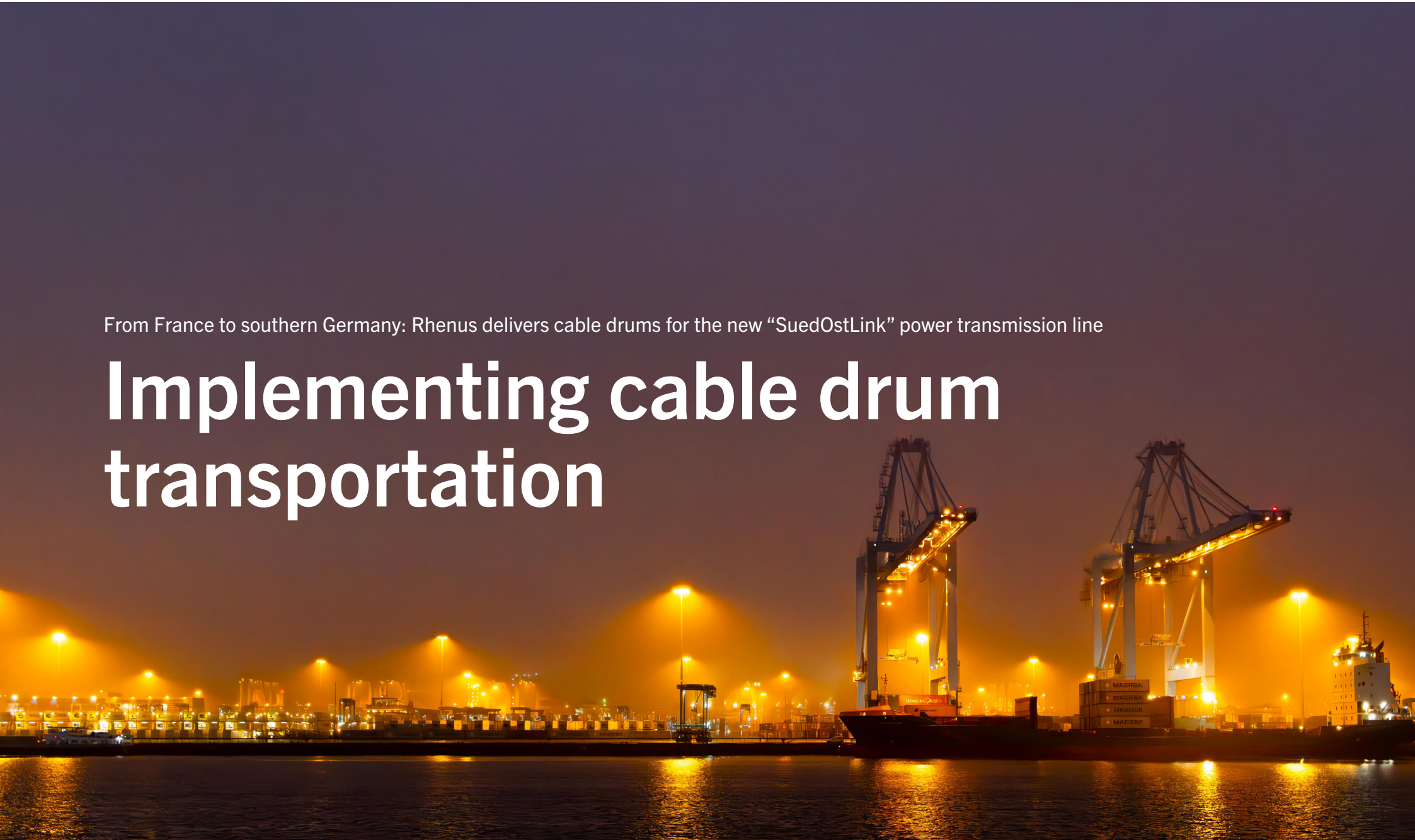
Case Study

RHENUS LOGISTICS



From France to southern Germany: Rhenus delivers cable drums for the new “SuedOstLink” power transmission line

Implementing cable drum transportation

Subject

Logistics for the energy revolution

From France to southern Germany: Rhenus delivers cable drums for the new “SuedOstLink” power transmission line, which is to supply green electricity to Bavaria from northern and eastern Germany in future.

Cable drums for the “SuedOstLink Vorhaben 5” power transmission line

The underground cables required for the project are manufactured by the leading international cable manufacturer Prysmian in Gron, near Paris. They are transported by inland waterway vessel to the port of Radicâtel near Le Havre in northern France, then by coaster through the English Channel to the Port of Rotterdam and from there by inland waterway vessel across the Rhine to their destination in Regensburg.

540 km
DC underground cables

85 tonnes
net weight

2027
planned completion

Background

Blue logistics for green energy

SuedOstLink is a planned DC underground cable line from northern and eastern Germany to Bavaria. It is to transport electricity obtained from renewable sources to the south of the country. The international logistics company Rhenus is currently handling the transportation of the cables drums with kilometres of underground cables which play a major role in this forward-looking project. Many challenges arise when goods are shipped across several national frontiers, but Rhenus has appropriate solutions at hand to overcome them. It is particularly important to have good infrastructure at the various transshipment points, such as the port of Maasvlakte in Rotterdam.

Power transmission line goals:

The electricity transported via the power transmission line is to replace the electricity generated by large conventional power plants, which are gradually being shut down in the south of the country. Germany also aims to mainly use supplies of electricity from renewable sources by 2050 as part of the energy revolution.

The three network connection points are located in Klein Rogahn near Schwerin in Mecklenburg-Western Pomerania, in Wolmirstedt in Saxony-Anhalt and near Landshut in Bavaria.

The power transmission network operators 50Hertz and TenneT are involved in the project. 50Hertz is responsible for the line from Mecklenburg-Western Pomerania as far as the state border between Thuringia and Bavaria. TenneT is planning and building the line in Bavaria.

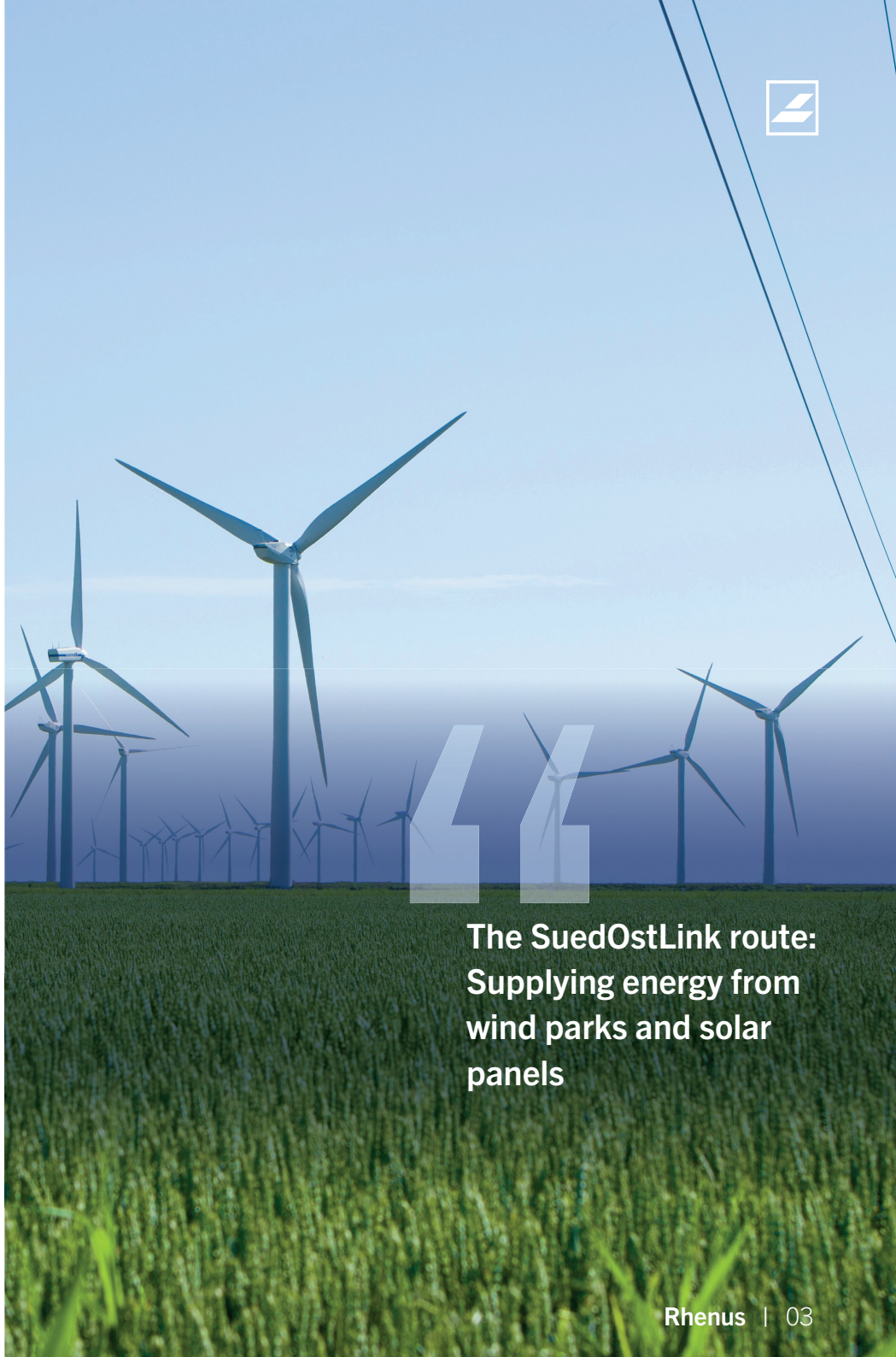
Challenge

A more sustainable future for Germany

Germany aims to primarily rely on electricity from renewable sources from 2050 onwards as part of the energy revolution. The SuedOstLink power transmission line forms a crucial part of this project. To achieve this, the companies TenneT and 50Hertz are working together to lay DC underground cables across a distance of 540 kilometres, from Mecklenburg-Western Pomerania via Saxony-Anhalt and Thuringia all the way to Bavaria. However, the heavy cables first have to reach Germany from France so that the planned building work can start.

Underground cables for a distance of 780, resp. 540 kilometres

These cables stretching for miles are the real star of the SuedOstLink power transmission line. Even the thinnest ones are as thick as enormous tree roots. The leading international cable manufacturer, the Prysmian Group, is making these cables in Gron, near Paris. Rhenus Project Logistics then comes into play, transporting the cables from France all the way to Bavaria.



The SuedOstLink route: Supplying energy from wind parks and solar panels

Solution

Absolute discipline and precision

First, the gigantic cable drums are transported by inland waterway vessel as far as the Port of Radicâtel, near Le Havre in northern France, and are then loaded onto a coastal vessel by means of mobile cranes. This coastal vessel transports the cable drums across the English Channel to the Port of Rotterdam. Rhenus then moves the heavy cargo off the coaster and onto an inland waterway vessel. This inland waterway vessel transports the cables via the River Rhine to their final destination Regensburg. When loading and transshipping the gigantic cable drums onto the various kinds of vessels, the crane operator needs to work with great precision. Absolute discipline is therefore the order of the day for all Rhenus employees in Radicâtel in France and at the Maasvlakte Deep Sea Terminal in Rotterdam in the Netherlands.

Intermediate stop at the Maasvlakte Deep Sea Terminal

Absolute precision work was required at Maasvlakte. The crane operator jokingly spoke the words “Lights, camera and… action!” into his radio device. But having to demonstrate his steady hand when lifting the drums was no joking matter. The process of lifting the gigantic cable drums proceeds as follows: a bar attachment including two steel straps is attached to the crane hook. The loops are fastened to the fixture points on the sides of the cable drums.

Solution

Absolute control when loading the cable drums

The next stop was the belly of the inland waterway vessel, which had docked nearby. If the crane operator raises the drums unevenly or with a jerk, they will start to sway. Not only would this be very dangerous for the port workers, it would also cause problems when the vessel is loaded. Unless the necessary level of precision is exercised, the cable drums might not end up in the correct position and there might not be enough space for the remaining cable drums. If worse came to worst, as a result of careless movements, a drum might even collide with the inner wall of the vessel and cause severe damage with its net weight of almost 100 tonnes. However, the Rhenus crane operator had the situation completely under control, as always: using all his skill, he lifted one cable drum after the other onto the inland waterway vessel, which visibly sank lower in the water as the weight of its cargo increased. All ten of the enormous, cylinder-shaped cable drums were loaded in less than 90 minutes.

The port workers finally rolled sliding hatches over the cargo to protect it from salt water and the elements. Water, which could possibly damage the freight, was consequently unable to accumulate, even if it rained.

Conclusion

A well-coordinated team makes things possible

The smooth workflow demonstrated how the Rhenus team cooperated at the individual business sites in their normal routine manner: brief instructions were enough to ensure that the entire team knew what they had to do. Good planning work and discipline were quite natural for the port workers, even when dealing with the enormous volume of this consignment. The transshipment operation has to be precisely timed and there must not be any great intervals between the individual deliveries: the faster the goods reach their destination, the quicker Germany can successfully move towards completing the energy revolution. The issue of safety is the top priority while, at the same time, the specific requirements of the customer are taken into account.

Transporting the cable drums for the SuedOstLink power transmission line started in 2021. By autumn 2023, Rhenus had already completed 26 deliveries, each involving ten drums. This was therefore well within schedule as the transport is planned to be completed in 2024. Two other power transmission lines (A-Nord and SuedLink) are also set to strengthen the infrastructure for green electricity in Germany.

A step towards the energy revolution

Who we are

The Rhenus Group – Our global presence

The Rhenus Group is one of the leading logistics specialists with global business operations and an annual turnover amounting to EUR 7.5 billion. 40,000 employees work at 1,320 business sites and develop innovative solutions along the complete supply chain. Whether providing transport, warehousing, customs clearance or value-added services, the family-owned business pools its operations in various business units, with customers' needs remaining the major focus at all times.

1,320
locations worldwide

40,000
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EUR 7.5 billion
annual turnover

Together with passion.

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