

The new Golf. Das Auto. The world premiere.

'The key to perfection'

Berlin, September 2012

Note:

You will find this press release online at: www.volkswagen-media-services.com.

User name: golf_das_auto; password: 09-2012.

TDI, TSI, DSG and Twincharger are registered trademarks of Volkswagen AG or other companies of the Volkswagen Group in Germany and other countries.

Equipment details and technical data apply to the model range sold in Germany. Details for other countries may vary. All fuel efficiency and emission figures given in this press release are forecasts as at August 2012.

Contents

Key aspects

In brief	Page 03
Design – the key to perfection	Page 08
History – 38 years of global success	Page 13
Lightweight design – searching for every gram	Page 19
Engines – fuel consumption drastically reduced	Page 23
Innovations – democratising high-tech	Page 26
Infotainment systems – touchscreen as standard	Page 33
Interior – layout and ergonomics	Page 36
Standard features – more on board	Page 41

The new Golf - up to 100 kg lighter and 23 per cent more fuel-efficient

Seventh stage of Golf evolution shows clearly added dynamism and precision

The Golf as a 3-litre car: with consumption of 3.2 litres and 85g/km CO₂, the Golf BlueMotion sets new standards

- **Wolfsburg / Berlin, September 2012.** “Six generations of the Golf – from 1974 to 2012. That’s 38 years of continual success, sales of 29.13 million units of a world best seller, an enormous economic factor, a guarantee of secure jobs and an enduring reflection of technical progress,” remarks Prof. Dr. Martin Winterkorn, Group Chairman, Volkswagen AG. “With the seventh generation of the Golf,” continues Winterkorn, “we now aim to carry on this story of success. This Volkswagen’s great potential is demonstrated by the fact that with this car we have been able to reverse the upward spiral in weight: although the new Golf is safer, more comfortable and more spacious than its predecessor, it has been made up to 100 kg lighter and – in the case of the new 140 PS petrol engine model with cylinder cut-off and fuel consumption figures of 4.8 litres per 100 kilometres – 23 per cent more fuel-efficient.”

Affordable – the Golf can do everything better and costs less

- **3.8 l/100 km.** With the new Golf, figures at this level are not the exception, but the rule: the base petrol model (TSI) consumes 4.9 l/100 km and the entry-level diesel (TDI) 3.8. The TSI models thus beat the CO₂ mark of 115 g/km, while at 99 g/km of CO₂ the TDIs come in under the 100 g/km threshold. The best figures are ultimately delivered once again by the Golf BlueMotion: utilising the most efficient systems from Volkswagen’s technological toolkit, it emits

just 85 g/km of CO₂ and consumes on average only 3.2 litres of diesel per 100 kilometres, thus setting new standards for the Golf range. Prof. Dr. Winterkorn: “This duty to build sustainable cars in large numbers is something that we’ve always been conscious of here at Volkswagen. It was therefore important to us to build the most fuel-efficient Golf ever, which at the same time had to remain affordable. And we’ve succeeded in doing that. The Golf Mk7 is extremely fuel efficient, equipped as standard with the Stop/Start system and brake energy recovery mode and yet – to take Germany as an example – at a base price of €16,975 not a cent more than its predecessor’s entry level model.”

Europe – up to 119,000 tons less CO₂ per year

- **13.9 per cent less CO₂ on average.** Dr. Ulrich Hackenberg, Volkswagen Brand Development Director, adds more on the subject of sustainability: “We estimate that by virtue of the new Golf fleet – with CO₂ emissions reduced on average across the entire engine range by 13.9 per cent – 119,000 tons less CO₂ a year will be produced in Europe alone.”

Progressive – first Volkswagen with multi-collision brakes

- **Safety and comfort at a new level.** The hunt for every last gram must meanwhile not be allowed to lead to advances being achieved at the expense of retrograde steps in other areas. And here too Volkswagen demonstrates that the Golf stands more than ever for a democratisation of progress and for perfection in every detail: with added space (extra legroom in the back and 30 litres more boot capacity); new pioneering safety systems such as the multi-collision brakes (fitted as standard) and a proactive passenger protection system (PreCrash), plus Adaptive Cruise Control (ACC) with Front Assist and city emergency brake function; a new progressive steering system and rear axle; a driving profile selector, a touchscreen as standard in all models and a

completely redesigned world of information and entertainment systems with a display in the top versions that reacts to hand movements via a proximity sensor.

Confident – one of the best-known designs enhanced further

- **Unmistakable features.** What is now seven generations of the Golf have written a story of success not only in technical and economic achievement, but also in industrial design. The Golf's exterior form is today one of the most familiar product designs in the world. Walter de Silva, Head of Design, Volkswagen AG: "One of the keys to the Golf's success lies in its continuity: there are but a handful of cars in the world with a design that, like the Golf's, has been refined, tweaked and enhanced down the decades and thus become timeless." Klaus Bischoff, Head Designer, Volkswagen Brand: "The Golf's unmistakable product features include the typical C-pillars, the long roofline and typical window line and the characteristic front and rear sections with their transverse elements. These details make the new Golf more unique, more valuable and more durable than the majority of other compact cars. You could also say that the Golf's design is inherently stable."

Premium proportions. "The language of form," says Bischoff, "is logical, solid, product-focussed, pure and precise and reflects the brand's design DNA as a perfect model of creativity. The base architecture of the new Golf is therefore unmistakable. It feels uncomplicated, strong, comprehensible, reliable and safe. Starting with the pure element of this clear base architecture, details such as the economical use and placement of sculptural lines are more like fine nuances. Also extremely important is the fact that the proportions of the Golf Mk7 have changed significantly, making the car look more premium-class than ever." Marc Lichte, leading designer for the exterior explains: "The proportions have changed so significantly because we have

taken advantage here of the Modular Transverse Matrix. The front wheels, for example, have moved 43 millimetres further forward. The front overhang is therefore shorter and at the same time the bonnet looks longer.” Klaus Bischoff confirms this: “Visually, the passenger compartment has moved towards the rear, creating what is called a ‘car-backward’ impression. That’s what we call the proportions of premium-class vehicles, on which the bonnet is long and the passenger compartment a long way towards the back. On the new Golf we thus have proportions that you otherwise only get in higher-class segments of the market.”

Silhouette with powerful lines. Marc Lichte: “And we sought to underline these modified proportions with design elements. Below the door handles we have integrated the now clearly visible, very sharp character line. While this line is broken by the wheel arches, it is otherwise continuous and is stylistically reflected in the chrome bars of the radiator grille and headlights and at the back in the white lateral bars of the rear light clusters. Set deep down all the way around, this line lowers the apparent centre of gravity and makes the car appear more solid on the road. Another important element is the new line along the side shoulder directly below the windows. This line starts at the front in the headlight, then glides under the wing mirror, which is positioned right on the line, all the way through to the rear side window, underling the premium proportions of the new Golf.”

- **One of the world’s most familiar C-pillar.** Klaus Bischoff adds: “The silhouette’s character is particularly defined by two further elements – typical Golf elements: the C-pillars and the roofline. Looking at the car from the side the precisely contoured C-pillar catches the eye, resembling the drawn string of a bow and thus giving the Golf a speedy appearance even when static, while at the same time paying

homage to the Golf Mk2 and Mk4 – both design icons. The contour of the roofline has also been completely redesigned. Here too – above the side windows – the Golf displays a further line, which runs from the roof-edge spoiler right through to the A-pillars. In their interplay with each other the light-refracting lines, the apparently flying wing mirrors and the striking C-pillars produce a very muscular, sporty and self-assured feel.”

- **Front section clearly Volkswagen and also clearly Golf.**

The Volkswagen design DNA manifests itself in a ‘face’ that has appealing features. In addition, in the same way as on the first Golf, it defines horizontally balanced elements that create a certain width. Together this produces – especially in the case of the new Golf with its slightly upward sweeping headlights – a front section that is instantly recognisable in any rear view mirror as that of a Volkswagen. Compared to its predecessor, the new Golf also displays completely restructured modulation of its surfaces. While on the Golf Mk6 the wings were higher than the bonnet, this is now the other way round.

- **Rear section scores visually and in detail.** All new and yet familiar – that applies to the back as well. Typical elements here include the clear geometry of the rear lights, the rear window stretching all the way to the C-pillars and the large homogenous surface around the Volkswagen badge. In the hunt for perfection, however, all of that would – in typical Volkswagen fashion – be considered too little in terms of detail if it did not also provide some very tangible benefits. And included among these in the case of the new Golf is the fact that, even with all the great aesthetics, the designers have succeeded in reducing the height of the boot sill to just 665 mm. That is the best figure in this entire segment of the market and another example of perfection in attention to

detail – a side note that gains in significance the first time a customer goes shopping in their new Golf.

Design – the key to perfection

Golf exterior one of the world's most recognisable product designs

Seventh stage of Golf evolution shows clearly added dynamism and precision

Golf reflects par excellence the principles of Volkswagen's design DNA

Wolfsburg / Berlin, September 2012. There is but a handful of cars with a design that, like the Golf's, has been constantly refined, tweaked and enhanced down the decades and has thus become timeless. In this process the Volkswagen designers repeatedly gave a new edge to the Golf's product features. These include the typical C-pillars, the long roofline and the characteristic front and rear sections. These details also make the new Golf more special, more valuable and more durable than any other compact car.

The design of the new Golf

In developing the new Golf the teams led by head designers Walter de Silva (Group) and Klaus Bischoff (Brand) based their work on the one hand on a great deal of creative freedom that allows many different approaches for a new design, while on the other also on the principles of the Volkswagen design DNA. A look at this DNA reveals the key to the new Golf's design.

Development of the DNA. Over recent years, the Volkswagen designers have crystallised a selection of core elements from the brand's history, which they term its 'historic DNA'. All current Volkswagen designs correspond to this DNA, with the cars therefore conveying a modern, progressive impression, which nevertheless – and this is the key – feels familiar. This DNA includes elements such as the first Golf's roofline, side windows and radiator grille crossbeam in its reduced form and the Golf Mk4's typical C-pillars and wheel arches.

This DNA creates a unique, unmistakable language of product features and design. The language of product features leaves on the one hand a familiar feeling and yet on the other a new sensation in the eyes of the observer. The features are visual characteristics such as functionality, robustness, honesty and reliability. These characteristics are generated by a language of form perfected over many years. It creates the typical Volkswagen product design that today enjoys success around the globe.

Premium proportions. “This language of form,” explains Bischoff, “is logical, solid, product-focussed, pure and precise and reflects the brand’s design DNA as a perfect model of creativity. The base architecture of the new Golf is therefore unmistakable. It comes over as simple, strong, understandable, reliable and safe. Starting from the pure element of this clear base architecture, details such as the economical use and placement of sculptural lines are more like fine nuances. Another extremely important point is the fact that with the seventh generation the Golf’s proportions have completely changed, making the car look more premium-class than ever before!”

Marc Lichte, leading designer for the exterior, explains: “The proportions have changed, as we have taken advantage here of the Modular Transverse Matrix. The front wheels, for example, have moved 43 millimetres further forward. The front overhang is therefore shorter and at the same time the bonnet looks longer.” Klaus Bischoff confirms this: “Visually, the passenger compartment has moved towards the rear, creating what is called a ‘car-backward’ impression. That’s what we call the proportions of premium-class vehicles, on which the bonnet is long and the passenger compartment a long way towards the back. On the new Golf we thus have proportions that you otherwise only get in higher-class segments of the market.”

Silhouette with powerful lines. Marc Lichte: “And we sought to underline these modified proportions with design elements. Below the door handles we have integrated the now clearly visible and very sharp character line. While this line is broken by the wheel arches, it

is otherwise continuous and is stylistically reflected in the chrome bars of the radiator grille and headlights and at the back in the white lateral bars of the rear light clusters. Set deep down all the way around, this line lowers the apparent centre of gravity and makes the car appear more solid on the road. Another striking element is the new line along the side shoulder directly below the windows. This line begins at the front in the headlight, then glides under the wing mirror, which is positioned right on the line, all the way through to the rear side window, underling the premium proportions of the new Golf.” The wheel arches are particularly prominent as well and along with the wider track, the longer wheelbase and tyre dimensions of up to 18 inches make the Golf appear more powerful.

“Two further features,” explains Klaus Bischoff, “are characteristic of the new Golf silhouette. Two typical Golf elements: the C-pillar and the roofline. On the previous Golf the character line still cut through the C-pillar. This is no longer the case on the new Golf. The C-pillar thus runs along one homogenous surface from the start of the roof all the way to the rear wheel arch. Above the wheel arch, however, it picks up more strongly the entire width of the car – and as a result, seen from behind or diagonally from the rear, the new Golf looks more solid and more powerful. Viewed straight on from the side the precision of the C-pillar design catches the eye, resembling the drawn string of a bow and thus giving the Golf a speedy appearance even when static, while at the same time paying homage to the Golf Mk2 and Mk4 – both design icons.” On the right-hand side of the vehicle even the shape of the fuel cap is integrated into this arrow element. Head Designer Klaus Bischoff continues: “The contour of the roofline has also been completely redesigned. Here, too – above the side windows – the Golf now displays a further line, which runs from the roof-edge spoiler right through to the A-pillars. It is one of those character features that give the Golf a particularly high-value look from the side as well – a line that at first fleeting glance perhaps remains unnoticed, yet is a further detail en route to visual precision.”

The front section. The Volkswagen design DNA manifests itself in a 'face' that has appealing features. In addition, in the same way as on the first Golf, it defines horizontally balanced elements that create a certain width. Together they produce a front section that is recognisable in every rear view window as that of a Volkswagen. Each Volkswagen class has its own character attributes in this respect. In the Golf class these include, for example, the slightly upward sweeping headlights and a defined maximum height for the radiator grille.

Compared to its predecessor, the new Golf displays completely restructured modulation of its surfaces. While on the Golf Mk6 the wings were higher than the bonnet – effectively framing it – this is now the other way round. On the sides the crease lines form the wings' lowest points, before the latter transfer vertically into the wheel arches. The top border of the wings is formed by a line, as if cut by a knife, that begins at the A-pillars. All of the lines together form a V-shaped bonnet.

Beneath the bonnet then come the redesigned headlights and the comparatively narrow band of the radiator grille. At the bottom the radiator grille is bordered – to the left and right of the chrome Volkswagen badge – by a chrome bar, which where xenon headlights are fitted is continued in the headlight housing. Particularly striking is the xenon headlight's LED daytime running light. Meanwhile the bottom air inlet, in conjunction with the body-coloured area beneath the headlights, supports the strong horizontal arrangement of the front section design. The air inlet is now framed by a body-coloured area that even with the car's very self-assured look gives it the typical Volkswagen smile. Another core design element is the bend at the outer ends of the bumper, which produces – especially in aerial view – a change of shape.

The rear view. Typical Golf elements at the rear include the clear geometry of the rear lights, the rear window stretching all the way to the C-pillars and the large homogenous surface around the Volkswagen badge. Iconic: even without the badge or model name

the seventh generation of this best-seller is instantly recognisable as a Golf. And yet every line is new. That applies both to the rear light clusters (with striking L-shaped contours, narrower on the inside and ending at the C-pillar on the outside) and to the tailgate, which reaches much lower down, and the lowest boot sill height in its class (665mm). A horizontal light-refracting edge near the bottom of the tailgate, which continues on the bumper, and the boot sill running parallel below this underline the sportily full width of the new Golf. These elements also correspond to the lines of the now much more pronounced and optically 'extended' bumper. The bumper itself is fully painted right down to the bottom, with only the centrally integrated diffuser, which also incorporates the exhaust pipe, kept black.

History – 38 years of global success

Over 29 million sales of the predecessors to the new Golf

Global bestseller: the Golf has been the world's best-selling car since 1974

Style icons: Golf Mk1 and Golf Mk4 define the model to this day

Wolfsburg / Berlin, September 2012. Officially there has never been any numbering by Volkswagen of the Golf generations, so no Golf Mk1, Mk2, Mk3, Mk4, Mk5, Mk6 or Mk7. With now seven generations of the car it is, however, easier to place them historically if through this press pack that numbering system now 'officially' enters into the Golf's history. The fact is that with – as of 31st July 2012 – exactly 29.13 million units sold since 1974, the Volkswagen Golf, including its derivatives such as the Cabriolet and Variant, is one of the most successful motorcars in the world.

Golf Mk1 – 1974 to 1983

The first full-production Golf rolled off the production line in Wolfsburg in March 1974 and was in Volkswagen dealerships that May. In those showrooms, where for decades the Beetle and thus rear-mounted engines and rear-wheel drive had dominated the scene, a new era had thus dawned: that of the transversely mounted front engine and front-wheel drive. This trend had been heralded a short time earlier by the Scirocco and – as the first Volkswagen front-wheel drive car, based on the K70 taken over from NSU – the Passat, launched in 1973. With the launch of the Golf, the highest volume vehicle category had now also been switched to the new technology.

As the successor to the legendary Beetle, of which over 21.5 million units were made, the Golf Mk1 designed by Giorgio Giugiaro had to live up to the great expectations of continuing the success story of what until then was the world's most successful car. In the spring of

1974, nobody could really be sure that this would indeed be achieved. However, the modern and reliable drive system, the spacious internal layout with a tailgate and fold-down rear seat and ultimately the design as well won over the market to such an extent that production of the one-millionth Golf was already being celebrated in October 1976.

Volkswagen wrote at that time about the new car: “The Golf offers maximum luggage space and safety. It is laid out uncompromisingly for practical use. The low beltline provides clarity, the sloping bonnet allows a clear view of the road right up to just in front of the car and the low rear window makes reversing easy.” And that applies to this day.

Like every Golf thereafter, the first generation too was already a reflection of the progress and automotive trends of its era. Thus, for example, in launching the first Golf GTI (in 1976) Volkswagen heralded the introduction of greater dynamism in this class, while the Golf D (naturally aspirated diesel engine, 1976) and the later Golf GTD (turbodiesel, 1982) marked the breakthrough for diesel cars in the compact segment. In 1979, with the Golf Cabriolet – at times the world’s best-selling open-top car – Volkswagen brought a breath of fresh air into a vehicle category that by that time had long been simply called the ‘Golf class’. 6.72 million units of the first generation Golf, including all derivatives and the Jetta (at that time based on the same body), were sold across every continent of the globe – the Golf had proved itself a worthy successor to the Beetle.

Golf Mk2 – 1983 to 1991

While its predecessor had already become a favourite of all driving instructors and learner drivers, the second Golf now cemented itself in their minds as their permanent number one choice. As of August 1983, they no longer sat quite so close to each other, as that year’s press pack pointed out: “The wheelbase is now 75 mm longer, while the track width at the front has been increased by 23 mm and at the back by 50 mm. Total length has increased by 170 mm (now 3.99 m)

and the width by 55 mm (now 1.42 m)... The level of comfort, measured by the space between accelerator pedal and rear seatback, has increased by 37 mm to 1,837 mm, while elbow room in the front is now 92 mm wider and in the back is up by 112 mm. On the four-door model the increase is even 120 mm.”

It was the Golf with which the regulated catalytic converter (1984), the anti-lock braking system (ABS, 1986) and power-steering first took off in the Golf class and with which four-wheel drive (Syncro, 1986) was available for the first time. And as far back as 1989 – 23 years ago – Volkswagen was already unveiling a prototype of this Golf with an electric engine and another with a hybrid drive system. In June 1988, 14 years after its debut, the Golf had also broken through the magical production mark of 10 million units. In 1991, after 6.41 million of its kind had been sold, the Golf Mk2 gave way to make room for the successor.

Golf Mk3 – 1991 to 1997

With the launch of the third generation of the Golf in August 1991, Volkswagen heralded a new era of safety. The Golf Mk3 was the first of the series to have front airbags (as of 1992), while major advances in the area of car body construction also resulted in significantly improved crash safety qualities. Looking back it can be said that with this Golf Volkswagen truly democratised passive safety, as the improved protection benefited millions of car drivers all over the globe.

However, there are also numerous other Golf milestones associated with the Mk3. Many new features made their debuts in this new Golf: the first six cylinder engine (VR6), the Ecomatic transmission, cruise control, the first oxidation catalytic converter for diesel engines (1991), the first direct injection diesel engines (TDI in 1993 and SDI in 1995) and the first side airbags (1996). Also in September 1996, ABS became a standard feature on all Golf models. In 1993, based on the Golf Mk3, Volkswagen had also introduced a

new cabriolet, a new four-wheel drive model (Syncro II) and the first Golf Variant (an estate). A year later, in May 1994, Volkswagen celebrated production of the 15-millionth Golf. In 1997, after having made 4.96 million of the cars, the third generation came to the end of the line.

Golf Mk4 – 1997 to 2003

Under the direction of Volkswagen's then Head Designer (Group), Harmut Warkuß, the Mk4 crystallised the clear, precise design that more than ever before paid its dues to the history of the Volkswagen brand and at the same time set its course to the future. It is in this era that the Volkswagen design DNA has its origins. Today, the Golf Mk4 is regarded by design experts as a style icon and as a pioneering step for the model – not least because with all its clarity and characteristic C-pillar design it created a link back to the Golf Mk1 of 1974.

However, the Golf Mk4 was not only pioneering in terms of its looks, it was groundbreaking in engineering terms as well. With this car Volkswagen achieved a totally new standard of quality in this segment of the market and thus became the first manufacturer to break through the vehicle class boundaries. With the debut of ESC (in 1998) and the brake assistant system, safety also continued to be further democratised. Also in 1998, Volkswagen unveiled the first four-wheel drive Golf with a Haldex clutch – the Golf 4MOTION. A year later, ESC became a standard feature, initially in Germany. In the same year, the first Golf with six-speed transmission made its debut. There then followed in 2001 the Golf GTI 132kW (launched to mark the GTI's 25th anniversary and now already sought-after as a classic) and in 2002 the first Golf with petrol direct injection (FSI) and the debut of window airbags fitted as standard. Also in 2002, Volkswagen launched what at the time was the sportiest Golf ever: the R32, with a top speed of 250 km/h. It was this top model that in 2003 was the first ever to be available with the revolutionarily fast and fuel-efficient direct shift gearbox (DSG), the automatic

transmission of the new age. In the same year, after production of 4.92 million units, the Golf Mk4 – the first fully galvanised Golf and the first available with satellite navigation and xenon headlights – made way on the production lines for the Golf Mk5.

Golf Mk5 – 2003 to 2008

This was the Golf that boasted levels of comfort and dynamic handling that left many a competitor in its class way behind. The same went for the car's quality. One factor that underlines the stability of the laser-welded bodywork was the 35 per cent increase in torsion rigidity demonstrated when the Golf Mk5 made its debut in 2003. On request, the Golf was now also available for the first time with side airbags – together with the six standard airbags (front, side front and window) there were thus eight protective air buffers on board.

In terms of comfort and dynamic handling the Golf Mk5 scored in numerous areas, including: its new four-link rear suspension and new seven-speed DSG, bi-xenon headlights, rain sensor and panoramic sliding sunroof, plus the debut of the first turbocharged direct injection petrol engine in the Golf GTI (in 2004) and the world's first twincharger (in the 2006 TSI), combining turbo and superchargers. In parallel with this, new vehicle body variants also made the Golf attractive to a wider spectrum of drivers. 2006 saw the launch of the Golf Plus and 2007 of the CrossGolf, a new compact MPV, and of the Golf BlueMotion, which set a new benchmark with average fuel consumption of just 4.5 l/100km. By the time the Golf Mk6 was unveiled in 2008, over 3.27 million units of the Golf Mk5 in all of its versions had been produced.

Golf Mk6 – 2008 to 2012

In just four years, a further 2.85 million Golfs had been produced by the end of July 2012, based on the sixth generation of the car launched in 2008. And once again safety made great advances, too: the car body, again laser-welded, was so robust that it passed the EuroNCAP crash test with flying colours, gaining the maximum five stars. There was now also a further airbag fitted as standard: the driver's knee airbag.

In respect of quality the Golf Mk6's interior in particular ranked as pioneering. Meanwhile an increasing number of TSI engines and switching the turbodiesel engines (TDI) from unit injection to the common rail system produced more dynamic handling and lower fuel consumption. The top performer here was the second Golf BlueMotion with average fuel consumption of now just 3.8 l/100km, equating to 99 g/km CO₂. New assistance systems such as Light Assist automatic main beam management, ParkAssist, hill start assistant and technologies such as electronic DCC dynamic chassis control made the 'World Car of the Year 2009' the most advanced Golf to date. Also available were features such as the Stop/Start system and brake energy recovery mode, dynamic cornering lights and LED rear light clusters. Even if the Golf Mk6 has now been topped by the Mk7, its outstanding product features and superb design will ensure that the sixth generation Golf remains – as a used car too – one of the most successful cars on the market for many a year to come.

Lightweight design – searching for every gram

100 kg less weight reduces fuel consumption appreciably

Body-in-white weighs 23 kg less thanks to progressive design

Innovative manufacturing methods reduce weight and enhance safety

Wolfsburg / Berlin, September 2012. Saving up to 100 kg in weight is a complex task, especially in the compact class. The fact is that not every carmaker is pursuing the route of lightweight design – searching for every last gram – as methodically or thoroughly as Volkswagen. The reason is clear: intensive research and development work costs money. The fact that despite its higher specification the base price of the seventh generation Golf has not gone up by a single cent is a reflection of the innovative power of this brand.

Overall vehicle – how savings add up to 100 kg

If you divide the Golf up into the primary areas of electrical equipment, engines, running gear and superstructure, an analysis yields - depending on model, specification and type of engine - the following split for the weight reduction:

Up to -6.0 kg = Electrical

Up to -40.0 kg = Engines

Up to -26.0 kg = Running gear

Up to -37.0 kg = Superstructure

In purely mathematical terms the total potential saving is thus even as much as 109 kilograms. Due, however, to the configuration options that can be implemented in practice, the maximum achieved

in any one vehicle is 100 kg. The greatest weight reduction is achieved from the engines and superstructure. It is particularly interesting to look into the details of the superstructure (car body and interior) and the 37 kilograms saved here, as it shows how lightweight design that is compatible with large-scale production can be achieved in 2012.

Superstructure – how savings add up to 37 kg

-0.4 kg = Dashboard

-1.4 kg = Module cross-member (beneath dashboard)

-2.7 kg = Air conditioning

-7.0 kg = Front and rear seats (depending on version)

-23.0 kg = Body

-2.5 kg = Miscellaneous

Dashboard. 0.4 kg doesn't sound like much. But this is where perfection in the details comes into play. If you ignore 0.4 kg, you will never ultimately achieve 100 kg. Volkswagen not only succeeded in making the dashboard 20 per cent lighter thanks to a new thermoplastic foam injection process – the load-bearing, sandwich-like structure beneath the elegant surface consists of this material – but also in making it 20 per cent more rigid at the same time.

Module cross-member. 1.4 kg here also contributes towards overcoming the upward weight spiral. Mounted on the module cross-member are both the steering gear and the dashboard. Altogether the cross-member weighs 5.8 kg. The reduction in weight was achieved with a lightweight construction concept using steel components. Based on an analysis by Finite Element Method (FEM) computations, the structure of the module cross-member was designed to be as light as possible and as strong as necessary. Optimal steel wall thicknesses and structural design measures, such as specially worked-in corrugations, improved the rigidity of the

cross-member, while also reducing its weight by the aforementioned 1.4 kg. Utilising methods such as the Finite Element Method, engineers at Volkswagen are essentially emulating examples found in nature, where the natural world is able to attain an astonishing ratio between the cross-section of a part's structure and its rigidity – e.g. in a stalk of grass or grain. That is the right way to go.

Air conditioning. The Golf's entire air-conditioning system has been redesigned and is 2.7 kg lighter. Independent of its weight, all of the Golf air-conditioning units with their highly efficient refrigerant cycles set standards in terms of comfort and efficiency. That's because they run very quietly (up to 5 dB(A) lower), reach the desired temperature significantly faster and are very energy-efficient (up to 4 Amps less) due to a new type of blower control with intelligent climate control. The 2.7 kg weight reduction is achieved by such design modifications as optimised thickness of various system components walls, reduced diameters of pressure lines, a new fastening system and a weight-optimised high-performance heat exchanger.

Seating system. Along with numerous minor modifications to the seats, weight was reduced - especially from the rear backrests - to save a total of up to 7 kg. Once again, the Finite Element Method (FEM) and high-strength steels combined with laser welding made it possible to optimise wall thicknesses and profile geometries. Engineers achieved weight savings of over 15 per cent in this way and by using lighter backrest latch mechanisms.

Body. The body must be strong and rigid to guarantee optimal safety and maximum comfort. Nonetheless, its structure should remain athletically lean, so that the overall vehicle is light and efficient. Strong yet lightweight – harmonising these two parameters continues to be one of the greatest challenges in the automotive world. Especially when the car – like the Golf – needs to be an affordable car for millions of people. Highly expensive materials like aluminium, magnesium or even carbon-fibre are therefore excluded in this segment – at least when they are used in grand style. That is

why Volkswagen relies on the synergies of the Modular Transverse Matrix (MQB), innovative utilisation of high-strength steels and advanced production methods. A 23 kg reduction in weight with more stringent crash and rigidity requirements as well as larger vehicle dimensions – achieved without additional costs – demonstrate that this can be done successfully.

Engines – fuel consumption drastically reduced

Completely new Golf engines up to 23 per cent more fuel-efficient

105 PS TDI consumes just 3.8 litres of diesel per 100 km; 140 PS TSI needs just 4.8 litres of petrol

With consumption of 3.2 litres, the Golf BlueMotion will set the new best-in-class benchmark

Wolfsburg / Berlin, September 2012. The fact that the new Golf is conceptually based on the Modular Transverse Matrix has far-reaching consequences: this Golf has been completely redesigned in practically every area – the vehicle body, the interior, the engines, all of the information and entertainment systems and the numerous new driver assistance systems. Elements carried forward were in the main technical features that were already future proof in the previous model – for instance the six- and seven-speed direct shift gearbox (DSG). Everything else is new. And that ‘new’ really means new! For example, the engines: none of them was carried forward unmodified. To be precise, Volkswagen developed two completely new engine generations for the Golf. Every version is fitted as standard with a Stop/Start system (reducing fuel consumption by up to four per cent) and brake energy recovery mode (cutting CO₂ by around four per cent). With all measures combined it was possible to reduce CO₂ emissions by up to 23 per cent.

Driver profile selection. For the first time the Golf is now also being offered with a driver profile selection system, a tool with which forward-thinking drivers can achieve a particularly efficient style of driving. There are a total of four – and, in combination with DCC (adaptive chassis control), five – driving modes available: Eco, Sport, Normal, Individual and, in combination with DCC, Comfort. In the Eco driving profile engine management, air conditioning and other ancillary systems are controlled such that optimum fuel

consumption is achieved. In addition on vehicles with DSG when driving in Eco mode there is a 'coasting' function available. If a driver takes their foot off the accelerator – for example, when drawing up to traffic lights or on downhill stretches – the DSG disengages and the engine idles. As long as the driver drives appropriately, the Golf's kinetic energy can thus be put to optimum use.

The petrol engines

The petrol engines used are exclusively turbocharged and direct-injection TSI engines (four valves, four cylinders). The petrol engines offered at launch on the new Golf deliver 63 kW / 85 PS and 103 kW / 140 PS. Even the base model excels with an average fuel consumption figure of just 4.9 l/100km (equivalent to 113 g/km of CO₂) – 0.6 litres less than the previous corresponding model. For the first time there will also be a Golf with cylinder cut-off (ACT active cylinder management). The model fitted with this is a 140 PS TSI, which already satisfies the future EU6 standard. Average fuel consumption is just 4.8 l/100km (112 g/km CO₂). By way of comparison: the 18 PS weaker corresponding engine in the already fuel-efficient previous model (90 kW / 122 PS) consumed 6.2 l/100km (144 g/km CO₂).

ACT – how it works in detail. The 1.4 TSI engine's active cylinder management (ACT) is truly pioneering. Volkswagen is the world's first manufacturer to install this fuel-saving technological innovation in a mass-market four-cylinder engine. In the case of the new Golf Mk7 this is the 103 kW / 140 PS TSI. The principle of the active cylinder management system: when the load on the engine is low or moderate, two cylinders get shut down, thus reducing fuel consumption in the EU driving cycle by 0.4 l/100km. The cut-off system becomes active between 1,400 and 4,000 rpm at a torque level of up to 85Nm.

The diesel engines

Everything is also new on the diesel front. The diesel injection engines, also four-cylinder, four-valve versions and here too generally turbocharged, initially deliver 77 kW / 105 PS and 110 kW / 150 PS. Just how efficiently the diesel engines work in the new Golf is shown by the TDI base model with 105 PS and average fuel consumption of just 3.8 l/100km (99 g/km CO₂). The Golf Mk6 achieved this figure only with the BlueMotion model, not however with the base model as is the case with the new Golf. In addition, the Golf's 150 PS TDI is also extremely efficient, as underlined by its average fuel consumption of 4.1 l/100km (106 g/km CO₂). The best figures are ultimately delivered once again by the Golf BlueMotion: making thorough use of all the individual solutions in Volkswagen's technological toolkit, the new Golf BlueMotion emits just 85 g/km of CO₂ and consumes on average only 3.2 litres of diesel per 100 kilometres, thus setting new standards – a typical example of Volkswagen's innovative strength, demonstrating, after all, that the company always incorporates the findings of one BlueMotion generation into the next production model and thus delivers constant enhancements.

Innovations – democratising high-tech

New Golf is first Volkswagen with multi-collision brakes

Standard multi-collision brake reduces severity of secondary collisions

New Golf makes debut with PreCrash system and progressive steering

Wolfsburg / Berlin, August 2012. The new Golf is the first car in the compact class in which – despite significant gains in comfort and safety – the weight of the car has been reduced by up to 100 kg. This fact underscores Volkswagen’s success in the mass production of progressive automobiles. In parallel, an armada of new technologies substantiates the innovative power of the brand in the compact class. In the Golf, these technologies are more attainable for more people than ever before.

New systems – optimised safety and convenience

New assistance systems include the multi-collision brake – the Volkswagen Group is the only carmaker in the world to implement such a system as standard in a compact car – a proactive occupant protection system, standard XDS electronic differential lock (as found in the previous-generation Golf GTI), ACC adaptive cruise control plus Front Assist and a City Emergency Braking function, Lane Assist lane-keeping assistant, fatigue detection, traffic sign recognition and the latest generation of the automatic parking assistant ParkAssist including OPS (360 degree display) as well as the automated light functions Light Assist and Dynamic Light Assist. There are other new technologies as well, such as progressive steering (optimised dynamic performance and better comfort), selection of driving profile with five modes (‘Eco’, ‘Sport’, ‘Normal’, ‘Individual’ and, in combination with DCC, ‘Comfort’), an electronic parking brake, a newly developed ergonomic sport seat

(ergoActive seat), a guard against using the wrong fuel in the diesels, a new climate comfort windscreen that is also a first in this segment and a new generation of information and entertainment systems.

Assistance systems – automatic protection

Multi-collision braking system. An innovative new feature is the Golf's multi-collision braking system, which has already won a safety innovation award from Germany's largest automobile club (ADAC). Background: studies in accident research have found that approximately one-fourth of all traffic accidents involving personal injury are multiple-collision accidents – what is meant here is that there is a second impact after the initial collision.

The multi-collision braking system automatically brakes the vehicle when it is involved in an accident in order to significantly reduce its residual kinetic energy. Triggering of the multi-collision braking system is based on detection of a primary collision by the airbag sensors. Vehicle braking by means of the multi-collision braking system is limited by the ESC control unit to a maximum deceleration rate of 0.6 g. This value is the same as the deceleration level provided by Front Assist. The driver's ability to control the car is thus assured even when automatic braking is triggered.

The driver can 'override' the multi-collision braking system at any time; for example, if the system recognises that the driver is accelerating, it gets disabled. The automatic system is also deactivated if the driver initiates hard braking at an even higher rate of deceleration. In essence, the multi-collision braking system applies the brakes until a vehicle speed of 10 km/h is reached. This residual vehicle speed can be used to steer to a safe location after the braking process.

Proactive occupant protection (PreCrash). Proactive occupant protection is a typical example of a technology that is being transferred from the luxury class to the compact class. Volkswagen

first implemented the proactive occupant protection system in the Touareg. Now the system is making its debut in the Golf, making it one of the few vehicles in its class anywhere in the world to offer such a protection system.

If the proactive occupant protection system detects a potential accident situation – such as by the initiation of hard braking via an activated brake assistant – the seatbelts of the driver and front passenger are automatically pre-tensioned to ensure the best possible protection by the airbag and belt system. When a highly critical and unstable driving situation is detected – such as severe oversteer or understeer with ESC intervention – the side windows (except for a small gap) and sunroof are closed. That's because the head and side airbags offer optimal support and thereby achieve their best possible effectiveness with windows and sunroof almost fully closed.

Adaptive cruise control. Until now, adaptive cruise control (ACC) was reserved for vehicles in higher segments such as the Volkswagen CC or Phaeton. Now ACC has arrived in the compact class with the Golf. The system uses a radar sensor integrated into the front of the car. ACC operates over a speed range from 30 to 160km/h with a manual gearbox and from 0 to 160km/h with DSG (dual clutch gearbox). On vehicles with DSG the Adaptive Cruise Control intervenes to such extent that depending on the situation the car gets slowed to a standstill and in Stop-and-Go mode automatically pulls away. ACC maintains a preselected speed and a defined distance and automatically brakes or accelerates in flowing traffic. The system dynamics can be individually varied by selecting one of the driving programmes from the driver profile selector available as an option on the new Golf.

Front Assist. Front Assist works like ACC with the radar sensor integrated into the front of the car, which permanently monitors the distance to the traffic ahead. Even with ACC switched off, Front Assist helps the driver in critical situations by preconditioning the brake system and alerting the driver by means of visual and audible warnings to any required reaction. If the driver fails to brake hard

enough, the system automatically generates sufficient braking force to avoid a collision. Should the driver, meanwhile, not react at all, Front Assist automatically slows the car so that under optimum conditions the speed of any impact is minimised. The system also assists the driver by providing a warning if the car is getting too close to the vehicle in front. The new City Emergency Braking function is part of Front Assist.

City Emergency Braking function. The City Emergency Braking function, now available for the Golf for the first time, is a system extension of Front Assist and scans via radar sensor the area in front of the car. The new system works at speeds below 30 km/h. If the car is in danger of collision with a vehicle driving or parked up ahead and the driver fails to react, the brake system gets preconditioned in the same way as with Front Assist. If necessary, the City Emergency Braking function then initiates full application of the brakes in order to reduce the severity of the impact. In addition, if the driver fails to press the brake pedal sufficiently, the system will assist with maximum braking power.

Fatigue detection. This system, which was first introduced in the current Passat, detects waning driver concentration and warns the driver with an acoustic signal lasting five seconds. A visual message also appears on the instrument cluster recommending taking a break from driving. If the driver does not take a break within the next 15 minutes, the warning is repeated once. At the beginning of each trip, the system analyses a range of factors, including the driver's characteristic steering behaviour. Once under way, the fatigue detection system continually evaluates signals such as steering angle. If monitored parameters indicate a deviation from the steering behaviour recorded at the beginning of the trip, then visual and acoustic warnings are produced. Independent of this monitoring, whenever the system is activated it recommends a driving break to the driver after 4 hours of continuous driving.

Lane Assist. In the Golf, this camera-based lane-keeping assistant with steering intervention operates with extended functionality:

adaptive lane tracking. If desired, the system – used for the first time in the Golf – can now also maintain continuous tracking support, which optimises comfort and convenience. In addition, where necessary Lane Assist will correct the driver's steering: as soon as it becomes evident that the driver is leaving the driving lane or is driving over the lane markings without setting the direction indicator, the system gently steers the other way.

Convenience systems – steering, braking, seeing

Progressive steering. Conventional steering systems operate with a constant gear ratio. However, the new optional steering system in the Golf operates with a progressive gear ratio. This noticeably reduces steering work in manoeuvring and parking. On country roads with lots of bends and in turning, meanwhile, the driver will notice a gain in dynamic performance due to the more direct gearing; the driver also does not need to turn the wheel as much.

Technically, progressive steering differs from the basic steering system by the rack and pinion's variable tooth spacing and a more powerful electric motor. Its functional difference: unlike with constant steering ratios, which by necessity always represent a compromise between dynamic performance and comfort, here the steering rack's toothing is modified by the steering stroke. As a result, the transition between indirect steering behaviour in the mid-range (straight-line driving) and direct steering behaviour at larger steering wheel angles is designed to be progressive, which, as mentioned above, enables significantly more agile steering behaviour in dynamic driving situations. Parking the car thus becomes more comfortable, as the wheel needs to be turned less.

Variable ratios have long been known in the area of hydraulic steering systems; however, the tuning of such a steering system is subject to very tight limits, so that the driver is not overtaxed by the transitional behaviour. With the Golf's new progressive steering system the situation is completely different: the combination of the

steering rack's progressive steering ratio and the tuning potential of an electro-mechanical steering system is systematically exploited in the Golf to realise optimised steering behaviour that is sporty yet practical in everyday driving.

Electric parking brake. For drivers of larger Volkswagen cars, such as the Passat or Tiguan, the electric parking brake is already taken for granted. Now, this handbrake is also making its way into the Golf. Instead of a handbrake lever, there is a main control switch plus an Auto Hold switch on the centre console. The electric parking brake offers numerous advantages: eliminating the conventional hand-brake frees up more space on the centre console; in addition, the brake is automatically released when driving off, making hill starts easier. Last but not least, the Auto Hold function prevents unintentional rolling from a standstill position.

Dynamic Light Assist. Via a camera on the windscreen, the system analyses the traffic ahead and the oncoming traffic. Based on this data, the main beam automatically comes on at speeds of over 65 km/h and stays on. This is how Dynamic Light Assist works: with the help of the camera the system masks the main beam modules of the bi-xenon headlights with dynamic cornering lights only in those areas that it calculates could potentially disturb other road users. This function is technically implemented by a pivoting masking aperture between the reflector with the xenon filament and the lens. Along with lateral swivelling of the entire module and independent control of the left and right headlights, this additional aperture geometry is able to mask the light source and thereby avoid dazzling traffic ahead or any oncoming traffic.

Light Assist. For models with headlights with no dynamic cornering light, the base version of the automatic main beam assistant is available. Light Assist analyses traffic ahead and oncoming traffic – via a camera in the windscreen – and automatically controls activation and deactivation of the main beam (at 65 km/h and above).

Road sign recognition. Road sign recognition initially made its debut in the Phaeton. In the new Golf it will be available in combination with a satellite navigation system. If via a camera integrated in the windscreen near to the rear-view mirror the recognition system recognises any speed limit or 'No overtaking' signs, up to three of these will get shown on the combined instrument panel in front of the driver and on the navigation system's display. This will also include all additional information and the signs will appear in a logical order: ones that always apply (e.g. a '130' km/h speed limit) get shown in first place, while signs that only apply at certain times (e.g. '80 when wet') appear in second place. If the rain sensor registers that it is starting to rain, the traffic sign that now comes into force, i.e. the 'When wet' sign, moves up into first place.

Park Assist 2.0. The latest version of the parking assistance system now facilitates not only assisted parking parallel to the carriageway, but also reverse parking at right angles to the road. In addition, Park Assist 2.0 is also equipped with a braking and parking space exit function. The system can be activated at speeds of up to 40 km/h by pressing a button on the centre console. Using the indicators, the driver selects the side on which the car is to be parked. If, using the ultrasound sensors, Park Assist detects a large enough parking space (a manoeuvring distance of 40 cm front and back is sufficient), the assisted parking can begin: having put the vehicle into reverse, all the driver has to do is operate the accelerator and brake. The car takes care of the steering. Beeps and visual information on the multifunction display assist the driver. If a collision is looming, the system can also actively apply the vehicle's brakes.

Infotainment systems – touchscreen is standard

First Volkswagen touchscreen with proximity sensor

Display automatically switches to operating mode as hand approaches

Three display sizes (5, 5.8, 8-inch); includes sat nav updates for three years

Wolfsburg / Berlin, September 2012. Volkswagen is equipping the Golf with a new generation of radio and radio/navigation systems with completely new designs. All systems have a touchscreen as standard. The new device generation is available in six extension levels and in three different display sizes: 5-inch, 5.8-inch and 8-inch. For the first time, Volkswagen is implementing displays that have proximity sensors (5.8-inch display and above): as soon as the driver or front passenger moves a finger near to the touchscreen, the system automatically switches from display mode to input mode. The display mode shows a screen that is reduced to just the essentials. In operating mode, on the other hand, the elements that can be activated by touch are specially highlighted to simplify intuitive operation. The displays also have a function that enables lists to be scrolled or CD covers in the media library to be browsed by a wipe of the hand.

In designing the new generation of devices, Volkswagen's primary goal was to integrate the most advanced infotainment applications into the Golf, which should be consistently easy to use – despite all of the complexity of today's systems – i.e. they should be totally intuitive and therefore safe to use while driving.

Basic touchscreen – trip computer and interface

Standard display (5-inch). The standard unit in the new Golf is a 5-inch black-and-white display (400 x 240 pixel resolution). The functional scope of the production module includes trip computer information (average fuel economy, etc.), clock time and date,

service menu (oil level, etc.), vehicle settings (e.g. winter tyre warning), adjustment of instrument lighting, language setting, climate control menu, Eco-HMI displays (information on power consumers and tips on an especially economical style of driving) and – depending on vehicle features – steering wheel heating, the visual display for the ParkPilot and driving profile selection.

Radio systems – proximity sensor on 5.8-inch model and above

‘Composition Touch’ radio (5-inch). The next level system specification comes as standard on the Comfortline and above in countries such as Germany and is otherwise available as an option. There are three buttons to the left and right of the touchscreen that are used to activate the ‘Radio’, ‘Media’, ‘Car’, ‘Setup’, ‘Sound’ and ‘Mute’ menus/functions. It also offers a CD card slot, aux-in interface and two push dials (e.g. for on/off, volume, mute). In this case, the standard module contains the added features of an FM/AM radio, loudspeakers (front), an interface for SD cards and an aux-in port.

‘Composition Colour’ radio (5-inch). Similar to the Composition Touch in terms of its device layout, but the Composition Colour is also equipped with such features as a colour display, FM/AM radio as well as front and rear loudspeakers and a CD drive (MP3 compatible). The CD drive is located in the glovebox along with the SD card slot.

‘Composition Media’ radio (5.8-inch). Equipped to offer even more extensive features is the Composition Media radio. Its capacitive colour display is 5.8 inches in size, and it is coupled with a proximity sensor that is integrated across the area beneath the display. The display also responds to wiping and zooming gestures, as used in similar fashion on modern smart phones. There are now also four buttons to the left and right of the touchscreen; in contrast to the 5-inch systems they also enable access – depending on vehicle features – to the ‘Phone’ and ‘Voice’ (voice control) menu levels. The

Composition Media radio is equipped with these features in addition to those of the Composition Colour radio: optional telephone preparation (Bluetooth) and a USB interface (iPod/iPhone compatible). The USB and aux-in interfaces, meanwhile, are integrated in a separate compartment on the centre console in front of the gear shifter; this compartment also offers storage space for a smart phone.

Radio-navigation systems – map data updates included

‘Discover Media’ navigation function (5.8-inch). The Composition Media radio can have a navigation module (Discover Media) added to it. The features and functions are identical except for the navigation system that is then integrated with European map data and the associated second SD card slot; the navigation computer is located in the glovebox together with the CD player and SD card slot. Updates of the European navigation maps are included in the price for all units with a navigation module for a period of three years.

‘Discover Pro’ radio-navigation system (8-inch). The top radio-navigation system with a large 8-inch capacitive touchscreen is known as the Discover Pro. Features installed here – beyond those of the Discover Media – are a DVD drive instead of CD drive (audio and video), extended premium voice control (base version is available as option for Composition Media and Discover Media) and a 64-GB Flash memory; a UMTS telephone module is available as an option. Integration of the Compact Disc Database from Gracenote also enables state-of-the-art playback and management of media. In addition, the Discover Pro also operates as a WLAN hotspot (Internet access) for a WLAN-capable mobile device (smart phone or tablet).

Interior – space concept and ergonomics

New Golf offers noticeably more space and comfort

Well thought-out package enlarges boot space to 380 litres

First Volkswagen with inductive antenna interface for smart phones

Wolfsburg / Berlin, September 2012. At 4,255 mm the new Golf is 56 mm longer than its predecessor, while the wheel track has also increased by 59 mm to a new width of 2,637 mm. Since the front wheels are also located 43 mm further forward, the interplay of the new dimensions creates sportier proportions, an improved crash structure and optimised interior space. At the same time, the body has been lowered in height by 28 mm (1,452 mm) – but headroom in the interior is still very good. On the exterior, aerodynamics have also benefited from the reduced height: the vehicle's frontal area has been made 0.03 m² smaller and its air drag ($c_d \times A$) has been reduced by almost 10 per cent. The Golf BlueMotion, for example, achieves a c_d value of 0.27 and is thus one of the best performers in its class. Nonetheless, at 1,799 mm the new Golf has been designed to be 13 mm wider. In parallel, the track widths have been increased by 8 mm in front and 6 mm at the rear. These additional millimetres give the Volkswagen a fuller stance on the road.

Interior space – more end-to-end room

The slight increases in length and width, as well as the increased wheelbase and optimised track widths, have a perceptible effect on space in the interior, which is now 14 mm longer (1,750 mm). Passengers in the back can now enjoy 15 mm more legroom. Shoulder room has increased by 31 mm to 1,420 mm. Elbowroom has gone up by 22 mm to a width of now 1,469 mm. Shoulder and elbow

space have also been increased in the back by 30 mm and 20 mm respectively.

The Golf Trendline and the mid-range Comfortline can be ordered with a front passenger backrest that folds fully forward. In addition, the 60:40 split backrest, which is standard on all versions of the new Golf, can also be folded down. When folded, a nearly level cargo floor is created with a length of 1,558 mm; the maximum cargo space length with the front passenger backrest folded down is 2,412 mm. On the Comfortline and above, the Golf also has an opening in the middle of the rear seat backrest for loading long items.

The space concept of the new Golf also exhibits numerous other improvements. Cargo capacity, for example, has grown by 30 litres to 380 litres; the variable cargo floor can also be lowered by 100 mm. Perfection in detail: the bootspace sill height is now just 665 mm (-17 mm) – the best figure in the car's core market segment. In parallel, the maximum boot width has grown by 228 mm to 1,272 mm. Volkswagen has also increased the width of the bootspace opening: by 47 mm to 1,023 mm.

Styling and controls – sophisticated and intuitive

Significantly more room and even better ergonomics define the driver's area. Taller drivers in particular will welcome the seat position that has been shifted back by 20 mm; the steering wheel's adjustment range has also been modified. The pedal distances have been optimised as well thanks to the Modular Transverse Matrix; the space between the brake and accelerator pedals, for example, has increased by 16mm. Another ergonomic improvement: compared to the previous model, Volkswagen has raised the position of the gearbox controls by 20 mm; the gear shift grip now rests better in the driver's hand.

Tomasz Bachorski, Head of Interior Design: "Every interior element has been redeveloped and redesigned. One noticeable feature here is the wide centre console that is oriented towards the driver, which is

more typical of the luxury than the compact class. Never before have the traditionally high levels of objectivity and functionality in the Golf been implemented with such elegance and sophistication.” In the middle of the centre console, beneath the switch for the hazard warning lights, is the five- to eight-inch infotainment touchscreen with its menu keys and dials. All information and entertainment systems have been completely redeveloped and updated. For the first time, Volkswagen is introducing a generation of touchscreens with a proximity sensor and a function that reacts to wiping movements by the fingers (wipe and zoom movements as used on smart phones); the graphic design of the interface also corresponds to the new age of intuitive operation.

Located beneath the infotainment module are the well laid-out controls for climate control. This is followed by the lower section of the centre console that runs in a line up to the large centre armrest. The consistent design conveys a sense of sophistication of a luxury class model. To the right of the driver are the buttons for the new electronic parking brake and its Auto Hold function. Integrated in front of it is a storage compartment in which the multimedia interfaces (aux-in, USB and optional Apple interfaces) have been integrated. The compartment is also big enough to hold a smart phone.

There is a large storage compartment hidden under the centre armrest that can be adjusted by up to 100 mm in length and five stages in height. This compartment is also of a good size.

For the first time in a Volkswagen, there will also be an inductive link to an external aerial. The mobile phone is placed in the stowage bin in a universal holder where the phone’s antenna gets inductively ‘hooked up’ and connected to the vehicle’s external aerial. This produces the same advantages as with a fixed phone installation:

- Better reception and signal strength because an external aerial is being used.

- Less drain on the mobile phone battery. By linking to an external aerial, the phone only needs minimal power to send and receive.
- Minimal radiation in the passenger compartment.

Tomasz Bachorski again: “Visually distinctive in the interior – along with the centre console is the dashboard body, the upper section of the dashboard that is upholstered with a plastic material that is visually elegant and pleasing to the touch. It is subdivided by a seam that runs across the entire interior width towards the windscreen. Each of the outer areas of the dashboard body fuses homogeneously with the windowsill on each side.” Like the lower area of the dashboard, the lower door trim can also be ordered in a contrasting colour. Elegant: the inlays in the door panels have illuminated trim as part of the ambient lighting fitted as standard in the Highline. The switches for the electric windows are ergonomically easy to access in the armrests; located in front of the door handle on the driver’s side is the control for electric mirror adjustment. The door trim panels themselves display the motif of two intersecting curved lines, which logically divide the door trim’s functional areas: armrest, door handle, storage bin and loudspeaker. Tomasz Bachorski: “Elements of the ambient lighting provide for optimum illumination and an elegant atmosphere at night. The new, white lighting of the buttons and switches underlines the premium feeling.”

Seat comfort – ergonomics like in the luxury class

The seats of the new Golf are exceptionally comfortable. All five seating positions have been redesigned in the front and back. The seats exhibit excellent core properties: well-contoured body lines, optimal support for dynamic driving, and a high level of comfort on long trips. These characteristics were achieved by designing the foam contours to properly fit body shapes and by the cold foam cushioning sections’ optimised springing and damping properties. The two higher specification models, the Comfortline and Highline, are equipped with standard two-way lumbar support for the driver

and front-seat passenger. The optional electric driver's seat with 12 different positions offers even greater individual adjustment.

Another new development making its debut in the Golf is the ergoActive seat with extended adjustments for the driver. Along with the familiar seat height adjustment and seat heating, new features for this class of vehicle are adjustment options for seat depth and angle, electric four-way lumbar support and a massage function. The ergoActive seat also offers exceptionally good ergonomic properties, which have already earned it the official AGR seal ('Healthy Backs' campaign) in Germany.

Standard features – more on board

Despite an unchanged base price the specification is now even more comprehensive

Multi-collision brake, touchscreen, XDS, air conditioning and ESC all as standard

Golf Highline with xenon headlights and Alcantara sports seats

Wolfsburg / Berlin, September 2012. Available at launch in three model lines, the Trendline (base model), Comfortline and Highline (top model), the new Golf has been enhanced in all areas compared to its predecessor. Nevertheless – and this fact is attributable among other factors to the synergies produced by the Modular Transverse Matrix – it has not become any more expensive to own a Golf. In Germany, for example, the new Golf 1.2 TSI Trendline delivering 63 kW / 85 PS costs €16,975. The price is thus exactly the same as the now superseded entry-level model delivering 59 kW / 80 PS (Golf 1.4 MPI). Compared to the Mk6 model with the corresponding engine – also a Golf 1.2 TSI delivering 63 kW / 85 PS – this actually produces in real terms a price reduction for the new Golf of €455. If you include in the price comparison the new Golf's additional standard equipment (features like the 5-inch touchscreen, multi-collision braking, the XDS and the Stop/Start system), the price advantage in favour of the new model works out much greater still!

Golf Trendline

Every seventh generation Golf sold around the world will in general be fitted with seven airbags and Electronic Stability Control (ESC). In comparison to the previous model the added standard features on the Golf Trendline include items such as the touchscreen module with 5-inch TFT display, a fuel tank inlet with a guard to prevent

putting in the wrong fuel (for the diesel versions), the (stow-away) luggage compartment cover, ECO-HMI (consumption-related graphics and information on the multifunction dashboard display), the multi-collision braking system, the electronic parking brake with Auto-Hold function, the XDS transverse differential lock, the Plus tyre pressure indicator, brake energy recovery mode, Stop/Start system and a variable floor in the boot.

Some of the other features also included as standard: daytime running lights, 195 tyres (15-inch), rear diffuser, green-tinted heat-shield windows, air conditioning, lockable glove compartment, chrome rings around the internal air vents, Easy Entry system (two-door versions), centre console with storage compartment, asymmetrically split, fold-down rear seatback, electrically adjustable wing mirrors, outside temperature indicator, electric windows, rear window wiper with intermittent setting, electromechanical power-steering, steering column with height and length adjustment, height-adjustable driver's seat, dust and pollen filter, central locking with remote control, height adjustment and belt-tautening system for the seat belts in the front, disk brakes on all wheels and headrests optimised for maximum safety.

Golf Comfortline

Compared to its predecessor the mid-range Comfortline is additionally equipped with the ParkPilot system front and back, a superior combined instrument cluster, drawers under the front seats, the new Composition Touch radio system including SD card interface and the fatigue detection system.

Some of the other features also included as standard, in addition to those on the Trendline: 16-inch alloy wheels, Comfort seats featuring the line's own seat material and lumbar support in the front, rear bench seat with central armrest and opening for loading long items, chrome-look rotary light switches and wing mirror adjuster, storage nets on the front seat backs and a closable storage

compartment in the roof, an additional 12 V socket in the boot, illuminated vanity mirror, ParkPilot front and back, fabric car mats and steering wheel and gear lever knob in leather.

Golf Highline

The additional features on the top version of the new Golf compared to the Highline version of the Golf Mk6 are the new ambient lighting and chrome edging around the Volkswagen logo in the radiator grille. In addition to the features on the Golf Comfortline the specification includes, among others, the following: bespoke 17-inch alloy wheels, fog lights including cornering lights with chrome trim, dark red rear lights, sports seats in the front (with a central strip in Alcantara and fabric inner wings), chrome trim for the electric window switches, LED reading lights in the front and back, air conditioning, multifunction steering wheel, heated windscreen washer jets and front seats, plus xenon headlights including headlight washers.