GM Earnings This Week to Shed Light on Big Investments

Auto maker expected to disclose details of recent deals with Cruise Automation, Lyft

By
John D. Stoll
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Illustration: Dan Cosgrove

Nearly a decade ago, General Motors Co. engineers and Carnegie Mellon University researchers shuttled between Detroit and Pittsburgh working on a moonshot project: developing cars that could drive themselves.

The research put GM in the driver's seat on the nascent technology, but the executive churn that resulted from its financial struggles led to a reordering of priorities. As Silicon Valley started real-world testing of autonomous vehicle technology, GM fell in with most rivals, largely limiting its robocar research to closed test tracks.

A blow came shortly after its bankruptcy filing in 2009 when Larry Burns, GM's then research-and-development chief, left to consult, teach and work as an adviser for Alphabet Inc. 's Google fledgling car project. With Mr. Burns's departure, the goal of dominating the autonomous vehicle chase was put on the back burner.

On Thursday, GM reports its second-quarter results and analysts expect a 15% operating profit increase, continuing an earnings growth streak that has defined Chief Executive Mary Barra's 30-month tenure. Wall Street also will get a clearer view on just how much of the corporate war chest Ms. Barra will spend to pick up where Mr. Burns left off.

In May, GM closed its purchase of San Francisco-based Cruise Automation Inc., a developer of autonomous vehicle technology, and it will disclose terms of the deal alongside quarterly results. People familiar with the arrangement say the deal's total value exceeded $1 billion, including equity payouts and performance incentives.

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General Motors President Dan Ammann, right with Cruise Automation co-founders Kyle Vogt, at center, and Daniel Kan. Details on the auto maker's spending to beef up its autonomous-vehicle technology may emerge with second-quarter earnings. Photo: General Motors

GM didn't disclose terms before or at the time of closing. The Cruise acquisition will be coupled with a $500 million investment in ride-sharing operator Lyft Inc. for purposes of testing and deploying autonomous taxis.

What won't be disclosed is how far behind GM fell in developing these types of automobiles. GM paid heavily to acquire a startup that had about 40 people and was valued at $100 million just six months prior to agreeing to the sale. The premium for Cruise Automation is widely seen as a sign of how severely GM had been lapped by Silicon Valley developers—specifically Google.

Google's founders began investing in self-driving late last decade, about the time GM and Carnegie Mellon's autonomous vehicle program was under way. GM's effort was led in part by CMU's Chris Urmson, who is now the technical director of Google's car project. He was demonstrating the fruits of initial research in a project funded by the Department of Defense.

Since that Defense Department project, GM has spent $60 billion on research and development, or 34% more than Google during the same period. Then, earlier this year GM President Dan Ammann showed up on Cruise's doorstep ready to cut a big check. While not nearly as experienced as Google, Cruise logged time on public roads and was readying a $10,000 autopilot system people could plug into an Audi sedan.

"We think this capability is critical to where we want to be in the future," Mr. Ammann has said. Since GM acquired Cruise, the autonomous-vehicle firm's head count has expanded 75% to 70 employees and more hires are expected. An office has been opened in Scottsdale, Ariz., and autonomous Chevrolet Bolt electric cars are being tested on public streets.

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> —Dan Ammann, GM president

GM's autonomous-vehicle technology has been under development for at least four years and is dubbed Super Cruise. [Initially planned for mid-decade, the technology is now slated to debut in 2017](#) on a Cadillac.

Super Cruise, however, isn't the endgame. It is rated by the National Highway Traffic Safety Administration as a Level 2 automation, meaning it has items like automatic braking, adaptive cruise control or lane-keeping assist. The prize is Level 4, or "a vehicle designed to perform all safety-critical driving functions and monitor roadway conditions for an entire trip."

The race to succeed with Level 4 could be the equivalent of trying to offer the world a solution for cars on the same scale as [Microsoft](#) Corp.'s Windows solution for computers. Under that scenario, people may not care what hardware they are buying, but they will demand it have the best operating system to get them from Point A to Point Z.

Cruise Automation, Google and several others are working on various approaches to be the Microsoft Office of self-driving. But that likely includes perfecting the use of costly lasers, developing more accurate digital maps and logging millions of miles of real-world trial-and-error testing needed to teach these cars how to respond to what humans respond to.

Mr. Ammann, speaking at a Fortune magazine conference last week, said the timeline for autonomous vehicles is "probably faster than you think." Most experts agree Google is now in the lead. The question is whether GM has enough gas in the tank to catch up.

Corrections & Amplifications:
The Cruise acquisition will be coupled with a $500 million investment in ride-sharing operator Lyft Inc. for purposes of testing and deploying autonomous taxis. An earlier version of this article incorrectly stated that Lyft was struggling. (July 18, 2016)

Write to John D. Stoll at john.stoll@wsj.com