

CodaOctopus Newsletter

June 2014

Inside This Issue

- 1 Message from the President of Technology
- 2 Echoscope Applications
- 2 Mosaic+
- 3 Underwater Survey Explorer
- 3 New Product Releases
- 4 Echoscope Projects

We hope that this will give you the opportunity to publicise some of your successes and to learn from others

Introduction

Welcome to the first edition of the Coda Octopus Agent Newsletter. Our aim is to publish a newsletter on a quarterly basis to advise our agents' community of new products, look at new applications for our underwater technology and keep everybody up to date with developments within the subsea industry.

We hope you enjoy this first edition.

Message from Blair Cunningham our President of Technology

Our Agents' network is vital to our success. As such through our Quarterly Newsletter we would like to share information on some of our "novel" projects where our patented real time 3D sonars, Echoscope® and Dimension® are making a difference to the customer.

We hope that this will give you the opportunity to publicise some of your successes and to learn from others and apply these success stories in your own markets.

We run an open door policy and we would like to invite each of our agents to contact me directly with any questions or suggestions concerning our technology. My contact details are: blair.cunningham@codaoctopus.com

Echoscope Applications

Through discussion with customers and agents worldwide we would like to introduce some of the ways that CodaOctopus' Echoscope® is being used in construction, inspection and subsea intervention tasks, yielding massive productivity gains for operators around the world.

The most productive and integrated sidescan mosaicking solution for the marine survey industry

The following link illustrates the number of various applications of the Echoscope®.

Address on Youtube is

<https://www.youtube.com/watch?v=KYMMu-Z39aw>

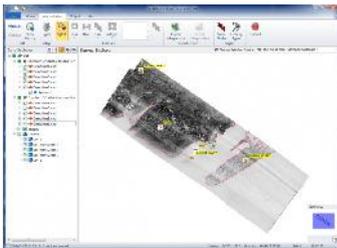
CodaOctopus Underwater Survey Explorer (USE)

To help you to educate our customers on the features and capabilities of USE we are releasing from time to time training videos, such as our first recently released USE video. This gives good information on USE and its features and can be found here:

<https://www.youtube.com/watch?v=etUwCNmeZQg>

Mosaic+

Our New Release of Survey Engine Mosaic+ and Pipeline Inspection is the most productive, integrated sidescan mosaicking solution for the marine survey industry. Built with 20 years of experience of producing leading geophysical survey solutions, Mosaic+ will incorporate an extremely powerful data rendering engine that can cope with huge data sets at full resolution.



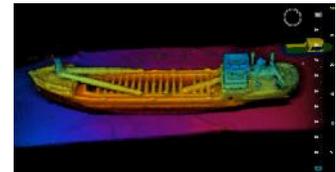
Survey Engine Mosaic+

Coupled with an extremely intuitive user interface and with full integration with the existing Survey Engine applications: Seismic+ and Sidescan+, Mosaic+ allows the user to produce the highest quality mosaics and feature interpretations in the shortest of timescales.

Underwater Survey Explorer V6

USE V6.0 is the next major release of the innovative visualization and processing software suite for the Echoscope® range of real-time 3D sonars. The software provides the next generation platform supporting the latest complementary hardware tools and features for improved capability, performance and repeatability.

- **New** Software Licensing support that offers flexibility for short-term upgrades and additional seats on demanding projects
- **New** Patch Test feature integrates a complete hydrographic patch testing methodology to survey and mapping applications
- **New** Pan & Tilt native support for the Coda Octopus IPT range of pan and tilt systems
- **New** Time Lock native support for the Cods Octopus range of Time Lock PSUs providing 1ms sonar ping time-stamping
- **New** Electronic Service Record provides full reporting and servicing for your 3D sonar to aid in diagnostics, servicing and maintaining optimum performance from your investment



Real time imagery within Underwater Survey Explorer

New Product Releases

Pan and Tilt

CodaOctopus® 3D Integrated Pan and Tilt products are high-performance units designed to meet the demanding requirements of precise orientation and position control of our real-time 3D sonar range and in particular the Echoscope® and Dimension® range.

Ruggedised Protection Cage

The 3D Ruggedized Protection Cage provides a rugged enclosure for the protection of Echoscope® and Dimension® sonars in exposed and harsh environments.

The cage incorporates four shock isolation mounting points for the sonar head which deliver protection from shock and high frequency vibration and ensure continued operation in demanding environments.

Time Lock PSU

The Time Lock Power Supply keeps your CodaOctopus Echoscope® sonar accurately synchronized to an external time source. With a synchronization accuracy of 1 millisecond, your Echoscope system will be synchronized with your time source for the duration of the survey.



Echoscope® Projects

SINTEF Trondheim, Norway - Acquisition of air plumes for mathematical models.

SINTEF is one of the largest independent research organisations in Scandinavia. It is a broadly based multidisciplinary research concern that possesses international top-level expertise in technology, medicine and the social sciences.

In May 2014, SINTEF started evaluating different sensors, including the Echoscope® for data acquisition of air plumes. The Echoscope® was used to acquire the 3D shape of the air plume and monitor the correct position and alignment of all the sensors and frames used in the sea experiment (30 meters water depth).

The Echoscope® data will feed mathematical models and algorithms which will be the main tool to evaluate different material spills and develop new technologies mainly for the oil and gas industry, for example a new method of fighting oil-spills with curtains of air-bubbles.

<http://www.sintef.no/home/SINTEF-Materials-and-Chemistry/News/Fighting-oil-spills-with-air-bubbles-/>

California Department of Transportation (DOT) infrastructure inspection project.

The California Department of Transportation (Caltrans) maintains nearly 25,000 bridge structures. Each bridge requires a superstructure inspection every 2 years and a substructure inspection every 5 years or less if warranted by DOT staff.

Caltrans is looking for more efficient technologies to help them manage their bridge infrastructure. Over the past 3 years, Caltrans has been working on a pilot program that is evaluating whether commercially available sonar systems can be used to perform basic Level I Bridge inspections. Coda Octopus was one of four companies to participate in this project.

In April 2014, Coda Octopus scanned two bridges in San Francisco, California using its patented technology, the Echoscope®. The results were to be evaluated on 4 criteria : 1) Safety for operator 2) Data quality results and repeatability of data over successive scans, 3) How easy to deploy in various environments, and 4) Post processing requirements and turnaround time for data to be used to make decisions.

The initial feedback has been very positive for visual data accuracy and evaluators remarked that the Echoscope provided the clearest images. This project was sponsored by Caltrans in collaboration with the Federal Highway Administration (FHWA) and other DOTs. A Final Report is expected to be issued later this year but clearly the Echoscope® established itself as a viable tool for these types of inspections.

Coda Octopus 3D Workshop with US Army Corps of Engineers, Jacksonville District

The Jacksonville District of the U.S. Army Corps of Engineers (USACE-SAJ) has one of the largest coastline and waterway responsibilities in the United States. It is also responsible for regulating navigation to the 8 major ports in the State of Florida, which includes construction permitted activities such as maintenance dredging, port expansions, environmental assessment and remediation.

In May 2014, Coda Octopus and a group from SAJ met for an on-water workshop to evaluate missions that the Echoscope® could be used for to improve the capabilities and efficiency of their workflows. The primary applications that were identified by the Corps was: 1) Wildlife monitoring during construction 2) Coral Reef Mapping 3) Seagrass Mapping and Monitoring 4) Dredge Progress Monitoring with 3D models 5) Rapid Response to Emergency Events 6) Coastal Infrastructure Inspection and Management .

As a follow up to this meeting, Coda Octopus and the SAJ staff are putting together specifications and requirements that allow the Echoscope® to be used in future operations.