Communications, Tracking & Distress Beacon for Artisanal Vessels

OmniCom Solar is a highly portable, tamperproof, solar powered, communications, tracking and distress beacon, working in conjunction with McMurdo’s PRISMA software platform; offering a comprehensive Safety, Monitoring and Tracking solution for vessels, including artisanal fisheries.

Containing either Iridium satellite or cellular network technologies, OmniCom Solar offers fleet management, location reports, distress alerts, and two-way messaging to a wide range of previously isolated and low technology vessels.

The unique solar powered, easy install beacon, from a global leader in maritime technology, offers local fishing communities technology that is tailored to their vessels and offers previously unavailable communication, location and search and rescue support.

OmniCom Solar’s Key Benefits

<table>
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<tr>
<th>Safety</th>
<th>Distress function, location tracking and two-way communication ensures distress support is accessible to all vessels</th>
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<tr>
<td>Portability</td>
<td>Beacon can be quickly attached and detached from the vessel providing easy portability. Device automatically activates once mounted on the vessel and deactivates upon release</td>
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<td>Communication</td>
<td>Containing Iridium or GSM technologies, OmniCom Solar offers global communication to previously isolated and low technology vessels</td>
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<td>Security</td>
<td>Tamper proof design transmits alarm notifying authorities of unauthorized access</td>
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<td>Power</td>
<td>Never running out of power, even on overnight trips as OmniCom’s solar panel delivers power to the beacon while recharging the internal battery</td>
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<td>Location</td>
<td>GPS &amp; communication options allow real time vessel identification and monitoring to support national marine legislation, Search and Rescue support and fisheries protection</td>
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Key Features

- Distress Alerts — defined protocol allows national authorities to define distress procedures, while crew have added security of SOS button
- Vessel Position Reports using GPS location — supports vessel monitoring, SAR assistance
- GPS receiver: 65 channels. Configurable (1min. to 24hr).
- Iridium Option: Global satellite coverage, at affordable rates.
- Two-way messaging via Bluetooth interface on the OmniCom Solar device. McMurdo’s app supports text messaging, business forms/catch reporting, broadcast messaging from authorities, mapping, alerting of nearby mariners in distress and more.
- Geo-fencing to supports national economic and environmental protection plans and secures Marine Protected Areas (MPAs).
- Detachable and floating: The OmniCom Solar beacon can be detached in a distress situation and will float in water.
- Tamperproof & IP67 Waterproof — the programmed beacon is designed for marine environments and portability. Although easily installed, the programmed unit is specific to vessel/crew.
- 365/24/7 Support from McMurdo’s Global Service Network
- Build for extreme environments — Operating temperature: -20°C / +55°C & Storage temperature: -25°C / +70°C

Why Is Omnicom Solar Significant?

Omnicom Solar’s significance is that it’s the world’s first highly portable, automatically powered, tracking and distress beacon. By offering solar power, low cost but extensive coverage and multiple communication options, the unit offers operational, economic and distress support to the world’s artisanal fishing communities.

For national authorities, Omnicom Solar offers the ability to manage, monitor and communicate with its’ fishing communities. The tamper proof, vessel specific unit can help ensure economic and environmental boundaries are respected and legislation can be enforced. The bespoke distress protocol function combined with the periodic location reports, offers a network of localized search and rescue support, the ability to broadcast fleet wide alerts and the ability to support individual vessels in distress.

Safety
Mayday button connected to National/Local Emergency Response Service

Monitoring
Easier identification of unauthorized fishing vessels through clear visibility of the National fleet

Tracking
Monitor national fishing fleets and safeguard Marine Protected Area
What is Artisanal Fishing?

Artisanal (or small-scale fishing) vessels are typically vessels of about 5-7 meters in size, open, and with a removable 15-25 BHP engine. They are normally operated by 2-3 fishermen. Today, this market is almost completely unserved by any form of safety or communications technology. Small-scale/artisanal fishing helps provide food security and economic development in many parts of the world but safety is a significant concern for artisanal fishers, today’s mortality rate is unacceptably high. 115 deaths/year/100k people.

How Can Artisanal Vessel Tracking Aid National Agencies?

The tracking and monitoring of vessels, previously with limited access to the communications technology to make these aspirations feasible, is key for economic and artisanal community prosperity.

Many national governments are implementing sustainable fishing and species protection. Governments establish what is called Marine Protected Areas that are permanently or temporarily deemed off limits for fishing, and the national authorities need the ability to monitor their artisanal fishing fleet entering these areas to ensure compliance with international regulations for species protection.

As global security threats remain a top priority, having the ability to track the national, small vessel fleet, will help distinguish artisanal fishing from small, fast moving vessels which may pose a threat. Most importantly, the solar distress beacon will facilitate reduced mortality rates, and offer the potential for greater flexibility on how fish are sold by providing a trusted source for communications to these communities.

GNSS

This new OmniCom Solar beacon contains a GNSS (GPS) receiver allowing accurate location capture which combined with internal Iridium offers global communication of that position.

Why AIS isn’t an ideal vessel tracking solution Technology?

AIS is a commonly used technology in the maritime environment. It is primarily used for collision avoidance, but governments also use it to track vessels from shore to monitor for nefarious activity, such as illegal fishing or terrorism. But AIS is not an ideal technology for a fishing vessel tracking application, for several reasons. First, it is a completely unsecure technology, meaning it is extremely easy for a vessel to pretend to be another vessel. Second, it has very limited messaging capabilities, excluding some of the key requirement of such a system, such as distribution of protected MPA to devices for alerting, two-way messaging, app integration, etc. Finally, AIS is a relatively high power radio, making it very difficult to engineer a small size power solution. McMurdo is one of the world’s leading brands in AIS technology, but for this marketing we determined early on that AIS was not the right answer.
Iridium
The Iridium satellite constellation providing voice and data coverage over the Earth's entire surface from its' 66 low orbit satellites. By using Iridium OmniCom Solar ensure global communications coverage for its’ users.

Manufacturing Quality
The OmniCom Solar is an innovation from McMurdo, a globally renowned marine multifrequency distress beacon manufacturer, known for expertise in resilient positioning navigation and timing solutions.

Deployment Management
McMurdo software captures information on captain and vessel and scans beacon via bar code or QR code for fast, efficient registration process.

1. Download app to tablet
2. Register captain & vessel
3. Upload/sync to database
4. Access database for reporting & analysis