

How BMW brings health and well-being into the Neue Klasse interior in China.

+++ Odor laboratory as key pillars +++ Three-level validation from material to complete vehicle +++ Intelligent air management: prevention, filtration, information, refresh +++
China-driven innovation feeds back into global development +++

Shenyang/Beijing. With the new BMW iX3, the BMW Group is reaffirming its holistic approach to product sustainability – shining a light on a dimension of product development that has long remained invisible: health and well-being in the passenger compartment. To address this, interior air quality, material selection and olfactory perception are systematically studied and evaluated at the company's own odor laboratory in Shenyang.

Media from across China recently visited the BMW China Shenyang R&D Center's Odor Lab, experienced firsthand the differences in odor between various material samples and exchanged views with engineers from BMW China. This seemingly invisible experience revealed the more than 25 years of long-term commitment behind BMW's healthy cabin.

In-cabin air quality is becoming a new dimension of premium mobility

People today spend more time in their cars than ever before. For BMW, an excellent car must not only be fast and stable – it must also make occupants feel comfortable, at ease and pleasantly engaged. Therefore, our understanding of “premium” is also evolving. True premium is not only reflected in how a vehicle drives, but also in how the people inside feel. Health and a sense of well-being are becoming important factors influencing user decisions.

In the Neue Klasse, the healthy cabin has become an essential part of the BMW Well-being philosophy. It is not an isolated configuration option, but a complete product development philosophy that enables a deeper integration of health, comfort and driving pleasure.

Healthy air starts at the source.

When people think of healthy air, they first think of filters or air purification systems. But for BMW, premium air is not just filtered – it is designed.

During the development of the Neue Klasse, air quality requirements have been integrated into the entire material development process. From leather, textiles and plastics to adhesives, every material must undergo rigorous odor and emission assessments before it enters the vehicle. This assessment runs through the entire development cycle, not just a one-time spot check. Behind this is the daily work of BMW's odor lab. This team of experts, with their highly trained skillset, evaluates and validates the odor of every material – and they find that even for the same type of material, there are clear differences between different solutions.

The Neue Klasse uses a new generation of automotive-grade **microfiber materials**. These materials can effectively reduce the level of potential emissions such as volatile organic compounds (VOCs), aldehydes and fogging substances. This advantage is even more evident after prolonged exposure to high summer temperatures or long periods of parking. At the same time, the material itself contains no animal protein components, which helps reduce the odor issues that may occur with natural leather over long-term use.

BMW not only focuses on interior materials with large surface areas, but also on every easily overlooked component detail. For example, in the Neue Klasse, some speaker covers have been upgraded from plastic to steel structures. This not only enhances visual and tactile quality but also reduces the use of related plastic materials.

More than 25 years of expertise, a three-level validation system.

As early as 1999, BMW established one of the world's first odor laboratory in Munich, Germany. In 2014, BMW established its second global odor laboratory in Shenyang, forming a dual-lab network of **global R&D, Chinese innovation and global sharing**. The

Shenyang laboratory is not only a local validation base but also undertakes forward-looking R&D tasks for the Chinese market. Many material solutions and validation experiences developed in China have been gradually fed back into global product development.

To ensure that every vehicle meets uniform standards, BMW has established a three-level validation system:

- **Material-level validation:** Testing and evaluation of materials such as leather, textiles, plastics and adhesives, with odor evaluation conducted by the “Nose Team.”
- **Component-level validation:** Odor and emission validation for key components such as seats, instrument panels, door panels and headliners.
- **Vehicle-level validation:** Complete vehicle testing for different configurations and material combinations.

From a single material to a complete vehicle, every step must undergo rigorous validation. From Germany to China, from R&D to production, global uniform standards run through the entire development process. This accumulation of more than 25 years is an important reflection of BMW’s engineering strength.

Intelligent air management: from passive filtration to proactive prevention.

In addition to source control, BMW has developed an intelligent air management system for the Neue Klasse that covers the entire process from before departure to during the journey, upgrading from “passive filtration” to “active management.” This means users no longer need to worry about in-cabin air – the air is already refreshed before they get in, the system automatically defends when entering tunnels, and air quality is available at a glance during long drives. The technology works quietly in the background, allowing users to focus on driving and enjoying the journey.

- **Prevention:** When the vehicle enters high-pollution environments such as tunnels or congested sections, the system proactively switches the air circulation mode to reduce the entry of external polluted air. Users no longer need to manually switch between recirculation and fresh air.

- **Filtration:** The new BMW iX3 is equipped with a **Nano Filter system**, which provides multi-layer filtration of the air entering the cabin. Even in smoggy or dusty weather, the air inside remains fresh.
- **Inform:** Users can view real-time AQI (Air Quality Index) information to clearly understand the current air environment. They know the situation without having to rely on their nose.
- **Refresh:** Automatic parking ventilation and pre-entry air refresh allow the comfort experience to begin before departure. After a car has been sitting in the summer heat, occupants no longer face a blast of heat and odour when getting in.

From before departure to during the journey, from changes in the external environment to in-cabin air refresh, BMW aims to reduce the burden on users through intelligent technology, allowing them to focus more on driving itself and on the journey shared with family and friends. This is the core of the BMW Sustainability philosophy – letting technology work silently so that users can focus on enjoying driving pleasure.

China-driven, shared globally.

The development of BMW's healthy cabin is inseparable from the Chinese market. Chinese consumers' strong focus on in-car odor, emissions and air quality continuously drives BMW's innovation. Many solutions and validation experiences developed for the Chinese market have been gradually applied to global product development. The testing methods and material standards developed by the Shenyang Odor Lab have become an important part of BMW's global odor management system. China is not only an important market for BMW, but also an important source of innovation for BMW's healthy cabin.

In terms of collaboration, BMW has always maintained close cooperation with Chinese suppliers, testing institutions, research institutes and industry partners. For example, BMW has long-term joint research with institutions such as CATARC (China Automotive Technology and Research Center) to explore air quality evaluation systems that better reflect Chinese user scenarios. BMW also actively participates in the development of industry standards, hoping to promote industry progress through open collaboration and experience sharing.

The new BMW iX3: a culmination of the healthy cabin.

After more than 25 years of continuous accumulation, BMW has fully integrated these technologies, experiences and standards into the Neue Klasse. The new BMW iX3 is a prime example:

From the source, it uses innovative low-emission materials and undergoes a three-level validation system for materials, components and complete vehicles. In terms of user experience, it is equipped with a Nano Filter system, AQI display, automatic parking ventilation and pre-entry air refresh, enabling more proactive air management. In terms of R&D, it relies on a global R&D and Chinese innovation network to ensure that healthy cabin standards are truly implemented.

From source control to intelligent air management, from global R&D to Chinese innovation, from user demand insights to co-creation of industry standards – for more than 25 years, BMW has always insisted on integrating safety, health and well-being into every detail of product development. Those invisible material choices, invisible validation processes and invisible R&D investments ultimately translate into a sense of reassurance and comfort with every breath. The new BMW iX3 is the latest result of this long-term commitment.

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