

MetOcean Telematics [www.metocean.com] of Dartmouth, Nova Scotia. **MetOcean Telematics** is the result of a longstanding natural partnership between **MetOcean Data Systems** and **JouBeh Technologies**. Each organization was well established and shared considerable global reach, with the resulting MetOcean Telematics, combining the strengths of both to better serve customers and further grow its international presence. A third business unit is the **Defence & Security** group which specializes in Acoustic Monitoring, Naval Systems, Search & Rescue, and Surveillance. **Metocean Data Systems** still specializes in Novatech beacons, oil spill tracking buoys, polar platforms and current monitoring.

Beside several Iridium developments for the **Telematics** business units, two major initiatives last year for the **Metocean Data Systems** business unit and the **Defence & Security** business unit were:

1. A collaboration with Florida State University [FSU] was the development of the STOKES Iridium surface tracking buoy.
2. Metocean is developing a new **MASS** [Maritime Acoustic Scoring System] which has an over-the-horizon communication ability utilizing the Iridium satellite system.

The **STOKES** drifter is a compact drifting buoy that tracks water currents at the surface. The small light-weight buoy is equipped with Iridium satellite telemetry, GPS positioning, and a sea surface temperature sensor. Iridium satellite telemetry enables the buoy to provide vital sensor and geo-positional location data in real time. Iridium also allows the buoy to have bi-directional capabilities. This is a critical ability, for example, if the buoy enters a region of interest to the end-user. The end-user can communicate with the unit by sending it a command to change reporting intervals, or request essential time-sensitive data. The applications for the STOKES are endless due to its overall size. The buoy is ideal for purposes ranging from mapping large-scale ocean currents, oil spill monitoring, environmental monitoring, and aiding in search and rescue operations.

MASS is the world's first over-the-horizon Naval Surface Fire Support [NSFS] and Naval Gunfire Scoring and Simulation [NGSS] system. The innovative marine-based system has been designed and thoroughly tested to enable naval ships to undertake self-conducted live-fire training, testing, and qualification of the operation. MASS eliminates the need for land bombardment ranges and the necessity to destroy physical targets on land or at sea. The free-floating system consists of a set of operation buoys, which report acoustic event data, point of impact, and precise time. The acoustic event data is sent to a base station receiver using over-the-horizon Iridium satellite telemetry or UHF line-of-sight radio. This allows MASS to measure indirect fire. Real time results are viewed and analyzed both on-ship and at land-based command posts.

MASS is an essential and cost-effective solution for all active Navies. It permits Navies to conduct training activities at secure locations while deployed at sea. MASS also eliminates costly travel time, personnel resources, and excessive fuel costs which are necessary when traveling and utilizing land ranges. In addition to the various costs saving advantages of the

system, MASS also minimizes the human and environmental risks associated with land ranges.