

Case | Mercedes-Benz

The G-Box XR Manufaktur

Building the bridge between physical and digital
retail experience



2023
Intelligent Interaction



2022
Best Use of Technology



2023
Effect Marketing



The G-Class, known as the „Geländewagen,“ has established itself as one of the longest-produced vehicle models in automotive history. For over four decades, Mercedes-Benz has manufactured this iconic vehicle with its characteristic box design in Austria and exported it worldwide. While the G-Class may initially appear boxy and spartan, it offers a range of unique, luxurious, and state-of-the-art equipment details. In response to the growing trend of individualization and the shift towards a customized build-to-order market, Mercedes-Benz has introduced the G manufaktur program, offering customers in China over 1 million combinations of materials, colors, and packages. This case study explores how Mercedes-Benz, in collaboration with mediaman Shanghai, developed the G-Box XR Manufaktur to provide an innovative and immersive car configurator experience for potential buyers in China.





Innovating the Car Configurator Experience

To address the threefold challenge of showcasing the G-Class aura, simplifying the configuration process, and creating an emotional ordering experience, Mercedes-Benz together with mediaman Shanghai introduced the G-Box XR Manufaktur — a cutting-edge interactive platform based on Unreal Engine 5. The G-Box XR Manufaktur, displayed in brand showrooms, trade fairs, and show events, serves as a visually captivating tool that enables customers to configure and visualize their personalized G-Class in real-time.

- **Unveiling the Digital Canvas:** Through captivating visuals, living and immersive environments, we sought to narrate the unique features and iconic design of the G-Class in a language that directly communicates with the visual sensibilities of potential customers.



- **User-Centric Configuration:** Our streamlined vehicle configuration process is intricately designed with users in mind, ensuring a seamless and user-friendly experience that transcends the typical automotive customisation complexities.
- **Emotionally Resonant Digital Expedition:** Creating a digital odyssey that extends beyond the screen, forging a unique and lasting bond. It's more than just a journey; it's a digital exploration of all the G-Class facets, finely tuned to resonate with users emotions.



Engaging Visuals and Immersive Interactions

The heart of the G-Box XR Manufaktur is the software, powered by Unreal Engine 5.3, and invites users into a hyper-realistic world with native 4K resolution. Stepping into the captivating universe of the G-Class, where the Mercedes-Benz G500 and Mercedes-AMG G63 await exploration in 360 degrees. Intuitive touch screen controls allow effortless configuration of the vehicles, with real-time changes triggered by each input. Interpolating cameras ensure a comprehensive overview, highlighting configuration details and fostering emotional connections with the G-Class.

Beyond customization, the G-Box serves as the gateway to the G-Class experience, offering various immersive adventures that showcase the vehicle's capabilities in off-road environments. A single tap on the experience button activates dynamic demonstrations, such as tilting and elevating the car to demonstrate its hill-climbing prowess or submerging it in water to illustrate its fording depth.



Using the high visual quality of the Unreal Engine and making it the heart of a multisensory experience, our goal was to provide the user with new and intuitive impulses along their journey.

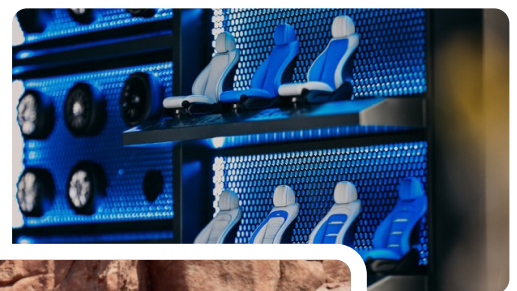
Hendrik Niedenthal
Project lead from mediaman Shanghai



Multi-Sensory Integration

The G-Box XR Manufaktur engages all the senses, providing customers with a unique and memorable experience. Physical objects such as 3D-printed samples of paints, rims, and seats further enhance the tactile experience. By placing these objects in the RFID scan field, customers witness real-time changes on the screen, allowing them to explore various configurations and gain visual impressions of the final result. LED signals guide users towards available options, while ambient lighting within the G-Box mirrors the lighting ambiance inside the G-Class itself. The 360-degree exploration mode on the touch-screen as well as the VR module enable users to interact with different car functions and applications, providing an immersive and comprehensive understanding of the G-Class. Additionally, the configurator incorporates authentic sounds, including the iconic door closing sound and the powerful roar of the Mercedes-AMG G63's V8 engine. This multi-sensory

approach adds an emotional layer to the overall experience, reinforcing the connection between the user and the vehicle.





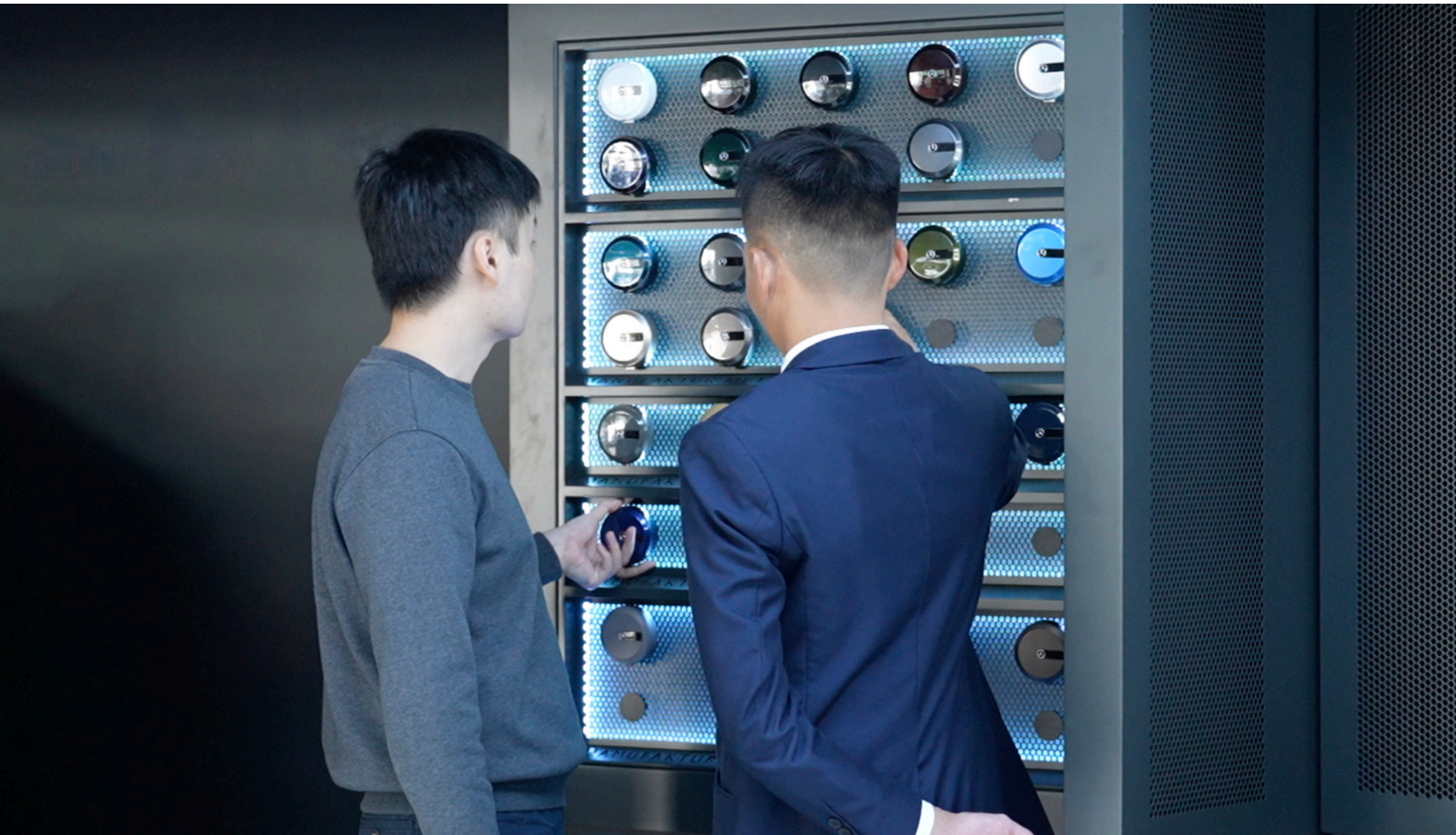
Seamless Integration and Accessibility

Upon completing the configuration, users receive a QR code that directs them to the G-Box WeChat Mini-Program. Scanning the code automatically uploads the configuration results in real-time, enabling customers to save and share their personalized G-Class configuration. The Mini-Program provides a summary of the configuration information, an emotional highlight video, and an image gallery based on the previous choices of the user. This integration between physical and digital platforms ensures a seamless transition from the showroom to the user's mobile device.

Perfection in Design and Software Development

The G-Box represents the culmination of manufacturing expertise in furniture construction, 3D printing, and software development. The 3D-printed objects, carefully painted to resemble the G-Class spare wheel cover, exemplify the attention to detail present in both the physical and digital realms. The software development process focused on aligning a highly complex vehicle configuration with a visually premium and user-friendly customer journey. The G-Box's backend software efficiently manages all functions, including user data analysis and over-the-air updates.





Customer-Centric Configuration Experience

The introduction of the G-Box has provided the G-Class with a distinct competitive advantage in the Chinese market. Mercedes-Benz and mediaman have successfully combined physical and digital customer journeys, catering to the needs of tech-savvy Chinese customers as well as casual users seeking more information about available equipment. The G-Box serves as an invaluable tool for consultants at car dealerships and trade fairs, facili-

tating upselling opportunities and strengthening the brand image. Furthermore, the data analysis capabilities of the G-Box provide valuable metrics for sales management.

As usual configurators provide a rather pragmatic and technical approach to the configuration process, we wanted to give the user all the freedom they need to explore and configure their car in their own pace and sequence.

Chanda Jiang

*responsible for the G-Box UX Design
on the overall UI/UX design strategy*



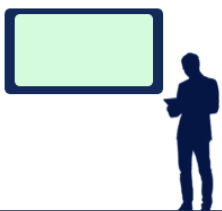


The right G-Box for your purpose

In addition to the G-Box Classic, there are several derivatives that have been developed since the prototype's completion in late 2021. These derivatives have undergone various improvements, including a complete re-design of the software using Unreal Engine 5, resulting in enhanced visual quality and improved UI/UX. Each derivative serves a specific purpose and expands the reach of the G-Box XR Manufaktur experience without additional software adaptations needed.

G-Box Classic: The mobile G-Box variation is primarily utilized for roadshows and pop-up stores. This portable version allows Mercedes-Benz to bring the immersive configurator experience to different locations and events, enabling potential buyers to interact with the G-Class configurator outside of traditional showroom settings.

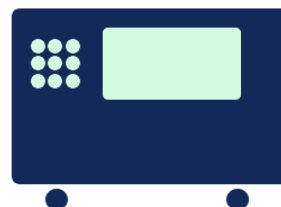
G-Box Light
Pixel Streaming



G-Box Shop in Shop
Integrated in Showroom



G-Box Classic
Standalone Cabinet



G-Box VR
Extension





G-Box Shop-in-Shop: Together with Mercedes-Benz, we have also developed an integrated version of the G-Box specifically designed for dealer showrooms. By integrating the G-Box into the dealership environment, customers can seamlessly transition from exploring the configurator to engaging with sales consultants, facilitating a more personalized and comprehensive buying experience.

G-Class Experience Center (GEC) Build-up: The G-Class Experience Center in Shaoxing, also known as GEC, features a unique build-up of the G-Box tailored to the center's immersive environment. This specialized variation enhances the overall experience at the GEC, allowing visitors to engage with the G-Box configurator within the context of the center's curated displays and activities.

Streaming Version: Another notable variation of the G-Box is the streaming version. This version enables customers to access the configurator remotely through digital platforms, allowing them to explore and personalize their G-Class from the comfort of their own homes or anywhere with an internet con-



nection. The streaming version extends the configurator's accessibility beyond physical showrooms, catering to the preferences and convenience of a broader customer base.

G-Box VR Module: The latest addition to G-Box XR Manufaktur is the VR module, offering enhanced immersion. This user-friendly experience aims to make VR accessible to all, particularly those new to 3D navigation. With lifelike environments, simple navigation, and engaging interactions, users are kept enthralled and surprised by breathtaking moments, like the stone platform rising to showcase its climbing capabilities.

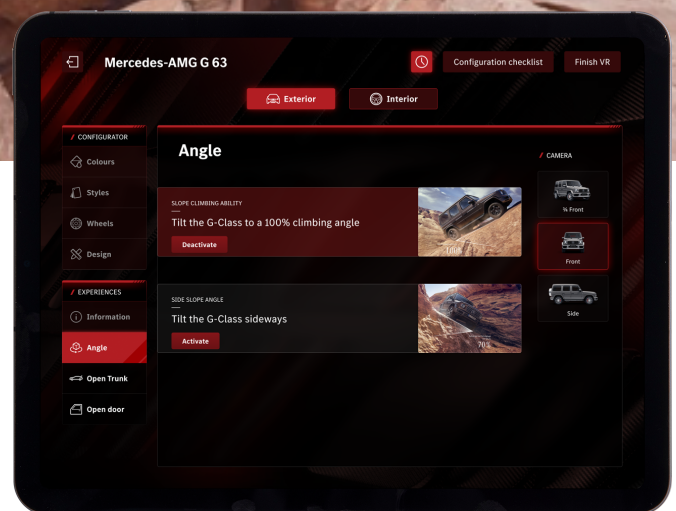


A peek under the hood: the technology used in detail

The G-Box XR Manufaktur utilizes the powerful Unreal Engine 5 as its foundation, leveraging its exceptional visual quality to achieve photorealistic representations within an interactive environment. Through the integration of DLSS (Deep Learning Super Sampling) within UE5, mediaman has successfully struck a balance between delivering a 4K output resolution and optimizing computing resources for intricate details.

To align with the OEM (Original Equipment Manufacturer) logic, the G-Box XR Manufaktur employs the manufacturer's codes for all available equipment, ensuring seamless integration into the overall sales process. This allows for easy export and exchange of chosen configurations with internal and external systems such as CCS (Car Configurator Services) or ordering tools like OTR (One Touch Retail).

A wealth of comprehensive information for the G-Box XR Manufaktur is sourced through Mercedes-



Benz's proprietary API (CSS), enabling efficient life-cycle management for future changes and model years. The communication between the Unreal Engine and peripheral hardware inputs, such as RFID samples, is managed by the IoT protocol MQTT.

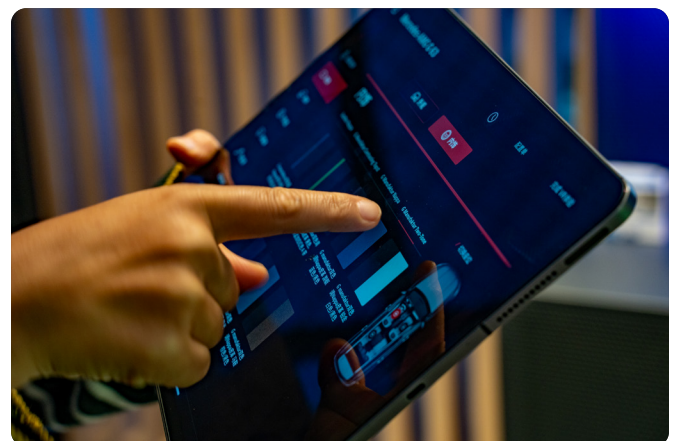
The G-Box XR Manufaktur operates through an intuitive touch screen interface, providing logical navigation and control throughout the experience. Notably, a special function of the program optimizes energy consumption by switching the Unreal Engine used for 3D rendering to an energy-saving mode during this phase. This smart approach conserves resources and significantly extends the hardware's service life.



Conclusion

The G-Box XR Manufaktur is a game-changer, strategically positioning the G-Class at the forefront of China's evolving retail landscape. Mercedes-Benz ingeniously taps into the rising wave of hyper-personnalisation and hybrid retail trends, seamlessly merging the physical and digital in a unique experience. More than just a sales tool, it propels with smooth up-selling capabilities, enhancing brand image and creating lasting leads through the WeChat mini-program unique digital takeaway. Installed in 15 dealer showrooms in 2023 in China and showcased in Spain, New York, and Berlin, the XR Manufaktur transcends physical boundaries. Its versatility shines through in roadshows across China, hitting key cities like Beijing, Guangzhou, Shanghai, and Shenzhen. The success of pop-up stores and events in diverse Chinese cities in 2023 highlights its adaptability in various retail environments. We've also witnessed an unprecedented surge in customer engagement through the WeChat mini-program, creating a dynamic and shareable digital experience. This innovative approach has not

only captured the attention of the tech-savvy demographic but has also generated tangible leads, contributing to a remarkable increase in G-Class sales inquiries post-campaign. The integration of RFID technology and IoT has enabled real-time visual changes, providing users with a seamless and intuitive interface that has set new benchmarks for immersive automotive retail experiences in China.





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to meet you.

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