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Combined Joint
Task Force

Maritime Safety and Security Information System MSSIS...

Overall briefing is Unclassified

Horn of Africa



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Maritime Domain Awareness



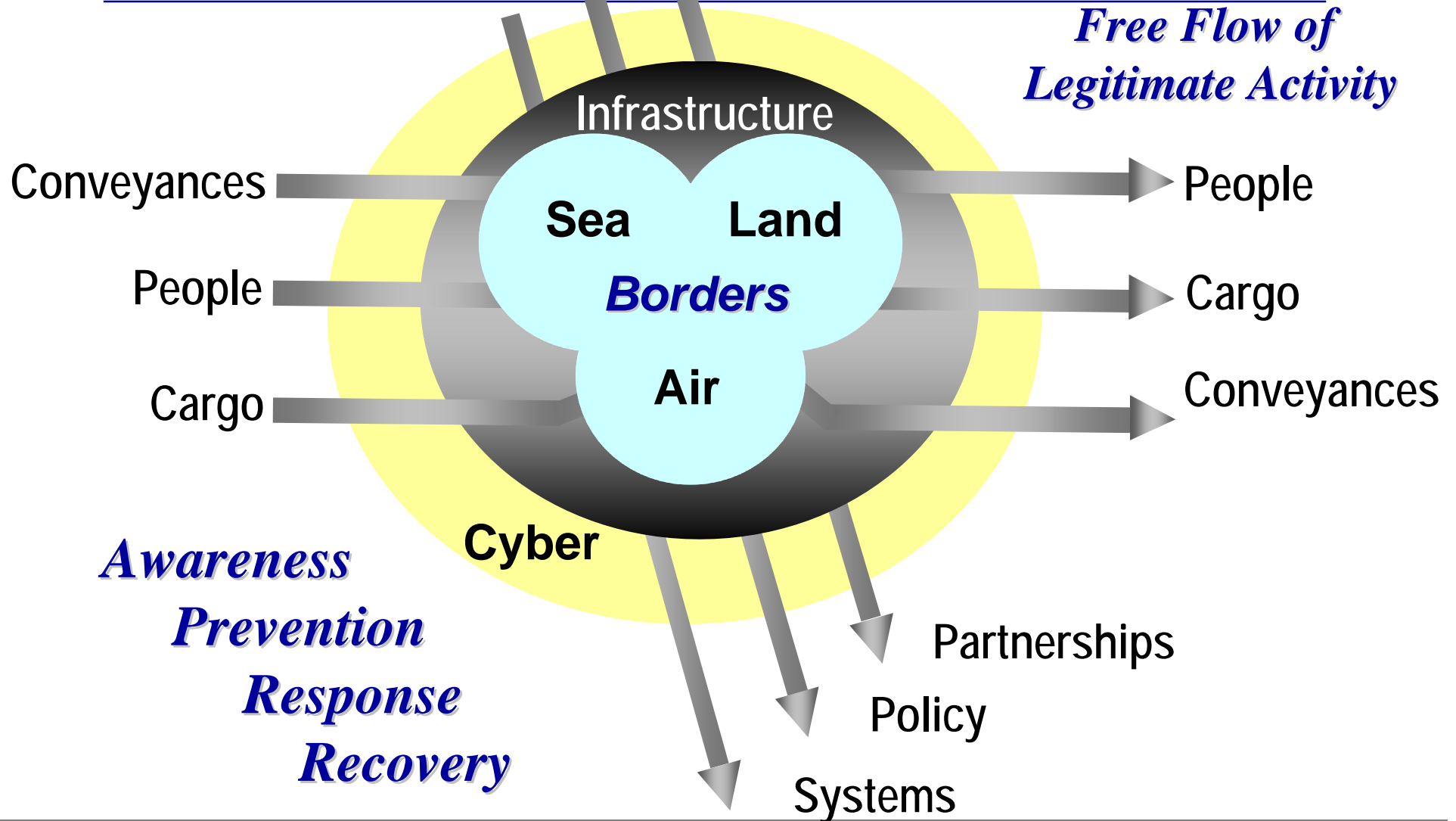
- Maritime Domain Awareness (MDA) is the effective understanding of anything associated with the global maritime domain that could impact the **security, safety, economy, or environment**.
- Why? To **identify threats** to the Maritime Domain as **early and as distant** as possible by integrating intelligence, surveillance, observation, and navigation systems into a common operating picture



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All Domain Awareness



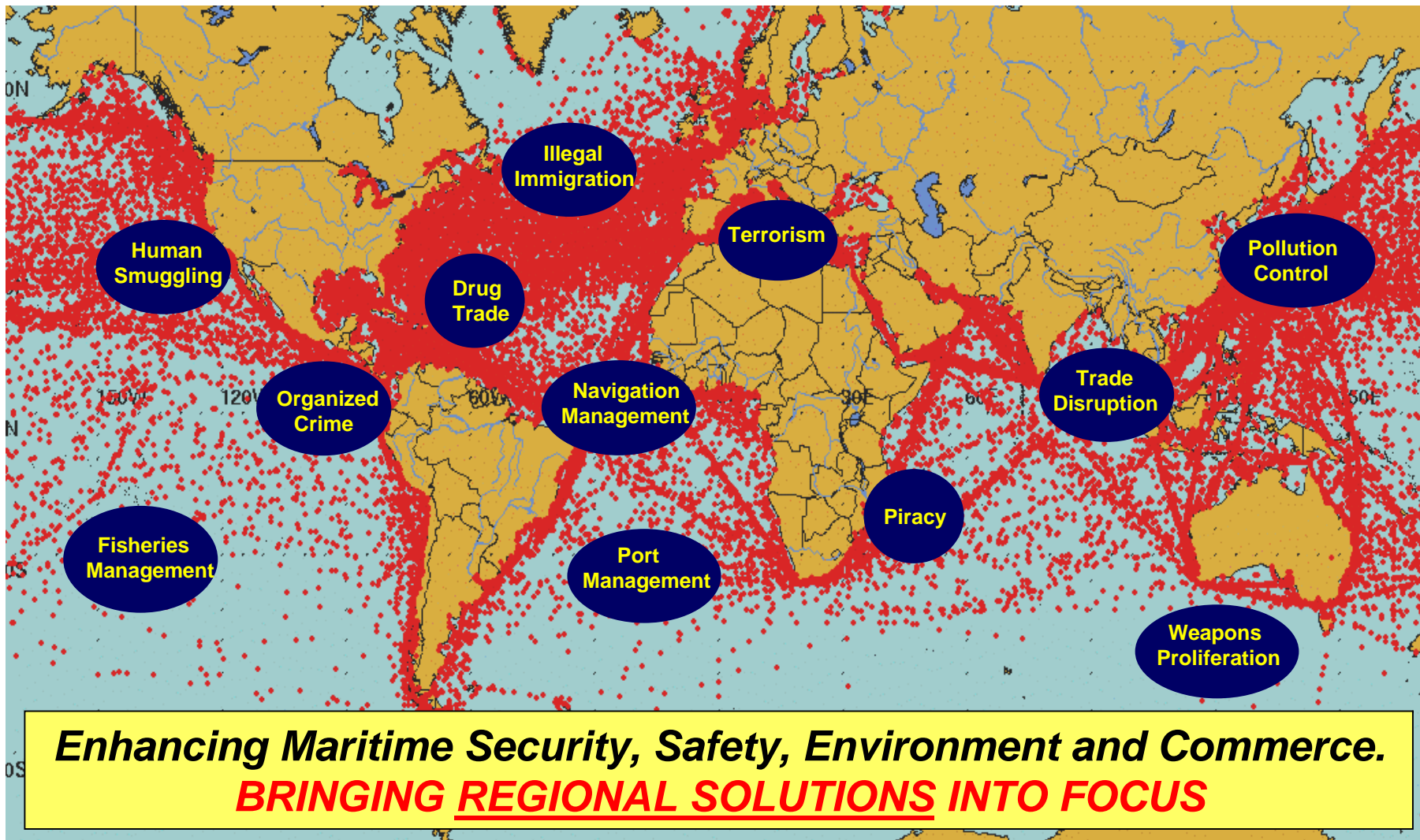
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Maritime Domain Awareness – Why?



PURPOSE: MSSIS

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OPR: LCDR Morash



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Common Challenges to Maritime Security



- Organized crime
- Piracy
- Drug smuggling
- Human smuggling and slavery
- Illegal weapons movement/proliferation
- Terrorism
- Exclusive Economic Zone (resource) exploitation
- Illegal fishing
- Trade disruption
- Illegal migration
- Search and Rescue
- Environmental issues

Nations find their well-being challenged by these common maritime issues.



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Opportunities: Addressing the Challenges



Collaborative solutions between governments and business

- **Adoption of international norms and standards**
- **Consistent/Predictable**
 - Processes
 - Application of Laws
 - Enforcement
- **Enhance:**
 - Port infrastructure
 - National inter-modal infrastructure
 - Effective port operation
 - Response capability
 - Trusted supply chains

Building New Paradigms for Success



Maritime Situational Awareness

What it is NOT:

Just the USA

Just Security

Just More Sensors

Just Vessel Visibility

An End State

What it IS:

Global / Coalition / International /
Joint & Interagency

All Maritime Missions
Safety, Security, Environment, Commerce

Processes
Info Sharing Partnerships

Port Mgmt: Origin to Delivery
Trusted Supply Chains

A Continual Process

“New partnerships with the world’s maritime commercial interests and the maritime forces of participating nations will reduce the dangerous anonymity of sea borne transport of people and cargoes.” A Cooperative Strategy for 21st Century Seapower



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Benefits of a Data Sharing Partnership



- **Enables nations to control their maritime domain**, regardless of the specific issues faced in that country
- Nations contribute and benefit based on its own needs
- **Nations operate as equal partners, regardless of size or capability**
- National sovereignty is primary, and information is shared wide, **building a culture of trust**, confidence and mutual support with a common focus – safety, security, promote commerce and protect the environment





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Current Open Data Sharing Examples



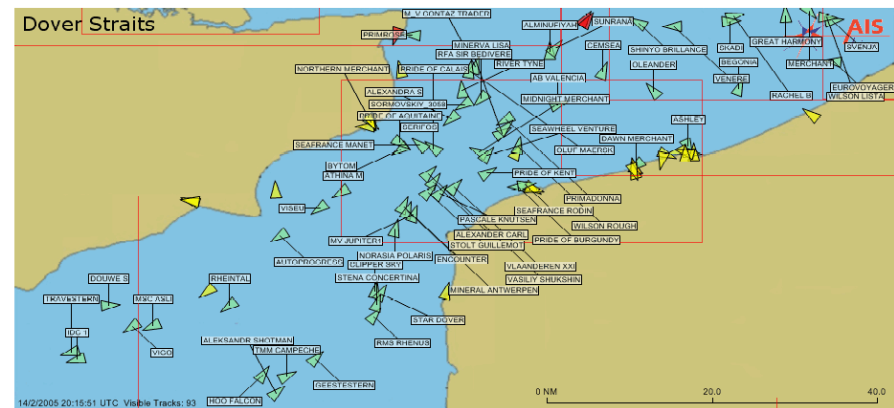
- IMO AIS (Automatic Identification Systems) as source data.
- **IMO LRIT (Long Range Identification and Tracking System).**
- **IMO Electronic Marine Highway (Malacca Straits).**
- **IALA International Association of Marine Aids to Navigation and Lighthouse Authorities.**
- MSSIS (Maritime Safety & Security Information Systems).

AIS based systems fostering cooperation among nations



Automatic Identification System (AIS)

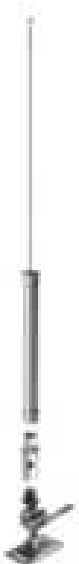
- **Mandated by IMO**
“...to improve the maritime safety and efficiency of navigation, safety of life at sea, and the protection of the marine environment.”
- **IMO International Convention for the Safety of Life at Sea (SOLAS)**
 Chapter V, Safety of Navigation, Regulation 19, 1974/1980





What is the Cost to Receive AIS?

Sample prices



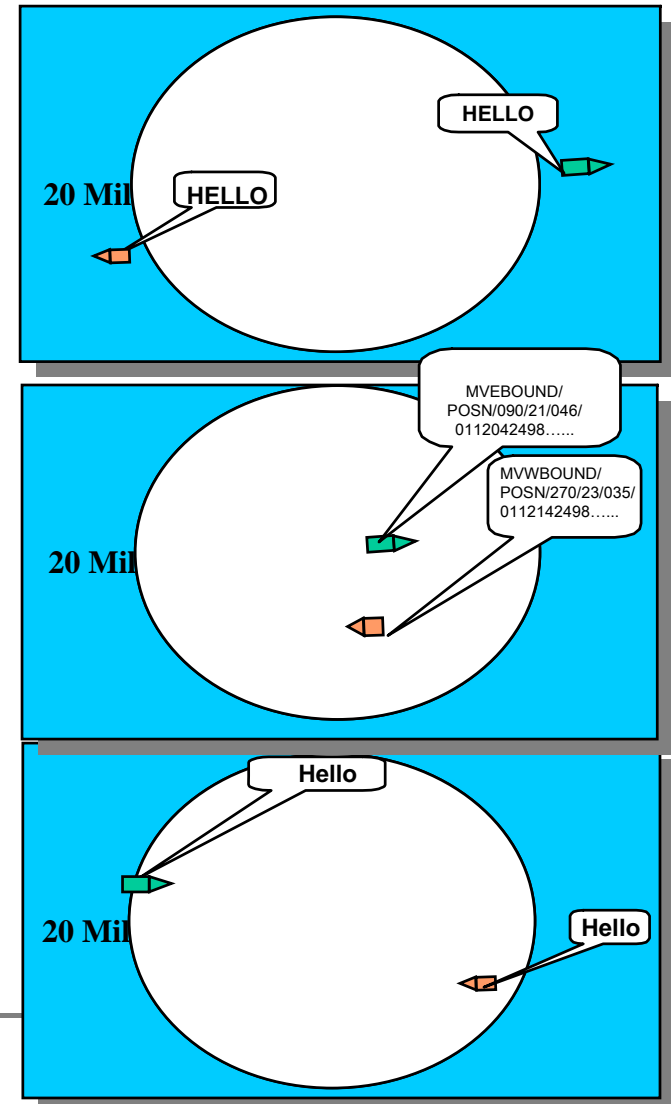
- AIS Receiver - \$1,424.00
 - Dual AIS Receiver
 - 12 channel integrated GPS
 - NMEA enclosure - Puck-style GPS antenna w/ cable
 - Ethernet adapter and cable
 - 12V DC wall transformer
- VHF Antenna for AIS - \$141.00
 - The VHF antenna is base fed through a PL-259 UHF connector and a 50 ohm coaxial cable and can be mounted on any stanchion for extra height. The antenna body is 1.5" o.d. white powdercoat painted aluminum tube and has a high tensile strength stainless steel tip.
- 50 Ft VHF Cable - \$91.00
 - Cable Type: LMR-400
 - End 1: type N male
 - End 2: type N male Length: 50 feet (15 meters)
- Antenna Swivel Adapter - \$87.00
 - Swivel adapter for antenna
- Laptop Computer - \$2,116.00
 - Serial Port
- Universal Power Plug - \$48
 - 15 Volt/2 Amp – 50 Hz or 60 Hz

ITEM	COST
AIS Receiver	\$1,424
VHF Antenna	141
Antenna adaptor	87
50-ft VHF Cable	91
Laptop	2,116
Universal Plug	48
EST. TOTAL	\$3,907



AIS – How does it work?

- Looking at a 20 mile diameter of that water (20 miles is the upper range of an AIS), it is assumed that any 2 vessels separated by more than 20 miles of water will not pose an immediate collision risk.
- As the vessel transits the water it continually sends out an introductory call. The rate at which it repeats this call depends on several factors.
- Once the 2 vessels come in range of each other they transition to a conversational mode. This tells each ship what they are doing (course, speed, etc...)
- Once they are out of any immediate collision risk, they resume the standard introductory call.





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Maritime Safety & Security Information System (MSSIS)



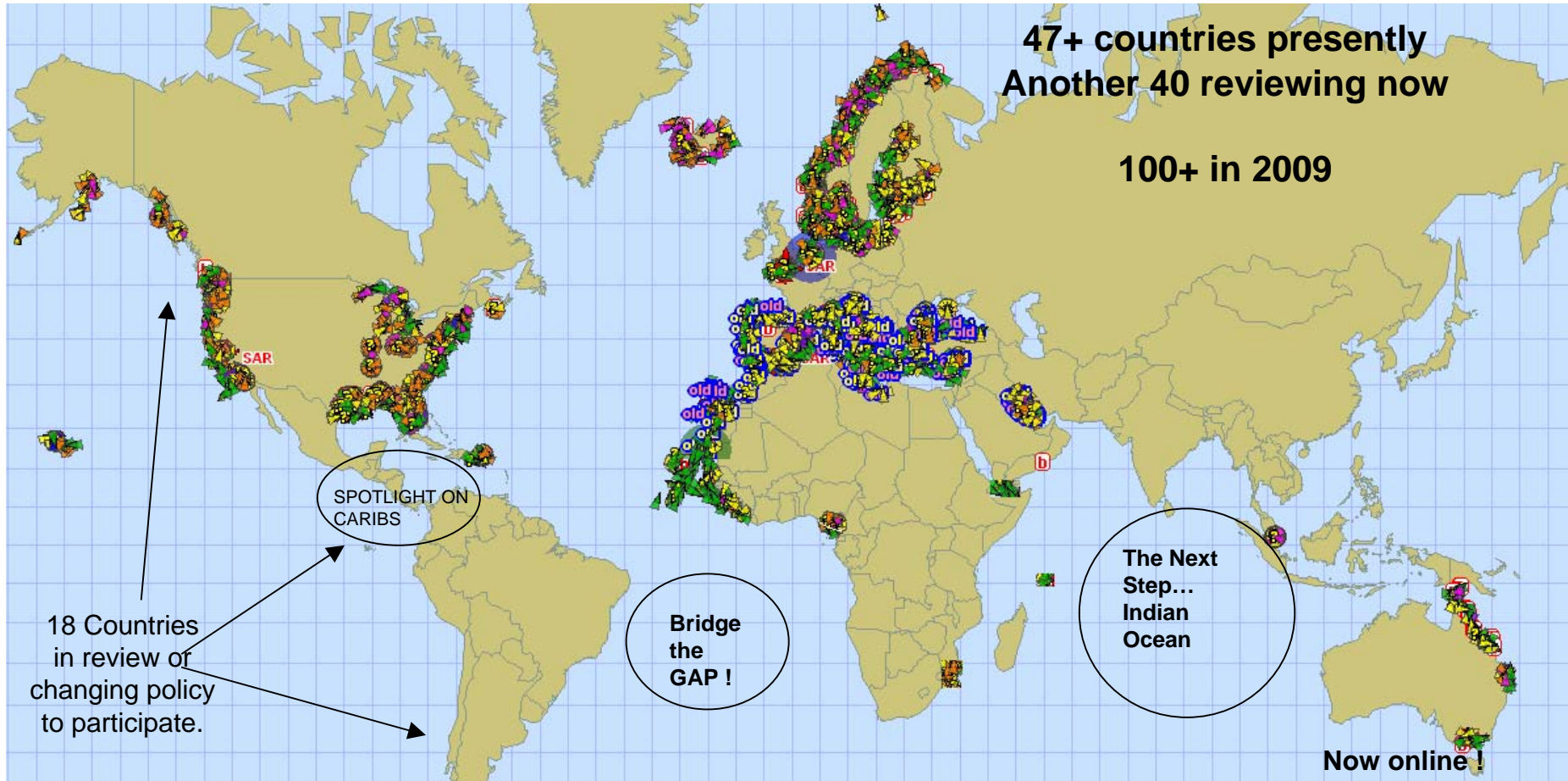
- A system by which to **openly share, non-classified AIS data globally between nations** to enhance safety, security, commerce and environmental protection.
- Created by U.S. Department of Transportation's Volpe Systems Center, based in Volpe's work in maritime traffic issues (Panama and St. Lawrence).
- Allows sharing of non-classified AIS data, real-time, between international government users through an internet-based, password-protected, exchange portal. **The data is by design, not owned or controlled by anyone.**
- **Displays un-altered, AIS data streams** gathered from shore-based, waterborne and airborne AIS receiving units.

A data exchange system fostering cooperation among nations



Expand Participation in MSSIS

Global partnering (AIS information sharing)



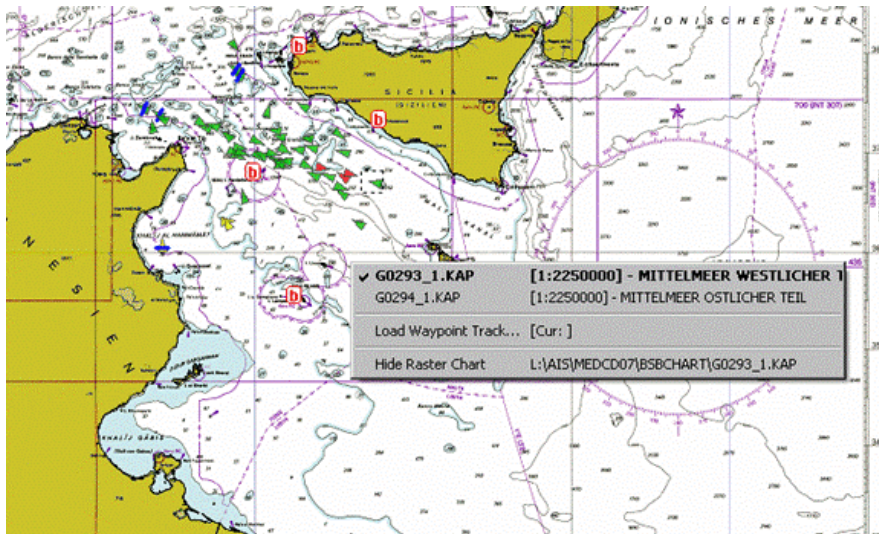
Advantages of Regional and Global Picture



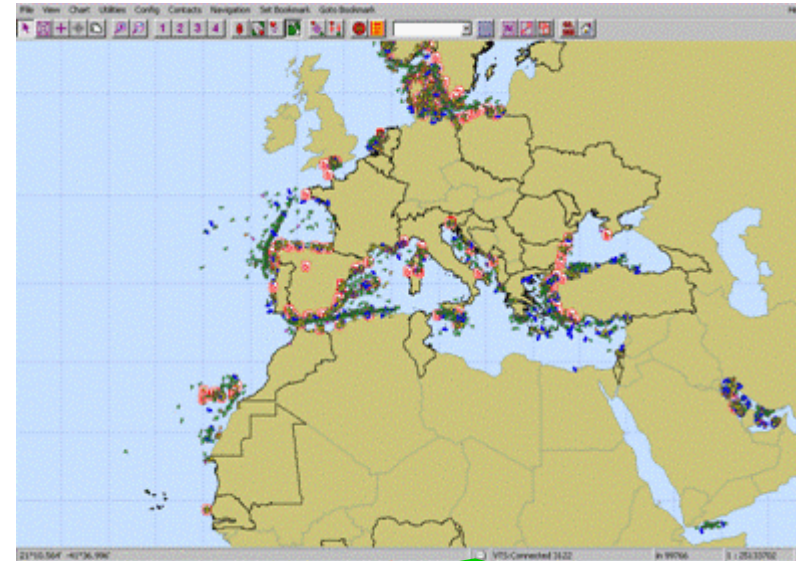
User Level... Whatever You Need



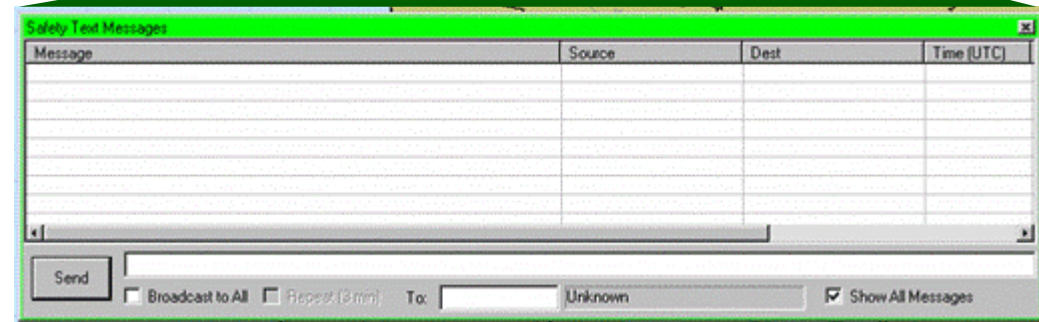
Large Area Map... Safety Text Messages... SAR Center...



Raster Enabled Chart with MSSIS data...
Operational Planning



Just Two Examples





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