



The company with the most solid-state battery technology patents

Which company has a patent on solid-state batteries?

Ascend Element, a material manufacturer and recycling company established in 2015, has a patent on solid-state batteries related to the recycling of all-solid-state batteries and anode recovery. PIDC (Pacific Industrial Development Corporation), founded in 1992, specializes in alumina, zeolites, rare earths, inorganics, and mixed oxides.

How many patents are there for solid-state battery technology?

There are 1,331 known patents for solid-state battery technology held by Toyota, and 445 patents held by Panasonic, according to a study by Patent Consult and Nikkei that examined patent applications in ten countries and territories from 2000 to the end of March of this year.

Which country has the most solid-state battery patents?

Patents that only apply in China are not included, though. For the past several years, Japan has led the way in solid-state battery innovation, consistently publishing more patents than any other country by a considerable margin. In this table, the top three ranks are occupied by Japanese firms.

Who makes solid-state batteries based on sulfide/Polymer Solid electrolyte?

BI lab, a material manufacturer founded in 2018 and specialized in next generation energy materials, has two patent families on solid-state batteries related to sulfide/polymer solid electrolyte. BioGeneSys, established in 2020, is specialized in hybrid graphene materials and its use in battery and sensors.

How many companies are involved in solid-state batteries?

According to GlobalData, there are 1605+ companies, spanning technology vendors, established automotive companies, and up-and-coming start-ups engaged in the development and application of solid-state batteries. Key players in solid-state batteries - a disruptive innovation in the automotive industry

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.

Panasonic/Sanyo strongly increased its patenting activity in 2022, while Toyota, Samsung and LG Chem/LG Energy Solutions consolidated their patent portfolio. American companies like A123 Systems, Global Graphene and ...

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Volkswagen, BMW and SAIC, is now worth more than \$40 billion and has become a leading company in solid-state battery technology ...

LG Corp, whose affiliated company LG Energy Solution supplies EV batteries to Toyota, claims runner-up position with 5,539 solid-state battery patent grants identified between October 2020 and ...

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A solid-state battery has a power generation element (5) having a cathode layer (1), a sulfide-based solid electrolyte membrane (2), an anode layer (3) that are stacked in this order; a battery case (6) in which the power generation element is disposed; and a flowable sealant (7) provided in the battery case and being non-reactive with the sulfide-based solid electrolyte ...

Nikkei partnered with Tokyo research company Patent Result to pore over global patent applications related to solid-state batteries, and found that Toyota is the leader, with 1,331 known patents. Panasonic took second place ...

6 ???· Preview of the "Solid-state / Semi-solid Li-ion Battery Innovation & Patent Review", including sections on commercially relevant patents, benchmarking and identification of product launch risk factors. FAQ ? Use ...

Patent filings at the European Patent Office (EPO) for solid state batteries have been growing on average by 25% per year since 2010. 6 In 2018, they represented more than 8% of all patent filings in lithium-ion technology, compared with 3% in 2010. 7 In CPC class H01M10/0562 8 alone, the number of patent families filed in the US and Europe has nearly ...

Panasonic/Sanyo strongly increased its patenting activity in 2022, while Toyota, Samsung and LG Chem/LG Energy Solutions consolidated their patent portfolio. American companies such as A123 Systems, Global Graphene, and General Motors also had a notable patenting activity.

Hyundai suggests it has taken a giant leap in EV battery technology, filing a patent for an all-solid-state EV battery system in the US. The company aims to bolster battery stability and energy density, striving for longer-lasting and superior-performing electric vehicles. The patent, titled "All-Solid-State Battery System Provided with Pressurizing Device," was ...

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The patents include cell structure, materials, and the most crucial aspect of solid-state batteries: manufacturing. The second company with the most patents related to the...

Solid-state batteries (SSBs) present a compelling alternative to traditional lithium-ion (Li-ion) batteries. SSBs offer advantages in size, weight, safety, capacity, and recharging speed. Due to the absence of a liquid electrolyte, they can be smaller and lighter, making them ideal for applications including electric vehicles (EVs).

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Source: Chargedevs By 2014, the company had improved its battery technology 5X in power output compared to 2012. At that time, its solid-state battery had a power density of around 400 Wh/l (watt-hour per liter). Meanwhile, Toyota also focused on hydrogen fuel cell technology and vehicles as it launched Mirai in Europe in 2015.. As the race for solid-state batteries heated ...

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