

IAA Commercial Vehicles 2018, Hannover (Germany), 18 September 2018

Battery systems for city, intercity, long-distance and distribution transport: AKASOL is showcasing a wide range of solutions for hybrid and electric mobility

- An ever-increasing range of applications places many different demands on high-performance and high-energy battery systems
- AKASOL is showcasing new high-energy battery systems with round cells, ideal for intercity buses or long-distance trucks in the USA
- IAA Commercial Vehicles (Hall 13, Stand F12): AKASOL is showcasing series-production battery systems for trucks and buses

Regardless of whether it is in city transport, intercity transport or distribution transport, the electrification of commercial vehicles helps to save costs in many applications and benefits people and the environment. As a result, the demand for battery systems is increasing rapidly. This is also partly due to more stringent requirements, such as those relating to air quality in city centers. However, these battery systems must meet extremely high standards and requirements from a wide range of customers. AKASOL, one of Europe's leading manufacturers of battery systems for commercial vehicles, will be showcasing the wide variety of safe and powerful lithium-ion battery systems it has on offer at IAA Commercial Vehicles 2018 (Hall 13, Stand F12).

We are not yet at a point where every commercial vehicle can viably be run using electric power for every possible application. Nevertheless, the quick innovation cycles of the cell manufacturers and the continuous development of the battery systems developed on this basis enable increasingly diverse, flexible and modular solutions. The applications of AKASOL technology that will be showcased during IAA Commercial Vehicles will include electric buses, distribution trucks, refuse collection vehicles and trailers.

“During IAA Commercial Vehicles, we will be showcasing our full product range and will be present in various ways – not just at our own stand but also at those of our customers,” says AKASOL CEO Sven Schulz. “Particular highlights include our new high-energy systems with cylindrical cells and an energy density of up to 200 watt hours per kilogram at system level and a new, scalable battery system in a 19-inch design for fully electric and hybrid applications.”

High-performance batteries: Power for construction vehicles or distribution trucks

As an example, AKASOL developed an AKASYSTEM 16 AKM POC high-performance battery system for renowned commercial vehicle supplier SAF-Holland with up to 7,000 full cycles to store brake energy from trailer axles in refrigerated vehicles. As a result, the refrigeration unit no longer needs to be powered by the loud diesel generator unit while

unloading in the morning. Instead, it is powered almost silently by a climate control compressor that is supplied with energy from the battery.

The high-performance battery system featuring pouch cells used here and in other similar hybrid solutions in rail transport is also suitable for transportation vehicles used in distribution transport or construction vehicles, which often quickly draw a lot of energy from the battery due to stop-and-start traffic conditions.

High-energy battery systems: More energy for intercity buses and trucks

Additional requirements are fulfilled by the high-energy battery systems (AKASYSTEM AKM CYC) with battery modules based on round cells, which AKASOL will be presenting for the first time at IAA Commercial Vehicles: “For these battery systems we use the latest generation of round cells, which not only provide the well-known high level of energy density, but also have a significantly improved number of cycles, which is what makes them different from comparable products from two years ago,” explains Sven Schulz.

Applications for these kinds of battery systems that satisfy all of the certification requirements in the automotive industry include in intercity buses and truck, which have to cover long distances at a fairly constant speed. In 2020, AKASOL is planning to begin series production of this battery system.

Series-production battery systems for Daimler

Over the coming years, AKASOL is focusing on upward compatibility for two of Europe’s leading bus and truck manufacturers – Daimler and a Swedish bus and truck manufacturer: This is possible thanks to AKASOL’s special, flexible system architecture. Thanks to this, increasingly large capacities are conceivable within the same installation space. In 2018 and 2019 the AKASYSTEM OEM with prismatic cells with 25 or 33 kilowatt hours is used in the eCitaro. By 2020 it will be possible to increase the energy content to 42 kilowatt hours by using the AKASYSTEM AKM CYC high-energy battery system.

Compact, scalable system design for small electric vehicles

In addition to this diverse range of solutions, AKASOL will also be showcasing the AKASYSTEM AKR POC in Hannover. This is a battery system that is excellently suited to both small electric vehicles and hybrid applications in the marine segment. The standout features of this system include its long life-cycle along with the compact, scalable system design. At IAA Commercial Vehicles, the Darmstadt-based company will be showcasing the system both as a rack and embedded in a vehicle chassis.

AKASOL is continuing to focus on the modular principle and offering commercial vehicle manufacturers an especially high level of flexibility in combination with the security of being able to fall back on the huge expertise of an electric mobility specialist resulting from almost 30 years of working with battery systems. The upward compatibility enabled by the lithium-ion battery systems with identical dimensions (700 x 150 x 700), each with 15

battery modules featuring different cell technology in the PHEV2 module format, is a major plus for customers. In the event of changes in requirements to power, energy or cycle stability, it is conceivable to replace the system at a later stage.

You can find images relating to this press release here: http://bit.ly/Akasol_Press_Kit

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Forward-looking statements are based on the current expectations and are subject to a number of known and unknown risks, uncertainties and other factors that may cause the actual results, capacity utilization, performance or achievements of the group or the industry in which it operates to be significantly different from those expressed or implied here. You should not place undue reliance on forward-looking statements. The group will not update or review the forward-looking statements published here based on new information, future results or for any other reasons.

About AKASOL

AKASOL is a leading European manufacturer of mass-produced lithium-ion battery systems that are safe, reliable and comply with all relevant standards. With almost 30 years' worth of experience in engineering and its own sites for R&D and production, AKASOL supplies battery systems for the biggest players in the electrified transport sector. Its current clients include Daimler subsidiary EvoBus, VDL Bus & Coach, Alexander Dennis, Alstom, Bombardier and Bucher Municipal.

In 2017, AKASOL opened a new factory for high-performance battery systems with an annual capacity of 300 megawatt hours in Langen (Hesse). AKASOL believes that this is Europe's largest production facility for lithium-ion battery systems for commercial vehicles. Currently, battery systems for up to 1,500 fully electric buses or up to 6,000 commercial vehicles can be produced each year in Langen. The capacity is planned to be doubled to 600 megawatt hours by 2020.

Since 29 June 2018, shares of AKASOL AG are listed in the Prime Standard of the Frankfurt Stock Exchange. As a result of the successful stock market listing, AKASOL has been able to secure considerable resources for the further growth of the company. This growth will focus on the expansion of production capacities in Germany and the USA, and securing technological leadership in the field of high-performance lithium-ion batteries with a wide range of innovations and further developments over the coming years.

The Executive Board of AKASOL AG, with its headquarters in Darmstadt (Hesse), consists of Sven Schulz (CEO) and Dr. Curt Philipp Lorber (CFO). Felix von Borck, Dr. Björn Eberleh and Stephen Raiser are co-founders of the company.

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