

Hybrid pilot boat with Siemens drive

Siemens supplied the technology for the first hybrid pilot boat in the world. The Explorer has been in service for the Elbe Pilots Association since March 2013.

The boat's hull contains an electric hybrid motor in addition to the drive motor and auxiliary diesel motor. This drive system enables the ship to operate more efficiently.

During electric operation, fuel savings of 10 to 15 percent can be achieved. This additionally means that oil changes are needed so rarely that wear and hence maintenance costs are reduced as well.

- The pilot boat guides pilots on container or cruise ships to the mouth of the Elbe to ensure that they can safely steer the ocean liners up the Elbe toward the Port of Hamburg or into the Kiel Canal. Measuring 20 meters in length and 12 meters in width, the Explorer is a SWASH (Small Waterplane Area Single Hull) vessel with a torpedo-shaped float located centrally underneath the hull and two outriggers at the sides for lateral stability. This type of ship is completely new. **The Explorer is one of the most advanced vessels of this design.**
- The Explorer's SISHIP EcoProp hybrid drive is based on a drive system that was originally developed for buses. This drive is currently used in many urban buses around the world, including in London, Vienna, Munich, and Hanoi. **They consume as much as 50% less fuel and produce fewer emissions.**
- At the heart of the Siemens system is an electric motor. Electricity is generated with the surplus energy from the diesel motor when the shaft is turned; this electricity can be used to supply power to the ship's electronics or it can be used to operate the bow thrusters.
- **The dual motor drive makes the operation of the pilot boat more efficient and eco-friendly.** When maneuvering in port, this drive enables the boat to reach one

third of its top speed of 17 knots (approximately 31 kilometers per hour).

- These vessels require two motors for safety reasons due to rough seas. For maritime use, Siemens adapted the components of the drive to the special conditions found at sea. The boat is lighter and more agile thanks to the torpedo-shaped float which also houses the diesel generator as well as the two lateral outriggers. **Thanks to these design features, it can drive next to freight ships with greater stability and at a high speed without strong swells; this makes it safer and easier for pilots to go onto container ships.**

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