



## Benefits

- Rapid analysis and report generation
- Save significant time and cost
- Eliminate laborious manual boulder recording
- Easily create deliverable reports of findings

# Automatic boulder detection for sidescan sonar

**The Survey Engine® Automatic Object Detection Package (“SEADP”) automatically detects boulders on the sea bed, and generates a comprehensive report on each detected boulder. In addition to the detection of each boulder using AI, the SEADP automatically computes the boulder position, length and height to further automate the vital analysis of the seabed condition, saving time and cost.**

SEADP a new product for the subsea geophysical market which is based on algorithms designed and developed around artificial intelligence (AI) techniques. It is supplied with Survey Engine Sidescan+ and Survey Engine Mosaic+, two fully integrated software packages which produce high quality mosaics, speeding up sidescan data processing, interpretation and processing for large sets of data resolution.

Based around a flexible database, Survey Engine gives fast access to all survey information, even from the largest datasets. Integrating this software with SEADP takes the user from raw data files to fully interpreted and defined GIS or CAD deliverables in a seamless, integrated environment.

As with all of our products, SEADP, Sidescan+ and Mosaic+ are backed up by 24/7 Technical Support and software maintenance program ensuring assistance is at hand whenever and wherever you require it.

## Inputs

Survey Data	CodaOctopus (.cod); Extended Triton Format (.xtf); EdgeTech (.jsf); Sonar Equipment Services (.ses); Seismic data in SEG-Y and above formats (with Seismic+ option).
GIS Overlay Images	Tagged Image File Format (.tif, .tiff); AutoCad®DXF™ (.dxf).
Corrected Navigation	CodaOctopus Corrected Navigation Format (.cnv)
GIS Objects	Any file in any format can be imported and launched in their own viewer

## Outputs

Image Output	Tagged Image File Format (.tif)
Vector Output	AutoCad®DXF™ (.dxf)
Report Output SEADP	Length, width, height, position, and snapshot list of each boulder
Report Output Features	Microsoft® Excel Worksheet (.xls); AS-CII text (.txt, .csv); Extensible Markup (.xml); Webpage format (.html)

### Features (SEADP)

**Automatic Boulder Detection**  
to efficiently and effectively identify subsea boulders on the seabed

**Identify each boulder on mosaic**  
in easily defined areas by the user

**Generation of reports in multiple formats**  
including ASCII Test Format, HTML, Microsoft Excel Worksheet, and XML

**Rapidly generate reports to define boulder characteristics**  
such as length, width, height, position, and a comprehensive list of boulder snapshots

### Features (Survey Engine Sidescan+ and Survey Engine Mosaic+)

**No data subsampling compromises**  
view your data at the full acquisition resolution and beyond for enhanced feature interpretation.

**Supports very large projects**  
import many thousands of line kilometers into a single project.

**Interpret mosaic or sidescan window with quick filtering of interpretation types**  
to perform your interpretation in either window and see your results in both.

**Mosaic survey line transparency**  
full support for full and partial survey line transparency within the mosaic to produce superior quality mosaics

**Improved mosaic navigation performance**  
with the use of an increased number of zoom layers that improve the overall performance of navigation

**Large choice of output formats**  
extremely high resolution mosaic images can be exported in GEOTIFF format and interpretation exported in GIS, CAD, Excel, or ASCII

**Support for Seabed Survey Data Model (SSDM)**  
from data file through to GIS in a seamless transition

**Efficient and intuitive seabed tracking feature**  
seabed is tracked effortlessly with powerful seabed tracker

**'Objects' feature to assist with interpretation**  
import geotechnical and other contextual data to aid interpretation

**GIS Overview**  
shows the track of every line in the survey

**Preliminary mosaics generated during project import**  
are displayed to provide a quick view of project data and increase project efficiency

**User configurable interpretation types**  
with ability to share between projects

**Powerful and flexible reporting tool**  
allows fast generation of Excel®, ASCII, CSV, HTML, and XML format reports

### System Requirements

	Minimum	Recommended
Processor	Quad Core -2.0 GHz or faster. 64 bit supported	Quad Core - 2.0 GHz or faster. 64 bit supported
Memory	8 GB	16 GB or more
Hard Disk	2 GB disk free	5 GB disk free
Display	Single Display 1920x1080	Dual Display 1920x1080
OS	Windows 10. 64 bit supported	Windows 10. 64 bit supported
USB Port	1x USB port for security key	1x USB port for security key
Graphics Card	NVIDIA GTX1050 Ti	NVIDIA GTX1050 Ti

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