The new BMW S 1000 XR.
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1. Overall concept.
Short version.

The BMW S 1000 XR – all good things come in fours.
Following on from the S 1000 RR and HP4 superbikes as well as the S 1000 R roadster, BMW Motorrad is now unveiling the fourth member in the BMW Motorrad line-up of high-power motorcycles with straight-four-cylinder engines and a distinctly sporty bias. Building on the tantalising and unique mix of innovative technology, performance and safety already inherent to the existing models in this series, BMW Motorrad has taken the next step by bringing out the S 1000 XR, which offers this repertoire of core characteristics in a brand-new blend dubbed “adventure sport”. This encompasses dynamic touring qualities, sporty performance and high levels of comfort as well as outstanding everyday usability. In short, the new S 1000 XR serves up its own individual mix of sporting and touring flair at the same time as injecting a generous dose of emotion.

Straight-four-cylinder engine for punchy adventure sport performance.
The straight-four-cylinder engine on the new BMW S 1000 XR is basically derived from the S 1000 R roadster. It has an output of 118 kW (160 hp) at 11,000 rpm and generates maximum torque of 112 Nm (83 lb-ft) at 9,250 rpm. This power unit produces torque in abundance, making it ideal for providing the punchy response at low and medium revs that riders seek when powering along country roads or carrying a passenger. The straight-four-cylinder unit combines tremendous pulling power and exhilarating acceleration with a high peak output, while offering the rider a usable rev range that spans over 10,000 rpm. This makes it just as adept at highly pleasurable touring as it is at sporty rides down winding country roads or holiday trips complete with passenger and luggage.

Two riding modes and ASC as standard as well as the option of Pro riding modes including Dynamic Traction Control (DTC) and ABS Pro.
To enable the riding characteristics to be adapted to the prevailing road conditions as effectively as possible, the new S 1000 XR already comes with the “Rain” and “Road” riding modes as standard. The standard-fit Automatic Stability Control (ASC) ensures a high standard of riding safety by optimising traction. The new S 1000 XR can be equipped ex-works with the Pro riding modes option, which includes the additional riding modes “Dynamic” and “Dynamic Pro” along with Dynamic Traction Control (DTC) and ABS Pro.

Innovative chassis with a new frame and Dynamic ESA (Electronic Suspension Adjustment) as an option.

The chassis of the new S 1000 XR adventure sport bike is every bit as impressive as the ferocious power delivery of the four-in-line engine. Based on this model series' existing design, it employs an aluminium-alloy perimeter frame in which the engine forms part of the load-bearing structure. Wheel suspension at the front and rear is handled by an adjustable upside-down fork and a double-sided swing arm with adjustable central spring strut respectively. The chassis geometry has been completely redefined in order to cater to the specific requirements of the XR. When fitted with the optional electronically controlled suspension system BMW Motorrad Dynamic ESA (Electronic Suspension Adjustment), meanwhile, the new S 1000 XR takes riding safety, performance and comfort to even greater heights, while also promising adventure sport at its very finest.

ABS Pro available ex-works as part of the Pro riding modes option for even greater safety when braking in a banked position.

Whereas the standard ABS systems from BMW Motorrad to date have ensured an excellent standard of safety when braking while moving in a straight line, the optionally available ABS Pro feature now goes a step further to make braking while cornering safer as well by enabling ABS-assisted braking in a banked position. In such situations, ABS Pro prevents the wheels from locking up even when the brakes are applied sharply. This reduces abrupt changes in steering force, especially in response to panic braking, and thereby limits any undesirable righting of the bike. ABS Pro offers riders the benefit of increased braking and riding stability combined with optimum stopping power, even in corners.

The new S 1000 XR – style and function for both sport and adventuring.

The new BMW S 1000 XR fuses the characters and strengths of the BMW Motorrad GS, Touring and Sport models on a visual level as well to create a new breed of motorcycle tagged "adventure sport". This is clearly mirrored in every design element and combines with the flawless ergonomics, ingenious wind and weather protection as well as the 20 – 30 mm increase in spring travel and greater ground clearance to make an impressive statement. Whether it's mountain passes, a tour of the countryside, motorway riding or even rough sections of road – the new S 1000 XR handles it all with aplomb.

Highlights of the new BMW S 1000 XR:

- Straight-four-cylinder engine with a displacement of 999 cc. Output 118 kW (160 hp) at 11,000 rpm, maximum torque of 112 Nm (83 lb-ft) at 9,250 rpm.
- Dynamic, innovative design with sculptural surface styling.
- BMW Motorrad ABS as standard (semi-integral, disengageable).
- ABS Pro for even greater safety when braking in a banked position (as part of the Pro riding modes optional extra).
- Automatic Stability Control (ASC) as standard for accelerating safely even in low-grip conditions.
- Dynamic Traction Control (DTC) with banking sensor for supreme performance and active riding safety when accelerating (as part of the Pro riding modes optional extra).
- Two riding modes that can be selected by the rider at the push of a button as standard (“Rain” and “Road”).
- Two additional riding modes available, “Dynamic” and “Dynamic Pro” (as part of the Pro riding modes optional extra).
- Spring elements with long spring travel for excellent agility and high damping reserves.
- Electronically controlled suspension system, Dynamic ESA (Electronic Suspension Adjustment) for optimum adaptation to the prevailing conditions as an optional extra.
- Light-footed handling and raised seating position.
- Multifunctional instrument cluster with a wealth of features.
- Extensive equipment and bespoke range of accessories made to BMW Motorrad’s customary high standards.

2. Drivetrain.

When BMW Motorrad made its first foray into the superbike scene with the debut of the S 1000 RR in 2009, not only did the newcomer immediately raise the bar in this segment with its output of 193 hp, Race ABS and Dynamic Traction Control, it also heralded the start of a brand-new series of sensational four-cylinder models. Following in its tyre tracks came the HP4, the new pinnacle of technical achievement in the superbike segment, and a sporty roadster with great riding dynamics in the form of the S 1000 R. Boasting brand-new technical innovations, such as a choice of rider-selectable riding modes, each of these motorcycles took their respective category into new territory, especially where riding dynamics were concerned.

With the arrival of the new S 1000 XR as the fourth pillar of this four-cylinder model series, BMW Motorrad is now going one step further by offering this state-of-the-art technology for a new segment entitled “adventure sport”. This new breed of bike is characterised by dynamic travelling and touring qualities, serious sporting abilities and outstanding everyday usability. As such, the S 1000 XR redefines the performance spectrum ranging from adventure through sport to touring in its own, enthralling style, and couples this with consummate all-round qualities, high levels of comfort, light-footed handling and, most importantly, just the right dose of emotion.

Straight-four-cylinder engine derived from the S 1000 R and adapted to the special requirements of an adventure sport bike.
The straight-four-cylinder engine on the new BMW S 1000 XR is basically the same as the DOHC unit that powers the S 1000 R roadster. It has an output of 118 kW (160 hp) at 11,000 rpm and generates maximum torque of 112 Nm (83 lb-ft) at 9,250 rpm.

With a view to providing the punchy response at low and medium revs needed for sporty riding on country roads, the liquid-cooled four-in-line engine has abundant quantities of torque on tap. The resulting tremendous pulling power and exhilarating acceleration are accompanied by a high peak output and a usable rev range spanning over 10,000 rpm. In conjunction with the optional HP Gear Shift Assist Pro, this means that it is just as easy to cruise along with minimal gear changes as it is to adopt a sporty riding style, dart along country roads or embark on an adventure trip complete with passenger and luggage.

As on the remaining models in this four-cylinder line-up, the 999 cc in-line engine with a stroke/bore ratio of 49.7 to 80 millimetres uses a valvetrain with small, lightweight single rocker arms. In combination with a short, toothed, sprocket-driven camshaft drive chain, this again ensures maximum rpm stability on the new S 1000 XR together with precise valve timing. The mixture formation continues to be based on fully sequential, cylinder-selective fuel injection with two injectors per cylinder.

To ensure optimum cylinder charging at low to medium engine speeds, the layout of the cylinder head ports has been modified compared to the S 1000 RR superbike and the valve lift curves have been recalculated. The rev speed threshold has been lowered by around 2,000 rpm and the bike also employs latest-generation engine management, paving the way for a full E-Gas ride-by-wire system on the S 1000 XR. The ignition coils, furthermore, have integrated igniters.

The exhaust gases are expelled thought an exhaust system made from top-quality stainless steel. This ensures compliance with the most stringent noise and emissions regulations even with the engine operating at full power, while also making it possible to include an end silencer with a visually appealing pentagonal-shaped design. The silencer has been positioned to allow a full-size pannier to be fitted on the exhaust side as well, while still maintaining maximum banking clearance. Power transmission on the new S 1000 XR is handled in familiar fashion by a constant-mesh six-speed gearbox and an X-ring roller chain. The S 1000 XR can also be equipped with the Gear Shift Assist Pro as an optional extra, allowing the rider to shift up and down through the gears without having to use the clutch.

ASC traction control system and two riding modes as standard. Pro riding modes including Dynamic Traction Control (DTC) and two additional riding modes optionally available for fine-tuned adjustment to riding conditions.

The new S 1000 XR already comes equipped as standard with two riding modes for optimum adaptation to the rider's individual needs and the intended use, together with traction-maximising Automatic Stability Control (ASC) for a high degree of riding safety. The riding characteristics can furthermore be adapted to most road conditions with the help of the two riding modes "Rain" and "Road". Together with the ABS system – another standard feature – ASC substantially increases the range of use of the new S 1000 XR, at the same time as providing a significant boost to safety, particularly when riding over split-friction surfaces.

In “Road” mode, the control systems are set to provide an optimum balance of performance and comfort on dry roads. Throttle response is direct and front-wheel lift detection is activated to suppress wheelies in this mode.

In “Rain” mode, on the other hand, the bike is set up for road conditions offering low grip. Consequently, throttle response becomes gentler with this mode activated and the front wheel is again prevented from lifting up when accelerating.

The new S 1000 XR can be equipped ex-works with the Pro riding modes option that offers two additional riding modes – “Dynamic” and “Dynamic Pro”. The Pro riding modes feature also includes Dynamic Traction Control (DTC) instead of the standard ASC system. By using a sensor box with banking detection, this particular form of traction control reacts with yet greater sensitivity to let the rider accelerate even more safely, especially when in a banked position.

The sporty side of the new BMW S 1000 XR can be experienced at its most intense in “Dynamic” mode. Instant throttle response and restrained intervention by the DTC let the bike unleash its full performance potential. Front-wheel lift detection is reduced in this mode, moreover, making it possible for the front wheel to come up when accelerating.

When the “Dynamic Pro” mode is engaged, the new S 1000 XR is able to show off all of its sporting prowess and remarkable riding dynamics. Once again, throttle response is perfectly clear and direct, while the DTC set-up makes it possible to sample the high-grip qualities of sports tyres on country roads offering high levels of grip or even out on the race track. In this mode, the rider is required to actively control front-wheel lift and therefore potential wheelies. The “Dynamic Pro” mode is activated by means of a coding plug. The traction control and ABS remain deactivated for as long as the coding plug is inserted, even after the ignition has been switched off and on again.

The various riding modes can be selected from the corresponding menu at the push of a button. To activate the selected mode, all the rider then has to do is briefly close the throttle.

HP Gear Shift Assist Pro for clutchless upshifting and downshifting as an ex-works option.

Compared to conventional HP Gear Shift Assist systems, the HP Gear Shift Assist Pro on the new S 1000 XR provides enhanced functionality. It enables upshifts and downshifts to be made without operation of the clutch or throttle valve in the load and rev speed ranges that are of relevance for riding, offering

the rider not just greater convenience but an added dose of dynamism as well. The majority of gear changes can be carried out with the help of the Gear Shift Assist. Starting off is one of the few exceptions to this.

When accelerating, the throttle valve no longer needs to be closed using the throttle hand for gear changes, allowing the power to flow with barely any interruption. And when decelerating and shifting down a gear (throttle valve closed), double-declutching is used to automatically adjust the engine speed. Gears are engaged in the usual way with the footshift lever. Shift times are considerably faster compared to gear changes with operation of the clutch. The HP Gear Shift Assist Pro is not an automatic shift system, but merely serves as a rider aid for changing gear.

The system works by employing a sensor on the shift linkage to detect the rider's shift request and trigger the assistance mechanism. By increasing or reducing engine torque by the required amount, the load on the powertrain is effectively eliminated and the shaft speeds synchronised to allow the shift dogs of the next gear wheel pair to intermesh in the same way as when the clutch is used. No gear shift assistance is provided, on the other hand, when changing gear while operating the clutch, or when shifting up with the throttle valve closed (overrunning) or when decelerating.

3. Chassis.

Adventure sport with the new BMW S 1000 XR: performance plus comfort for touring, sport and adventure.
With a broad spectrum of uses ranging from long-distance tours with a passenger and luggage through to solo rides that really put its sporting abilities to the test, the new S 1000 XR caters perfectly to the demands of a large number of motorcycle enthusiasts. And to accommodate this wide repertoire of sportiness, comfort and touring qualities, it also comes equipped with a completely newly developed chassis.

New torsionally rigid perimeter frame and aluminium swing arm.
Like its engine, the chassis of the new BMW S 1000 XR is also based on the established design principles that have already come to characterise the RR and HP4 superbikes as well as the S 1000 R roadster. The chassis is built around a newly developed perimeter frame made from aluminium, which is welded together from four segments: the steering head, the engine and swing arm mount, plus two side sections. The engine is integrated into the frame as a load-bearing element. The rear frame has been made from torsionally rigid aluminium sections with a pentagonal profile to give it the increased load-carrying capacity required for touring and long-distance travel, and is bolted to the main frame at four different points. Wheel location at the rear is carried out by a newly developed double-sided swing arm that is welded together from cast aluminium-alloy sections.

With a road-ready weight of 228 kilograms when carrying a full tank of fuel and a chassis geometry that has been developed with the requirements of an adventure sport bike in mind, the new S 1000 XR boasts supremely light handling combined with perfect poise and exceptional riding precision. At 64.5 degrees, the steering head angle is 0.8 degrees shallower than on the S 1000 R, while the wheel castor of 117 millimetres is 18.5 millimetres longer than the roadster's. At the same time, the rear-wheel swing arm has grown in length by 65 millimetres to 670 millimetres, and the wheelbase now measures 1,548 millimetres, an increase of 109 millimetres compared to the S 1000 R roadster. The upshot of all this is superior traction and handling stability for sporty rides along country roads, and the benefit of supreme directional stability when travelling on the motorway at high speed even with a passenger and luggage on board.

Raised seating position for easy controllability and impressive comfort.
The wide handlebar made from butted aluminium tubing combined with the positioning of the foot pegs and seat produces a relaxed, upright seating position. This results in a precise steering feel accompanied by legendary BMW Motorrad ergonomics, which enable comfortable and relaxed riding under all conditions yet at the same time make it possible to adopt a far sportier riding style without having to make any sacrifices in terms of riding precision. The ergonomically designed seat forms the basis for a perfect bond between rider and machine, and ensures fatigue-free riding pleasure even on long journeys. Seats which vary in terms of seat height, design and level of comfort are available as optional extras or special accessories, offering plenty of scope for tailoring the new S 1000 XR to individual requirements.

Multi-adjustable spring elements with longer spring travel and large damping reserves.
The spring/damper elements on the new S 1000 XR share their basic design with the components fitted on the S 1000 R. A central spring strut with adjustable spring preload and adjustable rebound damping is employed at the rear and is located by means of a compact and lightweight linkage mechanism. Spring travel at the rear wheel totals 140 millimetres, comprising 98 millimetres of positive and 42 millimetres of negative travel.

Front-wheel location on the S 1000 XR also helps to reinforce its excellent riding dynamics. As on the S 1000 R, this task is assumed by an upside-down fork which features inner cartridge inserts, i.e. a separate hydraulic piston-cylinder system, and allows both rebound and compression damping to be adjusted. Total spring travel is 150 millimetres, with 95 millimetres of positive and 55 millimetres of negative travel.

Latest-generation Dynamic ESA (Electronic Suspension Adjustment) for optimum riding dynamics in any situation as an ex-works option.
Opting for the latest generation of the electronically controlled suspension system BMW Motorrad Dynamic ESA (Electronic Suspension Adjustment) takes the dynamic riding experience on the new S 1000 XR and its ride comfort to even greater heights. Dynamic ESA attains unprecedented levels of riding safety, performance and comfort as the damping is automatically adapted to the prevailing conditions to suit the riding situation and the manoeuvres being carried out.

With the “Road” damper mapping selected, damper adjustment is fully automated across the entire range and offers maximum comfort and optimum

grip on all surfaces. In the “Road” setting, Dynamic ESA provides just the right level of damping at the spring elements in any riding situation assuming that the load has been set correctly. In addition to this, riders are able to adjust the spring preload to the bike load as desired at the push of a button, independently of the damping.

Using the information relayed from the spring travel sensor on the rear spring strut and from the sensor box with banking detection, the damping can be adjusted to the respective riding conditions with extreme sensitivity and precision. Further variables help to accurately analyse riding states such as acceleration or deceleration and factor them in when adjusting the damping forces at the rear spring strut and front upside-down telescopic fork of the new S 1000 XR. Adjustment is carried out in a matter of milliseconds by means of electrically actuated control valves. Even in a banked position, this allows the rider to enjoy an unprecedented level of damping comfort and exceptionally stable handling characteristics.

Dynamic ESA is preset to the “Road” damping set-up in the “Rain” and “Road” riding modes and to the firmer “Dynamic” damper mapping in the “Dynamic” and “Dynamic Pro” modes. Riders can easily switch between the two damper settings at the press of a button on the handlebar, even while on the move.

In conjunction with Dynamic ESA, the new S 1000 XR can also be specified with a lowered chassis, which makes the new adventure sport bike easier to handle for shorter riders. Spring travel is then 120 millimetres at the front and 110 millimetres at the rear.

Lightweight, rigid aluminium wheels in a sporty design.
The dynamic character of the new S 1000 XR is also mirrored in the design of its wheels. The intricate, dynamically styled 10-spoke die-cast aluminium wheels are similar to those found on the S 1000 RR. In the quest to keep weight to a minimum, the brake discs have not been fitted with separate mounts, which would involve additional bolted connections. Instead, the hub area of the wheels has been specially designed to allow the brake disc rings to be mounted directly. The tyre sizes are 120/70 ZR 17 at the front and 190/55 ZR 17 at the rear.

High-performance brakes and steering damper as standard.
The braking system on the new S 1000 XR is a perfect match for the high performance of its drivetrain and chassis. Braking power at the front is provided by a twin-disc brake with two radial four-piston fixed callipers and two floating steel brake discs measuring 320 millimetres in diameter. The

steel-mesh-wrapped, pressure-resistant brake lines provide optimal transmission of the braking power from the hand-operated lever. A hydraulically controlled single-disc brake with twin-piston floating calliper takes care of braking at the rear. The rigidly mounted steel brake disc has a diameter of 265 millimetres. A steel-wrapped brake line is also used here. The S 1000 XR braking system stands out for its perfectly clear pressure point, optimum braking effect and easy modulation of braking power together with maximum thermal stability, not just on the road but even when required during a quick visit to the race track. Also included as standard on the new S 1000 XR is a steering damper, which is an effective aid for preventing undesirable handlebar kick-back when accelerating.

ABS Pro available ex-works as part of the Pro riding modes option for even greater safety when braking in a banked position.
When the S 1000 RR was launched in 2009, not only was it the first ever superbike from BMW Motorrad, it was also the first of its genre to be fitted with ABS in conjunction with Dynamic Traction Control (DTC). The ABS Pro function represents the logical evolution of the ABS system by now also allowing ABS-assisted braking when in a banked position. ABS Pro was first introduced as a retrofit option for the flagship superbike in the BMW Motorrad range – the HP4 – that was available through BMW Motorrad dealers. With the arrival of the new S 1000 XR, ABS Pro is now making its series production debut.

ABS Pro was intentionally designed for use on public roads, where unexpected dangers may be lurking at any time. Whereas the ABS systems from BMW Motorrad to date have ensured an excellent standard of safety when braking while moving in a straight line, the ABS Pro feature now goes a step further to make braking while cornering safer as well. In such situations, ABS Pro prevents the wheels from locking up even when the brakes are applied sharply. This reduces abrupt changes in steering force, especially in response to panic braking, and thereby limits any undesirable righting of the motorcycle.

ABS Pro works by modifying the ABS control as a function of the motorcycle's current angle of inclination in accordance with the riding situation. In order to determine the banked position, the system utilises the signals for roll and yaw rate as well as lateral acceleration provided by the sensor cluster, which is also used on the new S 1000 XR for Dynamic Traction Control (DTC) as well as the electronically controlled suspension system, Dynamic ESA.

The brake pressure gradient at the start of braking is progressively limited as the banking angle increases, causing pressure to be built up more slowly. At the same time, pressure modulation during the course of ABS intervention becomes more uniform. ABS Pro offers riders the benefit of sensitive brake response and excellent braking and riding stability combined with optimum stopping power, even in corners. The motorcycle's tendency to right itself and the resulting undesirable alterations in steering angle are also noticeably reduced when braking in a banked position, so the machine remains much more controllable for its rider.

ABS Pro is programmed to influence ABS control to varying degrees, depending on the selected riding mode. Full ABS Pro functionality is available in both "Rain" and "Road" riding modes.

In "Rain" and "Road" mode, the ABS Pro control mapping is configured for all road conditions (no difference between "Rain" and "Road"). In these two modes, priority is given entirely to maximising riding stability and any rear-wheel lift is suppressed.

When the "Dynamic" mode is activated, ABS Pro is set up for riding in good grip conditions. As in the "Rain" and "Road" modes, rear-wheel lift detection is still active; however, a small degree of rear-wheel lift is tolerated, for instance on undulating surfaces.

In the "Dynamic Pro" riding mode, ABS Pro is configured purely for excellent grip conditions. Assistance from the rear-wheel lift detection is very limited in this mode and priority is given to minimising the stopping distance.

Although ABS Pro represents a valuable aid for the rider and provides a major safety boost when braking in a banked position, it is by no means able to change the laws of physics. The bike's physical handling limits can still be exceeded as a result of misjudgment or rider error, which can also lead to a fall in extreme cases.

ABS Pro was not developed with a view to enhancing the rider's individual braking performance when braking in a banked position – especially not on the race track. Instead, ABS Pro was designed to help use the S 1000 XR even more safely within its physical handling limits when riding on public roads – for instance, when faced with an unexpected hazard in a bend.

4. Electrics and electronics.

Distinctive twin headlights with symmetrical light beam apertures, LED daytime running light as an ex-works option.
The dynamically styled twin headlights combine with the fairing's sporty lines to give the new S 1000 XR its highly distinctive appearance from the front, while also clearly signalling the bike's touring and sporting qualities in equal measure. The light beam apertures are symmetrical in design, whereas the reflector units have an asymmetrical arrangement in similar fashion to the S 1000 RR and HP4 BMW Motorrad superbikes. Not only does this ensure excellent lighting power and optimum illumination of the road ahead, it also gives the new S 1000 XR its unmistakable "face". The new adventure sport bike can additionally be specified with an LED daytime running light positioned in the centre between the two headlight units as an ex-works option.

Cockpit with multifunctional instrument cluster and integral onboard power socket.
The S 1000 XR instrument cluster includes a large, easy-to-read LC display along with an analogue rev counter with scaling designed for optimum clarity. In addition to the gear selection, the display also indicates the riding mode currently engaged: "Rain", "Road", "Dynamic" or "Dynamic Pro". Riders are able to switch between the individual riding modes using the controls on the right handlebar even while on the move by simply closing the throttle twist grip. The new S 1000 XR also caters to the specific demands on its touring and long-distance travelling capabilities by including a 12V power socket integrated into the cockpit.

The instrument cluster on the S 1000 XR comprises a wealth of functions. A shift flash that is adjustable for brightness, frequency (0, 4 and 8 Hz) as well as rev speed in a range from 7,000 to 12,000 rpm additionally helps the rider to hit exactly the right shift point for gear changes.

The instrument cluster displays the following information:
- Rev speed.
- Road speed.
- Gear display.
- Riding mode.
- Total mileage.

- Engine temperature.
- Fuel level.
- Remaining range.
- Trip 1.
- Trip 2.
- Average consumption.
- Average speed.
- Lap timer.
- Shift flash.
- Time.

Additional displays included with optional features: heated grips, Dynamic ESA (load status), cruise control.

5. Design and colour scheme.

The new S 1000 XR – the multitalented motorcycle for sports, touring and adventure.
The new BMW S 1000 XR blends the strong character traits, poise and assurance of BMW Motorrad's GS, touring and sport motorcycles into a unique "adventure sport" package. Carving out a niche for itself as a crossover, the S 1000 XR combines elements of a GS with supersport genes and the touring ability for which BMW Motorrad is renowned. It brings together character strengths and qualities from each of these three specialist areas to forge a supreme combination of emotion and function.

Strong character with dynamic proportions and sculptural surfaces.
Tried and tested solutions from touring and GS models team up with sporting elements to create a unique overall presence that takes BMW Motorrad into new territory. They also hint at the universal qualities of the S 1000 XR and its wide range of possible uses. A strikingly contrast-rich and sculptural surface design lends extra potency to the bike's dynamic looks.

This layering structure allows impressive plasticity and three-dimensionality in the bike's fairings. The asymmetrical side fairings – a familiar element of the BMW S 1000 RR's DNA – underline its affinity with the sport segment. Slim lines accentuate the lightness and agility of the BMW S 1000 XR and lend it an aura of acceleration before it even turns a wheel.

The stand-out character, emotional appeal and versatility of the new S 1000 XR are also reflected across the bike's design and ensure it makes an impressive statement.

Elements from the BMW Motorrad GS family, like the flyline, discreet beak and comparatively long spring travel, as well as its raised ground clearance, equip the XR with qualities normally the preserve of enduro machines. This allows the new S 1000 XR to take poor road conditions in its stride. Aided by the upright seating position and intelligent stowage concept, traditional BMW Motorrad touring qualities are also in ample supply. Last but clearly not least, the sporty suspension and engine attributes of the S 1000 XR ensure excellent dynamics and agility, as suggested by the bike's design.

Dynamic design with a pronounced attention to detail.
At first glance, the headlights appear to be symmetrical. The deliberate asymmetry of the headlight reflectors references a classic element of BMW's supersports machines. Inspired by BMW Motorrad's touring models, however, they are framed in a symmetrical outer contour. The air intake in the central section of the front end reproduces the hallmark RR "split face" and emphasises the performance of the straight-four-cylinder engine.

The rear end, with its slim, light form, rises up dynamically to the rear. Short and snappy, it represents a visual tribute to the BMW S 1000 XR's agility and fleet-footedness. Given a new home on the licence plate mounting, the tail light adds to the rear's crisp, compact look. The mounting also provides effective protection against spray. The striking pentagonal end silencer enables a high banking angle and allows owners to attach panniers with excellent load-carrying capacity. The rear frame is designed to accommodate not only large panniers, but also a luggage grid. These storage solutions from BMW Motorrad's touring models feed the appetite of owners for sport and adventure. Made from aluminium with plastic inlays, the luggage grid is the product of very high-quality, detailed workmanship.

The opulently designed yoke has been glass bead-blasted and lends the rider's cockpit a sophisticated, technical flavour. The tapered aluminium handlebars combine optimum control and solidity with an elegant form. The fuel tank surround has been designed with a close eye for detail, incorporating bold contrasts and sculptural flair. The tank cover is a two-component construction and features a rubber surface around the filler cap and the straddle area. This ensures that the high-gloss painted surface doesn't become scratched when the rider tops up with fuel.

The forged foot peg system for the rider and passenger is likewise the product of sophisticated manufacturing laced with impressive attention to detail. Furthermore, the powerfully sculptured swing arm made from lightweight cast aluminium underlines the extraordinary performance of the new XR.

Adventure sport: the perfect synthesis of sporty forms, flawless ergonomics and optimum functionality.
The connection between the seat and tank deliberately plays on the contrast between high-quality painted areas and hard-wearing matt surfaces. The matt surfaces are arranged to enable an optimum rider/bike connection at all times, resulting in high levels of comfort combined with unbeatable ergonomics. The new BMW S 1000 XR also looks extremely slim and athletic when viewed from above. The defined knee dent and clever design of the foot peg / seat /

handlebars ergonomic triangle ensure this is a bike that offers direct, nimble handling for riders both small and tall.

The windshield can be adjusted manually through two stages, while the aerodynamically honed fairings offer supreme comfort into higher speed ranges and provide effective weather protection for the rider and passenger. Elements from supersports models, such as the “split face” and asymmetric fairings, highlight the DNA familiar from the S 1000 RR supersports machine and set the seal on the overall appearance of this new bike concept.

Two colour and surface variants produce equally powerful yet very different, adventure sport characters.
The distinctive character of the new BMW S 1000 XR is also echoed in its colour scheme. The new model is available in Racing Red or Light White variants.

Racing red.
This sporty colour scheme once again highlights BMW’s sport models as the source of the BMW S 1000 XR’s DNA. The deep Racing red finish stands out clearly from the matt-black grained surfaces.

The BMW S 1000 XR graphic – an interplay of sporty typeface and breaks – takes its cue from the stencil look of the brand’s off-road bikes. Slightly cropped, it occupies an identical position on either fairing, its chosen colour providing an effective contrast to the overall red finish.

Light white.
The Light White colour scheme shines a modern spotlight on the sporty touring attributes of the BMW S 1000 XR. The BMW Motorrad “house colour” white is complemented in classic style by black plastic surfaces.

The Light white option brings with it a striking black/red combination for the model graphic. The graphic is likewise positioned on the side fairing and is also cropped. The black section of the graphic creates a visual connection with the black frame and plastic sections and sets a harmonious seal on this colour scheme.

6. Equipment range.

Optional equipment and special accessories for further customisation.
The customary wide range of BMW Motorrad optional equipment and special accessories is available for further customisation of the new S 1000 XR.

Optional equipment items are factory-fitted and integrated in the production process. Special accessories can be fitted by the BMW Motorrad dealer or customers themselves, which means the motorcycle can also be retrofitted with equipment.

Optional equipment.

- **Touring Package**: Dynamic ESA, heated grips, pannier mountings, preparation for navigation system incl. multi-controller, main stand, luggage grid.
- **Dynamic Package**: Pro riding modes (incl. DTC and ABS Pro), Gear Shift Assist Pro, cruise control, LED indicators.

- Pro riding modes (ABS Pro, DTC and “Dynamic” and “Dynamic Pro” riding modes).
- Cruise control.
- Gear Shift Assist Pro.
- Dynamic ESA.
- Daytime running light.
- Heated grips.
- Main stand.
- Pannier mountings.
- Luggage grid.
- Hand guards.
- Preparation for navigation system incl. multi-controller.
- Lowered suspension.
- Low rider seat.
- Anti-theft alarm system.

Optional equipment.

HP Parts.

- HP carbon interior cockpit trim left/right.
- HP carbon tank cover.
- HP carbon front mudguard.
- HP carbon rear mudguard.
- HP carbon license plate holder cover.
- HP carbon sprocket cover.
- HP rider foot pegs.
- HP passenger foot pegs.
- HP Gear Shift Assist.
- HP clutch lever.
- HP brake lever.
- HP high seat.
- HP sport seat with alcantara inserts and embroidery.
- HP forged wheels.

Storage accessories.

- Pannier mountings.
- Touring pannier.
- Granite grey metallic matt lid.
- Racing red lid.
- Small top box (30 litres).
- Backrest pad for 30-litre top box.
- Luggage grid.
- Inner bags for small top box.
- Inner bags for panniers.
- Tank rucksack.

Design.

- LED indicators.

Sound.

- Akrapovič sport silencer.

Ergonomics and comfort.

- Tinted windshield.
- Low seat.
- Hand guards.
- Heated grips.
- Main stand.

Navigation and communication.

- BMW Motorrad Navigator V.
- Navigator V cradle, cable and mounting kit.

Safety.

- Anti-theft alarm system.
- Engine protection bar.
- Front axle protectors.
- Engine guard.
- Retrofit cruise control.
- Retrofit DTC + Pro riding modes.

Maintenance and technology.

- Sport 2 workstand.
- Swing-arm adapter for Sport 2 workstand.
- Auxiliary power socket.
- Motorcycle cover.

Rider equipment.

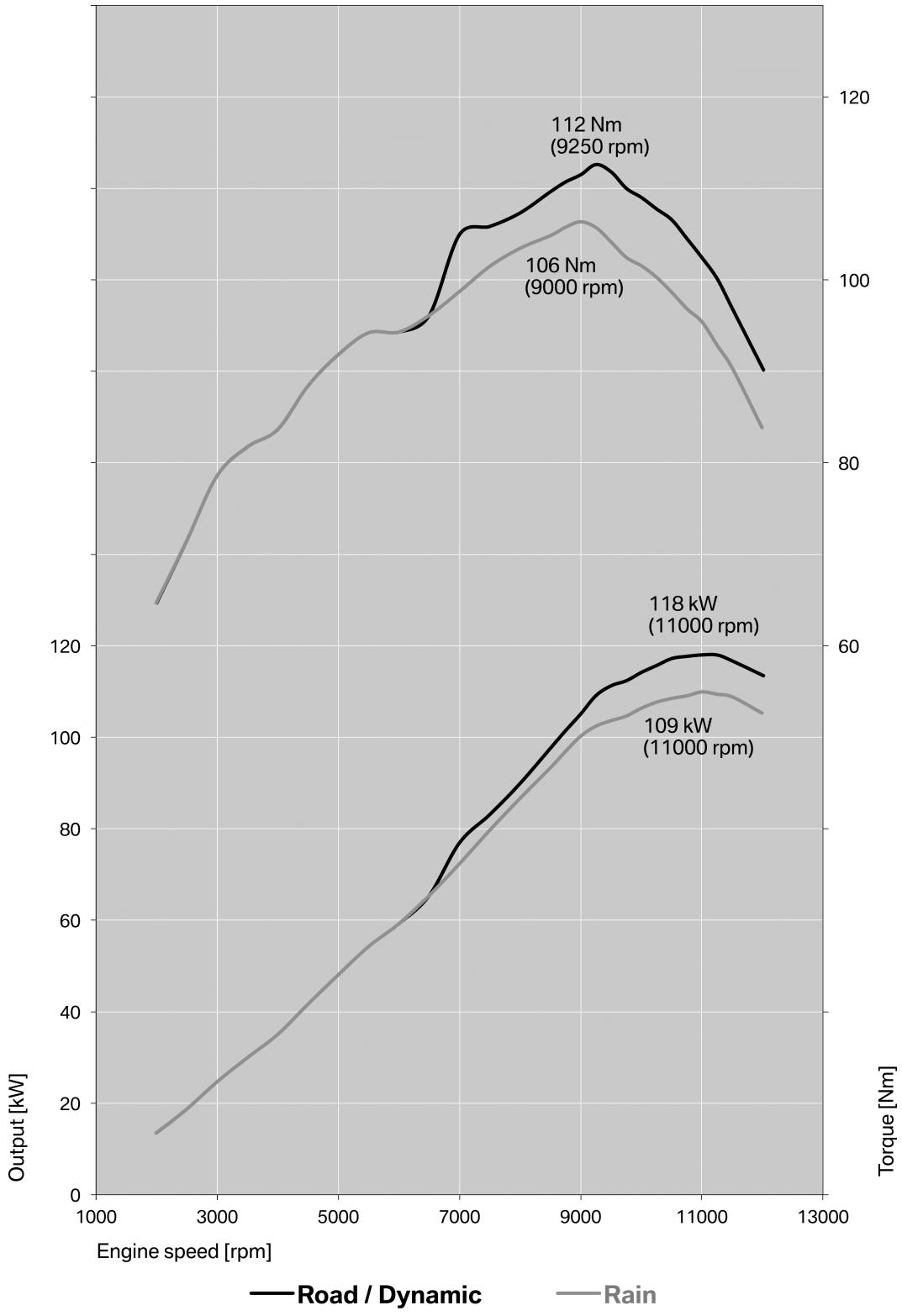
RIDE COLLECTION.

- BMW Motorrad Streetguard suit.
- BMW Motorrad Sport suit.
- BMW Motorrad Rallye suit.
- BMW Motorrad DoubleR jacket.
- BMW Motorrad Race jacket.
- BMW Motorrad FivePocket trousers.
- BMW Motorrad Sport Dry boots.
- BMW Motorrad Two in One gloves.
- BMW Motorrad Sport gloves.
- BMW Motorrad Race helmet.
- BMW Motorrad Enduro helmet.

STYLE COLLECTION DYNAMIC.

The Style Collection Dynamic is a sporty and stylish range for discerning BMW Motorrad fans. It displays a clear colour concept in black, red, white and grey with discreet branding and keen attention to detail.

7. Engine output and torque.



8. Technical specifications.

		BMW S 1000 XR
Engine		
Displacement	cm^3	999
Bore/stroke	mm	80/49.7
Output	kW/hp	118/160
at	rpm	11,000
Torque	Nm	112
at	rpm	9,250
Type		water-cooled four-cylinder in-line engine
Compression/fuel		12.0:1/at least premium unleaded (95 RON)
Valve actuation		DOHC (double overhead camshaft), valve actuation via single rocker arms
Valves per cylinder		4
Ø Intake/outlet	mm	33.5/27.2
Ø Throttle valve	mm	48
Engine management		BMS-X
Emission control		closed-loop 3-way catalytic converter
Electrical system		
Alternator	W	350
Battery	V/Ah	12/8, maintenance-free
Headlight	W	low beam H7 12 V 55 W
		high beam H7 12 V 55 W
Starter	kW	0.8
Power transmission – gearbox		
Clutch		multi-disc anti-hopping oil-bath clutch, mechanically operated
Gearbox		constant mesh 6-speed gearbox
Primary ratio		1.652
Transmission ratios	I	2.647
	II	2.091
	III	1.727
	IV	1.500
	V	1.360
	VI	1.261
Final drive		chain
Transmission ratio		2.647
Chassis		
Frame construction type		aluminium perimeter frame, engine self-supporting
Suspension, front		upside-down telescopic fork, stanchion diameter 46 mm, adjustable for bump and rebound optional: Dynamic ESA
Suspension, rear		aluminium double-strut swing arm with central spring strut, adjustable for rebound, optional: Dynamic ESA
Spring travel, front/rear	mm	150/140
Wheel castor	mm	117
Wheelbase	mm	1 548
Steering head angle	°	64.5

		BMW S 1000 XR
Brakes	front	twin-disc brake, floating brake discs, Ø 320 mm, radial four-piston brake callipers
	rear	single-disc brake, Ø 265 mm, twin-piston floating calliper
ABS		BMW Motorrad ABS (part-integral, can be switched off) optional: ABS Pro
Traction control		standard: BMW Motorrad ASC optional: BMW Motorrad DTC
Wheels		cast aluminium wheels
	front	3.50 x 17"
	rear	6.00 x 17"
Tyres	front	120/70 ZR17
	rear	190/55 ZR17

Dimensions and weights		
Total length	mm	2,183
Total width with mirrors	mm	940
Seat height	mm	840
DIN unladen weight, road ready, full tank	kg	228
Permitted total weight	kg	434
Fuel tank capacity	ltr	20

Performance figures		
Fuel consumption		
90 km/h	l/100 km	5.4
120 km/h	l/100 km	5.8
Acceleration		
0–100 km/h	s	3.1
Maximum speed	km/h	> 200