

## Technically Enhancing an Aging ROV – Houthoofdt, Robin (VLIZ)

The ROV Genesis, a Cherokee-type ROV from Forum Energy Technologie (formerly SubAtlantic) has been operational since 2006 at Ghent University(RCMG). In 2012 VLIZ adopted the ROV from Ghent University and we've been improving it ever since. The hydraulic winch was the first to get an overhaul, followed shortly by a new ROV-container with a controlroom for piloting/navigating the ROV and a mini-workshop. In 2016/2017 we integrated new camera's including a HD-camera and LED-lights. Therefore the fibers also got upgraded to single-mode for extra bandwidth. This year we will also integrate the Teledyne blueview acoustic camera for extra visibility in turbid waters. These upgrades were all executed by third parties. Recently, we started focusing on in-house electronics developments to create a more versatile and trustworthy system. A power distribution module (PDM) to be able to balance loads to different power supplies and switching on/off all the various devices. A touch screen pilot assist screen that contains most functionality in parallel with the old buttons and switches as well as controlling the newly developed PDM. New experimental upgrade of the hydrolek 5-function manipulator valve pack electronics for a more versatile and reliable communication with possibility of a proportional control system. Future upgrades would include a new telemetry system where we are looking in the direction of the pixhawk4 with ardusub firmware, which would allow us to automate flightpaths much like an auv.