ASWTT

Anti Submarine Warfare Team Training Simulator

Air - Surface - Subsurface platforms in high realistic environments

MAIN FEATURES

- Single and Multi-Platform simulation
- Real-time data exchange
- Complex tactical scenarios simulation
- Generic and/or real operator interface
- Fully compatible with MISTRAL 4000 Line
- Complete and flexible Database System
- Scalable and custom made systems
- PC based technology

Introduction

The ASWTT has been developed to answer the requirements of several Navies asking for multi-platform simulator(s), able to respond the demanding request of having a realistic, modern and flexible ASW training tool based on COTS [Commercial Off The Shelf] technology.

ASWTT is therefore able to perform multiple training, from single operator training [Sonar, Radar, IR, MAD, ..] up to multi-platform ASW tactical ops [submarines, surface vessels and airborne units].

The underwater acoustic environment simulation, thanks to the SSE [Sonar Simulation Engine] and the performance of the simulated underwater scenario [in terms of BT, SVP, bottom profile, ..], allows to train operators on equipments and combat tactics in a real-like underwater environment.

The ASWTT is fully compatible with the "Mistral 4000" and "Mars" product line, therefore each single ECA-Sindel system can be expanded up to become a complete ASWTT Simulator.
Trainees can take advantages of the following system features:

- **As Console Operators** [Sensors, Tactical, ..] they learn basic, normal and advanced usage and functionalities of their respective equipment.

- **As Operators, Tactical Officers or Commanders**, they can experience and learn different ASW approaches:
  - Making use of Single Units [aircraft, ship, ..]
  - Making use of an Operative Units that cooperates with other friend units [team, fleet, ..]

Trainees are fully immersed in a very realistic scenario and background, resulting in the possibility to acquire and test also internal mechanism and operations inside a single Operative Unit, as well as to expose crews to stressing mission and events.

The **ASWTT** is able to simulate a complex tactical scenario composed of the following platform types:
- Ships [Destroyer, Frigate, Cruiser, ..]
- Submarines [SSN, SSBN, SSK, ..]
- ASW airplanes or MPA [Multi Purpose Aircraft]
- ASW helicopters

All platforms are based on a high realistic mathematical model tuned on the specific simulated platform.

The **ASWTT** supports the following **sensor type**:
- Sonar [HMS, VDS, TACTAS, Dipping, ..]
- Radar [Surface search/Navigation, airborne]
- MAD [Magnetic Anomalies Detector]
- Sonobuoy [DICASS, DIFAR, LOFAR, XBT]

Each sensor is based on a high-realistic generic simulation engine which is able to perform all the computation requested in real-time basis.

The **ASWTT** supports the following **weapon type**:
- Depth charge
- Torpedo [lightweight, heavyweight]
- Anti-Submarine rockets [ASROC, VLASROC]

The **acoustic countermeasures** supported are:
- Decoy
- Jammers

**Specific equipments can be developed.**
ASWTT

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Typical System

- **BRIDGE**
  - Manoeuvring
  - Navigation
  - Communication
  - Large Visual system

- **INTEGRATED SUITE**
  - Manoeuvring
  - Communication
  - Visual system
  - Sonar Ops

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The ASWTT is fully configurable and it is based on a modular design, therefore each system can be tailored on specific requirements.

The above pictures shows the possible platform stations that can compose a ASWTT simulator, each platform can be composed by several consoles.

DBManager

Database System

The ASWTT Database System is a relational database using a custom friendly interface. The DBManager is able to manage the following elements:

- Hydrodynamic data
- Signature/Detection data
- Logistic data
- Platform fittings

- Sonar data
- Radar data
- Weapons
- Countermeasures

- ESM data
- Magnetic data
- Damaging data
- More>>

SonSim

Sonar Simulator

The ASWTT Sonar Simulation module is based on the SonSim Engine. The SonSim is a high performance Sonar Simulator based on a mathematical calculation "core" SSE [Sonar Simulation Engine] and a generic or "replica" GUI [Graphic User Interface].

Audio sonar echoes, platform noise and environmental noise are real-time aurally generated by the specific software module SSG [Sonar Sound Generator] through COTS hardware.

The ASWTT fully support all kind of Sonar(s) and Sonobuoys used in modern naval vessels.

For more information on single products please consult the relevant leaflets/brochure