



LION E-Mobility AG

Company Presentation

Business Year 2013

1) Company Information

2) Business Segments

3) Public Relations

4) Market Information

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Quick Facts



Company LION E-Mobility AG
Poststraße 6
6300 Zug, Schweiz
www.lionemobility.de
WKN: A1JG3H
Ticker: LMI

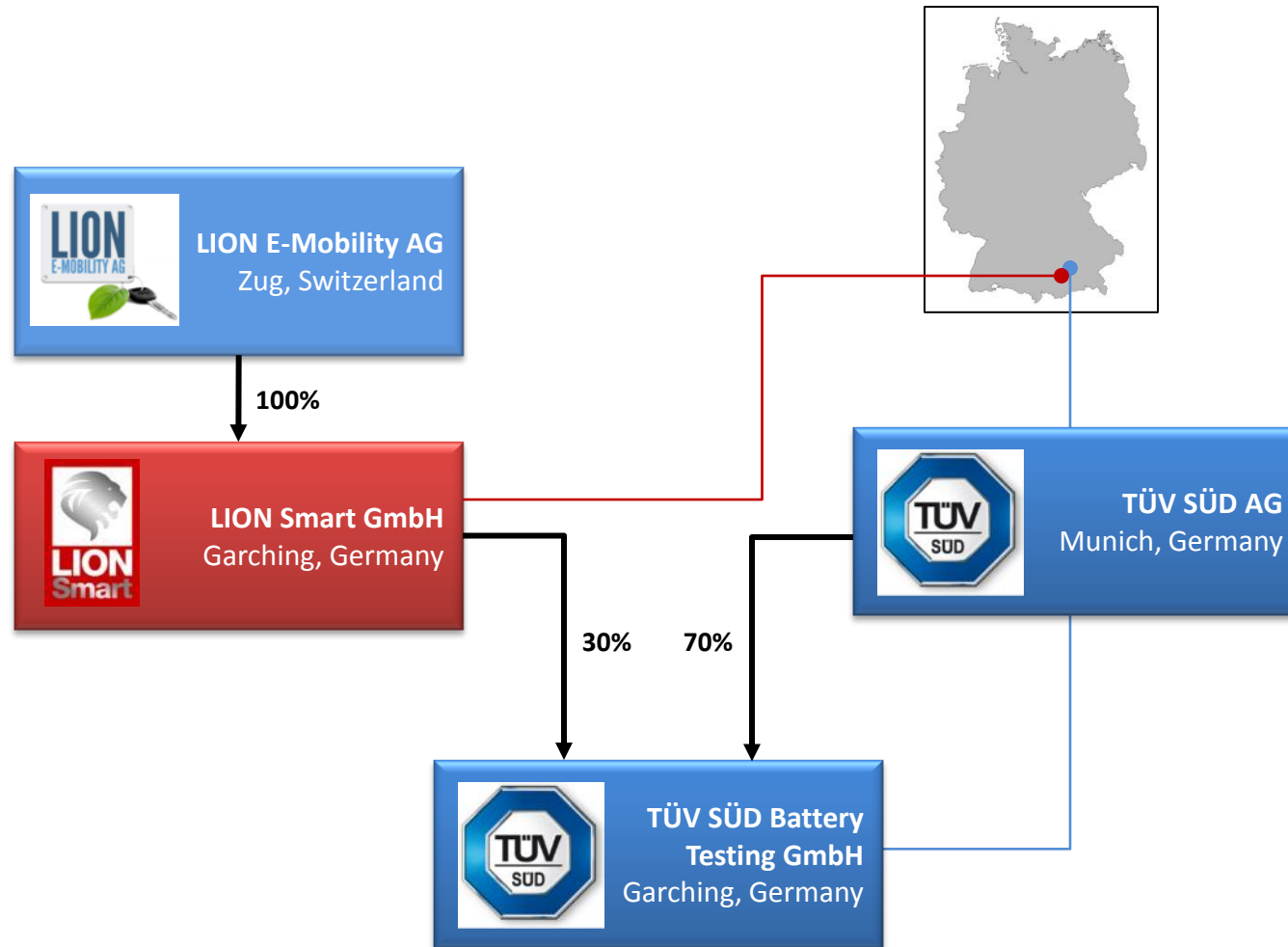
Industry Sector E-Mobility

Segments Battery Testing, Battery Design and Prototyping, Battery Management Systems, Simulations

Contact Germany/Austria/Switzerland:
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+43 (0)664 433 1367

E-Mail ir@lionemobility.de

Holding Structure




Network




Chair for electric storage technologies
(Prof. Dr. Jossen)



Chair of automotive engineering
(Prof. Dr. Lienkamp)



LION E-Mobility AG
Zug, Switzerland



LION Smart GmbH
Garching, Germany



VALENTUM CONSULTING GROUP
Value and Momentum



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Battery Testing

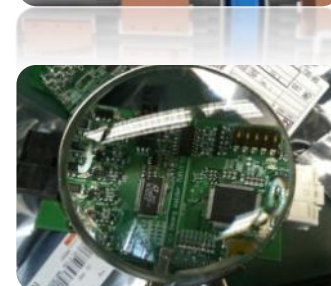
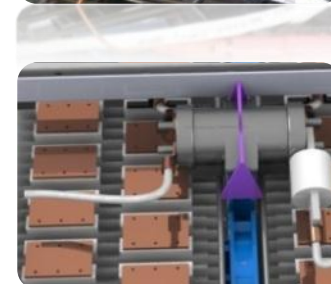
In November 2010 a joint venture between LION Smart GmbH and TÜV SÜD AG was founded to capture market growth and become an industry and market leader in the field of battery testing. A joint testing laboratory capable of testing state-of-the-art energy storage systems according to international standards began operation in October 2011.

Battery Prototyping

LION Smart GmbH independently develops individual and customized solutions for various applications. Services include consulting, design, and prototyping with a focus on electric mobility. After completing several battery prototyping projects, further project types are expected. The field of stationary energy storage devices and secondary use of mobility packs are primary areas of focus.

Battery Management System

In collaboration with different chairs of the Technische Universität München (TUM) a Battery Management System is nearing completion. The system is designed to provide an advanced but affordable platform for research and early-development projects, thus filling the gap between low-tech/low-cost and high-end proprietary systems. Significant demand for such a system has been observed.



Battery Testing



TÜV SÜD Battery Testing GmbH, based in Garching

Joint Venture between TÜV SÜD AG and LION Smart GmbH, founded in October 2010

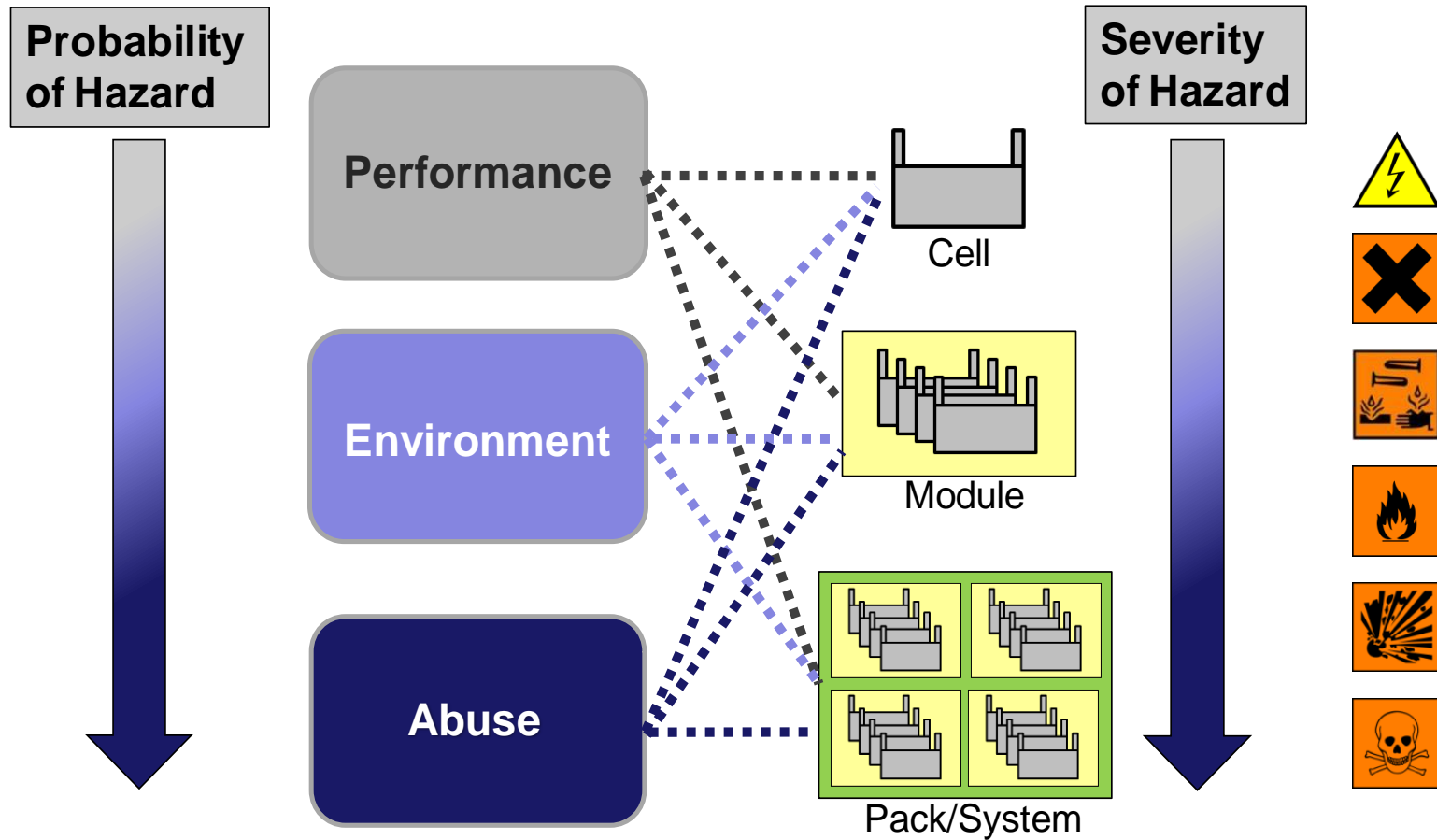
Performance, environmental and safety testing of cells, modules and battery packs

Official opening of 1.300m² laboratory at the beginning of the year 2012

Managed by Dipl.-Ing. Daniel Quinger (LION Smart) and Dipl.-Wi.-Ing. Stefan Rentsch (TÜV SÜD)

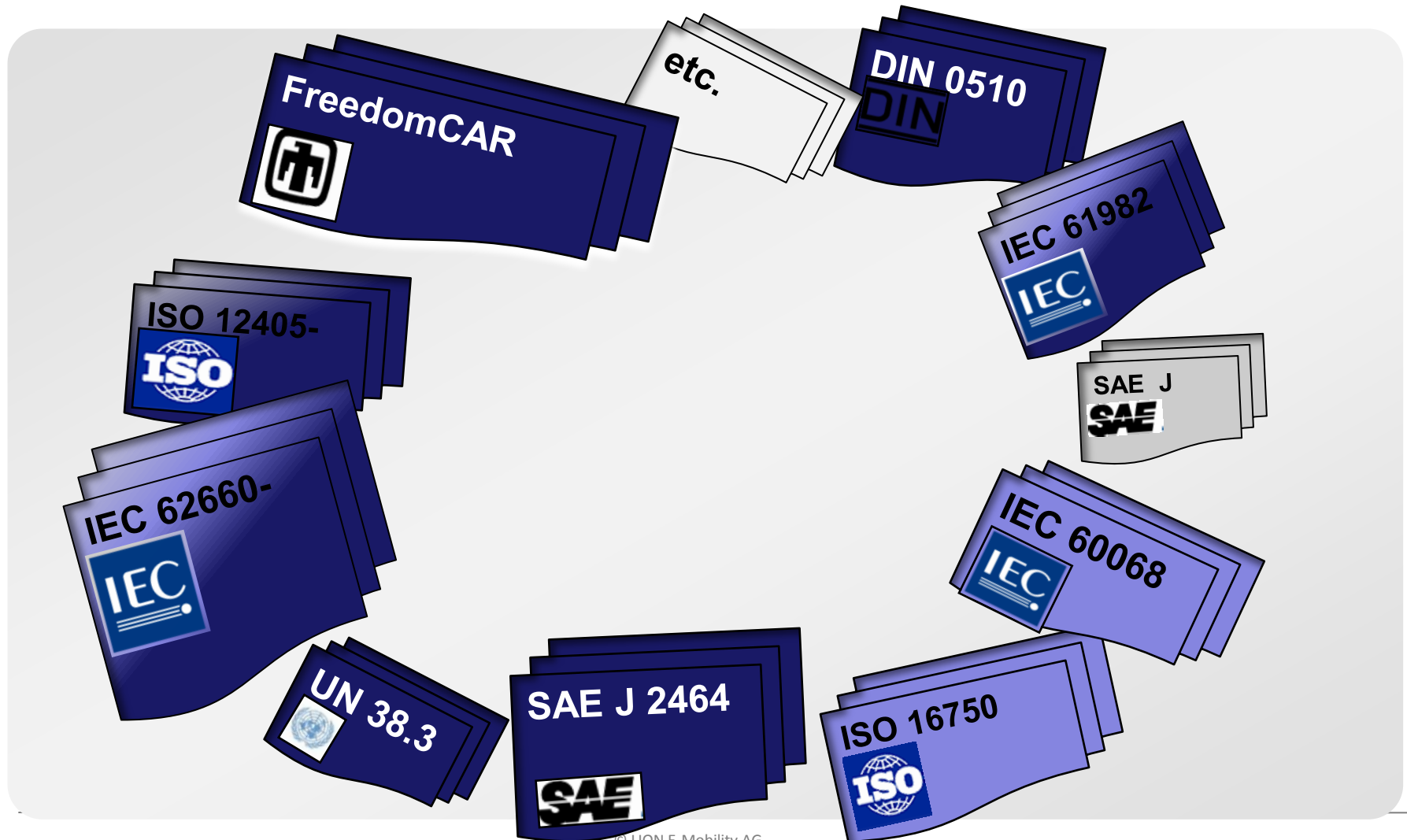
Battery Testing

How to classify different tests?



Battery Testing

 Performance  Environmental  Abuse

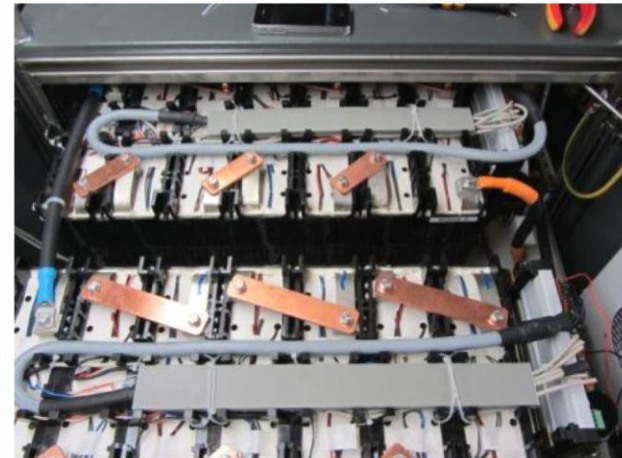
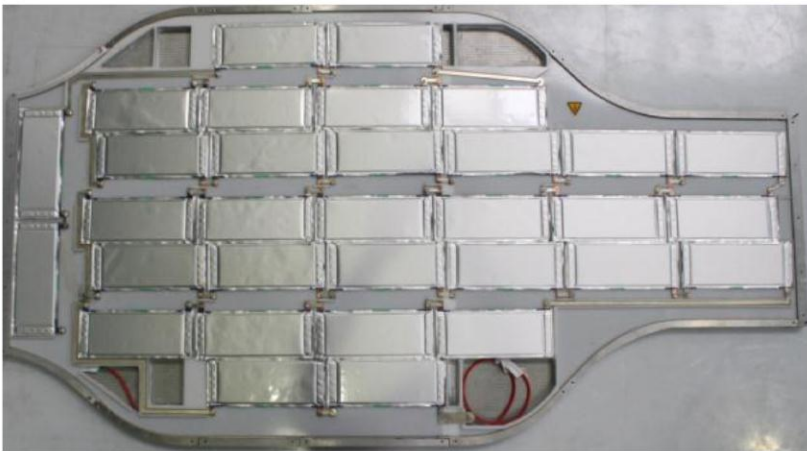
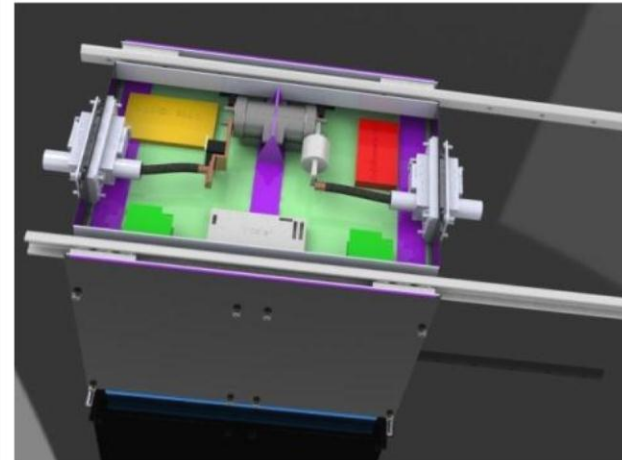


Battery Testing – Facilities



Battery Prototyping

- Design and construction of battery packs
- Assembly of prototypes
- Analysis of electric energy storage systems and support during selection of optimized components
- Thermal management of lithium-ion batteries
- Workshops, training, seminars, market and trend research



Battery Prototyping

- Battery pack for research vehicle, confidential client

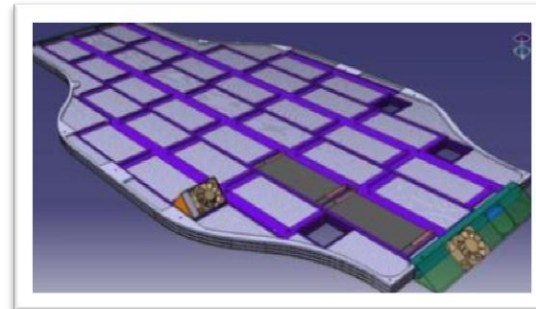
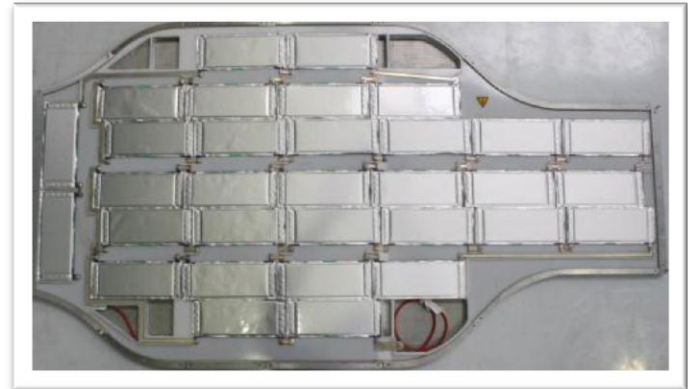


- Battery pack for E-Trail (GasGas)



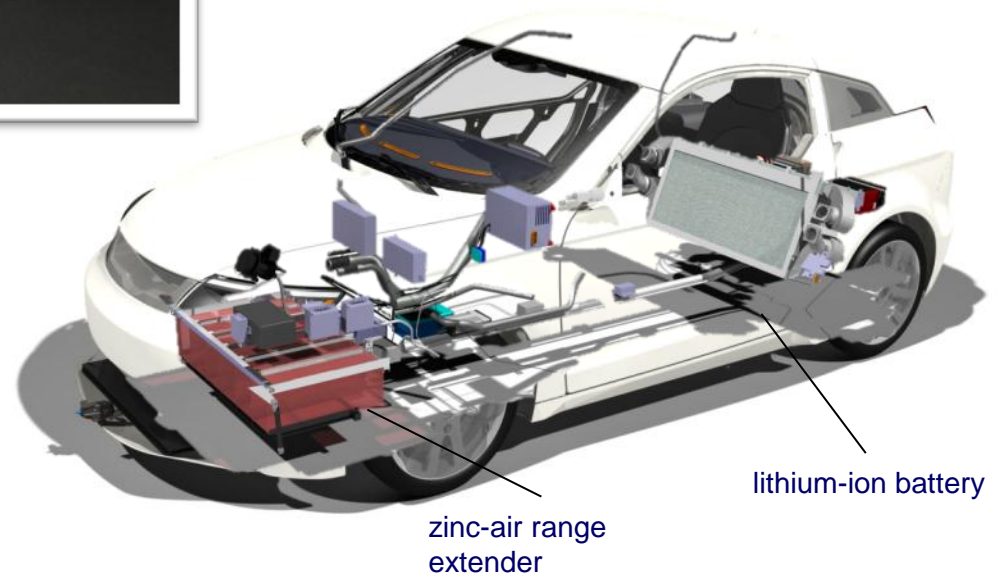
Battery Prototyping

► Battery pack for the EF1 (TU München)



Battery Prototyping

- MUTE Project Electric w/ range extender
(Multi-Partner TU- Munich Project)



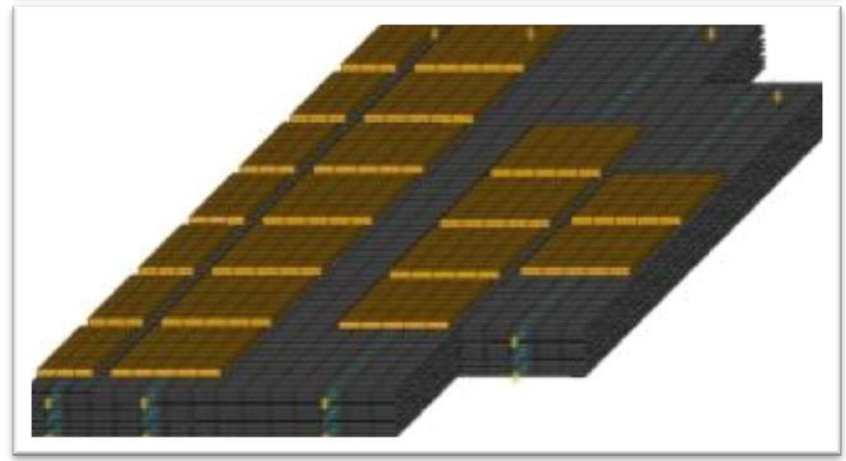
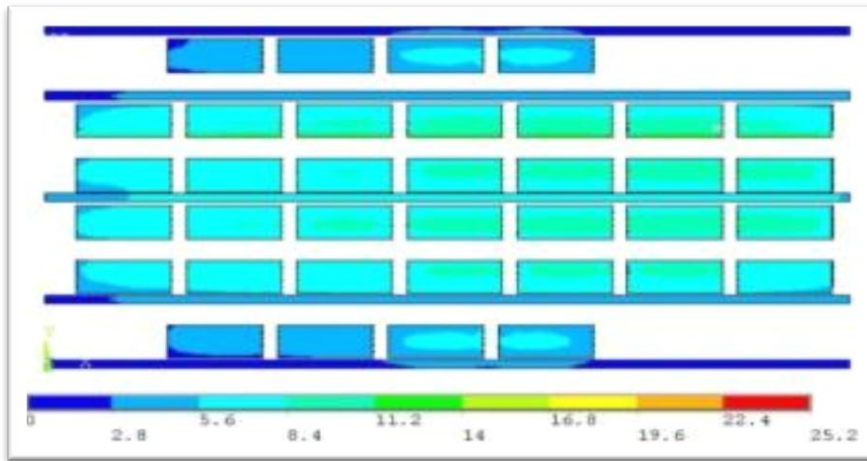
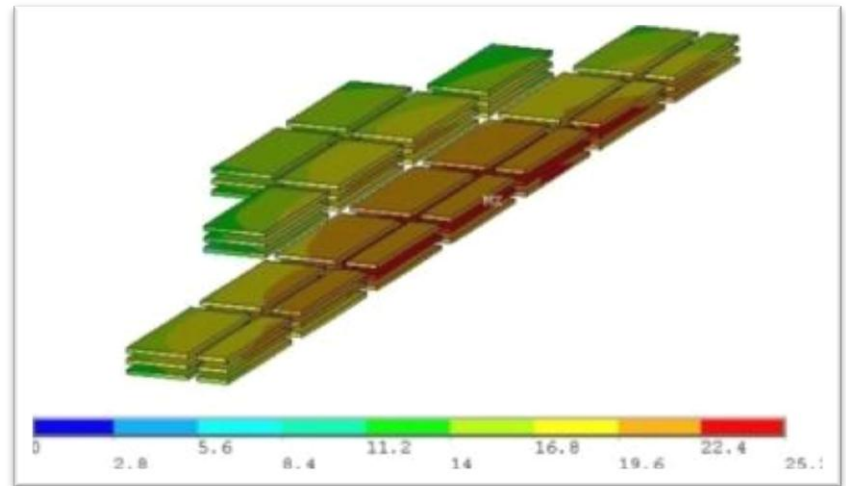
Battery Prototyping

- Effizienzhaus Plus a project of the German government (BMVBS)



[Web Auftritt Effizienzhaus Plus](#)

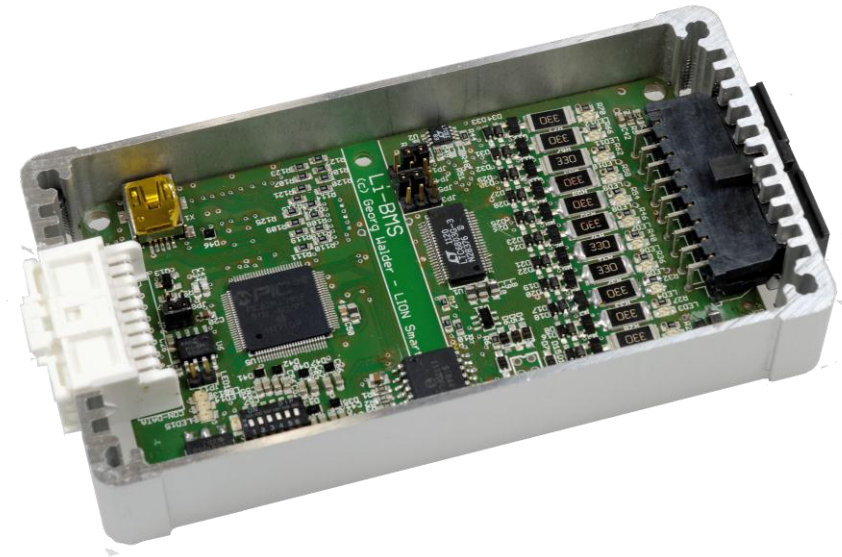
- Development of battery models
- Simulation of single cells, modules and entire battery packs
- Evaluation and optimization of battery packs
- Interpretation and adjustment of temperature management systems



Battery Management System

Modular, open-source, Battery-Management-System

- Sophisticated secure architecture
- Open-Source software
- Modular design
- Cost effective systems
- Multiple communication and Data-logging devices
- Different kinds of topologies:
 - Central: for small stacks (12 cells)
 - Modular: for medium stacks (12-48 cells)
 - Master-Slave: for large stacks (48++ cells)
- Software support services available
- Custom design capabilities available



Li-BMS

Battery Management System

- Target markets: Automotive/Transportation systems, Stationary Energy Storage systems, Research and Development projects, Students, Scientists
- Large network of BMS project partners including cooperation agreements with leading research institutes and established German industrial groups and DAX 30-listed companies
- Online ordering system for Li-BMS hardware and software with integrated enterprise resource planning system
- Forum-based customer support system to create increasing knowledge database and exchange of information regarding product use
- Joint commercialization



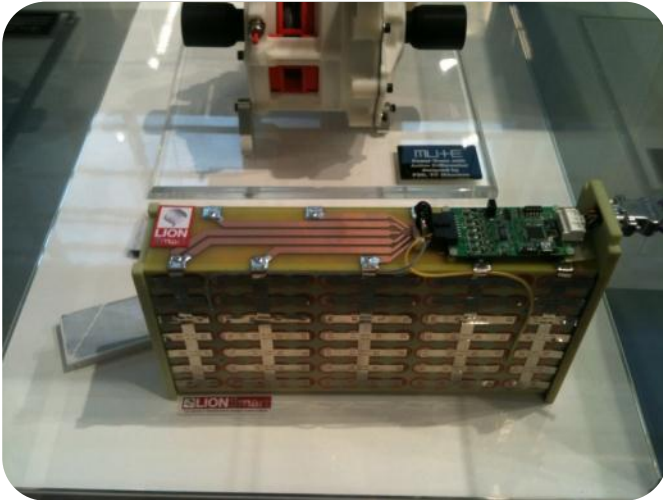
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Li-BMS Presentation at the IAA



Government Support Programs



- ZIM



- VISION



Project Partners



1) Company Information

2) Business Segments

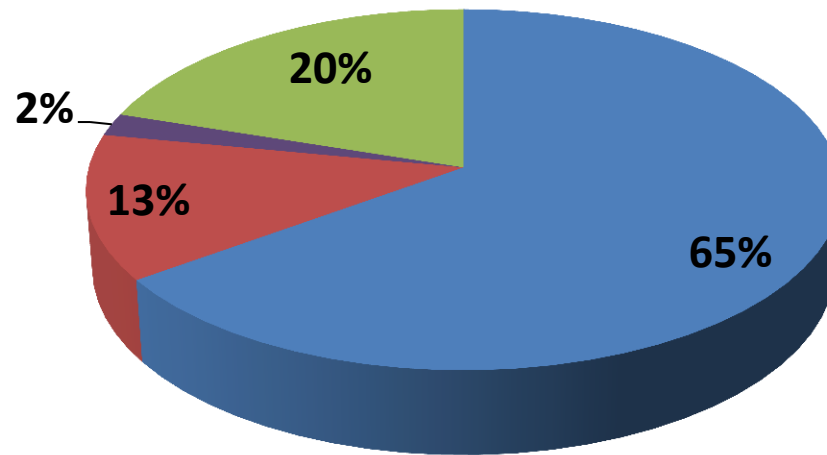
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LION E-Mobility AG Shareholder Structure



- **5 Million Shares Issued & Outstanding**
- **Tightly held, low dilution**
- **Listed on Munich and Hamburg Stock Exchanges**
- **WKN: A1JG3H, Ticker: LMI**



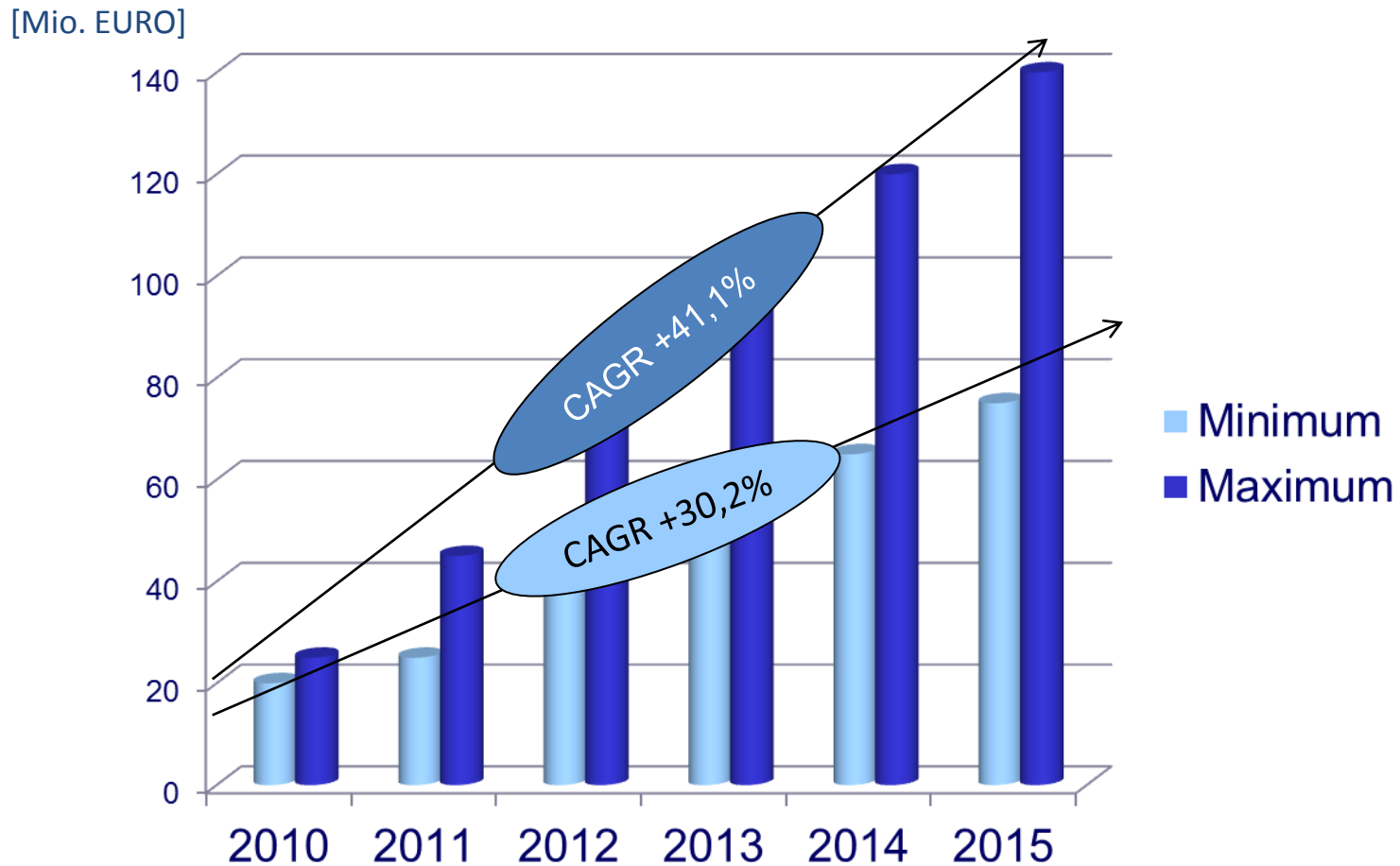
- Founders & Employees
- Strategic Seed Investors
- Institutional Investors
- Free Float

Why Zug in Switzerland?

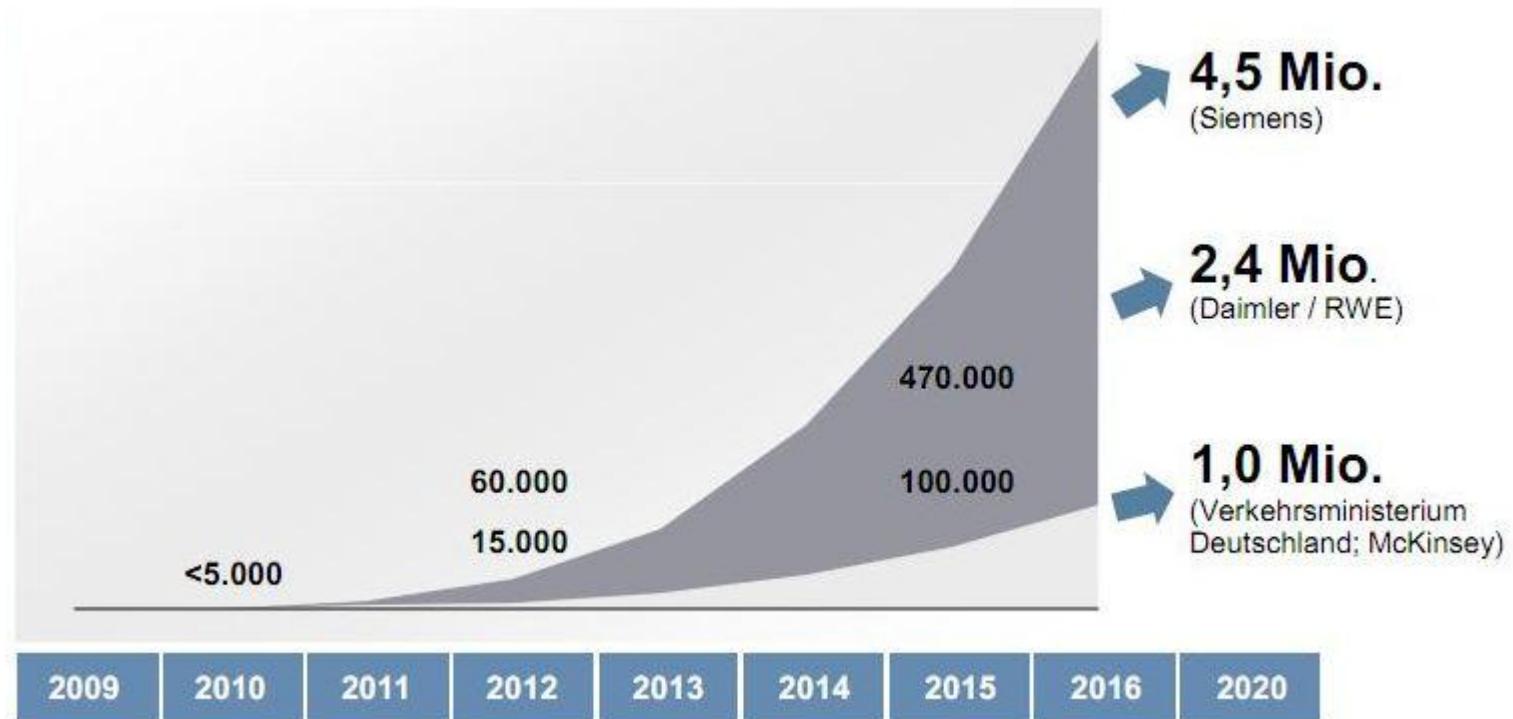
- Market for further business expansion
- High reputation of Switzerland among automotive clients
- German is the official language in Zug
- The legal system is quite similar to Germany
- Short distance (3h by car) to our core assets in Germany
- International expansion plans are easier to implement
- Lower Corporate tax rate



Expectations for Battery Testing Revenue Worldwide



Electric Vehicles on German roads: Different Market Expectations



Forward-Looking Statements

This presentation contains forward-looking statements that involve a number of risks and uncertainties, including statements that relate to, among other things, the Company's objectives, goals, strategies, intentions, plans, beliefs, expectations and estimates, and can generally be identified by the use of words such as "may", "will", "could", "should", "would", "likely", "expect", "intend", "estimate", "anticipate", "believe", "plan", "objective" and "continue" (or the negative thereof) and words and expressions of similar import. Although the Company believes that the expectations reflected in such forward-looking statements are reasonable, such statements involve risks and uncertainties, and undue reliance should not be placed on such statements. Certain material factors or assumptions are applied in making forward-looking statements, and actual results may differ materially from those expressed or implied in such statements. Important factors that could cause actual results to differ materially from expectations include but are not limited to: general business and economic conditions (including but not limited to currency rates and creditworthiness of customers); Company liquidity and capital resources, including the availability of additional capital resources to fund its activities; level of competition; changes in laws and regulations; legal and regulatory proceedings; the ability to adapt products and services to the changing market; the ability to attract and retain key executives; and the ability to execute strategic plans. The Company does not undertake any obligation to update publicly or to revise any of the forward-looking statements contained in this presentation, whether as a result of new information, future events or otherwise, except as required by law.



Contact Information



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Industry Sector E-Mobility

Segments Battery Testing, Battery Design and
Prototyping, Battery Management
Systems, Simulations

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