HyDrone RCV - Remote Controlled Vessel

Ted Read – Ohmex Ltd.

RCVs – Early Days

- **The Grove (NPL)**
- **NMI 1985**
- **Hydrocat I & II**
- **Solent trials**
- **BMT Ceemaid**

RCV surveys – Why ?

- **Remote deployment**
- **Transportability**
- **Health & Safety**
- **Personnel costs**
- **Environmental concerns**

HyDrone - Background

- **Small river surveys**
- **Difficult launch sites**
- **Overhanging canopy**
- **Weed & debris**
- **Bridges & Structures**
- **Right of Access**

RCV's – Negatives ?

- **Too big and heavy X**
- **Too Fast X**
- **Unstable monohull X**
- **Expensive X**
- **Non - Modular X**
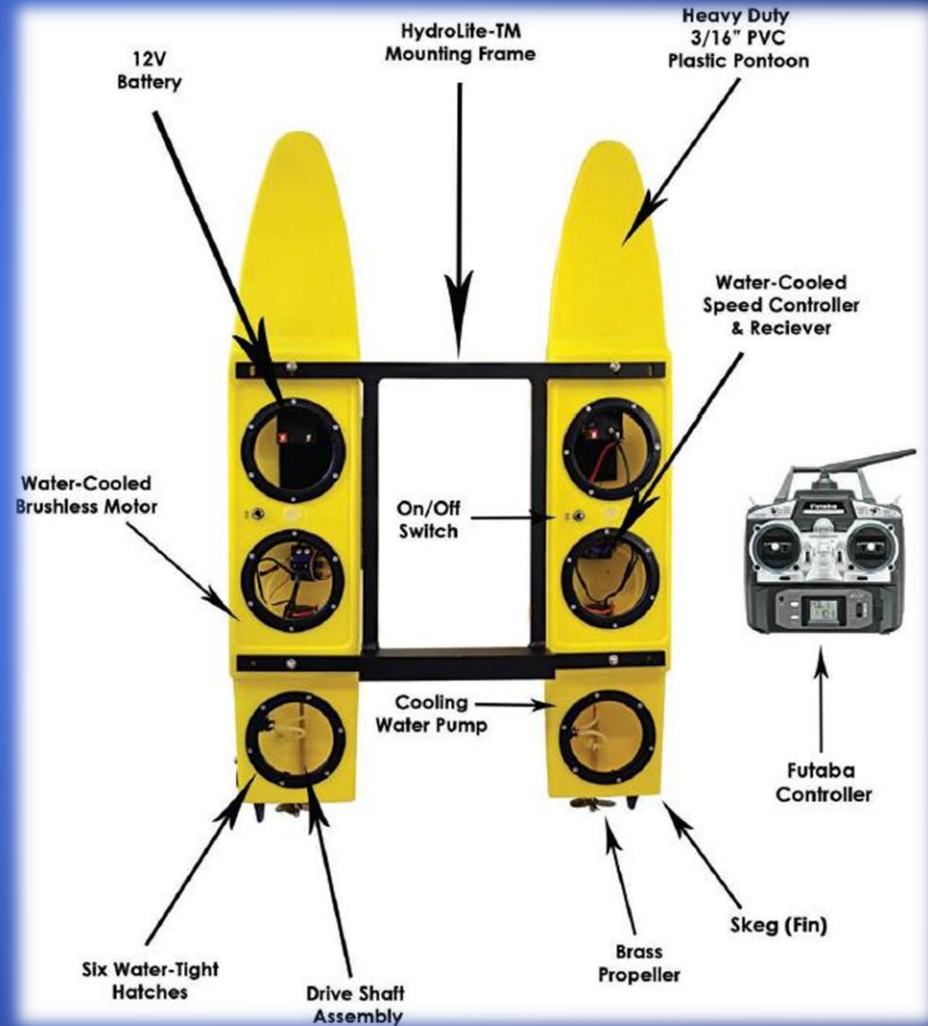
Hydrone – Positives ?

1997

2005

2010

2014

- **Stable multihull** √
- **KISS technology** √
- **Lightweight** √
- **Low cost** √
- **Flexible design** √
- **Towable** √

HyDrone - Basic Design Concept ...

- **Modular frame**
- **Independent Hulls**
- **ISM Radio Controlled**
- **Twin propellers**
- **Counter-rotation**
- **Flexible power**
- **Brushless motors**
- **Water cooled**
- **Easy access**

HyDrone Hydrographic use

- **HydroLite platform**
- **SonarMite E/S**
- **RTK GPS**
- **Robotic Total Station**
- **Local/Remote data**
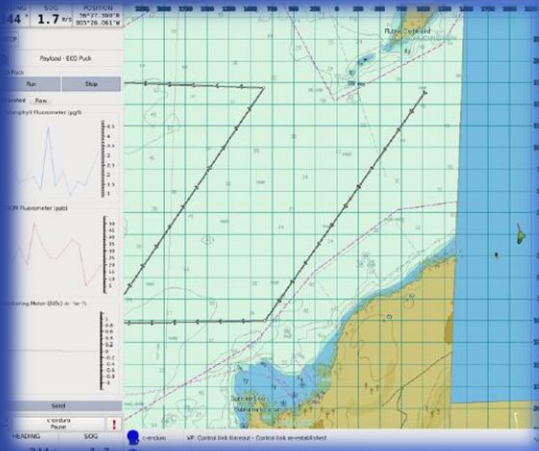- **Long work cycle**
- **Easy battery swap**

HyDrone
SonarMite Echo Sounder

- **Bluetooth + Serial**
- **Low power DSP Process**
- **Rechargeable batteries**
- **< 6Kg total weight**
- **Integrated QA function**
- **8 Hour operation**
- **0.3 to 75m depths @ 2Hz**
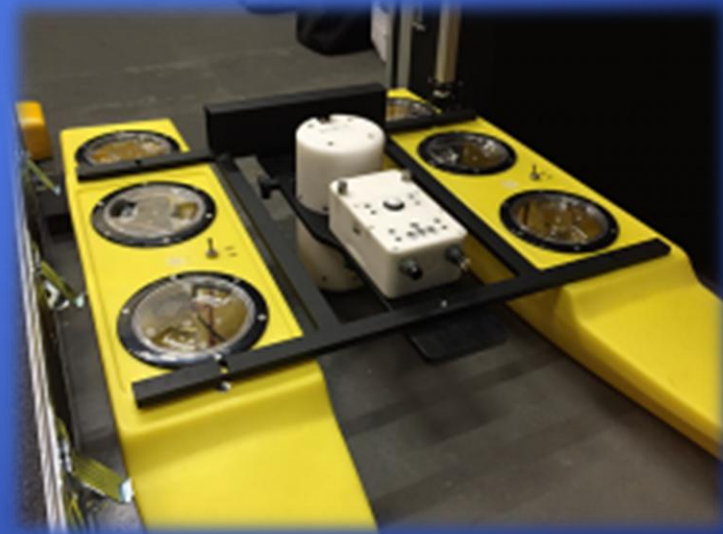- **235 KHz frequency**

HyDrone - Autonomous Operation

- **Unseen obstacles X**
- **Floating Debris X**
- **Planning required X**
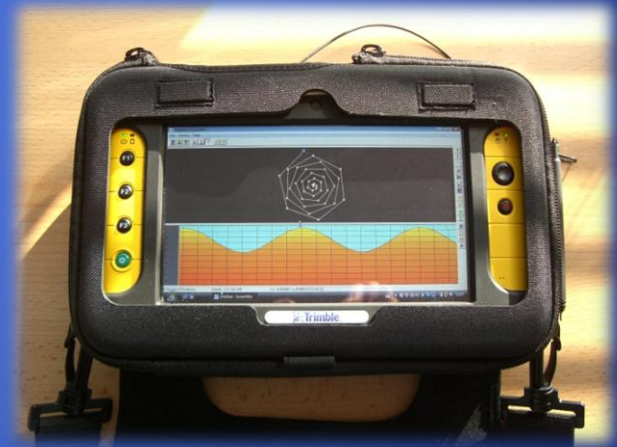- **High skill overhead X**
- **Semi Autonomous √**

HyDrone
Stable platform

- **<20Kg Payload**
- **SonarMite DFX**
- **ADCP flow meter**
- **O$_2$ Water Quality**
- **Geophysics**

HyDrone – Software

- **Xylem - Hypack**
- **QPS - Qinsy**
- **Ohmex - Tablet/PDA**
- **Trimble - Access, Hydropro**
- **Sitech – SCS900**
- **Leica – Viva, Captivate**
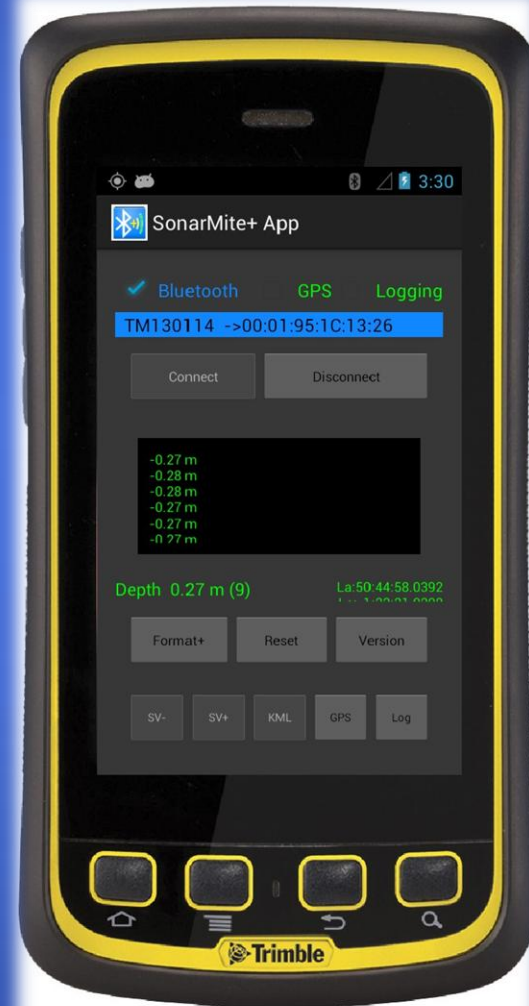- **Topcon – Magnet, Topsurv**
- **Carlson - SurvCE**

HyDrone – Android BYOD

Further Information - Q&A ?

- www.seafloorsystems.com
- www.ohmex.com