

## **Global In-Vehicle LiB Market: Key Research Findings 2017**

### ◆ **Research Outline**

**Yano Research Institute has conducted a study on the global in-vehicle lithium-ion battery market with the following conditions:**

1. Research period: From April to September, 2017
2. Research target: Automakers in Japan, Europe, U.S., South Korea and China, in-vehicle LiB makers in Japan, South Korea and China
3. Research methodologies: Face-to-face research by the expert researchers, survey via telephone/email, and literature research

#### **What are In-Vehicle Lithium Ion Batteries?**

In-vehicle lithium-ion batteries (hereinafter LiB) in this research indicate those secondary batteries mounted in xEVs (i.e., 12V/48V mild-Hybrid Electric Vehicles [HEVs], strong-HEVs, Plug-in Hybrid Electric Vehicles [PHEVs], and EVs). Note that this research handles LiBs mounted in passenger cars and commercial cars.

#### **What is the In-Vehicle LiB Market?**

Until 2016, size of the in-vehicle LiB market in this research had been calculated based on the shipment of LiB-mounted xEVs at xEV makers. In 2017 and beyond, the market size is based on LiB capacity calculated from production of xEVs.

### ◆ **Key Findings**

#### ■ **Global In-Vehicle LiB Market in 2016 Projected to Attain 46.6GWh, and 57.5GWh by 2017**

The global in-vehicle LiB market in 2016 steadily grew to 46.6GWh, 152.6% of the size of the previous year. The active promotions of electric vehicles by the governments of each country have contributed in continuous rapid expansion of the sales of PHEVs and EVs primarily in China. However, in 2017, the Chinese government has reduced the subsidies and imposed stricter criteria in providing subsidies for electric buses, which slowed down the growth rate. The global in-vehicle LiB market, therefore, is likely to be 57.5GWh, 123.3% of the size of the preceding year.

#### ■ **87.3% of Global In-Vehicle LiB Market in 2016 Dominated by LiB for EVs**

When looking at the global in-vehicle LiB market by type of xEVs, LiBs for EVs have achieved 40.7GWh, dominating 87.3% of the market, with this composition ratio showing a rising tendency, while those for PHEV have attained 5.3GWh, 11.4% of the market, and those for HEVs reached 621MWh, accounting for 1.3%. As for LiBs for EVs, the sale of electric buses that use 100 to 300kWh of large-capacity LiB packs has expanded especially in China, boosting the entire market. Also, LiBs for PHEVs have been on the rise proportionately with growth of the PHEV market.

#### ■ **Global In-Vehicle LiB Market Projected to Attain 119.7GWh by 2020, and 254.9GWh by 2025**

In a status where environmental regulations at each country have been ever stricter as Germany plans to ban the sale of new petrol and diesel cars by 2030, followed by UK and France by 2040, automakers tend to hasten the release of new xEVs. Although the xEV market is projected to

continue growing, many challenges surrounding xEVs, including gradual reduction of subsidies to xEVs, price rise of raw materials, and many others, are regarded not to be solved completely, which is causing the market size forecast to be moderate growth, attaining 119.7GWh by 2020, and 254.9GWh by 2025.

◆ **Report Format:**

Published Report: “Lithium-ion Battery Market for Vehicles 2017”

Issued on: September 29, 2017

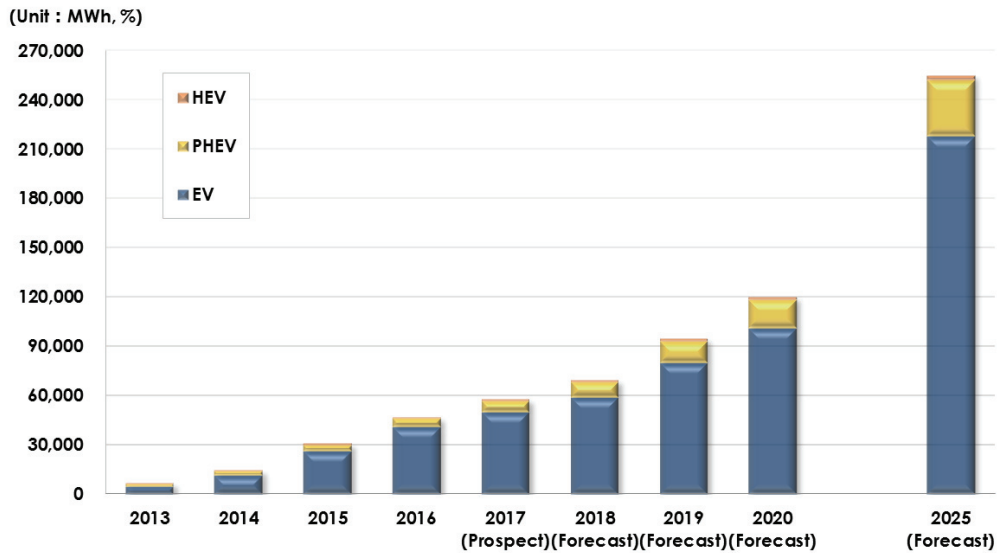
Language: Japanese

Format: 330 pages in A4 format

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

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



Estimated by Yano Research Institute

(Unit : MWh, %)

EV Type/Year	2013	2014	2015	2016	2017 (Prospect)	2018 (Forecast)	2019 (Forecast)	2020 (Forecast)	2025 (Forecast)
HEV	392	487	587	621	751	879	1,253	1,611	2,714
Y-o-Y	-	124.2%	120.5%	105.8%	120.9%	117.0%	142.5%	128.6%	168.5%
PHEV	1,370	2,660	3,977	5,307	7,203	9,450	13,329	17,194	34,526
Y-o-Y	-	194.2%	149.5%	133.4%	135.7%	131.2%	141.0%	129.0%	200.8%
EV	4,736	11,126	26,019	40,734	49,565	58,905	79,899	100,987	217,669
Y-o-Y	-	234.9%	233.9%	156.6%	121.7%	118.8%	135.6%	126.4%	215.5%
Total	6,499	14,273	30,583	46,662	57,519	69,234	94,480	119,792	254,909
Y-o-Y	-	219.6%	214.3%	152.6%	123.3%	120.4%	136.5%	126.8%	212.8%

Estimated by Yano Research Institute

Notes:

1. Until 2016, size of the in-vehicle LiB market in this research had been calculated based on the shipment of LiB-mounted xEVs at xEV makers. In 2017 and beyond, the market size is based on LiB capacity calculated from production of xEVs.
2. The numeric values are rounded up after the decimal point, so that some total values in the figure and table may not match.