



3D at Depth



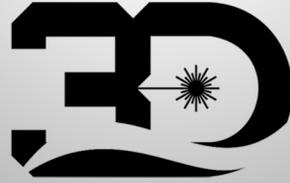
Subsea Survey Support Services
3D Subsea LiDAR Laser Systems

Ignite the Green

www.3datdepth.com



ABOUT US



3D at Depth

3D at Depth, Inc. is the world's leading expert in subsea LiDAR laser technology. Our advanced subsea LiDAR systems and survey support services transform the value of underwater 3D data. From data collection and processing, through visualization and analysis, our solutions deliver precise, accurate, repeatable, millimetric 3D point clouds to measure, map and evaluate underwater assets and environments.

SURVEY SUPPORT SERVICES:

3D Data Collection, Management, Visualization and Analysis Services
Virtual Reality Immersive Collaboration Platform
Advanced Engineering and Design
Survey Support Integration Services

Products:

Subsea LiDAR (SL) Laser Technology
Dynamic LiDAR Moving Platform

Benefits:

Increase Survey Efficiencies
Measure in 3D, Manage in 4D
Reduce Operational Costs
Total Asset and Environmental Awareness

Our office locations
support client survey
operations around the world:

Longmont, Colorado

Houston, Texas

Norwich, United Kingdom

Perth, Australia

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Survey Support Services

Our Subsea Survey Support Services optimize underwater survey campaigns through a comprehensive range of client deliverables designed to enhance workflow efficiencies, support engineering analysis, and provide insight into long-term asset and environmental integrity. From data collection and processing, through visualization and analysis, clients can reduce risk, increase survey efficiencies and extract greater insight from their underwater 3D survey data.

Precise, Accurate, Millimetric Point Clouds
for the Next Generation Digital Oil Field

3D Data Collection, Management, Visualization and Analysis
Virtual Reality Immersive Collaboration Platform
Advanced Engineering and Design
Subsea Integration Services

3D Data Collection, Management, Visualization and Analysis

Our multi-tiered data services start with base equipment leasing and sale of support components, to the development of LiDAR derived datasets for engineering analysis. Each tier requires specific software tools and skill sets and are priced accordingly. All data deliverables are developed based on client requirements.

Tier 7	LiDAR Data processing to support engineering analysis
Tier 6	Data integration for systems such as GIS, VR, CAD, Data management systems
Tier 5	Data processing for point to point and angular measurements, metrology
Tier 4	Point cloud manipulation, registration and output
Tier 3	Onshore projects support, procedures, planning and project management
Tier 2	Offshore support services, online, offline, LiDAR integration and collection
Tier 1	Subsea LiDAR equipment leasing and sale of ancillary support components

One tool, multiple applications with 3D data delivered in a cohesive industry standard data format. 3D at Depth's offshore survey support team also provides expertise in the following areas: Inertial navigation, online survey operations, legacy 3D acoustic data collection and LBL products.

Access our entire Subsea Support Service listings at www.3DatDepth.com/Services



Virtual Reality Immersive Collaboration Platform

The Virtual Reality Subsea LiDAR Platform “Powered by IQ3Connect” is an immersive collaboration tool connecting multiple users and key decision makers via any laptop, desktop or smart device through a secure web portal. Clients can access subsea LiDAR data collected through 3D at Depth’s SL laser technology and processed into highly accurate, millimetric 3D point cloud data sets, through the VR platform. The digital representation of physical assets or the surrounding environment creates a seamless workflow environment from reality capture to virtual immersion.

Measure, Map and Evaluate Underwater Assets and Environments:

- 3D Modeling and Measurements (+/-) 2 decimal placements
- Integration and exports into any existing GIS system or CAD based platform
- High accuracy modeling of assets, structures and underwater environments

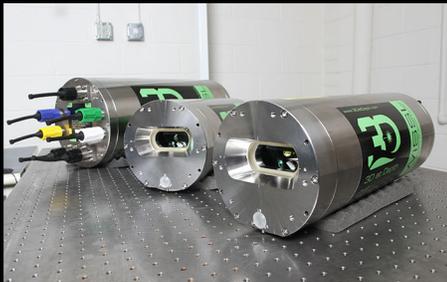


Immersive Collaboration
Powered By [iQ3Connect](#)

Advanced Engineering and Design Services

Our professional engineering and design team provides technical expertise and best practices for the development, design and build of custom engineering projects for subsea and marine customers worldwide.

3D at Depth engineering capabilities are built around our high-level optical design, software control, and data processing expertise.



Services Include:

- | | |
|-------------------|--------------------|
| Optical Design | Data Processing |
| Software Design | System Engineering |
| Electronic Design | Manufacturing |
| Mechanical Design | Test |

Survey Integration Services:

3D at Depth’s global team of professionals have extensive industry experience and know how for air-to-water interfacing of sensors for a wide variety of off-shore applications.

Capabilities Include:

- Turnkey solutions for diver systems, ROVs, AUVs and surface vessel integration, along with remote sensing and statically deployed packages.
- Full-cycle project development from conceptual design, delivery and production of operational devices.



Dynamic LiDAR Moving Platform

The Dynamic LiDAR Moving Platform is a tightly coupled subsea LiDAR and Inertial Navigation System (INS) data collection technology that increases subsea survey efficiencies in terms of speed, accuracy and coverage. The subsea LiDAR system provides different scan patterns only available through a controllable beam. Data collection resolution can be configured by the user for defined cross and forward track resolution. The result is a mobile mapping solution with unparalleled range and measurement repeatability while the vehicle is in motion. These key capabilities provide minimal risk to collision for congested areas and sensitive archeological, historical and environmental sites.

- Accurate, Precise, High Density 3D Point Clouds
- Flexible Deployment and Integration with ROVs, AUVs, surface vessels and diver systems
- Non touch, low environmental footprint
- Controllable beam: configurable for high density scanning of objects/assets/environments
- Depth Rating: SL1 – 3,000m

SL3

The SL3 portfolio of LiDAR technology delivers precise, repeatable millimetric 3D point clouds for high accuracy underwater surveys. Features include flexible integration with any ROV, AUV or diver deployed systems, a depth range of 3,000 meters and a long range (up to 45 meters), steerable beam that places photons where you want them, when you want them, for total asset awareness.

SL Specifications		
Performance		
Measuring Method	Time of Flight (ToF) Pulsed	Pulse Repetition Rate 40kHz
Range	Min 2m, Max 45m	Turbidity Dependent
Field of View	360° Pan 90° Tilt	30° x 30° Sectors
Single Point Range Precision	±6mm @ 2-40m, 1σ	
Modelled Surface Precision	2mm (subject to methodology)	
Distance Measurement P2P	±2mm, 1σ	in air; calculated distance measurements are ±1mm, 1σ
Angle Precision	<100 μrad, Horiz & Vert	
Beam Divergence. 1/e 2, full width	0.025°	Typical. Varies with water conditions.
Beam Footprint , 1/e 2, full width	@10m = 4.5mm, @20m = 8.6mm	Typical. Varies with water conditions.
Scan Density	Fully selectable in both horizontal and vertical; <1 mm minimum spacing, through full range.	
Max Number of Points per Scan	1450 x 1450	2.1 million points per scan
Pan and Tilt Accuracy	±0.05°	Calibrated Pan & Tilt
Pitch and Roll Accuracy	±0.025°	Dual axis logging
Operating Temperature	-5°C to 35°C	
Laser Class	Class 1 (air) to Class 3B (Subsea)	
Ambient Lighting	Fully operational in bright sunlight and complete darkness	
Point Cloud Format	RIATT (Proprietary data format)	
Power & Communications		
Power Supply	24V DC	110V AC PCI Bottle incl.
Power Consumption	225W at 7.5A DC (incl. Pan & Tilt)	150W at 6A DC (No Pan & Tilt)
Data Transfer	Ethernet GBit LAN	Internal 1TB SSD
Physical Properties		
	Optical Canister (SL2-O)	Electronics Canister (SL2-E)
Pan / Tilt	Pan - 350 deg bi-directional	Tilt +/- 30 Deg Bi-Directional
Length	16.34in 415mm	14.0 in 355mm
Outside Diameter	6.94in 176mm	8.27mm 210mm
Weight	Air: 59.3 lb 26.89kg Water: 36.4 lb 16.51kg	Air: 40.8 lb 18.5 kg Water: 12.9 lb 5.85 kg
Depth	3,000m Standard (4,000m optional)	



3D at Depth

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AUGMENTED REALITY
Application Download



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