

Although Apple have opened and sustained talks with at least four potential suppliers of next-generation lidar sensors for self-driving cars, the iPhone maker are still working on their own lidar unit. That's what three people familiar with the ongoing discussions have told Reuters, and it's an apparent refresh of the evidence of Apple's ambitions to enter the autonomous vehicle sector, an effort it calls Project Titan. The talks are focused on next-generation lidar.



Apple want lidar units smaller, cheaper, and easier to make in volume than current technology; that, they say, will require "revolutionary design". Current lidar systems, including units from Velodyne mounted on Apple's self-driving test cars, use laser pulses to build precise images of the environment around the car. But the systems can cost six figures, and many of them use mechanical parts to sweep the laser scanners across the road—making them too large and problem-prone for practical use in series-production cars. These shortcomings have spurred about a billion dollars' worth of investment at dozens of startups and mature companies to make lidar smaller, cheaper, and more robust.

It's not clear whether the goal of Apple's Project Titan is to build an actual Apple vehicle or to supply hardware and software elements of self-driving car while pairing with a partner for the entire vehicle. Either way, they want to control the "perception stack" of sensors, computers, and software to drive an autonomous vehicle—anyone's autonomous vehicle, another person familiar with the talks has said.

Apple are believed to have their own internal lidar sensor under development. "They're not happy with most of what they see", one person familiar with the matter said. "They're looking for a revolutionary design." Another such person said Apple are seeking a "design-oriented" sensor sleek and unobtrusive enough to fit into the overall lines of a vehicle.