



Lab beneath white sails

The *Eugen Seibold* is anything but a normal yacht. With its clear, elegant design it may resemble a luxury yacht at first glance, but anyone taking a closer look will soon notice a number of striking differences. The short cockpit, large deckhouse, high rail, and in particular the large open area in the aft part of the ship featuring a very prominent A-frame for handling large and heavy measuring instruments, all point to the fact that the *Eugen Seibold* is a working vessel.

With its length of 22 meters, a weight of 44 tonnes including all fittings and equipment, and a relatively small sail surface of just under 300 square meters, this yacht is certainly no “high-performance boat” in a sporting sense, but all the more from a scientific point of view. Everything on board is geared towards efficiency and flexibility, and laboratories take up more than half of the indoor area. The vessel can be sailed reliably by a small crew of just two or three people, even on the high seas. Scientific work on deck is facilitated by lightweight measuring equipment and the hydraulically pivotable A-frame. Comprehensive sets of research data can therefore be collected at comparably low cost, both for long-term observations and on shorter excursions.

The idea of Gerald Haug from the Max Planck Institute for Chemistry to create a research sailboat could be put into practice thanks to the Werner Siemens foundation that funded the construction of the yacht. Haug’s research target is to achieve a better understanding of the biogeochemical cycle of the oceans. In other words, the synergies between the sea’s physics, chemistry, and biology and the marine atmosphere. Haug and his team want to use the sailing yacht to take contamination-free air and water samples. While continuous contamination of the local environment from diesel-powered vessels with metal hulls is unavoidable, research operations on the *Eugen Seibold* can be conducted without using the diesel engine for up to ten hours. This is possible despite the considerable energy consumption of the extensive high-tech equipment on board, thanks to a hybrid engine and a powerful high-voltage battery.