

# The BMW Group at the Consumer Electronics Show (CES) 2022.

## Contents.



BMW  
Media  
Information

01/2022  
Page 1

The BMW Group at the Consumer Electronics Show (CES) 2022.	
Introduction. ....	2
The best of the three worlds of i, X and M.	
The new BMW iX M60. ....	9
Immersive experience, unique moments.	
The new My Modes Expressive and Relax. ....	13
BMW first to bring digital art into vehicles.	
Artist Cao Fei creates Digital Art Mode. ....	16
New soundscapes for all-electric driving pleasure.	
BMW IconicSounds Electric. ....	20
Cinema experience on wheels.	
BMW's in-car entertainment of the future. ....	24
Magical exterior colour-change.	
BMW iX Flow featuring E Ink. ....	27
DIMENSIONS OF REAL.	
A digital design vision. ....	30

All information on drivetrain, charging and driving performance, energy consumption are predicted values based on the current development status of the vehicle.

All the model variants, equipment levels, technical specifications, consumption and emission values described correspond to what is available on the automotive market in Germany. The information on the dimensions refers to a vehicle in basic equipment in Germany, depending on the selected wheel and tyre size as well as selected optional equipment. These may change according how the car is configured.

Fuel consumption, CO<sub>2</sub> emission figures and power consumption as well as electric range are measured using the methods required according to Regulation VQ (EC) 2007/715 as amended. This information is based on a vehicle with basic equipment in Germany; ranges take into account differences in wheel and tyre size selected as well as optional equipment.

All figures are already calculated on the basis of the new WLTP test cycle. WLTP values are used as a basis for the assessment of taxes and other vehicle-related levies that are (also) based on CO<sub>2</sub> emissions and, where applicable, for the purposes of vehicle-specific subsidies. Further information on the WLTP and NEDC measurement procedures is also available at [www.bmw.de/wltp](http://www.bmw.de/wltp) can be found.

For further details of the official fuel consumption figures and official specific CO<sub>2</sub> emissions of new cars, please refer to the "Manual on fuel consumption, CO<sub>2</sub> emissions and power consumption of new cars" available at sales outlets, from Deutsche Automobil Treuhand GmbH (DAT), Hellmuth-Hirth-Str. 1, 73760 Ostfildern-Schornhausen and at <https://www.dat.de/co2/> free of charge.

# The BMW Group at the Consumer Electronics Show (CES) 2022.

## Introduction.



BMW  
Media  
Information

01/2022  
Page 2

For many years, the BMW Group has been presenting innovations at the Consumer Electronics Show (CES) in Las Vegas. The mobility experience of tomorrow was also set to be the focus of the BMW Group's presence at CES 2022. Due to the pandemic situation, the BMW Group moved all planned media activities at CES to a fully digital program livestreamed from Germany.

For the first time, CES serves as a platform for the world premiere of a new BMW model. The vehicle in question is the new BMW iX M60 (combined electricity consumption: 24.7 – 21.7 kWh/100 km\* according to WLTP; combined CO<sub>2</sub> emissions: 0 g/km), the most powerful variant of the BMW Group's new technology flagship, which sets standards in the areas of user experience, operation and connectivity among others, as well as with its automated driving and parking functions. The German premium automobile manufacturer will also present a series of innovations that combine creativity and digitisation to produce great moments for the driver and passengers. The ultimate driving machine therefore literally meets the ultimate digital experience.

On the occasion of CES 2022, the BMW Group shows how innovative digital technology can be used to make the driving experience even more individual and emotionally engaging for the customers. The new My Modes, which create an immersive user experience in the interior, play a central role here. At CES, the BMW Group gives a glimpse of four new My Modes. The selection will soon be expanded to include the My Modes Expressive and Relax. In addition, Digital Art Mode presents digital art in an automobile for the first time and the Theatre Mode heralds a new era for in-car entertainment.

Pieter Nota, Member of the Board of Management of BMW AG, responsible for customer, brands and sales: "At the beginning of December, we reached a milestone in our transformation and delivered the one millionth electrified vehicle. With the BMW iX M60, we are presenting the most powerful and fastest electric vehicle in our product portfolio on the occasion of this year's CES. At the same time, we know that the digital experience is becoming more and more important for our customers. With Theatre Mode we present a spectacular in-car entertainment experience; with My Mode Digital Art, we are the first manufacturer to present digital art in an automobile."

Just like the digital artworks on the BMW Curved Display, the drive sound also plays an important role in making the appreciation of driving pleasure the most intense it can be. The BMW Group is developing the specific soundscapes for all-electric models in collaboration with

film score composer and Academy and Grammy Award winner Hans Zimmer. The partnership has produced BMW IconicSounds Electric. Another feature making its debut is Theatre Mode, BMW's new benchmark for the in-car entertainment of the future, which transforms the rear of future BMW models into a private cinema.

The completely new personalisation possibilities being opened up by digital technology are not limited to the interior, however. The BMW iX Flow featuring E Ink is the first car in the world whose exterior colour can be changed at the touch of a button.

The immersive installation DIMENSIONS OF REAL goes even further. It heralds a new phase of digital innovation at the BMW Group.

World premiere on the occasion of CES 2022: The BMW iX M60.

The BMW Group is presenting the most recent and most powerful model variant of its new technology flagship. The BMW iX M60, which will be presented for the first time on the occasion of CES 2022, is the first performance automobile from BMW M GmbH developed from the outset for all-electric mobility. With its joint system output of 455 kW/619 PS\*\* from two electric motors, a maximum torque of 1,015 Nm\* in Sport mode or 1,100 Nm\* when Launch Control is active, its electric all-wheel drive and its M specific chassis tuning, the BMW iX M60 is bringing a phenomenal performance experience to zero local emissions mobility.

The BMW iX M60 combines a vehicle concept tailored uncompromisingly for sustainability with a modern Sports Activity Vehicle design and handling characteristics boasting a thrilling level of dynamism. Thus it embodies the best of the three worlds of BMW i, the BMW X models and BMW M GmbH. With the modern lounge character of its generous interior and its technological highlights that also encompass the areas of automated driving, operation and connectivity, the BMW iX M60 represents a new understanding of sophisticated luxury, high performance and premium characteristics. The BMW iX M60 sprints from a standing start to 100 km/h in just 3.8 seconds. Its characteristic overall vehicle harmony neatly packages the performance as an experience that is both emotionally engaging and at the same time reliably controlled right to the limits of driving physics.

Unique moments: The new My Modes Expressive and Relax.

The BMW iX is one of the first models from BMW to already use the latest generation of the iDrive display and operating system. The new iDrive not only enables a particularly intense

\* Forecast value based on the vehicle's current state of development

\*\* Electric drive up to 397 kW, with temporary use of the motor's peak output <10 seconds up to 455 kW.

interaction between driver and vehicle, but also a greater personalisation of the driving experience with the new My Modes. They create unique moments that result from a combination of vehicle characteristics and interior atmosphere tailored to the particular situation. On the occasion of CES 2022, BMW will now for the first time showcase further variants of the overall user experience created in this way in the interior. With My Modes Expressive and Relax, in the future BMW customers will have additional ways of adapting the vehicle settings to the particular situation and mood.

In the new My Mode Expressive, the active driving experience is combined with a particularly emotionally engaged atmosphere in the interior. The appearance of the displays on the BMW Curved Display is characterised by expressive colours and abstract patterns. In combination with BMW IconicSounds Electric for all-electric BMW models, activating My Mode Expressive also provides an unconventional sound in the interior that reflects the driving situation particularly intensely. In My Mode Relax, the focus is on wellness, harmony and relaxation. The graphic displays on the BMW Curved Display are inspired by natural landscapes. In all-electric models, an understated and harmonious sound backdrop is generated to match this.

Exclusive experience: BMW brings digital art into the vehicle.

Digital Art Mode, the first time in the world digital art is being used in an automotive setting, will offer a particularly exclusive driving experience. The displays on the BMW Curved Display activated with this My Mode come from a creative dialogue between the BMW Group Design and the internationally renowned Chinese multimedia artist Cao Fei.

Back in 2017 Cao Fei designed BMW Art Car #18, the first fully digitally designed vehicle in the history of this globally unique collection of mobile artworks. With the premiere for the integration of digital art in an automotive setting, she and the BMW Group are now together taking the next step in the company's global cultural commitment. In her digital artwork created for Digital Art Mode, Cao Fei addresses the many interactions and correlations in a globalised world using light elements that are constantly changing, moving and relating to each other.

Start signal for BMW IconicSounds Electric.

BMW is intensifying the driving experience in the brand's all-electric models with new and emotionally engaging soundscapes. On the occasion of CES 2022 the company presents BMW IconicSounds Electric, created in cooperation between the BMW Group and the Academy Award winner and film score composer Hans Zimmer. The jointly developed driving sounds

reflect the specific performance characteristics and quintessential brand attributes of an electrified BMW in a way that is both completely new and at the same time authentic. They help to make the experience of sustainable mobility and the interaction between the driver and vehicle even more intense, even more present and even more unmistakable. In this way, the acoustic feedback to the movements of the accelerator pedal also becomes an elementary part of the driving experience in an electrically and therefore virtually noiselessly powered BMW.

The new soundscapes vary depending on the My Modes chosen by the driver. The electrified BMW M automobiles use variations of the BMW IconicSounds Electric developed specifically for them. BMW IconicSounds Electric will be available for the first time for the BMW i4 in the first half of 2022 and also for the BMW iX in the second half of 2022.

Cinema on wheels: The in-car entertainment of the future.

In addition to the new moments and soundscapes for intense driving pleasure, the BMW Group will also present an innovative concept for the individual mobility experience in the rear. On the occasion of CES 2022, the premium car manufacturer is offering the prospect of a particularly exclusive expression of My Modes in combination with the in-car entertainment system of the future. In My Mode Theatre, the rear of the interior transforms into a private cinema lounge, with the BMW Theatre Screen, a 31-inch ultra-wide display in 32:9 format, surround sound and 5G connectivity. There, passengers on the rear seats can enjoy a thrilling and luxurious cinema experience with an entertainment programme that can be selected individually on a display with a resolution of up to 8K.

Frank Weber, Member of the Board of Management of BMW AG, Development: "We develop immersive, digital experiences for sheer driving pleasure. In Theatre Mode, the rear of the interior is transformed into a private cinema lounge. With the 31 inch display, 5G connectivity, 8k resolution, surround sound and individual streaming program, an unprecedented experience is created that sets new standards in in-car entertainment."

The BMW Group is working with Amazon to fully integrate the Fire TV experience within the Theatre Screen system – giving passengers access to a wide variety of content so they can stream videos, listen to music, and watch downloaded programs, all while on the road. A country-specific streaming offering is also in the works for customers in China.

The BMW Theatre Screen lowers elegantly from the headliner once Theatre Mode is activated. This motion is accompanied by a sound experience composed exclusively for this purpose in

cooperation with Hans Zimmer. The occupants can operate the entertainment system via direct touch fields as well as via touch panels integrated in the doors.

A digital experience in the exterior: Colour changes at the push of a button.

The interior is not the only place where digital technology is creating completely new personalisation possibilities. With the BMW iX Flow featuring E Ink, the BMW Group is offering the prospect of a unique technology that uses digitisation to also adapt the exterior of a vehicle to different situations and individual wishes. The surface of the BMW iX Flow featuring E Ink can vary its shade at the driver's prompting.

Frank Weber: "In the future, digital experiences will not only take place on displays. The real and the virtual will increasingly merge. With the BMW iX Flow, we are bringing the car body to life."

Adrian van Hooydonk, Head of BMW Group Design: "The BMW iX Flow is an advanced research and design project and a great example of the forward thinking that BMW is known for."

The fluid colour changes are made possible by a specially developed body wrap that is tailored precisely to the contours of the all-electric Sports Activity Vehicle from BMW. When stimulated by electrical signals, the electrophoretic technology brings different colour pigments to the surface, causing the body skin to take on the desired colouration.

A digital design vision: Immersive installation DIMENSIONS OF REAL.

On the occasion of CES, the BMW Group has developed an installation to bring its future visions of digital design to life. DIMENSIONS OF REAL, conceived by DESIGNWORKS, BMW **GROUP's design innovation studio, is redefining** the notion of a concept vehicle and invites people to embark on a multisensory journey. DIMENSIONS OF REAL is a purely digital format and an artful take on what is yet to come.

"BMW has always been pushing the boundaries of technology and design at the same time. We dedicate ourselves to the creation of human-centric products and experiences for all senses," states Adrian van Hooydonk, Head of BMW Group Design.

Virtual experience in BMW's **metaverse JOYTOPIA**.

After a successful premiere during the IAA 2021, the BMW Group is once again opening its

metaverse [JOYTOPIA](#), which will virtually expand important events and cooperations of the brand for users from all over the world in the future. The immersive installation DIMENSIONS OF REAL can also be experienced in JOYTOPIA from 5 to 8 January 2022.

Moderated by Hans Zimmer, Academy Award winner, composer and curator of BMW IconicSounds Electric, JOYTOPIA visitors will traverse the completely redesigned worlds of Confidence, Calm and Joy in various dimensions and digital landscapes, whose design is inspired by the new My Modes and the flexible appearance of DIMENSIONS OF REAL.

In this way, even those users who cannot travel to Las Vegas for CES will have the opportunity to recreate the ideas, concepts and visions of the BMW Group for the mobility experience of tomorrow – directly in the browser of their smartphone, tablet or PC.

For the first time, JOYTOPIA also has a separate section for media representatives:

[www.joytopia.com/press](http://www.joytopia.com/press)

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# The best of the three worlds of i, X and M. The new BMW iX M60.



BMW  
Media  
Information

01/2022  
Page 9

In 2022, the BMW Group for the first time reveals a world premiere of a production vehicle on the occasion of CES. The company will present the new BMW iX M60 (combined electricity consumption: 24.7 – 21.7 kWh/100 km\* according to WLTP; combined CO<sub>2</sub> emissions: 0 g/km) in Las Vegas, the first performance automobile from BMW M GmbH developed from the outset for all-electric mobility. The third and even more powerful model of the new technological flagship is at once the most powerful and the fastest electric vehicle the BMW Group has ever produced. With output of 455 kW/619 PS\*\*, a maximum torque of 1,015 Nm\* in Sport mode or 1,100 Nm\* when Launch Control is active and an M specific chassis tuning, the BMW iX M60 is bringing a phenomenal performance experience to zero local emissions mobility.

The BMW iX M60 takes just 3.8 seconds\* to sprint from a standing start to 100 km/h. The assertive power delivery of its M specific electric drive is sustained into high load ranges. The top speed is electronically limited to 250 km/h, making it 50 km/h faster than the BMW iX xDrive50 (combined electricity consumption: 21.4 – 19.8 kWh/100 km according to WLTP; combined CO<sub>2</sub> emissions: 0 g/km). The necessary energy for this is supplied by a high-voltage battery with a gross energy content of 111.5 kWh. State-of-the-art battery cell technology permits a range of up to 566 kilometres\* according to WLTP and helps to give the BMW iX M60 impressive long distance capability.

The BMW iX M60 combines a vehicle concept tailored uncompromisingly for sustainability with a modern Sports Activity Vehicle design and handling characteristics boasting a thrilling level of dynamism. Thus it embodies the best of the three world of BMW i, the BMW X models and BMW M GmbH. With the modern lounge character of its generous interior and its technological highlights that also encompass the areas of automated driving, operation and connectivity, the BMW iX M60 represents a new understanding of sophisticated luxury, high performance and premium characteristics.

Zero local emission driving pleasure with quintessential M performance.

The debut of the BMW iX M60 marks a milestone in the 50-year history of BMW M GmbH. Together with the BMW i4 M50 (combined electricity consumption: 22.5 – 18.0 kWh/100 km according to WLTP; combined CO<sub>2</sub> emissions: 0 g/km), it represents the first foray by the BMW M brand into the electrified performance automobile segment.

\* Forecast value based on the vehicle's current state of development.

\*\* Electric drive up to 397 kW, with temporary use of the motor's peak output <10 seconds up to 455 kW.

The electric all-wheel drive, the actuator-related wheel slip limiter and the Launch Control function of the BMW iX M60 enable extremely spirited acceleration manoeuvres with optimised traction and perfect directional stability under all road conditions. Thanks to the integrated application of all the drive and suspension components, the zero local emission drive also guarantees the combination of dynamism, agility and precision for which BMW M automobiles are known.

The two drive units of the new BMW iX M60 as well as the high-voltage battery, the power electronics and the charging technology are fifth-generation BMW eDrive technology. The electric motors work according to the principle of an electrically excited synchronous machine. This design allows the rare earth metals required for magnetic components to be avoided entirely in the manufacture of the rotor. An M specific twist on the principle of the electrically excited synchronous machine helps the rear-axle electric motor of the BMW iX M60 in particular to achieve extremely high power density. The drive unit is operated in six phases and features a double inverter. This makes it possible to achieve a significantly increased top output of 360 kW/489 PS, which is available into high speed ranges. The second electric motor driving the front wheels mobilises a peak output of 190 kW/258 PS.

Adaptive recuperation makes an additional contribution to increasing the efficiency and range of the BMW iX M60. Navigation and sensor data is used here to tailor the intensity of the braking energy recovery to the particular traffic situation. Flexible and fast charging of the high-voltage battery is possible with the Combined Charging Unit (CCU). It can feed alternating current with a power of up to 11 kW into the high-voltage battery. Direct current charging with a power of up to 200 kW is also possible. The charge state of the battery in the BMW iX M60 can be increased from 10 to 80 per cent in around 35 minutes in this way. What's more, at a high-speed direct current charging station, the range can be increased by up to 150 kilometres within 10 minutes from a battery charge state of 10 per cent.

Drive and chassis in perfect harmony.

The chassis technology of the BMW iX M60 is precisely tailored to the power characteristics of its drive, something M models are known for. It includes a double wishbone front axle, a five-link rear axle and an electric steering system with Servotronic function and a variable ratio. Really powerfully sized anti-roll bars are used on the rear axle. The BMW iX M60 has an M specific adaptive two-axle air suspension with electronically controlled shock absorbers as well as integral active steering as standard. The standard equipment also includes a sports brake system and 21-inch aerodynamic wheels, which can optionally be fitted with high-performance tyres available exclusively for the BMW iX M60.

In addition, the characteristic overall vehicle harmony of the BMW iX M60 neatly packages its performance as an experience that is both emotionally engaging and at the same time reliably

controlled right to the limits of driving physics. The drive system of the BMW iX M60 delivers its maximum output in Sport mode. The Launch Control function is available in this setting for maximum dynamism when accelerating from a standing start. It enables traction-optimised acceleration with maximum power and confidence, delivered by the precisely coordinated interaction between the drive control system and the chassis control systems.

The combination of the electric all-wheel drive and the actuator-related wheel slip limiter plays a crucial role in this. The drive torque control for both motors reacts notably faster and with far greater accuracy than would be possible with a transfer case positioned between the axles. The control interventions of the actuator-related wheel slip limiter take place up to ten times faster than in conventional systems and are extremely precisely metered. As a result, the BMW iX M60 takes off from the standing start with unwavering authority. It accelerates like on rails and with absolutely no drive slip up to the highest speed ranges.

The enthralling driving experience in the BMW iX M60 is accompanied by an equally emotionally engaging sound. It came about in cooperation between the BMW Group and the renowned film music composer and Academy Award winner Hans Zimmer. The energy-charged M specific sound development of the new BMW IconicSounds Electric is part of the standard equipment on the BMW iX M60.

Clear design language, new sense of space, exceptionally generous standard equipment. The clear exterior design that gives the BMW iX M60 its strong presence is informed by the powerful proportions of a modern SAV, a pared-back surface design and precise details. The brake callipers of the sports brake system, painted blue and emblazoned with an M logo, the BMW Individual Exterior Line Titanium Bronze finish as well as M logos in the new high-gloss Black/Titanium Bronze on the front side panels and on the rear of the vehicle provide clear indications of its performance characteristics. 22-inch aerodynamic wheels with an exclusive design in the colour Titanium Bronze are available as an option.

The generous interior with its perfectly crafted and innovative design enhances concentration on active driving as well as travel comfort and the enjoyment of progressive luxury. Multifunction seats with integrated headrests, the large BMW Curved Display, the hexagonal steering wheel and the anthracite-coloured headliner enhance driving enjoyment. An M logo appears on the left of the information display regardless of the chosen display layout and the activated My Mode. The absence of a centre tunnel creates extra legroom, plus sufficient space for storage areas and a centre console designed in the style of a high-quality piece of furniture.

The exclusive character of the BMW iX M60 is also emphasised by its extremely generous standard equipment. It includes the BMW laser light, comfort entry, the BMW Live Cockpit

Professional and the BMW Natural Interaction for voice and gesture control, the Bowers & Wilkins Diamond Surround Sound System, the active seat ventilation for driver and passenger and the Heat Comfort package.

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# Immersive experience, unique moments. The new My Modes Expressive and Relax.



- Since the introduction of the brand-new BMW iDrive with its Curved Display, the digital experience has been influencing the physical perception of space in current BMW models more than ever.
- The My Modes go beyond the traditional design of a user interface and create curated and emotion-evoking moments of driving experience.
- The My Modes use an integrated interplay of vehicle settings, display artwork and layouts, colour, light and sound.
- On the occasion of CES 2022, BMW presents more My Modes variants, due to be rolled out in the second half of the year: Expressive, Relax, Digital Art and Theatre.

With the arrival of the latest generation of the BMW iDrive display and operating system, the digital experience in new BMW models is reaching a new level. The My Modes can be activated by the touch of a button or by voice command and rely on an integrated interplay of different features to create unique moments that result from a combination of vehicle characteristics and interior atmosphere tailored to the particular situation. The current line-up of BMW models equipped with the latest BMW Operating System 8 offers My Modes Personal, Sport and Efficient. On the occasion of CES 2022, BMW presents more My Modes variants, due to be rolled out in the second half of the year: Expressive, Relax, Digital Art and Theatre.

By selecting My Modes, the driver has access to a variety of customisation options in the vehicle whose settings are precisely coordinated to each other in order to create an integrated user experience for the situation in question and to produce an emotionally engaging atmosphere. This includes the functional scopes of the settings for drive and transmission control, steering characteristic and shock absorber map, which up to now were influenced using the Driving Experience Switch. The respective configuration is revealed by customisations to the artworks specially developed for My Modes, the display style and the layouts as well as by means of a change in the shade of displays on the information display and the control display. In parallel with this, the ambient light also adapts to the corresponding world of experience. Every My Modes change is also associated with an adjustment in the drive sound. This is true for vehicles with conventional drive systems as well as for all-electric models, where each My Mode is associated with a specific sound expression. In this way, the My Modes always appeal to multiple senses, from sight to hearing to touch.

Start with three My Modes for efficient, sporty and individually configured driving. With the launch of the new generation of the iDrive operating system, three My Modes are available. In My Mode Efficient the focus is clearly on sustainable driving. The settings for drive and transmission control are geared towards low fuel or electricity consumption. The driver is supported here by the intelligent Efficiency Trainer. The design of the displays is inspired by flowing water with reflections of sunlight. The atmosphere in the interior is calm, the lighting mood is dominated by a pleasing blue colour. The drive noises are reduced as much as possible and deactivated in all-electric models.

My Mode Sport, on the other hand, shows the driver another facet of driving pleasure. The vehicle characteristics like acceleration and handling are designed for sporty driving. The engine sound is clearly audible and provides clear acoustic feedback about the vehicle's acceleration. The dominant interior light colour is "Thrilling Orange", the displays are pared back and focused to encourage full concentration on the driving.

Personal Mode allows the customer to create their own custom My Mode. The vehicle characteristics are balanced in this mode. The customer can choose between different light and colour options, configure layouts and define other settings to create the ideal driving experience based on their personal preferences.

Extravagant driving experience: The new My Mode Expressive.

The new My Modes Expressive and Relax are more than ever designed to influence the perception of space in the interior of a BMW using digital technology. The artwork designed for the new My Modes stretches across the entire surface of the BMW Curved Display. The animations include vibrant image sequences that radiate dynamism with shadowing and three-dimensional motifs. The contribution made by the graphical displays associated with My Modes to the driving experience and the atmosphere therefore goes far beyond the effect of conventional user interface designs.

With the new My Mode Expressive, the driver is given the option to combine the active driving experience with a truly emotionally engaging atmosphere in the interior. The appearance of the displays on the BMW Curved Display is characterised by an expressive colour scheme dominated by a lively shade of yellow called "Vivacious Yellow", a dark blue background and abstract patterns. In combination with BMW IconicSounds Electric for all-electric BMW models, activating My Mode Expressive also produces an unconventional and highly characteristic soundscape in the interior.

My Mode Relax will be available in the latest generation of BMW vehicles in the second half of 2022.

Stress-free driving: The new My Mode Relax.

In My Mode Relax, the focus is on wellness, harmony and relaxation. All vehicle settings promote a restrained and at the same time comfort-focused driving style. Appropriately, the graphic representations on the BMW Curved Display in day as well as night design are in the predominant shade Peaceful Teal and inspired by nature. The artwork for the day design shows a dune landscape that reflects the sunlight and seems to blur with the horizon. At night, the dune landscape is lit up by a starry sky and gleaming moonlight. In all-electric models, a relaxed and harmonious sound backdrop is produced. In this way, My Mode Relax transforms the vehicle into an oasis of comfort and relaxing mobility.

The new My Modes Expressive and Relax will be made available in the second half of 2022 for the latest generation of BMW models. The updates can be transferred to the vehicle over the air using Remote Software Upgrade. In addition, two more immersive user experiences for BMW brand models will also be launched in 2022 with Digital Art Mode and Theatre Mode.

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# BMW first to bring digital art into vehicles. Artist Cao Fei creates Digital Art Mode.



BMW  
Media  
Information

01/2022  
Page 16

- In the 50th year of the BMW Group Cultural Engagement, BMW is now also bringing art into the vehicle, focusing on digital art.
- The new Digital Art Mode offers an additional opportunity to design the driving experience according to personal preferences and interests while experiencing culture in mobile everyday life
- On the occasions of the Consumer Electronics Show (CES), BMW previews its Digital Art Mode and will be the first to bring digital art into vehicles.
- Internationally renowned Chinese multimedia artist Cao Fei created the Digital Art Mode in the year of the 50th anniversary of BMW Cultural Engagement.

The Digital Art Mode is part of the all-new My Modes: Their unique moments enhance BMW's driving experience by creating a synergy of the vehicle's functions and its interior design. Depending on the driving situation and the overall mood, a holistic user experience featuring both a functional and an emotional level can be created at the touch of a button or via voice control. To that end, drive control and steering control, mood lighting and sound as well as the color scheme and graphics of the BMW Curved Display are precisely synchronized.

A quantum leap for BMW Cultural Engagement: After 50 years and hundreds of international cooperations, BMW will now introduce art into its vehicles. The novel Digital Art Mode offers an additional option for drivers to personalize their driving experience according to their preferences and interests and enjoy culture in their mobile day-to-day lives. The Digital Art Mode is the result of an intensive collaborative process of BMW Group Design and the Chinese multimedia artist Cao Fei, whose art creates fascinating and sensual, immersive moments. In 2017, Cao Fei designed the 18th BMW Art Car using the M6 GT3, the first of its kind to be entirely digital in the history of this unique collection of mobile artworks. With this very first incorporation of digital art in an automobile, Cao Fei and the BMW Group are now taking the next step together.

The new BMW iX M60 home to a premiere: a digital artwork symbolizing the deep connection of humankind and nature.

For the very first time, the Digital Art Mode is presented in the new BMW iX M60 on the occasion of **this year's CES**. **The feature** will be made available for other BMW series vehicles in 2022. Selected models will be available with the Digital Art Mode as a customized optional

feature configured directly ex work, while others can be retrofitted via remote software **upgrades integrated into the user interface.** "With the new Digital Art Mode, BMW Cultural Engagement reaches new heights **while creating something entirely unique,**" said Christoph Grote, Senior Vice President Digital Car, BMW Group, **"For the very first time, we are making digital art an integral part of the modern driving experience in a car and use innovative technology to transform mobility into an individual, highly exclusive and emotional experience."**

The artwork to be presented on the BMW Curved Display and created by Cao Fei, speaks of the continuous change of a globalized and interconnected world **and is named "Quantum Garden"**. Galaxies of visual spaces filled with dots, light beams and nebulae constantly moving towards and away from each other at varying speeds while growing and shrinking again and again. They express the mostly invisible but continuous links connecting people, groups and systems that affect each other even over great distances and, in doing so, also modify their surroundings. In her artwork – produced especially for the Digital Art Mode – Cao Fei combines her reflections on these global connections and correlations with the pursuit of a collaborative form of what in Asian cultures is often described as the perfect harmony of humankind and nature. The artist herself explains this eternal quest as follows: "The desire to connect is omnipresent. It is about how we can synergize with the world, live with nature and renew our energy."

**"2017 was a spectacular year**, a time when humanity embraced the advent of artificial intelligence. During this time, I employed augmented reality to create the 18th BMW Art Car, a car with an aura of its own, enhanced by new technologies. 2021 was a difficult and special year. While humanity was stuck and helpless, the world has been moving determinedly into the metaverse, the age of virtual immersion. This is the very moment when I was once again invited to participate in BMW's groundbreaking Digital Art Mode," said **Cao Fei. "My work 'Quantum Garden' gives** the BMW driver the chance to experience the ever-changing digital landscapes of a multifaceted universe in a screen world, where abstract poetry and sensory pixels intersect. Its network of open-ended spectra are connecting our hearts to the call of **goodwill from the depths of the universe."**

In her own words, Cao Fei **describes "Quantum Garden" as "a** poetic collection of universes, countless atoms, nebulae, and thousands of fast-moving beams of light from the depths of the universe, and those trailing strings of galaxies, growing larger and smaller, intersecting and extending, combining and separating, perceiving and listening to each other, around a myriad of constantly rotating centers. In a multidimensional universe, the trajectory is non-linear, the journey has no end, only the freedom to switch between the micro and macro worlds, to wander, to explore, and to evolve."

New ways of experiencing culture: BMW Group once again pioneering  
The Digital Art Mode was created in the anniversary year of BMW Group Cultural Engagement. For 50 years, BMW has been assuming its social responsibility in the world of culture with its partnerships and initiatives. In doing so, hundreds of long-term cooperations have become an integral part of the **company's** social sustainability. Many of its projects have begun exploring the potential inherent in digitalization to expand the scope of BMW Cultural Engagement, develop new forms of artistic expression and reach new audiences.

#### Digital art by Cao Fei: from the racetrack to the BMW Curved Display

When Cao Fei designed the BMW Art Car in 2017, BMW Group once again pioneered the design of innovative cultural experiences. For the very first time, a vehicle was transformed into a rolling sculpture by using augmented reality. Cao **Fei's BMW Art Car** included three components: a film about a spiritual time traveler, a carbon black BMW M6 GT3 and an augmented reality installation consisting of multicolored light particles made visible with the help of a custom-made app programmed for the occasion. Every time the app was used near the race car, the screen of the smartphone displayed floating, ever-changing light strips above and around the BMW M6 GT3 – a reflection of the rapid change of the **artist's home country** as seen on the 18th BMW Art Car.

Cao Fei sees her work on the new Digital Art Mode as a direct continuation of her creative process in collaboration with the BMW Group. Designing a race car with augmented reality will now be followed by integrating digital art into the interior of series vehicles.

#### About Cao Fei

Cao Fei (b. 1978, Guangzhou) is an internationally renowned Chinese contemporary artist. Currently living in Beijing, she mixes social commentary, popular aesthetics, references to Surrealism, and documentary conventions in her films and installations. Her works reflect on the rapid and developmental changes that are occurring in Chinese society today.

Cao Fei's works have been exhibited at a number of international Biennales and Triennales, including the Shanghai Biennale (2004), the 15th & 17th Biennale of Sydney (2006 and 2010), the Istanbul Biennial (2007), the Yokohama Triennale (2008) and the 50th, 52nd & 56th Venice Biennale (2003, 2007 and 2015).

**Cao Fei's major projects** in recent years include a solo exhibition at MoMA PS1, New York (2016), a retrospective at K21 Düsseldorf (2018), a solo exhibition at the Centre Pompidou, Paris (2019), a solo exhibition **"Blueprints" at the Serpentine Galleries, London (2020)**. **Cao Fei's** recent projects include a major retrospective **"Staging the Era" at the UCCA Center for Contemporary Art, Beijing (2021)**, and a solo exhibition at the MAXXI, the National Museum of 21st Century Arts, Rome (2021).

Cao Fei is a professor and a master advisor of the School of Experimental Art at the Central Academy of Fine Arts. She was also on the jury of The Selection Committee for the Curatorship of the 8th Berlin Biennale (2014), the jury of The Bonnefanten Award for Contemporary (2016), and the jury of Hugo Boss Asia Art Prize (2019). Cao Fei is the nominator of the Rolls-Royce Art Program Muse (2019) and the winner of the Deutsche Börse Photography Foundation Prize (2021). Cao Fei is ranked number 7 in **Art Review's** annual ranking of the 100 most influential people in art in 2021.

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# New soundscapes for all-electric driving pleasure: BMW IconicSounds Electric.



BMW  
Media  
Information

01/2022  
Page 20

A quintessentially BMW drive sound, set against the backdrop of your car interior, now brings even more depth to the driving pleasure to be had in BMW's all-electric models. With BMW IconicSounds Electric, new and emotionally engaging soundscapes are finding their way into the brand's model line-up. They came about in a collaboration between the BMW Group and the film music composer and Grammy as well as Academy Award winner Hans Zimmer. The new sounds reflect the specific performance characteristics of the drive on board and quintessential brand attributes of an electrified BMW in a way that is both completely new and at the same time authentic.

The new soundscapes vary depending on the My Modes chosen by the driver. The electrified BMW M automobiles use variations of the BMW IconicSounds Electric developed specifically for them. "Sound plays a key role in the emotionally engaging driving experience in a BMW," says Adrian van Hooydonk, Head of BMW Group Design. "Hans Zimmer's incomparable experience and creativity has allowed us to create soundscapes for the mobility of the future that also give our all-electric models an unmistakable sound profile." BMW IconicSounds Electric will be available for the first time for the BMW i4 in the first half of 2022 and also for the BMW iX in the second half of the year. They can be downloaded to the vehicle using Remote Software Upgrade if the necessary hardware is available.

The collaboration with Hans Zimmer.

BMW IconicSounds Electric was launched as a collaboration between the BMW Group and the multi-award-winning composer Hans Zimmer to develop a revolutionary sound design as well as concepts for the BMW electric car fleet and in this way compose the sounds of the future. This evolution is sowing the seeds for a practical and innovative use of sound for production vehicles of the future that creates an emotional connection between the vehicle and driver. "We are designing sounds that celebrate the beauty and complexity of our vehicles and that move people emotionally," says Renzo Vitale, Creative Director Sound of the BMW Group.

In Hans Zimmer, the BMW Group gained a partner of exceptional renown and experience. Zimmer's passion for BMW began back in his childhood. As he recalls: "I've always been a BMW enthusiast. As a child, I knew when my Mom was home by the sound of her BMW. It means a lot to me to have the opportunity to design the sound of future electric BMW models and to create emotions for the electric driving experience of tomorrow."

Electric mobility as the basis for reinventing the drive sound.

The electric mobility transformation is bringing with it a paradigm shift when it comes to its sound too. Unlike conventionally driven vehicles, where the combustion process in the engine is accompanied by a level of noise, the drives in electric vehicles are virtually noiseless. What's more, their quieter drive acoustics vary only slightly from motor to motor.

In principle, the noiselessness of electric driving makes for unprecedented comfort. Having said that, there are also drawbacks to noiseless cars. The acoustic feedback to the movements of the accelerator pedal is a key part of the emotional experience in a vehicle. In addition, the vehicle acoustics also perform a safety function. Manufacturers are therefore required by law to equip their electric vehicles with a so-called acoustic vehicle alert system. The sound emitted to the surroundings is intended to make pedestrians and cyclists aware of the approaching electric vehicle.

The shift from the combustion engine to the electric motor thus gives the sound designers the unique opportunity to completely reinvent how the car is experienced acoustically. They can design soundscapes that help to make the experience of sustainable mobility even more intense, even more present and even more unmistakable. With BMW IconicSounds Electric and the collaboration with Hans Zimmer, this potential is being used in a unique way. The sounds of BMW IconicSounds Electric have been developed with a view to the driver's response as well as with a subtlety and elegance that offer the driver an authentic and emotional experience based on their relationship and interaction with the vehicle. When working on the sounds audible in the interior of electrified BMW models, the designers made sure that the driver would be assisted rather than overwhelmed by the sound.

My Modes: Sound as part of an integrated user experience.

Within each model-specific sound spectrum, the drive sound in the all-electric BMW models unfolds in a form chosen via My Modes. With BMW IconicSounds Electric, the difference in the drive sound between the various My Modes is even more noticeable. "Each My Mode emphasises different facets of the vehicle's character, and this can also be heard in the sound," explains Renzo Vitale. In My Mode Personal, the standard setting in the BMW iX in the same way as My Mode Comfort is in the BMW i4, BMW IconicSounds Electric conveys an acoustic mood that expresses the vehicle's avant-garde and independent spirit with a spherical sound pattern and lots of tonal components. At the same time, the transparent timbre captures the high-end aesthetic of the design in acoustic form.

The harmoniously elegant sound in My Mode Personal or Comfort contrasts to the acoustic perception in the Sport setting, which is much more focused on the active driving experience. The soundscape in this mode provides the driver with clear acoustic feedback about the drive's power delivery and the current driving mode with a strong presence and highly dynamic

modulation. In this way, the emotional experience of sporty driving is also supported by the proper acoustic accompaniment.

My Mode Efficient is the only mode where the acoustic feedback is completely suppressed. In this mode, the noiselessness of the drive emphasises the driver's decision to adopt a highly efficient driving style. The driver can also disable the drive sound in the other modes via the iDrive operating system menu.

Electrically driven BMW M automobiles with a sound all their own.

A bespoke soundtrack accompanies the driving experience in electrically driven BMW M automobiles too. "We want to carry the traditional elements of the BMW M brand into the future," says Renzo Vitale.

A drive sound that is powerful and dominant but never intrusive conveys the unmistakable agility, precision and confident handling of a BMW M automobile in an authentic way. The sound greatly intensifies during acceleration and expresses the powerful character of the vehicle acoustically. In this way, the impressive performance that also characterises the electrified models in the BMW M GmbH line-up translates into a more intense experience.

The creative process of sound development.

The process of designing the innovative sounds starts with Hans Zimmer and the BMW Group gaining a common understanding of the technological and emotional goals to be pursued with the new soundscapes. Hans Zimmer and Renzo Vitale then reimagine these emotions as melodic elements. They often use traditional instruments, but in a new way, to reinvent the potential of specific musical possibilities.

Mechanical sounds and unusual combinations are also used to produce sounds. For example, the sound for My Mode Comfort in the BMW i4 incorporates female voices and the sound of a glass cylinder being pulled across a guitar string, explains Renzo Vitale: "In this way, we are expressing the characteristics of the electric drive in a bespoke soundscape befitting a BMW."

Once the new sound designs have been created, they are integrated into a BMW vehicle by the sound designers and tested to get real-time feedback. The final sound is tested in the respective vehicle on the road to precisely coordinate the emotions brought forth by the sound composition to the respective My Modes and the driving situations.

Sound strengthens the relationship between driver and vehicle.

The relationship between a driver and their BMW has always been shaped not only by the power of the engine and the handling characteristics, but also the drive sound. With BMW

IconicSounds Electric, there are now more ways of strengthening this emotional bond through a characteristic overall experience.

"The acoustic feedback when accelerating is very finely tuned to the changing pedal inclination," explains Renzo Vitale. Thus the modulation of the sound is oriented extremely precisely towards the angle of the accelerator and therefore also what the driver wants. "When the driver interacts with the pedal, it's not just a mechanical contact point, but a performative element," says Hans Zimmer. "Accelerating becomes an experience that guides the driver through a whole host of gradually changing sound textures."

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# Cinema experience on wheels. **BMW's in-car** entertainment of the future.



BMW  
Media  
Information

01/2022  
Page 24

- With the BMW Theatre Screen, BMW is setting new standards in the area of in-car entertainment and offering rear passengers an entertainment experience on a par with a cinema.
- The BMW Group is working with Amazon to fully integrate the Fire TV experience within the Theatre Screen system – giving passengers access to a wide variety of content so they can stream videos, listen to music, and watch downloaded programs, all while on the road.
- My Mode Theatre orchestrates the different vehicle functions like lowering the theatre screen, lighting and sunblinds to get the passengers in the perfect mood for the one-of-a-kind immersive entertainment experience awaiting them.
- The BMW Theatre Screen is a 31-inch panorama display in 32:9 format with smart TV functions and a resolution of up to 8K.
- A country-specific streaming offering is also in the works for customers in China.

The My Modes make individual mobility in a BMW a particularly intense experience. They create an integrated user experience in the interior that reflects and influences the mood of the driver and their passengers in a specific situational context. More than ever, an atmosphere is established with unique moments full of emotion. At the Consumer Electronics Show (CES) in 2022, the BMW Group previews another, particularly exclusive version of My Modes in combination with a new and worldwide unique in-car entertainment system for future BMW models. My Mode Theatre transforms the rear of the interior into a private cinema lounge with surround sound and 5G connectivity thanks to the BMW Theatre Screen, a panorama display in 32:9 format. In this setting, every journey becomes a breathtaking cinema experience for the rear passengers with a personalised programme of entertainment on a 31-inch ultra-wide display with a resolution of up to 8K.

Frank Weber, Member of the Board of Management of BMW AG Development: "We develop immersive, digital experiences for sheer driving pleasure. In Theatre Mode, the rear of the interior is transformed into a private cinema lounge. With the 31 inch display, 5G connectivity, 8K resolution, surround sound and individual streaming program, an unprecedented experience is created that sets new standards for in-car entertainment."

The large screen with smart TV function is extended out of the headliner on request by a sophisticated rotary movement on two articulated rails at the sides. The BMW Theatre Screen can be controlled by touch operation or using touch pads integrated in the rear doors.

Setting a new benchmark for in-car 4K entertainment.

To help deliver this bold innovation, the BMW Group selected Amazon Fire TV to bring together the content and technology that makes seamless in-vehicle entertainment experiences possible. The Fire TV experience lets rear-seat passengers enjoy a wide variety of content from popular apps, so they can stream movies and TV episodes, listen to music, and watch downloaded programs – all while on the road. This is the first vehicle integration of Amazon Fire TV to support content in 4K, and offers the highest resolution and biggest display of any in-car Fire TV experience. There will be a country-specific offering for customers in China.

Raise the curtain: Atmospheric setting with sound from the cooperation with Hans Zimmer. The new in-car entertainment experience in future luxury class models from BMW begins with the activation of My Mode Theatre. When the BMW Theatre Screen moves out of the headliner, this is accompanied by a sound experience created exclusively for this purpose in cooperation between the BMW Group and the renowned film music composer and Academy Award winner, Hans Zimmer, which ends at the precise moment when the screen reaches its final position. A graphic animation also appears on the display, specially designed by BMW User Interface Design for the My Mode Theatre. At the same time, the roller sunblinds for the side windows and the rear window are closed and the ambient lighting in the rear of the vehicle is dimmed.

Great cinema: 32:9 panorama display with a resolution of up to 8K.

The BMW Theatre Screen is an ultra-wide panorama display with a screen diagonal of 31 inches that reaches horizontally over almost the entire interior and in height from the headliner to the backrests of the front seats. With a zoom function, the contents of the entertainment programme can be played in width-to-height of 16:9, 21:9 or even in 32:9 format (content may be cropped while zoomed). The exceptionally high display resolution of about 8000 × 2000 pixels per screen column ensures an extremely clear and detailed visual experience when enjoying cinema films in ultra HD quality. The integrated Bowers & Wilkins Diamond Surround Sound System delivers an extremely high-end and multifaceted sound experience.

The tilt of the display can be adjusted by touch operation using the control menu on the in-car entertainment system. This ensures an ideal cinema experience with maximum comfort in every seat position. The corresponding touch controls are also used to select the screen format and two individual passenger volume controls are arranged both on the right and left edges of the display. Alternatively, the passengers can control the entertainment system using the control panels integrated in the door handles.

Full programme: Wide range of entertainment thanks to 5G connectivity and seamless Fire TV integration.

The in-car entertainment system of the future makes it possible to also enjoy the benefits of an extremely modern entertainment experience from the rear seat. An online connection with fast and reliable data transmission is the basis for streaming content. The BMW Group is a pioneer in the implementation of the 5G mobile radio standard in vehicles. The technology

flagship BMW iX is the worldwide first premium vehicle to use this standard for data transmission. It will also be used in other models like the BMW i4 in the future. With an extremely high data bandwidth and low latency, it provides an ideal streaming experience with the luxurious in-car entertainment system of the future (the streaming speed is dependent on the network coverage available locally).

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# Magical exterior colour-change. BMW iX Flow featuring E Ink.



BMW  
Media  
Information

01/2022  
Page 27

Digitisation is delivering an integrated user experience characterised by individuality and emotionalisation in the interior of current BMW models. The My Modes allow the driver to tailor the atmosphere in the interior entirely to their personal mood and the driving experience they want. With the BMW iX Flow featuring E Ink being presented on the occasion of CES 2022, the Munich-based premium car manufacturer is offering the prospect of a future technology that uses digitisation to also adapt the exterior of a vehicle to different situations and individual wishes. The surface of the BMW iX Flow featuring E Ink can vary its shade at the driver's prompting.

Frank Weber, Member of the Board of Management of BMW AG, Development: "Digital experiences won't just be limited to displays in the future. There will be more and more melding of the real and virtual. With the BMW iX Flow, we are bringing the car body to life."

The fluid colour changes are made possible by a specially developed body wrap that is tailored precisely to the contours of the all-electric Sports Activity Vehicle from BMW. When stimulated by electrical signals, the electrophoretic technology brings different colour pigments to the surface, causing the body skin to take on the desired colouration. Adrian van Hooydonk, Head of BMW Group Design: "The BMW iX Flow is an advanced research and design project and a great example of the forward thinking that BMW is known for."

The innovative E Ink technology opens completely new ways of changing the vehicle's appearance in line with the driver's aesthetic preferences, the environmental conditions or even functional requirements. The technology thus offers unprecedented potential for personalisation in the area of exterior design. The BMW iX Flow featuring E Ink demonstrates this potential to impressive effect. Against this background, the BMW Group is driving the development of the technology so that a new form of personalisation can be experienced both on the outside and in the inside of future production vehicles.

Already today, the colour chosen for a car is an expression of the driver's personality. The choice of exterior paints available for current BMW models covers a wide colour spectrum. In this way, the longing for a wildly expressive, extravagant, or sporty appearance on the outside can be taken into account as well as the desire for an understated, subtle or elegant appearance. New variants are added each year that reflect the characteristics of the model in question and that allow the brand to keep setting trends in the area of exterior design.

New technologies will provide a whole new level of decision-making freedom in the future. "This gives the driver the freedom to express different facets of their personality or even their enjoyment of change outwardly, and to redefine this each time they sit into their car," says Stella Clarke, Head of Project for the BMW iX Flow featuring E Ink. "Similar to fashion or the

status ads on social media channels, the vehicle then becomes an expression of different moods and circumstances in daily life."

How a variable exterior colour can increase efficiency.

A variable exterior colour can also contribute to wellness in the interior and to the efficiency of the vehicle. This is done by taking account of the different abilities of light and dark colours when it comes to reflecting sunlight and the associated absorption of thermal energy. A white surface reflects a lot more sunlight than a black one. By implication, heating of the vehicle and passenger compartment as a result of strong sunlight and high outside temperatures can be reduced by changing the exterior to a light colour. In cooler weather, a dark outer skin will help the vehicle to absorb noticeably more warmth from the sun.

In both cases, selective colour changes can help to cut the amount of cooling and heating required from the vehicle's air conditioning. This reduces the amount of energy the vehicle electrical system needs and with it also the vehicle's fuel or electricity consumption. In an all-electric car, changing the colour in line with the weather can therefore also help to increase the range. In the interior, the technology could, for example, prevent the dashboard from heating up too much.

E Ink technology itself is extremely energy efficient. Unlike displays or projectors, the electrophoretic technology needs absolutely no energy to keep the chosen colour state constant. Current only flows during the short colour changing phase.

Millions of paint capsules in a custom wrap.

Electrophoretic colouring is based on a technology developed by E Ink that is most well-known from the displays used in eReaders. The surface coating of the BMW iX Flow featuring E Ink contains many millions of microcapsules, with a diameter equivalent to the thickness of a human hair. Each of these microcapsules contains negatively charged white pigments and positively charged black pigments. Depending on the chosen setting, stimulation by means of an electrical field causes either the white or the black pigments to collect at the surface of the microcapsule, giving the car body the desired shade.

Achieving this effect on a vehicle body involves the application of many precisely fitted ePaper segments. Generative design processes are implemented to ensure the segments reflect the characteristic contours of the vehicle and the resulting variations in light and shadow. The generative design algorithms enable the necessary formability and flexibility required to tailor the ePaper exactly to the design lines of the vehicle.

Laser cutting technologies guarantee high precision in generating each segment. After the segments are applied and the power supply for stimulating the electrical field is connected, the entire body is warmed and sealed to guarantee optimum and uniform colour reproduction during every colour change.

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# DIMENSIONS OF REAL.

## A digital design vision.



BMW  
Media  
Information

01/2022  
Page 30

- BMW Group creates human centered experiences through curation with the user. The installation DIMENSIONS OF REAL at CES marks the beginning of a new phase of digital innovation at BMW Group.
- DIMENSIONS OF REAL is a digital experience that plays with the aesthetics of technology that are not limited by the physical. It demonstrates the potentials of digitality and envisions what is yet to come.
- BMW Group is pushing the boundaries of technology and design at the same time, resulting in a never seen before multi-sensory experience that redefines the notion of a concept vehicle.
- **The installation themes are grounded in the ambiance of BMW's My Modes, iconic sounds from Hans Zimmer and future BMW colour palettes.**

BMW Group presents an immersive installation; interacting with our shared digital future on the occasion of CES 2022.

BMW Group is leading the way people can experience its digital design vision in a spatial installation on the occasion of CES. DIMENSIONS OF REAL, conceived by DESIGNWORKS, **BMW GROUP's design innovation studio, is redefining the notion of a concept vehicle and** invites people to embark on a multisensory journey. DIMENSIONS OF REAL is a purely digital format and an artful take on what is yet to come.

Instead of showcasing an actual car, BMW Group designed a digital installation with contrasting worlds. Together, these different worlds form an imaginative human-centered universe that envisions the infinite potentials of digitality for BMW Group and its customers.

As DIMENSIONS OF REAL engages the digital aesthetics of technology, BMW Group explores the future of mobility; which is not restricted by the physical. Whilst the installation themes are **grounded in the ambiance of BMW's My Modes, iconic sounds from Hans Zimmer and future BMW colour palettes,** the bold conceptual vision takes the natural dialogue between driver and vehicle to a next level. It demonstrates how, in the near and far future, the BMW Group **customer's communication and interaction with a brand's vehicle will be purely intuitively.**

BMW Group's **progressive exploration into the digital future is marked by the profound belief** that technologies can change our world for the better through understanding and curation with the user. DIMENSIONS OF REAL is thus an elaboration of what we experience unconsciously as place, motion and presence.

As a curator, BMW Group brings its customers the best of both worlds, the digital and the physical, **to make future mobility smart, rich, and beautiful.** "BMW has always been pushing the boundaries of technology and design at the same time. We dedicate ourselves to the creation of human-centric products and experiences for all senses." states Adrian van Hooydonk, Head of BMW Group Design.

**Holger Hampf, President of DESIGNWORKS concludes: "Our digital future requires the knowledge and ability to work across multiple disciplines. As BMW Group's Advanced Design Studio, DESIGNWORKS is thrilled to deliver a never seen before multi-sensory experience that redefines the notion of a concept vehicle."**

Visitors entering the exhibition space would discover four zones with portals into the different DIMENSIONS OF REAL. A wonderfully surreal journey across emotions and dimensions unfolds as users become part of the creation process through direct interaction with the digital concept vehicle in each world.

The first zone is a world of calm; with a serene landscape. The more still the visitor becomes, the more one-dimensional particles begin to reveal the vehicle on-screen. Moving to the second world, viewers experience a feeling of confidence where two dimensional planes form the vehicle through their two-dimensional movements. The third world is where the vehicle appears in three dimensions: Visitors enter a world of joy where, through expressive movements, one sees their movements mimicked in dynamic, ever-changing geometry. The surreal experience culminates in a final 4th dimensional space where one experiences the digital vision vehicle as a combined composite of the earlier interactions – articulating a previously impossible, new aesthetic expression of automotive design.

The immersive installation DIMENSIONS OF REAL can also be experienced in [JOYTOPIA](#) from 5 to 8 January 2022.

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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 31 production and assembly facilities in 15 countries; the company has a global sales network in more than 140 countries.

In 2020, the BMW Group sold over 2.3 million passenger vehicles and more than 169,000 motorcycles worldwide. The profit before tax in the financial year 2020 **was € 5.222 billion** on revenues amounting to **€ 98.990 billion**. **As of 31 December 2020**, the BMW Group had a workforce of 120,726 employees.

The success of the BMW Group has always been based on long-term thinking and responsible action. The company set the course for the future at an early stage and consistently makes sustainability and efficient resource management central to its strategic direction, from the supply chain through production to the end of the use phase of all products.

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