



The ESA Business Incubation Centre in Harwell, UK, started its operations in 2011 and is managed by the Science and Technology Facilities Council (STFC). It is located at Harwell Campus, a world leading science, technology and business campus based in South Oxfordshire with more than 4,500 researchers, engineers and innovators from over 150 high-tech organisations, and a focal point and cluster for the UK's rapidly growing high-tech space community.

TeamSurv

Over 95% of our seas are inadequately mapped. TeamSurv is using the crowd to fix this.



Website

Founded in 2013 by

- **Tim Thornton**

Incubation period

01-10-2013 to 01-10-2014



space solutions

Alumni

About TeamSurv

Large proportions of the seas are unsurveyed – we know the surface of Mars better than the depths of our seas, and survey data from Captain Cook & others in the 1700s is still in regular use. Filling this data gap is important not just to fill our knowledge of this planet, but also for safe navigation of ships & boats, and to manage both living & mineral resources.

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The challenge

There is a significant need for better bathymetric (depth) data, but there are significant problems in collecting it. Survey vessels provide excellent, high quality data, but are also expensive at about £3000/sq.km. Satellite data can be used, but optical satellites can only be used in clear waters of up to 10 or 20m depth, and data derived from satellite altimetry is very coarse, giving an average depth over a 10 or 20 sq.km. TeamSurv aims to fill the data gap by widespread recruitment of vessels to log data that we process, providing data that, whilst not as accurate as that from a professional survey vessel, is good enough for most applications. By having vessels measuring depths all of the time, we can pick up changes in depth more quickly than relying on regular periodic resurveys.

The solution

We recruit an ever-expanding fleet of vessels to log data, either using their existing instruments or supplying our data logger. They record position and time from their GPS and depth from the echo sounder as they go about their normal activities, and periodically upload their data to our servers.

As we receive new data, it is automatically processed, correcting for factors such as height of tide, and the effects of water temperature and salinity on depth. We then combine the tracks using a set of statistical algorithms that we have developed, which remove the effects of any poor quality data, and produce a gridded map of depths and quality metrics.

This gridded data can be supplied as-is to chart publishers and other data aggregators, or we can continue to create a map for GIS use, with the conventional shading, contours etc.



Data Logging



Software logger



Hardware logger



Chart plotter



Web server



Google Maps Server

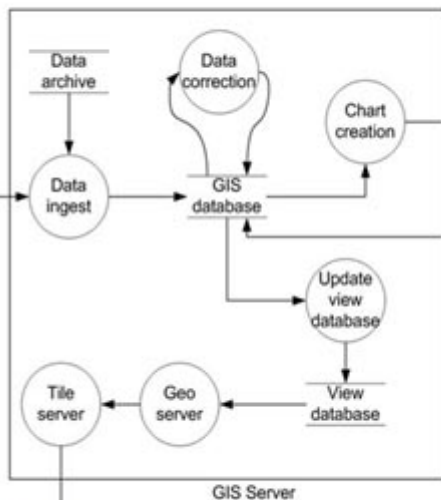


Chart datasets



Tide heights
Tide gauge data
Sea temperature
Salinity

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