Lithium-Ion Battery (LIB) Manufacturing Industry

<table>
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<th>Capacity:</th>
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<td>Plant and machinery cost:</td>
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<td>Working Capital:</td>
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<td>Rate of return (ROR):</td>
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<td>Break Even Point (BEP):</td>
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<tr>
<td>TCI:</td>
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<tr>
<td>Cost of Project:</td>
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</table>
Lithium-Ion Battery (LIB) Manufacturing Industry. Start a Li-ion Battery Production. Battery Assembling Business

Lithium is a silver-white colored soft metal that belongs to the alkali metal group. Lithium is the lightest element known and has strong electrochemical potential. It is highly reactive element making it flammable and potentially explosive when exposed to air and water and is usually stored in mineral oil to preserve it from corrosion and tarnish.

Lithium-ion batteries have become the most important application of lithium and storage technology in the areas of portable and mobile applications (e.g. laptops, cell phones, smartphones, tablets, power tools, medical devices electric bicycles and electric cars).

Lithium-ion (Li-ion) batteries are rechargeable batteries with high-energy density and are majorly used in portable equipment. The market for these batteries is expected to witness significant growth owing to increase in use in smartphones, tablets/PCs, digital cameras, and power tools. Moreover, the demand for Li-ion batteries in the automobile industry is expected to increase in line with rise in demand for electric vehicles. These batteries have gained popularity among automobile manufacturers as they offer an alternative to nickel metal batteries used in electric vehicles, due to their small size and light weight.

Applications of Lithium-Ion Batteries:

Some of the most common applications of lithium-ion batteries are:

- Power backups/UPS
- Mobile, Laptops, and other commonly used consumer electronic goods
- Electric mobility
- Energy Storage Systems

As there are varied uses of a Lithium Ion Battery, it comes in different types of packaging. However, there are some general advantages of using a Li-ion battery over other traditional batteries.

Advantages of Lithium-Ion Batteries

- **High Energy Density:** One of the biggest advantages of a lithium-ion battery is its high energy density. To put it straight, lithium-ion batteries can last way longer between charges all the while maintaining a high current output. That makes it the perfect battery for most modern needs. As we spend more and more time on our mobile phones, lithium-ion batteries can make sure that we are on the go always and spend minimal time attached to a charging cord.

- **Low Self Discharge:** Not only whilst being used, but lithium-ion batteries have a clear advantage when not being used as well. When kept idle, the rate of self-discharge, a common phenomenon in batteries, is extremely low. In fact, in most cases, it is as good as being negligent.

- **No Requirement for Priming:** Some rechargeable cells need to be primed when they receive their first charge. There is no requirement for this with lithium ion cells and batteries.

- **Low Maintenance:** One major lithium ion battery advantage is that they do not require and maintenance to ensure their performance. Ni-Cad cells required a periodic discharge to ensure that they did not exhibit the memory effect. As this does not affect lithium ion cells, this process or other similar maintenance procedures are not required.

- **Variety of types available:** There are several types of lithium ion cell available. This advantage of lithium ion batteries can mean that the right technology can be used for the particular application needed. Some forms of lithium ion battery provide a high current density and are ideal for consumer mobile electronic equipment. Others are able to provide much higher current levels and are ideal for power tools and electric vehicles.

Market Outlook

Global lithium ion battery market was valued at $30,186.8 million in 2017, and is projected to reach
$100,433.7 million by 2025, growing at a CAGR of 17.1% from 2018 to 2025. The growing automotive industry in the region is also a significant factor contributing to the market growth. The growth is most likely to come from emerging markets, owing to the increasing population, rapid urbanization, and increasing purchasing power.

Based on application, the lithium ion battery market is categorized into energy, automotive, consumer, military, industrial, and medical. Industrial sector includes mining, cranes, smart grid, and valves; automotive sector includes buses, trains, trucks, cars, airplanes, e-bikes, and e-scooters; and consumer sector includes smartphones, uninterruptible power supply (UPS), mobile phones, and tablet PCs. The automotive application category is expected to witness the fastest growth in the market during the forecast period, owing to the increasing penetration of electric vehicles in various countries, including Norway, Germany, and China.

The lithium ion battery market is highly fragmented with the presence of large number of domestic players that occupy around 60% market share of the overall figure. Among the different players, Panasonic Corporation dominated the market in 2017. However, the market share of Panasonic Corporation is expected to decrease in the coming years due to the intensifying competition among prominent players to acquire major portion of the market.

The global lithium ion battery market has been segmented by various end-use industries including electrical & electronics, automotive, and industrial, with others, which include medical, military, and textile industries. The electrical & electronics end-use industry is further segmented into smartphones, tablet/PC, UPS, and others. The automotive end-use segment is further segmented into car, bus, truck, scooter & bike, and train & aircraft. Crane & forklift, mining equipment, and smart grid & renewable energy storage are considered under the industrial end-use segment.

Some of the key players operating in the global lithium ion battery market include Automotive Energy Supply Corporation, Panasonic Corporation, Samsung SDI Co. Ltd., LG Chem Power (LGCPI), LITEC Co., Ltd., A123 Systems, LLC., Toshiba Corporation, Hitachi Chemical Co., Ltd., China BAK Battery Co. Ltd., and GS Yuasa International Ltd. The other players in the market (not included in the report) include Tesla, Johnson Controls International Plc., Saft Batteries, and BYD Company Ltd.

**India Lithium-Ion Battery Market:**

The Indian automobile sector is one of the most prominent sectors of the country, accounting for nearly 7.1% of the national GDP. However, India has set itself an ambitious target of having only electric vehicles (EV) by 2030, which is expected to increase the demand for lithium-ion batteries in India, significantly. The high cost, associated with batteries that are used in the electric vehicles, is considered to be critical for India's ambitious target. The India lithium-ion battery market is expected to grow at a robust CAGR of 29.26% during the forecast period, 2018-2023.

Increase in disposable income has led to rise in demand for electronic devices such as smartphones and tablets fueling the growth of lithium-Ion batteries in the India. Moreover, rise in government initiative to reduce pollution level are the major factors driving the Indian lithium-ion battery market. Growth in automotive sector has led to surge in demand for electric vehicles which has also supplemented the growth of lithium-Ion batteries. However, high cost and risk of fire in electronic devices may hinder the market growth in the coming years. Growth in automobile industry and growing trend of electronic devices among youth consumers would increase the demand for lithium-Ion batteries in the near future.

The India lithium-ion battery market has been segmented on the basis of material type and industry vertical. By material type, the market is further segmented into cathode, electrolytic solution, anode, and other materials includes (binders, separators, and others). By industry vertical, the market is bifurcated into electronics (UPS, smart phones, laptops/tablets, and others), automotive (car, buses, and trucks, scooters and bikes, train and aircraft), industrial (mining equipment, construction equipment, smart grid), and other
industry verticals. Major companies operating in the India lithium-ion battery market are Samsung SDI Co. Ltd., Panasonic Corporation, Toshiba Corporation, Hitachi Chemical Co., Ltd., and China BAK Battery Co. Ltd., among others.

Tags
#Lithium_Ion_Battery_Assembly, #Li_Ion_Battery_Assembling, Lithium-Ion Battery, #Lithium_Ion_Batteries_Production, Manufacturing of Lithium-Ion Batteries, Lithium-Ion Battery Manufacturing, #Lithium_Ion_Battery_Assembly_Plant, Lithium Ion Battery Manufacturing Process, Lithium Ion Battery Assembly Process, Lithium Ion Battery Manufacturing Cost, How to Set up Lithium Ion Battery Plant in India, #How_to_Start_Lithium_Ion_Battery_Manufacturing_Business, Battery Manufacturing Process, Battery Manufacturing, Lithium Ion Battery Production, Lithium Ion Battery Manufacture, #Production_of_Lithium_Ion_Battery, Battery Assembly, Battery Assembly Plant, Battery Manufacturing Plant, Project Report on Lithium Ion Battery Assembly Industry, Detailed Project Report on Lithium Ion Battery Production, #Project_Report_on_Lithium_Ion_Battery_Manufacturing, Pre-Investment Feasibility Study on Lithium Ion Battery Assembly Plant, Techno-Economic feasibility study on Lithium Ion Battery Assembly Plant, #Feasibility_report_on_Lithium_Ion_Battery_Production, Free Project Profile on Lithium Ion Battery Assembly, Project profile on Lithium Ion Battery Production, #Download_free_project_profile_on_Lithium_Ion_Battery_Assembly, Lithium-Ion Battery Factory, How to Start a Battery Manufacturing Business, Cost of Setting up a Battery Manufacturing Plant, Lithium-Ion Battery Business, #Lithium_Ion_Battery_Manufacturing_Industry

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