

# Global and China Li-ion Power Battery Industry Report, 2016-2020

<https://marketpublishers.com/r/G638F241CCBEN.html>

Date: November 2015

Pages: 222

Price: US\$ 2,600.00 (Single User License)

ID: G638F241CCBEN

## Abstracts

In 2014, the global electric vehicle sales volume reached 329,800 units, up 51.8% from a year earlier, including 115,500 plug-in hybrid electric vehicles and 214,300 battery electric vehicles. In the first half of 2015, this figure amounted to 204,300 units. Affected by lower oil prices, the sales volume of electric vehicles in Japan and the United States declined while that in China and Europe maintained faster growth.

In 2014, the global demand for Li-ion power battery for electric vehicles came to 9.8GWh, up 87% from a year earlier, of which the demand from passenger vehicles totaled 7.3GWh and commercial vehicles 2.5GWh. In H1 2015, the global demand for EV Li-ion power battery hit 7GWh, maintaining high growth

There are mainly three technology roadmaps for power battery worldwide.

(1) Ternary materials-based. This mainly takes NCA and NCM as cathode materials. NCM-based batteries have high energy density. With a sustained growth of electric vehicles, the procurement costs of the batteries have in recent years declined dramatically, which has gradually made them a mainstream battery technology for electric vehicles. After 2014, domestic battery companies represented by Samsung SDI, SKI, Tianjin Lishen, and Boston-Power have also shifted their focus to NCM-based batteries. NCA adopts 18650-type battery, which is mainly used in Tesla and Toyota RAV4. It has the highest energy density so far. But because of poor safety performance, the advanced BMS is needed to monitor the operating condition of the battery. Thus, the battery has not been widely used. The typical enterprise is Panasonic.

(2) LFP-based. Canada and the United States were the first to develop power battery technology, with main patent owners including the U.S. Valence, A123 and University of

Texas, and the Canadian Phostech and Hydro-Quebec. In China, by contrast, LFP, the mainstream technology in power lithium battery, is widely used in passenger vehicles and buses, with the typical companies including BYD and Guoxuan High-tech. However, due to the factors like low specific energy and poor low-temperature starting performance, LFP-based batteries are not made available worldwide. The Chinese heavyweight passenger vehicles launched in 2014H2-2015, such as BAIC EV200, Zhidou, Zotye Yun 100, Kandi K10/K11, and JAC iEV5, have begun to use ternary or hybrid ternary batteries-based batteries. The largest LFP-based battery manufacturer, BYD also announced that its new model “Song” will be equipped with its own ternary lithium battery. But due to low costs and strong cycle performance, LFP still will be used in electric commercial vehicles as the preferred battery technology for a long period of time. This is particularly true in China. In 2015, battery electric buses showed explosive growth, which would drive a surge in demand for LFP-based batteries.

(3) Manganese series. It mainly takes LMO as the cathode materials, but LMO is generally modified and is combined with a little bit of NCM or LNO to increase battery energy density. The major typical manufacturers include LGC, AESC, LEJ, etc. And in China, they are MGL, Do-Fluoride Chemicals Co., etc. Manganese series battery is also one of the mainstream technology roadmaps for electric vehicles globally.

At present, manganese-series power battery, including NCM and LMO, occupies the mainstream status on a global scale, with the cost of battery packs generally standing at USD400-550/kWh, which reflects an obvious decline since 2014. The cylindrical NCA 18650 battery produced through coiling, though lower costs for its cells, is popular with automakers due to high BMS costs and safety; Similarly, because of poor comprehensive performance, low-cost LFP battery is only is used in China and the United States. However, the US automakers have gradually abandoned LFP batteries and turned to ternary materials-based and Mn-series batteries from Japanese and S. Korean companies. When it comes to the development trends in Li-ion power battery technology, passenger vehicles will mainly adopt manganese series and ternary materials-based batteries while commercial vehicles will primarily use LFP batteries and gradually turn to ternary materials-based batteries.

At present, no major technological breakthrough has not yet been made in power battery. It is estimated that the drop in prices for power battery mainly resulted from a fall in the costs of raw materials and economies of scale, but with a limited decline.

In 2014, China’s power battery shipments totaled 3.7GWH, up 470% from a year earlier. Among them, the demand for passenger vehicle power batteries was 1.6GWH

and that for commercial vehicles 2.1GWh. In H1 2015, China's power battery shipments came to 2.72GWh. As battery electric buses showed explosive growth in the second half of 2015, and if we calculate the new energy vehicle output based on 250,000 units for the full year, the corresponding battery demand will reach 11 GWh.

As far as Chinese Li-ion power battery manufacturers are concerned, in H1 2015, any of such companies as BYD, Guoxuan, ATL, Tianjin Lishen, OptimumNano, Boston Power, and Pride Battery has a battery output of 100MWH. The shipments of 13 major battery manufacturers accounted for an aggregate 71% in market share, of which BYD had the largest market share of 17%.

From the perspective of global trends, the support from big carmakers is vital to power battery manufacturers. Traditional consumer electronics companies are aggressively conducting transformation. On the other hand, battery materials manufacturers and vehicle manufacturers have also begun to enter this field through various ways. Thus, the first echelon represented by BYD, Guoxuan, Tianjin Lishen, and ATL and the second echelon including OptimumNano, Boston Power, and Pride Battery, BESK, Do-Fluoride Chemicals, CALB, and Shenzhen BAK have taken shape.

Global and China Li-ion Power Battery Industry Report, 2016-2020 by ResearchInChina mainly covers the followings:

- Analysis of industry chain, including the key materials, cells, Pack & BMS, etc.;

- Analysis of technology roadmap of Li-ion power battery, including costs, performance, and development directions, etc.;

- Analysis of global and Chinese electrical vehicle industry, including the industry overview, overseas markets, model output and sales volume, and performance parameter, etc.;

- Analysis of global and Chinese Li-ion power battery industry, including shipment, market size, price, supply relationship, etc.;

- Operation, technology, development plan, production & marketing of 9 overseas lithium battery manufacturers, mainly from Korea, Japan and USA;

- Operation, technology, development plan, production & marketing of 10 Chinese Li-ion power battery manufacturers.



## Contents

### **1. INTRODUCTION TO POWER LITHIUM BATTERY**

#### 1.1 Classification of Power Battery

#### 1.2 Structure of Power Cell

### **2. POWER LITHIUM BATTERY INDUSTRY CHAIN ANALYSIS**

#### 2.1 Industry Overview

#### 2.2 Critical Materials

##### 2.2.1 Cathode Materials

##### 2.2.2 Anode Materials

##### 2.2.3 Separator

##### 2.2.4 Electrolyte

#### 2.3 Cell

##### 2.3.1 Cell Cost

##### 2.3.2 Cell Capacity

##### 2.3.3 Cell Structure

##### 2.3.4 Supply Relationship

#### 2.4 PACK+BMS

##### 2.4.1 Battery Costs

##### 2.4.2 BMS

#### 2.5 Technology Roadmap

##### 2.5.1 Cost Analysis

##### 2.5.2 Selection of Technology Roadmap

##### 2.5.3 Technology Trends

### **3. GLOBAL ELECTRIC VEHICLE MARKET**

#### 3.1 Classification

#### 3.2 Global EV Market

##### 3.2.1 Overview

##### 3.2.2 USA

##### 3.2.3 Europe

##### 3.2.4 Japan

#### 3.3 Chinese EV Market

##### 3.3.1 Overview

##### 3.3.2 Passenger Vehicle

### 3.3.3 Commercial Vehicle

## **4. GLOBAL POWER LITHIUM BATTERY INDUSTRY**

### 4.1 Demand

#### 4.1.1 Global

#### 4.1.2 China

### 4.2 Price

### 4.3 Market Size

### 4.4 Power Lithium Battery Companies

#### 4.3.1 Market Share

#### 4.3.2 Supporting Relationship

## **5. MAJOR POWER LITHIUM BATTERY MANUFACTURERS IN KOREA**

### 5.1 LG Chemical

#### 5.1.1 Profile

#### 5.1.2 Battery Technology

#### 5.1.3 Business Development and Prospects

#### 5.1.4 Customers

#### 5.1.5 Business Layout in China

#### 5.1.6 Capacity and Output

### 5.2 SDI

#### 5.2.1 Profile

#### 5.2.2 Battery Technology

#### 5.2.3 Business Development and Prospects

#### 5.2.4 Customers

#### 5.2.5 Business Layout in China

#### 5.2.6 Capacity and Output

### 5.3 SKI

#### 5.3.1 Profile

#### 5.3.2 Battery Technology

#### 5.3.3 Development and Prospects

#### 5.3.4 Business in China

#### 5.3.5 Output & Capacity

## **6. LITHIUM-ION POWER BATTERY ENTERPRISES IN JAPAN**

### 6.1 Panasonic

- 6.1.1 Profile
- 6.1.2 Battery Technology
- 6.1.3 Development and Prospects
- 6.1.4 Business in China
- 6.1.5 Customers
- 6.1.6 Output & Capacity
- 6.2 AESC
  - 6.2.1 Profile
  - 6.2.2 Battery Technology
  - 6.2.3 Business Development and Prospects
  - 6.2.4 Layout in China
  - 6.2.5 Capacity and Output
- 6.3 LEJ
  - 6.3.1 Profile
  - 6.3.2 Battery Technology
  - 6.3.3 Business Development and Prospects
  - 6.3.4 Customers
  - 6.3.5 Capacity and Output

## **7. MAJOR POWER LITHIUM BATTERY MANUFACTURERS IN EUROPE AND AMERICA**

- 7.1 Li-Tec&Accumotive
  - 7.1.1 Profile
  - 7.1.2 Battery Technology
  - 7.1.3 Business Development and Prospects
  - 7.1.4 Customers
- 7.2 A123
  - 7.2.1 Profile
  - 7.2.2 Operation
  - 7.2.3 Technology Characteristics
  - 7.2.4 Development Prospects

## **8. MAJOR CHINESE POWER BATTERY COMPANIES**

- 8.1 Hefei Guoxuan High-tech Power Energy Co., Ltd
  - 8.1.1 Profile
  - 8.1.2 Operation
  - 8.1.3 Battery Technology

- 8.1.4 Customers
- 8.1.5 Investment and Capacity
- 8.2 BYD
  - 8.2.1 Profile
  - 8.2.2 Battery Technology
  - 8.2.3 Applications
  - 8.2.4 Customers
  - 8.2.5 Output & Sales and Costs
- 8.3 Beijing Pride Power System Technology
  - 8.3.1 Profile
  - 8.3.2 Technology
  - 8.3.3 Business Development and Prospects
  - 8.3.4 Customers
  - 8.3.5 Capacity and Output
- 8.4 Tianjin Lishen Battery Joint-Stock Co., Ltd.
  - 8.4.1 Profile
  - 8.4.2 Battery Technology
  - 8.4.3 Business Development and Prospects
  - 8.4.4 Customers
  - 8.4.5 Capacity and Output
- 8.5 ATL
  - 8.5.1 Profile
  - 8.5.2 Battery Technology
  - 8.5.3 Business Development and Prospects
  - 8.5.4 Industry Chain
  - 8.5.5 Investment and Capacity
  - 8.5.6 Production and Sales Volume
- 8.6 CHINA BAK BATTERY, INC.
  - 8.6.1 Profile
  - 8.6.2 Battery Technology
  - 8.6.3 Business Development and Prospects
  - 8.6.4 Customers
  - 8.6.5 Capacity & Production
- 8.7 Wanxiang EV
  - 8.7.1 Profile
  - 8.7.2 Battery Technology
  - 8.7.3 Business Development and Prospects
  - 8.7.4 Customers
- 8.8 Sinopoly Battery



- 8.8.1 Profile
- 8.8.2 Battery Technology
- 8.8.3 Development and Prospects
- 8.8.4 Customers
- 8.8.5 Output & Capacity
- 8.9 CITIC GUOAN Mengguli
  - 8.9.1 Profile
  - 8.9.2 Battery Technology
  - 8.9.3 Business Development and Prospects
- 8.10 China Aviation Lithium Battery
  - 8.10.1 Profile
  - 8.10.2 Battery Technology
  - 8.10.3 R&D
  - 8.10.4 Business Development and Prospects
  - 8.10.5 Customers
  - 8.10.6 Output and Capacity

## Selected Charts

### SELECTED CHARTS

Power-type and Capacity-type Power Lithium Battery Classification

Prismatic Cell Structure

Cylindrical Cell Structure

Pouch Cell Structure

Power Lithium Battery Value Chain

Power Lithium Battery Production Process

Operating Principle of Lithium Battery

Cost Structure of Lithium Battery

Shipments of Global Cathode Materials (by Product), 2006-2014

Prices of Cathode Materials in China, 2010-2016E

Market Share of Global Cathode Material Enterprises, 2014

Ranking of Major Cathode Material Manufacturers in China, 2014

Output Structure of Global Anode Materials, 2014

Market Share of Global Anode Material Enterprises, 2014

Technical Feature Comparison among Several Anode Materials

Ranking of Major Anode Material Manufacturers in China, 2014

Common Electronics and Automobiles' Consumption of Lithium Battery Separator

Global Shipments of Lithium Battery Separator, 2007-2016E

Global Separator Price, 2008-2016E

Market Share of Global Lithium Battery Separator Enterprises, 2014

Global Power Battery Supporting Separator, 2013

Ranking of Major Separator Manufacturers in China, 2014

Global Shipments of Lithium Battery Electrolyte, 2011-2016E

Cost Structure of Lithium Battery Electrolyte

Market Share of Global LiPF<sub>6</sub> Enterprises, 2014

Global LiPF<sub>6</sub> Price, 2009-2016E

Market Share of Global Electrolyte Enterprises, 2014

Ranking of Major Separator Manufacturers in China, 2014

Price Trend of Functional Electrolyte in China, 2011-2015

Price Trend of General Electrolyte in China, 2011-2015

Cost Structure of Lithium Battery Cells in China

Cost Reduction Trend of Lithium Battery Cells in China

Cells Used on Major Electric Vehicle Models Worldwide, 2014

Single Cell Capacity Distribution of Mainstream Electric Vehicles Worldwide (Ah), 2014

Battery Structure of Mainstream Electric Vehicles Worldwide, 2014

Supply Chain of Key Materials of Global Power Battery Manufacturers, 2014  
Supply Chain of Key Materials of Global Cell Manufacturers, 2014  
Cost Decomposition of Lithium Battery Pack  
Global Electric Vehicle Battery Technologies, Suppliers and Costs, 2014  
The Falling Trend of Battery Cost of Tesla Model S  
Predicted Price and Performance Parameters of Tesla Model 3  
20700 Ternary NCA Battery with New Material System Adopted by Tesla Model 3  
Technical Parameters of Panasonic's NCA 18650 Cell Adopted by Tesla  
Major BMS Suppliers for Electrical Vehicles Worldwide  
Metal Content of Cathode Materials in Different Technology Roadmaps  
Cost Analysis of Cathode Materials in Different Technology Roadmaps  
Performance of Lithium-Ion Battery Packs in Different Technology Roadmaps  
Life Cycle of Cathode Material Products  
Comparison of Cathode Materials LFP and LMP  
Specifications of Cathode Materials in Different Technology Roadmaps  
Development Trend in New Cathode Materials  
Chemical Structure of Laminar Lithium-Rich Manganese-Based Cathode Materials  
Electric Passenger Vehicle Sales in Major Countries, 2013-2014  
Sales of Top20 Electric Passenger Vehicles Worldwide, 2013-2014  
Sales of Top20 Electric Passenger Vehicles Worldwide, 2015H1  
Sales of Electric Passenger Vehicles (EV&PHEV) Worldwide, 2011-2020E  
Sales Volume of Electric Vehicles in the US by Model, 2013-2015H1  
Sales Volume of Electric Vehicles in Europe by Model, 2013-2015H1  
Sales Volume of Electric Vehicles in Japan by Model, 2013-2015H1  
Output and Sales Volume of EVs in China, 2010-2015H1  
Sales Volume of Electric Vehicles by Model, 2011-2020E  
Sales Volume of Electric Passenger Car (EV&PHEV), 2011-2020E  
Proportion of China's Electric Passenger Car in Global Total by Sales Volume, 2011-2020E  
Plan for Promotion of EVs in China, 2014-2015  
Output of Electric Commercial Vehicle by Model, Jan.-Sep.2015  
Output of Electric Bus by Technology Roadmap, Jan.-Sep.2015  
Output of Electric Bus and Electrification in China, 2009-2017E  
Sales Volume of Electric Bus (by Application), 2012-2020E  
Battery Capacity and Endurance of 40 Electric Passenger Vehicles Worldwide, 2014  
Single-vehicle Battery Capacity of Electric Passenger Vehicle Worldwide, 2011-2020E  
Power Lithium Battery Demand from Electric Passenger Vehicle Worldwide, 2011-2020E  
Power Lithium Battery Demand from Electric Vehicle Worldwide by Type, 2011-2020E

Power Lithium Battery Output, 2014 & 2015H1 (GWh)  
Total Power Lithium Battery Output, 2010-2014 (GWh)  
Power Lithium Battery Output, 2015H1 (GWh)  
Output of Battery for Battery Electric and Plug-in Hybrid Vehicles, 2010-2015 (MWh)  
Output of Auto Models and Battery, 2015  
Output Proportion of Auto Models and Battery Capacity Carried, 2014  
China's Demand for Power Lithium Battery by Type, 2011-2020E  
Technology Roadmap of Power Lithium Battery: NCA Rising Quickly and NMC Growing Steadily  
Cost Trend of Major Carmakers and Battery Manufacturers  
Cost Structure of Power Lithium Battery  
Global Power Lithium Battery Price Trend, 2011-2020E  
Global Power Lithium Battery Industry Scale, 2011-2020E  
China Power Lithium Battery Industry Scale, 2011-2020E  
Global Top20 Suppliers of Battery for New Energy Passenger Vehicle and Parameters, 2014  
Market Share of Suppliers of Battery for New Energy Passenger Vehicle Worldwide, 2014  
Shipments and Share of Power Lithium Battery for New Energy Passenger Vehicle Worldwide, 2013-2014  
Proportion of Power Battery for New Energy Passenger Vehicle in China (by Type of Technology), 2015H1  
Market Share of Major Battery Manufacturers, 2015H1  
Shipments of Major Battery Manufacturers, 2015H1  
EU and US Power Lithium Battery Companies and Their Supported Models  
S. Korean Power Lithium Battery Companies and Their Supported Models  
Japanese Power Lithium Battery Companies and Their Supported Models  
Chinese Power Lithium Battery Companies and Their Supported Models  
Equity Structure of LGC, 2014  
Operating Performance of LGC, 2007-2015H1  
Revenue of LGC by Region, 2014  
Material Costs Structure of LGC's PHEV Cell  
LGC Road Map for HEV LIB Technology  
LGC Road Map for PHEV LIB Technology  
LGC Road Map for EV LIB Technology  
Business Development and Prospects of LGC's Lithium Business  
Operating Performance of LGCPI, 2010-2014  
Operating Performance of HL Green Power, 2010-2014  
Operating Performance of LGC's Battery Business, 2013Q1-2015Q2

Electric Vehicles Supported by LGC's Power Lithium Batteries  
Managing Organizations of LGC in China  
Production and Sales Network of LGC in China  
Shipment of LGC's Power and Energy Storage Batteries, 2012-2015  
Equity Structure of SDI, 2014  
Operating Performance of SDI, 2008-2015H1  
Revenue of SDI by Region, 2014  
SDI Road Map for xEV LIB Technology  
Technical Performance of SDI's Power Lithium Batteries  
Operating Performance of SDI's Battery Business, 2007-2015H1  
SDI's Battery Shipments and Average Selling Price, 2007-2014  
SDI's Revenue of Power and Energy Storage Batteries, 2013Q1-2014Q4  
Electric Vehicles Supported by SDI's Power Lithium Batteries  
SDI's Shipment of Power and Energy Storage Batteries (MWh), 2012-2015  
Major Subsidiaries of SKI  
Supported EV Models of SKI's Lithium Power Battery  
Equity Structure of BESK  
Profile of BESK  
Specifications of BESK's Lithium Power Battery  
Operation Performance of Panasonic, FY2008/09- FY2013/14  
R & D Costs of Panasonic, FY2008/09-FY2013/14  
Revenue Breakdown of Panasonic by Segment, 2012-2014  
Operating Profit Breakdown of Panasonic by Segment, 2012-2014  
Revenue Breakdown of Panasonic by Region, 2014  
Specifications of Panasonic's NCA 18650 Cell Applied in Tesla  
Cost Structure of Panasonic's PHEV Cell  
Development Plan of Panasonic's Automotive Batteries, FY2013-FY2019  
Development Plan of Panasonic's Automobile Segment, FY2013- FY2019  
Development Plan of Panasonic by Segment, FY2013-FY2019  
Electric Vehicles Supported by Panasonic's Lithium-ion Power Battery  
Deliveries of Tesla's Electric Vehicle, 2010-2016E  
Shipment of Panasonic's Power Battery and Energy-storage Battery (MWh), 2011-2015  
Equity Structure of AESC, 2014  
Cost Structure of AESC BEV Cell Materials  
AESC Power Lithium-ion Battery Module Structure  
Specification and Connection of AESC High-capacity Power Battery  
Performance Parameter of AESC High-capacity Power Battery  
Specification and Connection of AESC High Power Battery  
Performance Parameter of AESC High Power Battery

AESC Power Battery System Solutions  
Supporting Electric Vehicles of AESC Power Lithium Battery  
Shipments of AESC Power and Energy Storage Battery (MWh), 2011-2015E  
Equity Structure of LEJ, 2014  
Specifications of LEJ Power Lithium Batteries  
Electric Vehicles Supported by LEJ's Power Lithium Batteries  
LEJ's Shipment of Power and Energy Storage Batteries (MWh), 2011-2015  
Specifications of Li-Tec's High-Capacity Power Batteries  
Performance Parameters of Li-Tec's High-Capacity Power Batteries  
Li-Tec's power battery plant in Kamenz, Germany  
History of A123Systems  
Operating Performance of A123, 2007- 2012Q3  
Electric Vehicles Supported by A123's Power Lithium Batteries  
Equity Structure Chart of Guoxuan (before Backdoor listing)  
Operating Performance of Guoxuan, 2009-2015H1  
Technical Parameters for Guoxuan's LFP Cathode Materials  
Specification Parameters for Guoxuan's LFP Power Cells  
Technical Parameters for Models Supported by Guoxuan's Power Batteries  
Major Customers of Guoxuan High-Tech Power Energy, 2014  
Power Battery Shipments of Guoxuan High-Tech Power Energy, 2009-2015H1  
Price of Power Battery Pack of Guoxuan High-Tech Power Energy, 2009-2014  
LiFePo4 Cathode Materials and Power Battery Capacity of Guoxuan High-Tech Power Energy, 2009-2014  
Investment Plans of Guoxuan High-Tech Power Energy, 2013-2014  
Operating Performance of BYD, 2008-2015H1  
Revenue Structure of BYD (by Business), 2012-2015H1  
Gross Margin of BYD (by Business), 2009-2015H1  
Major Characteristics of BYD Lithium Iron Phosphate Battery  
Capacity, Weight and Cost of BYD Automotive Battery Pack  
Lithium Battery Capacity and Weight of BYD Electric Forklifts  
Lithium Battery Capacity of BYD ESS  
Lithium Battery Capacity of BYD EPS  
Sales Volume of BYD Electric Vehicle (by Model), Jan. 2014-Sep. 2015  
Sales Volume of BYD Electric Vehicles, 2011-2017E  
Parameters of Main Battery Packs for New Energy Vehicle of BYD  
Power Battery Business Scale of BYD, 2011-2017E  
Shareholding Structure of Pride, 2014  
Operating Performance of Pride, 2011-2014  
Performance Parameters of Pride's Power Battery Pack



Shareholding Structure of Lishen  
Operating Performance of Lishen, 2011-2014  
Technology Roadmap for Power Cell of Lishen  
Technology Roadmap for Power Battery Pack of Lishen  
Performance Parameters of Spiral Wound Power Cell of Lishen  
Performance Parameters of Laminated Power Cell of Lishen  
Performance Parameters of Laminated Power Cell of Lishen  
Technical Parameters of Power Cell of Lishen  
Customers of Lishen's Power Battery  
Performance Parameters of Power Battery Pack of Lishen  
Lithium Battery Capacity of Lishen, 2000-2014  
Investment Plan for Power Battery of Lishen, 2012-2014  
Operating Performance of ATL, 2008-2014  
Profile of Qinghai Contemporary Amperex Technology  
Customers of ATL's Power and Small Battery  
Suppliers of Raw Materials for ATL's Power Battery  
Power Battery Output and Utilization of ATL, 2012-2014  
Power and Small Battery Capacity of ATL  
Power and Energy Storage Battery Revenue and Prices of ATL, 2012-2014  
Small Lithium Battery Revenue of ATL, 2008-2014  
Small Lithium Battery Shipments of ATL, 2008-2014  
Operating Performance of CHINA BAK BATTERY, 2008-2015H1  
Revenue Structure of CHINA BAK BATTERY (by Region), 2009-2014  
R&D Costs and % of Total Revenue of CHINA BAK BATTERY, 2010-2015Q1  
Technical Parameters of Power Cell of CHINA BAK BATTERY  
Basic Information of BAK International (Tianjin) Limited  
Basic Information of BAK Power Battery (Dalian)  
Sales of High-power Lithium Battery Cells of CHINA BAK BATTERY, 2009-2009-2015H1  
Investment Plan of High-power Lithium Battery Cells of CHINA BAK BATTERY, 2013-2014  
Revenue and Gross Margin of Sinopoly Battery, 2011-2014  
Net Income of Sinopoly Battery, 2011-2014  
Specifications of Sinopoly's Power Cell  
Operating Results of CITIC GUOAN Mengguli, 2009-2015H1  
Technical Parameters of Cathode Materials of CITIC GUOAN Mengguli  
Technical Parameters of Power Battery Modules of CITIC GUOAN Mengguli  
Equity Structure of China Aviation Lithium Battery, 2014  
Operating Results of China Aviation Lithium Battery, 2010-2015H1

Pure Electric Vehicle BMS of China Aviation Lithium Battery  
Battery Certification of China Aviation Lithium Battery  
Global Sales Network of China Aviation Lithium Battery  
Major Customers of China Aviation Lithium Battery



## I would like to order

Product name: Global and China Li-ion Power Battery Industry Report, 2016-2020

Product link: <https://marketpublishers.com/r/G638F241CCBEN.html>

Price: US\$ 2,600.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/G638F241CCBEN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:  
Last name:  
Email:  
Company:  
Address:  
City:  
Zip code:  
Country:  
Tel:  
Fax:  
Your message:

**\*\*All fields are required**

Customer signature \_\_\_\_\_

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970