

Dresden, 7 May 2019

ENHANCED BATTERY SOLUTIONS GMBH – VON ARDENNE INTRODUCES NEW STARTUP AND BATTERY TECHNOLOGIES AT BATTERY SHOW EUROPE 2019 IN STUTTART

For some decades now, VON ARDENNE has been a leading company in industrial large-area coating using innovative PVD methods. Based on this expertise in the deposition of extremely thin layers, the German high-tech company has identified different approaches along the production chain of lithium-ion batteries to considerably improve their performance and cost-efficiency by functionalizing cell component surfaces.

With **ENHANCED BATTERY SOLUTIONS** GmbH (EBSL), VON ARDENNE has founded an innovative startup company that focuses on the development of these new technologies and approaches for the lithium-ion battery market.

EBSL
ENHANCED BATTERY SOLUTIONS

EBSL is presenting its new technologies at the **Battery Show Europe 2019 in Stuttgart** from **7 May to 9 May 2019** at booth **G357**.

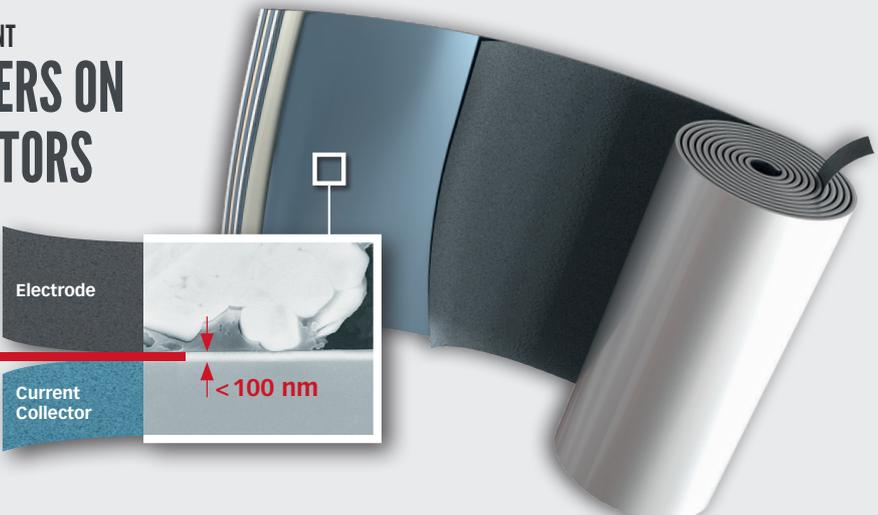
These technologies enable solutions that address current challenges for lithium-ion batteries. In the face of the increasing demand, for instance in the automotive industry, requirements such as output, high energy density, longevity and fast-charging capacity are getting increasingly important.

At the same time, **EBSL** is tackling the challenges that occur when new cell systems and innovative electrode manufacturing processes shall be established. Here, PVD thin-film technologies offer cell manufacturers a high potential for a cost-efficient, sustainable production that helps save resources.

One of these technologies is **XPRIME** – an ultra-thin (<100 nm) and dense coating on aluminum or copper current collectors. This coating increases both the power density and the lifetime of the latest lithium-ion batteries. That is achieved by drastically increasing the conductivity of the current collector and, thereby, reducing the through-plane resistance between the current collector and the electrode coating.

**ULTRA-THIN, DENSE AND COST-EFFICIENT
FUNCTIONAL LAYERS ON
CURRENT COLLECTORS**

**THE NANO REFINEMENT
XPRIME**



Electrode

Current Collector

< 100 nm

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Furthermore, the **XPRIME** coating enables a passivation of the current collector and

- an increases electro-chemical stability against corrosive media and at higher voltage windows
- stabilization of the current collectors so that they can be used in innovative cell concepts (high-voltage or all-solid-state batteries) and the processing using alternative production methods (water-based electrode manufacturing)

Beyond that, as a member of the VON ARDENNE group, EBSL offers the corresponding equipment for the coating of current collectors in R&D, pilot production or production scale.

ABOUT THE VON ARDENNE GROUP

VON ARDENNE develops and manufactures industrial equipment for vacuum coatings on materials such as glass, wafers, metal strip and polymer films. These coatings give the surfaces new functional properties and can be between one nanometer and a few micrometers thin, depending on the application.

Our customers use these materials to make high-quality products such as architectural glass, displays for smartphones and touchscreens, solar modules and heat protection window film for automotive glass.

We supply our customers with technologically sophisticated vacuum coating systems, extensive expertise and global service. The key components are developed and manufactured by VON ARDENNE itself.

Systems and components made by VON ARDENNE make a valuable contribution to protecting the environment. They are vital for manufacturing products which help to use less energy or to generate energy from renewable resources.

ABOUT ENHANCED BATTERY SOLUTIONS

Enhanced Battery Solutions GmbH is a young startup company with a strong focus on developing new products. It is our goal to use disruptive technologies to support the battery market in reaching its ambitious target to increase the performance and cost-efficiency of lithium-ion batteries. To achieve that, we rely on innovative thin-film treatments and technologies as well as novel vacuum coating systems to modify surface conditions of Li-ion battery materials and components in a specific way.

ENHANCED BATTERY SOLUTIONS (EBSL) AT BATTERY SHOW EUROPE 2019 IN STUTTGART

BOOTH: 7 May - 9 May 2019, booth G357

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