



Which country has the battery patent technology

Are alternative battery chemistries getting more patents?

Between 2012-2021, the number of patent families filed in CPC class H01M10/054,13 which 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.

Does China have a future for lithium-ion batteries?

(Photo taken from CATL homepage) OSAKA -- China is increasing its presence in the race to develop replacements for the lithium-ion battery, a Nikkei analysis shows. A country-by-country tally of patents related to post-lithium-ion batteries over the past 10 years shows China in the lead, accounting for more than half of all patents.

How many patent families are there in Canada?

Canada has seen modest but steady growth over this period too. The top filers in the US and Europe include Toyota (841 patent families), Panasonic (618 patent families), and Samsung (205 patent families). Hydro Quebec (24 patent families) was the top filer in Canada.

Who are the top patent filers in the United States?

The top filers in the US, Canada, and Europe between 2017-2021 were US aerospace company Lockheed Martin (228 patent families) and Japanese company Sumitomo Electric Industries (433 patent families).

Is China rushing to develop affordable sodium-ion batteries?

Once-mighty Japan and U.S. lagging in sodium-ion and other affordable tech China's Contemporary Amperex Technology (CATL) is rushing to develop affordable sodium-ion batteries. (Photo taken from CATL homepage)

What are alternative battery chemistries?

For example, sodium and aluminium chemistries provide two potential alternatives to traditional lithium-based battery chemistries. One reason for the interest in alternative battery chemistries is based on supply chain issues relating to lithium and its co-metals nickel, cobalt, and manganese.

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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 ...

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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 ...

China ranked first in battery patents in the post-lithium-ion era, accounting for more than half of the world's total, according to statistics over the past decade published by ...

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...

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.

oBy battery technology (Li-ion, Ni-MH, Redox Flow, Li-Air, Li-S, Na-ion and Mg-ion). 1997-2017 worldwide IP dynamics by supply chain segment and battery technology Overview of the 2017 worldwide patenting activity for each supply chain segment and each battery technology oNew patent applications oNew granted patents oExpired or revoked patents Ranking of main patent ...

China ranked first in battery patents in the post-lithium-ion era, accounting for more than half of the world's total, according to statistics over the past decade published by Nikkei Asia. Nikkei commissioned the Mitsui & Co. Global Strategic Studies Institute for an analysis using the patent analysis tool from LexisNexis. According to the ...

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Successive improvements in battery technology facilitated major electrical advances, ... Waldemar Jungner patented a nickel-iron battery in 1899, the same year as his Ni-Cad battery patent, but found it to be inferior to its cadmium counterpart and, as a consequence, never bothered developing it. [19] It produced a lot more hydrogen gas when being charged, meaning it could ...

For example, 25,231 patents count means that these are homegrown US patents which makes it the priority country for all these patents, hence the US sits comfortably at the top. The same is for China, it is a priority country of 20,486 patents as for all these patents, R& D took place in China.

Among the findings are that patenting activity within the electric-vehicle field has increased and that many innovations originate from Asian countries. In an ambitious patent study of three energy-related technologies, li-ion batteries, hydrogen production and thermochemical conversion of biomass, the five largest countries in terms of ...

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Power battery is the source of electric vehicle, which directly affects the performance and use cost. Through patent retrieval and patent analysis conclusion is palpable: China's power battery technology has been growing maturity gradually in recent ten years; framework of power battery patent layout has taken shape, namely, stress has been put on the ...

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A total of 5,438 patent applications were filed for the batteries worldwide from 2013 to 2021, with Japan accounting for 48.6%, or 2,645 applications. The Yomiuri Shimbun By company, Panasonic...

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