

Water robotics: An autonomous sailing boat is ready to sail the Irish Sea in autumn 2007

In September this year the InnoC Association in Vienna will travel to new shores, Aberystwyth on the Welsh coast, to participate in the second European Championship for autonomous sailing boats. Their ROBOAT will face the challenge of sailing in the Irish Sea without human control or intervention.

Sailing boats that can cross the ocean autonomously are not yet available on the commercial market. However, the research team from the Austrian Association for Innovative Computer Science (InnoC) developed a fully automatic steering and navigation mechanism for their innovative ROBOAT, in order to make this vision come true. Winning the international Microtransat event in Toulouse, France in June 2006, was proof that they are on a more than promising track. With wind as the only propulsion, their ROBOAT is able to autonomously navigate towards any given target and the optimal route is calculated by weighting drift coordinates against weather parameters. The rudder and sails as well as the tacks and jibes are autonomously controlled by incoming data from sensors (GPS, compass, anemometer, etc.), which are analysed using artificial intelligence. In the full-scale application a sailor on board will be able to overrule the system for manual control.



“Our ROBOAT for the Microtransat championship in Wales is about four meters long. Nevertheless, the algorithms and systems used on board can be scaled up for use on larger boats that are more frequently found on the open sea” according to Roland Stelzer, who is the project leader of the ROBOAT 2007. “The future we envision for the ROBOAT system is that it can become a reliable support tool for sailors in leisure boats, as well as a means to cut energy costs by use in waterway logistics, in addition to aid rescue boats.”

The Microtransat 2007 in Wales is the first worldwide competition for autonomous sailing boats on the open sea. Roland Stelzer is confident that his team is sufficiently equipped for putting on a good competition. “Our research team is young and highly motivated for this coming Microtransat event, and any support from fans on site will be highly appreciated”. The event will take place between the 3rd and 6th of September 2007, and the winner will be announced on the 7th of September. The long term main goal of the ROBOAT team is a fully autonomous crossing of the Atlantic Ocean scheduled for 2010. Sponsors for both events are still needed.

www.roboat.at
www.microtransat.org
www.innoc.at