

How many NMC lithium-ion battery patent applicants are there?

More than 590 patent applicants can be found on the NMC Lithium-ion Battery patent landscape. The IP position of key players has been evaluated for precursor, material, electrode and battery manufacturing issues.

How many Li-ion battery patents are there in 2022?

In 2022, more than 320 new patent applicants entered the solid-state Li-ion battery-related patent landscape, with three-quarters filing only one patent family (i.e., unique invention). Most of these IP newcomers are Chinese companies and R&D labs, with less than 30% of them publishing more than one patent family that year.

Which non-Chinese start-ups entered the solid-state Li-ion batteries patent landscape in 2022?

Several non-Chinese start-ups incorporated after 2016 entered the solid-state Li-ion batteries patent landscape in 2022, mainly originating from South Korea and the US. Figure 3: Main non-Chinese start-ups entering the solid-state Li-ion batteries patent landscape in 2022 (i.e., first patent published in 2022).

Who makes lithium batteries?

EnergyX, founded in 2018, specializes in Lithium mining. Its patent on solid-state batteries is co-filed with the University of Texas and is related to lithiated metal organic frameworks with a bound solvent for secondary battery applications. Ionobell is an American material and battery manufacturer founded in 2017.

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.

Will NMC dominate the global lithium-ion battery market by 2022?

According to Yole D&#233;veloppement, NMC materials will dominate the global lithium-ion battery market. They should reach about 51% of the global cathode material market by 2022, driven by the increasing demand for electrical vehicle applications, according to Yole's "Status of the Rechargeable Li-ion Battery Industry" report, published in July 2017.

Nouakchott new energy battery enterprise China's NEV Battery Recycling: Two Main Methods and Current ... The new rules encourage cascade utilization enterprises to collaborate with ...

Status of the Battery Patents -2017 Patenting Activity | April 2018 | Ref.: KM18004 METHODOLOGY FOR PATENT SEARCH AND SELECTION o The data were extracted from ...

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We propose the significance of patent claims in the technological trajectory of lithium battery manufacturing (LBM-Tra) research. And we construct a more robust attention ...

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Sick et al. [21] provided a literature review of scientific publications and depicted the patent landscape by analyzing patent data about lithium-ion batteries. Sick et al. [22] used the number of ...

For this report, we investigated the global patent landscape of NMC Lithium-ion Batteries including precursor, material, electrode and battery manufacturing issues, and all types of NMC materials, whether unmodified, modified, core-shell, or mixed with other active or

Moreover, redox flow batteries are emerging as the most exciting new battery technology for grid storage, with patent activity doubling since 2014, to 894 in 2019 (also above). Hence we include notes on ESS Inc. A description of each ...

In terms of annual production and sales volume of vehicles, as well as the assembly capacity of power lithium batteries, ... 2001, to December 31, 2021. To investigate the enterprise innovation network, a comprehensive collection of enterprise patents was compiled to ensure a thorough examination of all partnerships, irrespective of the success or failure of the ...

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Nanyang Technological University (NTU) scientists have invented a battery component that provides an added layer of protection to prevent short circuits, the main cause of fires in lithium-ion (Li-ion) ...

Innovations targeting improvements in lithium-ion batteries focused on alternative metals have boosted patent applications. Promising trends in the battery sector's future are evident in patent filings, as revealed by the ...

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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 disadvantages. For instance, the manufacture of lithium-ion batteries require

Several non-Chinese startups incorporated after 2016 entered the solid-state Li-ion battery patent landscape in 2022, mainly originating from South Korea and the U.S. Main non-Chinese startups entering the solid-state Li-ion battery patent landscape in 2022 (i.e., first patent published in 2022) Notable South Korean startups. Energy11, founded in 2020, develops Na ...

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