At Google, here's an odd job: Test driving new driverless cars

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Brian Torcellini, Google team leader of driving operations, poses for photos next to a self-driving car at a Google office in Mountain View, California, Aug. 24, 2015. Photo: AP Photo/Jeff Chiu

MOUNTAIN VIEW, Calif. — Thirty-one-year-old Brian Torcellini is a professional driver. He spends many hours on the road, but most of the time he just sits and carefully watches.

Torcellini works as a backup driver for the new driverless cars Google is developing.

Torcellini began his unusual career six years ago, after joining the then-secret Google project. He now leads a crew of test, or "safety," drivers who are legally required to ride in Google’s fleet of robot cars. They take control only in emergencies. Otherwise, they make observations that help Google’s engineers program the cars to navigate the roads without human assistance.

"A lot of people go to work and sit in a cubicle," Torcellini says. "Our cube just happens to move around the roads. And if we are successful, we are going to put ourselves out of a job."
Drivers Ready To Take Control

The driverless cars already have logged more than 2 million miles, mostly on California streets and highways.

While the vehicles mostly drive themselves, one test driver is always in place to take control of the car if the technology fails or if a potentially dangerous situation arises. Another driver sits in the front passenger seat typing notes. He or she is responsible for writing down any problems that need to be fixed.

"I don't want to compare myself to an astronaut, but it kind of feels like that sometimes," says Google test driver Ryan Espinosa.

If the technology advances as Google hopes it will, the only people sitting in driverless cars by 2020 will be the passengers.

Cars Use Sensors, Lasers, Software

By that point, driverless cars will be completely self-operating, Google says. There will no longer be any need for steering wheels or brake pedals. Everything will be controlled through a combination of sensors, lasers and software.

Of course, that means Google's test drivers may have to start looking for a new line of work sometime soon.

Right now, the job requires a sense of adventure, something Torcellini acquired when he began to surf in high school. His other passions include spear fishing and scuba diving. Torcellini says he is sometimes reminded of scuba diving when he turns on one of Google's self-driving cars.

"When you go scuba diving and take a moment to really think about it, you realize you are doing something that isn't supposed to be humanly possible: you are breathing underwater," Torcellini says. "It's the same kind of feeling you get in one of these cars. It's not supposed to be humanly possible."

Only Excellent Drivers Are Hired

Most of the test drivers do not have technical backgrounds.

Torcellini worked in a drugstore warehouse while getting his degree in political science at San Diego State University. He dreamed of pursuing a career writing about surfing. He ended up at Google in 2009 after a friend who worked for the company suggested he interview for the unique job.
Espinosa, 27, was working in a bicycle shop before he was hired as a test driver two-and-half years ago. Stephanie Villegas, 28, was a swim instructor and knife sharpener before becoming a test driver. Other test drivers have varied backgrounds, including time in the military, but all share one thing in common: spotless driving records.

Before they are entrusted with the cars, Google’s test drivers must complete three-week training courses. The drivers are taught to take control of the robot car whenever there is any moment of doubt or danger.

Google says it employs "dozens" of test drivers but will not reveal the exact number. Most likely there are about 100. California law requires two test drivers per vehicle, and Google’s fleet currently consists of 48 robot cars.

**More Testing Involves More Accidents**

Besides clean driving records, Google’s test drivers say the job requires a combination of good judgment, patience and fearlessness. From May 2010 through August of this year, the self-driving cars have been involved in 16 accidents. In addition, accidents are becoming more frequent as the vehicles spend more time on public roads. Half of the crashes have happened just since February, as the self-running cars have increased their driving levels to an average of about 10,000 miles a week. Fortunately, there have been no major injuries reported so far.

According to Google, the self-driving technology has not been to blame for any of the accidents. In all but three of the accidents, the self-driving cars were hit from behind by other cars. Google says the increase in such accidents is largely due to motorists who text or talk on the phone while driving.

"There are tons of situations where we see people who just aren’t very good at driving out there," Torcellini says. "It’s up to us to teach the (robot) cars to be better than those drivers, and even better than the best drivers, too."
Quiz

1. Read the section “More Testing Involves More Accidents.” Which excerpt does NOT support this section’s main idea?

(A) In addition, accidents are becoming more frequent as the vehicles spend more time on public roads.

(B) Besides clean driving records, Google’s test drivers say the job requires a combination of good judgment, patience and fearlessness.

(C) In all but three of the accidents, the self-driving cars were hit from behind by other cars.

(D) Google says the increase in such accidents is largely due to motorists who text or talk on the phone while driving.

2. Which idea is LEAST important to include in a summary of the article?

(A) He now leads a crew of test, or “safety,” drivers who are legally required to ride in Google’s fleet of robot cars.

(B) If the technology advances as Google hopes it will, the only people sitting in driverless cars by 2020 will be the passengers.

(C) Of course, that means Google’s test drivers may have to start looking for a new line of work sometime soon.

(D) According to Google, the self-driving technology has not been to blame for any of the accidents.

3. Read the section “Cars Use Sensors, Lasers, Software.” According to Torcellini, how is riding in the Google cars like scuba diving?

(A) Both activities involve some risks to participants.

(B) Both activities are thrilling to participants.

(C) Both activities involve doing something that seems impossible.

(D) Both activities require special training to do them successfully.
How does the author illustrate the experience of riding in these cars?

(A) The author gives a detailed description of his own experience riding in a driverless car.

(B) The author focuses on the experience of one of the drivers of these cars.

(C) The author describes the experiences of a variety of drivers on the testing teams.

(D) The author discusses the observations of people who have seen these cars driving on roads.
Answer Key

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   (A) In addition, accidents are becoming more frequent as the vehicles spend more time on public roads.

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