The Company

IPS is a global supplier of Cyber Intelligence technology and solutions for Public Authorities and government entities.

The company is based in Italy and provides solutions for Lawful Interception, Open Source Intelligence, Internet Monitoring, Electronic Surveillance and Maritime Intelligence.

- Private and independent company
- 30+ years experience in tech arena
- 100+ LEAs served worldwide
- 150+ employees
- Focus on IT, Networking and Cyber
- In-house development of core solutions
- Know-how transfer
IPS in numbers

- Multiple branches in Italy
- Projects in around 30 countries in the world
- Thousands of Law Enforcement and Security Agencies users worldwide
Maritime Monitoring Challenges

In the “ideal” world it is always possible to know, for each single vessel:

- Clear Identification;
- From where it’s coming;
- Where it’s now;
- Where it’s going to;
- Its current cargo.

This is possible thanks to **AIS** (Automatic Identification System).

It provides, through antennas or satellites:

- Static info (Name, Flag, Company, Draught, Destination, etc.);
- Dynamic info (Speed, Heading, GPS Position).
Maritime Monitoring Challenges

Unfortunately the world is not “ideal” – and sometimes happens that vessels do not broadcast their AIS signaling – this means vessels are going to be dark and anything they do after that moment is usually referred to dark activities.

Vessels go dark for several reasons:

- AIS system congestion;
- Purposely switch-off of AIS transmitter due to:
  - Crossing dangerous area (i.e. piracy);
  - Managing illegal activities.
Most common dark activities are related to:

- STS (Ship-to-Ship) activities (i.e. illegal transfer of oil, or other goods);
- Port-calls in sanctioned ports;
- Unauthorized exploitation of EEZ (Exclusive Economic Zone) such as fishery;
- Voyage irregularities.
AQUA® is a Multi Sensor Fusion System for Strategic Maritime Intelligence with AI able to acquire in real-time or on demand large volume of data-records to monitor costs and vessels with automatic identification of threats and anomalies.

Data acquisition from multiple sources:
- AIS
- Radar
- Radio Communication
- Satellite – Voice and Data
- SAR Imagery
- Meteo Data
- Navtex Info
- Container Tracking
- OSINT
- Third-parties
AQUA® - Intelligence Workflow

- Data Collection
- Machine Learning
- Data Integration
- Action
AQUA® seamlessly integrates AIS data with historical insights, offering global vessel tracking and sophisticated analytics for enhanced safety, operational efficiency, and comprehensive historical maritime monitoring.

Data acquisition from multiple sources:

- AIS
- Radar
- Radio Communication
- Satellite – Voice and Data
- SAR Imagery
- Meteo Data
- Navtex Info
- Container Tracking
- OSINT
- Third-parties
Our maritime system adeptly combines Radar data with historical analysis, enabling precise vessel tracking, advanced analytics for heightened security, and operational efficiency, alongside extensive review of past maritime activities.

Data acquisition from multiple sources:

- AIS
- **Radar**
- Radio Communication
- Satellite - Voice and Data
- SAR Imagery
- Meteo Data
- Navtex Info
- Container Tracking
- OSINT
- Third-parties
AQUA® integrates Radio Communication data, allowing for listening of maritime radio traffic, providing enhanced situational awareness through direct audio insights, and augmenting security and operational decisions with historical radio communication analysis.

Data acquisition from multiple sources:

- AIS
- Radar
- **Radio Communication**
- Satellite – Voice and Data
- SAR Imagery
- Meteo Data
- Navtex Info
- Container Tracking
- OSINT
- Third-parties
AQUA® integrates Satellite Voice and Data, enabling comprehensive communication tracking across the globe, enriching maritime operational intelligence with direct satellite communications insights, and bolstering decision-making with real-time and historical data analysis.

Data acquisition from multiple sources:
- AIS
- Radar
- Radio Communication
- **Satellite – Voice and Data**
- SAR Imagery
- Meteo Data
- Navtex Info
- Container Tracking
- OSINT
- Third-parties
Our maritime system leverages SAR (Synthetic Aperture Radar) satellite imagery to extract precise vessel coordinates, utilizing AI to find correlations with other data sources, enhancing the accuracy of maritime monitoring and analysis.

Data acquisition from multiple sources:
- AIS
- Radar
- Radio Communication
- Satellite – Voice and Data
- **SAR Imagery**
- Meteo Data
- Navtex Info
- Container Tracking
- OSINT
- Third-parties
AQUA® system integrates comprehensive weather data to identify uneconomical behaviors or irregular activities, leveraging environmental insights to optimize maritime operations and enhance navigational safety.

Data acquisition from multiple sources:

- AIS
- Radar
- Radio Communication
- Satellite – Voice and Data
- SAR Imagery
- **Meteo Data**
- Navtex Info
- Container Tracking
- OSINT
- Third-parties
Our maritime system incorporates Navtex data, enabling the detection of non-compliant or inefficient maritime operations by analyzing navigational and safety messages for improved decision-making and operational oversight.

Data acquisition from multiple sources:

- AIS
- Radar
- Radio Communication
- Satellite – Voice and Data
- SAR Imagery
- Meteo Data
- Navtex Info
- Container Tracking
- OSINT
- Third-parties
AQUA® integrates container tracking data as a source to identify correlations with other maritime information, enabling the detection of route anomalies and facilitating comprehensive analysis for enhanced supply chain security and efficiency.

Data acquisition from multiple sources:

- AIS
- Radar
- Radio Communication
- Satellite – Voice and Data
- SAR Imagery
- Meteo Data
- Navtex Info
- **Container Tracking**
- OSINT
- Third-parties
The "relevance rating" system evaluates a vessel's behavior to determine its risk or suspicion level. This rating is calculated considering various criteria that might indicate potential illicit activities or suspicious behaviors by a vessel. Each criterion has a relative weight, contributing to the overall relevance rating of the vessel.

**Criteria:**

- sanction presence
- reflagging
- AIS shutdown
- inconsistencies in Vessel Significant Data
- detection of Anomalous Draft Behaviors
The "Custom Event Builder (CB)" is a dynamic tool that allows users to define specific zones within which custom control algorithms are applied. By establishing these zones, the system can focus its analysis on particular areas, applying filters and algorithms to monitor vessel activities and behaviors. Specific algorithms within the CEB can trigger custom events based on the observed activities of the vessels in these zones.

**Key Algorithms & Events Generated:**

- Nearby
- Nearby Prediction
- Zone Violation
- Zone Violation Prediction
- Compatibility between sources
- AIS shutdown
- Social Call Detection
- ISPP Call Detection
- Others

**Alarm Notification:**

- Users can receive immediate alarm notifications in cases of algorithm matches
AQUA® - Key Benefits

- Data on-premises
- AI-Driven Alerts
- Automation of Manual Processes
- Real-time Alarms
- Multisource
- Collision Alerts
- Pattern Analysis
- Smuggling / Ship-2-Ship transfer
- Open Platform to include «Customer’s Specific» data Sources
- Modular and Scalable Big Data Ready

COMMERCIAL IN CONFIDENCE