# Remotely operated vehicle (ROV): V8 Sii

Since September 2011, the Bentho-Pelagic coupling Section at the AWI possesses a new tool: a ROV developed in cooperation with the Swedish company Ocean Modules.

## 360° freedom

The system is based on the V8 Sii, a small inspection-class ROV whose 8 thrusters and intuitive control system allow a complete freedom of movement.
The vehicle is able to rotate around any axis and hold his position (pitch, roll) while advancing along a transect.
Get an insight into the ROV flexibility here.

## A pocket submersible

It was our wish to get a relatively small system in order to be able to deploy it from any kind of platform ranging from small ships to bigger research vessels like the Polarstern.

The complete setup includes:

- The modified V8 Sii + a sledge bearing additional sensors (100kg, 500m depth-rated)
- A manual winch with 600m fibre optic tether (150kg)
- A transformer unit also hosting the PC (73kg)
- A control unit with 4 monitors (2HD) (20kg)
- A generator (120 kg)

Figure 1: The San Ignacio (Huinay scientific station, Comau Fjord, Chile): an example of the smallest ship size still sufficient to host the whole system. (©T.Funke, AWI)

## On board sensors

As it is designed for scientific purposes, the ROV bears a range of sensors.

On the front of the main body:

- 2 high definition cameras (Kongsberg oe14-502)
- 4 LED lights (Bowtech LED-2400 aluminium)
- 1 altimeter (Tritech Micron Echo Sounder)
- 1 obstacle avoidance sonar (Tritech Micron)

On the back of the main body:

- 1 wide angle camera (Bowtech L3C-550)
- 1 LED lights (Bowtech LED-2400 aluminium)
- 1 manipulator (sub-Atlantic MK 1)
- USBL positioning system (Tritech MicroNav)

On the sledge:

- 1 Doppler Velocity Logger (DVL: RDI EXP600-FAM5SC/EXPCP) for bottom tracking and current measurements
- 1 CTD (SeaBird SBE19 plus) with additional sensors for oxygen (SeaBird SBE 43), pH (SeaBird SBE 18), fluorescence (WETLabs ECO-FLRT), PAR (Biospherical Instruments, QCP-2000)

Additional intruments which can be added:

- Multibeam Sonar (Blueview: port ready, instrument not available)
- Radiometer (TriOS, Ramses)
- Posidonia beacon

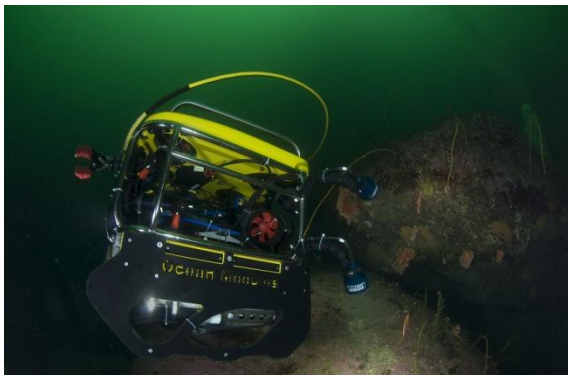

Figure 2: The ROV underwater in a Patagonian Fjord (Isla Hanover, Chile) (©M.Hüne)

Laura Fillinger, AWI, 2012