

News Release

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PIONEER CORPORATION
PIONEER SMART SENSING INNOVATIONS CORPORATION

Pioneer Unveils “Next-Generation 3D-LiDAR Sensor” Capable of Measurement
at Long Distance of 500m, Exhibits Prototype at CES2020

-Lineup of 1550nm wavelength sensor model, catering to diverse markets and customer needs-

Pioneer Smart Sensing Innovations Corporation (“PSSI,” hereafter), a consolidated subsidiary of Pioneer Corporation, is developing a “next-generation 3D-LiDAR sensor” capable of measurement at long distance of 500m, and has exhibited a prototype model of this new sensor at CES2020.

Together with Canon Inc. (“Canon,” hereafter), PSSI is engaged in co-development of 3D-LiDAR sensors, which are regarded as an indispensable key device for the realization of autonomous driving in level-three and above autonomous vehicles (conditional automation). PSSI has also exhibited a mass-production model of 3D-LiDAR sensor (wavelength 905nm), which utilizes Micro Electric Memory Systems (MEMS) mirror-based scanning method and Canon’s optical technologies, at CES2020. The newly developed next-generation 3D-LiDAR sensor is a 1550nm wavelength sensor model which—although based on the same core technologies developed by PSSI and Canon—offers a greatly extended measurement distance made possible by the addition of transceiver (transmitter / receiver) technologies developed by SK Telecom Co., Ltd. (“SK Telecom,” hereafter) of South Korea. The new sensor is capable of high resolution and measurement at long distance of 500m.

The addition of this next-generation model—along with the mass-production model (which will be available in Short Range, Medium Range, Telescopic and Angle types) scheduled mass-production in autumn 2020—will enable PSSI to support to various markets and customer needs, ranging from monitoring applications such as security, infrastructure sensors and long-distance measurement in autonomous driving vehicles. PSSI is also able to develop and offer software that will enable high-precision object detection and vehicle localization using various types of LiDAR sensors.

Looking ahead, PSSI will continue its development efforts for its “next-generation 3D-LiDAR sensor”, combining its technologies with those of its partner companies, aiming to achieve higher performance with a more compact size and more sophisticated software, with a view to producing commercial products from 2021 and onwards.



“Next-generation 3D-LiDAR Sensor” realizes high-resolution long-distance measurement by utilizing SK Telecom's “1550nm wavelength laser transmitting module” and “Single Photon Detector”.



【“Next-generation 3D-LiDAR sensor” (Reference exhibit at CES2020)】

■About Pioneer Smart Sensing Innovations Corporation

As a new company to take over the business activities which handles autonomous driving-related business in Pioneer, Pioneer Smart Sensing Innovations Corporation” is established on October 1, 2019. PSSI has been pursuing the development of compact, high-performance, and low-cost MEMS mirror-based 3D-LiDAR sensors, and will churn out from 2020 onwards. At the same time, PSSI is currently developing “high-precision object recognition algorithms”, “vehicle ego-localization algorithms” and “difference extraction of surroundings algorithms”, and utilizing 3D-LiDAR sensors.

URL: <http://autonomousdriving.pioneer/en/>



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