

Tesla May Have Already Won the Charging Wars

Deals with Ford and G.M. will make it easier to find a charger but could give Elon Musk control of critical infrastructure.



By [Jack Ewing](#)

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Mary Barra and Elon Musk may be intense business rivals, but they sounded like old pals as they chatted on [Twitter](#) this month about a deal that could help remove one of the biggest barriers to electric vehicle ownership: not enough chargers.

Ms. Barra, the chief executive of General Motors, had just agreed to follow [Ford Motor](#) in adopting the charging technology developed by Tesla, the carmaker led by Mr. Musk. The deals will allow G.M. and Ford customers to use some of Tesla's fast chargers. Fear of not finding a charger is a main reason some people hesitate to buy electric cars, surveys show.

Ms. Barra gushed about the “fantastic” team at Tesla. Mr. Musk said it was an “honor” to work with her.

Beneath the surface of those pleasantries were probably some tough corporate calculations. G.M., Ford and numerous charging companies and equipment suppliers have agreed to work with Tesla because they desperately need the company's help. In addition to selling more electric cars in the United States than all other automakers put together, Tesla operates the country's largest fast-charging network.

But the decision to work with Tesla comes with big risks for the rest of the auto industry, which will be relying on Mr. Musk, a mercurial leader, for an essential technology.

Tesla's proprietary charging system, which it recently began calling the North American Charging Standard, is not a product of collaboration among numerous companies as is often the case with other technical standards.

On Tuesday, SAE International, an association of engineers that sets technical standards for aircraft and vehicles, said it had agreed with Tesla to establish a standard for the charging connector. The agreement will allow other automakers and charging companies to weigh in on the technology.

But oversight of other aspects of the system, like the software and charging equipment, was unclear and some competitors were skeptical of how much control Tesla would surrender.

The deal also comes with risks for Tesla. Exclusive access to the company's charging stations, some of which already had long lines during busy travel times, has helped the company sell cars to customers who might chafe at having to wait behind Fords and Chevrolets.

Battles over technical standards are common with any new technology. The outcomes can be painful for companies or consumers who bet on the wrong horse. Just ask anyone who bought or invested in a video recorder, cellphone or digital music player that later became obsolete.

The stakes with automobiles are much higher: They cost tens of thousands of dollars, and replacing gasoline vehicles with electric models is key to addressing climate change.

Some industry officials fear that the messy corporate jockeying over charging technology could discourage people from buying electric cars.

"It creates confusion," said Oleg Logvinov, chair for North America of the Charging Interface Initiative. The organization is a forum for manufacturers, equipment suppliers and charging companies using the main rival to Tesla's standard, known as the Combined Charging System.

Buyers, Mr. Logvinov added, "will probably wait until you can figure out which one wins."

Ford, G.M. and most manufacturers other than Tesla have been building cars with C.C.S. plugs, which are the standard in Europe. Charging networks operated by companies like Electrify America and EVgo primarily offer C.C.S. plugs.

Tesla's plug is lighter and easier to handle but fits only the company's cars. Under the agreements with Ford and G.M., Tesla will offer an adapter early next year enabling cars from those manufacturers to connect to about 12,000 of its fast chargers in the United States. In 2025, Ford and G.M. plan to make models designed to take the Tesla plug without an adapter.

The combined clout of Tesla, G.M. and Ford effectively compels operators of charging networks to install Tesla plugs and may effectively render the C.C.S. plug obsolete — at least in North America — in years to come. Rivian, a smaller electric vehicle company, said last week that it would also switch to the Tesla plug, and Volvo made the same commitment on Tuesday for cars the automaker sells in North America. Other manufacturers are considering doing so, too.

“For us, it’s important to make sure charging is really accessible and easy for customers,” R.J. Scaringe, the chief executive of Rivian, said in an interview.

As the Tesla plug becomes dominant, people with cars designed to use the C.C.S. plug will become increasingly dependent on adapters that, for safety, are limited in how much voltage they can handle and will charge more slowly.

Tesla’s system is known for being easy to use and reliable, while C.C.S. chargers can be finicky. Frustration with the existing charging network is clearly one reason Ford and G.M. decided to throw in their lot with Tesla.

“I absolutely do not think this would be happening if the other networks were more reliable,” said Ben Rose, president of Battle Road Research, who follows the electric vehicle industry.

But one reason Tesla’s system performs well is that the company designs and manufactures the whole system — the car, the software and the charging hardware. Tesla will lose absolute control once other automakers join its network.

Operating chargers that can fuel dozens of vehicles from many different manufacturers is extremely difficult.

“We charge 50 different models,” Cathy Zoi, the chief executive of charging company EVgo, told an audience in New York this month. Manufacturers sometimes fail to inform EVgo about changes to vehicle software, she said, leading to connection problems. “And the charger gets blamed,” she said.

Tesla built a charging network because there were few places to charge in 2012 when it began selling the Model S, its first full-size passenger car. Tesla does not disclose financial information about the network, but analysts say the company probably loses money on charging in order to get people to buy its cars. Tesla did not respond to a request for comment.

Tesla has 19,700 charging ports across the United States at about 1,800 stations, according to the Energy Department, while there are 10,500 C.C.S. ports at 5,300 stations. Only 12,000 Tesla chargers will be open to Ford, G.M. and Rivian vehicles.

The decision by other automakers to ally with Tesla, and generate revenue for a competitor, is an acknowledgment that Mr. Musk’s company has the most experience operating a charging network.

Mr. Musk promised not to put G.M. and Ford customers at a disadvantage, and the other car companies say they believe him. “A G.M. customer will get treated like a Tesla

customer, and that's part of the arrangement," Alan Wexler, a General Motors executive who handled the negotiations with Tesla, told reporters in New York this month.

Competitors are betting that government regulators would step in if Tesla tried to create a charging monopoly. Some are glad that someone is taking the lead to remove a major impediment to sales of electric vehicles.

"We're really in this accelerated growth curve," said Brendan Jones, the chief executive of Blink Charging, which plans to install Tesla plugs in its network. "This is really going to drive the industry forward."

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