



MULTI-SENSOR, MULTI-TARGET SIMULATOR FOR MARITIME SECURITY

EEZy-SIM is a multi-sensor, multi-target simulator designed specifically for Maritime Security and EEZ (Economic Exclusive Zone) scenarios. Within a synthetic environment, it provides the ability to build various complex threat situations and subsequently conduct in-depth analysis of the results. It can help evaluate reactions to threats and test protection level and early warning capabilities.

The design of EEZ protection systems is a complex activity that often requires the consideration of multiple factors including system configuration, sensor deployment, external system integration, reaction to threats and breaches caused by sensors failures and temporary maintenance activities. In addition, allied resources coordination and natural resources protection needs are must be considered during the system design stage. EEZy-SIM allows a system to be evaluated both before and after deployment. It allows an operator to test scenarios using a “what-if” analysis: i.e. give an answer to the question “How would the system react when a threat with certain characteristics appears in a well-defined situation”.

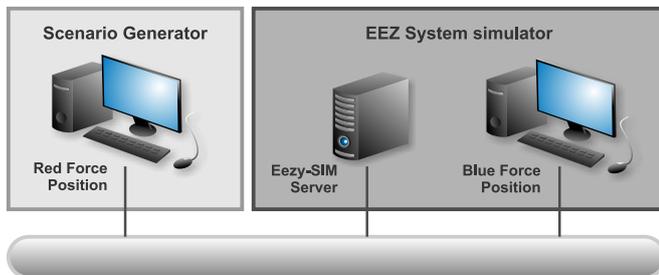
EEZy-SIM works by allowing interaction between two operators representing a Red Force and a Blue Force respectively. The Red Force exists to conduct illegal activities or attacks. The Blue Force counters these threats through use of the EEZ Protection system.

The Red Force can generate and execute realistic scenarios for the Blue Force to react to - system performance and response times can then be evaluated. Blue and Red Force operators can ‘battle’ using the EEZy-SIM platform to identify possible weaknesses in the system configuration under controlled test conditions.

Furthermore, once deployed, EEZy-SIM can be used both for EEZ Operator training and for System testing and performance evaluation. It can, in fact, be connected to the operating system, or to a dedicated mirror, and scenarios can be installed as if generated by real sensors.

KEY FEATURES

- EEZy-SIM is platform independent, runs on any Operating System, and offers an easy-to-use graphical interface. Minimal training is needed to run a predefined scenario or to create a new one.
- It is a clustered application, able to be deployed in several active-active instances to serve a large number of users or even several systems in parallel
- EEZy-SIM scenario objects can be created from scratch or based on a commercial Database export, in order to use real data and stimulate automatic identification capabilities of the system under test
- EEZy-SIM generates data “as-if” real sensors were connected to the system. EEZy-SIM is able to generate Radar, AIS, Direction Finder, Meteo/Hydro Sensors and External System in the same scenarios. Also a unique SAR (Synthetic Aperture Radar) Simulator is included
- EEZy-SIM exploits a plugin-based architecture and is designed in order to easily develop new interfaces and adapt to changing system environment. Whenever a new sensor is added to the system a specific plugin can be added to simulate it, so that previously created scenarios are not affected by the change
- EEZy-SIM allows to define communication properties for each sensor both before and while scenario is running. Any feature, in the scenario, can be modified at runtime. EEZy-SIM offers high level functionalities such as rulers, CPA/TCPA Calculation, Display Filters
- AIS Message Sending, Picture-in-Picture that allow to thoroughly test the System under test and perfectly simulating a real operational environment
- EEZy-SIM is able to overlap a real scenario, gathered from a real sensor site, with a simulated one (hybrid simulation). This allows trainer, for example, to easily create a “significant” situation for the trainees exploiting realistic Data.



TECHNICAL SPECIFICATION

Max # of Simulated Radars	30
Max Number of targets	5000
Max # of AIS Base Stations	30
Scenario Refresh rate	0.5 - 5 seconds
Max # of External Systems	100
Cartography	S-57
	S-63
	Automatic download of on-line services if available
Max # of SAR (Synthetic Aperture Radar) sensors	100
Lloyds' DB target generation	Available

CLIENT APPLICATION SYSTEM REQUIREMENTS

CPU	Intel® Core™ i7 2.7Ghz
Memory	6 GB
HDD	<100 MB
Display	OpenGL / HD Screen

SERVER SIDE SYSTEM REQUIREMENTS

CPU	Intel Xeon 2.6Ghz - 4 Processors
Memory	16 GB
HDD	<1 GB
Database	PostgreSQL®

