

AGV (Automated Guided Vehicle) Market in Japan: Key Research Findings 2014

◆ Research Outline

Yano Research Institute has conducted a study on the domestic AGV (Automated Guided Vehicle) market with the following conditions:

1. Research period: From October to December, 2014
2. Research target: Manufacturers of AGV, sensors, and charging equipment
3. Research methodologies: Face-to-face research by the expert researchers, surveys via telephone/email, and literature research

What is an AGV (Automated Guided Vehicle)?

An AGV (Automated Guided Vehicle) in this research indicates rail less types of AGVs among all AGV systems defined in JIS D6801. Cargo-loading and cargo-pulling types and AGFs (Automated Guided Forklifts) are included.

◆ Key Findings

■ 4,500 AGVs Shipped from Manufacturers in FY2013, 104.7% of Previous Fiscal Year

The AGV market had been on the decline until FY2009, influenced largely by the failure of Lehman Brothers. The market shifted to a rising tendency in FY2010, and expanded rapidly in FY2011 as a reaction to the slowdown. The market has continued rising ever since and through FY2013 in terms of number of AGVs shipped. The AGV market size based on the shipment volume from manufacturers has expanded to 4,500, 104.7% of that in the previous fiscal year. Overwhelming numbers of current AGVs shipped use magnetic guidance systems, and 86.7% of all charging systems of AGVs are occupied by manual charging.

■ Autonomous-Running Systems Can be Introduced in AGVs and Also in Service Robots

A guidance system using 3D TOF (Time-of-Flight) cameras is said to have been developed to the perfection in terms of sensing, enabling to detect objects in 3D, but has not been introduced in AGVs yet. This technology, together with laser 3D-scanner guidance systems that have been commercialized in AGVs, are promising guidance systems that can both avoid collision and run autonomously, though much to be developed further. Both are considered as promising technologies to be introduced in service robots for nursing the elderly, and in those for cleaning.

■ Being Equipped With a New Battery Type, Non-Contact Automatic Charging Expected as Promising Technology

Some of guidance and charging systems can be promising to be adopted in AGVs which have some restricted conditions. Especially, non-contact automatic battery charging equipment is a new type of battery charging system that can very likely to be introduced in AGVs, more probable than the new, smaller and lighter storage batteries that mainly use lithium-ion secondary batteries and than those contact-type automatic charging equipment, in that non-contact types does not need maintenance because it does not have an actuator, available 24 hours because it can charge during idle hours, and does not need any labor for manual charging.

◆ **Report format:**

Published report: “Guidance/Charging Technologies for AGV 2015”

Issued on: December 25, 2014

Language: Japanese

Format: 130 pages in A4 format

Price: 150,000 yen (The consumption tax shall additionally be charged for the sales in Japan.)

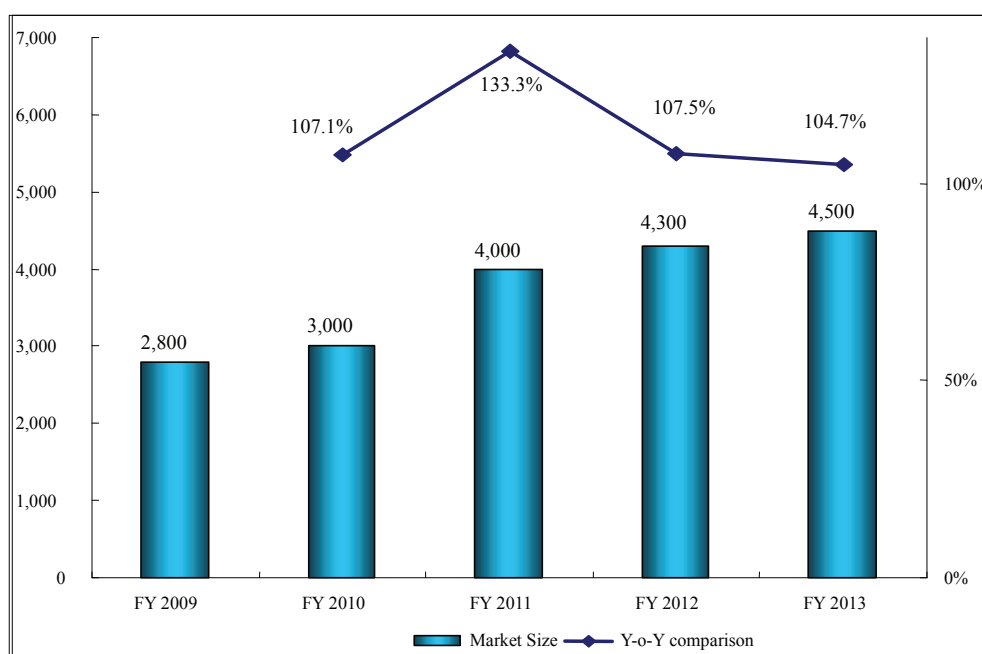
Contacts: Public Relations

Yano Research Institute Ltd. (URL: <http://www.yanoresearch.com>)

Phone: +81-3-5371-6912

E-mail: press@yano.co.jp

■ **Figure 1: Transition of Domestic AGV (Automated Guided Vehicles) Market Size**



Notes:

1. The figures are based on the shipment volume from manufacturers.
2. An AGV (Automated Guided Vehicle) in this research indicates rail less types of AGVs among all AGV systems defined in JIS D6801. Cargo-loading and cargo-pulling types and AGFs (Automated Guided Forklifts) are included.