

RWE successfully pioneers cargo drone operations at offshore wind farms

- **More than 80 successful offshore cargo drone flights mark a new milestone for offshore wind industry and prove technical feasibility**
- **Cargo drones can increase safety and operability and at the same time help reduce CO₂-emissions and costs**
- **Autonomous long-distance flights to offshore substation and wind turbines complement traditional offshore logistics and introduce new dimension of efficiency; trials conducted with Skyways and Skyports**
- **Short-distance cargo drone delivery from service operation vessel to wind turbines avoids long lifting times; trials conducted by Ampelmann Operations**

Essen, 15 October 2025

RWE has achieved a significant milestone in advancing offshore wind logistics. For the first time in German offshore airspace, long-range autonomous and short-distance cargo drones have been successfully pioneered in the daily operations of offshore wind farms. In a multi-phase pilot project, RWE demonstrated how different drone types can be used to deliver spare parts, tools and consumables. The trials were conducted at RWE's [Nordsee Ost wind farm](#), which is located north of the German island Heligoland, and [Arkona wind farm](#) in the German Baltic Sea. RWE's partners in this project were: Skyways, a designer and manufacturer of long-range autonomous unmanned cargo aircraft systems; Skyports Drone Services (Skyports), a global leader in drone-enabled delivery and inspection; and Ampelmann Operations, the Dutch offshore access provider enabling safe and efficient personnel and cargo transfers offshore.

Sven Utermöhlen, CEO RWE Offshore Wind: "As offshore wind scales so must our logistics at sea. Our trials showed that cargo drones can complement traditional logistics by unlocking uptime, improving safety, as well as cutting costs and emissions. Cargo drones could thus become an integrated part of operating and maintaining our global offshore wind fleet in future."

Three different trial set-ups, one goal

The cargo drone pilot project is part of RWE's wider ambition to integrate innovative technologies that increase efficiency and sustainability in day-to-day offshore wind farm operations. In total, three different trial series were conducted in 2024 and 2025. The aim of the trials was to demonstrate how cargo drones can improve logistical flexibility in challenging offshore environments.

Autonomous long-distance flights from port to wind turbines and offshore substation

The latest trial series took place in September on the German island of Rügen. As part of a three-week flight demonstration, a Version 2 series drone from Skyways regularly took off from Mukran Port. It flew an autonomous route of over 40 kilometres out to the Arkona offshore wind farm, with up to 10 kilogrammes of cargo. Once at the wind farm, it approached its target wind turbine, locked onto the turbine nacelle and performed an automated cargo drop. With the cargo drop complete, the drone then autonomously flew back to Mukran Port and its original take-off point. The flights were supervised by Skyports' pilots. Cargo deliveries to the turbines usually rely on a boat journey from Rügen to Arkona offshore wind farm, which takes at least an hour. The drones, however, completed their flight in under 30 minutes. These flights can be booked on demand, providing a more flexible, efficient and sustainable alternative for delivering small, time-critical parts at an operational wind farm.

These complex cargo delivery trials by autonomous drones from Mukran port to the top of the turbines built on the experience from previous flight trials conducted in 2024. During those trials, autonomous and safe delivery of components weighing up to 4 kilogrammes from Murkan Port to the Arkona offshore substation was successfully demonstrated using an electric fixed wing drone.

Germany's first long-range drone deliveries to offshore wind turbines

The latest trials at Arkona offshore wind farm represent the first repeated series of BVLOS (Beyond Visual Line of Sight) turbine deliveries in German offshore wind, an industry-first achievement to RWE's knowledge. These fully autonomous flights had a predefined flight path that did not depend on mobile network coverage. They were executed without human intervention and under full regulatory compliance.

Short-distance drone delivery from a service operation vessel to wind turbines

Early this year, RWE pioneered short-distance flights between a service operation vessel to wind turbines at its Nordsee Ost offshore wind farm. During these trials, payloads of up to 30 kilogrammes were delivered by an electric multirotor drone which is now capable of carrying cargo of up to 100 kilogrammes. The pre-delivery of spare parts, tools and consumables to the turbine top allows two key challenges in the maintenance of offshore wind farms to be addressed: overpacking and long lifting times. The trials proved to RWE that in the future, a minimum of 1.5 hours could be saved per turbine visit. In addition, fuel consumption and technician workload were reduced. These trials, supported by Ampelmann Operations, also included a medical emergency simulation, successfully delivering supplies to the nacelle by drone and proving its potential in critical scenarios.

From first trials to redefining daily offshore wind logistics

RWE's cargo drone pilot project has run more than 80 successful offshore flights. Now that technical feasibility is proven, RWE's focus will shift to scaling operations. The advantages are clear: By reducing the need for cranes and manual handling, cargo drone deliveries can improve safety. Fewer vessel trips and helicopter flights mean lower CO₂ emissions and cost savings through reduced fuel consumption. Furthermore, fast and flexible drone cargo delivery could lead to swifter completion of jobs, which in turn could lead to higher turbine availability.

Leading global player in offshore wind

RWE is one of the world's leading companies in offshore wind. The company currently operates 19 offshore wind farms in five countries. Furthermore, RWE currently has four offshore wind projects under construction: Sofia (1.4 GW) in the UK, Thor in Denmark (1.1 GW, RWE share: 51%), OranjeWind (795 MW, RWE share: 50%) off the Dutch coast and Nordseecluster (1.6 GW, RWE share: 51%) north of the German island of Juist.

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About Arkona offshore wind farm

The Arkona offshore wind farm is located in the German Baltic Sea, approx. 35 kilometres northeast of the island of Rügen. The wind farm has a capacity of 385 megawatts and can supply the equivalent of 400,000 German households with renewable energy. Arkona is a joint project between RWE, Equinor and Energy Infrastructure Partners. RWE operates the offshore wind farm on behalf of its partners.

About Nordsee Ost offshore wind farm

RWE's Nordsee Ost offshore wind farm is located in the German North Sea, approximately 30 kilometres north of the island of Heligoland. Its 48 wind turbines have an installed capacity of 295 megawatts and generate sufficient climate-friendly electricity to supply the equivalent of 320,000 German households.

RWE

RWE is leading the way to a modern energy world. With its investment and growth strategy, RWE is contributing significantly to the success of the energy transition and the decarbonisation of the energy system. Around 20,000 employees work for the company in almost 30 countries worldwide. RWE is one of the leading companies in the field of renewable energy. RWE is investing billions of euros in expanding its generation portfolio, in particular in offshore and onshore wind, solar energy and batteries. It is perfectly complemented by its global energy trading business. Thanks to its integrated portfolio of renewables, battery storage and flexible generation, as well as its broad project pipeline of possible new builds, RWE is well positioned to address the growing global demand for electricity, particularly driven by further electrification and artificial intelligence. RWE is decarbonising its business in line with the 1.5-degree reduction pathway and will phase out coal by 2030. RWE will be net zero by 2040. Fully in line with the company's purpose - Our energy for a sustainable life.

Forward-looking statements

This press release contains forward-looking statements. These statements reflect the current views, expectations, and assumptions of management, and are based on information currently available to management. Forward-looking statements do not guarantee the occurrence of future results and developments and are subject to known and unknown risks and uncertainties. Actual future results and developments may deviate materially from the expectations and assumptions expressed in this document due to various factors. These factors primarily include changes in the general economic and competitive environment. Furthermore, developments on financial markets and changes in currency exchange rates as well as changes in national and international laws, in particular in respect of fiscal regulation, and other factors influence the company's future results and developments. Neither the company nor any of its affiliates undertakes to update the statements contained in this press release.

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