering

Design: Cast from a single mould

- Effortless superiority, sportiness and functionality as design cues
- Estate rear end merges perfectly into the new Mercedes style
- Radiator grille an identifying feature of model lines
- Two-tone interior colour scheme right through to load compartment

Designing an estate car calls for more skill and creativity on the part of the design team than virtually any other task. This is simply because they have to find a way of reconciling seemingly contradictory requirements. Functionality and aesthetic appeal, utility value and agility, versatility and style - they all have to be harmonised with one another to offer customers exactly what they are looking for from a sophisticated vehicle of this ilk: a powerful and, above all, independent character.

Not only does the new C-Class Estate fully live up to this expectation, it also succeeds in clearly expressing the core trademark qualities of the new Mercedes design idiom: effortless superiority, refinement and power.

This is achieved by a design concept that follows the principles of modern purism and revolves around the dialogue between tautly drawn lines and large, tranquil surfaces. By deliberately dispensing with all visual detours or superfluous embellishments in this way, the majestic power of the new Mercedes models that stems from the exceptional technology within can be experienced visually too. This boldly expressive style is all the more obvious when viewed from the side.

It also becomes quite clear that Saloon and Estate were developed and styled simultaneously and that this is the reason why the two body variants speak a common design language. The estate rear was an integral component of the overall design concept from the very beginning; not only does it emerge from the existing flow of lines, it maintains the same flow throughout. Take the shoulder line, for instance: it emanates organically from the front wing before following the beltline back to the vehicle's tail, forming an important visual reference point that suggests power and solidity.

This broad, muscular "shoulder" supporting the side windows, roof pillars and roof also appears to form the foundation for the restyled D-pillar. Taking the shoulder line as its base, the D-pillar extends the line's sweeping momentum upwards to the point where it meets the arching line of the roof. This creates an overall impression of flawless uniformity and harmony - an Estate that looks to have been cast from a single mould.

In contrast to its predecessor, the D-pillar - and therefore the Estate's rear end as a whole - is angled far more steeply. By styling the rear in this way the designers fulfilled the "functionality" portion of their remit, as it gives the new Estate considerably more load capacity.

Feature line: interplay between light and shadow

The so-called feature line is every bit as characteristic of the Mercedes design idiom. It emerges from the front wheel arch and runs below the shoulder line, rising towards the rear to add an air of sporting elegance to the vehicle's appearance. At the same time, this typical Mercedes styling feature forms a boundary between the convex and concave door surfaces, thereby creating a fascinating interplay between light and shadow. Body-coloured door handles blend into the side aspect, ensuring that the eye is drawn to the key design elements.

Silhouette: elongated with rippling "muscles"

The long, uninterrupted silhouette of the side windows - enclosed by the beltline trim strip below and the standard chrome drip rail moulding running along their circumference - combines with the black pillar panelling to give the body as a whole an elongated and most elegant appearance.

However, the Estate's sporty attributes are by no means neglected either.

This is ensured by the new proportions of the body, which measures 55 millimetres longer than the preceding model, as well as the wider track, large wheel arches and the wings with their distinctive, body-hugging styling that causes them to arch tightly over the wheels like the toned muscles of a high-performance athlete.

17-inch wheels - which are standard equipment on the AVANTGARDE model line and the AMG sports package - fill the wheel arches and emphasise the powerful, athletic look even further.

The attractively styled tail light clusters form focal points in every sense. They serve as visual links between the side- and rear-end design, guiding the observer's gaze to the tail's striking breadth - an impression which is further amplified by the tailgate's wide handle strip and the prominent bumper with its slightly convex edges, and which is an unmistakable symbol of power.

Front section: sports car radiator grille for AVANTGARDE

Just like on the Saloon, the front section of the Estate has the most prominent role to play in terms of typifying the various equipment versions. Never before has Mercedes-Benz distinguished the different lines and, by so doing, expressed their specific qualities quite so clearly:

- On the CLASSIC and ELEGANCE models, the three-dimensionally formed saloon-style radiator grille symbolises attributes such as solidity and comfort – but also a touch of luxury. Here, superiority and style go hand in hand. The lower air intake is given substance by three black louvres.
- As for the AVANTGARDE line, the large, centrally positioned Mercedes star and the three deepened, chrome-trimmed slats immediately attract attention. These are typical design features of sporty Mercedes models which, in this case, leave no doubt as to the character of the AVANTGARDE model. Other telltale features include the black-painted, sports-car-like perforated grille covering the lower air intake, as well as

the chrome surrounds around the fog lamps and in the lower section of the bumper covering.

Like the radiator grille, the headlamps of the Estate convey a message that is in line with the hallmark qualities of the new C-Class, namely precision. The projection-beam headlamps are shrouded in coloured, translucent cylinders which are reminiscent of top-quality camera lenses, underlining the models' high-tech character. The clear-lens design affords a view of the lighting technology within and accentuates the sparkling effect of the headlamps in strong sunlight.

If the C-Class is equipped with bi-xenon headlamps, the translucent areas of the cylinders are even larger than with halogen headlamps, producing a characteristic appearance even at nighttime. Just as elegant are the flat, upper headlamp covers with their fine chrome strips which follow the contour of the bonnet to the front, right up to the light boundary of the lenses.

This styling finesse and painstaking attention to detail on the part of the designers results in a harmonious overall blend of form and function.

Dashboard: harmonious interface between exterior and interior

The interior styling takes its lead from and, indeed, fuses with the exterior's design idiom. The V-shape of the front section provides just one example of this: it is traced backwards by a crisp line running up the centre of the bonnet, before the dashboard picks up the flow and maintains it all the way to the centre console. Once again, therefore, the principle of monolithic design is very much in evidence.

With the dynamically-tapered centre console and the horizontally-split dashboard, the Mercedes designers have produced a stark contrast which divides up the cockpit. Everything has a light and tidy feel.

When it came to appointing the cockpit, Mercedes designers drew their inspiration from sporty role models and included round, clearly laid-out dials

such as those found in roadsters or coupés. Silver-coloured bezels, black faces, white markings and glowing orange needles perfectly combine form with function for a high-quality feel plus easy legibility. The special character of the AVANTGARDE model variant is accentuated by a metallic-look backplate.

Door trim: marking a framework with form and colour

The door trim is also in keeping with the "design cast from a single mould" principle. It continues the horizontal, two-part division of the dashboard, thereby forming a framework for an interior in which the occupants feel even more secure. Depending on the chosen appointments, this feel-good effect is reinforced by the two-tone colour scheme of the interior, with the darker, contrasting colour continued from the upper section of the dashboard to the door linings extending as a feature right into the Estate's load compartment.

In this way, the entire rear compartment has been incorporated into the Estate's colour concept for the first time. On CLASSIC and ELEGANCE models, both the carpet in the load compartment and the side trim match the customer's selected appointments colour. And folding down the rear seats produces an expansive load floor lined in soft velour carpet all of the same colour, because the backs of the rear seats are carpeted too.

Depending on the line, the interior trim is either of black bird’s eye maple timber (AVANTGARDE), fine burr walnut wood (ELEGANCE) or has an elegant piano-lacquer look (CLASSIC). For an individual colour scheme, the warm tone-in-tone combination of savanna beige/cashmere beige is available for the ELEGANCE line, while more striking colour highlights can be created if leather upholstery is specified for AVANTGARDE models. Apart from black, Mercedes-Benz also offers the following smart colour combinations: reef grey, black/cognac brown and black/sahara beige.

EASY-PACK: form meets function

The Mercedes designers' proverbial attention to detail manifests itself in more than just the new controls and displays. The elements of the EASY-PACK system likewise bear their signature.

The components of the novel new load compartment package - which allows owners to subdivide the load space as they please and secure loads firmly in place - are a perfect illustration of this. A telescopic bar, retractable belt and load-securing rings all form part of this optional extra, which goes under the name of the EASY-PACK load-securing kit. The design team took meticulous care not only in forming the parts themselves, but also in developing the high-class surface material which is so pleasant to the touch. Yet another example of how fine form and flawless function can form a perfect match.

Interior: Taking spaciousness and load capacity into a new dimension

- Largest load capacity of all premium-class estates in this market segment
- Load compartment designed for everyday practicality
- Handy details for transporting loads safely and easily
- Newly developed seats with two-zone comfort
- Voice control with whole-word commands for first time
- Automatic climate control up to 15 per cent more efficient

The level of comfort and freedom to move inside the new C-Class Estate match the exemplary standards set by the Saloon - meaning they are a clear improvement on the predecessor model. A body that is 55 millimetres longer and 42 millimetres wider than previously, plus an extra 45 millimetres of wheelbase length create the conditions needed for an even more spacious interior. This is quite evident, for instance, in the greater distance between the front and rear seat reference points, which is now 795 millimetres and therefore exceeds that of the outgoing Estate by ten millimetres. Passengers in the rear now benefit from eleven millimetres more legroom.

The occupants also enjoy more space and comfort thanks to the new interior widths, with both front shoulder room and elbow width increased by 40 mm to 1390 and 1440 millimetres respectively. In the rear, the Estate offers 1398 millimetres of shoulder room and 1462 millimetres of elbow width - an increase of 20 and 40 millimetres respectively compared to before.

Mercedes engineers also attached great importance to comfort when entering and leaving the vehicle. Passengers are now seated seven millimetres higher, which makes getting into the vehicle that little bit easier. Access is further facilitated by the straight front edges of the B-pillars, the larger front door aperture and the new shape of the seat cushions in the rear.

Load capacity: new benchmark figure in this estate class

Versatility and individuality - these attributes of the new C-Class Estate are most obvious when considering its rear compartment. The seat unit plays a key role here on account of its backrest which splits asymmetrically - in the ratio 1/3 : 2/3 - opening up many different possibilities for arranging the interior individually as desired. In this way, drivers can transform the Estate from a five-seater into a four, three or two-seater by folding either or both of the seat backrest sections flat. And doing so could not be easier, as both can be folded forwards in a single action. The result is a virtually flat load floor measuring around 1.80 metres long and up to 1.20 metres wide.

Luggage capacity is 485 litres, or 690 litres when filled up to roof level, and load space can be increased to a total of 1465 litres (loaded to roof level, VDA measuring method) by folding the rear backrests flat, providing a clear indication of just how cavernous the new C-Class Estate is inside. No other model in this premium estate class has so much room on offer.

Compared to its predecessor, the new Estate is able to accommodate as much as 146 litres more, an improvement of over ten per cent.

However, the designers of the Estate were less concerned with the somewhat theoretical measurements produced by the standardised VDA method, preferring to focus instead on the loading situations encountered in everyday life. The Mercedes design engineers wanted to find out what actually fits into the Estate -- from a pram to domestic appliances, from a set of luggage to packing cases. In other words, the car was developed under real-life conditions.

A computer simulation enabled the new Estate to be taken on digital "shopping trips" long before the first driveable prototypes were ready. A basket of commodities containing hundreds of different items was stored on the computer and could basically be loaded at the click of a mouse. This approach allowed the engineers to instantly determine what fitted into the load compartment or see where things were a little tight. Real tests conducted with the first prototypes of

the Estate months later corroborated the findings of the digital development work and confirmed the new model's tremendous versatility.

The measure of all things for estate car enthusiasts - as the experts at Mercedes know perfectly well - is the size of the largest possible cuboid that fits into the load compartment when the rear backrest is completely folded down. The dimensions of this cuboid say a great deal about an estate's day-to-day practicality as they are a gauge of its ability to transport bulky objects. The largest cuboid that can be fitted into the new C-Class Estate measures 943 x 599 x 1465 millimetres. This equates to a volume of 827 litres, 66 litres more than on the outgoing model and between 50 and 100 litres more than other comparable premium estate models.

In practical terms, the large dimensions of this cuboid mean that the new Mercedes Estate is spacious enough to fit in, for example, a washing machine, a refrigerator, a large TV screen in its original packaging, a two-seater sofa, chests of drawers or sideboards. Garden lounges or four golf bags plus trolleys can likewise be comfortably accommodated by the load compartment.

Yet another class-beating value is the maximum utilisable interior length of 2.82 metres, measured from the tailgate to the front passenger footwell. That is a whole 17 centimetres more than in its predecessor.

But anyone intending to go on holiday with their whole family plus luggage, or move or embark on a major shopping trip, needs more than just a roomy, flexible car; they need a car with a high payload capacity too. Here, once again, the new C-Class proves itself to be more than up to the task, with a maximum DIN payload of 605 kilograms.

Load management: EASY-PACK for safer, more convenient transportation

Apart from spaciousness and good versatility, functionality also came high on the list of priorities for development of the new C-Class Estate. The objective was to make loading the Estate easier, safer and more convenient with an array of

practical details. Take the EASY-PACK power tailgate (optional) for instance: a mere touch of a button on the Estate's electronic ignition key and an electromechanical drive swings the tailgate upwards, far enough for an adult to stand upright beneath it.

Closing the tailgate again is just as straightforward, and is triggered by simply pressing either the red pushbutton on the tailgate's interior trim or the switch in the driver's door. The maximum opening angle can furthermore be programmed to prevent the tailgate from knocking against the garage roof. The coat hooks incorporated into the interior trim come in particularly handy for anyone who plays sport or goes rambling in their free time, as they are able to hang up their jackets whilst changing under the open tailgate.

Yet another feature testifying to the Mercedes engineers' impressive attention to detail are the load hooks in the load compartment's sidewall trim -- when pressed lightly they extend outwards, providing an ideal support for holding handbags or bags of shopping. As on all estate models from Mercedes-Benz, the standard specification comprises an extending dividing net combined with a retractable cover to protect the load compartment from prying eyes.

Underneath the sturdy load compartment floor, the Estate car conceals another large stowage compartment in the form of the spare wheel well. This is the home of the standard shopping crate, which can be securely stowed under the load compartment floor not only when it is folded flat but when it is in use too.

The Estate's facilities for secure, intelligent loading can be extended by opting for the EASY-PACK load-securing kit. Aluminium rails along both sides of the load compartment floor serve as a basis for ...

- ... four movable load-securing rings which are attached directly to the aluminium rails;
- ... a telescopic bar whose bases can be locked into the load-securing rings. The telescopic bar enables the load compartment to be divided crossways and diagonally;

- ... a retractable belt with a broad fabric strap which locks into the load-securing rings. It can likewise be used to divide the load compartment crossways or diagonally, whereby the flexible strap can also be routed around objects to prevent them from sliding.
-

The equipment details for transporting loads safely and easily at a glance:

· Combined luggage cover and retaining net	standard
· Load-securing rings (x4) in load compartment floor	standard
· Bag hooks (x2) in load compartment	standard
· Coat hooks on the inside of the tailgate	standard
· Stowage compartments (x2) with net fronts in load compartment	standard
· Collapsible shopping crate	standard
· EASY-PACK tailgate with electromechanical drive	optional
· EASY-PACK system with load-securing rings, telescopic bar and retractable belt	optional

Seats: long-distance comfort as standard

Because the seats can make a major contribution to comfort on long journeys, the Mercedes engineers took particularly great care over their design. The result is newly developed front seats which offer further benefits in terms of pressure distribution and lateral support. This was made possible by developing a seat contour with more prominent side seat bolsters and by the use of two-zone seat padding: in the outer areas – and especially in the bolster cushions - the foam padding is rather firmer to offer good lateral support, while the inner area of the seat cushion has deliberately been made softer.

In addition, the foam padding on the seat cushion has been made around five per cent thicker than in the preceding model. In this way the Mercedes specialists have achieved a uniform pressure distribution and avoided pressure peaks -

especially in the area underneath the pelvic girdle - which can cause discomfort during a long journey.

The foam seat padding is supported by seat shells with integral springs. A frame made partly of high-strength steel provides a firm base for the front seats. Special tubular sections and impact-absorbing elements in the seat trim ensure that the seats are able to absorb high impact forces in a side-on collision and transfer them to the other side of the vehicle.

The backrests of the front seats consist of a steel frame and foam pads whose contours, like those of the cushions, have also been designed for better lateral support. The volume of the foam backrest has been increased by around five percent compared to the outgoing model. With the aid of the lumbar support included as standard, the driver is able to adjust the backrest contour to his spinal anatomy, thereby relieving the strain on the back muscles - a further contribution to long-distance comfort.

As before, the height and backrest angle of the front seats are electrically adjustable, while the fore-and-aft position and seat cushion angle are adjusted manually. At 290 millimetres, the new C-Class Estate boasts the longest longitudinal seat travel in this market segment. The individual seat position can be adjusted in very small increments of just 4.5 millimetres, meaning it is virtually infinitely variable. The backrest angle is smoothly adjustable too. As a result, both very tall and very short drivers are able to find a seat position that puts all the vehicle controls within easy reach. The adjustment ranges of the front seats are as follows:

- Fore-and-aft adjustment 290 millimetres
- Seat height 54 millimetres
- Seat cushion angle 4.8 degrees
- Head restraint height 85 millimetres

Even more operating convenience is provided by the fully electrically adjustable front seats that can be ordered as an optional extra. In this case, electric motors adjust not only the seat height and backrest angle, but also the fore-and-aft position, seat cushion angle, head restraint, steering column as well as the

exterior mirrors. If the memory package is specified, three individual settings can be stored – simply pressing a button on the door panel causes the seats, steering wheel and exterior mirrors to move into the corresponding pre-programmed position automatically.

Multicontour seat: air cushions for adaptability

The multicontour seat is a well-proven Mercedes invention that greatly contributes to the long-distance comfort of passenger cars bearing the star. Multicontour means that the occupants are able to adapt the contours of the seat to suit their anatomy or personal preferences. This is made possible by separately controllable air chambers beneath the seat padding.

Mercedes-Benz offers an advanced version of the multicontour seat as an optional extra for the C-Class (not available on C 63 AMG). The new technology monitors the selected contour settings and ensures that the pressure in the air chambers remains constant at all times. Two of these chambers are located in the backrest, where they act as a continuously variable lumbar support; the seat side bolsters also include one air chamber each, while another inflatable air cushion is used to adjust the seat cushion length.

Sports seats with more pronounced cushion and backrest side bolsters affording sportier lateral support are available for the driver and front passenger in conjunction with the AMG sports package.

Rear seats: comfortable, versatile and safe

The rear seat unit with its further improved foam cushion is of one-piece construction as standard. Three head restraints and three inertia-reel seat belts ensure the safety of the occupants. The outer rear seats are also equipped with belt tensioners and belt force limiters, as well as head restraints that are adjustable for height and angle. The rear seat unit features a centre armrest with an integral stowage compartment and cup holder for two cans or bottles as standard.

Dashboard: harmony of high-tech and stylish looks

"What looks good must also feel good" – this is the Mercedes principle applied by the dashboard, centre console and the transmission tunnel and door trim in the new C-Class. This is because the experts in Sindelfingen regard pleasant tactile qualities and high-class looks as making a major contribution to comfort and wellbeing.

The instrument cluster, controls and air vents are a perfect fit, and blend harmoniously into the styling concept. Precision edges and tight radii set the tone for the high-quality appearance. The illuminated glove compartment has a capacity of 6.4 litres and can be cooled by the air conditioning system. It also accommodates a twelve-volt power socket and a jack for connecting an external audio device.

An aluminium cross member acts as a robust support for the dashboard and its components. The glove compartment, airbag, centre console and jacket tube are attached to this solid section, which is around 1.8 kilograms lighter than a comparable welded steel construction. The cross member reduces resonances and vibrations, and helps to give lateral support to the A-pillars to which it is bolted at both ends.

The centre console is harmoniously integrated into the dashboard's design and colour concept. The controls for the audio system and telephone are positioned below the air vents. A clearly defined edge delineates this area from the lower middle section of the dashboard, which houses the control unit for the standard air conditioning system. This is followed by an almost right-angled transition to the tunnel console, in which the shift lever, the controller and an asymmetrically divided armrest are to be found. On the driver’s side this armrest extends well forward, serving as a practical handrest for operation of the controller. Beneath it is a spacious stowage compartment.

If the new Estate is equipped with THERMOTRONIC three-zone luxury automatic climate control, the tunnel console also features a blower along with a separate control panel for passengers in the rear.

The switches, buttons and controls have been arranged in line with the latest ergonomic findings, and are positioned based on either the importance of their functions, their frequency of use or visual considerations. This means that the uppermost position in the centre console is occupied by the prominent red button for the hazard warning lamps, where it can be accessed just as easily by both the driver and the front passenger. This is followed by a strip of switches featuring controls for optional equipment, such as heated seats or PARKTRONIC; the lower end of the centre console is formed by the control panel for the automatic climate control.

Cockpit: precise information at a glance

The round dials with their chrome bezels, black faces and white markings are illuminated in white and lie in the driver's primary field of vision to provide information on the vehicle speed (centre) and engine speed (right).

The gauges for coolant temperature and fuel level, meanwhile, are located in the left-hand cylinder of the instrument cluster.

The use of black-panel technology means that the warning and indicator lamps are not visible during normal operation – they can only ever be seen when the ignition is switched on or in the event of a fault.

In addition, each dial incorporates a display as standard, indicating, for example, the time (left), total and trip mileage, plus any warning messages (centre), and the outside temperature (right). The display functions can be selected using the four buttons on the standard multifunction steering wheel.

The instrument cluster is linked to a luxury multifunction steering wheel and offers even more functions. In the centre of the speedometer there is a white

backlit, two-section 4.5-inch central display whose upper section can be used to show a variety of information such as the odometer reading, range, oil level, distance and time travelled, average fuel consumption and average speed. If a navigation system (optional) is installed, this display area also indicates the route for the current journey. This display is furthermore used to select the radio station, telephone numbers and up to 50 individual settings.

In addition to various pictograms, the lower section of the central display shows the time, outside temperature, current gear and gearshift mode and vehicle speed in digital form.

Control concept: everything in just the right place

The control and display concept of the new C-Class is a logical and intelligent evolution of the successful control system familiar from the luxury CL and S-Class Mercedes models. It is rooted in the understanding that any technology can only be perfect if its operation can be understood and mastered intuitively. The Mercedes engineers were guided by four basic principles:

1. Easy identification of the most important control functions
2. Rapid access to the most important spontaneous functions
3. Easy, intuitive operation of the most important functions
4. All controls located in the right place

Rapid access to frequently used functions is a key characteristic of the control concept in the new C-Class. This means that the driver is not required to relearn, is able to retain old habits and immediately feels at home. All the important control and display elements necessary during a journey are located in the cockpit, that is, in the driver's immediate proximity.

These include, for example, the switches and control stalks for the vehicle lights, wipers, indicators and cruise control (standard on automatic models). In the same way, linking the standard multifunction steering wheel with the instrument

cluster is the perfect way of providing rapid access to a multitude of information and functions which appear directly in the driver’s field of vision.

Other functions such as infotainment, which are not of primary importance to the driver, appear in a display in the centre of the dashboard. The driver and front passenger are able to operate these functions using the controller on the centre console, or access the main menus by means of direct selection keys.

Following the "everything in the right place" principle, functions such as the power windows, central locking system and exterior mirrors are controlled from where one would expect to find the relevant switches and buttons, namely on the doors.

Steering wheel: a command centre with buttons

To allow rapid selection of these settings and functions, Mercedes-Benz has further developed the controls on the standard multifunction steering wheel: the steering wheel has twelve circular, illuminated buttons which the driver operates by light thumb pressure. Using the left-hand disc, the driver can highlight one of the main menus in the central display in a horizontal direction, then access the required submenu vertically. The relevant selection or setting is confirmed by pressing the "OK" key in the centre of the button. A separate "Return" button enables the driver to quickly return to the next menu level up.

The buttons on the right-hand side of the multifunction steering wheel are used to adjust the volume setting (vertical), switch to mute (centre) and operate the car phone (horizontal). Below this there is an additional button with which the driver can activate the LINGUATRONIC voice control system (standard with COMAND APS).

Controller: rotate, press and nudge

The controller positioned on the tunnel console is standard equipment if the new Estate is ordered with a factory-fitted radio or navigation system. It is linked to

the clearly laid-out colour display in the centre of the dashboard, which is positioned far forward to be well within the driver's field of vision. The turn/push selector is made of aluminium and can be moved in any direction: rotating the controller selects the main and sub-menus in the display, pressing it confirms the relevant function. The buttons in front of the controller make it possible to quit the submenus immediately or delete entries.

As the operating system for the infotainment units has a duplicate design, the radio, CD/DVD changer, telephone and navigation system can be accessed both via the controller and by pressing control buttons. The latter are function keys in the centre console, whose ideal ergonomic positioning allows drivers to operate them easily without diverting their eyes from the road.

Infotainment: choice of three top-class units

Two optional, high-performance units are available to provide infotainment to the occupants of the C-Class. Both of these include speed-sensitive volume control, a keypad for entering telephone numbers and radio frequencies, as well as a Bluetooth interface for wireless connection of mobile phones to the hands-free system:

- Audio 20 with CD player and 80-watt amplifier (C 200 Kompressor & C 220 CDI)

This car sound system with built-in CD player (MP3-capable) includes an FM/MW/SW and LW tuner with automatic station search, RDS (for FM reception), direct frequency input via the keypad in the centre console, a 4x20-watt amplifier and eight loudspeakers. The Audio 20 unit is linked to a fixed, 4.9-inch colour display located in the centre of the dashboard, where it is well within the driver's field of vision and can disappear out of sight beneath a cover whenever required; it continues to operate even when the cover is closed.

- COMAND APS with hard drive for navigation and music server (C 63 AMG, optional C 200 Kompressor & C 220 CDI)

The COMAND APS multimedia system developed by Mercedes-Benz offers even more functions than before in the new C-Class. The high-resolution navigation maps are shown on a 7-inch colour display, which tilts away and disappears

beneath a cover at the touch of a button. During route guidance, the navigation system also makes lane recommendations to allow drivers to select the most appropriate lane at motorway junctions, for example.

A junction zoom display allows a more realistic graphic representation of road junctions. For the first time, COMAND APS also includes a music server with a 4-gigabyte memory. This enables the driver to store up to 1000 tracks from a CD, DVD or memory card. Music tracks are recognised by the system automatically and shown in the colour display. A DVD player for video and audio is also included, and an integral six-disc DVD changer may be specified as an optional extra.

Below the DVD unit is a PCMCIA slot which enables various PC memory cards to be connected and the music files they contain reproduced. Mercedes-Benz combines COMAND APS with the LINGUATRONIC voice control system as standard.

Fitted with the COMAND APS system is an audio experience of such high quality that it is like being at a live concert. It is all made possible by the "Logic7" surround-sound system, which Mercedes-Benz developed together with the audio specialists Harman/Kardon® and which celebrated its world debut in the S-Class in 2005. Based on technology never before seen in a car, this system delivers three-dimensional sound as a natural 360-degree musical experience for all passengers, from both DVD and CD and regardless of whether the source was recorded in 5.1 surround or normal stereo. The audio signals are distributed via a 450-watt amplifier connected to eleven speakers plus a bass box in the load compartment's side trim.

Voice control: as many as 220,000 street names stored

Scientists have been working on the development of computer-based speech recognition for over two decades now. In 1996, Mercedes-Benz became the very first automotive brand to offer such a system in its cars: LINGUATRONIC. Since those early days, Mercedes speech-recognition technology has progressed in

leaps and bounds. The very first generation of the system only required 512 kilobytes of computer memory - today, the system takes up over ten megabytes.

With the arrival of the new C-Class, LINGUATRONIC has attained its most advanced state of development: quite apart from operating the telephone as well as the audio and navigation systems, the voice-control system is now capable of understanding whole-word commands when inputting a destination, selecting a radio station or making a phone call. This means that instead of having to spell out place names and streets, drivers simply have to say where they would like to go.

During the brief dialogue between driver and LINGUATRONIC, the sound signal is digitised, transformed into a frequency spectrum and then analysed. During this process, the computer extracts certain features from the sound signal at lightning speed. Doing so allows it to recognise the phonemes, which are the acoustic building blocks of any given language. By combining the phonemes and cross-referencing them with the contents of the phonemic dictionary stored in the system, the voice control can recognise whole words. Every language has its own set of characteristic phonemes – for example, around 40 are used by LINGUATRONIC for the German language. In all, the phonemes for six different languages have been loaded into the system, allowing it to recognise not just German but English, French, Italian, Spanish and Dutch too.

The voice control system processes the sound units - the phonemes - as digital codes. The electronics analyse each sound, join the different phonemes together, and finally also check the acoustic plausibility of the word, all in a matter of milliseconds. In this way, the system is even able to recognise the finest nuances in pronunciation, meaning that it can distinguish, for example, between the words "town" and "down".

However, it is not the LINGUATRONIC system's ability to understand every word that is crucial as much as its ability to understand every driver. Everyone has a distinctive pronunciation, and speaks at their own pitch and speed. In order to make allowance for these individual characteristics, the system was subjected to

an exhaustive learning process. Over the course of its development, it was checked in all languages and tested by motorists from all the different regions where a particular language was spoken.

The largest active vocabulary boasted by the LINGUATRONIC system for the C-Class can be found in the US state of California, where some 220,000 street names can be inputted directly as whole words.

Mercedes-Benz makes an important contribution to traffic safety too with LINGUATRONIC, as drivers no longer need to take their hands off the wheel to operate the car phone or the audio units. In this way, LINGUATRONIC lessens the driver's workload, making it easier to concentrate on what's happening on the road ahead. In the new C-Class, Mercedes-Benz also uses voice synthesis to provide the driver with important traffic information affecting the planned route or to read out SMS text messages.

The new improved LINGUATRONIC system is included as standard on C-Class models which leave the factory equipped with COMAND APS.

Climate control: three-zone comfort as a first in this model class

The new C-Class Estate has also made significant advances over the preceding model where climate control is concerned. The engineers in Sindelfingen have developed two air conditioning systems, one of which - THERMATIC - is fitted as standard in the Estate. The optional THERMOTRONIC system (standard fitment to C 63 AMG) permits three-zone climate control in the interior, something which no other vehicle in this model class is able to offer at the current time.

In terms of both heating and cooling output, these two air conditioning systems achieve even better performance than before:

- The heating output has increased by around ten per cent to eleven kilowatts, thereby matching the capacity of the central heating system in a modern family home. In the diesel models, a heat exchanger with six integral PTC heating elements (Positive Temperature Coefficient) cuts in

to boost the effect of the main heat exchanger, depending on the outside temperature. The assistance from this PTC heater is necessary due to the high thermal efficiency of today's CDI engines, which is precisely what makes them so economical and means they release considerably less heat to the coolant under partial load conditions than other engines.

- The air conditioning system's cooling output has been increased by between 10 and 15 per cent. The refrigerant compressor is continuously variable, which allows the air conditioning system to be operated in accordance with requirements, i.e. economically. A solenoid valve controls this adjustment process by varying the displacement of the refrigerant compressor.
- Revised flow areas for the air intake, air ducts and air conditioning unit have enabled the noise level to be reduced by around three decibels (dB(A)).

Another important comfort feature is the prevention of draughts. To this end, Mercedes engineers have further enlarged the cross-sections of the air vents to reduce the speed of the airflow - and therefore the risk of irritating draughts. The task of effective, uniform ventilation of the interior is taken care of by a total of 16 air outlets. With the exception of the defroster vents below the windscreen and the air outlets in the footwells, the quantity of air passing through each individual air vent is infinitely adjustable.

The THERMOTRONIC system also features an automatically controlled, upward-pointing diffuser nozzle in the dashboard, which provides indirect and therefore draught-free ventilation.

A sophisticated system of sensors ensures that the preferred temperatures selected by the occupants remain constant. Two sensors measure the relevant interior temperature and provide the system with even more precise data, allowing it to respond to temperature fluctuations more rapidly.

In addition, four sensors monitor the temperature of the air flowing from the air vents and allow a continuous target vs. actual comparison to be made. Another sensor registers the intensity and direction of the sun's rays. Using this data, the

automatic climate control system can adjust the flow rate and temperature of the air according to the driving situation or weather conditions, and ensure that the occupants of the C-Class are able to enjoy a consistently high level of climatic comfort.

The sensors in the THERMOTRONIC system are supplemented with a dewpoint sensor and a pollutant sensor. Thanks to the dewpoint sensor the inflowing air can be cooled and warmed up again if required, depending on its moisture content. This makes the air conditioning system all the more economical. The pollutant sensor detects excessively high levels of carbon monoxide and nitrogen oxides in the outside air, automatically switching to air recirculation mode if concentrations of these pollutants suddenly increase.

A large, hermetically sealed combination filter which forms part of the standard specification also purifies the air before it reaches the vehicle interior. This filter retains 100 per cent of all particles larger than ten micrometers, while absorbing unpleasant odours thanks to its activated charcoal lining. It is permanently active, even in air recirculation mode. The practical tunnel setting is another technical feature of THERMATIC and THERMOTRONIC: if the driver or front passenger presses the air recirculation button on the air conditioning control panel for longer than two seconds, all open side windows and the sliding sunroof close automatically. If the button is then pressed and held for some time again, the windows and sunroof reopen to the same position as before.

Body: A model of strength, safety and lightweight design

- 70 per cent of all bodyshell panels made from high-strength grades of steel
- Torsional stiffness increased by around 12 percent
- Panoramic sliding sunroof available for the Estate for the first time

"The right material in the right place" - once again, the Mercedes principle for strength and lightweight construction proves to be a success in the new C-Class Estate.

Using an intelligent mix of steel and aluminium, the engineers in Sindelfingen were able to achieve a remarkable result: despite all of the extra measures implemented for the benefit of safety, spaciousness and comfort, the bodyshell now weighs four kilograms less than previously - all whilst complying with the stringent Mercedes demands in terms of durability.

Preference has been given to high-strength steel alloys, as these provide maximum strength in combination with minimal weight, which in turn translates into the greatest possible safety. Around 70 per cent of all the sheet metal panels in the bodyshell of the new Estate are made from these high-tech grades of steel. For around a fifth of all parts, the specialists at Mercedes deployed sophisticated, ultra-high-strength steels which have only been developed in recent years. Their tensile strength is three to four-fold greater than that of conventional steels. By way of comparison: these alloys only accounted for one per cent of the predecessor's bodyshell by weight.

Aluminium and plastics are the two other lightweight materials used by Mercedes-Benz wherever they offer the most benefits. Aluminium components in the new C-Class Estate include ...

- the front wings
- the front-end assembly including flexible cross member and crash boxes
- the cross member underneath the dashboard

- the door modules.

Apart from these high-tech steel alloys, the use of high-strength structural adhesives makes another major contribution to the strength of the bodyshell. The adhesive creates a flat bond between the sheet metal flanges, significantly increasing the load resistance and transfer of forces in zones critical to safety. In this way, the adhesive supplements conventional processes such as spot and laser welding. In total, there is around 60 metres of high-strength bonded seams in the bodyshell.

A low-stress joining technique and the latest spot or laser welding methods virtually eliminate the need for additional soldered connections and MAG (Metal Active Gas) welding seams at the joins between the sheet steel panels – likewise benefiting the body's durability. The sophisticated joining technique also guarantees a high level of dimensional accuracy. The flanges at the edges of the steel parts are designed in such a way that any tolerances are compensated for as soon as the panels are brought together, allowing them to be welded together at low stresses.

For the first time Mercedes-Benz has used the new "RobScan" joining process, which is based on the latest laser welding technology. It produces narrow welding flanges and even better crash characteristics at a high processing speed. This method is used for manufacturing the doors, sidewalls and rear end – with a total of around 640 welding seams.

Body structure: a further major improvement in rigidity

This intelligently designed bodyshell provides some of the key ingredients for the high level of ride comfort that distinguishes the new model from other estate cars in this market segment. Static torsional stiffness – an important indicator for the body's vibration characteristics – has improved by around twelve percent compared to the preceding model. The engineers in Sindelfingen paid particular attention to the connecting points between the chassis and body, which are required to withstand very high forces. These were specifically reinforced to

ensure that road-induced vibrations are not transferred to the body at the expense of driving pleasure.

However, the structures have been made robust not least in the interests of safety too. For example, the subframe that is bolted rigidly to the body and to which the front axle, steering, engine and transmission are attached, acts as part of the front crumple zone. For this purpose it has been extended forward, forming an additional impact level at the bottom: in a severe frontal collision, this component made from high-strength steel is able to deform in a predetermined manner, absorbing energy and conducting forces directly into the floor structure by means of special support tubes.

The structure and integration of the front end is also new. It basically consists of a sturdy aluminium cross-member and two single-piece crash boxes, also made from aluminium, which are inserted into the side members and bolted to them at the sides. The other components of the front end are bolted together too, allowing them to be replaced cost-effectively following an accident.

Firewall: new, four-piece design with varying panel thicknesses

The firewall has a four-piece construction. This enables Mercedes engineers to vary the material thicknesses according to vulnerability in an accident, while making a further contribution to weight reduction. As the load acting on the firewall during a frontal collision is greatest in the lower section, the sheet metal used here is up to 56 per cent thicker than at the top.

On the left and right in front of the firewall, there are two compartments housing a number of assemblies, including the starter battery (right, on diesel models) and the central electrics unit (left). These areas are insulated from the engine compartment by a partition wall made of sheet steel and aluminium panelling. A special application of melamine resin foam on the inside of the partition ensures effective soundproofing and heat insulation.

Passenger compartment: continuous side members in floor structure

The passenger cell proves to be a structure which is virtually immune to deformation and which keeps the occupant space intact even at high impact speeds, regardless of whether the vehicle is involved in a collision from the front, the rear or the side, or rolls over. The use of ultra-high-strength grades of steel and panels made of thicker material plays as important a role here as the installation of additional load-bearing members.

The main floor structure consists of three separate sheet metal blanks, which are laser-welded together and subsequently shaped into the right form. The centre blank, which is made from thick sheet metal, forms the tunnel, the actual backbone of the passenger cell.

Other new features which are very important for both occupant protection and the rigidity of the bodyshell include the continuous floor side members, the insides of which are further reinforced with extra sections. Their front faces connect to the side members, thereby lengthening the load-bearing paths along which forces can be distributed in the event of an impact. At the rear, the floor side members extend as far as the cross member beneath the rear seat unit to stabilise the entire floor structure, resulting in a considerable improvement in the body's vibration characteristics.

Mercedes engineers have also incorporated sturdy aluminium transverse sections – known as transmission tunnel braces – into the floor assembly. One is located beneath the transmission, and is designed to direct forces to the opposite side of the vehicle during an impact from the side. The second creates a connection between the two side members. It likewise braces the floor assembly and is able to direct impact forces into the floor structure at an early stage in a side-on collision. Diagonal struts between the side skirts and the side members also give added rigidity, as well as improving the vehicle’s cornering characteristics.

Side wall: extremely sturdy B-pillars as impact protection

The outer sidewalls of the new Estate have a one-piece construction. Individually welded inner shells and extra sheet-metal reinforcements ensure high levels of strength in the vicinity of the roof pillars. The B-pillars - which are required to absorb large forces and transfer them to the bodyshell structure during a side impact - consist of three sheet metal shells plus a large, reinforced area extending to the upper edge of the belt guide point. One of the shells as well as the reinforcement are made from hot-formed, ultra-high-strength steel.

When designing the doors, Mercedes engineers devoted particular attention to the door hinges, for which they developed special mounting plates with high load resilience. This creates a robust, integrated side structure which is able to provide effective occupant protection in the event of a collision. The inner door shells are made of high-strength steel blanks reinforced by sections in the area of the frame and beltline and at bumper level.

Additional members located in the lower area of the doors between the inner and outer shells supplement the design measures for side impact protection. Each of the rear doors has two of these sheet-metal sections.

Rear end: cross member made from flexibly rolled high-tech steel

Multi-piece side members of high-strength steel and a robust, flexible cross member form the key components of the rear-end structure. The rear side members are continuous, closed box sections with carefully graduated material thicknesses. These are able to absorb high forces, thereby making a decisive contribution to occupant safety in an impact from the rear.

The bolt-on flexible cross member is manufactured using an innovative flexible rolling process which likewise allows the material thickness to be varied as required. Flexible means that the ultra-high-strength steel can be processed in such a way that areas with differing sheet metal thicknesses can be produced within a single component. Accordingly, the material thickness on the outside of the cross member – where impact loads are highest – is greater than on the inside.

The hinges and latches of the folding rear seat backrests are entirely encompassed within a supporting structure that is bolted to the sidewalls and the floor plate. This also contributes to the bodyshell's high torsional stiffness.

Long-term protection: fully galvanised body with tougher paintwork

Long-term protection against corrosion for the bodyshell is based on fully galvanised body panels, some of which have an additional organic coating on both sides depending on their location - on the doors for instance or on the side members at the front, sides and rear. This coating contains rust-inhibiting zinc pigments too. Mercedes-Benz also protects the most vulnerable structural areas of the bodywork - for example the front side members, the front end structure's upper side member level, the side skirts and the rear wheel arches -- with a cavity-fill preserving agent.

Fully weather-sealing the welding seams also prevents the onset of corrosion. This seam sealing benefits not only the bonnet, doors, boot lid and rear wheel arches, but also a large proportion of the welded joints in the floor structure of the new C-Class.

Using laminated plastic for a large area of the underbody panelling has allowed Mercedes engineers to dispense with conventional PVC underseal. This underbody panelling protects the body from stone chippings, water and soiling. Axle components subject to severe stone impacts are also protected by a plastic lining.

Mercedes-Benz also makes a major contribution to exemplary long-term quality and value retention with a particularly scratch-resistant clearcoat. This innovative paint system, which celebrated its world debut at Mercedes-Benz at the end of 2003, is a standard feature of the new Estate and is used for both metallic and non-metallic finishes. The clearcoat triples the scratch resistance of the paint finish and ensures a visibly superior, long-lasting sheen.

Exterior mirrors: significantly larger glass surface

The exterior mirrors of the new C-Class make an important contribution to perceptual safety: the glass surfaces have been significantly enlarged, and thereby already comply with future legislation. With the new exterior mirrors, the driver is even able to spot smaller objects lying on the ground around four metres behind the vehicle.

To ensure that the mirrors always provide the clearest possible view to the rear, they are electrically heated as standard. The mirror heating comes on automatically, depending on the outside temperature and humidity. Both exterior mirrors are electrically adjustable, and fold inwards at the touch of a button. A number of different mirror settings can be stored on models with the memory package (optional).

Sliding sunroofs: panoramic effect now available for estate passengers too

In addition to the tilting/sliding glass sunroof, Mercedes-Benz is offering an optional extra for the new C-Class Estate which guarantees a very special sort of open-air motoring pleasure: the panoramic sliding sunroof, which is now making its debut in an estate model.

Its glass surface covers almost twice the area of the tilting/sliding sunroof, extending from the windscreen right back to the load compartment. At the touch of a button, the front section of the glass roof rises up and slides to the rear over the fixed section, while a wind deflector pops up at the front. The moving section of the panoramic sliding sunroof can also be moved into a tilted position.

Remote control using the electronic ignition key also works with the panoramic sliding sunroof. Due to the presence of PRE-SAFE®, both the tilting/sliding roof and the panoramic sliding sunroof are integrated into the anticipatory occupant protection system and close automatically before an imminent accident. If it is linked up to the rain sensor, the panoramic sliding sunroof also closes automatically then rises into the tilted position when it rains.

Tailgate: EASY-PACK system for power opening and closing

The tailgate is composed of one inner and two outer shells which are joined to one another using a special method (brazing combined with laser welding). This elaborate design makes the tailgate extremely rigid.

For particular ease and convenience when opening and closing the tailgate, Mercedes customers may opt for the EASY-PACK tailgate. A touch of a button is all that is required to set the tailgate in motion. This is made possible by an electronically controlled electric drive system, whose motor is located beneath the roof liner in the load compartment. The torque required for operating the tailgate is transmitted to the left-hand hinge. The automatic closing procedure concludes with the electrical power closing aid pulling the tailgate securely into the lock.

The EASY-PACK power tailgate can be opened by either pressing a switch located on the interior panel of the driver's door, pulling the handle above the rear number plate or pressing a button on the electronic key, that is, by radio remote control. It can be closed by means of either a button on the inside of the tailgate or the switch in the driver's door panel.

Aerodynamics: cd value reduced by three per cent

On the basis of their tremendous know-how, and with the help of the latest development methods, Mercedes engineers achieved another triumph where the aerodynamics is concerned. Despite a less tapered rear end, larger rear radii, larger exterior mirrors and smaller front overhangs, the Estate achieves a cd value of 0.30, an improvement of some three per cent compared to its predecessor. Key aerodynamic figures at a glance:

	New Estate *	Preceding model
Coefficient of drag cd	0.30	0.31
Frontal area (A)	2.184	2.085

Air resistance (Cd x A)	0.66	0.65

* Example used is the C 200 CDI

These figures are the result of several months of development work on the computer and in the wind tunnel that already began during the early conceptual phase.

Based on the key exterior dimensions and the fundamental stylistic concept, 1: 4-scale models were initially produced and subjected to numerous wind tunnel tests in order to create the basic conditions required for excellent aerodynamics. This experimental work was supplemented with flow simulations: using the latest CFD (computational fluid dynamics) software, it is possible to calculate and optimise the aerodynamic conditions beneath the bonnet, along the underbody or around individual areas of the bodywork.

Doing so enabled the Mercedes engineers to identify any potential for further improvements at an early stage.

The streamlined styling of the front and rear aprons and of the A-pillars, along with the optimum sealing of the area around the radiator, the full underbody panelling and the aerodynamically effective diffuser on the underside of the spare wheel well, are just a few of the results of the development work which together contribute to the new Estate's impressive coefficient of drag.

Dirt-repellent: water deflectors on A-pillars

Keeping the exterior mirrors and side windows free of dirt in poor weather conditions is of crucial importance for driving safety. Accordingly Mercedes-Benz has always given this topic a great deal of attention, and has now made yet further progress:

- The A-pillars feature special twin drainage channels in which rainwater striking the windscreen is collected, before being conducted downwards or to the rear along the roof with the help of the airflow. This largely prevents any build-up of dirt on the side windows.

- The housings of the exterior mirrors are designed in such a way that rainwater flows to the outside along a slender, continuous channel then drains away. A small spoiler assists this defined drainage process, which keeps the side windows, mirror surfaces and door handles clean.

Aero-acoustics: detailed adjustments for audible comfort

Wind noises caused by the flow of air around the body and its detachable parts, or by vibrations induced in the sheet metal surfaces, can soon take the pleasure out of a journey. In the new C-Class Estate, the more rigid bodyshell with its continuous floor side members, the reinforced outer skin and newly designed doors all help to keep vibrations at a very low level. A new gap-sealing concept is also employed: the doors of the C-Class feature a continuous double seal - and in the most important areas even a triple seal. For the new panoramic sliding sunroof, Mercedes specialists have developed an air-deflecting mesh which is erected automatically. This suppresses the annoying booming sound that is heard when travelling with the sunroof open.

Safety: Innovations borrowed from the luxury class

- First car in its class with standard-fitment PRE-SAFE®
- Front-end impact zones on multiple levels
- Eight airbags and NECK-PRO head restraints as standard
- Elaborate load-securing measures

Nothing beats experience – except even more experience. With every new model, Mercedes-Benz enriches its 60 plus years of expertise in the field of passenger car safety, it translates the latest findings from real-life accidents into concrete protective measures and it pioneers new driver assistance systems to make motoring even safer.

The new C-Class likewise represents a further significant advance for Mercedes-Benz in its ongoing quest for safety. Once again, the engineers in Sindelfingen have learned more from their accident research, once again their exhaustive testing work has helped to further improve occupant protection, and once again they have ensured that even more drivers benefit from the cutting-edge technology inherited from the luxury class.

The Mercedes philosophy PRO-SAFE™ is the driving force and ideal for this commitment. It defines safety as a comprehensive undertaking that goes well beyond compliance with standardised crash test regulations. It concerns itself with all aspects of driving – everything that is important for the safety of the vehicle occupants and other road users. The Mercedes safety concept divides these aspects into four phases:
1. Safe driving: Avoiding danger, warning and assisting in good time
2. When danger threatens: Acting in an anticipatory manner with PRE-SAFE®
3. During an accident: Protecting as required
4. Following an accident: Preventing worse, helping rapidly

Safe driving: accident prevention with intelligent assistance systems

Accident prevention is the foremost principle of the Mercedes concept. With systems such as ESP®, Brake Assist and ADAPTIVE BRAKE as standard, the new C-Class Estate is ideally equipped for safe driving.

When danger threatens: anticipatory occupant protection with PRE-SAFE®

One of the major aims of this commitment by Mercedes is to achieve a synergy between active and passive safety, that is, to interlink accident prevention systems with occupant protection. The generic term used for this new era in vehicle safety is PRE-SAFE®. It describes an innovative protection concept based on the principle of prevention, which first entered series production in the Mercedes-Benz S-Class in 2002 and is now fitted as standard equipment to the new C-Class Estate as well. This makes it the only automobile in its class worldwide to feature this future-oriented safety technology as standard.

PRE-SAFE® is linked up to sophisticated active safety systems such as ESP® and Brake Assist, and is able to detect critical driving manoeuvres at an early stage with the help of their sensors. If the car is in danger of crashing as a result of heavy understeer or oversteer, or if the driver needs to brake very heavily in a hazardous situation, PRE-SAFE® triggers certain measures as a precaution to prepare the vehicle and its occupants for an impending accident. If a collision is averted at the last moment, the C-Class is immediately able to continue its journey: all the PRE-SAFE® features are reversible and can be reset to their original positions, after which the system is ready for use again.

This means that the passive safety phase does not only begin when the impact occurs, but in advance of an imminent collision. This Mercedes invention uses the time between the detection of a potential accident situation and a possible crash to initiate occupant protection measures.

When developing this anticipatory safety system, Mercedes engineers drew a distinction between critical driving manoeuvres involving high lateral and extreme linear forces. Accordingly, precisely defined preventive measures are activated depending on the situation – and always with the aim of ensuring that

well-proven safety systems such as seat belts and airbags can provide the best possible protection in the event of an impact:

- During emergency or panic braking with Brake Assist, PRE-SAFE® pulls the seat belts taut as a precaution to fix the driver and front passenger securely in their seats, increase the distance to the dashboard and reduce the forward movement of the front seat occupants during a crash. For this important PRE-SAFE® function, the front inertia reels in the C-Class are equipped with powerful electric motors which respond within milliseconds and take up any belt slack. During emergency or panic braking, PRE-SAFE® furthermore starts by bringing an unfavourably adjusted front passenger seat into a better position – provided the car is equipped with the electrically adjustable front passenger seat with memory function. The system corrects both the backrest and seat cushion angles as well as the height and fore-and-aft adjustment of the seat as required, bringing the front passenger into a position which is more favourable from the point of view of airbag effectiveness and which allows the shoulder belt to exert a good restraining effect. This also lowers the risk of sliding beneath the seat belt strap and sustaining injuries during a collision.
- If there is a danger of skidding owing to heavy understeering or oversteering, PRE-SAFE® activates a further protective function: in these situations the side windows and sliding sunroof begin to close as a precaution. Closed side windows are better able to brace the windowbags which deploy during a side impact. This preventive measure also lessens the risk of the occupants being thrown from the vehicle or objects penetrating into the interior during a crash. The sliding sunroof is linked to PRE-SAFE® because accident researchers analysing rollover accidents frequently find that car occupants can be completely or partially thrown out of the vehicle through the open roof. Closing the sliding sunroof as a precaution also reduces the risk of objects penetrating into the interior.

Measurements taken by Mercedes engineers during crash tests show how important and effective anticipatory occupant protection can be in an accident. Take the seat belt tensioning, for example: because driver and front passenger are secured in their seats as best possible by this precautionary measure, and do not

move as far forward during the impact, the loads exerted in the head and neck areas are reduced. Tests showed that the head was subjected to around 30 per cent less stress, while the reduction in the neck area was around 40 per cent.

During an accident: occupant protection on multiple levels

Over the course of its development, the new C-Class Estate completed over 100 crash tests in all -- including not just the two dozen plus crash configurations needed to obtain its worldwide licence, but a further nine highly demanding, in-house crash tests, some of which go well beyond the statutory requirements. In addition to this, the C-Class Saloon and Estate were put through their paces in around 5500 computerised crash tests – realistic simulations which provided the engineers with particularly valuable information during the early stages of the project.

Following such time-consuming and painstaking development work, the new Estate is outstandingly well prepared for the accident situations that actually occur on our roads:

- · Frontal impact:

  Compared to the previous series, which itself offered excellent protection, Mercedes-Benz has further enlarged the deformation zones and optimised energy flows again. Like the C-Class Saloon, the new Estate features four independently acting impact levels which enable forces to be distributed over a wide area while bypassing the passenger cell. In addition to the robust aluminium cross member in the front end and side members which extend well forward to direct impact forces into the side structure, firewall and transmission tunnel, these forces are for the first time absorbed by the subframe made of high-strength steel too. For this purpose it has been extended forward and connected to the newly developed floor side members via special support tubes. During a crash this enables the subframe to both deform in a predetermined manner and absorb energy, while also transferring high impact forces directly into the

vehicle floor.

In order to purposefully support and guide the front wheels, Mercedes-Benz developed special struts and additional impact-absorbing elements in the wheel arches. These struts are arranged diagonally and prevent the passenger cell from dropping during a collision, enabling the C-Class to absorb the impact energy and protect its occupants even more effectively. As another new feature on the driver’s side, an X-strut connects the shock absorber tower with the robust cross member beneath the windscreen and supports it. During an impact, this strut reduces the rearwards displacement of the shock absorber tower and the main brake cylinder behind it, to which the pedals are attached. This strut made from ultra-high-strength steel therefore has a dual function: it both lessens the loads acting on the firewall and prevents the pedal cluster from being pushed into the interior.

- Side impact:

  As only a very small crumple zone is available during a side collision, Mercedes engineers were careful to ensure that the impact forces are distributed over a wide area. The quadruple-shell B-pillars and the side members along the vehicle's flanks (sills) are mainly responsible for this. Both components are partly manufactured from ultra-high-strength, hot-formed high-tech steel. The impact forces are transferred from the B-pillar to the opposite side of the vehicle first and foremost via the transversely rigid seat and the centre console. Accordingly, the seats of the C-Class are equipped with tubular sections and impact-absorbing elements in the side mouldings. A further load dissipation path runs from the base of the B-pillars to the cross member under the seats and the transmission tunnel braces. The B-pillars are also able to transmit forces to the roof frame. At the middle level, the doors with their rigid beltline sections and bonded-in reinforcing panels form a sturdy integrated structure.

- Rear impact:

  An effective crumple zone is also included at the rear end of the new C-Class Estate. This basically consists of multi-piece side members and a bolted-in section that acts as a cross member capable of absorbing large forces and distributing them into the body structure. The fuel tank is located in a protected position beneath the rear seat unit.

- Passenger cell:

  While the different load-bearing structures at the front, sides and rear end of the Estate are designed to deform and absorb energy during an impact, the passenger cell acts as the "hard core" of the safety concept in the C-Class. Even in a serious accident it only deforms very slightly to maintain the survival space of the occupants intact. Mercedes engineers have achieved this both by making increased use of high-strength and ultra-high-strength steel grades with graduated wall thicknesses, and by developing an extremely strong floor assembly. This comprises two continuous side members, several transverse sections, as well as two transmission tunnel braces which are able to transfer forces released in a side impact to the unaffected side of the vehicle.

Protective systems: eight airbags as standard

In the interior, the exemplary safety technology of the new Estate is complemented by sophisticated protective systems. Three-point inertia-reel seat belts with belt tensioners and belt force limiters are fitted as standard for the driver, front passenger and the occupants of the outer seats in the rear. Force limitation is performed on an adaptive basis in the front: after reaching a certain maximum retention, the belt force is reduced to a lower level – the belts are allowed to slacken so that the occupants can sink deeper into the airbags as they deploy, reducing the strain exerted on the torso.

The vehicle's standard specification furthermore comprises a total of eight airbags: two adaptive airbags for the driver and front passenger, two sidebags in the front seat backrests, two sidebags in the rear seat backrests plus two large windowbags which extend from the A to the C-pillar in a side impact.

The front airbags are activated in two stages, depending on the severity of the impact. Two up-front sensors are installed in the front-end structure of the C-Class, whose forwards positioning allows a collision to be detected at an early stage. This information reduces the time between the point of impact and activation of the airbags and belt tensioners. In a less serious accident, only the first stage of the airbag generators is triggered so that the airbags inflate partially for a "soft landing". If the impact is more severe, the second stage of the airbag generator is also detonated to fully inflate the airbags.

The sensor system for side impacts is also more sophisticated than in the preceding model. Innovative new pressure sensors relay rapid, precise information to the control unit in the event of a collision from the side in the area of the doors. These sensors react when the air between the doors' outer skin and inner lining is compressed on impact. Additional side sensors are installed in the B-pillars.

Head restraints: crash-responsive NECK-PRO system as standard

NECK-PRO is another special safety feature in the new C-Class. This is the name Mercedes-Benz has given to a crash-responsive head restraint whose development, like that of PRE-SAFE® and other Mercedes innovations, is based on analyses of actual accidents. NECK-PRO is an effective means of reducing the risk of whiplash injuries during a rear-end collision. If the sensor system detects a rear-end collision with a defined impact severity, it releases pre-tensioned springs inside the head restraints, projecting the head restraints' padded surfaces forwards by about 40 millimetres and upwards by 30 millimetres within a matter of milliseconds. This means that the heads of the occupants in the front are supported at an early stage. Following a NECK-PRO deployment, the head restraints can be returned to their original position manually using a tool

supplied with the car, and are then immediately ready for use again. NECK-PRO head restraints for the driver and front passenger are standard equipment in the new Estate.

The standard occupant restraint system at a glance:

	Front seats	Rear seats
Inertia-reel seat belts with height adjustment	•	• height adjustment for the outer seats
Belt tensioners	•	• for the outer seats
Belt force limiters	• with adaptive control	• for the outer seats
Head restraints	• with NECK-PRO function	•
Front airbags, two-stage	•	
Sidebags	•	•
Windowbags	•	•

• = standard

Load restraint: combined luggage cover and retaining net as standard

The topic of load restraint has traditionally played an important role in the development of estate models from Mercedes. And with good reason too: items of luggage or any other objects lying in the load compartment can suddenly pose a major hazard in an accident. In an impact against a rigid wall at a speed of 50 km/h, Mercedes engineers have measured deceleration rates of as much as 30 g, in other words 30 times the acceleration due to gravity. In such a collision, a suitcase weighing 20 kilograms would therefore have an actual "impact weight" of some 600 kilograms.

In view of this, Mercedes-Benz equips the new C-Class Estate with an extremely sturdy rear seat backrest which is able to withstand high impact loads in a crash, as are its locking points and catches. Not only does the backrest incorporate a frame section built of high-strength steel, the load compartment floor is also made from robust material and is additionally secured by two hinge hooks and a locking bar. By no means are such safety features always the norm on other estate cars.

The same applies to the two-section roller unit, containing firstly a luggage cover and secondly a retaining net which can be pulled upwards as a partition between the passenger and load compartments. This net is capable of holding back any items of luggage placed above the top edge of the rear seat backrest which are propelled forwards in a collision. The luggage cover and partition net are included on the C-Class Estate as standard.

Securely strapping down the load is every bit as important, however. This is where the four load-securing rings fitted as standard in the Estate's load compartment floor come into their own. By hooking tensioning straps into these rings, suitcases and other items can be lashed firmly into place. And for even more ways of making the vehicle's load safe, there is the option of the new EASY-PACK system.

After the accident: innovative safety fuses as a fire precaution

The aim during this safety phase is to prevent anything worse form happening and assist accident victims as quickly as possible. For instance, the fuel supply to the engine is automatically interrupted on the new C-Class Saloon and Estate if they are involved in an accident of sufficient severity, while the hazard warning lamps are also switched on to warn traffic behind and prevent any further accidents.

Following an accident in which the front airbags are deployed, the front windows are opened very slightly to ventilate the interior. The doors are also automatically

unlocked to expedite the rescue of injured passengers. In addition to this, the interior lights are switched on automatically.

Specially designed crash joints prevent the doors from being wedged shut in an impact. The occupants are also able to open the doors after an accident, as Mercedes-Benz uses Bowden cables -- which usually remain intact after deformation -- for operating the door catches from the inside.

Pedestrian protection: deformation zones under the bonnet

Another focus of development for the safety systems of the C-Class was the issue of pedestrian protection. This is nothing new for Mercedes-Benz, as the company has long concerned itself with reducing the risk of injury to the most vulnerable of all road users – pedestrians and (motor) cyclists.

Smooth body surfaces, energy-absorbing bumpers, laminated glass windscreens, folding exterior mirrors, rounded door handles and recessed windscreen wipers are just some of the details that serve this purpose. Mercedes innovations in the field of active safety, such as Brake Assist, also make a major contribution to pedestrian protection, as they help to prevent accidents with pedestrians from occurring in the first place, or significantly reduce the impact speed – something which has recently been confirmed by analyses of accident statistics.

To reduce the risk of injury to pedestrians, the bonnet is designed to deform upon head impact. The deformation space between the bonnet and the assemblies beneath it has been enlarged in two ways: firstly by the vehicle's higher external contours, and secondly by the lower positioning of the engine, shock absorber towers, reservoirs and control units. The front bumper features a flush, foam-filled spoiler lip which provides a pedestrian with uniform support at an early stage in a collision.

Repair concept: lower costs by virtue of intelligent body engineering

Energy-absorbing plastic bumpers, bolted connections at the front and rear, along with crash boxes are the principal elements of an ingenious concept which helps to reduce the cost of accident repairs. The components are designed to absorb energy during a low-speed impact in a predefined manner, so as to protect the actual bodyshell structure against damage. Further examples of the body's easy-to-repair concept include:

- The plastic front bumper has built-in foam elements to absorb the impact energy in collisions at speeds up to four km/h. The flexible material automatically returns to its original form after the crash.
- Bolted to the bodyshell, the front-end assembly mainly consists of an extruded aluminium cross member with two aluminium crash boxes . Their strength and energy absorption are precisely calculated to ensure that at an impact speed of up to 15 km/h against a rigid barrier, any deformation is limited to bolt-on front-end components. All the components of this module are bolted together, and can therefore be replaced without the need for laborious welding work.
- The rear bumper has the same elastic deformation properties as its opposite number at the front, and remains undamaged in collisions at speeds up to four km/h.
- The rear-end module consists of a solid, flexible cross member and a crash box, both made of steel and bolted to the body structure. This module almost completely absorbs impact energy at collision speeds up to approx. 15 km/h.

Chassis: A blend of agility and comfort

- AGILITY CONTROL shock absorbers that change with the driving situation
- Dynamic handling package with continuously variable damping system
- Body index testifies to the sporting agility of the C-Class
- Space-saving hydropneumatic self-levelling suspension
- ADAPTIVE BRAKE from the S-Class
- ESP® trailer stabilisation for safe motoring when towing

Newly developed chassis technology creates the basis for the agile yet comfortable handling characteristics of the new C-Class Estate. Mercedes engineers defined this driving profile during the early development phase and geared all measures towards achieving it.

The longer wheelbase (an extra 45 millimetres), wider tracks (an extra 36 and 68 millimetres respectively), as well as the positioning of the engine low down and far towards the rear make a fundamental contribution to the new driving experience by producing a favourable centre of gravity. Moreover, the even axle load distribution ensures an almost perfect balance between the front and rear axles, as well as improved traction and handling stability. The key data for the chassis at a glance:

	New Estate	Preceding model
Track width* front rear	1541 mm 1544 mm	1505 mm 1476 mm
Wheelbase	2760 mm	2715 mm
Turning circle	10.84 m	10.76 m
Axle load distribution* front/rear	50.3/49.7 %	52.5/47.5 %

*taking example of C 220 CDI, EC kerb weight incl. driver

AGILITY CONTROL - this is the term used by Mercedes-Benz for all new and further developments that improve both comfort and agility in equal measure. Foremost among these is the AGILITY CONTROL suspension, which is standard equipment in both the C-Class Saloon and Estate. It is based on an amplitude-dependent damping system: when driving normally with low shock absorber stimulus, the damping forces are automatically reduced for a noticeable improvement in ride comfort - but without any compromise in handling safety. When shock absorber stimuli are of greater magnitude, for example when cornering at speed or taking evasive action, the maximum damping forces are set and the car is stabilised effectively.

This technology is purely hydromechanical and requires no complex sensors or electronics. The key components are a bypass channel in the shock absorber's piston pin and a control piston moving within a separate oil chamber. When linear travel of the shock absorber is low, the control piston forces oil through the bypass channel to produce a significantly smaller damping force at the actual damper valve. The resulting, "softer" shock absorber characteristic translates into a high level of ride comfort.

If the shock absorber is subjected to greater stimulus, the control piston moves to its end position so that no more oil flows through the bypass channel. This makes the maximum damping force available.

Accordingly, this shock absorber technology plays an important role in the agile yet comfortable driving characteristics of the new C-Class Estate. One indication of this is the maximum body roll angle when cornering, which has been reduced by as much as ten per cent compared to the outgoing model courtesy of the AGILITY CONTROL suspension - without any loss of comfort.

Steering: more direct ratio and increased safety in a head-on collision

The AGILITY CONTROL suspension of the C-Class is complemented by a likewise newly developed rack-and-pinion steering system. This operates with a ratio of 14.5, and is therefore six per cent more direct than on the outgoing model.

Positioning the steering gear 80 millimetres in front of the wheel centre makes for predictable self-steering characteristics with a slight tendency to understeer. The steering gear and valve housings are of aluminium, while the steering rack is of forged, high-strength steel, as a result of which it weighs 0.8 kilograms less than in the previous C-Class.

The height and reach-adjustable steering column also has a special, new feature which proves beneficial in the event of a frontal collision: when impacted by the driver, the steering column telescopes together with a controlled level of force to reduce the loads acting on the upper body. This increases the deformation path by up to 100 millimetres.

Three-link front suspension: detailed improvements

Mercedes-Benz has enhanced the three-link front suspension with McPherson struts in a number of different respects. In the interests of favourable axle kinematics, superior vibrational comfort and improved safety, the lower link level consists of two separate elements which act as torque and cross struts and are both forged from aluminium. In addition to precise wheel location, this design has the particular advantage of compensating vibrations caused by tyre imbalances or fluctuating brake forces better than rigid wishbones. It also provides longer deformation paths in the event of a frontal collision.

The third component in the three-link system is the track rod, which connects the transversely installed steering gear with the wheels. The reinforced stabiliser is linked to the spring strut, which is likewise actively involved in front wheel location. The struts consist of cylindrical coil springs counterbalanced by lateral forces, twin-tube shock absorbers and newly developed, three-phase head bearings. If the body rolls severely, the stabiliser is supported by rebound buffer springs. The result is agile handling accompanied by a high level of comfort.

The front axle components, steering gear, engine and transmission are pre-mounted on what is known as the subframe. This is made from high-strength steel and is bolted to the side members of the bodyshell, which makes it a major

element of the crash structure at the front end. During a frontal collision, the subframe creates a separate load dissipation path which effectively absorbs the impact energy. The connecting points between the subframe and the bodyshell have been substantially reinforced, and therefore have a higher initial rigidity to counter the forces and vibrations generated by the suspension. This can be appreciated as more agile, more precise handling.

Multi-link independent rear suspension: new development based on a proven principle

The career of the multi-link independent suspension began with the launch of the Mercedes-Benz 190 (model code W 201) in 1983, and it still remains unsurpassed in many respects. Accordingly this patented suspension concept is also retained in the new C-Class, albeit in a fully redeveloped and therefore greatly improved form. Modifications have been made, for example, to the subframe and its bearings, which are now supported by the bodyshell on two levels by means of an additional strut. The primary benefits of these new developments and enhancements are reduced weight as well as improved ride and vibrational comfort.

The multi-link independent suspension principle is based on research examining the best possible movement characteristics for the rear wheels of a passenger car. If one regards the wheel in isolation, i.e. without any axle linkages, it has six possible movements available to it: it can push or pull in a vertical or horizontal direction, and it can turn in three directions. The aim of suspension engineers is to prevent such uncontrolled independence, however, and to limit the free movements of the wheel so that it can only move along a precisely defined spatial curve. Accordingly they have attached the wheel to five flexibly mounted, independently acting control arms which restrict five of the available spatial movements:

1. The lower transverse control arms activate the suspension springs and dampers

2. The upper transverse control arms regulate the camber over the spring travel
3. The torque struts take up the drive and braking forces, and compensate for dive and squat when accelerating and decelerating
4. The diagonal struts are arranged differently from the torque struts, and likewise help to prevent dive and squat when braking and accelerating
5. The track rods limit changes in the wheel’s toe-in to a desirable minimum

Owing to this intelligent control arm construction, each rear wheel basically retains freedom of movement in one plane only: namely during controlled compression and rebound.

Dynamic handling package: comfort and sportiness all in one

Mercedes-Benz has developed a dynamic handing package which offers drivers a choice of two shift programs: Sport and Comfort. Within these two programmes the shock absorbers are subject to infinitely variable electronic control. A total of seven sensors monitor the current driving situation and relay their information to an electronic control unit, which then calculates the optimum shock absorber characteristic. Depending on the current road or operating conditions, the system adjusts the damping forces for each individual wheel - variably and fully automatically, for even more ride comfort and individuality. When driving normally on poor road surfaces, a soft damper setting is selected to maximise occupant comfort while maintaining excellent handling stability and safety. If the driver decides that more brisk progress is called for, however, the shock absorber settings are continuously adapted to meet the wish for more dynamic performance.

The driver is able to predetermine the basic vehicle set-up by pressing a button on the dashboard. Two settings are available: "Comfort" and "Sport". In Sport mode, the hydraulic forces of the shock absorbers are increased to achieve yet greater handling stability at high speeds and reduce the inherent understeer at speeds up to 120 km/h, for example. If this package is specified, the suspension is lowered by 15 millimetres and features shorter springs and thicker stabiliser

bars. The newly developed speed-sensitive steering with variable centring is also included. In the interests of agile handling, the steering ratio has been reduced from 14.5 to 13.5. In Sport mode, the system also adapts the accelerator characteristics for more spontaneous engine response. In addition, the shift characteristics are modified and the shift times shortened too.

The dynamic handling package also includes a three-spoke steering wheel and shift paddles on the steering wheel.

Body index: agility worthy of a sports car with dynamic handling package

In order to clearly illustrate the performance characteristics of the different suspension variants, the engineers at Mercedes devised the body index. This is calculated from the readings for various typical driving manoeuvres, making it a sort of new composite formula for a vehicle's dynamic handling abilities.

The body index is an indication of how well the suspension is linked to the body, how closely the car hugs the road and how nimble the handling is through fast bends -- in short, it shows how firm the suspension tuning is. The higher the body index reading, the sportier - i.e. the firmer - the suspension characteristics.

The standard AGILITY CONTROL suspension gives the C-Class a body index of between 1.91 and 2.01 hertz. With the dynamic handling package fitted, meanwhile, the C-Class attains values ranging from 1.96 to 2.46, taking it into sports car territory. By way of comparison: the Mercedes-Benz SLR McLaren has a body index of 2.94, providing clear evidence of just how dynamically the C-Class can move if the driver so wishes.

This sports-car-like agility is down to the suspension technology with its continuously adjustable shock absorbers.

Self-levelling suspension: all components integrated into the shock absorber

For the self-levelling suspension that is available as an option, Mercedes-Benz employs an automatically pumping hydropneumatic system, in which all components are fully integrated into the rear shock absorbers. Quite apart from saving space and weight, this arrangement dispenses with the hydraulic and electric lines that were previously needed. The shock absorber houses an oil reservoir, pressure reservoir, pump, height sensor and control mechanism, along with the damper unit.

The energy required for levelling out the suspension is derived while the vehicle is on the move from the relative movements between the axle and body. In this way, the system is able to maintain full compression and rebound travel, steady ground clearance, optimum axle kinematics and a constant natural body frequency, regardless of the vehicle load.

Brakes: ADAPTIVE BRAKE with handy support functions

The new Estate also offers state-of-the-art from the luxury class when it comes to braking technology - cue ADAPTIVE BRAKE. This system provides additional support functions for even more safety and comfort. One example is priming of the braking system in critical situations: when the driver switches abruptly from the accelerator to the brake pedal prior to emergency braking, the system increases the pressure in the brake lines and brings the brake pads into light contact with the brake discs, so that they are then able to bite immediately and with full force when the brake pedal is depressed. In this way, the system complements the functions of the standard Brake Assist.

ADAPTIVE BRAKE also has safety benefits in the wet: the system briefly applies the brakes at regular intervals to wipe the film of water from the brake discs and ensure that the brakes are able to perform at their peak. This automatic brake drying function is always activated when the windscreen wipers have been operating for a certain length of time. The finely metered brake pulses are imperceptible to the driver.

Finally, the braking system also helps the driver with hill starts. When the sensor system detects that the Estate has come to a stop on an uphill gradient, a hill-start assist function is automatically activated which keeps the brake pressure constant for a brief period to prevent the car from rolling backwards. This gives the driver enough time to switch from the brake to the accelerator pedal without having to first engage the parking brake.

Generously dimensioned front and rear brake discs create the technical basis for safe, reliable deceleration. Depending on the engine version, they have a diameter of up to 322 millimetres at the front and up to 300 millimetres at the rear. A tandem brake booster unit which has now been enlarged to eight inches in size ensures a standard of responsiveness and operating comfort that lives up to all expectations.

Control systems: ESP® with new control logic and trailer stabilisation

With the anti-lock braking system (ABS), acceleration skid control (ASR), Brake Assist (BAS) and the Electronic Stability Program (ESP®) all included as standard, the C-Class Estate is as up-to-date as ever where driving safety systems are concerned.

The engineers at Mercedes have extended the functions of these systems and made detailed technical improvements. ESP®, for instance, now features a new control logic which assists the driver even more effectively in critical cornering situations: by triggering precisely metered braking pulses at up to three wheels, the Estate is made to turn safely into bends with only a moderate drop in speed.

A further additional function of the Electronic Stability Program improves safety when towing a trailer. The new ESP® trailer stabilisation function, which is activated on models equipped with a trailer coupling, detects if the trailer is weaving from side to side dangerously and automatically brings it safely back on course by means of selective braking pulses at the front wheels of the towing vehicle. If the danger is more acute, the system first automatically reduces the

road speed by braking whilst throttling back the engine torque, before proceeding to stabilise the trailer with selective braking pulses.

The Electronic Stability Program monitors the air pressure in the tyres too, and warns the driver if there is a sudden loss of pressure in one of the tyres. To this end, the system continuously compares the rotational wheel speeds, which mainly depend on the vehicle speed, vehicle load and tyre pressures. The control unit also consults other dynamic ESP® sensor readings, such as the lateral acceleration, yaw rate and wheel torque, to help it diagnose tyre pressure loss. The system is therefore able to detect any deviations, and informs the driver accordingly via the central display.

Engines and transmissions: the right mix of power, torque and fuel consumption

- Four-cylinder engines improved in many respects
- Turbo-diesel C 220 CDI exceptionally smooth
- Exhilarating performance from the C 63 AMG Estate

The engine range available to customers not only injects the new Estate with a distinctly lively character, they make it possible to drive in an environmentally responsible and economical manner at the same time.

Mercedes-Benz has paid particular attention to further development of the four-cylinder engines.

The C 200 KOMPRESSOR develops 15 kW more than before. It has an output of 135 kW and generates its maximum pulling power of 250 Newton metres from 2800 rpm.

This modified engine considerably improves the performance and fuel consumption of the entry-level C 200 KOMPRESSOR estate. Acceleration from standstill to 100 km/h is 0.6 seconds faster than its predecessor. The fuel consumption make equally impressive reading: despite the increase in power output, the Estate burns 0.7 litres less of premium per 100 kilometres than before.

The measures implemented in this four-cylinder petrol unit to achieve this higher output and increase in torque include the use of modified engine management, a more dynamic supercharger and improved pistons.

With a compression ratio of 8.5 : 1 (C 200 KOMPRESSOR), this four-cylinder engine is designed to run on unleaded premium petrol (95 RON).

Turbo-diesel power: the C 200 CDI

Advancement of the four-cylinder units was also the main focus for the diesel engines. While generating significantly more power and torque, the common-rail unit in the new C 220 CDI Estate requires only 6.8 litres of diesel fuel to travel 100 kilometres – which means that luxury estate is able to make its fuel tank capacity of 66 litres last for almost 1000 kilometres.

The engineers in Stuttgart have made further improvements to the crank assembly, the turbocharger and the common-rail direct injection system of the four-cylinder engine, modifying over 90 components in the process. For example:

- The air ducting in this engine was improved in terms of pressure losses and acoustic characteristics.
- The intercooler and turbocharger was modified to further improve the responsiveness of the CDI engine at lower rev speeds, while reducing nitrogen oxide emissions yet again.
- The cylinder head has a new cooling concept which enables superior power delivery.
- Mercedes engineers have enhanced the injection system, making further progress in demand-based fuel metering, for example, by the use of a structure-borne sound detector. The benefits of this include a noticeable reduction in combustion noise.
- Ceramic glow plugs, which attain higher temperatures than the previous metallic glow plugs, improve the starting and cold-running characteristics of this diesel engine.
- Balancer shafts in the crankcase, which counter-rotate at twice the speed of the crankshaft, compensate inertial forces and ensure the smooth, silent running typical of a six-cylinder engine.

As a result of this comprehensive raft of measures, the power output of the new-for-Australia C 220 CDI develops a peak output of 125 kW (previously 110 kW), and musters up 400 Newton metres of torque from 2000 rpm -- around 18 percent more than before.

Mercedes-Benz C 200 KOMPRESSOR Estate: technical data

Engine

No. of cylinders/arrangement		4/in-line, 4 valves per cylinder
Displacement	cc	1796
Bore x stroke	mm	82.0 x 85.0
Rated output	kW/hp	135/184 at 5500 rpm
Rated torque	Nm	250 at 2800-5000 rpm
Compression ratio		8.5 : 1
Mixture formation		Microprocessor-controlled fuel injection, hot-film air-mass sensor

Power transfer

Transmission		Five-speed automatic transmission
Ratios	Final drive	3.07
	1st gear	3.95
	2nd gear	2.42
	3rd gear	1.49
	4th gear	1.00
	5th gear	0.83
	Reverse	3.15

Chassis

Front axle	Three-link suspension, anti-dive, coil springs, gas-filled shock absorbers with amplitude-dependent damping system, stabiliser
Rear axle	Multi-link independent suspension, anti-squat and anti-dive, coil springs, gas-filled shock absorbers with amplitude-dependent damping system, stabiliser
Braking system	Disc brakes all round, internally ventilated at the front, solid at the rear, drum-type parking

	brake at the rear, ABS, Brake Assist, ESP®
Steering	Rack-and-pinion power steering, steering damper
Wheels	7 J x 16
Tyres	205/55 R 16

Dimensions and weights

Wheelbase	mm	2760
Track width front/rear	mm	1541/1544
Overall length	mm	4596
Overall width	mm	1770
Overall height	mm	1459
Turning circle	m	10.8
Luggage capacity max.*	l	485 – 1465
Kerb weight acc. to EC	kg	1540
Payload	kg	530
Perm. gross vehicle weight	kg	2070
Tank capacity/reserve	l	66/8

Performance and fuel consumption

Acceleration 0-100 km/h	s	8.8
Top speed (electronically limited)	km/h	210
Fuel consumption (ADR 81/01)	l/100 km	8.3
CO2 emissions	g/km	198

*acc. to VDA measuring method

Mercedes-Benz C 220 CDI Estate: technical data

Engine

No. of cylinders/arrangement		4/in-line, 4 valves per cylinder
Displacement	cc	2148
Bore x stroke	mm	88.0 x 88.3
Rated output	kW/hp	125/170 at 3800 rpm
Rated torque	Nm	400 at 2000 rpm
Compression ratio		17.5 : 1
Mixture formation		High-pressure fuel injection with common-rail technology, turbocharger, EDC

Power transfer

Transmission		Five-speed automatic transmission
Ratios	Final drive	2.82
	1st gear	3.60
	2nd gear	2.19
	3rd gear	1.40
	4th gear	1.00
	5th gear	0.83
	Reverse	3.17

Chassis

Front axle	Three-link suspension, anti-dive, coil springs, gas-filled shock absorbers with amplitude-dependent damping system, stabiliser
Rear axle	Multi-link independent suspension, anti-squat and anti-dive, coil springs, gas-filled shock absorbers with amplitude-dependent damping system, stabiliser
Braking system	Disc brakes all round, internally ventilated at the front, solid at the rear, drum-type parking

	brake at the rear, ABS, Brake Assist, ESP®
Steering	Rack-and-pinion power steering, steering damper
Wheels	7 J x 16
Tyres	205/55 R 16

Dimensions and weights

Wheelbase	mm	2760
Track width front/rear	mm	1541/1541
Overall length	mm	4596
Overall width	mm	1770
Overall height	mm	1459
Turning circle	m	10.8
Luggage capacity max.*	l	485 – 1465
Kerb weight acc. to EC	kg	1630
Payload	kg	530
Perm. gross vehicle weight	kg	2160
Tank capacity/reserve	l	66/8

Performance and fuel consumption

Acceleration 0-100 km/h	s	8.9
Top speed (electronically limited)	km/h	210
Fuel consumption (ADR 81/01)	l/100 km	6.8
CO2 emissions	g/km	180

*acc. to VDA measuring method

Mercedes-Benz C 63 AMG Estate: technical data

Engine

No. of cylinders/arrangement		8/V, 4 valves per cylinder
Displacement	Cc	6208
Bore x stroke	mm	102.2 x 94.6
Rated output	kW/hp	336/457 at 6800 rpm
Rated torque	Nm	600 at 5000 rpm
Compression ratio		11.3:1
Mixture formation		Microprocessor-controlled petrol injection, HFM

Power transmission

Drive system		Standard drive system
Transmission		AMG SPEEDSHIFT PLUS 7G-TRONIC
Ratios	Final drive 1st gear 2nd gear 3rd gear 4th gear 5th gear 6th gear 7th gear Reverse	2.85 4.38 2.86 1.92 1.37 1.00 0.82 0.73 -3.42/-2.23

Chassis

	Front axle	Three-link suspension, anti-dive, coil springs, gas-pressure shock absorbers, stabiliser
	Rear axle	Multi-link independent suspension, anti-squat and anti-lift, coil springs, gas-pressure shock absorbers, stabiliser

Brake system	Disc brakes all round, internally ventilated and blind-drilled, foot-operated parking brake at rear, ABS, Brake Assist, 3-stage ESP®
Steering	Speed-sensitive rack-and-pinion steering, steering damper
Wheels	Front: 8.0 J x 18; rear: 9.0 J x 18
Tyres	Front: 235/40 ZR 18; rear: 255/35 ZR 18

Dimensions and weights

		Estate
Wheelbase	mm	2765
Track width front/rear	mm	1569/1525
Overall length	mm	4711
Overall width	mm	1795
Overall height	mm	1442
Turning circle	m	11.75
Boot/luggage compartment capacity**	l	485 - 1465
Kerb weight acc. to EC	kg	1795
Payload	kg	480
Perm. gross vehicle weight	kg	2275
Tank capacity/reserve	l	66/8

Performance and fuel consumption

Acceleration 0 - 100 km/h	s	4.6
Top speed (electronically limited)	km/h	250**
Fuel consumption combined (ADR 81/01)	l/100 km	13.8

* according to VDA measuring method; ** electronically limited