

World Car Navigation & PND Market: Research Findings 2010

- Car navigation systems market is growing continuously, while PND market is starting to decrease. New models will be coming in 2011 -

◆ Research Outline

Yano Research Institute has conducted a study on the world car navigation/PND market as described below.

1. Research period: September to December 2010
2. Research targets:
Car navigation systems and devices manufacturers in Japan and overseas, automobile manufacturers, smartphone manufacturers and related enterprises
3. Research methodologies:
Face-to-face interviews with relevant personnel, supplemented by interviews via telephone and e-mail, and literature researches.

< What PND (personal navigation device) means? >

PND in this research means a compact, low-price car navigation system with 4-inch or smaller display. Map data is stored in a flash memory/card, and the unit is windshield or dash mounted.

◆ Key Findings

• World car navigation market is growing continuously, and expected to reach 16.32 million sets in 2015

World car navigation market size in 2010 was 9.8 million sets (based on the shipments from manufacturers), and is expected to grow steadily during 2010 to 2015 with an average annual growth rate of 10.7 percent, and to reach 16.32 million units in 2015. A large portion of this growth is attributable to the rapid growth of low-price SD navigation devices in the China market.

• World PND market is turning into a trend of slight decrease

World PND market size in 2010 was estimated to be 38.5 million units (based on the shipments from manufacturers). In consideration of the growth of smartphone navigations planned to be introduced into the market in 2011, and the shift of PND users to SD car navigation devices prompted by the price reduction, the market is expected to decrease slightly through the period from 2010 to 2015 with an average annual growth rate of minus 1.8 percent, and to shrink down to 35.1 million units in 2015.

• A full-fledged diversification of in-vehicle information systems is expected to start in 2011

In and after 2011, a full-fledged diversification of in-vehicle information units will be observed, with various new systems including smartphone navigation integrated with cradle and DA (display audio system), advanced in-vehicle information/communication systems with built-in communication module and energy management systems focused on EV applications, in addition to the existing car navigation systems and PNDs.

◆ **Report format:**

Published report: “Car Navigation and In-vehicle Communications Systems Market 2011”

Issued in: December 2010

Language: Japanese

Format: 299 pages in A4 format

Price: 165,000 yen (8,250 yen of consumption tax shall be charged for the sales in Japan.)

Contacts: Public Relations

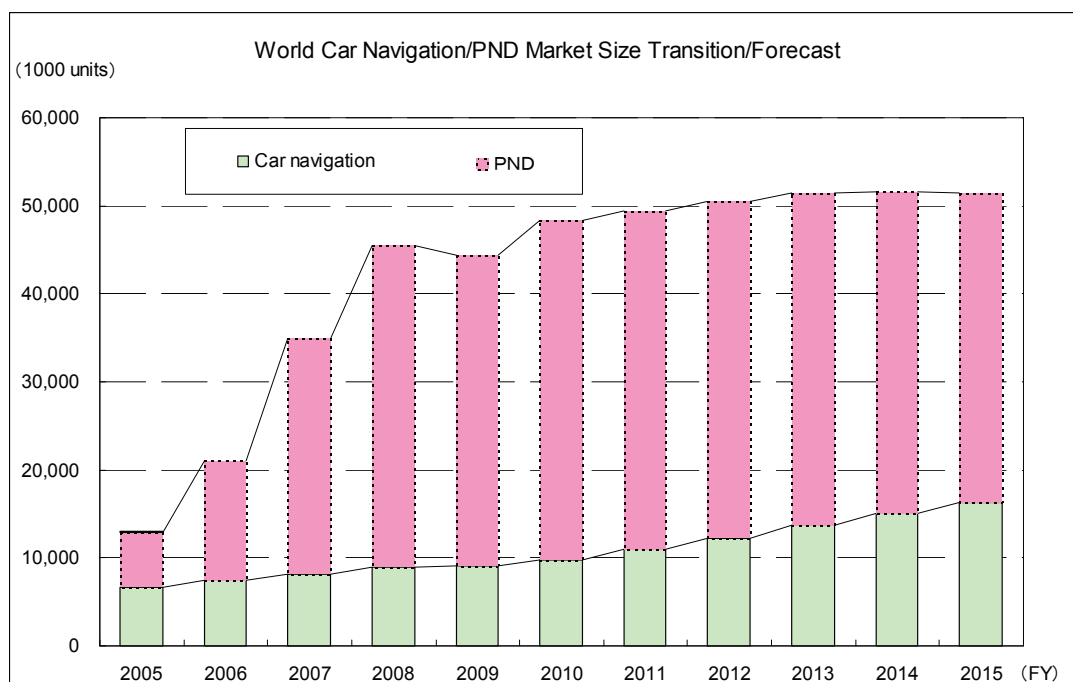
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Table/Fig 1: World Car Navigation/PND Market Size Transition/Forecast (Unit: 1000 units, %)

	Achievement					Forecast					
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
World PND market	6,368	13,703	26,800	36,600	35,400	38,500	38,400	38,200	37,800	36,500	35,100
Year/year	—	215.2%	195.6%	136.6%	96.7%	108.8%	99.7%	99.5%	99.0%	96.6%	96.2%
World car navigation market	6,595	7,400	8,105	8,902	9,049	9,806	10,961	12,285	13,710	15,100	16,320
Year/year	—	112.2%	109.5%	109.8%	101.7%	108.4%	111.8%	112.1%	111.6%	110.1%	108.1%
Total	12,963	21,103	34,905	45,502	44,449	48,306	49,361	50,485	51,510	51,600	51,420



Estimated by Yano Research Institute

Note 1: World PND market size is based on the total shipment volume by the manufacturers in Japan, Europe, USA and China.

Note 2: World car navigation market size is based on the total shipment volume by the manufacturers in Japan, Europe, USA, China, India and Brazil

Note 3: Figures for 2010 and after are the estimates.

Table 2: Classification of Next Generation In-Vehicle Information Terminals

Product classification	Features
1) PND (personal navigation device)	Low-price, compact car navigation device with 4-inch or smaller display. Map data is stored in flash memory/card. Windshield and dash mounting.
2) Car navigation system (CD/DVD & HDD types, SD car navigation)	Many types are dedicated in-vehicle navigation systems integrated with an audio system and large-size display
3) Cradle + Smartphone	A smartphone is inserted into a dedicated cradle provided in the vehicle for use. The navigation function is provided by the smartphone, but the cradle also has various functions to improve user-friendliness, such as battery charging, voice recognition/ synthesis, GPS, gyroscope and in-vehicle speaker interface, etc.
4) DA (Display audio) + Smartphone	DA means a system with a display in/on dash for viewing images from the rear view camera. By inserting a smartphone with navigation function into a slot on the DA, the navigation function of the smartphone can be used with the map displayed on the DA screen.
5) Car navigation system with built-in wireless communication module	In-vehicle system with built-in wireless communication module, which includes car navigation function. These systems will be focused on EVs, and possibly on luxury vehicles, with functions especially useful for EVs, such as EV battery monitoring and route guidance to an available battery charging station in case of low battery, and other energy management functions to make the use of EV more enjoyable. .

Prepared by Yano Research Institute

Note 4: Smartphone navigation alone is not included in "In-vehicle information terminals", as it is an application of smartphone. By integrating with cradle or DA, smartphone can be considered as an "in-vehicle device".