

## **Toyota Alphard/Vellfire with Toshiba's Advanced Image Recognition Processor Wins Japan's Highest Award for Preventive Safety Performance**

**Düsseldorf, Germany, 11<sup>th</sup> June 2019** – Toshiba Electronics Europe GmbH today announced that Toshiba Electronic Devices & Storage Corporation's Visconti™ 4 image recognition processor was a key component in the driver assistance systems of the Toyota Motor Corporation ("Toyota") vehicles that recorded industry-leading scores in the 2018 Japan New Car Assessment Program (JNCAP), the government program that assesses the road safety of new vehicles. The Toyota Alphard/Vellfire was declared the winner of the Grand Prix Award for preventive safety performance, and the Toyota Crown and Corolla Sport were both evaluated as ASV<sup>[1]</sup>+++, the highest level for advanced safety vehicles.

Advances in driver assistance systems are bringing autonomous vehicles ever closer, but also raising concerns for ensuring safe roads and reducing traffic accidents. Toshiba Electronic Devices & Storage Corporation (Toshiba) is contributing to a future of safe vehicles by channeling its know-how in deep neural networks and sensor and imaging technologies into the Visconti™ series of image processor LSIs for advanced driver assistance systems (ADAS).

JNCAP was initiated by the Japanese government in 1995 to promote the safety of new cars launched in Japan by domestic and overseas makers. The program brings together results of vehicle safety tests carried out by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), and the National Agency for Automotive Safety and Victims' Aid (NASVA). Tests cover preventive safety performance, collision safety performance, and pedestrian protection performance. The Preventive Safety Performance Assessment evaluates advanced safety technologies such as damage mitigation braking.

Toshiba supplies Visconti™4 to the Toyota vehicles as an integral part of DENSO Corporation's Front-Camera-Based Active Safety System. The LSI's ability to process luminance differences between objects and their backgrounds, realizing better detection of pedestrians at night and in low light conditions, helped the Toyota vehicles win high scores in assessment of collision avoidance braking for pedestrians. The Alphard/Vellfire integrating the system received a high score of 126 points and took the Grand Prix Award for preventive safety performance assessment, and all of the Toyota models integrating Visconti™ 4 were evaluated as ASV+++.

Toshiba continues to channel resources into Visconti™, and into other innovative automotive devices that will contribute to ADAS. The company is now developing Visconti™5, which will deliver advanced Deep Neural Network IP, and expects to start sample shipments in September this year.

## Note

[1] ASV: Advanced Safety Vehicle

\* Visconti™ is a trademark of Toshiba Electronic Devices & Storage Corporation.

\* All other company names, product names and service names may be trademarks of their respective companies.

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## About Toshiba Electronics Europe

[Toshiba Electronics Europe GmbH](#) (TEE) is the European electronic components business of [Toshiba Electronic Devices and Storage Corporation](#) ("Toshiba"). TEE offers European consumers and businesses a wide variety of innovative hard disk drive (HDD) products plus semiconductor solutions for automotive, industrial, IoT, motion control, telecoms, networking, consumer and white goods applications. The company's broad portfolio encompasses integrated wireless ICs, power semiconductors, microcontrollers, optical semiconductors, ASICs, ASSPs and discrete devices ranging from diodes to logic ICs.

TEE has headquarters in Düsseldorf, Germany, with branch offices in France, Italy, Spain, Sweden and the United Kingdom providing design, manufacturing, marketing and sales. Company president is Mr. Tomoaki Kumagai

For more company information visit TEE's web site at [www.toshiba.semicon-storage.com](http://www.toshiba.semicon-storage.com).

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