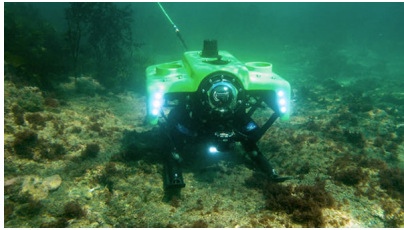


## Underwater robot

Written by Andrew Lee

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I first looked at the idea of a Remote Operated Vehicle (ROV) in 2002. I had a keen interest in shipwrecks and underwater video and had already built a tethered drop camera that could go down to a depth of 30 metres. But I could only see straight down and didn't have much control of what was viewed. Wouldn't it be great if I had something that could fly underwater and go and look where I wanted it to?

I was aware of ROVs but couldn't afford to buy one—the cheapest I could see was \$US12,000. But building one would be a challenge (not that I knew it would take ten years and a lot of frustration).

There was very little info out there at that time, with no one really home-building on the internet. So I had to make it up myself. With my boatbuilding background, building the hull was not too much to deal with.

After my first version which had problems with the voltage drop over the length of the cable and a persistent leak, I decided to start a new ROV with the idea of resolving issues of the first. With a couple of months of pondering I came up with my build plan. I wanted a ROV with

- A bigger hull, so I could add various attachments, sensors etc;
- Variable speed control for better manoeuvring and depth control;
- On-board battery to reduce the tether size and to eliminate the voltage drop problem;
- On-screen display (OSD) for voltage, amp draw and compass heading;
- Better motor control that didn't require direct wiring to the switches;
- Joystick instead of switches for direction control;

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Detachable tether (the first ROV was hard-wired to the tether).

Read more in the [latest issue of The Shed](#)