



Press release
08. January 2019

BMW Group at the 2019 Consumer Electronics Show (CES) in Las Vegas.

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1. BMW Group at the 2019 Consumer Electronics Show (CES) in Las Vegas.

At the 2019 Consumer Electronics Show (CES) in Las Vegas from January 8 – 11, 2019, the BMW Group will present its vision of intelligent connectivity to the public, highlighting the potential for future individual mobility. The focal point of the company's CES showcase will be the BMW Vision iNEXT, which looks ahead to the future of driving pleasure, and the BMW Intelligent Personal Assistant, which, as an on-board expert and the soul of the BMW, constitutes the central element for interaction between the driver, their vehicle, and their digital world. The BMW Vision iNEXT forms the optical highlight of the exhibition stand, which also showcases the interior design principle "My Favorite Space" with harmonious, natural surfaces and technology that is kept discreetly out of sight. A sophisticated mixed-reality installation also provides a virtual impression of the future driving experience promised by the BMW Vision iNEXT.

The BMW Vision iNEXT combines ground-breaking design with the future areas of activity defined in the company's Strategy NUMBER ONE > NEXT – Autonomous Driving, Connectivity, Electrification, and Services (D+ACES) – and answers the question: "What will cars look like when they no longer have to be driven by a person, but still can be?" The interior can be a place for relaxation, interaction, entertainment, or concentration, as preferred. It is more like a comfortable and fashionably furnished "living space" on wheels – a new "Favorite Space". A new design principle, referred to as "Shy Tech", plays an especially important part in this. To preserve the high-end, yet cozy character of the rear compartment, and place its occupants center-stage, the intelligent technology behind the operating controls is integrated out of sight. It only becomes visible and operable when required by the driver or passengers. Two additional exhibits clearly demonstrate the "Shy Tech" principle and technology installed in the BMW Vision iNEXT to CES visitors. The BMW Vision iNEXT is also part of the customer's digital world and seamlessly integrated into the network that connects smart devices, smart home, and digital services.

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Transforming the BMW Group exhibition stand into a “Favorite Space”.

The BMW Group is also taking a visionary approach to the design of its exhibition stand for the 2019 Consumer Electronics Show (CES). As in the BMW Vision iNEXT itself, technological innovations are not prominently visible within the presentation area; the focus instead is on creating a relaxed overall experience that conveys the idea of enhanced quality of life. Visitors' needs and wants are fulfilled by near-invisible technology and the BMW Intelligent Personal Assistant to create an individual retreat or “Favorite Space”. The BMW Intelligent Personal Assistant greets visitors as soon as they arrive at the stand and guides them through the gardenlike entrance area into the heart of the exhibition.

The entrance, with its Arcadian landscape of paths, with sound showers and light projections to attract attention, is a unique experience in itself.

There are various opportunities to interact with the personal assistant on the path through the exhibition area. These include an interactive wall providing information on the newest BMW Connected and BMW ConnectedDrive digital services, with a focus on “Making the most of my vehicle” and “Making the most of my driving time.”

Innovative experiences: BMW R 1200 GS as self-riding motorcycle; BMW X7 tackles off-road course.

In the exhibition center's outdoor areas, BMW and BMW Motorrad will be offering two completely different, but uniquely fascinating experiences. To showcase the BMW Group's high level of expertise in automated driving, BMW Motorrad will present a spectacular test and research vehicle at the CES 2019. The self-riding BMW R 1200 GS is able to start, accelerate, perform cornering maneuvers, slow down, and come to a stop – all by itself. Development of this test vehicle will provide valuable insights into riding dynamics, which can then be used to help the rider recognize dangerous situations and master difficult driving maneuvers. In this way, the self-riding motorcycle, with its comprehensive understanding of ideal lines and perfect cornering, correct braking point, and traction-optimized acceleration, can help the driver constantly improve their skills.

Just a few weeks after the world premiere of the BMW X7 in Los Angeles, CES 2019 visitors will have their very first chance to ride in the youngest member of the BMW X family. Visitors will be able to experience the exclusivity and

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spaciousness of this luxury model with an exciting ride on a demanding off-road course. This is a good opportunity for the BMW X7 to demonstrate the agile and versatile handling of its Sports Activity Vehicles (SAVs).

2. Bringing the future to life: first virtual drive in the BMW Vision iNEXT.

The series-production model based on the BMW Vision iNEXT – the brand's new technology flagship – will enter production in 2021. At the CES 2019, thanks to a sophisticated mixed-reality simulation, it will be possible for the first time to take a seat in the BMW Vision iNEXT and embark on a virtual, fully connected autonomous driving experience.

The portion of the day experienced in mixed reality illustrates many aspects of the BMW Vision iNEXT and provides an exciting glimpse of the mobility of the future. The aim of the future scenario, experienced with all the senses, is to show visitors what it feels like to be on the road in the BMW Vision iNEXT: The day is planned to perfection and driving time is used efficiently – whether for work, errands, relaxation, or for interacting with friends. The focus here is on seamless integration of the vehicle into the customer's digital life. The possibilities offered by the vehicle and the BMW Intelligent Personal Assistant enable a smooth-running mobility experience, completely stress-free and proactively adapted to each situation.

The simulation imagines a day in the year 2025, with a futuristic megacity as its backdrop. The BMW Intelligent Personal Assistant guides and accompanies the visitor throughout the experience. To begin, an augmented reality mobility window displays the scenario of the upcoming tour, including tasks, appointments, and charging status for the all-electric BMW Vision iNEXT. The personal assistant uses this to plan out the ideal schedule for the day, taking into account options for bidirectional energy management.

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The visitor then puts on the VR glasses and soon becomes immersed in the virtual world. After riding the elevator, they step out into the street of the virtual city, where the BMW Vision iNEXT awaits with a personalized welcome and lighting effects.

As the driver takes a seat, their digital world seamlessly connects to the vehicle and the journey begins. Initially, the human driver takes control of the vehicle (in "Boost" mode). The windshield becomes an augmented-reality screen with information about the drive and surroundings. As soon as the vehicle reaches the highway, the BMW Intelligent Personal Assistant suggests that the vehicle take over driving from here and the journey continues autonomously. The steering wheel and pedals disappear, creating an open and spacious feeling. A video conference is scheduled for shortly after and to set up the interior, the BMW Intelligent Personal Assistant suggests switching to "Executive" mode, which transforms the cockpit into a mobile office. The windshield becomes the screen showing the people participating in the videoconference, while shared documents can be viewed at the same time on the Control Display.

Once the videoconference is finished, another task that can be taken care of on the go is displayed. For this, the driver's preferred, fully integrated shopping application is opened. Within the app, the personal assistant guides the driver and assists them throughout the buying process. The purchased item will be delivered punctually by drone directly to the vehicle's destination: home. A short time later, the vehicle receives a real-time signal from the front door of the driver's smart home. Friends have rung the doorbell and are waiting to be let in. The video camera mounted on the front door relays the image directly into the vehicle, and, via an integrated remote function, the driver is able to open the door. On the final leg of the journey, the driver is told that the friends at home have already tuned in to the pre-game coverage of the football game they arranged to watch on TV. The driver starts streaming the show on the vehicle's windshield, arrives home in time for kick-off, and they are all able to enjoy the game together.

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3. The future of driving pleasure: the BMW Vision iNEXT.

The BMW Vision iNEXT symbolizes the dawn of a new age of driving pleasure. Highly automated, emission-free, and fully connected, it brings together all the BMW Group's strategic innovation areas. With recent developments in autonomous driving and increasing connectivity, the BMW Vision iNEXT creates totally new experiences and possibilities for making the most of driving time. All these possibilities center more than ever on human wants and emotions. The interior of the BMW Vision iNEXT creates a mobile environment designed to enhance quality of life: a new "Favorite Space" where driver and passengers alike can relax and choose what they want to do. The BMW Intelligent Personal Assistant is a constant companion and expert. With its typical BMW character, it is always fully connected and serves as an intuitive interface to the digital environment using natural language interaction.

With the size and proportions of a modern BMW Sports Activity Vehicle (SAV), the BMW Vision iNEXT cuts an authoritative figure. The vehicle instantly conveys its trailblazing character through clearly sculpted forms and surfaces. Two large opposing doors, with no B-pillar between them, make it easy to climb inside. A further characteristic is the unusually distinct separation between cockpit and the rear. A spacious continuous seat area gives the rear a laid-back lounge character.

“Boost” and “Ease” mode alter the driver's environment.

BMW Vision iNEXT drivers can choose to either drive themselves (in “Boost” mode) or be driven (in “Ease” mode). “Boost” mode uses the electric drive train to deliver a highly dynamic and virtually silent driving experience with zero emissions. In “Ease” mode, the vehicle creates space for the driver and passengers to engage in a wide range of activities.

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Inside the generously-sized cockpit, the driver's area is defined by only two visible digital display panels and the steering wheel. The flat dashboard with beige fabric covering teams with wood accents and a clearly patterned wooden floor to create an inviting atmosphere. In "Boost" mode, the steering wheel and displays are angled clearly towards the driver. When switched to "Ease" mode, the driver's immediate environment changes: The steering wheel retracts and the pedals drop down to create a more open sense of space. The display panels switch from driving-related content to "Exploration" mode, which provides the driver and passengers with suggestions for places and events in the surrounding area that could be of interest to them.

"Shy Tech": Innovative technology integrated out of sight, but always available.

Apart from the steering wheel and displays in the driver's area, there are no other screens or controls to be seen in the BMW Vision iNEXT. To preserve the cozy, inviting character of the rear compartment, all technology is kept out of sight and only becomes visible and operable when needed. For example, in the future it may be possible to operate various functions via surfaces made out of wood or fabric. Dynamic projections can turn any surface into an interactive display. The BMW Vision iNEXT highlights three different visionary applications of this "Shy Tech": the BMW Intelligent Personal Assistant, Intelligent Materials, and Intelligent Beam.

The Intelligent Personal Assistant switches on in response to the prompt "Hey BMW" or any individually chosen wake word. This intelligent personal assistant ensures that the BMW Vision iNEXT is an integral part of the driver's digital world and is seamlessly interlinked with BMW Connected, smart devices, and the smart home network, enabling drivers to make purchases or close the windows of their house, for example, by voice command from their vehicle.

Intelligent Materials enable operating controls to be integrated discreetly into interior surfaces. When driving in "Boost" mode, the Control Display can be operated using conventional touch functionality. However, in "Ease" mode, the center console's wooden surface assumes this control function instead. Arm and hand posture is just as relaxed as when using the iDrive Controller: The hand simply lies on the perforated wooden surface and, whenever inputs are made,

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points of light follow the finger. The Jacquard cloth in the rear also possesses integral control functionality. For example, music playback can be controlled using various gestures that are visually emphasized by LEDs that light up underneath the material.

In the use of media, as with vehicle operation, the digital and analogue worlds will merge more and more. It is increasingly possible to visualize information in projected form, which means displays may no longer be needed in the long term. The Intelligent Beam technology showcased in the BMW Vision iNEXT is already a step in this direction, since it can serve as both a dynamic reading light and an interactive projection screen. This enables the text in a printed book, for instance, to be supplemented by images, moving content, and interactive graphics – all of which can be controlled by touch.

4. The personal companion.

4.1 The BMW Intelligent Personal Assistant – today and in the future.

The BMW Intelligent Personal Assistant already plays a key role in the vehicle and will continue to do so in the future. At the CES 2019, visitors encounter it in different places and discover not only the tasks it can already perform in current BMW models, but also additional functions that will expand its range of capabilities in the near future. In the new BMW X5 visitors will be able to check out functions and options offered by the BMW Intelligent Personal Assistant from March 2019. The virtual drive in the BMW Vision iNEXT also highlights the support the personal assistant will offer in the future.

BMW Intelligent Personal Assistant today: digital BMW expert and ideal passenger.

The BMW Intelligent Personal Assistant digital character is finding its way into current BMW models. This marks the beginning of a new era, in which vehicle operation and access to functions and information will increasingly be performed simply by voice control. The BMW Intelligent Personal Assistant can be activated by voice command (“Hey BMW”). Unlike other digital assistants, it can also be given an individual name (such as “Charlie” or “Joy”). With the BMW Intelligent Personal Assistant, there is always a genuine BMW expert on board, who is

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familiar with and able to explain vehicle functions. It also serves as a digital passenger, who helps the driver find a parking space or use office functions in the car. With the relevant options, the BMW Intelligent Personal Assistant also pays attention to the driver's wellbeing. In response to a spoken command, for instance, it can activate an interior experience, such as the Vitalize or Relax program, with a combination of interior lighting, air conditioning, fragrance, seat massage, shading, and seat heating or ventilation.

BMW Intelligent Personal Assistant of the future: the intelligent companion inside and outside the vehicle.

The BMW Intelligent Personal Assistant learns routines and habits, so it can apply them in the appropriate context in the future. It assists the driver, learns their preferences, and becomes familiar with their preferred settings – such as seat heating or destinations they frequently navigate to. It benefits from continuous technical upgrades and learns more preferences and preferred settings as time goes by. Updates performed over the air with the Remote Software Upgrade facility constantly add new functions and capabilities.

In its future form, the digital companion will be even more intelligent, forward-looking, and better connected: It will bridge the gap between the vehicle, its extensive functions, and people's digital lives. The BMW Intelligent Personal Assistant manages mobility needs, organizes the day, and performs complex tasks that extend beyond the vehicle. As an intelligent digital guide for mobile life, it plans the daily schedule, manages personal calendars and to-do lists, makes suggestions, and handles a variety of digital services.

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4.2 Digital services for electric-vehicle charging.

BMW Digital Charging Service and BMW ChargeForward: intelligent charging – to support the energy transition and lower costs.

With BMW ConnectedDrive networking technology as standard and the BMW Connected app, BMW, MINI, and BMW i electric and plug-in hybrid models are perfectly suited for digital services that intelligently manage charging of their high-voltage batteries. The BMW Digital Charging Service offers customers the option of charging their vehicle at the most favorable hours, depending on individual electricity tariffs and their planned departure times.

BMW ChargeForward takes things a step further. Over 300 drivers of BMW i cars in the San Francisco Bay Area in the state of California are participating in this pilot project. BMW receives a projection of hourly renewable energy generation from the local utility (Pacific Gas and Electric) and uses this information to align charging with times when renewable energy is most available on the grid. Participants receive a financial incentive for doing so, reflecting the fact that charging at times of high renewable generation will be most cost-efficient to the grid in the long-term. Not only do participants drive very inexpensively and locally emission-free – they are also able to use CO₂-neutral electricity for a much higher percentage of their travel. In addition, with a digitally managed, flexible charging strategy, BMW can send signals to interrupt the charging process whenever general demand for electricity is particularly high, thereby relieving the burden on the public electric grid while still meeting drivers charging needs. Going forward, high-voltage batteries from electrified BMW and MINI automobiles will not only use renewable electricity to the maximum extent, they will also feed energy back into the grid whenever there is a shortage of energy from renewable sources. As a buffer for "green" electricity, these vehicles not only support the clean energy transition, but also become part of an intelligent network that is instrumental in stabilizing the electricity grid.

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The BMW Group

With its four brands BMW, MINI, Rolls-Royce and BMW Motorrad, the BMW Group is the world's leading premium manufacturer of automobiles and motorcycles and also provides premium financial and mobility services. The BMW Group production network comprises 30 production and assembly facilities in 14 countries; the company has a global sales network in more than 140 countries.

In 2017, the BMW Group sold over 2,463,500 passenger vehicles and more than 164,000 motorcycles worldwide. The profit before tax in the financial year 2017 was € 10.655 billion on revenues amounting to € 98.678 billion. As of 31 December 2017, the BMW Group had a workforce of 129,932 employees.

The success of the BMW Group has always been based on long-term thinking and responsible action. The company has therefore established ecological and social sustainability throughout the value chain, comprehensive product responsibility and a clear commitment to conserving resources as an integral part of its strategy.

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