Battery production and testing patent

Are lithium-ion batteries patentable?
To be very clear: This especially means that the lithium-ion battery category does not contain any patent familiestagged as solid-state battery inventions. The fourth step's purpose was to add patent data related to redox-flow and nickel-hydrogen batteries to the dataset.

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.

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.

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.

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.

Why is battery production a cost-intensive process?
Since battery production is a cost-intensive (material and energy costs) process,these standards will help to save time and money. Battery manufacturing consists of many process steps and the development takes several years,beginning with the concept phase and the technical feasibility,through the sampling phases until SOP.

Bosch Rexroth Solutions Set"s for EV Battery Recycling - coping with the upcoming circular economy challenges and solving customer needs with regards to heav...

To ensure that batteries deliver optimal performance over the longest possible lifetime while meeting strict safety standards, we have developed the AVL Battery TS(TM) End Of Line. From ...

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Papers from six productive battery researchers in Canada, the United States, Japan, and Sweden were used to test whether the query covered a sufficiently large share of ...

Establishing (international) standards for battery manufacturing is paramount for reliable and reproducible product quality, enabling easy scalability from the lab to series production. Since battery production is a cost ...

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 ...

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 ...

Establishing (international) standards for battery manufacturing is paramount for reliable and reproducible product quality, enabling easy scalability from the lab to series ...

We employ a keyword search method to retrieve a total of 22,107 patents related to lithium battery production since the year 2010, after filtering out low-quality and ...

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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 ...

Performance testing for battery cells and systems regarding efficiency and effectiveness, aging, safety and reliability. Search. ... Quality control for reliable and high-quality battery cell ...

Idemitsu Kosan Co.,Ltd. (Idemitsu) and Toyota Motor Corporation (Toyota) announced today that they have entered into an agreement to work together in developing ...

1 -Number of battery related patent filings Key takeaways oOver the last 20 years, battery patent activity for electric vehicles grew constantly (CAGR ~20%) oBetween 2012 and 2015 a plateau ...

Patents analyses results unveil noteworthy insights: Dynamic analysis demonstrates a growing interest in eco-friendly EVs and PBs manufacturing from countries ...

dominated by SMEs. The battery production department focuses on battery production technology. Member companies supply machines, plants, machine components, tools and ...

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Hyundai wants to patent its version of a solid-state battery system in the USA. The Korean car manufacturer is cooperating with the US company Factorial Energy on the development. ... The first results of the test ...

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 ...

Papers from six productive battery researchers in Canada, the United States, Japan, and Sweden were used to test whether the query covered a sufficiently large share of these researchers" battery-related papers.

Status of the Battery Patents -2017 Patenting Activity | April 2018 | Ref.: KM18004 SCOPE OF THE REPORT General supply chain for batteries Raw materials mining / production Battery ...

Chinese entities" global share of patents in the field of electric propulsion increased from 2.4 percent in 2010 to 26.9 percent in 2020. ... China"s two largest EV battery ...

Web: https://centrifugalslurrypump.es