

## The LULA1000 submersible finds a missing German U-boat in deep waters off the Azores

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- U 581 lies at a depth of nearly 900 meters
- Evonik is supporting the research mission
- Novel Plexiglas® dome allows high-resolution, distortion-free video recording for marine biologists

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The LULA1000 research submarine has made a find that will enthrall marine biologists and historians alike: On the sea bed off the Azores island of Pico, it has discovered the German U-boat U 581, scuttled by its captain exactly 75 years ago and since then lost in the high seas. At that time 42 crew members survived the evacuation and four lost their lives.

The sister ship of the world-renowned U 96, well-known from the film *Das Boot*, is a rare find for marine researchers. Thanks to maritime records the time of her sinking can be pinpointed to the early hours of February 2, 1942. Since then, the boat's hull—67 meters long, weighing nearly 800 metric tons, and broken in two—has been lying at a depth of 870 meters. The vegetation growing on it is now giving researchers valuable information on the rate of biological development in deep waters that are in almost complete darkness.

These findings have been made possible by a Plexiglas® dome developed by Evonik for the LULA1000 submersible. Thanks to a special production method the 14 cm thick dome is almost invisible under water, permitting high-resolution videos to be recorded without distortion even at great depths. Filipe Mora Porteiro, director of Marine Affairs for the regional government of the Azores and himself a marine biologist, was impressed by the first pictures of the wreck: "I'm astonished by the large number and rapid growth of the corals." There has so far been very little research on the rate at which the many species of coral reefs develop in deep waters.

The discovery of U 581 is due to a husband-and-wife team of German explorers, Kirsten und Joachim Jakobsen. They are the driving force behind the LULA1000, which is owned by the

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Rebikoff–Niggeler Foundation. Evonik has been supporting the research projects of the Foundation since 2013. The Jakobsens are in great demand as consultants for deep–sea video recordings for marine biologists and television stations throughout the world. They started their research on U 581 some years ago, and expected the first findings last autumn. Pictures had already confirmed that it was indeed U 581 they were looking at. By means of advanced lighting engineering, the Foundation plans to record more high–resolution pictures, from which a 3–D model of the submarine will be generated. Also on the cards is a TV documentary on the history and scientific value of the sunken warship.

### **Background information on U 581**

The German U 581 U–boat, like the structurally identical U 96 (which featured in the novel and film *Das Boot*), operated from St. Nazaire in France. In the night of February 1–2, 1942, U 581, along with another German U–boat, had been due to sink the damaged British troop transport Llangibby Castle, forced to leave the port of Horta on the Azores island Faial. But U 581 was spotted by a British destroyer and hit by a depth charge near the neighboring island of Pico. The commander gave the order to surface and to open the vents at the water level to sink the vessel. Of her crew members, 41 were taken prisoner by the British and four were killed by another depth charge, possibly released in error. One man made it to the shore after swimming for five hours.

The events were documented by both the Germans and the British. But the exact spot where the vessel went down was not clear, and deep–sea conditions made it difficult to determine the location. With the permission of the Portuguese authorities, the Jakobsens embarked on a search, out of the public gaze, in early 2016. They used sonar to obtain a picture of the sea bed in the region in question between the Azores islands. They then began diving excursions with LULA1000. On September 13, 2016 they struck lucky: From its position and the clearly visible model number (VII C) of the U–boat, U 581 could be identified with high certainty. If

possible, the tower will now be blown clear to reveal the marking typical of all submarines, in order to provide unambiguous identification.

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