

Autonomous Camera Systems for Ocean Observatories Initiative

The Kongsberg Maritime Camera Group's Systems & Projects team has delivered the first set of cabled IP digital still camera stations (CAMDS) to the University of Washington, USA. The delivery is for the regional cabled observatory component of the Ocean Observatories Initiative (OOI) programme in the northeast Pacific Ocean off the west coast of the United States of America.

Further cabled systems are scheduled for delivery in the coming months to Oregon State University as part of the coastal Endurance Array component of the [OOI programme](#).

Designed for real-time imaging via the cabled observatory's internet connection, the regional CAMDS systems will be deployed as part of the OOI at methane seep and hydrothermal vent sites deep in the ocean where they will remain for one year. They will capture images of the evolving vents and the bacterial and animal life that grows around them. The coastal Endurance CAMDS systems will be deployed on the seafloor in cabled benthic packages on the continental slope and shelf off the coast of Oregon, to image the sediment surface in sufficient detail to identify swimming and crawling organisms, observe changes in physical bedforms, and detect tracks and trails made by mobile fauna.

Each system consists of a high-definition digital stills camera mounted onto a Pan & Tilt Unit. Also included are LED lamps, a dual-laser reference unit, junction box & frame work. All components including the connectors are made of titanium so the unit can be deployed at a depth of up to 3,000 metres for up to a year without maintenance. The system can be fully controlled over Ethernet and is capable of live streaming images as well as storing them locally on board the camera or over network drives. The lasers are provided to allow measurement reference and will appear in the camera field of view. Warm white LED lamps are separated by a 1m frame to reduce backscatter. The whole payload is mounted on a P&T unit so the user can point the camera at desired targets, and a subsea junction box for power control is attached directly to the P&T unit to simplify mounting and operation.

<https://www.hydro-international.com/content/news/autonomous-camera-systems-for-ocean-observatories-initiative>
