

PORTFOLIO OF OCEAN BOTTOM  
SENSING SOLUTIONS FOR RESEARCH AND  
CRITICAL INFRASTRUCTURE SYSTEMS



# Atlantis

# TAILORED OCEAN BOTTOM SENSING SOLUTIONS

Nanometrics' Atlantis portfolio offers innovative seismic sensing solutions that help address the challenges of ocean bottom deployments, while offering the reliability and data quality that our seismic instrumentation is known for. Engineered with the benefit of decades of experience and industry collaboration, Atlantis seismic sensing solutions offer the breadth of solutions for multidisciplinary research as well as offshore earthquake and tsunami early warning. Work with Nanometrics to discover tailored seismic solutions for any OBS deployment type with unparalleled data quality, flexibility, and reliability, to enable groundbreaking research and responsive critical networks.



## Data Quality, Without Compromise

Expect the same high-performance, low-noise data acquisition with Nanometrics for your ocean bottom deployments as terrestrial deployments.



## Innovative Technology for OBS

Innovations that address the complexities of deploying on the ocean bottom, such as purpose-built pressure vessels and sleds, reliable self-leveling mechanism, and compact, ultra-low power instrumentation with industry-leading performance.



## Customizable Solutions

Each OBS deployment is unique. Our team works closely with researchers and industry to tailor seismic sensing solutions to meet the goals and operational constraints of each project.

## Featured Customers



## Abalones

### For Autonomous Deployments Up To 20 Months

The Abalones provides an ideal platform for autonomous OBS experiments that provides research institutes worldwide with unparalleled seismic technologies and geophysical studies on the seafloor. It uses Scripps Institution of Oceanography's versatile OBS deployment technology, a very stable, trawl resistant design and robust, conformal syntactic foam-based floatation frame. The Abalones releases the seismometer directly onto the seafloor to achieve optimal seismic coupling to the earth and mechanical decoupling from the frame, but still surrounds the seismometer, shielding it from ocean currents to minimize unwanted environmental noise.

#### Key benefits

- Supports a range of Nanometrics broadband/very-broadband seismometers for best-fit sensing capability
- Seismometer interfaced with noise-free auto-leveling kinematic gimbal (tilt-correction  $\leq 360^\circ$ ), always retaining system's full dynamic range
- Integration of hydrophone, differential pressure gauge, digital sensors (such as temperature, pressure, turbidity, or ADCP) enables further customization



## Atlantis Cabled Observatory

### For Permanent, Observatory Class Seismic and Multidisciplinary Deployments

The Atlantis Cabled Ocean Bottom Seismic Observatory (Atlantis Cabled Observatory) provides the reliability, flexibility, and high-fidelity, real-time data required for groundbreaking multidisciplinary research projects and low-latency early warning systems. The Trillium 120 or 360 OBS seismometer, Class A Titan Accelerometer, and best in class Centaur Gen5 data logger are integrated into a single, cabled system that provides high-quality ocean bottom seismic data acquisition and management.

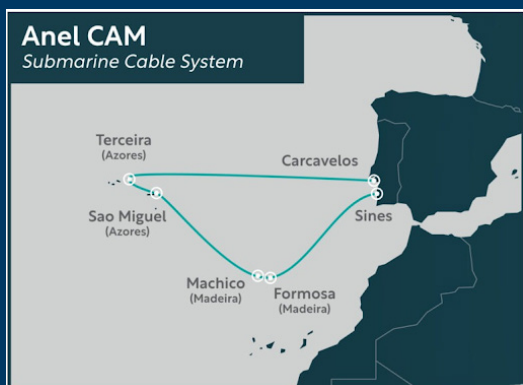
#### Key benefits

- Expansion capabilities for additional serial and analog sensors, allowing you to tailor the system to your specific application
- Housed in a purpose-built titanium pressure vessel proven for deployments up to 6,000 meters
- Footings designed to offer optimal ground coupling and stability ensure data quality



## CUSTOMER FEATURE: THE FIRST COMMERCIALY AVAILABLE SMART CABLE

Scientific Monitoring and Reliable Telecommunication (SMART) cables represent an emerging area of development that addresses the data connectivity needs of the world in the largely uninstrumented swath of water bodies on the planet. Nanometrics collaborated with Alcatel Submarine Network (ASN) to engineer an integrated seismic instrumentation sub-system to fit within the confines of their SMART Cable Climate Change Node (CC-node). The integrated technology includes Nanometrics Trillium Compact OBS Module, Titan Accelerometer, and Pegasus Digitizer that have been customized for ASN requirements. ASN will deploy the first commercial SMART cable solutions in 2026. This technology will play a critical role in monitoring seismic activity and other environmental conditions, contributing to disaster preparedness and scientific research.



# EXPLORE ATLANTIS COMPONENTS

## OCEAN BOTTOM SEISMOMETERS

Nanometrics' extensive portfolio of reliable, high-performing seismometers have earned a reputation for high quality data and dependability. Choose from three OBS seismometers to fit the needs of your ocean bottom deployment - in its own instrumentation pressure vessel, in a system pressure vessel from Nanometrics, or your own pressure vessel.



### Compact OBS

The Trillium Compact OBS is an ultra-low power 120-second true broadband seismometer for ocean bottom deployments. The OBS vessel and gimbal design preserves the full performance of the land-based Trillium Compact seismometer, including its exceptional dynamic range and low noise floor.

#### Key benefits

- Ultra-low 195 mW power requirements for longer autonomous deployment longevity or smaller battery requirements
- Available in full titanium pressure vessel for deployments up to 6000m or an aluminum-anodized enamel painted vessel for up to 1800m deployments
- Noise-free auto-leveling kinematic gimbal (tilt-correction  $\leq 360^\circ$ ) ensuring the compact OBS will auto-level from all orientations
- State-of-Health logging includes case orientation providing a powerful data set for optimizing deployments



### Trillium 120/360 OBS

Combining exceptionally high-performance with ultra-low power, the Trillium 120 and 360 OBS are optimized for ocean bottom experiments. The Trillium 120 OBS provides the same exceptionally low-noise performance as our previous Trillium 240 OBS, while the Trillium 360 exceeds it.

#### Key benefits

- Self-levels up to a  $\pm 50^\circ$  tilt range to ensure a successful deployment on the ocean bottom
- The titanium pressure vessel is rated for 6000 m deployments and features proven glass epoxy connectors.
- State-of-Health logging includes case orientation providing a powerful data set for optimizing deployments

## OCEAN BOTTOM ACCELEROMETERS

Nanometrics Titan Accelerometers have been pre-integrated into our Atlantis Cabled Observatory and SMART Cable solutions, and can be adapted for deployments in customer or Nanometrics supplied pressure vessels. The Titan features industry leading dynamic range that, when combined with ultra-low self-noise performance, mitigates environmental noise resulting in accurate measurements and high quality data.

## DATA LOGGERS



### Pegasus OBS

#### For Autonomous Deployments

Every aspect of the Pegasus OBS ecosystem has been optimized to provide the greatest efficiency for autonomous ocean bottom experiments. The seamless, end-to-end workflow optimizes onshore and shipboard processes and delivers automatically constructed, ready-to-analyze data and metadata. The high-precision, low-drift timing system of the Pegasus OBS produces accurately time stamped data. With its remarkably small form factor and low power consumption, the Pegasus OBS digital recorder minimizes the cost of batteries, extends maximum experiment duration, reduces overall station size requirements, and simplifies integration into existing systems or new vessel designs.



### Centaur Gen5 Series Powered by StrataOS

#### For Cabled Deployments

The Centaur Gen5 is an all-in-one digitizer, recorder, and telemetry instrument with advanced on-board data processing capable of data manipulation and detecting events in the field. The new Centaur Gen5 series of data loggers includes a 3-channel, 6-channel and 8-channel solution to meet your sensing needs. The Centaur Gen5 operating system, StrataOS, builds on the Nanometrics legacy of quality and ease-of-use for digitizing, processing, recording and streaming the data that you rely upon. Centaur Gen5 combines exceptional performance, adaptability and reliability, allowing you to seamlessly integrate various sensor types into one energy-efficient station.

## EXPLORE TODAY'S ATLANTIS APPLICATIONS

From free-fall autonomous solutions ideal for OBS experiments to low-latency cabled observatories essential for critical networks and early warning systems, the applications for the Atlantis OBS portfolio are varied and include:

- Seismic research campaigns
- Multidisciplinary ocean science research
- Climate change research
- Early warning systems including for earthquakes and tsunamis
- Natural hazards monitoring



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## Contact a Product Expert

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Listening to the Earth