

News Release

May 11, 2016

**Pioneer and HERE agree to perform proof experiment
utilizing Pioneer's 3D-LiDAR towards building a "Data Ecosystem"**

- Proof experiment of self-localization technology as an initial step towards an ultimate goal of realizing efficient map update and maintenance system for highly automated driving -

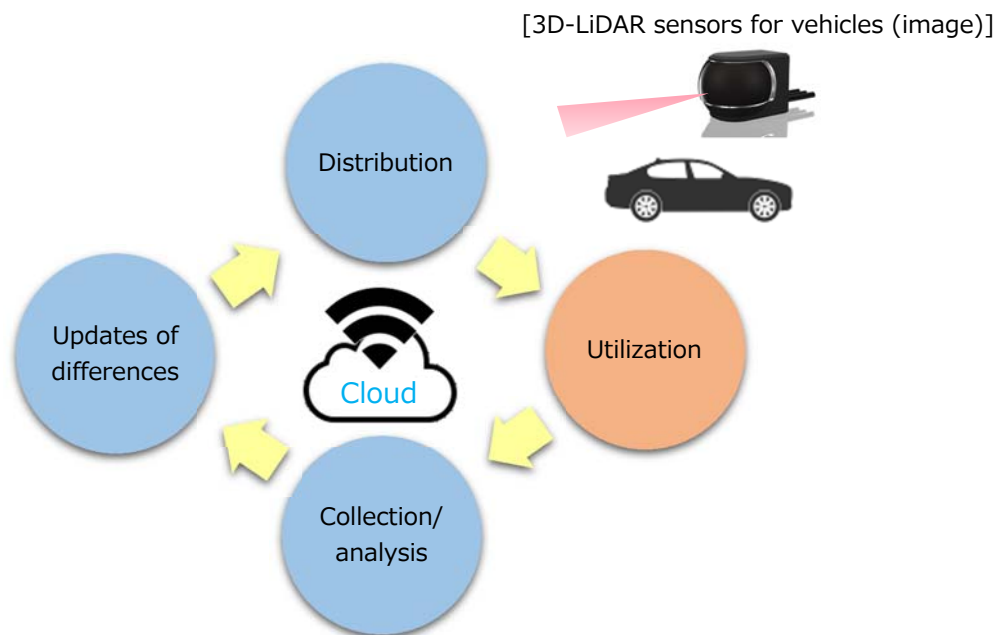
Pioneer and HERE, the location cloud company, have agreed to perform proof experiment as an initial step towards building a "data ecosystem" utilizing the driving space sensor, "3D-LiDAR", currently under development by Pioneer, and HERE's high precision map for automated driving.

As announced on September 7, 2015, both companies have been discussing the utilization of technologies each possesses ahead of the future generation of autonomous driving. The companies will begin self-localization proof experiment which is required for detecting high-quality map update information by integrating Pioneer's 3D-LiDAR with HERE's high precision map for automated driving, as an initial step towards realizing a "data ecosystem" which enables efficient update and maintenance of map data for automated driving.

[The Roles of Each Company towards building a "Data Ecosystem"]

The proof experiment will be performed with an aim to realize "data ecosystem" that will efficiently maintain and operate maps for automated driving.

- Pioneer will utilize the "3D-LiDAR" driving space sensor, together with high-precision self-localization technology to identify data required for updating map data for automated driving.
- HERE will investigate a system, which collects and analyzes the data identified by the above (sensor data), and delivers the updated map data based on the sensor data to vehicles using HERE's high precision map and cloud service for automated driving.



[Conceptual image of the "data ecosystem"]

[Pioneer's approach to automated driving and advanced driver assistant system]

Pioneer is developing a high-performance, compact, low-cost 3D-LiDAR system for in-car applications by leveraging its optical disc technologies cultivated over the years. In addition to its car-navigation technologies, Pioneer launched its proprietary network system, the *Smart Loop*, using probe data in 2006, and we aim to develop/propose an efficient maintenance/management system ("data ecosystem") which automatically collects surrounding environmental information from passenger vehicles then updates and distributes high precision map data to vehicles.

[About HERE]

HERE, the location cloud company, enables rich, real-time location applications and experiences for consumers, vehicles, enterprises and cities. HERE is backed by a consortium of leading automotive companies. To learn more about us, including our work in the areas of connected and automated driving, visit <http://360.here.com>.