### Chinese Batteries

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Li-ion battery global market (\$) \$20 billion, 2025 (Goldman Sachs) \$250 billion, 2040 (Bloomberg)

Li-ion battery global market (GWh) 62 GWH, 2015 223 GWh, 2025 131 GWh, 2025 for EV market "Is China, or parts of China, the new Detroit? I think the answer is yes."

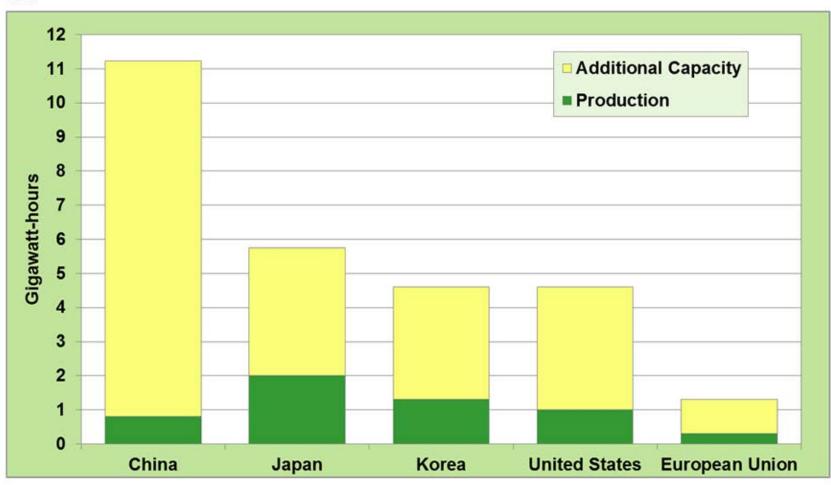
# supply side push – promotion policies demand side pull – consumer subsidies

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challenges: no competition; quality; need integration

60% of total Li-ion battery usage will be for EVs by 2025

MANUFACTURING PRODUCTION AND CAPACITY FOR AUTOMOTIVE LITHIUM-ION BATTERY CELLS BY COUNTRY/REGION, 2014



China's battery sector

learning from Japan Chinese R&D market scale sector protection raw materials The Japanese invent it, the Koreans expand and build it out, and the Chinese end up dominating it as that's where the market ultimately is. We are going to see a significant step-up in manufacturing capacity driven by China and Chinese demand.

- Financial Times

### FT HEADLINE:

## China Plays Long Game on Cobalt and Electric Batteries

challenges and opportunities

price technology consumer usability

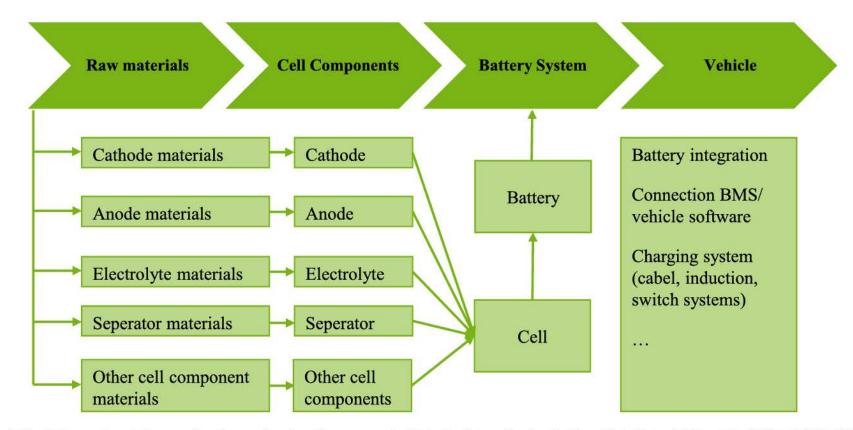


Fig. 1. The battery value chain comprises four major steps from raw materials to the integration in electric vehicles (adapted from von Delft and Leker (2011)).



implications and options

diversify business and R&D inter-firm collaboration intra-firm integration