

## Gearing up for EV battery technology

We hosted Stefan Louis, CEO of Nexcharge – a technology-based JV between Exide Industries and Leclanché of Switzerland – catering to lithium-ion tech in India. The company is eyeing business in the domestic 2W, 3W, bus and telecom segments. Per Stefan, the complex nature of battery technology would warrant JVs between auto OEMs and battery manufacturers. He expects the Indian lithium-ion battery industry to grow to Rs 40bn-50bn in four years and Nexcharge to capture 25% of the market with double-digit margins once local manufacturing begins.

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**“Exclusive” JV created to address lithium-ion batteries:** Nexcharge is an exclusive 80:20 joint venture between Exide Industries and Swiss-based Leclanché that began in Sep’18 to cater to the lithium-ion (Li-ion) battery market in India. Sale of these batteries in the country by either partner will be routed exclusively through this JV. The partnership will enable Leclanché to cater to the growing Indian market and achieve raw material procurement scale on a global level while Exide gains access to technological knowhow.

**Technology-ownership model for sustained growth:** Leclanché, the original owner of the Li-ion technology, has transferred the same to Nexcharge. There will be no element of royalty payment for its use which would ensure that Nexcharge is able to compete efficiently with peers.

**Three-phase local manufacturing strategy:** Phase I (2018-20) – Nexcharge imported batteries to be traded in India with near-zero margins to better understand the domestic market. Phase II (current) – The company is procuring battery cells from Leclanché or China (75% of market) and then adding value via mechanical design of enclosures, thermal management of packs, wire harnessing, printed circuit boards (PCB), and electronic & software development. The plant has a 1.5GWh assembly capacity.

Phase III – This will involve setup of a local cell manufacturing plant that will be triggered once 1GWh of demand visibility is achieved, which is expected in the next 2-3 years. The current assembly plant in Gujarat is designed to be flexible with any chemistry and has seven production lines, including various lines for cylindrical, prismatic and pulse cells, with a low-voltage/high-voltage battery pack line and one that provides a charge to all the cells after assembly.

### Meeting of Minds

– An Expert Perspective

This is the third in our ‘Meeting of Minds’ series where we host experts and leaders in various fields to discuss key events and trends in the Auto and Aviation sectors.

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## Other takeaways

- **Revenue and profit outlook:** According to Stefan, India is very competitive in its product pricing and is fully aligned with imported battery prices (the only exception being where the exporter is also a manufacturer of the cell). Nexcharge expects to clock revenue of ~Rs 10bn in the next four years and garner 25-30% market share. It has already won a large Rs 700mn contract in the telecom sector. The company expects to earn a double-digit margin once it starts manufacturing cells in India.
- **Target audience:** Nexcharge currently caters to customers in the two/three-wheeler, electric bus, UPS and telecom sectors. Several passenger vehicle OEMs have also shown interest in the Li-ion technology and are in active discussions with the company. Penetration in the telecom sector is at a pivotal stage. Reliance Jio has already moved all its energy needs to Li-ion over the last few years and has a fleet of ~1mn Li-ion batteries, each with 5KWh capacity. Other telecom players are also following suit and Stefan is confident that telecom energy storage needs will eventually be fully converted to Li-ion.
- **Cell manufacture a key earnings contributor:** About 70% of the battery value is assigned to cells. As cells are imported, Nexcharge does not earn margins on the same. Thus, despite making a double-digit margin on the remaining product value, the primary earnings upside for a battery company can only occur once the whole process – from cell manufacturing to selling the final battery – is in place.
- **OEMs will need licenses to assemble batteries inhouse:** While several larger auto OEMs have announced plans to have inhouse battery assembly plants, they would need to license the battery management system (BMS) which include electronics and software from specialist companies such as Nexcharge. Also, Nexcharge could look to offer locally manufactured Li-ion cells or BMS instead of the complete battery.
- **JVs between OEMs and battery manufacturers more likely:** Unlike lead acid batteries which form only 1-2% of vehicle value, the lithium battery could carry a far higher value in electric vehicles (~40%). For such a crucial role and to ensure better efficiencies, India could witness a preference for JVs between larger OEMs and battery manufacturers, as is currently the case in China.
- **End-to-end warranty:** Despite importing lithium cells (either from China or Germany), Nexcharge offers a complete warranty on the entire battery, including cells, after rigorous testing of all the cells received at its assembly plant. The company also ensures a back-to-back warranty for these cells from respective manufacturers. Warranties provided to customers are in the form of product, performance and patch protections.

- **Limited threat from hydrogen-powered technology:** As per Stefan, companies such as Samsung and LG spent billions of dollars on the Li-ion technology much before it could become a reality for larger use. Similar investments need to be made in hydrogen or any such technology far ahead of time for them to become feasible. Thus, he believes it may take well over 15 years for any other technology to pose a real threat to Li-ion, which is now making rapid inroads in most parts of the world.
- **Value chain of Li-ion batteries:** Raw materials are first either mined or recycled and supplied to chemical companies (viz. BASF, UNICOR), mainly in Europe, Japan, USA, China and Korea. The chemical companies segregate the active materials and supply these to battery cell manufacturers (viz. Leclanché, LG, Samsung and other Chinese players). The battery cells are then supplied to battery assembly companies such as Nexcharge, which assemble the cells into battery packs and provide it to the final consumer (viz. automotive OEMs and industrial clients)
- **Recycling – one of the best value propositions:** Unlike oil, which gets burnt up as it is used, once the battery life ends the whole product can be recycled and put to use again. Since most of it is metal – lead, nickel, cobalt – the ability to recycle Li-ion batteries makes the business a strong value proposition.

### About the Speaker: Stefan Louis

Stefan Louis is currently CEO and CTO of Nexcharge. He holds an MSc in Electronics and has devoted his career to helping customers with the best available energy storage, conversion and management solutions in a B2B environment. In his previous executive positions, he has had international experience in the transport, utility and industrial battery markets

**About Exide Industries:** Exide Industries is India's largest battery manufacturer. The company offers a comprehensive battery range that covers applications ranging from cap lamps to submarines. It has established 40,000 direct and indirect touch points across India.

**About Leclanché:** Switzerland-based Leclanché is at the heart of the global energy transition. The company is considered a world-leading provider of high-quality energy storage solutions based on Li-ion cell technologies. It delivers integrated battery packs for electric vehicles of all sizes, with an intelligent interface for the charging infrastructure. It also delivers energy storage systems that reliably add intermittent solar and wind energies to the electricity network.

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