

HOW DOES AIS COMPARE AND CONTRAST WITH VMS?

QUESTION: How does AIS compare and contrast with VMS?

ANSWER: AIS and VMS are dissimilar and independent 'tracking systems,' but with the appropriate shore based infrastructure, information from both can be used to create a common operating picture for Maritime Domain Awareness.

	Automatic Identification System (AIS)	Vessel Monitoring System (VMS)
System Type:	Line-of-Sight Digital Radio Broadcast Systems	
Protocol:	Open, non-proprietary, standardized equipment	Closed, proprietary, sole source equipment
Operating Mode:	Autonomous, continuous, near real-time, two-way, short burst communications between ships and ship-shore	Scheduled broadcast to satellite receivers, then forwarded to ground stations
Applicability:	REQUIRED per SOLAS V/19.2.4 or 33 CFR 164.46	REQUIRED on some fishing vessels (~2000)

BACKGROUND:

Automatic Identification System (AIS) and Vessel Monitoring Systems (VMS) are excellent tools for tracking vessels and providing situational awareness; however, they differ in design, function and purpose. AIS is a digital VHF-based radio system that relies upon an open, non-proprietary, internationally adopted standards that provides for continuous, autonomous, near real-time (2-10 sec), two-way exchange of information between ships and shore. VMS is provided by a variety of closed, proprietary systems, that provides for one-way (ship-to-satellite-to-shore) satellite based communications (i.e. IMMARSAT-C).

AIS is primarily intended as a collision avoidance tool and means to exchange pertinent navigation information from other ships or ashore (e.g. Vessel Traffic Service). VMS provides remote monitoring of fishing vessel in relation to regulatory areas, maritime boundary lines, and other position-critical enforcement schemes. As such, they enhance situational awareness and significantly reduce the resources (cutter and aircraft) required to provide at-sea monitoring of these types of regulatory regimes.

AIS is required internationally per Chapter V, Regulation 19 of the Safety of Life at Sea Convention (SOLAS V/19) —on all tankers, passenger vessels and cargo ships over 300 gross tonnage; over 65,000 vessels. The Marine Transportation and Security Act of 2002 expanded carriage domestically to all commercial self-propelled vessels over 65 ft, towing vessels over 26 ft. and 600 hp; and, certain passenger vessels, dredges, and vessels moving certain dangerous cargoes; and, additional 10,000 vessels. NOAA through it's regional Fisheries Councils requires VMS reporting on vessels engaged in fishing certain highly migratory species; approximately 2000 vessels.

The Coast Guard monitors both AIS and VMS thus provide for our Maritime Domain Awareness and help ensure our Nation's security.