



CENTER OF AUTOMOTIVE MANAGEMENT – THE AUTO-INSTITUTE AT THE UNIVERSITY OF APPLIED SCIENCES (FHDW) IN BERGISCH GLADBACH

AutomotiveINNOVATIONS 2026 Report

The innovative strength of global automobile manufacturers

Working Paper 9/2026 by Center of Automotive Management (CAM)

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Executive Summary (I)

For the first time in history, Chinese OEM BYD tops the innovation ranking

- The latest innovation data from global automakers confirm **a historic shift at the top of the industry**: for the first time, a Chinese manufacturer, **BYD**, wins CAM's AutomotiveINNOVATIONS Award as **the world's most innovative automotive group**, finishing ahead of the **Volkswagen Group** and the **Mercedes-Benz Group**. At country level, **China** extends its innovation lead to a new high of **46.8 percent** of global innovation strength, while **Germany** continues its recovery, rising to **28.6 percent** after bottoming out at around 23 percent in 2023. These are the key findings of the AutomotiveINNOVATIONS 2026 report based on 867 innovations for 2025/2026, including 660 innovations in series production from 30 automotive groups with about 100 brands.
- With an innovation score of **157.2 points**, **BYD** secures first place among the world's most innovative automotive groups – ahead of the **Volkswagen Group** (143.1 points) and the **Mercedes-Benz Group** (134.2 points). The Volkswagen Group, which topped last year's ranking with 205.4 points, saw its score fall by around 63 points; even so, it retains second place. Alongside the top three, **Xiaopeng**, **BMW** and **Geely** complete the "high-performer" category, each surpassing 100 innovation index points (IIP) for the first time. BMW's rise is especially striking after ranking only 19th a year earlier, the Munich-based manufacturer jumped into the high-performer group on the strength of the innovations introduced with its new **"Neue Klasse" platform**.
- Among premium brands, **Mercedes-Benz** reclaims the crown as **the most innovative premium brand** with 134.2 IIP. Two dramatic climbers follow close behind: **Xpeng** (128.4 points, up from 14th place) and **BMW** (111.3 points, up from 25th), again propelled by the "Neue Klasse." This marks a sharp reversal from the previous year, when **Audi** led the premium field. Audi improved its own score, to 87.3 points, but slipped back into the medium-performer group as rivals climbed even faster. Chinese premium brands continue to exert competitive pressure: with **Nio**, **Yangwang** and **Zeekr** among others, seven of the top 11 most innovative premium brands now come from China.
- Among **volume brands**, **BYD** becomes, for the first time, also the most innovative volume brand, with a clear lead of 105.5 IIP over second-placed **Renault** (59.9 points) and third-placed **Toyota** (46.0 points, up from 18th). The **Volkswagen** brand, last year's volume-brand leader, slips to eleventh place. Nine of the top 20 volume brands are now Chinese: alongside **BYD**, **Geely**, **Buick**, **Xiaomi**, **Nevo**, **LiAuto**, **Deepal**, **Leapmotor** and **Lynk & Co** all place in the medium-performer field.
- The award for **the most innovative car model** returns to a German brand: the **BMW iX3**, the first model built on the "Neue Klasse" platform, wins with a score of 92.2 points, ahead of the **Mercedes-Benz CLA** (77.4) and the **Xpeng X9** (59.8). The iX3 combines a segment-leading 805-kilometre range with a broad sweep of world-first innovations spanning electric drive, autonomous driving, connectivity and interface, positioning BMW broadly across all relevant technology fields.

867

Innovations

660

In production

46.8%

China share

30

OEMs analysed

~100

Brands

Renault, BYD, Audi, BMW and Mercedes-Benz share the 2025/26 technology-field awards

- CAM's database continues to show a strong link between **innovation strength and BEV sales**, with a correlation coefficient of **+0.74**. At country level, **Germany** has all but closed the gap to **China** in electric-drive innovation, rising to **31.9 percent** of global **electric mobility innovation strength** versus **32.4 percent** for China – just a few years ago, the German share stood at only around 20 percent. At OEM group level (cumulative 2020–2025), **Geely** leads with 208.8 IIP, ahead of the **Volkswagen Group** (199.5) and **BYD** (171.2). **BMW** is the sharpest climber, rising from 10th to 5th place (125.2 points) on the strength of the new **BMW iX3**, offering an 805-kilometre range, an AI-controlled charging flap and Plug&Charge support for up to ten simultaneous contracts. **Renault** posted the single highest 2025 score of any manufacturer (48.4 points), thanks to bidirectional vehicle-to-grid technology built into the Renault 4 and Twingo E-Tech. In plug-in hybrids, **BYD** now leads cumulative innovation strength (109.7 points) ahead of **Geely** (73.2) and **Mercedes-Benz** (71.4) – German manufacturers, long dominant in PHEVs, have been overtaken as they refocus R&D on pure BEVs. **Renault** wins the Electric Drive technology award among volume brands (46.7 points), ahead of BYD (40.8) and Nissan (24.1); BMW's "Neue Klasse" (47.3) leads the field among premium brands.
- Within the **ADAS & autonomous driving** technology field, Level 2+ is now a hygiene factor in the Chinese market – 16 Chinese brands offer it, versus five American and only two to three German groups. Even so, **China's** share of global ADAS innovation strength eased back from around 65 percent in 2023 to **50 percent** in 2025, as **German** manufacturers surged forward to roughly **30 percent**, led by a near-200-percent jump in the Volkswagen Group's ADAS innovation strength. At group level, the **Volkswagen Group** – driven mainly by **Audi's** Q3 lane-change assistant and Q6 Level 2+ systems – leads ADAS/AD innovation strength over the past two years and remains the leader over the longer 2021–2025 period, ahead of **Toyota**, **BYD**, **Xiaopeng** and **General Motors**. At SAE Level 3, early pioneers **Mercedes-Benz** (Drive Pilot) and **BMW** (Personal Pilot L3) have paused further development, opening the door for Chinese OEMs such as BAIC, GAC Hyptec and Deepal to catch up with pre-series announcements. **Audi** wins the ADAS & Autonomous Driving technology award among premium brands (53.1 points), ahead of Xpeng (37.2) and Maextro (14.4); **BYD** wins among volume brands (27.6 points), ahead of Toyota (27.0) and Xiaomi (11.4), on the back of its "Navigate on Autopilot" rollout across its entire model range.
- **German manufacturers** keep their overall lead in **connectivity innovation strength** (around 780 IIP, versus roughly 530 IIP for Chinese OEMs), although the gap in infotainment specifically has narrowed to about 40 points, as Chinese customers increasingly expect an ever-expanding personal digital ecosystem inside the car. In interfaces, the lead has flipped: **Chinese** manufacturers have led since 2023 (around 570 IIP), narrowly ahead of Germany's BMW, Mercedes-Benz and Volkswagen combined (about 490 IIP) – the Chinese lead comes mainly from display innovations, while German OEMs remain stronger in augmented reality and advanced, learning operating concepts. **Mercedes-Benz** wins the Connectivity & Infotainment technology award among premium brands (76.9 points), ahead of BMW (44.5) and Xpeng (39.4), led by the CLA's generative-AI-powered MBUX Virtual Assistant and new MB Superscreen. **BYD** wins among volume brands (16.0 points), ahead of Mazda (12.6) and Li Auto (12.2).

- **Electromobility (BEV & PHEV):**
 - Beyond further technical gains in range, consumption and charging power, the **electric vehicle ecosystem** will gain increasing importance. Networking electric cars with the power grid, the home or other devices can create innovations with genuinely new, e-mobility-specific customer benefits that combustion-engine cars cannot offer. Today, innovation types with comparatively low implementation complexity, **vehicle-to-load** and **plug-and-charge**, dominate, and this segment is expected to reach saturation. **Vehicle-to-home** and **vehicle-to-grid** applications, which are more complex to implement but offer greater customer benefit through economic advantage, sustainability and grid stabilization, are expected to show the strongest growth in innovation strength through 2030.
 - There are early examples already: the **Renault 4** and **Twingo E-Tech** now come with bidirectional 11 kW AC charging as standard, turning the vehicle into an active energy-storage unit for the home or the grid. **China** currently offers the broadest range of V2X functions across its OEMs, while **European** manufacturers concentrate more narrowly on vehicle-to-home, vehicle-to-grid and vehicle-to-load.
- **ADAS & autonomous driving:**
 - In the case of advanced driver assistance systems according to **SAE Level 2+**, a moderate growth in innovative strength is to be expected until 2030 – the Chinese OEMs have already won this race, though the pace of increase is set to flatten. The situation is different at the higher SAE levels: the decisive growth in innovation strength still lies ahead and should accelerate particularly toward the end of the decade. After **Mercedes-Benz** and **BMW** took an early lead at Level 3 – and have since paused further development – a catch-up process by Chinese companies such as **BYD**, **Geely** and **GAC**, together with younger companies such as **Xpeng**, is to be expected, with initial announcements already in place. American manufacturers, especially **Tesla**, also still offer great potential: Tesla has announced that it wants to make its entire fleet Level 4-capable with its Full Self-Driving package.
- **Connectivity, infotainment & interfaces:**
 - Various drivers – **digitalization technologies**, **AI** and customers' **personal digital ecosystems** – continue to generate new use cases in the infotainment sector and to increase the pace of innovation. In China especially, the car is increasingly becoming an extension of the living space, a development that is likely to serve as a blueprint for other markets. Beyond entertainment, the highest future growth is expected from connectivity innovations related to safety, comfort and electromobility; OTA updates are moving toward becoming a hygiene factor as zonal vehicle architectures spread (Mercedes-Benz from 2025, Volkswagen from 2026), while the business model around functions-on-demand is still being established gradually. According to the interface innovation forecast, previously rather “manual” operating concepts will increasingly be supplemented or replaced by automated, context- and emotion-aware detection and activation and by greater interaction between the car and its occupants – with **augmented reality** expected to become the leading form of display innovation, and early developments concentrated in **Germany** and **China**.

- In addition to "innovation strength" - which measures OEMs' current innovation output based on market-ready, mass-production innovations – the **software defined vehicle readiness** captures the automakers' structural future viability by considering input factors such as capabilities, resources, and culture/organization.
- The analysis of leading automotive manufacturers shows substantial differences in their readiness for the transition toward the SDV. The assessment considers both the **development progress of SDV capabilities** and the **technical manageability of OEM hardware and software platform landscapes**. Manageability is a critical factor, as lower platform and variant complexity facilitates the scalable rollout of new software architectures, centralized computing structures and AI-based vehicle functions across an OEM's product portfolio.
- Three broad archetypes emerge:
 - **SDV Leaders**, including Tesla, NIO and Xpeng, benefit from comparatively mature software-centric vehicle architectures and limited legacy complexity. Their greenfield approach enables them to develop hardware and software architectures in a more integrated manner and provides structural advantages for the industrialization of SDVs. BYD is positioned close to this group, although its broader platform landscape creates additional complexity. These manufacturers are also comparatively well positioned for the next stage of development toward increasingly AI-defined vehicles.
 - **Fast Followers**, including BMW, Mercedes-Benz and Geely, have already achieved a high level of maturity in several SDV-related capabilities but are still transitioning toward more unified software platforms and centralized hardware architectures. BMW and Mercedes-Benz introduced their first vehicles based on new-generation architectures in 2025, with the number of SDV-based models expected to increase significantly over the following years. At the same time, these manufacturers have already established important SDV capabilities such as extensive over-the-air updates and the continuous deployment of new vehicle functions.
 - The greatest transformation challenge remains with **Catch-up Players** such as Volkswagen, Stellantis and Toyota. Their large model portfolios, multiple legacy platforms, global production structures and complex organizations make the transition toward unified SDV architectures considerably more demanding. All three manufacturers have initiated major software and platform programs, including Toyota's Arene platform and Volkswagen's future software architecture, although broad deployment across their vehicle portfolios remains incomplete. Differences are also visible in areas such as AI integration and ecosystem partnerships. Overall, the analysis indicates that SDV readiness is increasingly becoming a structural competitive factor: OEMs that successfully reduce technological complexity, establish scalable software architectures and integrate AI capabilities across their vehicle portfolios will be better positioned for the next phase of automotive digitalization.

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