The most patents in battery technology

Which patents are related to batteries?

There are patents related to various battery technologies such as Li-ion,Lead-acid,Ni-MH,Redox-flow,Na-ion,Mg-ion,Li-Air,and others. Patents also cover battery components like materials,electrodes,electrolytes,separators,battery cells,battery packs and systems,thermal management systems in batteries,and Battery Management Systems.

How many patents are there in a car battery system?

Ultimately,we perfected our core battery system technology and accumulated over 50 patentsin the US alone. Many of those original vehicles are still running on the roads without a single safety incident.

Which company has the most patents for a solid-state battery?

Toyota announced its solid-state battery development efforts and holds the most patents. In 2015, Sakti3 was acquired by Dyson. In 2017, John Goodenough, the co-inventor of Li-ion batteries, unveiled a solid-state battery, using a glass electrolyte and an alkali-metal anode consisting of lithium, sodium or potassium.

What are the most common battery technologies?

The most common,today,are the lead-acid and the Li-ion,but also Nickel based,Sulfur based,and flow batteries play,or played,a relevant role in this industry. We will take a brief look at the main advantages of the most common battery technologies. These batteries are very common in our daily lives.

Who owns the battery patents?

The lab and the U.S. governmentstill hold the patents,because U.S. taxpayers paid for the research. In 2012,Yang applied to the Department of Energy for a license to manufacture and sell the batteries. The agency issued the license,and Yang launched UniEnergy Technologies. He hired engineers and researchers. But he soon ran into trouble.

Are alternative battery chemistries getting more patents?

Between 2012-2021,the number of patent families filed in CPC class H01M10/054,13which relates to alternative battery chemistries,has steadily increased. The trends follow those seen for redox flow and solid-state battery technology,with a steady growth in the number of patent families filed in this class.

As the drive towards renewable energy use gains pace, there has been an increase in global patent filings relating to battery technology. While lithium-ion batteries currently dominate the battery market, they have several ...

There are various aspects of battery technology which can be patented. For example, while the most common additional classifications for patents in the Y02E 60/10 class in 2023 were for secondary ...

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Battery technology: patent filings and future development areas. 11 July 2024. Share. Toby Willis ... There are various aspects of battery technology which can be patented. For example, while the most common ...

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Electric vehicle (EV) technology innovators are leading the race to find high performance battery materials. Here"s a breakdown of current research and development efforts, and a look at how ...

The IEA/EPO report indicates that in 2018 the number of patent applications relating to lithium-ion technology accounted for 45% of all patent activity relating to battery cells. The majority of current lithium-ion battery research aims to ...

Japan remains a powerhouse of battery innovation, with Panasonic, Toyota Motor and other names applying for more than one-third of international patents in the field, a new report shows.. Japan ...

In the lithium-ion battery domain, most studies related to the innovation of lithium-ion batteries focus on science or technology using paper or patent data. There are only a few researches that analyzed both papers and patents. However, how science contributes to the technology in the lithium-ion battery domain is still unclear.

Patent applications have spiked for sodium and zinc-related battery technology, based on claims of faster charging, longer lifecycle and reduced cost. It said Japanese companies are at the fore of this innovation. ...

The overwhelming majority of battery patents have come from electric vehicle battery technology. Patents concerning batteries for electric vehicles overtook those for consumer electronics in 2011. Since then, growth has generally accelerated. Batteries for "stationary applications", those designed for utility and domestic use, have risen ...

Tesla"s battery patents extend beyond EVs to include stationary energy storage solutions, such as the Powerwall and Megapack. These products use Tesla"s advanced battery technology to store renewable energy, making it more accessible and reliable.

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