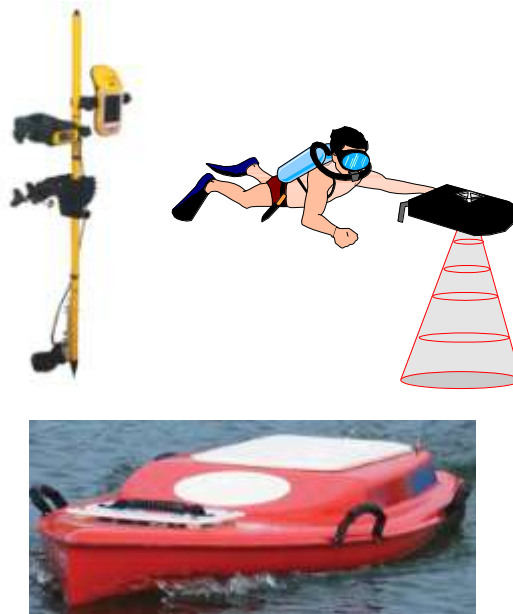


# PROJECT RBPS



## RAPID BEACH PROFILING SYSTEM (RBPS) An Outline Proposal

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## BACKGROUND SYSTEM HISTORY

- In 1999 we were asked to prepare a proposal for a swimmer based hydrographic system based around our then SonarLite echo sounder system. This price was submitted as a sub-contract to an existing MOD contractor to the Royal Navy.
- In 2000 Ohmex demonstrated the SonarLite system along with the VideoRay mini ROV to the MOD at the Diver Training School at Whale Island, Portsmouth.
- In 2002 the SonarLite was supplied as part of a large Leica surveying instrument order placed by the MOD and used by the Royal Engineers from their base in Chatham.
- In 2003 the SonarMite (v1) system was designed using principals laid out in the paper presented to the RICS journal entitled ***“Winstrument – A new concept in Instrumentation”***.
- In 2005 the HydroLite XT system was built by Seafloor Systems in the USA using the Trimble GeoXT combined GPS and PDA with a SonarMite (v2) echo sounder with combined HPR accelerometer sensors.
- In 2006 the first HydroLite systems were sold to the US Army Corps of Engineers mainly for use in shallow water surveys of rivers, levies and estuaries.
- In 2006 the system was demonstrated to the Royal Marines at Instow in Devon. At their request an extension was added to the post-process software to output selected gradient data from a beach profile survey.
- In 2007 the first HydroLite (v3) systems were sold to the US Army Divers as SOAS (survey on a stick).
- In 2008 the HydroLite MAX system was produced running from a ruggedized Trimble Tablet PC and using RTK GPS positioning.
- In 2010 the MILspec SonarMite(v4) was designed to make use of MIL spec rugged connectors as requested by military users.



**HydroLite XT System**

## **PREAMBLE**

The description of the RBPS device is very similar to the existing HydroLite product designed built and sold by Ohmex Ltd. As the HydroLite is a 'tried and tested' system in daily use by Hydrographers around the world the design being proposed will be based on the same technology. As part of our presentation we will submit the specification for the SonarMite device together with a copy of the SonarVista software as the basis for evaluation of the existing system.



**Typical Trimble PDA Platforms**

## INNOVATIVE PROPOSAL

The basis of our innovative proposal is that the operational requirements of a working RBPS will vary greatly depending on latitude, GPS availability and any existing chart/satellite coverage. Our proposal is that we will offer our base COTS system currently in operational use as the HydroLite system together with a wide range of M&M (mix & match) options to enable it's use in a wide range of scenarios as required. Most M&M options are commercially available from Trimble (our GPS partner) or from Ohmex Instruments. Our proposal is also that the system will be integrated with existing C&C systems to not only provide a practical solution but one that is fully integrated with existing systems and on-going training and support mechanisms.

## PRE-MISSION PLANNING

Using existing ULTRA software systems to pre-plan the mission objectives and to create working 'waypoint' files for downloading into the HydroLite data collection software.

## MISSION EXECUTION

Ohmex portable HydroLite system including the following components ...

- Low power SonarMite echo sounder c/w charger
- Trimble GeoXT GPS positioning system c/w charger
- Integrated Windows Mobile 6.2 PDA for datalogging and HMI
- Ohmex PDA data collection software
- Pelican IP68 carry case c/w integral foam insert.
- 3 Section transom mounting pole and clips.

## POST-MISSION ANALYSIS

Make use of existing software for post mission analysis and planning.

- Ohmex SonarVista - Cleaning and preparation of data for primary analysis and display. Export to a wide variety of Spreadsheets, CAD, GIS and Google Earth. Includes primary beach gradient software written for previous contract.
- Ultra Post Mission – Chart preparation, logistics etc.

## TRAINING & SUPPORT

To be tailored within existing ULTRA training arrangements to suit client.

## RELATED SYSTEM DEVELOPMENT

The following Mix & Match Components can be used with the existing system on a plug and play basis, the components are not included in any pricing shown as most are COTS products that have already been tested with the HydroLite system. Items shown marked with an asterisk need further development and testing before they become fully operational.

- RTK GPS – High precision GPS using local/satellite services.
- Ruggedised solid state PC (e.g. Trimble Tablet).
- Tide Gauge for local tide reference. (e.g. Ohmex TideM8).
- Hypack + Trimble Tablet + SonarMite
- \*ROB - Remotely Operated Boat (OceanScience Q Boat).
- \*INS – 6DOF Inertial Navigation System (IXSEA FOG).
- \*SAP – Swimmer Assisted POD (IP68 Cased IMU & Depth).

## **Links to related websites ...**

[www.ohmex.com](http://www.ohmex.com)

[www.lmtech.co.uk](http://www.lmtech.co.uk)

[www.seafloorsystems.com](http://www.seafloorsystems.com)