

Renesas Electronics and HELLA Aglaia Open Up the Front Camera Market with Open, Scalable ADAS Solution

Renesas' High-Performance R-Car V3M SoC and HELLA Aglaia's Open Application Software Enable Product Differentiation and Provide Faster Time-to-Market

Delivers Scalability Covering from Low-Cost NCAP- to SAE Level 3-Based Applications

TOKYO, Japan and Berlin, Germany, December 5, 2017 — Renesas Electronics Corporation (TSE: 6723), a premier supplier of advanced semiconductor solutions, and HELLA Aglaia, one of the leading global developers of intelligent visual sensor systems, today announced their open and scalable front camera solution for advanced driver assistance systems (ADAS) and automated driving. The new front camera solution combines the R-Car V3M, Renesas' high-performance, low-power image recognition system-on-chip (SoC) for New Car Assessment Program (NCAP, Note 1), and HELLA Aglaia's field-proven camera software designed to meet level 2 (partial automation) and level 3 (conditional automation) of the SAE International's new J3016 standard (Note 2). Designed for scalability, the solution enables system designers to build a wide range of front cameras from cameras supporting NCAP to cameras supporting requirements for up to level 3 applications.

This collaboration opens up the market for front cameras as sensor vision is projected to become a major requirement for NCAP over the next several years. "The front camera market is expected to exceed 200 million pieces over the next five years" said Ian Riches, Director Autonomous Vehicles Service at Strategy Analytics. This is driven by the rapid adoption of NCAP safety features such as automated emergency braking, lane departure warning, and traffic sign recognition. OEMs & Tier 1s are seeking open-but-proven solutions with the right performance and cost efficiency balance to provide them the freedom to implement a front camera with their own differentiators.

"The market opportunity for front camera applications has grown rapidly, and customers are desperately seeking an open and proven solution. To realize a superior strategic alignment, we decided to combine the field-proven camera software from HELLA Aglaia with the Renesas autonomy Platform™," said Jean-Francois Chouteau, Vice President, Global ADAS Centre, Renesas Electronics Corporation. "The new solution enables customers to realize their own unique selling points (USPs) for their applications with reduced risk and faster time-to-market."

"With the Renesas autonomy Platform™ for ADAS and automated driving, Renesas provides an open, scalable platform that matches our open and verified software to deliver a solution that enables OEM and Tier 1 to develop low- to high-end applications while giving them the opportunity to add their own software for extra value," said Kay Talmi, Managing Director, HELLA Aglaia. "Optimized for low-cost front cameras, the R-Car V3M is the perfect match for our application software to realize NCAP applications."

The Renesas R-Car V3M SoC implements an innovative, power-efficient computer vision platform using different accelerators, including a versatile pipeline engine (IMP) and a computer vision engine (CVE), allowing the R-Car V3M to run convolutional neural networks for the classification of objects and to manage algorithms like optical flow and object detection. The R-Car V3M also features an integrated ISP and a single DDR3L memory channel offering potential for further cost reductions. The R-Car V3M is part of the Renesas autonomy Platform: Renesas' ground-breaking platform for ADAS and automated driving that delivers total end-to-end solutions scaling from cloud to sensing and vehicle control.

HELLA Aglaia's software solutions will shorten the development time, efforts, and risk for the next wave of front camera customers. As an experienced Tier 2 supplier of field-proven camera software for level 2 and level 3, HELLA Aglaia delivers software that is flexible and portable and that can be combined with Tier 1 or OEM software IP, allowing customers to focus on creating their USPs. The software is scalable and covers from low-cost NCAP applications up to level 3-based front camera applications.

Availability

The Renesas R-Car V3M is available now. The application software delivered by HELLA Aglaia is scheduled to be available in Q1 2018.

Click [here](#) for the promotion video.

(Note 1) NCAP (New Car Assessment Program):

A government car safety program tasked with evaluating new automobile designs for performance against various safety threats.

(Note 2) SAE International's new standard J3016: Taxonomy and Definitions for Terms Related to On-Road Motor Vehicle Automated Driving Systems, delivers a harmonized classification system and supporting definitions that identify six levels of driving automation from "no automation" to "full automation".

About HELLA Aglaia

HELLA Aglaia Mobile Vision GmbH is a full subsidiary of HELLA GmbH & Co. KGaA and is one of the leading global developers of intelligent visual sensor systems. The result of many years of experience, our expertise in mono- and stereo-camera systems, image processing and software programming makes possible the development of innovative industrial solutions and highly effective products for driver-assistance systems, electromobility and people counting. Many of our products set international standards and open completely new application possibilities and future opportunities.

About Renesas Electronics Corporation

Renesas Electronics Corporation (TSE: 6723) delivers trusted embedded design innovation with complete semiconductor solutions that enable billions of connected, intelligent devices to enhance the way people work and live—securely and safely. A global leader in microcontrollers, analog, power, and SoC products and integrated platforms, Renesas provides the expertise, quality, and comprehensive solutions for a broad range of Automotive, Industrial, Home Electronics, Office Automation and Information Communication Technology applications to help shape a limitless future. Learn more at renesas.com.

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