

Marine Systems and Seafloor Networks

World-Class Communications Anywhere in the World™



Fully managed data retrieval from remote ocean sensors

Harris CapRock's subsea services leverage the Offshore Communications Backbone (OCB) system that is comprised of high-bandwidth telemetry OceanNet® buoys connected to an expansive network of sensors and seafloor nodes. The system contains power and fiber-optic conductors that allow real-time

delivery of collected data to facilities anywhere around the globe. OCB is modular and scalable and can interface with additional buoys, surface platforms and landfall stations.

BENEFITS

- > Provides fully managed solution allowing users to focus on data collection and analysis
- > Promotes real-time collaboration with ideas shared and data stored on secure web portal
- > Enables in situ observation of ocean sites since data is delivered to any location globally
- > Reduces overall operational costs by delivering a comprehensive solution
- > Ensures project support through 24/7 access to Harris CapRock's Customer Support Centers

Serving Interests of

Industrial enterprises
Scientific associations
Educational entities
Government organizations

Applications

Digital oilfields
Coastal security
Environmental monitoring
Oceanographic observation
Inclement weather detection
Seismic and tsunami observation
"Portable," stand-alone power and/or communication platform

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SOLUTION OVERVIEW

Mission Planning: Specially trained engineers assist users in long-range planning and in the construction of custom interface hardware that will connect to the OCB equipment. Each OCB network can be configured to service a single project or multiple users at one time. OCB is portable and can be used and redeployed in many different locations. Custom solutions including the utilization of smaller buoys and specialized nodes, as well as landfall (non-buoy) architecture or connectivity to offshore assets, are also possible. Harris CapRock can provide studies and permitting as necessary.

Deployment: Sensors and experiments can be deployed along with the initial installation or as a separate sensor deployment activity. Additional or costly time for sensor-specific deployment activities can be mitigated as they can be deployed as part of normal buoy deployment activities.

Sensor Control: A two-way command link is available for remote experiment control. Sensors can be energized or de-energized.

Data Collection and Forwarding: The buoys support data-intensive experiments with continuous data rates up to 3Mbps in seas up to sea state 6. A fiber landfall architecture will provide nearly limitless bandwidth.

Data Delivery: Collected data can be delivered via the Internet, high-speed data lines or dial-in and is password protected. Data transfers can be encrypted if desired. VSAT, Iridium, GSM or Harris SeaLancet™ data links provide communications from the buoys.

Power: Each buoy provides up to 5 kW of power to the seafloor. Custom power options are available. Power is not dependent on battery life.

Optional Security Services

Closed-Circuit Television (CCTV)

Detection sonar

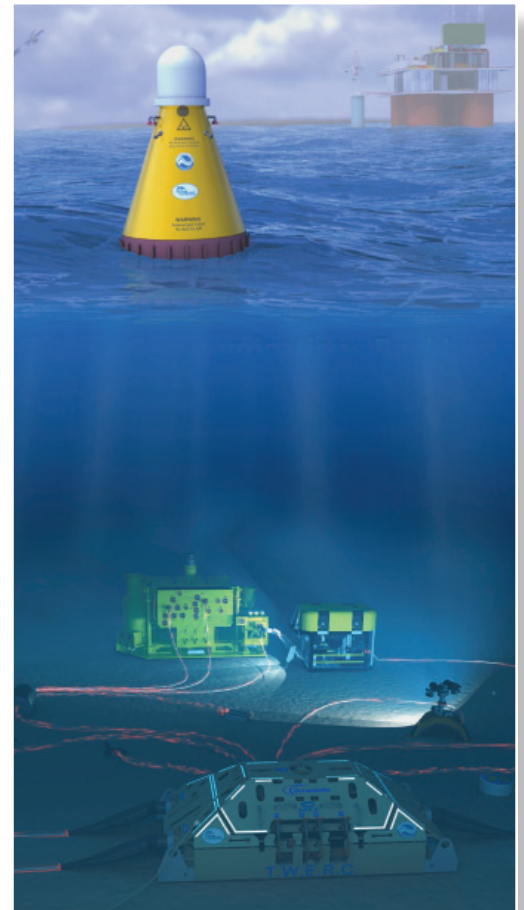
Automatic Identification System (AIS)

Radar

Long-range cameras

Acoustic arrays

Custom sensors



Full-service solution from architecture and design to permitting, deployment and sustainment.

Harris CapRock has over 30 years of experience serving the needs of customers operating in remote and harsh waters. The first OceanNet® buoy system was deployed in 1999 in the Bahamas. Since then, two next-generation OceanNet® systems have been installed and operated in depths over 2,300 meters in Sardinia (2001) and Cyprus (2004). In 2010, a second OCB buoy system and seafloor network was installed in Cyprus for CSNet International.