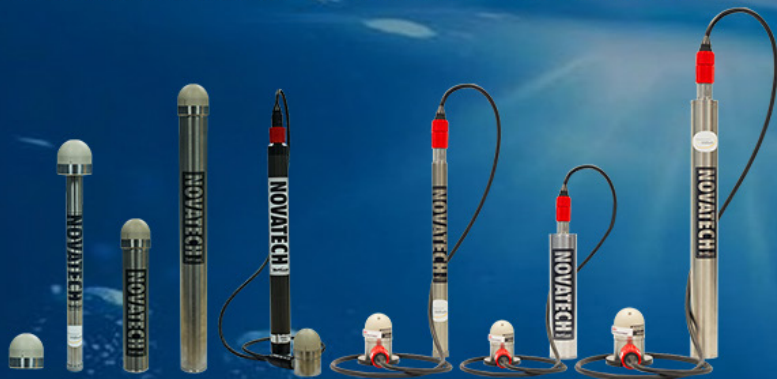


AN INTEGRAL PART OF OCEAN STUDY AND EXPLORATION

NOVATECH iBCN Satellite Beacons

Tracking and locating your assets up to full ocean depth



The water is unpredictable. Maybe you are an oceanographer, with a sub-surface mooring that you need to keep track of. Maybe you are in the oil and gas industry, with remote and autonomous vehicles working at icy depths. Maybe you have one vessel. Maybe you have an entire fleet.

But what do you do when the unpredictable suddenly happens? When a mooring breaks free unexpectedly, from fishing or trawling or simply environmental factors that you cannot control? How do you recover, and move forward confidently?

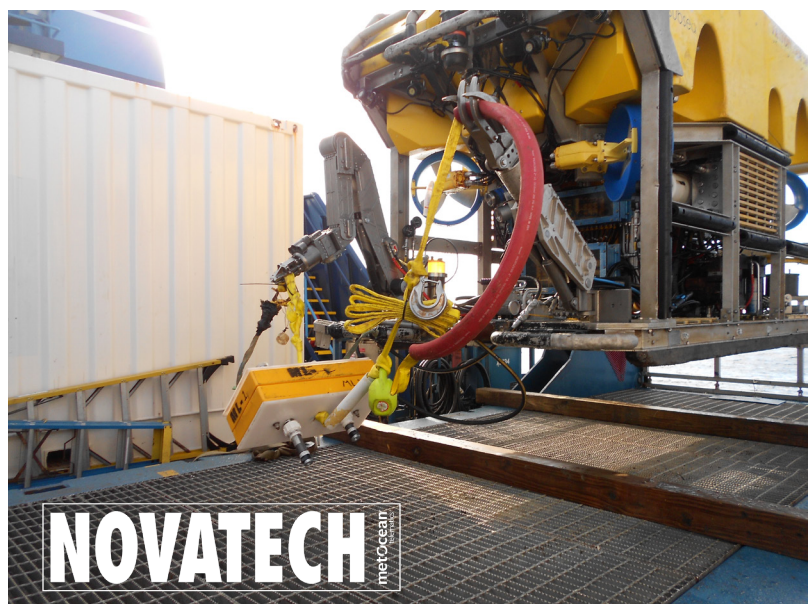
"It gives you that peace of mind."

-MetOcean Global Account Manager Evan Aalders.

For many experienced mariners, the only answer is a MetOcean Telematics NOVATECH location and recovery assist beacons. "It gives you that peace of mind," says MetOcean Global Account Manager Evan Aalders. "Once you go to recover the asset, either planned or unexpectedly, that beacon will sit high and proud at the ocean surface, turning ON to provide a means of recovery."

The MetOcean Telematics NOVATECH beacons are designed to last in the harshest of ocean environments, and come in what Aalders describes as three families, depending on need. For line-of-sight coverage, flashers are a high-powered visual aid. Used at either the

surface level, or attached to submersible equipment, these beacons are especially helpful in dark or stormy conditions. Next up, the radio beacons can transmit up to five nautical miles, sending out an RF pulse on a specific frequency. For the most precise location and recovery services, the satellite beacons are unparalleled. With GPS mapping and bi-directional communication, the user is not required to be on-site. Instead, they will receive an email notification when one of their beacons is activated, with a precise location and consistent updates that they can control. "This really is about high-value asset recovery," Aalders says.



NOVATECH metocean telematics

This is where, as Aalders explains, a global satellite network comes into play. Relying on Iridium technology, MetOcean uses 60 low-orbit satellites to provide full coverage, anywhere in the world. The satellite beacons can be used with scientific equipment, remote or autonomous vehicles, even cabling. However, they are particularly useful in the oil and gas industry.

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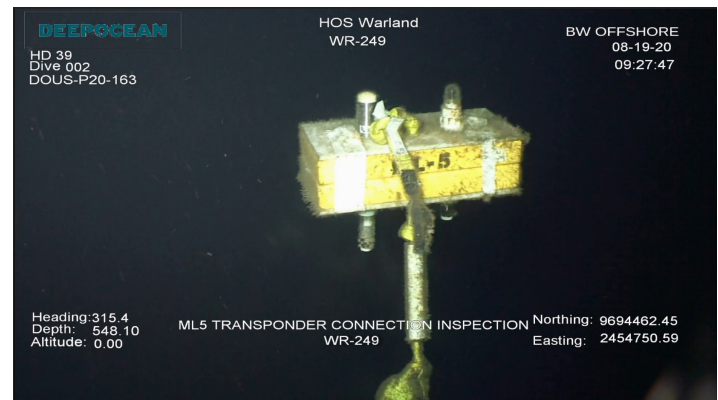
“Most often, they are going on working class ROVs, which are huge, remotely-operated vehicles, which can be worth millions of dollars. These machines are going thousands of meters deep in the ocean for pipeline inspection or to perform repairs on sub-surface platforms, and those umbilical lines can get severed, which cuts out communications,” Aalders says. “It can take days, sometimes months, for that vehicle to actually surface.” But with a satellite beacon, you will know when a line has been severed, and when the RV comes up again, there is no guessing where it might be. “There is potential for the oil and gas fields to use these beacons on instruments that they may never have thought about, to aid in recovery or act as an insurance policy.”

Companies, like BW Offshore, are finding innovative uses for the satellite beacons, utilizing the Iridium technology to its fullest. By attaching beacons to pipeline cabling, BW Offshore has been able to isolate specific sections of their sub-surface work without having to do physical inspections. “Traditionally, you would only know there’s been a break when you saw the cable come to the surface with a float,” Aalders says. “This is basically giving them a real-time identification about which beacon has pinged, and at which depth, so they can start working immediately to plan repair and recovery operations.”

All NOVATECH beacons are rated to 7,500 meters in depth, with the Infinity series able to sink 12,000 meters (developed for James Cameron’s Challenger Deep mission, exploring the Mariana’s Trench). While the ratings are impressive, what it translates to is time saved. “Iridium was a real game changer,” Aalders says, in part because of the bi-directional communications. “We can actually set internal geo-fences so if the device goes into a certain area, you will get an alert. And you have the ability to send a message back to the beacon, to adjust the reporting frequency.” If the beacon is pinging frequently, you may want to scale it back to once an hour, or even once a day, until you can coordinate a recovery.

The key to the communications is the LINC software that MetOcean Telematics provides. “Anywhere you have

internet access, you can log on to LINC,” says Aalders. Because the messages that the Iridium network sends out are safely encrypted, this software tracks and fully decodes the information once it is received. “It also allows users to plot the GPS positions from those beacons on the building map. Not only are you getting real-time positions from the beacons, but you can actually physically see them in the software.”



This is the type of client-focused solution that MetOcean Telematics thrives on. There is a company focus on niche solutions and developing custom products within the satellite communications industry. The head office in Dartmouth, Nova Scotia, Canada allows incredible access to both the Bedford Basin and the open ocean, providing engineers with a test facility that cannot be replicated in any lab. Satellite offices around the globe provide 24-hour customer support. It’s these factors which allow MetOcean Telematics to dive into product research and data collection, working with both the military and the commercial oceanographic market.

Whether you are working with a small buoy or a fully autonomous vehicle, it is valuable. Aalders says his team works to come up with the perfect beacon and solution for each individual client, protecting assets big and small. The oceans are deep, dark, and mainly undiscovered. NOVATECH beacons are the lifeline.