Maritime Domain Awareness

Absolute Maritime Tracking Services, Inc.

Absolute Software

VPN
Private & Secure

SAILOR Thrane & Thrane

VPN
VSAT
Fleet Broadband
(FB500)

LRIT
Inmarsat-C
Iridium SBD
Isat M2M
Fleet Broadband
(FB250)

VMS
Inmarsat-C
Iridium SBD
Isat M2M
GlobalStar
Fleet Broadband
(FB150)

SAR
Radar Satellite

GPS
Global
Positioning
System

MARITIME DOMAIN AWARENESS CENTER

USERS

VMS

VMS

VMS
Private & Secure

FISHING BOUNDARY

COAST GUARD

DEA
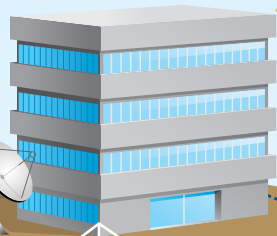
LRIT

LRIT

LRIT
Private & Secure

PORT

Collision Avoidance (AIS)

Aids to Navigation (AIS AtoN)

Cameras

Radar

AIS
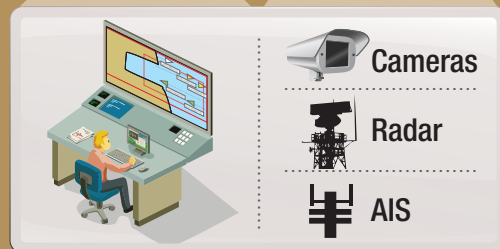
VESSEL TRAFFIC SERVICES
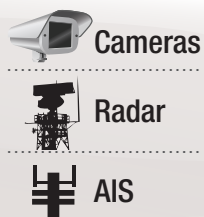
COASTAL
AIS STATION

AIS Range: Approx. 20 - 30 NM

AIS
Public & Unsecured

Long Range Tracking (LRIT)

The Long Range Identification & Tracking System (LRIT) improves maritime safety and security by monitoring over 50,000 cargo and passenger vessels. In operation since 1-Jan-2009, the LRIT system tracks each ship four times a day (six hourly) with the position data first received by the flag; then forwarded to other eligible coastal and port states in accordance with a series of strict security and privacy rules.

Although the primary purpose of LRIT is maritime security and safety, there are substantive gains possible in other areas including port efficiency, merchant maritime operator efficiency and better targeting of surveillance resources. Absolute is a leading provider of LRIT solutions for Flag, Coastal and Port Administrations.

One of our clients is the Panama Maritime Administration (AMP). On behalf of AMP we operate the largest National LRIT Data Center, which monitors over 6,000 ships from a purpose designed Monitoring, Control and Surveillance Center located in Panama City, Panama.

▶ **AMP Client Case Study**

NOTE: ISO 9001:2008 applies to LRIT Conformance Testing, Certificates and Data Exchange with SOLAS Convention Contracting Parties

Vessel & Catch Monitoring (VMS)

Absolute delivers proven Fisheries Solutions including on-line registration of vessels, digital certificates, licenses/permits and quota. We are the leading operator of Vessel & Catch Monitoring Systems - which record GPS location, catch and other information at-sea. In total vessels from over 35 countries report to an Absolute supplied Fisheries Monitoring Center.

More than just GPS tracking, our solutions include state-of-the-art alerting functions to provide actionable intelligence based on vessel behavior. Track information is combined with Catch Reports to provide a complete picture of vessel activity. Equally important is deterring Illegal, Unregulated and Unreported fishing (IUU) - a task well suited to Satellite based Synthetic Aperture Radar - which can identify fishing vessel numbers and approximate locations through cloud or rain, night or day.
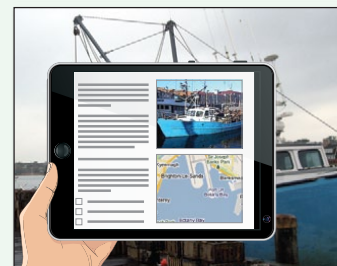
One of our clients is the South Pacific Forum Fisheries Agency. FFA issues Certificates of Good Standing on behalf of 17 countries within the South Pacific and operates one of the world's largest Vessel Monitoring Systems - with over 3800 vessels tracked on behalf of FFA members and the Western & Central Pacific Fisheries Commission (WCPFC).

▶ **FFA Client Case Study**

Automatic Identification System (AIS)

The Automatic Identification System (AIS) provides several important benefits to ships, port operators and for coastal surveillance. The most important capabilities are collision avoidance at-sea and enhancing Search & Rescue. AIS also forms the mainstay of Vessel Traffic Services (VTS) for Port and Waterway management. Increasingly AIS is deployed as a coastal surveillance tool via a network of coastal AIS receivers. Absolute's products can integrate data from any commercial (NMEA) compliant AIS receiver/network.

AIS, LRIT and VMS technologies have unique strengths and limitations - so a consolidated approach works best. LRIT, VMS and AIS inputs are bought together to create a Common Operating Picture (COP) within the Fleet Information System; giving surveillance officers the best possible picture of maritime activity - from thousands of nautical miles away right down to identifying the pier a particular ship is docked at.

In general AIS is best suited to short interval reporting in coastal regions - where privacy is secondary and collision avoidance and port/waterway management are paramount. For deep ocean coverage, LRIT provides a more suitable solution as it allows ships to avoid revealing their location to competitors or pirates. For fisheries, VMS is most suitable as it provides additional features for catch reporting, crew e-mail and weather information.

Services for Shipowners

Absolute offers a wide range of services to Shipowners and Operators including:

- **Fleet Tracking:** The Fleet Information System is our premier solution for GPS tracking and voyage monitoring. Compatible with all major web browsers including Internet Explorer, Firefox, Chrome and Safari, this solution currently monitors over 12,000 ships every day.

- **Electronic Forms:** We offer custom electronic forms and workflow products. Data is entered on-board using a ruggedized terminal, then displayed shoreside within the Fleet Information System.

- **LRIT Conformance Test Reports:** Absolute is one of the largest providers of LRIT Conformance Tests. We are known for the reliability of the Conformance Test Reports issued, as our unique cross-check process verifies all details submitted by the owner with databases including MARS, Sea-Web and Inmarsat's activation records.

- **Counter-piracy Operations:** Shipowners who are tracked through an Absolute supplied LRIT Datacenter receive additional benefits. Our 24x7x365 counter-piracy watchstanders closely monitor all transits through high-risk areas such as the Gulf of Aden.