

The world s most powerful flow battery





Overview

This revolutionary system in Jemgum uses two underground salt caverns taller than the Eiffel Tower, each capable of holding 100 million liters of electrolyte solution. To put that in perspective, that's enough liquid to fill 40 Olympic-sized swimming pools! Where is the world's largest flow battery located?

The Dalian vanadium flow battery station. Credit: DICP The world's largest flow battery has opened, using a newer technology to store power. The Dalian Flow Battery Energy Storage Peak-shaving Power Station, in Dalian in northeast China, has just been connected to the grid, and will be operating by mid-October.

Where is the largest redox flow battery in Europe?

These parameters are unmatched both in Europe and globally. For comparison, the currently largest operational redox flow battery is in China, with 175 MW of power and 700 MWh of capacity. The Laufenburg project will be developed by FlexBase Group in collaboration with Erne Group. Construction work began in May 2025.

Are flow batteries the future of energy storage?

Flow batteries are emerging as a transformative technology for large-scale energy storage, offering scalability and long-duration storage to address the intermittency of renewable energy sources like solar and wind.

How much power does a redox flow battery produce?

The project involves the construction of an energy storage facility with a power output of 800 MW and a capacity of 1600 MWh. These parameters are unmatched both in Europe and globally. For comparison, the currently largest operational redox flow battery is in China, with 175 MW of power and 700 MWh of capacity.

What is a flow battery?



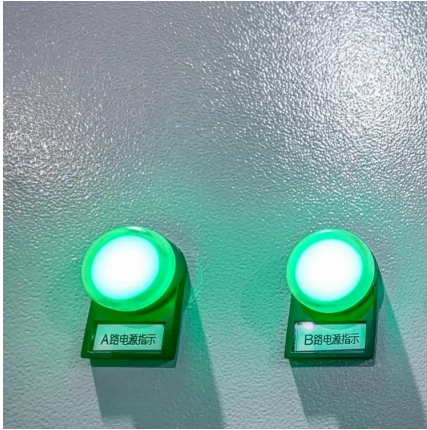
Flow batteries are a newer type of battery technology that operate by combining tanks of liquid electrolytes, rather than using static electrodes. They use cheaper and more sustainable materials than lithium-ion batteries, and are longer-lasting: theoretically, vanadium flow batteries could charge and discharge indefinitely.

Who built Dalian flow battery power station?

The company that built the system and integrated it into the grid was Rongke Power Co. Ltd. The Dalian Flow Battery Power Station project was approved by the Chinese Energy Administration in 2016. This is the first national, large-scale, chemical energy storage demonstration project approved so far.



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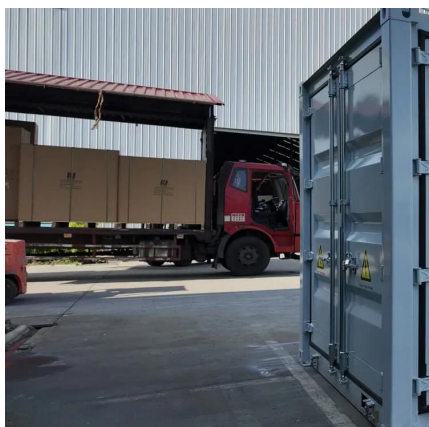
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Full operational capacity is planned for 2030. At that point, the facility is expected to become not only the world's largest redox flow battery but also one of Europe's most important ...

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[World's biggest flow battery, at 100 MW, opens in China](#)

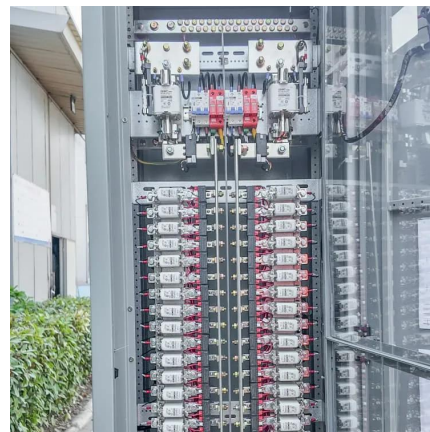
The world's largest vanadium flow battery has opened, using a newer technology to store power, in Dalian, in northeast China.

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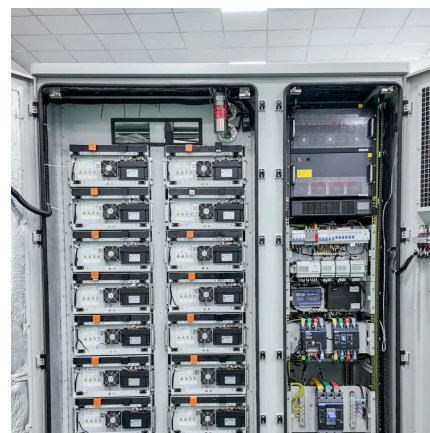
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