



## Benefits

- Accurate decision making & threat assessment in real-time directly on the vessel
- Real-Time 3D high resolution imagery and surface video, day or night and in zero visibility conditions
- Rapid response deployment and operations with instant visualization
- Enhanced security through easier identification of threats in real-time
- Reduced diver inspection time and enhanced real-time support
- Lower port operating costs through preventative berth inspection and maintenance
- Reduce construction project risks and increase safety through accurate and real-time situational awareness
- Continuity of port operations by lowering unscheduled disruptions and rapid response to incidents

## UIS 4G Rapid Deployment System

The CodaOctopus® Underwater Inspection System<sup>4G</sup> is the latest advancement of the UIS rapid deployment system, an industry proven real-time visualization solution that has served the maritime security, law enforcement and asset management sectors for over 10 years. With over 30 ports and agencies using the UIS platform, the UIS<sup>4G</sup> offers the same high resolution, real-time 3D monitoring in a lighter and more compact package allowing smaller teams and vessels to utilize this unique technology.

**“It’s almost a picture quality image of what’s going on down there. It’s an unbelievable tool that can help keep the port safe.”**

Sergeant Dan Laval, San Francisco Police Department

The speed and ease of deployment of the UIS<sup>4G</sup> system allows for instant inspection and rapid identification of dangerous anomalies, IEDs and suspicious objects, even in zero visibility water conditions and without reliance on divers. The intuitive and reliable 3D real-time data is provided to the operator live, in almost photographic quality imagery, making assessment and understanding of the underwater environment efficient and simpler without the need for a sonar specialist or hydrographic surveyor.

The UIS<sup>4G</sup> allows security and law enforcement teams to regularly inspect their underwater environment, building a detailed understanding for anomaly and change detection. The UIS<sup>4G</sup> software compliments this ease of analysis with the Baseline Comparison feature, providing side by side live comparison to a known safe sweep of the area. Applications for the system extend to evidence recovery, ship hull scans, and the ability to support real-time dive missions providing navigation and monitoring of the diver.

Maintaining port operations and its critical infrastructure is vital for owners and operators. Asset management applications including shipping channel dredge inspection, quick damage or spill assessment and high resolution mapping of the critical infrastructure and assets to assist port engineers in maintaining the integrity of subsea structures are all part of the capability of this versatile technology.

## Applications

- Maritime Security & Law Enforcement**
  - Critical Infrastructure Mapping
  - Ship Hull Scans
  - Baseline Comparison
  - Evidence Recovery
  - Diver Support
  - Live Monitoring of Operations
- Port Management**
  - Construction and Expansion
  - Inspection and Maintenance
  - Dredging and Deepening
  - Bulkhead Maintenance
  - Berth Monitoring
  - Ship channel Surveys
  - Storm Damage Assessment
  - Shoaling
  - Habitat Monitoring

### Technical Specifications

Performance (by Model)	UIS4G
<b>3D Real-time Sonar</b>	Echoscope4G® Surface
Frequency	Dual Frequency (375 and 630 kHz)
Maximum Range	120 m (394 ft) at 375 kHz 80 m (262 ft) at 630 kHz
Minimum Range	1 m (3.3 ft)
Range Resolution	3 cm (1.2")
Update Rate (Ping Rate)	Up to 12Hz
Angular Coverage	50° x 50°, 24° x 24° software switchable
<b>Motion</b>	
Positional Accuracy (CEP)	F190+
Roll/Pitch (1σ)	0.025° (RTK)
Heading (1σ)	5 cm or 5% 3.5 cm or 3.5% (iHeave™)
Velocity (1σ)	0.05 km/h
<b>Camera</b>	Day/Night Camera
<b>Control Module</b>	3D Connect
<b>Accessories</b>	Laptop USE Pro Software



### New to UIS4G

The UIS4G utilizes the recently released 4<sup>th</sup> generation of real-time, 3D sonars, the Echoscope4G® Surface. The Surface was designed specifically for water applications, and its 50% lighter and its 40% smaller form factor allows safe single user deployment from a much wider range of small inspection craft including the growing availability of autonomous surface vessels. New at the heart of the UIS4G is the 3D Connect providing a very compact and comprehensive integration point and power solution for all Echoscope real-time 3D sonars, single and dual-axis rotators, above water day/night digital camera, included GPS aided inertial navigation system, the F180 Series as well as a range of additional sensors to further extend the system's capabilities. To complete the integration package, the complete system is managed and operated using the USE (Underwater Survey Explorer) UIS edition software from a laptop computer.

