Battery production patented

Where do battery patents come from?
The majority of battery patents are found to originate in Asiawhile high battery patent intensities are revealed in the performance of several Asian and European countries. Overall,a considerable increase in annual battery patenting activity is observed from 2000-2009 to 2010-2019.

What is a patent for all polymer battery?
The patent is concerning the elemental technologies of All Polymer Battery. This license allows APB to develop, manufacture and sell of All Polymer Battery within the non-automotive fields.

Why is battery patenting a global trend?
We find that global battery patenting activity grew significantly in the 2000-2019 period. This stylized fact means that the comparative advantages of secondary approaches (rechargeable, redeployable, reusable batteries) have been continuously on the rise driven by innovation, making a direct contribution to socio-technical circularity.

Which technologies grew in relevance to battery patenting?
We find that several battery-related technologies and applications, such as energy storage systems, battery management systems, wireless power transmission, electric vehicle charging, and uncrewed aerial vehicles (i.e., drones), grew in relevance both in absolute terms and relative to general battery patenting activity.

Are battery patents growing?
Overall,a considerable increasein annual battery patenting activity is observed from 2000-2009 to 2010-2019. Second,we also found that four battery technologies - redox-flow,solid-state,sodium-ion,and lithium-sulfur batteries - have displayed vibrant growth in recent years.

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.

Patented Solid-State Battery Technology. In-house production facilities. Stringent quality control measures. Scalable manufacturing capabilities. Groundbreaking Technology . From advanced materials to flexible and scalable solutions, our features are designed to meet the diverse needs of advanced electronic systems. Nanomaterial Engineering. Exploit the power of ...

The following subsections discuss the results by patent production, human resource, grant timing, and topic category metrics, followed by a thematic analysis. The discussion section that follows builds on the results ...

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Lithium battery production is complex, highly automated, quality-focused, and eco-friendly [2, 3, 8, 54, 109]. To establish connections between various technology categories, we construct interrelated labels based on the 21 steps [110, 111]. We merge the 21 steps into 8 steps to balance the research samples, with technology labels corresponding to these 8 steps ...

This study builds on battery patents that can roughly be characterized in the following way: (1) inventions related to the casing, wrapping, or covering, i.e., non-active parts of batteries; (2) developments in battery electrode manufacturing; (3) innovations related to the ...

The results show that China surpassed Japan in total patent count in 2018 and has now become the technology leader across the whole battery production value chain. The findings also clearly demonstrate that Japan served as a pioneer regarding the production, as it was the sole region with a significant number of patents granted from 1993 onwards. Second, the innovation ...

High sensitivity to moisture in sulfide-based electrolytes, inefficient ionic conductor production methods, and the difficulty of stacking fragile battery components further complicate large-scale manufacturing. Current methods also struggle with environmental control, substrate flexibility, and preventing unwanted reactions that reduce battery performance and ...

5 ???· Li-S Energy"s nanotube battery technology. Image used courtesy of Li-S Energy . The U.S. battery developer Lyten plans to build the world"s first Li-S battery gigafactory with an annual capacity of 10 GWh at full scale. Production of cells, cathode materials, and lithium metal anodes at the $1 billion facility near Reno, Nevada, is expected ...

The Company focuses on process innovation, particularly for the production of medicinal compounds and battery materials. Telescope announces it has filed a provisional patent application (63/606,069) on a disruptive new technique to purify lithium carbonate, a critical mineral building block for lithium ion battery production and particularly for low-cost LFP ...

Sanyo Chemical is concluded to license its patented technologies for All Polymer Battery to APB. This license marks a milestone for an early implementation of such world"s first All Polymer Battery technology.

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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 ...

Patent analytics in EV battery technology reveals key innovations, market leaders, and trends, guiding stakeholders in R& D and strategic decisions. It also highlights shifts in technology, like solid-state batteries, and aids in navigating intellectual property, which is crucial for maintaining competitiveness in this rapidly ...

The lithium battery production process is simple and efficient to implement, can realize continuous production and manufacture of lithium battery products,...

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 ...

This data-file tabulates the number of patents filed into different types of batteries, by year and by geography. Hence, we have identified the patent leaders in lithium ion technology, based on 158,000 patents and the battery materials that they describe (above).

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