According to the Wall Street Journal Google has a team of researchers creating the batteries powering the CE of the future, including improved lithium-ion batteries and cutting-edge solid-state alternatives.



The four-man team is led by ex-Apple battery expert Dr. Ramesh Bhardwaj, and makes part of the secretive Google X research lab. According to the WSJ Google has "at least" 20 ongoing battery-dependent products, ranging from self-driving cars, wearables and even disease-diagnosing devices.

Particularly relevant to consumer devices are solid-state batteries, which transmit current over a solid thin film, rather than a liquid. This allows for thinner, flexible batteries ideal for small mobile devices-- even if researchers doubt whether the technology can be mass produced cheaply.

Reportedly Google is also working with battery maker AllCell Technologies for more potent means of powering large hardware projects, such as the Project Loon internet-beaming high-altitude balloons.

"Google wants to control more of their own destiny in various places along the hardware supply chain," Formation 8 analyst Lior Susan tells the WSJ. "Their moves into drones, cars and other hardware all require better batteries."

If this is the case Google is not the only major technology vendor tackling future batterieselectric car maker Tesla plans to open a "Gigafactory" to make the batteries powering its

## WSJ: Google Takes on Battery Research

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vehicles, while Apple is reportedly forming a "large scale battery division."

Go Google Gets into Battery Arms Race (WSJ)