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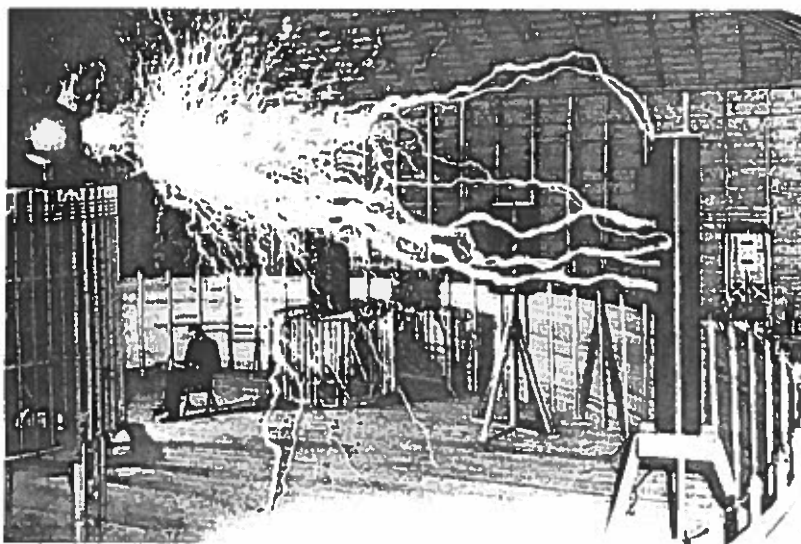
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CORPORATE INTELLIGENCE

Will Tesla's \$5 Billion Gigafactory Make a Battery Nobody Else Wants?

By MIKE RAMSEY

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MARC J. SEIFER PHOTO ARCHIVES

Tesla Motors's bold plan to build the world's largest battery factory highlights a strategic tension building that makes battery suppliers anxious: the format that Tesla uses for its batteries.

The 18/650 cell, a cylindrical battery that is 18 mm wide and 65 mm tall, is going out of favor. Tesla already is the primary buyer of this format, with laptop makers being the others. Tesla uses 8,000 such cells, specially formatted with its own chemistry, to provide the energy to its 85 kWh Model S. An average laptop uses four cells.

Every other carmaker is using far fewer, much larger batteries. These high-power batteries are being built in various factories in the U.S., all of which received subsidies from the U.S. government, and all of which are operating well below full capacity.

Tesla's methodology – incorrectly derided in its early days as simply using laptop batteries — has allowed it to get consumer electronics prices for batteries while companies like General Motors and Nissan Motor work to drive down costs without the full benefits of scale.

Despite its ability to lower costs, no other company is following Tesla's lead. Indeed, in speaking with numerous battery experts at the International Battery Seminar in Ft. Lauderdale a few weeks ago, they said that the larger cells eventually would prove to be as cost effective, and have better safety and durability. Thus the reason why the other automakers haven't gone down the same path.

Meanwhile, in consumer electronics, the cylindrical 18/650 cell already has gone out of favor in place of flat cells that allow for tablets, smart phones and thin laptops.

Prabhakar Patil, the chief executive officer LG Chem Power Inc., a battery research division of Korean electronics giant LG Corp., questions whether battery industry suppliers will want to invest in the Tesla battery format.

“The market for cylindrical cells is on a decline, and all of the other (automakers) are going for the larger format batteries for vehicle applications, so this type of demand becomes driven by one customer, for one application,” he said. “That has to make suppliers somewhat apprehensive.”

That means that if Tesla doesn't hit its sales targets, there are few other customers available for the huge battery-making capacity it plans to create, other than the stationary solar energy storage applications that may potentially be a customers of the plant.

The potential to sell batteries to Solar City Corp., where Tesla Motors Inc. Chief Executive Elon Musk is chairman, is often mentioned as the second buyer for the batteries beyond Tesla itself.

Additionally, as the world shifts to flat cells, the installed capacity to make cylindrical cells is underutilized in Korea, China and Japan by companies other than Panasonic Corp., Tesla's partner.

Tesla's Chief Technology Officer, JB Straubel, said in an interview late last year, that the company isn't married to cylindrical cells and could shift to flat cells if the technology had evolved to the point where it was clear that it had advantages. Still, constructing a \$5 billion plant to make this type of cell may lock Tesla in to this format for some time to come.