Technology Assessment to Improve Accuracy of Driving Simulation Systems

Business challenge

The client, a renowned automatic transmission system manufacturing company that has over 113 production locations in 26 countries, wanted to understand the autonomous driving simulation systems landscape. This included understanding the simulation landscape for advanced driver assistance and autonomous driving systems development and benchmarking the types of technologies, methodologies, and simulators that the competitors currently offer and are in the market.

Solution

Using its in-house market research expertise, Netscribes provided actionable insights to the client on the autonomous driving simulation systems through the following steps:

- Netscribes first conducted an in-depth study of the automatic driving simulation systems domain using various paid and non-paid databases.

- It then did a benchmarking analysis of the competing technologies using various technical and non-technical parameters.

- Finally, a demand analysis of the available and upcoming products by the competition was carried out using primary research.

Based on its research insights, Netscribes provided recommendations pertaining to the licensing opportunities available for the key technologies identified during the study.

Here are some excerpts from the analysis:

Excerpts

■ **Cloud Connectivity**
In 2017, Intel acquired Mobileye, to create automated driving solutions from the cloud through the network to the car.

■ **ADAS Software**
In 2016, GM acquired Cruise Automation, a maker of self-driving technology, to bring in-house its ADAS-specific software capabilities

■ **Acquisitions**
In 2017, Valeo acquired Gestigon, (German start-up) for 3D image processing software for the vehicle cabin in automated driving system.

■ **Distinct Technology**
Toyota to begin testing "guardian angel" system that takes control of vehicle ,adjust driver's actions, in order to avert danger. Being tested at Mt. Fuji simulation facility.

Facts

■ **High Tech Simulator**
world's most advanced driving simulator, designed to replicate the sensations of sitting behind the wheel of a car. It's part of Toyota's research into reducing road accidents.

■ **Tech Transformation**
Iowa is working to produce virtual cities that will help test autonomous vehicles and highly detailed mapping programs that self-driven cars would rely on to be able to properly assess the streets.

■ **5G-Ready Platform**
Intel®GO™, an automotive solution, spanning car, connectivity and cloud. The solution includes 5G-ready platform, next-generation Atom processors, Xeon processors and Arria® 10 FPGAs, to perform perception, fusion and decision-making.

How self-driving cars see the road

Autonomous vehicles rely on a host of sensors to plot their trajectory and avoid accidents.

● **Multi-domain controller**
Manages inputs from camera, radar and LiDAR. With mapping and navigation data, it can confirm decisions in multiple ways.
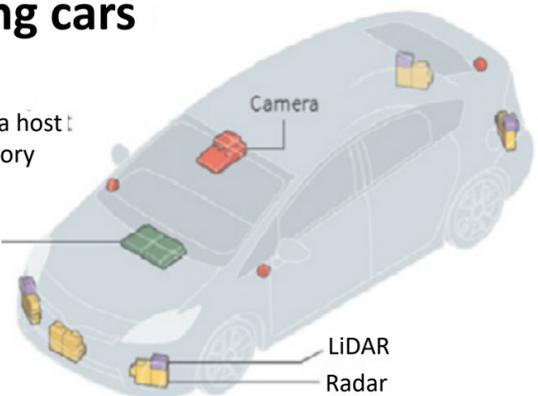
Camera

LiDAR
Radar

● **Camera**
Takes images of the road that are interpreted by a computer. Limited by what the camera can "see".

● **Radar**
Radio waves are sent out and bounced off objects. Can work in all weather but cannot differentiate objects.

● **LiDAR**
Light Pulses are sent out and reflected off objects. Can define lines on the road and works in the dark.

Source: Delphi
C. Inton, 24/03/2016

REUTERS

Benefit

Based on the recommendations provided by Netscribes, the client was able to identify the technical advances of the competitors in the market and understand their development strategies. As a result, the client successfully concluded a technology licensing agreement to improve the accuracy of its driving simulation systems.

Identify growth opportunities, and create value in complex, global markets with our leading consultation services.

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