Patent for new battery technology

How many Li-ion battery patents are there in 2022?
In 2022,more than 320new 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.

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.

Who has a patent on solid-state batteries?
Toyo Kohan's patent on solid-state batteries is co-filed with Toyota and is related to a sulfide all-solid-state battery. Nippon Denko's patents on solid-state batteries are related to a garnet lithium ion-conductive oxide material with high ionic conductivity.

Who invented solid-state batteries in 2022?
Several American companies entered the patent landscape in 2022,with the first patent on solid-state batteries being published that year. These companies include material manufacturers Ntherma,Zymergen,Ascend Element,PIDC,NEI Corporation and Huntsman,as well as the battery manufacturer EnPower Greentech.

Which non-Chinese startups are entering the solid-state Li-ion battery patent landscape in 2022?
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) Energy11,founded in 2020,develops Na-ion batteries.

Are solid-state batteries patentable in Japan?
Even though most Japanese companies had started filing patents on solid-state batteries many years earlier, some of them only joined the IP landscape in 2022, such as material manufacturers (Toyo Kohan, Nippon Denko), battery manufacturers (Prime Planet Energy & Solutions, Vehicle Energy Japan) and OEMs/end users (Futaba, Tripod Design, Softbank).

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 to patent different battery technologies. Lithium-ion -- Goodenough for a Nobel Prize

What do the latest patent statistics reveal about innovation in the battery power sector? What are the key areas

suitable for patent protection? In this article we explore the newest patent trends and gain valuable insights into this rapidly evolving field.

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 patenting activity were covered . Relevant patents were extracted using a combination of patent classes and keyword search from the European Patent Office"s ...

Huawei"s new patent on sulfide solid-state batteries addresses liquid battery degradation, promising high energy density, safety, long life, and stability for EVs and storage.

This study provides a comprehensive analysis of global patent trends in battery recycling, focusing on secondary batteries and related technologies across Korea, China, and the United States.

Valence Technology has been granted U.S. patent 7,001,690 entitled "Lithium-based Active Materials and Preparation Thereof." The patent relates to the company"s Saphion I technology, the key component of its rechargeable lithium-ion battery systems. "Our battery systems based on Saphion I technology have been commercially available for more than three ...

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The EPO"s Patent Index 2023 highlights that the field of electrical machinery, apparatus and energy, which includes clean energy inventions, was the fastest growing technology field with new ...

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