

Toward safer, longer-lasting batteries for electronics and vehicles

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The rise of lithium-ion batteries over the past 25 years has enabled much of today's technology, but on occasion, they still catch fire. Recognizing this liability, carmakers and other private industry researchers are focusing on developing safer alternatives. *Chemical & Engineering News* (C&EN), the weekly newsmagazine of the American Chemical Society, explores the latest strides and setbacks in bringing one promising option—solid-state batteries—to the market.

Senior C&EN Correspondent Marc S. Reisch explains that [solid-state batteries](#) can improve the safety of lithium-ion batteries by replacing flammable liquid electrolytes with solids. Doing so can also give batteries greater energy density, thus allowing them a longer life. This boost could help car manufacturers eventually satisfy government mandates for emission-free alternatives to gas- and diesel-powered vehicles. Toward this end, Toyota plans to put solid-state batteries in electric cars by 2022. And [car manufacturers](#) aren't the only ones paying attention to solid-state batteries. Apple, Dyson and Bosch are also investing in the technology.

Industry specialists are quick to point out, however, that the market for solid-state batteries is very small at the moment. And while some experts expect it to grow significantly in the next five to 10 years, others express doubts. The biggest impediment to widespread commercialization could be the price tag. Costs must drop dramatically before solid-state batteries can really challenge the reign of traditional [lithium-ion batteries](#).

More information: "Solid-state batteries inch their way toward commercialization," cen.acs.org/articles/95/i46/Solid-state-batteries-inch-their-way-toward-commercialization, [way.html](https://phys.org/news/2017-11-safer-longer-lasting-batteries-electronics-vehicles.html)

Provided by American Chemical Society

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