# Global e-Cockpit Market: Key Research Findings 2016

## ◆ Research Outline

> **Yano Research Institute has conducted a study on the global in-vehicle HMI/e-cockpit market with the following conditions:**
> 1. Research period: January to September, 2016
> 2. Research target: Domestic and overseas leading automakers, tier-1 auto parts makers, etc.
> 3. Research methodologies: Face-to-face interviews by the specialized researchers, surveys via telephone/email, and literature search
>
> **What is e-Cockpit/In-Vehicle HMI (Human Machine Interface)?**
>
> An e-cockpit in this research indicates an in-vehicle HMI (Human Machine Interface) system that associates with in-vehicle cameras, warns danger, and displays emergency by means of HUD (Heads Up Displays) and etc. In the future, this display system is expected to be available of infotainment which provides information like car navigation and also music and visual media, as well as to interrelate with ADAS (Advanced Driving Assistant System), in addition to the basic functions of automobiles which are to drive, turn at a curve, and stop.

## ◆ Key Findings

### ■ Integrity Control Function Added to In-Vehicle HMI Systems to Prioritize Information

The function of integrity control has been added to in-vehicle HMI (Human Machine Interface) systems to prioritize information. The added function aims to prioritize vast information provided by ADAS (Advanced Driving Assistant System) widely installed in increasing number of vehicles. Such vast amount of information during driving can cause some confusion or disturbance to the driver. The integrity control function is sometimes needed in order to solve this problem by ranking diverse information from vehicle body to external environment in the order of priority, and by picking up to display the most important one first according to such priority orders, without giving any discomfort or stress to the driver.

### ■ Global e-Cockpit Market Size Projected to Attain 8,336 Thousand Units by 2022

The global market size of e-Cockpits, based on the shipment volume at manufacturers, is expected to be 625 thousand units in 2016. The CAGR (compound annual growth rate) of global e-Cockpit market from 2016 to 2022 is likely to be 54.0%, indicating that it can attain 8,336 thousand units by 2022. The market of e-Cockpit is projected to expand along with growing number those automobiles adopting automatic operating systems.

## ◆ Report Format:

Published report: "In-Car HMI/Driver Monitoring Market 2016"
Issued on: October 6, 2016
Language: Japanese
Format: 207 pages in A4 format
Price: 180,000 yen (Consumption tax shall be additionally charged for the sales in Japan.)

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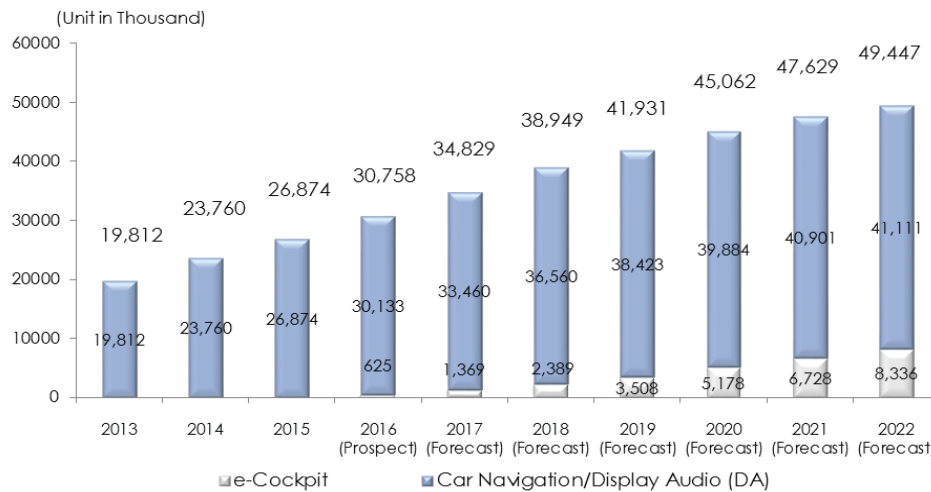**Contacts:** Public Relations
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## ■ Table 1: Major Functions of In-Vehicle HMI Systems

| Major Functions | Descriptions |
|---|---|
| 1) Input | The driver designate and operate the moves to the automobile by using switches, touch screens, and speech recognition.  Otherwise, various types of sensors automatically input the information about the driver to the automobile (or to cloud) without the driver being conscious of it. |
| 2) Output | The information that the driver needs will be provided through a display, audio guides, vibration, or other methods.  Such information can be warnings,  map information (navigation), or infotainment (information and recreation) provided during the driving, |
| 3) Integrity Control (Display Priority) | The car with an ADAS (Advanced Driving Assistant System) installed bring about vast volume of information.  The HMI system does the integrity control, which is to pick up and display the most important information for the driver, prioritizing diverse information from vehicle body to external environment, without bringing about any discomfort or stress to the driver. |

## ■ Figure 2: Forecast of Global Market Size of eCockpits, Car Navigation/Display Audio (DA)



(Unit in Thousand)

| | 2013 | 2014 | 2015 | 2016 (Prospect) | 2017 (Forecast) | 2018 (Forecast) | 2019 (Forecast) | 2020 (Forecast) | 2021 (Forecast) | 2022 (Forecast) |
|---|---|---|---|---|---|---|---|---|---|---|
| e-Cockpit | 0 | 0 | 0 | 625 | 1,369 | 2,389 | 3,508 | 5,178 | 6,728 | 8,336 |
| Car Navigation/Display Audio (DA) | 19,812 | 23,760 | 26,874 | 30,133 | 33,460 | 36,560 | 38,423 | 39,884 | 40,901 | 41,111 |
| Global Market Size (Total) | 19,812 | 23,760 | 26,874 | 30,758 | 34,829 | 38,949 | 41,931 | 45,062 | 47,629 | 49,447 |
| Y-o-Y Comparison | - | 119.9% | 113.1% | 114.5% | 113.2% | 111.8% | 107.7% | 107.5% | 105.7% | 103.8% |

Notes:
1. The market size is based on the shipment volume at manufacturers.
2. The market does not include PND (Personal Navigation Devices.)
3. An e-cockpit in this research indicates an in-vehicle HMI (Human Machine Interface) system that associates with in-vehicle cameras, warns danger, and displays emergency by means of HUD (Heads Up Displays) and etc.
4. Display Audio (DA) indicates the products that have a display and AV functions (the level of AM/FM radios) but have no navigation function. If a rear-view camera is installed to the product, then it functions as a parking support system.   If the product is connected to a smartphone, the applications on the smartphone (such as music, navigation, SNS, etc.,) can be available and displayed on the DA monitor.