RHENUS HIGH TECH

LOGISTICS FOR GREEN MOBILITY

case study

RHENUS HIGH TECH DELIVERS AND INSTALLS E-CHARGING STATIONS FOR ABB E-MOBILITY GERMANY

The cooperation of Rhenus High Tech with the technology provider ABB starts in the E-mobility sector in the year 2019. Since then, the logistics specialist for technically demanding projects Rhenus High Tech has been delivering and installing DC charging stations for the manufacturer. In an extensive project, the logistics specialist has also been contributing a large number of DC chargers for fast charging of batteries since May 2023. In this way, Rhenus High Tech is helping the provider of charging solutions for electric vehicles to further expand its leading position in the field of smart electromobility.

From 1 January 2035, only cars that do not produce emissions may be newly registered in the European Union. As E-mobility grows, so does the need for charging stations for electric vehicles (EVs). While the number of EVs sextupled in the years 2020/21 alone, the number of charging points only doubled. Rapid expansion of the charging infrastructure is therefore necessary to implement the federal government's target of up to 15 million EVs by 2030 in Germany. According to VDA, the German Association of the Automotive Industry, 2,000 charging points per week are needed.[1]

ABB E-MOBILITY

PROVIDER OF CHARGING SOLUTIONS FOR ELECTRIC VEHICLES

ABB E-mobility is a global market leader, contributing to a zero-emission future with smart, reliable and zero-emission EV charging solutions. The company is part of the technology provider AVV. Approx. 1,500 employees are working for the company, with around 400 engineers among them. With more than 13 years of experience in DC fast charging, ABB E-mobility has a wide reach. The company is active in more than 85 markets and has already sold more than 1 million chargers for EVs, including more than 50,000 DC fast chargers and more than 1 million AC chargers.

[1] Cf. Verband der Automobilindustrie: "Ausbau der Ladeinfrastruktur weit hinter Bedarf – Altenburger Land Spitzenreiter bei Schnellladepunkten", accessed on 6 June 2023

We place a high value on safety, sustainability and compliance with ethical standards when selecting our partners and suppliers. In addition, reliability and flexibility are important to us. With Rhenus, we have a partner who covers everything from warehousing to coordination with other trades such as foil coating and commissioning, ensuring that our chargers can be deployed quickly and safely.

Wolfdietrich Mörgelin
Head of Operation
ABB E-mobility Germany

THE CHALLENGE

The goal of ABB E-mobility Germany collaboration with Rhenus High Tech is to implement an extensive rollout of fast-charging stations across Germany for a major customer. A large number of DC charging stations is to be installed by Rhenus High Tech at various grocery retailer locations in Germany over a period of 24 months.

In contrast to smaller and lighter wallboxes, which can be handled more easily, the installation of modern fast-charging columns is complex. These are not only larger, but also weigh significantly more – up to 1,000 kilograms per column. Training on the customised chargers is therefore necessary before delivery. Due to their design and the associated challenges during transport and installation, not only extensive expertise but also special tools and crane equipment are required. This is the only way to ensure safety of all persons involved and to protect the chargers from damage.

However, professional equipment and expertise alone are not enough. Thorough preparation, an exchange based on partnership and detailed planning of each individual installation are necessary to reach the goal efficiently and successfully. The coordination of installation sites requires detailed pre-planning of all companies and parties involved. It was therefore necessary to reduce interfaces and establish a central customer service even before starting installations.

SUCCESS REQUIRES INTENSIVE PLANNING

WHAT IS DEMANDED WHEN INSTALLING E-CHARGING STATIONS

- **Coordination skills** for planning with different partners and trades
- **Precise coordination** regarding underground work and installation of cables
- **Compliance with special safety requirements** for delivery to installation sites and filling stations
- In special cases, **close cooperation with the crane companies,** which provide support in the event of local obstructions
- **Optimisation of manual installation work** by using mobile gantry cranes for all charging stations so that the project will not be delayed due to other interfaces of trades.
- **Accurately fitting installation work** with suspended units
- **High flexibility** in case of shifting deadlines
- Adjusting to **changing requirements on site** with different foundations and site conditions

THE ADVANTAGES

Rhenus High Tech is more than a conventional logistics forwarder. The market leader for technical value-added logistics has several decades of expertise in handling sophisticated and high-quality technical equipment, which is an important advantage. For many years, this also includes expertise in installing chargers at filling stations and car parks – of course in 2-man handling. In 2022 alone, Rhenus High Tech delivered around 600 charging stations in Germany.

Employees of Rhenus High Tech are trained for their work in our in-house training academy as well as in the technical and logistics centres. If necessary, product-specific training is also provided by clients. This enables the logistics service provider to achieve quality and service at a consistently high level.

With Rhenus High Tech, ABB E-mobility Germany benefits from a central client service as well as a competent contact person who acts in a coordinating role and has an overview

of the status of the overall project as well as of the individual installations at all times. For the customer, the advantage is to be able to address concerns to a central contact person.

As a special logistics company, Rhenus High Tech has professional equipment for handling particularly heavy and sensitive goods. In addition to high-lift trucks and pallet trucks, newly acquired mobile gantry cranes, so-called A-frames, are also available to install the fast-charging stations. They have the advantage of offering the delivery teams a high degree of safety and facilitate the installation at the point of use. To be firmly anchored in the ground, the EV charging stations have to be positioned with a great deal of precision so that the screw connections will exactly fit.

In addition to the tools for assembly and installation, Rhenus High Tech has a fleet of special vehicles that are optimally suited to transport sophisticated equipment. EV charging stations can be loaded and unloaded gently using a hydraulic lifting platform. The lifting platforms can even unload weights of 1,000 kilograms without difficulty. The lorries' loading space is padded and the vehicles also have air suspension for gentle transport. Furthermore, the entire special fleet is equipped with alarm systems and GPS.

The service of many logistics providers ends after delivery to the kerbside. This means a considerable amount of extra work for customers. They have to take care of interim storage and transport to the place of use, installation and connection to the power grid on their own – or with the help of other service providers. This poses the risk of delays on the installation site if various trades have to provide their services and arrive late or are not well timed.

Rhenus High Tech takes care of such planning for ABB E-mobility Germany, provides storage, transport and installation services with its trained specialist staff and avoids additional interfaces. Moreover, as an all-round service, the logistics specialist for charging stations provides the connection of the EV charging stations to the power grid in a partnership with a tried and tested technical service provider.

Our client service for ABB E-mobility Germany is the single point of contact and coordinates the complete project handling. It manages the entire logistics from interim storage to commissioning by the customer. This also includes detailed planning and coordination with our partner electrician.

Michaela Velden

Key Account Managerin
Rhenus High Tech

THE REALISATION

Rhenus High Tech expanded its service portfolio in the run-up to preparing for the joint project with ABB E-mobility Germany and set up a competence centre at its site in Gross-Gerau, Hesse.

The first training sessions for the delivery teams started in June 2023. An experienced trainer imparted theoretical knowledge and tested the practical application in training sessions over several days. ABB E-mobility Germany provided test chargers for the training sessions.

The necessary equipment, including lift trucks and A-frames, was also integrated into the training. Before any on-site installation is performed, the employees have to successfully complete a theoretical and practical test. In addition, a manual was developed with all the steps to be followed from the moment of arrival at the installation site.

The central client service not only supervised the preparation and implementation phase, but has

We have set up a central warehouse for EV charging stations here, established a customer service tailored to the project and trained delivery teams for installation using a mobile gantry crane. At the same time, we have audited electrical companies and finally selected a partner for the connection of the chargers to the power grid and final commissioning.

Michaela Velden
Key Account Managerin
Rhenus High Tech

also assumed the concrete detailed planning of each individual installation since the start of the first deliveries. The situation at the point of use must be understood in advance and the deployment of vehicles, delivery teams and the electrical partner must be scheduled in the best possible way.

“The teams will encounter some challenges on site and have to adapt their technical equipment. Is the ground firm or soft? Are there obstacles such as bollards or walls? It also depends on the concrete installation situation if the mobile A-frame or a heavy crane is used, whether additional personnel are needed or whether way plates for the subsoil have to be brought along,” Michaela Velden reports. Precise enquiry of the on-site situation at the construction sites before installation and corresponding planning of equipment and manpower are therefore indispensable.

Regardless of any planning, there are imponderables that can make scheduled installation impossible at short notice. In certain weather conditions, such as storms or heavy rain, transport and connection to the electrical system are too dangerous. The charging column first hovers above the ground on the (gantry) crane before it can be placed on the foundation. That’s why, in addition to planning skills, flexibility is also required for the rollout.

THE INSTALLATION

The charging stations can be installed within one to three hours, weather permitting. The delivery team brings the mobile gantry crane with the charging station and the equipment in the special fleet to the installation site. To save time, the A-frame is already partly assembled. After arrival, the logistics specialists inspect the foundation and check whether drilling is still necessary.

Then the truck is moved as close as possible to the foundation and the A-frame and the charging station are unloaded using a hydraulic lifting platform. The mobile gantry crane is now positioned and the charger is moved to the A-frame with the lifting truck. The charging station can now be suspended on straps and lifted with the A-frame about 60 centimetres above the ground. The heavy-load pallet, which is fixed underneath the charging station with screws, will be removed only afterwards. Now the A-frame with the charger is moved to the foundation, positioned and lowered.

The modern fast chargers from ABB E-mobility Germany also have an intermediate base that will be attached as well. The cable for subsequent power supply will be inserted only when the charging station is perfectly positioned above the foundation, before the screw connection is made. “Now it is essential to place the EV charging station precisely in such a way that all the screws can be inserted to ensure stability on the foundation and thus safety”, explains Michaela Velden.

Once this has been done successfully, it’s the turn of the technical partner for electricity to connect the charging station to the power grid. After the functional test, the EV charging station can be directly commissioned and the customer receives a digital acceptance report.

OUR SERVICES FOR ABB E-MOBILITY GERMANY

COMPREHENSIVE SERVICE PORTFOLIO FOR DC CHARGERS

Factory pick-up:	Pick-up of the charging stations in the warehouse of Rhenus High Tech in Groß-Gerau and transport to the local delivery site
Warehouse logistics:	Professional interim storage of the EV chargers until delivery
Distribution:	Delivery free to the point of use in our special fleet
Installation:	Installation using a gantry crane above the foundation of the charging station
Commissioning:	Electric installation with commissioning of the charging stations to the power grid
Device replacement:	Replacement of defective devices

THE RESULT

Thanks to extensive preparation, Rhenus High Tech is able to install a large number of DC chargers for ABB E-mobility Germany within 24 months. Our site in Groß-Gerau serves as a central hub for interim storage and customer service. On the day of delivery, direct transports can start from there to the final delivery address. In addition, network trips with transshipment are possible at the Rhenus High Tech site in Niederaula (Hesse).

“Cooperation based on partnership and trust is of great importance to us. This includes transparent and honest communication with our customer, commitment and intensive exchange in the operational area. In this way, we can further optimise our services for the benefit of the customer”, as Michaela Velden sums it up.

After an extensive planning and preparation phase, the project has gained momentum as of May 2023. One to two chargers are planned for each installation and order notification. The first DC chargers, which Rhenus High Tech will bring to their destination and install for ABB E-mobility Germany in the future, have already been successfully commissioned.

With its product of installing fast-charging stations, Rhenus High Tech is actively involved in the mobility turnaround, the achievement of climate targets and the rapid expansion of EV mobility in Germany. The logistics service provider supports ABB E-mobility Germany in laying the foundation for an emission-free future that is accessible to everyone.

Thanks to the innovative solutions developed by Rhenus High Tech in the field of logistics services for EV charging infrastructure, the technical value-added logistics specialist was already able to acquire other similar projects for different clients. In addition to installing charging stations at car parks, Rhenus High Tech’s expertise is also in demand for the delivery of chargers to filling stations.

So far, we are very satisfied with the course of the project – especially with the good preparation, the close and central coordination with a fixed contact person. We were able to convince ourselves of the quality of Rhenus High Tech's logistics and installation services during the first deliveries and the training sessions have paid off. We are confident that we will successfully complete the entire rollout together.

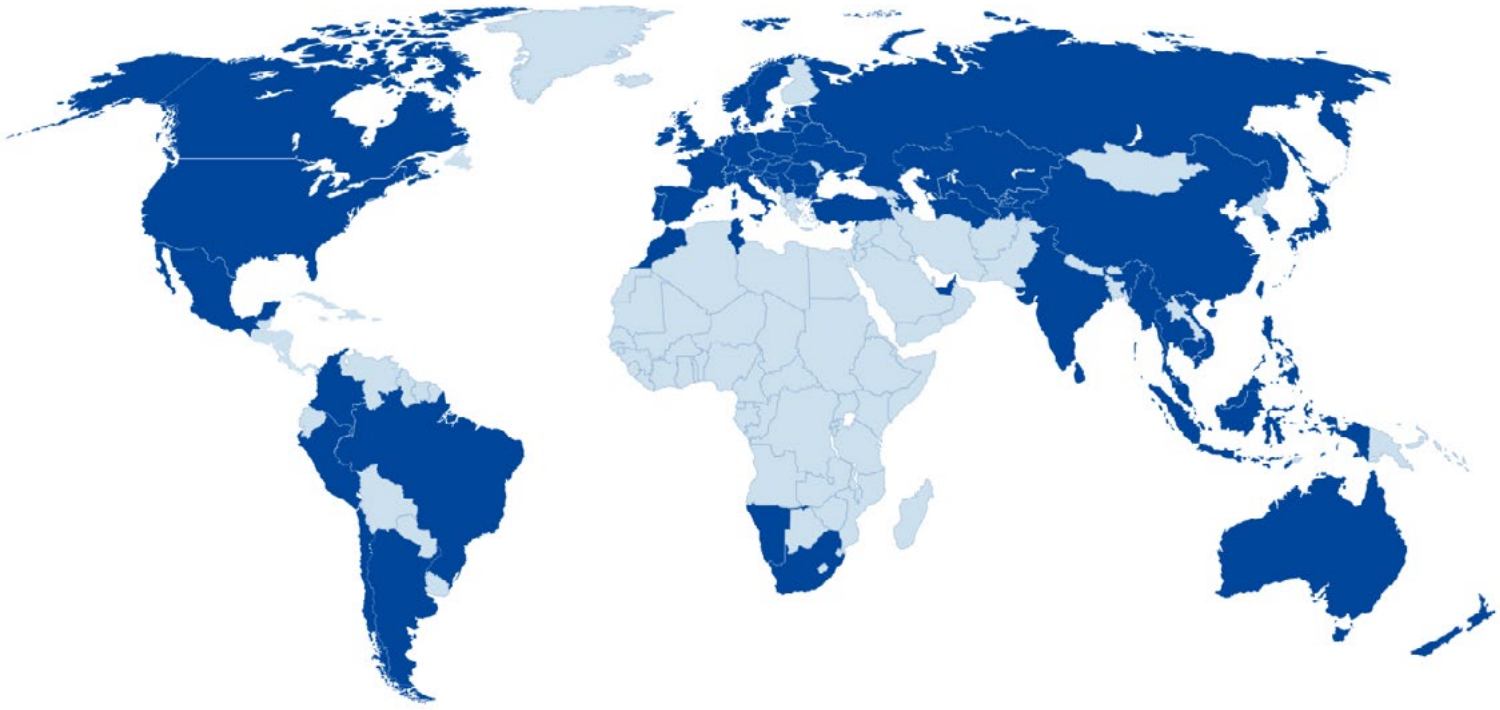
Wolfdietrich Mörgelin
Head of Operation
ABB E-mobility Germany

1
central contact

1-3
hours of installation per station

Charging units with a weight up to
1.000
kilograms

THE RHENUS GROUP IS A LEADING LOGISTICS SERVICE PROVIDER WITH GLOBAL BUSINESS OPERATIONS AND AN ANNUAL TURNOVER OF EUR 8,6 BILLION.



RHENUS HIGH TECH

EUROPE'S LEADING HIGH-TECH LOGISTICS SERVICE PROVIDER

Within the globally active Rhenus Group, Rhenus High Tech takes care of transport as well as technical installation of sophisticated equipment and has a European network with its own storage and technical centres. A special fleet is available for the distribution of EV chargers, PV systems, sports equipment, medical devices, vending machines and much more. The high-tech equipment is delivered to the point of use, positioned, assembled and installed. Specific requirements of the various branches of industry are incorporated into the design of the logistical and technical services on a project-specific basis.

- Rhenus Groupe
- Partner and agents
- No partners and agents

RHENUS HIGH TECH

Please feel free to contact us directly here

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