Type of energy storage patent applicants

How many energy storage-ICT patent applications are there in China?
Overall,the development of energy storage-ICT in China increased during the sample period. Specifically,the number of energy storage-ICT patent applications incrementally increased with an annual average of 33.4% (from 2000 to 2020),yielding a total of 3164 patent applicationsin 2020 (2121 inventions and 1043 utility models).

Which patents are related to the application of rechargeable batteries?
Rather related to the application of rechargeable batteries is the patent family encompassing "implantable device with improved battery recharging and powering configuration",showing that innovation in energy storage is also driven by medical technologies. The other cell patents are mostly related to inventions for improved electrodes. 3.3.

Which provinces have the most energy storage-ICT patent applications?
We define the top five provinces with the most energy storage-ICT patent applications as high-convergence regions,including Guangdong,Jiangsu,Zhejiang,Shanghai and Beijing. Similarly,the high-convergence industries are defined as the top ten industries with the most energy storage-ICT patent applications.

Who owns the most energy storage-ICT patents?
The State Grid Corporation of Chinaowns the most energy storage-ICT patents,with 127 invention applications and 73 utility models. Goertek Technology owns the most utility models with 100 patents. Except for Goertek,all the top eight applicants owned more invention application patents than utility model patents.

How do you calculate energy storage patents?
Our model can be stated as follows,(2) ln (E S p a t e n t i t) = ? D i g i t a l i t +? X i t +? t +? j +? k +? i t#where the dependent variable E S P a t e n t i t is the number of energy storage patents held by firm i at year t.

Who are the world's top patent applicants for batteries?
Asian companies account for nine of the top ten global applicants for patents related to batteries,and for two-thirds of the top 25,which also includes six firms from Europe and two from the US. The top five applicants (Samsung,Panasonic,LG,Toyota and Bosch) together generated over a quarter of all IPFs between 2000 and 2018.

For example, a recent report by the European Patent Office on low carbon energy innovation showed that carbon capture utilization and storage inventions made up the highest percentage of international patent filings for ...

Given the deficiency of identifying high-quality patents using disruption index (D-index) and combining the

technical features of energy storage technology, the improved disruption index ...

In addition, the technology layout and patent competitiveness of the patents from the key applicants were also discussed. The relevant patent technology analysis contributes to ...

It was analyzed from four aspects: patent year distribution, patent technology distribution, patent region analysis, and main applicants. The results show that the energy storage fire-protection ...

Electricity storage inventions show annual growth of 14% over past decade, joint study by European Patent Office (EPO) and International Energy Agency (IEA) finds; Amount of batteries and other energy storage needs to grow fiftyfold by ...

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This study takes electrochemical energy storage systems (e.g., lithium-ion batteries, supercapacitors, lithium-sulfur batteries, lithium-air batteries, lithium-metal batteries, sodium-ion batteries, and lead carbon batteries) as the ...

This comprehensive article examines and compares various types of batteries used for energy storage, such as lithium-ion batteries, lead-acid batteries, flow batteries, and ...

The commercialization process of energy storage patents affects the development of the energy storage industry. Clarifying the relationships between the characteristics of the applicants and ...

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