

October 7, 2015

RESEARCH SUMMARY

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Global CNT (Carbon Nanotube) Market: Key Research Findings 2015

◆ Research Outline

Yano Research Institute has conducted a study on the global CNT (Carbon Nanotube) market with the following conditions:

1. Research period: From April to September, 2015
2. Research target: Domestic and overseas nanotube manufacturers, companies, R&D institutions, universities, etc. that handle carbon nanotubes and applications.
3. Research methodologies: Face-to-face interviews by the expert researchers and literature research

<What is the Global CNT (Carbon Nanotube) Market?>

The global CNT (carbon nanotube) market in this research consists of SWNTs (single-walled nanotubes) and MWNTs (multi-walled nanotubes). The market size is total shipment volume of both SWNTs and MWNTs at manufacturers.

◆ Key Findings

■ Global CNT Market Size in 2014 Attained 590.8 Tons, a Leap of 137% on Y-o-Y Basis

Global market size of carbon nanotubes, based on the shipment volume at manufacturers, grew to 590.8 tons, 137.3% of the size of the previous year. Amongst the CNT market, shipment volume of SWNTs (single-walled nanotubes) which used to be mostly for samples only attained 0.8 tons, 266.7% of that in the preceding year. This stems from market entrance by some manufacturers with stable supplies and lower prices. As for MWNTs (multi-walled nanotubes), those for LiBs showed favorable sales, which led the market to achieve 590 tons, 137.2% of the size of the previous year.

■ Global Market Led by LiB Application

The composition ratio of the carbon nanotubes market by application shows that the energy sector (LiB conductive auxiliary agents, etc.) occupies 70% of the entire CNT demands, followed by the electrics/electronics sector accounting for less than 20%, and the automobiles sector (fuel parts, etc.) accounting for 10%.

■ Global CNT Market Size for 2020 Expected to Achieve Total 1,335 Tons, With SWNT 15 Tons and MWNT 1,320 Tons

The global CNT market is projected to achieve 1,335 tons by 2020, out of which SWNT to attain 15 tons and MWNT 1,335 tons.

With mass production is likely to begin being available at suppliers, the SWNT market is expected to fully be launched, so that SWNTs can be traded in tons rather than kilograms at last. As for the MWNTs, they are stably demanded as one of resin composites, and LiB application continues to drive the market. By 2018, carbon nanotubes are awaited to be introduced to new applications, such as rubber composite.

◆ Report format

Published report: "Carbon Nanotubes Market 2015"

Issued on: September 29, 2015

Language: Japanese

Format: 148 pages in A4 format

Price: 180,000 yen (The consumption tax shall additionally be charged for the sales in Japan.)

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■ **Table 1: Transition and Forecast of Global CNT Market Size**

Unit: Tons

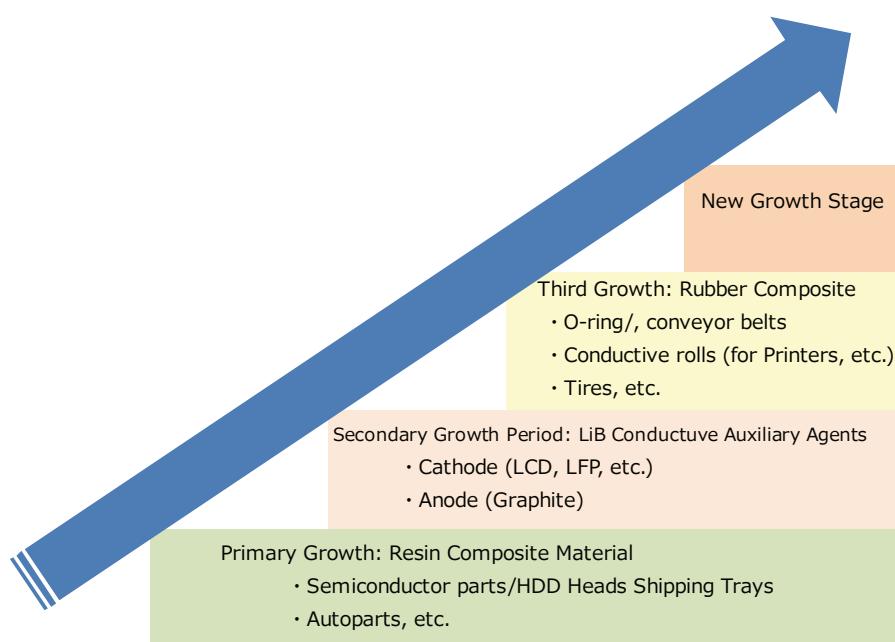
| | 2014 | 2015 (Prospect) | 2016 (Forecast) | 2017 (Forecast) | 2018 (Forecast) | 2019 (Forecast) | 2020 (Forecast) |
|-----------------------------------|--------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| SWNT | 0.8t | 2t | 4t | 6t | 9t | 12t | 15t |
| (Y-o-Y) | 266.7% | 250.0% | 200.0% | 150.0% | 150.0% | 133.3% | 125.0% |
| MWNT | 590t | 700t | 820t | 940t | 1,060t | 1,190t | 1,320t |
| (Y-o-Y) | 137.2% | 118.6% | 117.1% | 114.6% | 112.8% | 112.3% | 110.9% |
| Global CNT Market Size (Total) | 590.8t | 702t | 824t | 946t | 1,069t | 1,202t | 1,335t |
| (Y-o-Y) | 137.3% | 118.8% | 117.4% | 114.8% | 113.0% | 112.4% | 111.1% |

Estimated by Yano Research Institute

Notes:

1. The market size is based on the shipment volume at manufacturers.

■ **Figure 1: Major Applications of Global CNT Market by Growth Stage**



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