

New Tesla battery poised to reshape auto economics

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Tesla will introduce a new battery later this year that promises longer performance and lower cost that will position the auto manufacturer to bring vehicle prices in line with gasoline-powered competitors.

[Sources](#) familiar with the auto giant's plans say the batteries will be introduced with the Tesla Model 3 sedan and will be shown first in China.

The [battery](#) was developed in a joint project with Chinese battery manufacturer Contemporary Amperex Technology (CATL) and a team of academic battery experts recruited by Tesla CEO Elon Musk.

Cost savings were achieved by reformulating [battery chemistry](#) to minimize or eliminate costly cobalt components. Instead, chemical additives will be used along with component coatings that will ease internal battery stress. The new batteries are capable of storing more energy for longer periods of time.

The improved batteries will be capable of lasting though one million miles of use, according to sources familiar with the project, giving rise to the nickname "million-mile battery."

Musk also will achieve cost savings by handling the entire process of battery manufacture within his own huge "terafactories" around the world. The name continues a convention by Tesla referring, in this instance, to the manufacture of batteries with a trillion watts of battery power.

Such terafactories will be about 30 times the size of Musk's Gigafactory in Nevada, a sprawling plant producing electric motors and battery packs in an operating space of more than 5.3 million square feet. The plant, which began operations in 2016 and is still expanding, is expected to be the biggest building in the world when complete.

Musk recently opened a gigafactory in Shanghai.

Earlier this year, Musk told investors, "We've got to really make sure we

get a very steep ramp in battery production and continue to improve the cost per kilowatt-hour of the batteries—this is very fundamental and extremely difficult. We've got to scale battery production to crazy levels that people cannot even fathom today."

A formal announcement of the [new battery](#) may be made on "Battery Day," which had been scheduled for April but delayed due to the coronavirus. Sources estimate the new date will be later this month.

Reuters news agency first reported Tesla's talks with CATL, which specializes in the manufacture of lithium-ion phosphate batteries that contain no cobalt, the most expensive element of standard auto batteries. CATL also designed a system called "cell-to-pack" for encasing battery cells that are lighter weight and are less expensive.

It was also reported that CATL will provide Tesla with longer-life batteries using lower amounts of cobalt and relying more on nickel and manganese.

It is expected that battery improvements in coming years will achieve greater energy density, greater storage capacity and further reduction in costs. At that time, the batteries are expected to be unveiled in North American markets.

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