

Li-ion Battery Production Business.

Lithium Ion Battery (LIB) Assembling Industry

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.



Introduction

Lithium-ion batteries (LIB) are a family of rechargeable batteries having high energy density and commonly used in consumer electronics. Unlike the disposable lithium primary battery, a LIB uses intercalated lithium compound instead of metallic lithium as its electrode.



Usually, LIBs are significantly lighter than other kinds of rechargeable batteries of similar size. LIBs are heavily used in portable electronics. These batteries can be commonly found in PDAs, iPods, cell phones, laptops, etc. This term is also known as a LI-ion.

A lithium ion battery is an electric device capable of charging and discharging. They are broadly used as a power supply consumer electronics as well as hybrid and electric vehicle. The four materials are used in lithium ion batteries are cathode material, anode material, separators, and an electrolytic solution. Lithium ion batteries markets grow at fastest rate due to its adoption in numerous consumer electronics such as smartphones, tablets, digital cameras and MP3 players, among others.

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

Lithium Ion Battery Advantages

There are many advantages to using a li-ion cell of battery.

These li-ion battery advantages include:

- **High Energy Density:** The high energy density is one of the chief advantages of lithium ion battery technology. With electronic equipment such as mobile phones needing to operate longer between charges while still consuming more power, there is always a need to batteries with a much higher energy density. In addition to this, there are many power applications from power tools to electric vehicles. The much higher power density offered by lithium ion batteries is a distinct advantage. Electric vehicles also need a battery technology that has a high energy density.

- **LIBs hold a charge well. They usually lose approximately 5% of their charge each month, against a 20% monthly loss for NiMH batteries.**
- **LIBs do not require complete discharge prior to recharging.**
- **LIBs are able to handle more charge/discharge cycles.**

Self-Discharge: One issue with many rechargeable batteries is the self-discharge rate. Lithium ion cells is that their rate of self-discharge is much lower than that of other rechargeable cells such as Ni-Cad and NiMH forms. It is typically around 5% in the first 4 hours after being charged but then falls to around 1 or 2% per month.



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.

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.

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.



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 use of Lithium Ion (Li-ion) batteries have significantly grown with the advent and wide scale adoption of smartphones and growth of Electric Vehicles. Along with this, significant reduction in the cost have also been achieved since the past decade with continuous efforts on the R&D on the production techniques and energy densities. The collective efforts by various major economies to migrate towards electric mobility to reduce the carbon footprint, is set to put a strain on the supply of Lithium metal to cater to the burgeoning demand of the Li-ion batteries.

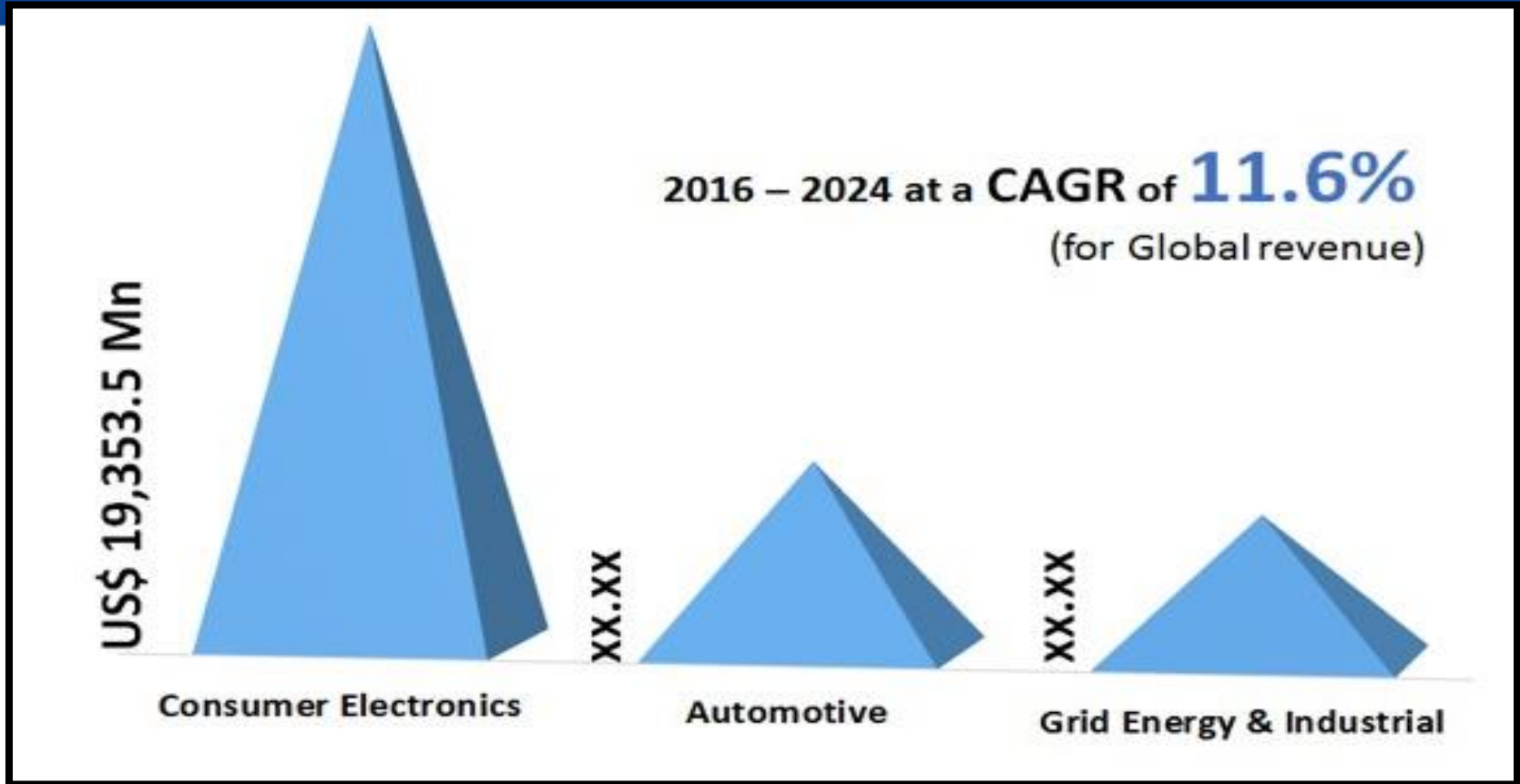
Owing to the expansion of increase in carbon emissions, automobile industry is shifting to from conventional fuel vehicles to electric vehicles. Production and usage of electric vehicles is projected to uplift the demand of energy storage batteries including lithium-ion. In addition, electric cars in the United States mainly operate on renewable or natural gas electricity. The batteries are compatible with renewable energy. Therefore, demand for lithium-ion batteries is expected to increase in economies with developed renewable energy sector.

By application, the global lithium-ion market is segmented into automotive, grid energy storage, consumer electronics, and others. The consumer electronics segment accounted for a major market revenue in the year 2018 and is expected to maintain its prominent position over the forecast period.

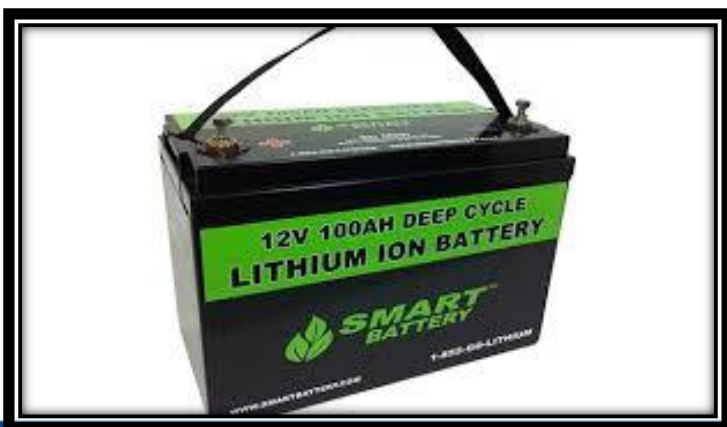
However, automotive segment is anticipated to be the fastest growing segment in the coming years. Fast-paced development of the electric vehicles sector is the key reason behind the growing usage of lithium-ion batteries in the automotive industry.

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.

Global Lithium ion Battery Market, By Application, 2015 (US\$ Mn)



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.



The increasing popularity of lithium-ion batteries in energy storing devices, for example, solar grids in industrial and household unit applications is foreseen to give extensive development chances to the market. In any case, the less awareness with respect to the advantages of these batteries and the high expense contrasted with traditional lead acid batteries may hamper the development of this market. In any case, attributable to market saturation in a few regions, the interest for high power capacity batteries for vehicles has picked up the pace.



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 Batteries Market

The India lithium-ion battery market is expected to grow at a robust CAGR of 29.26% during the forecast period, 2018-2023.

Lower consumer awareness, inadequate investments by companies, and lack of technological innovations curbed the proliferation of lithium ion technology till the past few years. However, rise in technological developments and increasing need for cleaner energy sources have brought Li-ion batteries on the forefront across various industries as well as end-use sectors.



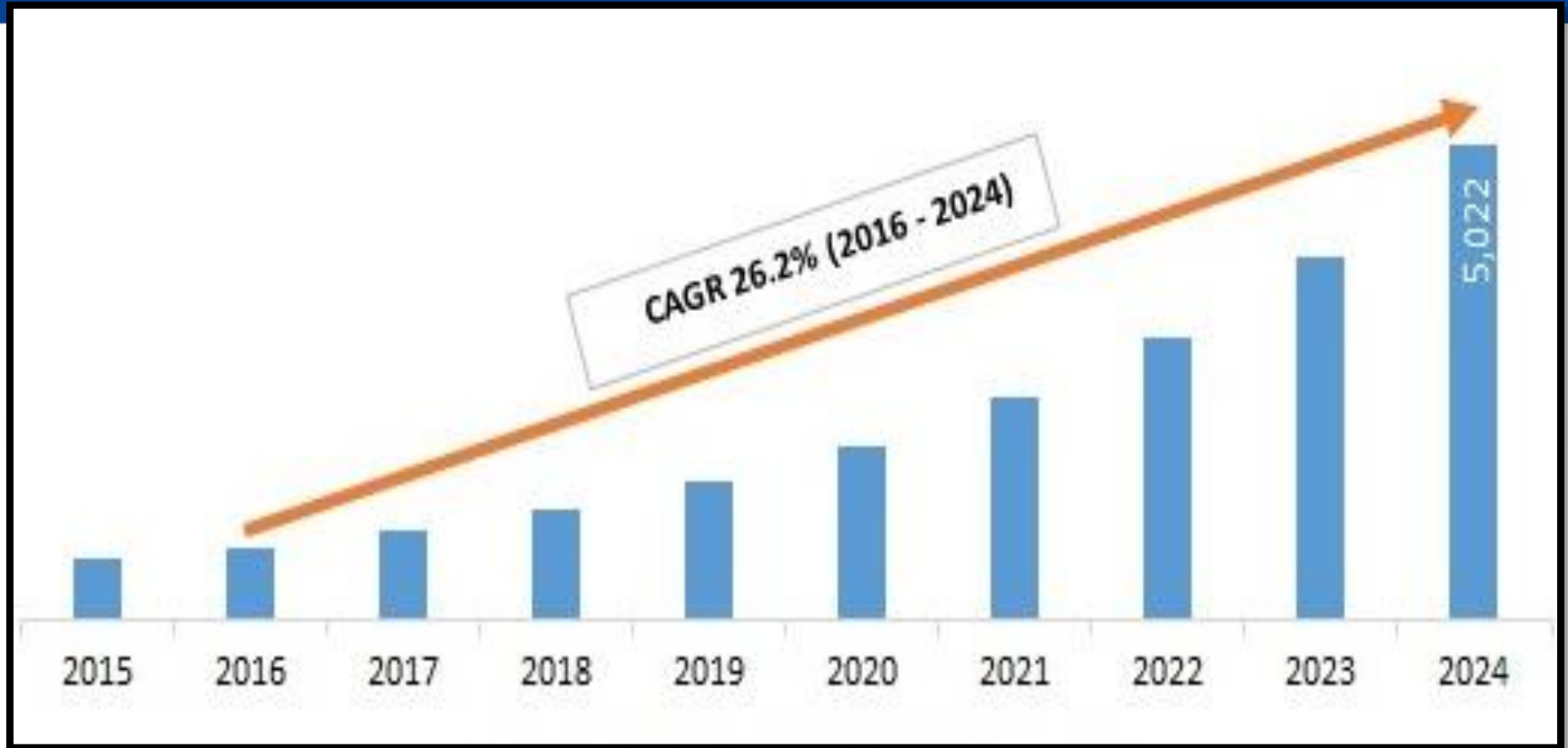
Growing pollution concerns, rising adoption of electric vehicles, increasing income-levels and surging demand for quality and uninterrupted power are some of the key factors catalyzing the growth of Lithium ion batteries market in India. Further, rising usage of smartphones and other consumer electronics products is resulting in an increase in demand for higher energy density and faster charging solutions. Additionally, growing consumer electronics market would drive the India Lithium Ion Batteries market forecast period revenues owing to its light-weight, high energy, and power capacity features.



The Indian automobile sector is one of the most prominent sectors of the country, accounting for nearly 7.1% of the national GDP. The industry produced a total of 25.31 million vehicles, including commercial, passenger, two, and three vehicles and commercial quadricycle in April-March 2017, as against 24.01 million in April-March 2016. 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.

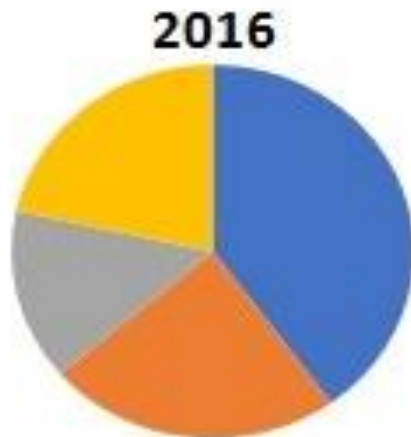


India Lithium-Ion Battery Market and Forecast, 2015-2024 (US\$ Million)

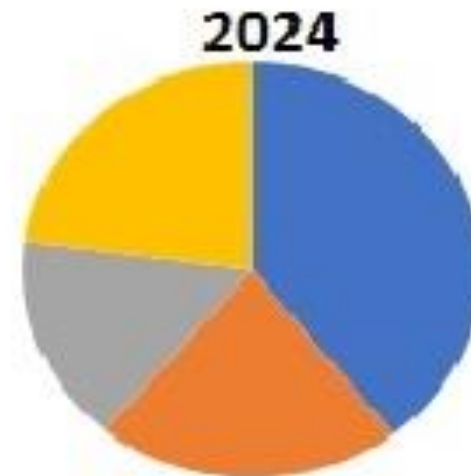


Increase in disposable income has led to rise in demand for electronic devices such as smartphones and tablets fueling the growth of lithium-Ion batteries in the India. Moreover, rise in government initiative to reduce pollution level are the major factors driving the Indian lithium-ion battery market. 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.

India Lithium-Ion Battery Market, By Material Type



- Cathode
- Electrolytic Solution
- Anode
- Other Materials

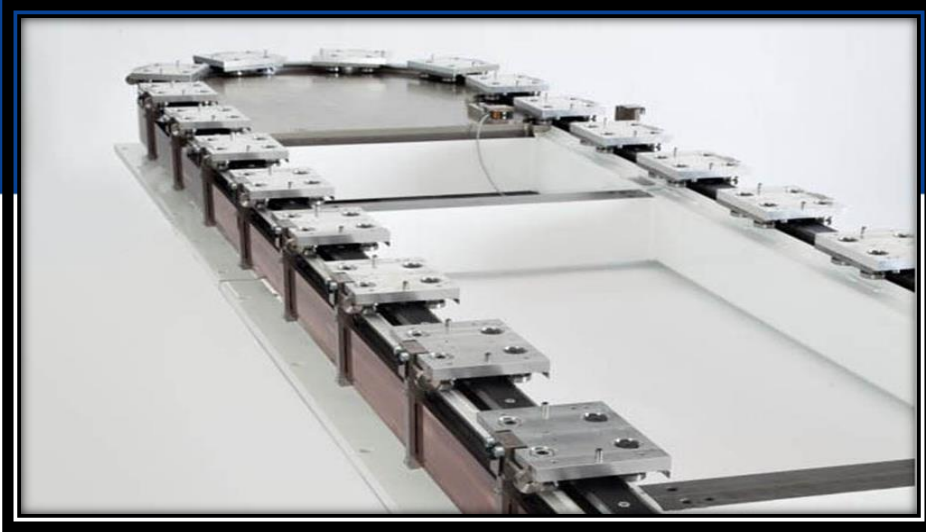


- Cathode
- Electrolytic Solution
- Anode
- Other Materials

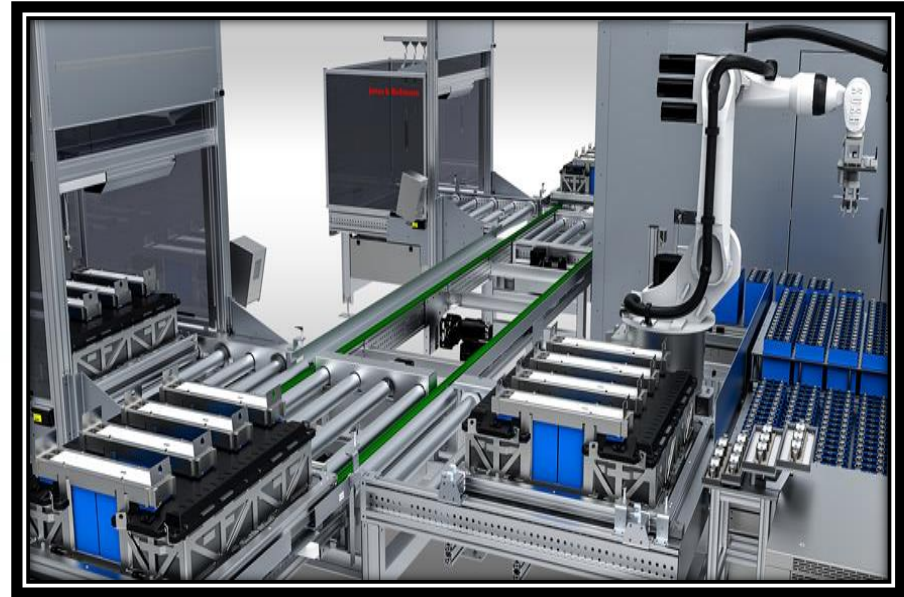
The India lithium-ion battery market has been segmented on the basis of material type and industry vertical. By material type, the market is further segmented into cathode, electrolytic solution, anode, and other materials includes (binders, separators, and others). By industry vertical, the market is 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.

Machinery Photographs



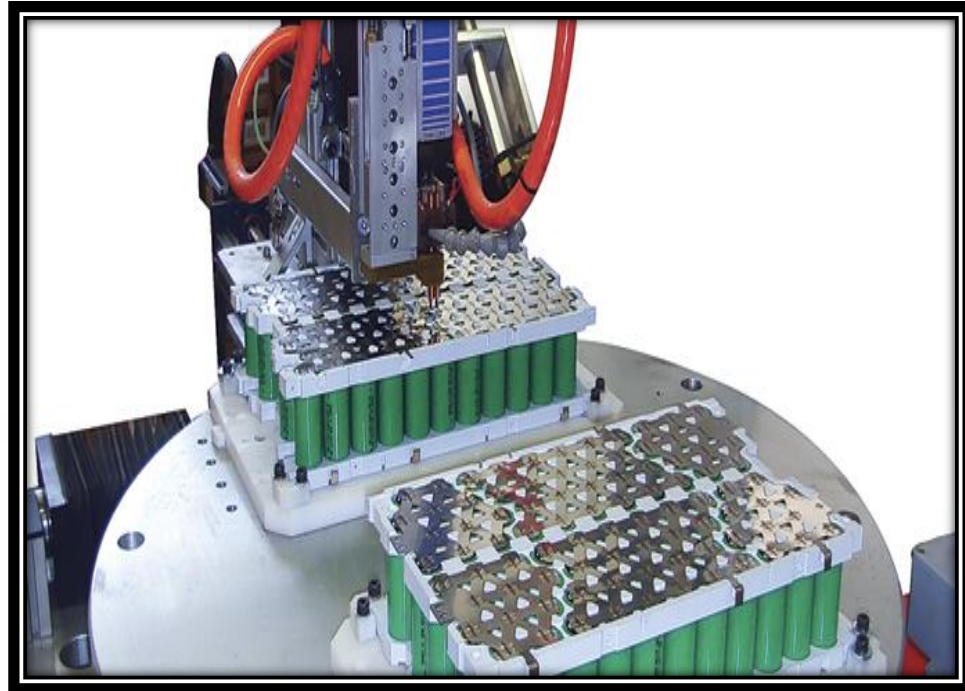
Linear Work Piece Carrier Transfer System



Pre Assembly Station



Assembly of Second Side Plate



Automatic Laser Welding Station

Project at a Glance

| COST OF PROJECT | | | | MEANS OF FINANCE | | | |
|------------------------------------|--------------|----------------|----------------|--------------------|--------------|----------------|----------|
| Particulars | Existin g | Propose d | Total | Particulars | Existin g | Propose d | Total |
| Land & Site | | | | | | | |
| Development Exp. | 0.00 | 72.50 | 72.50 | Capital | 0.00 | 345.35 | 345.35 |
| Buildings | 0.00 | 154.50 | 154.50 | Share Premium | 0.00 | 0.00 | 0.00 |
| | | | | Other Type Share | | | |
| Plant & Machineries | 0.00 | 503.97 | 503.97 | Capital | 0.00 | 0.00 | 0.00 |
| Motor Vehicles | 0.00 | 12.00 | 12.00 | Reserves & Surplus | 0.00 | 0.00 | 0.00 |
| Office Automation | | | | | | | |
| Equipments | 0.00 | 32.50 | 32.50 | Cash Subsidy | 0.00 | 0.00 | 0.00 |
| Technical Knowhow | | | | Internal Cash | | | |
| Fees & Exp. | 0.00 | 2.50 | 2.50 | Accruals | 0.00 | 0.00 | 0.00 |
| Franchise & Other | | | | Long/Medium Term | | | 1036.0 |
| Deposits | 0.00 | 0.00 | 0.00 | Borrowings | 0.00 | 1036.06 | 6 |
| Preliminary& Pre- operative Exp | 0.00 | 5.00 | 5.00 | Debentures / Bonds | 0.00 | 0.00 | 0.00 |
| Provision for | | | | Unsecured | | | |
| Contingencies | 0.00 | 48.40 | 48.40 | Loans/Deposits | 0.00 | 0.00 | 0.00 |
| Margin Money - Working Capital | 0.00 | 550.05 | 550.05 | | | | |
| | | | | | | | 1381.4 |
| TOTAL | 0.00 | 1381.42 | 1381.42 | TOTAL | 0.00 | 1381.42 | 2 |

Project at a Glance

| Year | Annualised | | Book Value | Debt | Dividend | Retained Earnings | | Payout | Probable Market Price | P/E Ratio | Yield Price/Book Value |
|------|------------|-------|------------|-------|----------|-------------------|-----------|--------|-----------------------|-----------|------------------------|
| | EPS | CEPS | | | | Per Share | Per Share | | | | |
| 1-2 | 6.78 | 9.77 | 16.78 | 24.00 | 0.00 | 100.00 | 6.78 | 0.00 | 6.78 | 1.00 | 0.00 |
| 2-3 | 9.08 | 11.65 | 25.87 | 18.00 | 0.00 | 100.00 | 9.08 | 0.00 | 9.08 | 1.00 | 0.00 |
| 3-4 | 11.64 | 13.85 | 37.51 | 12.00 | 0.00 | 100.00 | 11.64 | 0.00 | 11.64 | 1.00 | 0.00 |
| 4-5 | 14.17 | 16.07 | 51.68 | 6.00 | 0.00 | 100.00 | 14.17 | 0.00 | 14.17 | 1.00 | 0.00 |
| 5-6 | 16.62 | 18.26 | 68.30 | 0.00 | 0.00 | 100.00 | 16.62 | 0.00 | 16.62 | 1.00 | 0.00 |

Project at a Glance

| Year | D. S. C. R. | | | Debt / - Deposits Debt | Equity as-Equity | Total Net Worth | Return on Net Worth | Profitability Ratio | | | | | Assets Turnover Ratio | Current Ratio |
|---------|-------------------|------------|---------|------------------------|------------------|-----------------|---------------------|---------------------|-------|---------|------------------|-----------|-----------------------|---------------|
| | Individual | Cumulative | Overall | | | | | GPM | PBT | PAT | Net Contribution | P/V Ratio | | |
| | (Number of times) | | | (Number of times) | % | % | % | % | % | % | % | | | |
| Initial | | | | 3.00 | 3.00 | | | | | | | | | |
| 1-2 | 1.40 | 1.40 | | 1.43 | 1.43 | 8.95 | 2.59% | 1.12% | 0.77% | 1233.75 | 4.07% | 5.26 | 1.10 | |
| 2-3 | 1.66 | 1.53 | | 0.70 | 0.70 | 6.32 | 2.75% | 1.35% | 0.89% | 1439.27 | 4.07% | 5.41 | 1.13 | |
| 3-4 | 2.00 | 1.67 | 2.00 | 0.32 | 0.32 | 4.76 | 2.85% | 1.55% | 1.00% | 1644.88 | 4.07% | 5.42 | 1.16 | |
| 4-5 | 2.40 | 1.83 | | 0.12 | 0.12 | 3.74 | 2.92% | 1.69% | 1.08% | 1850.49 | 4.07% | 5.37 | 1.19 | |
| 5-6 | 2.90 | 2.00 | | 0.00 | 0.00 | 3.04 | 2.96% | 1.80% | 1.14% | 2056.10 | 4.07% | 5.29 | 1.27 | |



Project at a Glance

BEP

| | |
|---|------------------|
| BEP - Maximum Utilisation Year | 5 |
| Cash BEP (% of Installed Capacity) | 53.11% |
| Total BEP (% of Installed Capacity) | 55.86% |
| IRR, PAYBACK and FACR | |
| Internal Rate of Return .. (In %age) | 31.17% |
| Payback Period of the Project is (In Years) | 2 Years 3 Months |
| Fixed Assets Coverage Ratio (No. of times) | 107.904 |

Major Queries/Questions Answered in the Report?

- 1. What is Lithium-Ion Battery (LIB) Manufacturing industry ?**
- 2. How has the Lithium-Ion Battery (LIB) Manufacturing industry performed so far and how will it perform in the coming years ?**
- 3. What is the Project Feasibility of Lithium-Ion Battery (LIB) Manufacturing Plant ?**
- 4. What are the requirements of Working Capital for setting up Lithium-Ion Battery (LIB) Manufacturing plant ?**

- 5. What is the structure of the Lithium-Ion Battery (LIB) Manufacturing Business and who are the key/major players ?**
- 6. What is the total project cost for setting up Lithium-Ion Battery (LIB) Manufacturing Business?**
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9. Who are the Suppliers and Manufacturers of Plant & Machinery for setting up Lithium-Ion Battery (LIB) Manufacturing plant ?

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- **Annexure 35 :: Projected Pay-Back Period and IRR**

Tags

#Lithium_Ion_Battery, #Lithium_Ion_Battery_Assembly, #Li_Ion_Battery_Assembling, #Lithium_Ion_Battery_Assembly_Plant, Lithium Ion Battery Assembly Process, How to Assemble Lithium-Ion Battery, #Lithium_Ion_Battery_(LIB)_Manufacturing_Industry, Lithium-Ion Battery Manufacturing, Manufacturing of Lithium-Ion Batteries, #Lithium_Battery_Manufacturing, #Project_Report_on_Lithium_Ion_Battery_Assembling_Unit, Battery Assembly Plant, Lithium Ion Battery Production, Lithium-Ion Batteries Manufacturing Process, How to Set Up Lithium Ion Battery Plant in India, #Lithium_Ion_Battery_Business, Lithium-Ion Battery Manufacture, #Lithium_Ion_Battery_Manufacture_in_India, Lithium Ion Battery Manufacturing Plant Cost in India, Lithium Ion Battery Manufacturing Plant Project Report, Cost of Setting Up Lithium Ion Battery Manufacturing Plant, Lithium-Ion Battery Production Business, How to Start Lithium Ion Battery Manufacturing Business in India, Li-Ion Battery Assembling Business, Producing Lithium-Ion Batteries, #Detailed_Project_Report_on_Li_Ion_Battery_Assembling, Project Report on Li-Ion Battery Assembling, Pre-Investment Feasibility Study on Lithium-Ion Battery Manufacturing Business, Techno-Economic feasibility study on Lithium-Ion Battery Manufacturing Business, Feasibility report on Lithium-Ion Battery Manufacturing Business, Free Project Profile on Lithium-Ion Battery Manufacturing Business, Project profile on Li-Ion Battery Assembling, Download free project profile on Li-Ion Battery Assembling

Niir Project Consultancy Services (NPCS)
can provide **Detailed Project Report on**
Li-ion Battery Production Business.
Lithium Ion Battery (LIB) Assembling
Industry

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.

See more

<https://bit.ly/2Z0LbjV>

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