

A transport chain for delivering energy

DB Cargo Logistics offers the automotive sector tailored, door-to-door concepts that connect battery factories with car plants.

Europe goes electric: car-makers are bringing out a growing number of battery-powered vehicles. The power source of these e-vehicles is a battery that weighs several hundred kilos. Having a reliable supply of these components is vital for the auto companies.

At present, most of the lithium-ion batteries are shipped from Asia, but the major producers are now expanding their production capacities in Europe, and new companies are entering the market. Several carmakers have started to produce their own batteries as well, or they are working

with suppliers who can deliver the components they need straight to their assembly lines.

Andrey Ludwigs, senior project manager for components at DB Cargo Logistics, says, "From original parts manufacturers to tier 1 and 2 suppliers, we offer the entire automotive industry customised and tailored transport solutions for lithium-ion batteries. We are the people who bring battery and car production together. Our multimodal concepts optimise logistics costs and cut CO₂ emissions at the same time." Some carmakers now actually require this of their suppliers.

Batteries are extremely heavy, which makes trains the ideal means of transporting them. The loading factor for a freight wagon is 2.5 times that of a lorry, so one freight car can handle the equivalent of 2-3 lorryloads. "It's not just the logistics costs that give rail transport the edge here, but trains also outperform trucks in terms of safety," says Jahn Reich, project manager at DB Cargo's automotive and logistics competence centre. When you compare the rate of accidents per 1 billion tonne kilometres, trains can be up to 40 times safer than road transport. Reich adds: "At the same time, regulations regarding hazardous materials do not impede operations as much as people often think." At DB Cargo, professional management processes for hazardous freight and excellent communications with everyone in the transport chain ensure maximum safety.



— Carmakers assemble batteries for electric cars from lithium-ion cells at their own factories.



LITHIUM PURITY LEVELS

- **Battery grade:** a purity level of over 99.5%, used predominantly for high-end battery cathode materials
- **Technical grade:** a purity level of approx 99.5%, used predominantly for ceramics, lubricants and batteries
- **Industrial grade:** a purity level of over 96%, used predominantly for glass, casting powder and lubricants

Automotive RailNet for full reliability

DB Cargo Logistics makes use of its Europe-wide network for transporting batteries. The Automotive RailNet lets the rail freight operator combine tremendous flexibility, short journey times and outstanding reliability throughout central Europe as its fast overnight services move cargo between automotive plants. It is now adding its offerings for battery manufacturers and cell suppliers to this network.

Other added-value services complete the package, such as relationship management and customer support for selecting transport containers. Not only do these have to conform with RID and ADR regulations for transporting hazardous materials, but – like all rack systems used by DB – they are checked as part of special and extensive buffing tests to ensure they can carry their loads safely.

At the same time, DB Cargo Logistics manages cross-modal solutions in its capacity as lead logistics provider. “We offer customers different concepts as DB Cargo’s trans-European network enables us to operate conventional or

intermodal transports by rail,” says Heike Armgart, who also works in battery transport at DB Cargo Logistics.

Customers can use the system to book a whole range of services, as DB guarantees daily departures for loads of all sizes. In this regard, DB Cargo Logistics can once again deliver the same level of flexibility as lorries: thanks to its hubs in Stuttgart/Kornwestheim, Ingolstadt/Regensburg, Halle/Leipzig and Brunswick, it is in a position to handle fast freight transshipments. The many railports and terminals operated at different locations by DB Cargo and its business partners also play an important role: they provide manufacturers with access to the rail freight network if they do not have their own sidings.

Hubs and railports

DB Cargo Logistics currently uses this system to transport lithium-ion batteries via the railport in the Polish city of Wrocław. The batteries come from new production facilities in Poland and Hungary and are destined for carmakers across Europe. Ludwigs: “We are able to refit this and other sites quickly and use them for the specific requirements of battery logistics processes.” The rail freight operator is already planning transport services for future customers. “We have performed very successful pilot runs for a number

Rail vs road: each train wagon is the equivalent of

2.5

lorry journeys.

of important battery producers and lithium-ion suppliers,” he says.

DB Cargo Logistics is currently assessing how to create efficient connections between the supply chains of manufacturers and suppliers for the production processes of a major automotive company in Germany. With reliable and sustainability-focused transport concepts, DB Cargo is set to help electric-powered vehicles successfully take their place on our roads. ●



Andrey Ludwigs, senior project manager for components at DB Cargo Logistics
andrey.ludwigs@deutschebahn.com

KEY

- Car manufacturers
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