

## Global In-Vehicle Sensor Market: Key Research Findings 2015

### ◆ Research Outline

Yano Research Institute has conducted a study on the global market of in-vehicle sensors with the following conditions:

1. Research period: From April to July, 2015
2. Research targets: Manufacturers of car electronics, semiconductors, and electronic parts
3. Research methodologies: face-to-face interviews by the expert researchers, survey via telephone/email, and literature research

#### <What are in-vehicle or in-car sensors?>

In-vehicle or in-car sensors are devices that detect necessary information (rotation, angle, pressure, impact, speed, and object) to control various systems within a vehicle. This research categorizes sensors by control system where the sensors are embedded: Powertrains to control an engine, chassis/passive safety for electrically-assisted power steering and brakes, body for head lights and air conditioning, ADAS (Advanced Driving Assistant System), and HV (Hybrid Vehicle)/EV (Electric Vehicle).

There are different types of sensor devices such as magnetic sensors and MEMS (Micro Electro Mechanical Systems) sensors. This research only targets those devices embedded in passenger cars and commercial vehicles that weigh 3.5 tons or less.

### ◆ Key Findings

#### ■ Global Market Size of In-Vehicle Sensors in 2014 Rose by 26.8% from Previous Year to Attain 2,254.3 Billion Yen

Steady growth of the sensors for power trains and for ADAS has driven the global in-vehicle sensor market to increase by 26.8% from the preceding year, reaching 2,254.3 billion yen, based on the shipment value at manufacturers. The largest market share by demand is achieved by the sensors for powertrains occupying 40.5%, attaining 912.9 billion yen, followed by those for chassis/safety, 29.8% to achieve 671.4 billion yen, the third place comes the sensors for body, 16.1% to reach 362.5 billion yen, followed by those for ADAS, 13.2% to attain 297.3 billion yen, and lastly those for HV/EV, 0.5% to mark 10.2 billion yen.

#### ■ Forecast of Global Market of In-Vehicle Sensors in 2020 Reaches 3,148.7 Billion Yen, Boosted by Environmental Regulation, Improvement of Fuel Efficiency, and Increase of ADAS

In order to observe the environmental regulations and to improve fuel efficiency, more downsizing engines are likely to be adopted, and more transmission needed to be multi-staged, which, in turn, helps expand demands of the sensors for powertrains. In addition, with ADAS expected to spread further, CAGR (compound annual growth rate) of the global in-vehicle sensor market from 2014 to 2020 is likely to attain 5.7% and the market size for 2020 to achieve 3,148.7 billion yen, based on the shipment value at manufacturers.

#### ■ Sensors for ADAS Attains largest Growth Rate Among Entire In-Vehicle Sensors, Attaining 909.4 Billion yen for FY2020 and CAGR from 2014 to 2020 to be 20.5%

In the future, multiple in-vehicle sensors are likely to be introduced to form so called sensor fusion,

aiming to enhance detection ability of ADAS and to enable multi-functions. This may bring about more sensors for ADAS to be embedded into a single automobile, expanding the opportunities of sensors to detect not only in the front but also to the side and the rear of the vehicle. Therefore, the global market of sensors for ADAS is expected to attain 909.4 billion yen by 2020 (based on the shipment value at manufacturers), with CAGR from 2012 to 2020 to achieve 20.5%.

## ◆ Report format

Published report: “In-Vehicle Sensor Device Market 2015”

Issued on: July 31, 2015

Language: Japanese

Format: 182 pages in A4 format

Price: 130,000 yen (The consumption tax shall additionally be charged for the sales in Japan.)

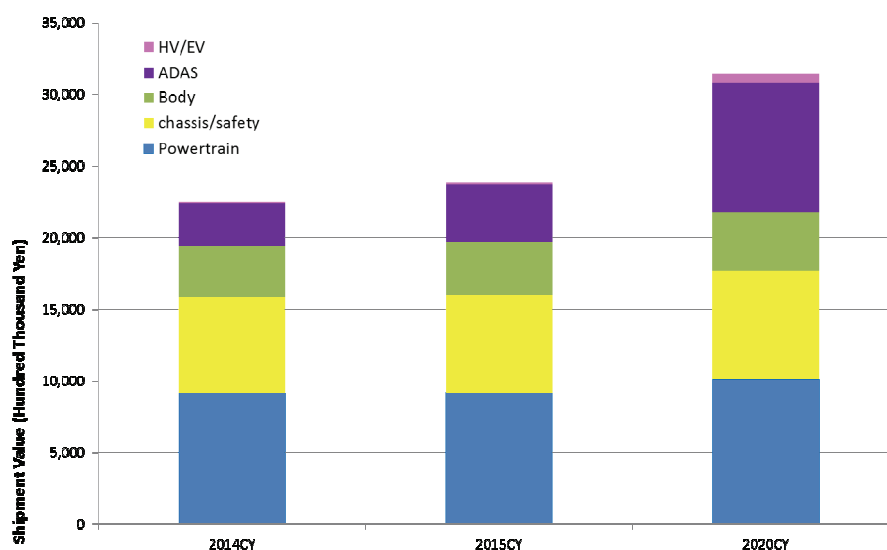
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■ **Figure & Table 1: Transition and Forecast on Size of Global In-Vehicle Sensor Market**



Control Systems	2014	2015 (Forecast)	2020 (Forecast)	CAGR (2012~2020)
Powertrain	9,129	9,163	10,082	1.7%
chassis/passive safety	6,714	6,835	7,648	2.2%
Body	3,625	3,671	4,078	2.0%
ADAS	2,973	4,062	9,094	20.5%
HV/EV	102	140	585	33.8%
TTL	22,543	23,871	31,487	5.7%
Y-o-Y	126.8%	105.9%		

Estimated by Yano Research Institute

### Notes:

1. The market size is based on the shipment values at manufacturers
2. The numeric values of 2014 are actual values and those of 2015 and 2020 are forecast.
3. Since the values are rounded, some parts of total and ratio within the table do not coincide.
4. There are different types of sensor devices such as magnetic sensors and MEMS (Micro Electro Mechanical Systems) sensors. This research only targets sensor devices that are embedded for passenger cars and commercial vehicles that weigh 3.5 tons or less.