

SABCA AND DEME OFFSHORE TEST DRONES FOR CRITICAL OPERATIONS AT WIND FARM IN NORTH SEA

DEME Offshore and Sabca successfully performed a series of tests at the Rentel offshore wind farm in the North Sea, preparing for autonomous surveillance, rescue and detection missions in the near future. Their goal is to carry out critical and ad hoc operations with aviation grade autonomous aerial vehicles.

In a pioneering project in the offshore wind industry, DEME Offshore and Sabca performed tests with autonomous drones at the Rentel offshore wind farm in Belgium. The pilot study represents the first commercial, cross-border, 'beyond visual line of sight' (BVLOS) drone operations to take place at offshore wind farms in the North Sea.

See the video here <https://we.tl/t-c0R0GdokGq>

The partners performed a diverse range of tests on various use cases including Search & Rescue operations, environmental surveys, turbine and substation inspections, as well as parcel deliveries. Uniquely, both a 'traditional' multicopter drone and a fixed-wing surveillance drone, which has a wing-span of more than 3 m, were deployed in parallel. The long endurance surveillance drone took off from the West Flanders coast and flew all the way to the Rentel wind farm, which is more than 35km off the Belgian coast. Meanwhile, an automated resident drone performed inspections and cargo flights from the substation and vessels. This drone also conducted a full Search & Rescue demonstration using infrared detection and life buoy dropping.

By combining the drone operations with the use of artificial intelligence for automatic image processing, a strong set of tools has been developed to automate operations which are currently being executed by people. The partners believe that applications can go beyond the offshore wind industry and offers solutions for safety-critical missions at sea or above land.

“Sabca uses its experience in the aviation and space industry to develop aviation-grade systems that allow safety-critical missions to be performed in the most stringent conditions. Safety is the most important aspect when operating above cities, near critical infrastructure and in the controlled airspace. Therefore, we are running different projects where we test our systems to their limits. These successful missions with DEME Offshore confirm the commercial possibilities of our systems and are a next step after having performed other firsts, such as medical transport missions over Antwerp and several cargo transportations over land,”

says Thibauld Jongen, CEO of Sabca.

DEME Offshore's General Manager, Bart De Poorter comments: “We are convinced that these innovative, advanced technologies, which focus on fully autonomous operations without the need for any vessels and people offshore, have a game-changing potential to increase safety, lower the impact on the environment in the O&M phase of a project and reduce the overall costs. Ultimately, we expect unmanned vehicles to contribute significantly to a lower Levelised Cost of Energy.”