

AARIAN MARSHALL TRANSPORTATION AUG 1, 2018 3:01 AM

Sacramento Eases Into the Self-Driving Scene

A \$100,000 partnership with the company Phantom Auto shows the city wants to be tech-forward, but is cautious.



PHANTOM AUTO

QUICK, THINK OF a California hotbed of technological might. There's Silicon Valley, duh. And enterprising Silicon Beach, down in the state's sunny, laidback southland. But cast thine eyes north, young techies, past the agricultural innovation stronghold at UC Davis and the domed, white capitol building where the bureaucrats and public officials controlling the nation's largest state economy play. There, in the heart of Sacramento, you will find the curving, brown building where the city's officials are working to woo the self-driving industry.

And it seems to have attracted a mate: Today, Sacramento rolls out a partnership with Phantom Auto, a company dedicated to building remote-driving solutions for self-driving vehicles.

Because self-driving cars are far from ready to handle all road situations, remote-driving is the not-so-secret secret of the autonomous vehicle industry. "The practical reality is you cannot deploy these vehicles without the human in the loop right now," says Elliot Katz, a co-founder of Phantom Auto. In fact, the California DMV's new rules for testing driverless cars without backup drivers behind the wheel demands that companies have remote operators. (Only two companies have applied for such a permit.) So some companies, like Phantom, choose to connect their remote operators with vehicles via cellular networks, allowing them to operate cars in trouble through desk-mounted steering wheels.

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But in order to get that extra layer of safety, companies need to know that an area's cellular services are robust. (The self-driving car equivalent of dropping a phone call can have fatal consequences.) So for \$100,000 in public funds from the city of



The WIRED Guide to Self-Driving Cars

teleoperate self-driving cars. The company will also participate in two demo days, opportunities for the public to ride in driverless vehicles along two specifically mapped routes, which will be held sometime this year.

Sacramento’s alliance with Phantom Auto is not a random one. The city wants to send a clear message about innovation *and* testing new technologies safely. By selecting a teleoperation specialist like Phantom for its first official driverless vehicle product, Sacramento hopes to say: Come use our roads to test, but please also follow the rules.

“With us having the DMV, the regulators for autonomous cars in California, two miles away from our office, it’s important that we follow the guidelines,” says Louis Stewart, Sacramento’s chief innovation officer. But he and other public officials are also hoping that the remote driving element helps quashes fears about the new tech. “We thought it actually was a good way to include the general public in the conversation. No, there isn’t a driver behind the wheel, but there is somebody who has control of the car.”

As it stands, many companies, like Nissan, General Motors, Zoox, Uber, Transdev, and Didi, depend on “remote drivers” to handle unforeseen situations. But only a handful of companies (including five Phantom clients) need or even want cellular networks to help support their remote operators. In fact, the industry hasn’t yet united around teleoperation as the safest way to guide self-driving cars out of trouble. “It’s quite challenging to get teleoperation working in a very dynamic environment, because it’s dependent on two-way communication,” says Steven Shladover, a UC Berkeley research engineer who has been studying

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Phantom says it has figured out ways around this latency issue. Still, the cellular mapping infrastructure the company is building for Sacramento will be helpful to some self-driving companies, but not all. City officials acknowledge this, and say Phantom's deal isn't an exclusive one. They hope it will be the first of many partnerships, as the city works to reshape its image from staid government town to a warmer, friendlier, cheaper Bay Area alternative.

"We are on the cutting edge of redefining ourselves, and we're hungry," says city Mayor Darrell Steinberg. Becoming a place where it's easy to comply with state guidelines doesn't sound sexy, but Sacramento dreams it's just enough to turn heads.

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