

## China has mastered the latest battery technology

Why is China leading the world in battery research?

Researchers in China lead the world in publishing widely cited papers in 52 of 64 critical technologies, recent calculations by the Australian Strategic Policy Institute reveal. China's advances in battery research have helped it gain a dominant position in electric vehicles. Gilles Sabrié for The New York Times

Where does China's lead in battery technology come from?

China's lead is particularly wide in batteries. According to the Australian Strategic Policy Institute,65.5 percent of widely cited technical papers on battery technology come from researchers in China, compared with 12 percent from the United States. A CATL battery factory in Ningde, China, last year. Qilai Shen for The New York Times

Will China get into battery swapping?

(AP Photo/Ng Han Guan) XIAMEN,China (AP) -- The world's largest maker of batteries for electric vehicles said Wednesday it will get into battery swapping in China in a big way starting next year. The idea behind battery swapping is to refuel quickly,similar to filling a conventional car with gas.

Should China build a battery factory in the United States?

Still, China's battery companies are looking for ways to produce in the United States for the American market. Building and equipping an electric-car battery factory in the United States costs six times as much as in China, said Robin Zeng, the chairman and founder of CATL. The work is also slow -- "three times longer," he said in an interview.

How much subsidies did China give to EV battery makers in 2023?

In 2023,the Chinese government extended \$809 millionin subsidies to EV battery maker CATL (more than double the \$401 million it provided in 2022) and \$208.9 million to EVE Energy (China's fourth-largest EV battery producer). From 2018 to 2023,the Chinese government extended a total of \$1.8 billion in subsidies to CATL alone.

Is China outpacing other countries in battery chemistry?

Stressing science education, China is outpacing other countries in research fields like battery chemistry, crucial to its lead in electric vehicles. CATL, a leading battery maker, showcased its technology at a Shanghai auto trade show last year. Qilai Shen for The New York Times

Driven by robust new energy vehicle demand, China''s power battery industry has seen growing sales and production, with emerging technologies expected to accelerate its high-quality development, officials noted. Power batteries serve as the core component of NEVs and are the main driver in automotive electrification.



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May 20 marked a big milestone for the Chinese nuclear power industry in general and China National Nuclear Corp in particular, when homegrown Hualong One technology completed the first ever 100 ...

Companies from China have recently built on those early discoveries, figuring out how to make the batteries hold a powerful charge and endure more than a decade of daily recharges. They are...

Glass battery technology is reportedly capable of storing three times the energy of a traditional Lithium-ion battery of a similar size and can withstand many more charge and discharge cycles than typical EV batteries. ...

(See figure 12.) And as ASPI wrote, "For electric batteries, China has a 5.5 times lead over the US in its share of high-impact research, and eight of the top 10 institutions are based in China." [154] Figure 12: Top five ...

As the global shift towards electrification and green energy accelerates, China has been increasingly focusing on technological innovation, sustainability, and enhanced safety ...

China will make greater efforts to achieve breakthroughs in key and core technologies, according to the draft outline of the 14th Five-Year Plan (2021-2025) for national economic and social ...

At the Beijing Auto Show in April, CATL, the world's largest electric vehicle (EV) battery maker, stunned many with a new product. The Shenxing Plus battery can power an EV for more than 1,000 kilometres on a single charge, according to CATL. That's enough to get from Guangzhou to Wuhan, or London to Berlin.

His aim? To demonstrate that the latest version of the company''s ET7 sedan model could complete the 1,000 kilometer journey using a semi-solid-state battery pack -- a new technology for NIO that its peers in China and around the world are racing to develop. A clip from William Li's livestreamed roadtrip, December 2023.

Battery swapping allows EV drivers to pull into a station on a low battery and receive a swapped, fully-charged battery within minutes. An EV has to be equipped with the right technology to receive a swap -- and not many models around the world currently have it. Automakers have to buy into the idea, and EV adoption among consumers also has to ...

In EV batteries, Chinese enterprises have made important breakthroughs in battery chemistry, with some Chinese EV battery start-ups now working to develop EV ...



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China is the world's largest EV battery exporter, with around 12% of its EV batteries being exported. Production in Europe and the United States reached 110 GWh and 70 GWh of EV batteries in 2023, and 2.5 million and 1.2 million EVs, respectively.

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Chinese battery providers have made advancements in recent years by developing semisolid-state batteries. Beijing Welion New Energy Technology has provided ...

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