The new BMW R 1300 GS.

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1. Overall concept. Short version.

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"With the new BMW R 1300 GS we will once again take the competition by surprise. It is defined by an even broader spread of product substance, while the reduction in complexity and vehicle weight, combined with focused equipment, enable the essence of the boxer GS to be showcased even more strikingly. With a new engine, outstanding handling and impressive ride qualities, it will set the pace both on and off the road."
Thilo Fuchs, Head of Water-cooled Boxer Models.

The new BMW R 1300 GS: "Next level GS" featuring new boxer engine and new suspension, with significantly reduced weight and increased GS competence all round.
BMW Motorrad established the new segment of touring enduros more than four decades ago with the R 80 G/S. The BMW GS with boxer engine has been the undisputed leader of the competitive field ever since. To ensure this remains the case in the future, BMW Motorrad has opted for an almost completely new design for the new R 1300 GS, with an impressive weight saving of 12 kg compared to the previous model.

The centrepiece is once again the legendary two-cylinder boxer engine. Its new design is more compact than ever before thanks to a gearbox located under the engine and a new camshaft drive arrangement. From exactly 1 300 cc it produces an output of 107 kW (145 hp) at 7 750 rpm, developing a maximum torque of 149 Nm at 6 500 rpm. This makes it by far the most powerful BMW boxer engine ever to be produced in series.

At the centre of the new suspension is the sheet metal shell main frame made of steel, which in addition to being significantly optimised in terms of installation space also offers higher levels of stiffness than the predecessor model. For the rear frame, the previous tubular steel structure has now been replaced with a die-cast aluminium construction. The new EVO Telelever front wheel guide with flex element and the revised EVO Paralever rear wheel guide also provide even greater steering precision and ride stability.

New electronic Dynamic Suspension Adjustment (DSA) as optional equipment ex works, with dynamic adaptation of the damping and spring rate, and also load compensation.
The previous Dynamic ESA Next Generation electronic suspension itself provided a high level of ride safety and riding fun on a wide variety of terrains with its dynamic adjustment of the damping and adjustable spring rest at the rear. The new electronic Dynamic Suspension Adjustment (DSA) now goes one step further, combining the dynamic adjustment of the front and rear damping with a corresponding adjustment of the spring rate ("spring stiffness") – depending on the selected riding mode, riding condition and manoeuvres. The automatic adjustment of the spring rest ensures load compensation. This makes for an even more thrilling riding experience on all surfaces. Whether solo, in pairs or with bulky luggage – DSA ensures an even higher level of ride safety, performance and comfort.

Adaptive vehicle height control and sports suspension as optional equipment ex works.
Exclusively in conjunction with DSA as optional equipment ex works, two further items of optional equipment are available for the suspension of the new R 1300 GS: the new adaptive vehicle height control and the sports suspension.

With adaptive vehicle height control, the new R 1300 GS offers fully automatic adjustment of the vehicle height depending on the operating condition, thereby ensuring the greatest possible comfort without having to compromise on riding dynamics and banking freedom.

With 20 mm more spring travel at the front and rear and an optional athletically firm sports suspension specially developed for the GS, off-road riders are well catered for here.

Four riding modes now standard. "Enduro" riding mode for an enhanced off-road riding experience.
Even in standard trim, the new R 1300 GS now has four rather than three riding modes for adaptation to individual rider preferences. The "Rain" and "Road" riding modes allow riding characteristics to be adapted to most road conditions. With the "Eco" riding mode it is possible to achieve the maximum range on a single tank of fuel, while the additional riding mode "Enduro" enables an enhanced riding experience off the beaten track with a specific set-up for off-road use.

Matrix LED headlamps with innovative design as standard, state-of-the-art LED light units all round with turn indicators integrated in the hand protectors and Headlight Pro as optional equipment ex works.
BMW Motorrad is regarded as the pioneer par excellence when it comes to motorcycling safety and related innovations. Accordingly, the new R 1300 GS offers a new, very small full LED headlamp with a novel, distinctive light icon as standard. This illuminates the road with a hitherto unrivalled clarity, thereby ensuring even better perception in traffic. The light unit consists of two LED units for low and high beam along with four additional LED units for the daytime running light and the side light. State-of-the-art LED light units with newly designed LED turn indicators – integrated in the hand protectors at the front, function-integrated at the rear – round off the lighting concept of the new R 1300 GS. With the optional equipment item "Headlight Pro", the beam of the standard full LED headlamp turns into the bend according to the banking position. In this way, the bend is almost fully illuminated because the light moves to where the motorcycle is heading.

Riding Assistant with Active Cruise Control (ACC), Front Collision Warning (FCW) and Lane Change Warning (SWW) for safe and convenient motorcycling.
The new BMW R 1300 GS features the new Riding Assistant option, consisting of the components Active Cruise Control (ACC), Front Collision Warning (FCW) and Lane Change Warning (SWW). Active Cruise Control (ACC) with integrated distance control can be used to set the desired riding speed as well as the distance to the vehicle in front. Front Collision Warning (FCW) with brake intervention is designed to prevent collisions and help reduce the severity of accidents, while Lane Change Warning monitors the lanes to the left and right and can help ensure a safe lane change while supporting use of the rear mirror.

The new R 1300 GS: the very highest level of touring and off-road expertise in an attractive basic variant along with the variants Triple Black, GS Trophy and Option 719 Tramuntana.
The new R 1300 GS features an entirely new design which is based on the traditional GS flyline while at the same time reflecting extreme compactness and significant weight reduction.

With a new aluminium fuel tank that has a much flatter ramp than on the predecessor models, the flyline is largely responsible for the very dynamic, light and accessible appearance of the new R 1300 GS. Here it was also possible to add a very sporty and dynamic accentuation by means of the continuous texture in the fuel tank centre cover.

The basic variant of the new BMW R 1300 GS perfectly embodies what the BMW Motorrad development team has endowed the GS legend with: compact arrangement of the components, high functionality of the equipment – and everything focused on the essentials. In Lightwhite solid paint and in conjunction with its sharply drawn lines and very clean appearance, the new R 1300 GS has a muscular appearance and embodies the boxer GS theme in pristine style.

TripleBlack is a model variant of the boxer GS that has been popular for many years. In this colour scheme, the new BMW R 1300 GS has a masculine attitude combined with exclusive surfaces.

The basic finish Racingblue metallic sets the tone for the model variant GS Trophy. With red and white tapes and inscriptions combined with a rear frame coated in white metallic matt, the GS Trophy stands for the very highest level of performance and sporty off-road riding.

The new R 1300 GS shows its exclusive and technically sophisticated side in the model variant Option 719 Tramuntana. This combines cross-spoke wheels in gold with a high-quality paint finish in Aurelius Green metallic and sophisticated milled aluminium parts.

The highlights of the new BMW R 1300 GS:

- Completely newly designed boxer engine with bottom-mounted gearbox and BMW ShiftCam technology for varying the valve timing and valve stroke on the intake side.
- Most powerful BMW boxer engine ever.
- Powerful response across the entire engine speed range, exemplary fuel consumption, emission levels, running smoothness and refinement.
- Output and torque: 107 kW (145 hp) at 7 750 rpm and 149 Nm at 6 500 rpm.
- Knock sensor system for optimised travel suitability.
- Completely redesigned suspension with sheet metal shell main frame and die-cast aluminium rear frame. Even greater steering precision and ride stability thanks to new EVO Telelever with flex element and revised rear wheel guide EVO Paralever.
- Weight reduction of 12 kg compared to the previous model.
- BMW Motorrad Full Integral ABS Pro as standard.
- Four riding modes as standard.
- Engine Drag Torque Control (MSR), Dynamic Brake Assist (DBC) and Hill Start Control (HSC) as standard.
- Riding Modes Pro with additional riding modes as optional equipment ex works.
- Dynamic Traction Control DTC as standard.

- Electronic Dynamic Suspension Adjustment (DSA) as optional equipment ex works, with dynamic adjustment of the damping and spring rate, and also load compensation.
- Adaptive vehicle height control and sports suspension as optional equipment ex works.
- New matrix LED headlamp as standard.
- Headlight Pro with adaptive turning light as optional equipment ex works.
- Hand protectors with integrated turn indicators as standard.
- Lithium-ion battery with Battery Guard (service function via BMW Motorrad APP) as standard.
- Dynamic Cruise Control (DCC) with brake function as standard.
- Riding Assistant with Active Cruise Control (ACC), Front Collision Warning (FCW) and Lane Change Warning (SWW) for safe and convenient motorcycling as optional equipment.
- Smartphone charging compartment with integrated USB socket and additional 12 V on-board power socket as standard.
- Seat heating for rider and passenger for enhanced touring suitability as optional equipment ex works.
- Handlebar riser by up to 30 mm as optional equipment ex works.
- Wide range of seat height variants as optional equipment ex works.
- Connectivity: multifunctional instrument cluster with 6.5-inch full-colour TFT screen and numerous features as standard.
- RDC, Keyless Ride, heated grips as standard.
- Intelligent Emergency Call as optional equipment ex works.
- Attractive basic variant along with the model variants Triple Black, GS Trophy and Option 719 Tramuntana.
- Extensive range of optional equipment, Original BMW Motorrad Accessories.

Increased range of standard equipment in the new BMW R 1300 GS compared to the previous model:

- Heated grips.
- Keyless Ride (steering, ignition and fuel tank lock).
- RDC.
- MSR.
- BMW Motorrad Full Integral ABS Pro.
- Cruise control DCC with brake function.
- LiO starter battery.
- Hand protectors with integrated turn indicators.

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2. Drive.

“**With a noticeable increase in power and torque combined with significantly reduced weight and a very compact design, the newly designed boxer engine is the perfect drivetrain for the new R 1300 GS and a genuine milestone in the 100-year history of BMW Motorrad.”**
Christof Lischka, Head of Development BMW Motorrad.

Newly developed boxer engine with top figures for power and torque along with optimised running smoothness and efficiency.
BMW Motorrad has completely redesigned the original two-cylinder boxer engine for the new BMW R 1300 GS. The new boxer has a capacity of exactly 1 300 cc while the ratio between bore and stroke is 106.5 to 73 mm (predecessor: 102.5 to 76 mm). This increase in capacity derives from an enlarged cylinder bore and a new crankshaft with reduced stroke. It has an output of 107 kW (145 hp) (predecessor: 100 kW (136 hp), still at 7 750 rpm, and develops a maximum torque of 149 Nm at 6 500 rpm (predecessor: 143 Nm at 6 250 rpm), making it by far the most powerful serial production BMW boxer engine to date. Its maximum engine speed is 9 000 rpm.

In addition to the significantly increased maximum output compared to the predecessor model, the new BMW R 1300 GS benefits in particular from an even more commanding torque, which is noticeably higher than in the predecessor model across the entire engine speed range, especially in the dynamically relevant range between 3 600 and 7 800 rpm, where a level of more than 130 Nm is constantly available (see diagram). This makes the new R 1300 GS more potent than ever before, combining enormous pulling power with impressive peak output. And this applies to riding fun both solo and with a passenger, for sporty runs on winding country roads, and on extended stages of a journey at a high average speed.

It was also possible to optimise efficiency. Despite a significant increase in power and torque, the fuel consumption of the new

BMW R 1300 GS is almost identical to that of its predecessor. The new boxer engine sets standards in terms of running smoothness, too, offering an even more direct response to throttle commands thanks to reduced load reversal cycles in the powertrain. Ideal alignment of the engine-frame combination also ensures an exemplary vibration response.

The boxer engine in the new R 1300 GS still uses the well-established air/liquid cooling system where coolant flows through the engine elements that are subject to particular thermal stress, such as the cylinder heads and parts of the cylinders. Other features that are retained include the vertical-flow cylinder heads, variable oil intake, effective piston base cooling and the DOHC valve gear with light cam followers. In the new boxer engine, the two camshafts are powered on each side of the cylinder by a timing chain running over both camshafts, each from a reduction sprocket. On the right-hand side the drive is located in front of the cylinder, while on the left-hand side the timing chain shaft is arranged behind the cylinder. Furthermore, the engine of the new BMW R 1300 GS features the tried-and tested knock sensor system to ensure maximum touring suitability and the BMS-O engine management system for highly effective carburation.

With a significantly increased output and torque, the new engine compresses the fuel-air mixture in a ratio of 13.3:1 (predecessor: 12.5:1). The gain in power and torque with high efficiency is due to recalculated timing and larger valve diameters: these now measure 44 instead of 40 mm on the inlet side and 35.6 instead of 34 mm on the outlet side.

New gearbox now located below the engine for even more compact packaging with reduced weight. New cardan shaft drive and rear axle transmission.

The six-speed gearbox and clutch are integrated in the engine housing in the new R 1300 GS, too. The gearbox is no longer located behind the engine, however, but underneath it. The particular advantages of this new arrangement lie in a reduced overall length and in improved packaging and weight balance, since it was possible to make the transmission shafts significantly shorter. Compared to the power unit of the predecessor models, it was

possible to achieve a weight saving of no less than 3.9 kg on the basic engine and 6.5 kg on the powertrain as a whole. At the same time, an even greater concentration of mass towards the overall centre of gravity ensures even better handling qualities. As before, power is transmitted to the six-speed gearbox via a wet clutch with ten lining discs and a self-reinforcing anti-hopping mechanism. Output is via two spur gears, one of which has an integrated judder damper.

In the interests of increased shifting precision, the gearbox now has a sensor signal transmitter for the optional Shift Assistant Pro based on a new concept involving a torsion magnet. This is reflected in a much more direct feel when shifting gears.

The cardan shaft drive and rear axle transmission have also been newly designed. The cardan shaft now has larger universal joints, a reduced deflection angle also reduces the non-uniformity of the rotational transmission that is inherent in cardan shaft joints. The rear axle transmission has been redesigned and now has a longer wheel axle stub for even easier mounting and dismounting of the rear wheel.

BMW ShiftCam technology for superior performance and running smoothness as well as excellent fuel consumption and emission levels.

The boxer engine of the new BMW R 1300 GS is also equipped with the unique BMW ShiftCam technology for varying the valve timing and valve stroke on the intake side. At the heart of this technology is a single-section intake shift camshaft which has a partial-load and a full-load cam for each valve to be actuated, each with a different cam geometry that has been recalculated for the R 1300 GS. While the partial-load cam has been configured to ensure optimised fuel consumption and refinement, the full-load cam is designed for optimised output.

The intake cams for the left and right-hand intake valves of the partial-load cam differ in stroke and angular position. This phase shift means that the two intake valves are opened to different degrees and on a time-staggered basis. The effect of this is to create a swirl and therefore greater agitation of the fuel-air mixture

flowing into the combustion chamber. As a result, the new BMW R 1300 GS benefits from even more effective combustion and fuel utilisation.

Lightweight stainless steel exhaust system for optimum performance characteristics and low weight.
The exhaust system of the new R 1300 GS, made entirely of stainless steel, works according to the 2-in-1 principle: it is designed for optimum output and torque in conjunction with BMW ShiftCam technology and for very low weight. It enables a very homogeneous output and torque curve, thereby ensuring the best possible ridability and performance – whether on the road, off-road or on extended tours. Exhaust gas purification is taken care of by a closed-loop catalytic converter controlled by an oxygen sensor. In this way, the new R 1300 GS complies not just with current exhaust standards, it is excellently equipped to meet future requirements, too.

Four riding modes now standard. Additional standard "Enduro" riding mode for an enhanced off-road riding experience.
Even in standard trim, the new R 1300 GS now has four rather than three riding modes for adaptation to individual rider preferences. The "Rain" and "Road" riding modes allow riding characteristics to be adapted to most road conditions. The "Eco" riding mode also makes it possible to use the innovative BMW ShiftCam technology primarily in such a way that the maximum range can be achieved with a single tank of fuel. In this riding mode, a gentle throttle curve and moderate torque limitation promote a riding style that is as economical as possible. In order to provide visual support for a riding style geared towards optimised fuel consumption, an efficiency indicator in the upper status line of the TFT colour screen provides feedback when "Eco" mode is activated. If maximum performance is required – e.g. on gradients or when overtaking – it is simple to quickly switch to another riding mode using the riding mode button. The riding mode "Enduro" enables an enhanced riding experience off the beaten track with a specific set-up for off-road use.

Riding Modes Pro with additional riding modes as optional equipment. Engine drag torque control (MSR) and riding mode pre-selection as standard.
On request the new R 1300 GS can also be fitted with the option "Riding Modes Pro" ex works: among other things, this comprises the additional riding modes "Dynamic", "Dynamic Pro" and "Enduro Pro". In addition, the "Dynamic Pro" and "Enduro Pro" riding modes each allow adaptation to individual needs.

With the riding mode pre-selection which is already available as standard, the rider can use the riding mode button to make an individual selection. For this purpose, at least two and a maximum of four riding modes can be chosen from a list in the settings menu, and these can be selected successively using the riding mode button. This offers a wide range of options for configuring the new R 1300 GS to suit the rider's personal needs. One option is to create a performance-oriented configuration, for example: "Dynamic" and "Dynamic Pro" for the road and "Enduro" and "Enduro Pro" for off-road. Another possibility is to reduce complexity to a maximum of only two riding modes, such as "Eco" and "Road". In this way, a preferred and easily manageable number of riding modes can be configured and selected while riding.

Engine drag torque control (MSR) is also on board as standard. This can be used to safely avoid unstable riding conditions that can occur during coasting or downshifting due to excessive brake slip at the rear wheel. In these cases, MSR opens the throttle valves at lightning speed to such an extent that drag torque is equalised and the motorcycle stabilises.

The control response depends on the riding mode: in "Eco", "Rain" and "Road" riding modes, MSR ensures maximum ride stability, whereas in "Dynamic" and "Dynamic Pro" riding mode the control system allows a little more slip. In "Enduro" mode, however, the engine drag torque is only minimally reduced so that the available slip torque can be used to improve traction. As a logical continuation of this philosophy, MSR is deactivated in "Enduro Pro" mode so as to leave the ambitious off-road rider to take care of rear wheel slip control via the clutch lever – for the purpose of drifting, for example.

Hill Start Control (HSC) as standard.
Hill start control is fitted as standard and enables convenient hill starts – even when carrying two people and luggage.

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3. Suspension.

"Another thing we wanted to achieve with the new BMW R 1300 GS was to stop the trend of getting bigger and bigger – and in fact we managed to reverse this trend. Our team achieved a significant reduction in weight and dimensions, resulting in an extremely focused and lean GS. The bike's engineering is packaged as compactly as possible using innovative design and manufacturing methods."
Jochen Beck, Project Manager BMW R 1300 GS.

Completely newly developed suspension with sheet metal shell main frame made of steel and aluminium rear frame.
Like the engine, the entire suspension of the new BMW R 1300 GS was redesigned. The centrepiece is the new sheet metal main frame made of steel, which in addition to a significant optimisation of the installation space for even more compact packaging also offers higher levels of stiffness than the predecessor model. In the course of the redesign, the rear frame was also completely reconceived. In place of the previous tubular steel construction, the new R 1300 GS now has a rear frame made of die-cast aluminium. In addition to excellent stiffness levels and low weight, this new solution also has advantages in terms of optimised installation space as well as offering a high degree of freedom for innovative design. For example, a short, slim and dynamic rear end in the new R 1300 GS forms a significantly stiffer bond with the main frame compared to its predecessor. This results in a noticeable increase in riding precision and stability.

In combination with a drive unit that is now much more compact, the new design of the suspension achieved a significant concentration of mass towards the overall centre of gravity, which is reflected in noticeable handling benefits. At the same time, the new R 1300 GS is even more precise and stable when braking, requires noticeably less effort to ride, and offers an even more satisfyingly precise response of the suspension elements.

The best of both worlds: new front wheel guide EVO Telelever with flex element and new rear wheel guide EVO Paralever for even greater steering precision and ride stability.
The front wheel guide in the new R 1300 GS still follows the Telelever principle introduced by BMW Motorrad 30 years ago – but in an innovative, newly designed form that combines the best of both worlds.

On sporty BMW motorbikes such as the R 1200 S or the HP2 Sport, the upper fork bridge is clamped directly to the fork tubes and attached to the frame via a ball joint mounted on the frame. This creates a very stiff connection between the fork legs and fork bridge, so the tilting movement of the upper fork bridge which is inherent in the Telelever system is hardly noticeable due to the short handlebars. In motorcycles such as the BMW GS models with boxer engine, long spring travel and high handlebars, however, this tilting movement would be disadvantageous. For this reason, the upper fork bridge is rigidly but rotatably bolted to the frame via a deep groove ball bearing. The swivel connection to the fork legs is via a flexible bearing with spherical roller bearings. This tilt decoupling frees the handlebars clamped to the fork bridge from the tilting movement, thereby ensuring that handlebar movement is not influenced by the suspension. Compared to the rigid bolting on the sporty models, however, lower stiffness levels have to be taken into account with this construction.

With the new Evo Telelever, BMW Motorrad now combines the strengths of the two previously used Telelever variants. Clamped tightly to the fork tubes – as previously in the sporty design – the upper fork construction incorporates a handlebar decoupling system that prevents any detrimental tilting movement and only transmits steering forces. The tubular handlebar is clamped in a handlebar bridge via two clamps. The connection from the handlebar bridge to the upper fork bridge is the core element of this construction: a strikingly showcased stainless steel plate – the so-called flex element. Due to its flexibility and geometric design, it is able to compensate for the tilting movement while at the same time transmitting steering forces. The actual upper fork bridge is pivotally and rotatably connected via a radial swivel bearing to a sturdy steering shaft tube, which in turn is guided in the main frame via a cylindrical roller bearing at the top and a deep groove ball bearing at the bottom. This sophisticated construction creates significantly greater rigidity, which is reflected in the noticeably

increased ride stability of the new R 1300 GS. The simultaneous addition of an extra roller bearing for the ball joint in the lower fork bridge also ensures thrilling steering precision due to the lower bearing friction. The diameter of the quick-release axle, which is approx. 50 g lighter, has been increased by 5 mm to 25 mm, thereby further increasing the stiffness of the front wheel guide.

The rear wheel guide of the new R 1300 GS has also been redesigned. The hallmark of the revised Evo Paralever is a significantly stiffer connection via the suspension in the frame, which has been extended for greater traction, and a continuous swinging arm axle. In addition, the swinging arm bearing is arranged off-axis to the axis of rotation of the cardan shaft joint. The spring travel is 190 mm at the front and 200 mm at the rear.

New electronic Dynamic Suspension Adjustment (DSA) as optional equipment ex works, with dynamic adjustment of the damping and spring rate, and also load compensation.
The previous Dynamic ESA Next Generation electronic suspension itself offered a high level of ride safety and riding fun on a wide variety of terrains with its dynamic adjustment of the damping and adjustable spring rest at the rear. The new electronic Dynamic Suspension Adjustment (DSA) now goes one step further, combining the dynamic adjustment of the front and rear damping with a corresponding adjustment of the spring rate ("spring stiffness") – depending on the selected riding mode, riding condition and manoeuvres. The automatic adjustment of the spring rest ensures load compensation.

This makes for an even more thrilling riding experience on all surfaces. Whether solo, in pairs or with bulky luggage – DSA ensures an even higher level of ride safety, performance and comfort. DSA also significantly simplifies usability due to even more consistent integration in different riding modes and therefore worlds of experience. Within these worlds of experience, the riding modes can be individualised by means of click-setting in the

vehicle settings menu, offering a wealth of options for customising the new R 1300 GS to suit personal preferences.

	Standard equipment			Riding Modes Pro		Standard equipment	Riding Modes Pro
Standard selection menu	**ECO**	**RAIN**	**ROAD**			**ENDURO**	
Selection menu alternative/additional				**DYNAMIC**	**DYNAMIC Pro**		**ENDURO Pro**
DTC (can be switched off), character Control behavior	ROAD Optimum traction	RAIN Early regulatory intervention	ROAD Optimum traction	DYNAMIC Slight drift is possible	RAIN/ROAD/DYNAMIC/ DYNAMIC Pro Customizable	ENDURO Terrain, opt. traction	ENDURO/ENDURO Pro Terrain, little intervention
DTC, front wheel lift suppression	Maximum	Maximum	Maximum	Minimal	Inactive	Terrain min	Inactive
Fully integral ABS Pro, Setting Braking character/design	ROAD Tuning for maximum riding stability when braking on the road			DYNAMIC More brake dynamics	ROAD/DYNAMIC/ DYNAMIC Pro ABS off at the back	ENDURO terrain, road enduro tyres	ENDURO Pro/ENDURO terrain, lug tyres, Enduro Pro: ABS off at the back
Fully integral ABS Pro, Rear wheel lift detection	Maximum	Maximum	Maximum	Medium	Medium (in D. Pro = inactive)	Terrains	Inactive
Throttle response (character)	Soft/torque limited	Soft	Optimal	Upfront	RAIN/ROAD/DYNAMIC Customizable	Soft	RAIN/ROAD/DYNAMIC Customizable
MSR (engine braking torque)	Maximum stability			Some slippage allowed		Minimal intervention	Inactive
DBC (setting)	In case of shock or emergency braking: Reducing engine torque and increasing integral brake pressure at the rear wheel				Active, DBC = Inactive in Dynamic Pro brake mode	DBC for terrain	Active, DBC = inactive in Enduro Pro brake mode
HSC Pro (setting)	Automatic activation of the hold function via the rear brake (off/manual/auto)			Terrain specific features			
DSA (damping character) with load compensation	ROAD/DYNAMIC (finely adjustable between +2 and -2 in each case)			DYNAMIC/ROAD (finely adjustable between +2 and -2 in each case)		ENDURO (finely adjustable between +2 and -2)	
Adaptive Vehicle height control	AUTO/HIGH			AUTO/HIGH		LOW/HIGH	

Adaptive vehicle height control and sports suspension as optional equipment.

Exclusively in conjunction with DSA as optional equipment ex works, two further items are optionally available for the suspension of the new R 1300 GS: the new adaptive vehicle height control and the sports suspension.

With adaptive vehicle height control, the new R 1300 GS offers fully automatic adjustment of the vehicle height depending on the operating condition, thereby ensuring the greatest possible comfort without having to compromise on riding dynamics and banking freedom. The seat height is reduced from 850 mm to 820 mm at standstill and during slow travel.

When stopping, a low vehicle height is set for the best possible ground accessibility and for easier manoeuvring, while the standard vehicle height with full spring travel is available when riding. Unlike the various previous systems of this kind, the lowering or raising happens quickly and almost imperceptibly for the rider – and only when it truly makes sense. Propping up the R 1300 GS when it is lowered is now easier due to the Comfort prop-up aid together with the optional centre stand, which is also fitted with a fold-out and extended step for easier use. In addition, the adaptive vehicle height control can be customised, and the rider can choose between automatic or permanent lowering and the permanent high setting, depending on personal requirements.

With the sports suspension available as optional equipment ex works, the new R 1300 GS gains even more in terms of off-road competence. With 20 mm more spring travel at the front and rear and an athletically firm set-up specially developed for the GS, off-road riders are well catered for here, with the suspension offering even greater reserves for use off the beaten track.

Powerful braking system in conjunction with Integral ABS Pro and Dynamic Brake Control (DBC) as standard. Cast, forged or cross-spoke wheels depending on the equipment variant or as optional equipment.
The new R 1300 GS comes as standard with a twin disc brake featuring two newly developed, radially mounted four-piston fixed calipers at the front and a single disc brake with two-piston floating calliper at the rear in conjunction with BMW Motorrad Full Integral ABS Pro. Here, the handbrake lever activates the front and rear brakes simultaneously. The foot brake lever now likewise actuates the front and rear brakes at the same time. Full Integral ABS Pro is optimised for on-road and off-road use with an additional set-up that depends on the riding mode. In the ABS Pro settings it is possible to lock the rear wheel via the foot brake lever.

As a back-up system to BMW Motorrad Fully Integral ABS Pro, Dynamic Brake Control (DBC) offers increased safety when braking, also in difficult situations, by preventing unintentional throttle application. By means of intervention in the engine control, the drive torque is reduced during braking, making full use of the braking power at the rear wheel. This keeps the motorcycle stable and shortens the braking distance. Thanks to the standard dynamic brake light, traffic to the rear is alerted to even more effectively to the fact that the motorcycle is being braked.

A total of three different wheel sets are available for the new R 1300 GS in the dimensions 3.0 x 19" at the front and 4.5 x 17" at the rear. The basic model and the Triple Black model variant have newly developed and very light cast aluminium wheels, while the Trophy and Option 719 Tramuntana model variants come with newly developed cross-spoke wheels featuring aluminium rim rings for dedicated off-road use. In addition to the new cross-spoke wheels, newly developed Enduro forged wheels are now available as optional equipment ex works. They are also intended for off-road use and offer a weight advantage of approx. 1.8 kg compared to the somewhat more robust cross-spoke wheels.

Perfect ergonomics for tall individuals and for off-road use thanks to handlebar riser of up to 30 mm as optional equipment ex works.

The unique success story of the BMW GS models is not least due to their excellently coordinated ergonomics for rider and passenger. For the rider, the key factor is the so-called ergonomic triangle consisting of handlebars, seat and footrests. It is this that largely determines the degree of seating comfort, vehicle control and manoeuvring characteristics as well as touring suitability. The ergonomic design of the body significantly influences these properties, too. The ergonomic triangle of the new R 1300 GS has been optimised for a sporty, relaxed riding position.

Riders of different heights have differing needs in terms of the position of the seat, handlebar grips and footrests. With the optional handlebar riser included in the Enduro Package Pro, in addition to the different rider seats and footrests available as optional equipment or as Original BMW Motorrad Accessories, the handlebar height can also be adjusted so as to ensure the new R 1300 GS perfectly meets personal needs. The rider has a unique set of possibilities for personalising the ergonomic triangle, with a total of four rider seat variants and three different rider footrests, along with the Comfort handlebars, hand and foot levers that are available as optional equipment ex works.

4. Electrical system and electronics.

"With the new Riding Assistant featuring Active Cruise Control, Front Collision Warning and Lane Change Warning, we offer a safety package in the new R 1300 GS that is unprecedented in this segment."
Markus Hamm, Functional Development Control Systems
BMW Motorrad.

Full LED headlamps in new matrix design as standard, state-of-the-art LED light units all round with turn indicators integrated in the hand protectors. Adaptive turning light "Headlight Pro" as optional equipment ex works.
BMW Motorrad is regarded as the pioneer par excellence when it comes to motorcycling safety and related innovations. Accordingly, the new R 1300 GS offers a new, very small and attractive full LED headlamp with a novel, distinctive light icon as standard. This illuminates the road with a hitherto unrivalled clarity, thereby ensuring even better perception in traffic. The light unit consists of one LED unit for low and high beam along with four additional LED units for the daytime running light and the side light. State-of-the-art LED light units with newly designed LED turn indicators – integrated in the hand protectors at the front, function-integrated at the rear – round off the lighting concept of the new R 1300 GS.

With the optional equipment item "Headlight Pro", the beam of the matrix full LED headlamp turns into the bend according to the banking position. In this way, the bend is almost fully illuminated because the light moves to where the motorcycle is heading. Due to the adaptive turning light function, the horizon of the light remains relatively constant and is seamlessly adapted to the respective banking angle. This dynamic adjustment of the light cone, also with the support of the daytime running light elements, creates a particularly wide and homogeneous illumination of the road.

Riding Assistant with Active Cruise Control (ACC), Front Collision Warning (FCW) and Lane Change Warning (SWW) (SWW) for safe and comfortable motorcycling.
The new BMW R 1300 GS comes with the new Riding Assistant, which consists of Active Cruise Control (ACC), Front Collision Warning (FCW) and Lane Change Warning (SWW).

Active Cruise Control (ACC) enables maximum comfort and the best possible safety when motorcycling: the electronic cruise control with integrated distance control can be used to set the desired riding speed as well as the distance to the vehicle in front. A radar sensor at the front of the motorbike determines the distance to the vehicle ahead based on the yaw rate and vehicle speed. If this distance decreases, the system reduces speed and automatically restores the desired distance. This frees the mind for carefree riding fun – also ensuring a relaxed ride, especially on lengthy tours.

Front Collision Warning (FCW) with brake intervention is designed to prevent collisions and help reduce the severity of accidents while Front Collision Warning uses the ACC radar system to provide protection from rear-end collisions.

Lane Change Warning monitors the lanes to the left and right and can help ensure a safe lane change while supporting use of the rear mirror. A radar sensor monitors the area behind the motorcycle, as well as covering the infamous blind spot. If another vehicle is approaching or dangerously close and could potentially be overlooked by the rider, the lane change warning function detects this and warns against changing lanes. This is indicated by a symbol in the respective rear mirror.

New light functions as optional equipment ex works.
Thanks to new light functions, the riding experience on the new R 1300 GS is even more intense – and there are practical benefits as well: when the ignition is switched on, the so-called **"Welcome"** light is activated. The main headlamp, rear light and – if available – the additional headlamps light up, remain on for a short time and then fade into standby mode before the engine is started. Here, the transitional fading involves a dimming process in stages.

After the ignition has been switched off, the front and rear lights are switched on to **"Goodbye"** for a brief moment before finally

darkening slowly. This function is to mark the fact that the rider is taking leave of the scooter – while at the same time making a clear statement: there's a BMW standing here now.

Another new function is for the purpose of guidance **("Follow me home")**. After switching off the ignition, the riding light can be activated by briefly pressing the high beam button. The ignition and other non-guidance functions and light sources remain switched off. This function ensures optimum visibility at night, for example when manoeuvring in parking spaces or opening the garage at home.

Comfort rider seats and seat heating for rider and passenger for enhanced travel and touring suitability as optional equipment ex works.

The new R 1300 GS offers Comfort seats and seat heating for rider and passenger as optional equipment ex works, significantly increasing comfort on lengthier rides and at low outside temperatures.

The Comfort rider's seats are available in three different seat heights and include a tilt adjustment (4°), as well as the option to select the seat heating – an optional equipment item that offers three heating levels. The heating functions are operated via a menu function in the TFT display. In combination with the optional seat heating, the heated grips also offer three heating levels. The selection is made via the new multi rocker switch on the left handlebar end: here it is possible to choose between seat heating and heated grips. The passenger seat heating is operated by a toggle switch with two heating levels that is located at the bottom left-hand side on the seat.

On-board power and USB socket along with ventilated smartphone charging compartment and lightweight lithium-ion battery as standard.

The new BMW R 1300 GS already offers two different sockets as standard. A 12-volt on-board power socket is installed on the right-hand side of the cockpit. In addition, there is a USB-A socket with 5-volt power supply in the fold-out smartphone charging compartment behind the handlebars. Charging current is available up to 2 400 mA, enabling fast charging depending on smartphone type. This most widely used USB-A socket type with newly developed charging electronics allows a smartphone to be charged

while riding by connecting an adapter cable. The original BMW Motorrad Accessories include a USB adapter cable for this purpose that has been tested over time and is equipped with a sturdy kink protection.

In tried-and-tested BMW Motorrad manner, the external and therefore easily accessible socket is designed to be short-circuit-proof and is protected from overvoltage. Thanks to the integrated sealing cap, it is also effectively protected against environmental influences such as water penetration.

The endeavour to reduce weight in the development of the new BMW R 1300 GS is reflected in the new, very light lithium-ion battery (12 V/10 Ah) whose charge status can be monitored by means of the new Battery Guard function. This alone resulted in a weight saving of around 2.5 kg.

Connectivity: multifunctional instrument cluster with 6.5-inch full-colour TFT screen and numerous features.
The new R 1300 GS has the equipment feature Connectivity as standard, including a 6.5-inch full-colour TFT screen. In conjunction with the standard BMW Motorrad Multi-Controller with integrated operation, it gives the rider fast access to vehicle and connectivity functions. An additional Sport screen enables the display of additional information, making it possible to have the physically experienced riding dynamics of the new R 1300 GS translated into visible form on the display. Information on banking angle, traction and braking behaviour is displayed, as well as a sports rev counter with gear indicator.

This means it is possible to conveniently make a phone call or listen to music during travel. If a smartphone and a helmet with the BMW Motorrad Communication System are connected via Bluetooth to the TFT screen, for example, the rider can conveniently access media playback and telephone functions. These phone and media functions can be used without installing an app. With an active Bluetooth connection to a standard smartphone, the rider can listen to music during travel. In addition, the free BMW Motorrad Connected app offers practical arrow navigation directly via the TFT display. The BMW Motorrad Connected App can be downloaded free of charge from the Google and Apple app stores. It also comprises attractive additional functions such as route logging and the display of other travel statistics and

information. In this way, logged routes can also be shared directly with other motorcyclists via the Rever community. The basic navigation is particularly attractive for motorcyclists who want to comfortably manage everyday traffic or short trips without additional equipment.

Intelligent Emergency Call as optional equipment ex works for further increased safety.
Ensuring the fastest possible assistance in the event of an accident or in situations of emergency and danger can save people's lives. For this reason, BMW Motorrad has developed an eCall system – "Intelligent Emergency Call" – which aims to get help to the scene of the incident as quickly as possible.

Standard Service Assistant for automatic notification when service work is due and for information to be sent from the motorcycle to the BMW Motorrad Connected App.
The Service Assistant service automatically informs the BMW Motorrad dealer (specified in the customer's BMW ID) that service work is due. This selected authorised dealer then contacts the customer to arrange a service appointment. The Battery Guard uses special electronics to monitor the state of charge of the LiO starter battery. If the charge level is too low, the vehicle sends information to the customer's BMW Motorrad Connected App. The Status Report function sends current status data relating to the motorcycle to the BMW Motorrad Connected App – even if the smartphone is not paired with the vehicle. This includes information such as fuel level, remaining range, mileage and service requirements.

5. Design, body and colour concept.

"In the new BMW R 1300 GS we've focused on honing the GS concept even further. The new design is defined by integration and modularity, thereby offering optimum performance and functionality for all riders. The components have been arranged as efficiently as possible to achieve an integrative architecture and stunning looks – entirely in the tradition of the legendary GS flyline."
Christian Hahn-Wörnle, Vehicle Design BMW R 1300 GS.

The new R 1300 GS: the very highest level of touring and off-road expertise in an attractive basic variant along with the variants Triple Black, GS Trophy and Option 719 Tramuntana.
The new R 1300 GS features an entirely new design which is based on the traditional GS icons while at the same time reflecting extreme compactness and significant weight reduction. With its significantly flatter tank ramp, the flyline is largely responsible for the very dynamic, light and accessible appearance of the new R 1300 GS. Continuing on through the upholstered centre cover over the aluminium fuel tank, the seat gives the GS a typically enduro-style silhouette.

A striking break with tradition in terms of design was achieved with the light headlamp signature for daytime running light, which is entirely new in the motorcycle sector. The integration of high beam and low beam in a single projector unit results in a redesign of the iconic face of the GS headlamp. The new underlying LED matrix technology offers a very small symmetrical layout, so the new headlamp signature was simply a logical consequence of this.

The modular concept of the new R 1300 GS allows customers to tailor it entirely to their individual needs and preferences. This concept is brought to life by the innovative design of the die-cast aluminium rear frame, which serves as the basis for a wealth of independently combinable options, including seamlessly integrated features such as case holder, topcase holder, luggage carrier, radar sensors and various seat configurations.

The new BMW R 1300 GS: pure GS.
The basic variant of the new BMW R 1300 GS perfectly embodies what the BMW Motorrad development team has endowed the GS legend with: compact arrangement of the components, high functionality of the equipment – and everything focused on the essentials. In Lightwhite solid paint and in conjunction with its sharply drawn lines and very clean appearance, the new R 1300 GS has a truly muscular appearance and embodies the boxer GS theme in pristine style.

The compact and low front end, together with the Sport windshield and wide handlebars, provide an excellent overview, while the redefined GS ergonomics offer a confident, relaxed riding position. A sporty, slimline passenger seat, in combination with the functional sports grab handle bridge, emphasises the steeply rising and short rear end and at the same time offers good seating comfort for the passenger. In the basic version, the standard rider's seat has a seat height of 850 mm and is fitted with a two-tone cover that forms a continuous functional unit in light grey texture extending from the fuel filler cap to the passenger seat.

Together with the main frame coated in matt black, the new cast alloy wheels in solid Night Black paint and the powertrain finished in Avus black delineate the lower section of the motorcycle against the light front body section, thereby highlighting the powerful appearance of the new BMW R 1300 GS.

A standard feature on all model variants of the new BMW R 1300 GS, the spray guard on the rear wheel impressively reduces its own soiling. Due to the double-shell design, the air flowing through the resulting air duct during travel ensures that dirt particles and water are discharged. This amazingly effective function is a result of intensive work in the wind tunnel, where the aerodynamic properties of the new BMW R 1300 GS were refined in detail.

BMW R 1300 GS model variant Triple Black: the masculine machine.
The Triple Black has been the most successful model variant of the boxer GS for many years. This colour scheme gives the new BMW R 1300 GS an even more masculine attitude. Light-alloy cast wheels strikingly finished in black solid paint feature an impressively filigree five-spoke design in a V configuration.

The rear frame is likewise finished in black, as are most of the other surfaces: the aim here is to present the surfaces running from the front of the vehicle to the number plate holder in an interplay of shapes which is muted in terms of colour. The motorcycle's dynamic performance is powerfully emphasised with a forward-sloping gesture.

Also finished in black, the luggage carrier included in the Triple Black model variant is perfectly integrated in these shapes. In addition, the R 1300 GS Triple Black has Comfort seats, Comfort passenger footrests and a centre stand. The electrically adjustable high windshield also comes with this model variant in combination with the cockpit trim and the wind deflectors.

BMW R 1300 GS model variant GS Trophy: the off-road expert.
The basic finish Racingblue metallic sets the tone for the model variant GS Trophy. With red and white tapes and inscriptions combined with a rear frame in white metallic matt, the GS Trophy stands for the highest level of performance and sporty use off-road. The high rider's seat in combination with the Sport passenger seat offers the look and ergonomics of a rally seat (870 mm seat height), which in conjunction with the seat cover continued on the fuel tank cover forms a unit that can be used along its entire length.

In the spirit of outstanding off-road competence, the GS Trophy is equipped ex works with radiator guards for damage protection – from stone chips, for example. The robust cross-spoke wheels also belong to the range of off-road-oriented fittings. They are supplied with black rim rings, but these are also available in gold as optional equipment ex works.

As with all model variants, the flat tank ramp and the steeply rising rear end are crucial for off-road riding: optimum freedom of movement is essential here. The conceptual division of the seat enables the ergonomics to be varied via the integrated seat angle adjustment for the rider's seat. Instead of the high rider's seat, the standard (850 mm) and low (830 mm) comfort rider's seats can alternatively be mounted, independently of the passenger seat.

BMW R 1300 GS Option 719 Tramuntana: the exclusive machine
The new R 1300 GS shows its exclusive and technically sophisticated side in the model variant Option 719 Tramuntana. This combines cross-spoke wheels in gold with black components

such as the main and rear frames, powertrain and the luggage carrier with grab handle. The gold anodised handlebar provides the perfect accentuation to match the gold-coloured lining on the body components and the gold rim bands.

The model variant Option 719 Tramuntana lives up to its aspiration to offer elegantly packaged technology in particular by means of a high-quality paint finish. The side trim sections and the front wheel cover at the top are finished in Aurelius Green metallic, while the aluminium tank and intake silencer cover are likewise finished in Aurelius Green metallic but with a matt clear coating. The fuel tank centre cover in Luxor black/grey and the cylinder head covers in Avus black metallic matt blend in harmoniously with this.

The optional equipment available ex works for the Option 719 Tramuntana model variant include a topcase carrier in Avus black metallic, a grey-coloured hand protector extension (included in the Touring Package), cross-spoke wheels with black rim rings and the titanium-coloured anodised sports brake (included in the Dynamics Package).

6. Equipment programme.

"Our bespoke concept is based on modularity, allowing customers to explore a variety of GS models so as to tailor and equip their motorbikes based on their own personal needs and preferences."
Reiner Fings, Product Manager BMW R 1300 GS.

Optional equipment and Original BMW Motorrad Accessories.
An extensive program of optional equipment and accessories is available for customisation of the new BMW R 1300 GS. Optional equipment items are supplied ex works and are integrated in the production process. Original BMW Accessories are installed by the BMW Motorrad dealer or by customers themselves. These items can also be retrofitted.

Optional equipment.
R 1300 GS:

For all model variants:

Innovation Package:	Headlight Pro, Riding Assistant, the LED auxiliary headlamps can be additionally combined.
Dynamic Package:	DSA, Shift Assistant Pro, Riding Modes Pro, sport brake.
Touring Package:	Central locking, preparation for navigation, chrome-plated manifold, left and right case holder, hand protector extension, the topcase holder can be additionally combined.

Only for basic variant and Trophy:

Comfort Package:	Electrically adjustable windshield (incl. high windshield high, cockpit trim and wind deflector), centre stand, Passenger Package (incl. Comfort passenger seat, Comfort passenger rest, luggage carrier).

Individual optional equipment.

- Enduro Package Pro: (Not for Option 719 and not with Comfort handlebars). Handlebar riser, engine guard, large underride guard, short Enduro hand lever, GS Vario rider footrest, adjustable gear lever and brake lever, large frame guard, turn indicator stalk.
- Enduro forged wheels.
- Double silencer.
- Adaptive vehicle height control.
- Comfort handlebars.
- Off-road tyres.
- Sports suspension.
- Cross-spoke wheels II (gold).
- Cross-spoke wheels (black).
- Seat heating.
- Comfort rider's seat, low.
- Comfort rider's seat, high.
- Comfort rider's seat (standard height).
- Anti-theft alarm (DWA).
- Intelligent Emergency Call.
- Teleservices.

Original BMW Motorrad accessories.

Storage.

- Vario case.
- Vario topcase.
- Back pad, Vario topcase.
- Liners, Vario case.
- Liner, Vario topcase.
- Luggage panel, passenger seat.

Textile storage space.

- Liner, Vario case.
- Liner for Vario topcase.
- Rear bag Adventure Collection olive, large 50-60 l.
- Rear bag Adventure Collection olive, small 35-42 l.
- Rucksack Adventure Collection olive, 20 l.

- Tank rucksack Adventure Collection olive, large 11-16 l.
- Tank rucksack Adventure Collection olive, small 5 l.
- Rear bag Black Collection black, large 50-60 l.
- Rear bag Black Collection black, small 35-42 l.
- Rucksack Black Collection black, 20 l.
- Tank rucksack Black Collection black, large 11-16 l.
- Tank rucksack Black Collection black, small 5 l.
- Rear bag Urban Collection white, large 50-60 l.
- Rear bag Urban Collection white, small 35-42 l.
- Rucksack Urban Collection white 20.
- Tank rucksack Urban Collection white, large 11-16 l.
- Tank rucksack Urban Collection white, small 5 l.
- Bag luggage carrier top, black 10 l.

Design.

- Double silencer.
- Double silencer, black.
- Enduro forged wheels.
- Front wheel cover extension.
- Carbon wind deflector.
- Shadow hand lever.
- Shadow footrests.
- Chrome-plated manifold.
- Rear axle cover.

Navigation and communication.

- Navigation preparation.
- ConnectedRide Smartphone Cradle.
- ConnectedRide Navigator.

Safety.

- Cylinder head cover protector.
- Hand protector extension.
- Additional LED headlamp.
- Oil filler plug.
- Engine guard.
- Enduro aluminium engine protection bar.

- Rear frame protection.
- Radiator guard.
- Headlight guard.
- Alarm system.

Ergonomics and comfort.

- Enduro rider footrests.
- Comfort passenger footrests.
- Enduro hand lever.
- Handlebar riser.
- Shift Assistant Pro
- Comfort rider's seat, high.
- Comfort rider's seat, low.
- Comfort passenger seat.
- Sport passenger seat.
- Windshield, tinted.
- Sport windshield.
- Sport windshield, tinted.

Maintenance and technology.

- Additional power socket.
- Centre stand.
- Outdoor vehicle cover.

7. BMW Group Plant Berlin.

"We are very proud of over 40 years of GS production at the traditional Berlin plant. For us, innovation and tradition go hand in hand. As the lead plant for international BMW Motorrad production, we rely on the use of high technology for an efficient manufacturing process and the highest product quality. The factory team has proven this once again when producing the new BMW R 1300 GS."
Helmut Schramm, Head of BMW Motorrad Production.

The BMW Group plant in Berlin looks back on a longstanding tradition of motorcycle production. BMW motorcycles have been built in Berlin-Spandau ever since 1969. With over 2,200 employees and a production capacity of up to 900 motorcycles and premium e-scooters per day, the plant is the heart of the BMW Motorrad global production operations. Almost the entire BMW Motorrad model range is produced in Berlin. Not only does a wide range of vehicles roll off the assembly lines in Berlin, but the site itself offers significant depth of production, too. Core engine components such as crankcases, cylinder heads, crankshafts and connecting rods are machined in the Mechanical Production department and completed into units in the Engine Construction department – including the engine of the new R 1300 GS. For a large share of the vehicles produced, the surface finish of body and chassis parts is carried out in the plant's own paint shops.

Production of the GS series at the Berlin site has a longstanding tradition that goes back to the very first R 80 G/S in 1980. Since then, over one million GS vehicles have come out of the plant. The one millionth BMW GS with a boxer engine, an R 1250 GS, rolled off the production line in Berlin on 21 June 2023.

A completely newly developed assembly line for the 1300 boxer engine was put into operation when production of the new R 1300 GS started. In contrast to the flow production system used for other engine assembly lines, the BMW Group plant in Berlin uses interlinked island production for its new assembly line. The individual assembly cells are connected to each other by means of

robots. After completing one assembly step, the robot passes the engine on to the next assembly cell. This innovative system makes the assembly structure more compact and flexible than conventional assembly line production. It also enables a higher production volume.

Virtual tools such as factory digitisation were used in the planning and commissioning of the new engine assembly line. This methodology is used to create a three-dimensional, true-to-life image of a production plant that is accurate to within a few millimetres. As a result, it was possible to set up, test and optimise the new production line in the virtual sphere in advance.

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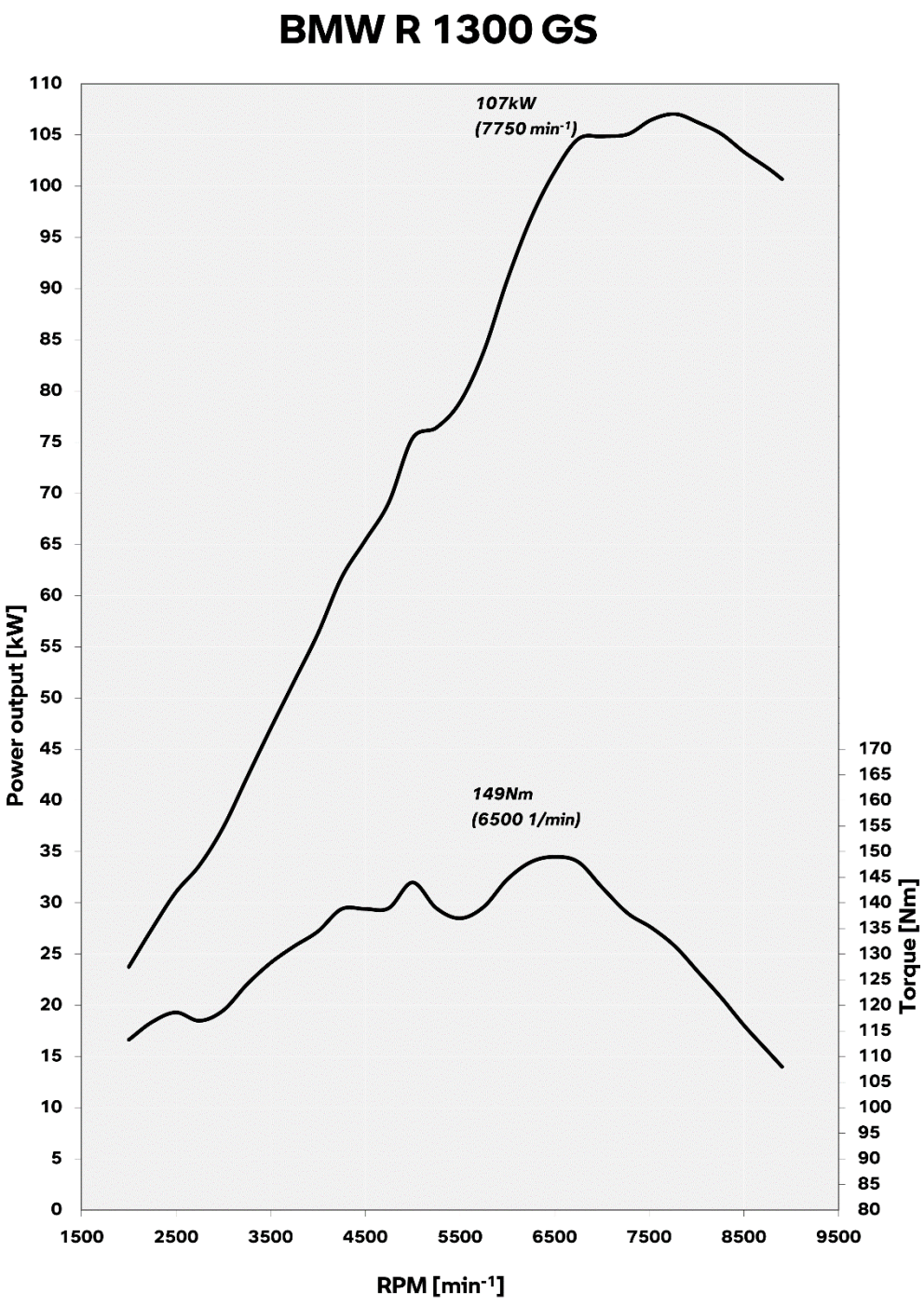
8. Engine output and torque.



9. Technical specifications.

		R 1300 GS
Engine		
Capacity	cc	1,300
Bore/stroke	mm	106.5 x 73
Output	kW/hp	107/145
at engine speed	rpm	7.750
Torque	Nm	149
at engine speed	rpm	6.500
Type		Air/liquid-cooled 2-cylinder 4-stroke boxer engine with two overhead, chain-driven camshafts, a counterbalance shaft and variable intake camshaft control system BMW ShiftCam
Compression		13.3/1
Fuel		Premium unleaded 95 RON
Valves per cylinder		4
Ø intake/outlet	mm	44/35.6
Ø throttle valve	mm	52
Engine control		BMS-O
Emission control		Closed-loop three-way catalytic converter, exhaust standard EU-5
Electrical system		
Generator	W	650
Battery	V/Ah	12/10
Headlight		LED
Rear light		LED brake/rear light
Starter	W	900
Power transmission		
Clutch		Wet clutch with anti-hopping function, hydraulically activated
Gearbox		Claw-shift 6-speed gearbox
Primary ratio		1.479
Transmission ratios	I	2.438
	II	1.714
	III	1.296
	IV	1.059
	V	0.906
	VI	0.794
Secondary drive		cardan shaft
Secondary ratio		2.910

		R 1300 GS
Chassis		
Frame construction type		Two-section frame concept consisting of main frame with bolt-on rear frame, load-bearing engine
Front wheel guide		EVO Telelever, central suspension strut
Rear wheel suspension		Cast aluminium single-sided swinging arm with BMW Motorrad EVO Paralever II, WAD spring strut, spring preload hydraulically infinitely adjustable, Optional equipment: DSA
Spring travel, front/rear	mm	190/200
Wheel castor	mm	112
Wheelbase	mm	1,518
Steering head angle	°	63.8
Brakes	front	Twin disc brake, semi-floating brake discs, Ø 310 mm, 4-piston radial calipers
	rear	Single disc brake, Ø 285 mm, 2-piston floating caliper
ABS		BMW Motorrad ABS Pro (banking angle optimised) as standard
Wheels		Light alloy cast wheels
	front	“ 3.00 x 19”
	rear	4.50 x 17”
Tyres	front	120/70 R 19
	rear	170/60 R 17
Dimensions and weights		
Total length	mm	2,212
Total width incl. hand protectors	mm	1,000
Seat height	mm	850
DIN unladen weight, road ready	kg	237
Permitted total weight	kg	465
Fuel tank capacity	l	19
Performance figures		
Fuel consumption (WMTC)	l/100 km	4.8
CO2	g/km	110
Acceleration 0-100 km/h	s	3.39
Top speed	km/h	>200