Opening the Door to Smart Battery Design

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The worldwide transition to ever smarter mobile devices, including phones or connected tablets, has obliterated the line that once existed between phones and computing devices. Today's multitasking devices enable work, finance, entertainment and social interaction on the go like never before. This mobile revolution presents challenges for device designers that need to produce nearly constant innovation in design while achieving ever tighter cost margins. It also opens market opportunities for both authorized and unauthorized third parties to offer aftermarket devices such as batteries. Work by an organization called the MIPI Alliance is helping the engineering community respond to these overlapping design challenges. Here's how one MIPI Alliance defined standard has opened the door to a new generation of smarter batteries.

The Mobile Device Achilles' Heel

As part of its continuing study of consumer product customer,1 J.D. Power and Associates found that smartphone owner satisfaction is greatly impacted by battery performance, particularly the length of battery life before recharging is required. The study found that this issue is exacerbated by the transition to 4G technology, where more energy intensive network search and more frequent access to data networks place greater demands on the battery.

Clearly, users of smartphones and other connected mobile devices would benefit from improved batteries. But engineers who set out to design a "smart" battery have to consider more than just the time between charges. Design goals also include shorter charging time, increased safety and reliability. The mobile device supplier, which is accountable to the consumer for the end product performance, of course has a stake in ensuring product quality and reliability.

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