

From battery cell to battery pack components, companies are seeking better margins

Stationary storage & automotive Li-ion battery packs report

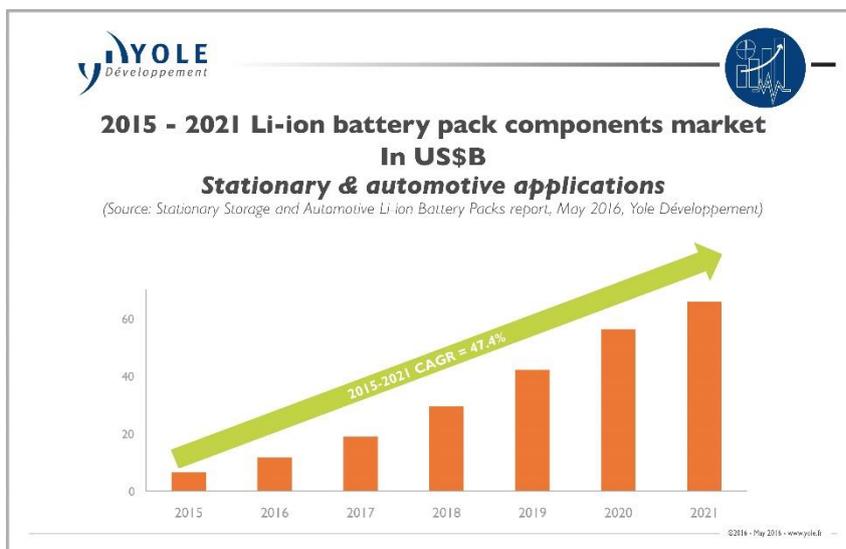
LYON, France – July 1st, 2016: Battery pack components are gaining importance in the fast-growing battery pack market, reaching US\$65.7 billion by 2021. Cost decrease and performance improvements will directly impact the market and contribute to a larger adoption in many applications. Many companies have identified this potential and focused their R&D efforts on the development of disruptive technologies for Li-ion battery packs. Whereas battery cells become a sort of “standard” products, companies are developing new solutions for battery pack components in order to ensure the increase of their margins: the added-value in batteries spreads from battery cells to battery pack components.

[Yole Développement \(Yole\)](#) pursues its exploration of the battery world and releases this year a new report dedicated to the stationary batteries and plug-in HEV & BEV solutions. “[Stationary storage & Automotive Li-ion battery packs](#)” report demonstrates the strong consistently-growing potential for power electronics players in the energy storage business based on Li-ion battery technologies. Yole’s team analyzes market opportunities, supply chain technologies’ evolution and latest innovations for battery pack elements. This technology & market analysis is covering a large variety of different products and technology solutions used in battery packs elements.

The battery pack is the key element of battery storage systems. Such

systems are used for clean mobility in hybrid electric vehicles and battery electric vehicles, and are crucial for the further deployment of intermittent renewable energy sources like wind and photovoltaics. Also, battery storage solutions are increasingly used in buildings and for electrical grid stabilization.

Demand for battery packs in these applications is growing rapidly and 2015 - 2021



CAGR for pack components will reach 47.4%, according to Yole's stationary storage & automotive Li-ion battery pack report.

A main part of the battery pack demand will come from the automotive industry. In 2015 the demand in MWh for plug-in hybrid electric and battery electric vehicles was about 18x higher than for stationary applications. This ratio will remain almost unchanged by 2021 because both the automotive and stationary markets will feature strong growth. Stationary applications also present opportunities for companies with relatively small production capacities that are not compatible with automotive industry volumes but offer a higher differentiation/added value.

Today, the development of innovative battery technologies is focused mainly on battery cells as a key component of the battery pack. In fact, cells represent more than 50% of the battery pack cost. *“Strongly decreasing cell costs will shift R&D efforts to other battery cost elements like BMS¹, thermal management and protection solutions,”* comment **Dr Milan Rosina, Senior Analyst Energy Conversion & Emerging Materials at Yole.**

Many players with the know-how and/or manufacturing capacities for such technology solutions have already identified these business opportunities and are diversifying their activities into the battery pack business.

Yole's team proposes a detailed description of this new energy management & battery analysis on i-micronews.com, [battery & energy management reports section](#).

¹ BMS : Battery Management System



About [Stationary Storage and Automotive Li-ion Battery Packs](#) report

The added value in batteries spreads from battery cells to battery pack components
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Dr Milan Rosina is Senior Analyst for Energy Conversion & Emerging Materials at Yole Développement. Before joining Yole Développement, he worked as a research scientist and a project manager in the fields of photovoltaics, microelectronics and LED. He has more than 15 years scientific and industrial experience with prominent research institutions, an equipment maker and a utility company. Amongst his experience are new equipment and processes development, due diligences and technology and market surveys in the fields of renewable energies, batteries and innovative materials and devices.

- Companies cited in the report:

Accumotive, AES Energy Storage, AESC, AkkuSer, AllCell Technologies, ATL, Batrec, BMZ, BYD, CALB, Calsonic Kansei, Dana, Dongguan Tianrui Electronic Co., Ltd., Dongguan Tianrui Electronic, Dowa Eco-System, Eaton, Efen GmbH, electrovaya, Elektromotus, Eska, ETI Elektroelement, Elektromotus, Fischer Elektronik, Freeport Cobalt, GE, GLENCORE, GS Yuasa, Forsee Power, Freeport Cobalt, Furukawa Battery, Hitachi, Inmetso, Iron Edison, JX Nimmpon Mining & Metals, K.Tex (Knein Technische Textilien), Kokam, Laird, Leclanché, LG Chem, Lishen, Littelfuse, MAHLE, Mersen, Modine, Multicontact, NEC Corporation, OEZ, Panasonic, Phase Change Material Products Ltd. (PCM Products), RDVS, Recupyl, Renesas, Retriev Technologies, REVATECH, Saft, Saint-Gobain, Samsung SDI, SCLE SFE, Schneider Electric, SIBA, SK, SNAM, SOC, Sonnen, SONY, Schneider-Electric, SIBA, Sumitomo Metals, Sunonwealth Electric Machine Industry Company Limited (SUNON), TE Connectivity, Tabuchi Electric, TE Connectivity, Tesla, Toshiba, Umicore, Ventec, Wanxiang, and more.

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Founded in 1998, Yole Développement has grown to become a group of companies providing marketing, technology and strategy consulting, media and corporate finance services. With a strong focus on emerging applications using silicon and/or micro manufacturing, the Yole Développement group has expanded to include more than 50 collaborators worldwide covering MEMS, Compound Semiconductors, LED, Image Sensors, Optoelectronics, Microfluidics & Medical, Advanced Packaging, Manufacturing, Nanomaterials, Power Electronics and Batteries & Energy Management.

The “More than Moore” company Yole and its partners System Plus Consulting, Blumorpho and KnowMade support industrial companies, investors and R&D organizations worldwide to help them understand markets and follow technology trends to develop their business.

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