

AUTOMOTIVE

Lexus enlists TED fellows to reimagine self-driving cars

November 3, 2020



Lexus' LF-30 Electrified Concept. Image courtesy of Lexus

By ELLEN KELLEHER

Toyota Corp.'s **Lexus** has recruited a pair of TED fellows to figure out how to keep human needs in focus as the Japanese automaker rushes to embrace autonomous driving.

Subscribe to **Luxury Daily**
Plus: Just released
State of Luxury 2019 **Save \$246 ▶**

In a bid to help automakers navigate the future, neuroscientist Greg Gage and artist Sarah Sandman, who are both TED senior fellows, have devised artful ways to make autonomous cars responsive to people. The intricacy and profundity of their ideas are being embraced by Lexus, which is looking to distinguish itself as an early adopter of self-driving technology.

"It's great to get ideas from different groups who can bring new thought ideas to a car manufacturer," said Lauren Fix, automotive expert at **The Car Coach**, Lancaster, NY. "Looking at a creative group like TED will help Toyota designers create cars of the future."

Reimagining AVs

As a neuroscientist and engineer, Mr. Gage thinks automated vehicles and long commutes offer a superior environment to make sure a car can pick up on signals that allow it to gauge how a driver feels.

Mr. Gage's idea is that Lexus and rival automakers should come up with cars that create a profile of a person's mood and then use that data to alter the ambience of a car.

Stressed out? Mr. Gage's self-driving car would turn the radio off.

Are you sleepy? In Mr. Gage's world, a Lexus could change the lights in the car and seating position in response.

"If a car could determine you're sleepy, it could offer you a bed to lay down on," Mr. Gage says in a video discussion of his thoughts on the matter.

Might you be relaxed? Cars should be able to cue up a playlist. Stressed perhaps? The radio should turn off then, according to Mr. Gage.

On a macro level, cars should be able to monitor drivers and passengers and respond accordingly just as they

monitor engine temperature, oil pressure and engine speed.

"If there was a way for a car to detect what was happening inside the human emotional state, then maybe the car could interact with the passenger a little bit differently," says Mr. Gage.

Taking a slightly different tack, Ms. Sandman makes the case that self-driving cars should focus on building community and connecting the vehicle to the outside world.

For instance, that a self-driving car could have floor to ceiling windows, fully rotational seats and a speaker system that allows those inside to interact with cyclists or pedestrians.

Ms. Sandman's design was inspired by a cross-country train ride.

This kind of vehicle might also be more like a cozy cafe, complete with a digital fireplace, plants and pillows, instead of what one expects from a car. A last idea of Ms. Sandman's is to introduce a chalk-writing system that allows passengers to leave custom art or messages in the street.

"Without having to have our eyes on the road, we could bring that 360 degree view of the world to an autonomous car," Ms. Sandman says in a TED video. "It's inside of the car that becomes a destination."

The TED fellow program offers spots to 492 fellows from 99 countries in disciplines ranging from design and activism to astrophysics and neuroscience.

Embracing self-driving

From Lexus to Porsche, automakers are pouring resources into developing electric cars and self-driving technology.

However, a recent study by J.D. Power suggests that U.S. and Canadian drivers remain skeptical about battery-powered cars and self-driving ones simply because they lack experience with both and remain uneducated about their prospects. As a result, automakers may find it difficult to persuade consumers to leave their fuel-driven cars behind.

Conducted in September of 2020, the 2020 Q3 Mobility Confidence Index study by J.D. Power and Survey Monkey polled more than 8,500 U.S. and Canadian drivers and experts about electric vehicles and nearly 9,000 about self-driving cars ([see story](#)).

The risks may outweigh the benefits, but the prestigious auto brands remain committed to exploring the possibilities with the introduction of electric vehicles and self-driving technology.

Other automakers have conducted their own research and come up with more favorable results on drivers' level of interest than the J.D. power study.

Last year, German automaker Audi found that most drivers are open to using autonomous vehicles as long as they can take control at any time.

More than half of drivers want to try a self-driving car, according to research from Audi. Eighty-two percent demonstrated interest in autonomous vehicles, and 62 percent are curious about self-driving cars ([see story](#)).

"Automated cars sound wonderful in principle, but in reality there are hurdles that will be difficult to clear," Ms. Fix said. "First, there are no government regulations and the government has yet to decide whether these systems can be used to steer wheels or not.

"Also, if there's a snow storm, heavy rain, ice or other unexpected weather conditions, these vehicles will not run," she said.