MarineM Mini-VTS System

The **MarineM Mini-VTS** is a **compact, AIS-centric vessel monitoring system** designed for **small ports, marinas, terminals, and coastal facilities** that need reliable situational awareness without the infrastructure burden of a full IMO-class VTS. It delivers the essential functions of vessel tracking, safety monitoring, and incident review in a lightweight, modular package.

System Purpose

MarineM built the Mini-VTS to serve operators who require:

- **Real-time visibility of vessel movements**
- **Basic traffic monitoring and safety alerts**
- **A low-cost, low-maintenance alternative to full VTS**
- **Rapid deployment in remote or resource-limited environments**

Core Functional Components

1. AIS-Driven Vessel Tracking

- Continuous AIS target acquisition
- Vessel metadata display (name, MMSI, type, draught, destination)
- Real-time speed, course, and heading
- Target filtering by type, zone, or behavior

This is the system's backbone — it is optimized for AIS-rich environments.

2. Optional Sensor Integration

Although AIS is primary, the Mini-VTS can integrate:

- **Small X-band radar** for non-AIS targets
- **CCTV feeds** for visual confirmation
- **Weather sensors** (wind, visibility, tide)
- **AIS AtoN** for buoy status monitoring

These modules are add-ons rather than defaults.

3. Chart Display & Geospatial Tools

- ENC or raster chart support
- Customizable layers for:
    - Port limits
    - Anchorage areas
    - Restricted zones
    - Berths and jetties
    - Aids to Navigation
- Operator-defined geofences

4. Safety & Alerting Functions

- CPA/TCPA warnings
- Speed limit violations
- Zone entry/exit alerts
- Loss-of-AIS or abnormal behavior flags

5. Communications & Logging

- VHF radio integration
- AIS and radar data recording
- **Playback** for incident reconstruction or training

Lightweight Architecture

- Runs on a single workstation or compact server
- Minimal networking requirements
- Suitable for remote or island environments

Modular Expansion

- Add sensors as needed
- Scale from one operator station to a small multi-station setup

Low Operational Overhead

- **Minimal training required**
- **Designed for ports without dedicated VTS staff**
- **Much Lower cost than full VTS solutions from major vendors**

Where MarineM Mini-VTS Fits in the Market

- Monitoring, not traffic organization
- Lower cost and faster deployment, minimal training