

FOR IMMEDIATE RELEASE

**Hitachi Automotive Systems and Clarion Announce
the Development of “Park-by-Memory” Advanced Autonomous
Parking Technology that Remembers the Local Environment
around Home Parking Spaces**

Tokyo, January 8, 2018 ---Hitachi Automotive Systems, Ltd. and Clarion Co., Ltd. today announced the development of Park-by-Memory autonomous parking technology that remembers the environment surrounding users' home parking spaces. Moving forward, the companies will aim for the initial adoption of this system through proposals to automotive manufacturers.

In recent years, as traffic accidents caused by operational mistakes during parking are becoming a social problem, anticipation is increasing for the early adoption of safe autonomous parking technology that does not rely on human operation. Thus, as a technological response to this issue, the two companies have developed Park-by-Memory, which can be used to automatically park vehicles in frequently used parking spaces such as at home or at work. This technology was achieved by combining Clarion's external recognition technology with steering and brake actuators and integrated vehicle control technology provided by Hitachi Automotive Systems.

In order to memorize parking environments and parking patterns, Park-by-Memory integrates bird's-eye footage provided by SurroundEye®*, an original camera system by Clarion that is fitted to the left and right sides of the front and back of the vehicle, with detection data on surrounding structures obtained using sonar signals as well as GPS positional information. This enables vehicles equipped with Park-by-Memory to notify drivers that it is possible to park when the vehicle approaches memorized parking spaces. Drivers can initiate autonomous parking by simply pressing a button in the vehicle, or by using their smartphone app.

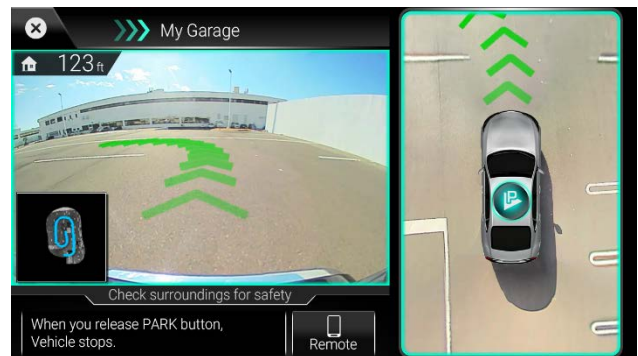
Park-by-Memory uses high-precision image recognition data from SurroundEye® so that it can autonomously park in parking spaces of various shapes, including parking spaces only designated by white lines. In addition, the use of existing general vehicle navigation GPS information, rather than using a specialized positional information system, has facilitated the technology's early introduction.

Hitachi Automotive Systems and Clarion will continue to enhance the development of driving support technology through advanced external recognition and integrated vehicle control technology, support autonomous driving vehicles and autonomous parking technology that is being rapidly developed by automotive manufacturers, and contribute to initial practical application.

* SurroundEye is a registered trademark of Clarion.



Smartphone screen display during low-speed autonomous driving



Onboard screen during low-speed autonomous driving

■Download Image Data

Please use the Clarion Data Bank product image data download system.

Clarion Data Bank: <http://www.clarion.com/jp/ja/corp/information/press/>

About Hitachi Automotive Systems, Ltd.

Hitachi Automotive Systems, Ltd. is a wholly owned subsidiary of Hitachi, Ltd., headquartered in Tokyo, Japan. The company is engaged in the development, manufacture, sales and services of automotive components, transportation related components, industrial machines and systems, and offers a wide range of automotive systems including engine management systems, electric power train systems, drive control systems and car information systems. For more information, please visit the company's website at <http://www.hitachi-automotive.co.jp/en/>.

About Clarion Co., Ltd.

Headquartered in Japan, Clarion Co. Ltd., which has been a consolidated subsidiary of the Hitachi Group since 2006, has been an international leader in car audio and electronics since 1940. The company is engaged in the research, development, engineering, design, manufacturing, sales and marketing of mobile entertainment,

navigation, infotainment, communication, safety and security products for the automotive, marine, recreational vehicle, commercial fleet and heavy industry environments. Clarion has been the recipient of numerous excellence awards for design, innovation, support, manufacturing and product reliability from independent organizations. The company has marketing and sales affiliates in Europe, North and South America, Asia and Australia. Clarion is located on the web at www.clarion.com.

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