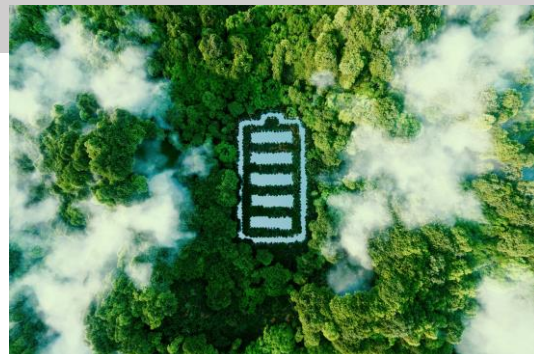


Challenge

There has been significant interest and a race among automakers worldwide to succeed in the development of solid-state batteries, especially for use in electric vehicles (EV) to replace currently used lithium-ion technologies. Solid-state batteries are believed to be a game-changing technology offering better performance with increased capacity due to their higher energy density, lower weight, shorter charging times, and enhanced safety since flammable liquid electrolyte is not required. In this rapid landscape, Strategic Allies Ltd (SAL) identified key players who are actively innovating in the space, explored the challenges and limitations with regards to the development and commercialization of solid-state batteries, while capturing the types of applications where solid-state batteries could be adopted, beyond EV.

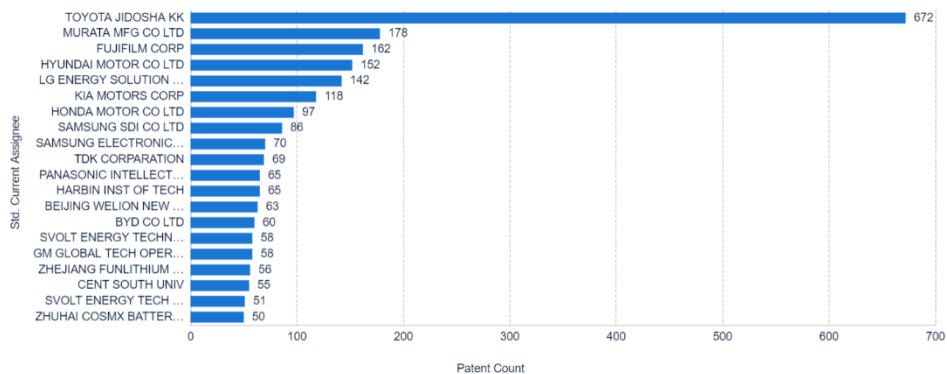


The search

SAL performed a rapid landscape (via secondary research) looking into the publication and patent activity trends relating to solid-state batteries to identify the top innovators in the space. Details on the different types of solid-state battery technologies that were being developed by some of these key players were presented.

Although innovation in the area have been rising significantly, especially in the last 5 years, there are still many barriers and technical hurdles that need to be overcome before solid-state batteries can reach commercialization. Some of the key obstacles (e.g., high material cost, limitations in the processing and assembly, formation of dendrites, sensitivity of material to air and moisture) were explored in the study. SAL have also captured forecasts on the applications of solid-state batteries which include applications where fast charging would be crucial (e.g., consumer electronics and wearables) or the ability to hold higher capacity (e.g., aircraft and shipping).

Patent activities – Top assignees (1 of 2)



Outcome

- SAL provided details on solid-state batteries that were being developed by some of the top innovators in the space. Where possible, timelines to commercialisation were captured.
- The insights could be used to highlight potential partners and understand the technological development of solid-state batteries.