

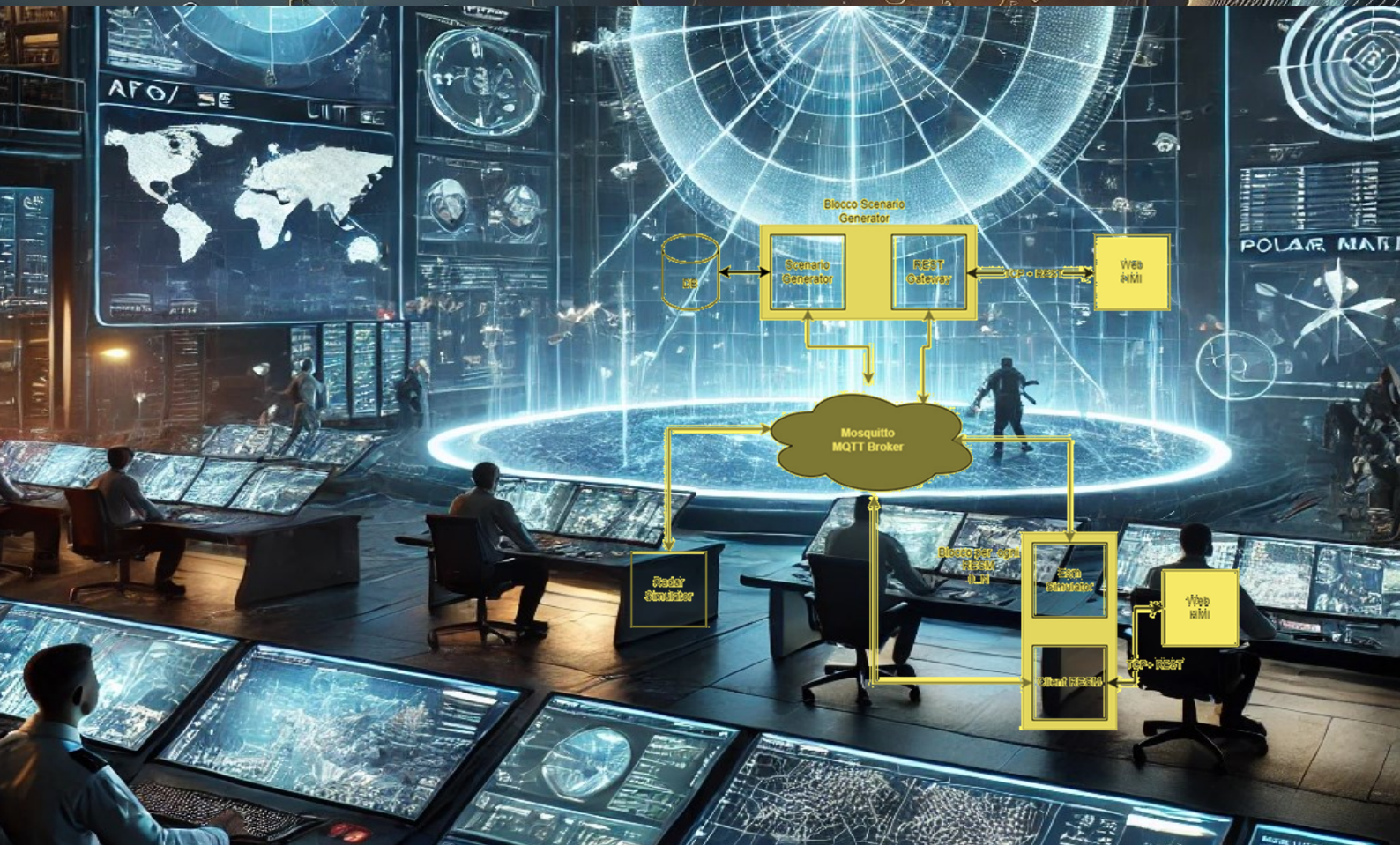
ÆGIS

CEMA Simulator



ÆGIS is a comprehensive suite for Cyber Electromagnetic Activities Simulation (CEMA). This non-material-settings simulator provides a wargaming environment for electromagnetic and cyber assets that generate effects visible on the material layers of key C&C systems. The suite includes a scenario generator, a radar simulator, a variable number of R-ESM simulators, and a communication channel simulator. In its base configuration, R-ESM clients can explore and monitor the electromagnetic domain represented within the simulated scenario. The scenario generator communicates the kinematics of involved entities via communication channels (currently MQTT and DIS), enabling information sharing with third-party systems or official ÆGIS clients.

The system is designed to be expandable, allowing for future integration of additional features such as decoy launchers, ECM, missiles, and UAVs, thus enhancing operational flexibility.





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MAIN FEATURES

- ◇ Scenario creation with configurable platforms and equipment customization.
- ◇ Generic kinematic engine for entity movement on tactical maps, adaptable to naval, terrestrial, and aerial platforms.
- ◇ Integration of digital terrain elevations to calculate line-of-sight and manage collisions with natural obstacles.
- ◇ Generation of Pulse Descriptor Messages (PDM) based on the electromagnetic environment, available for visualization and processing by R-ESM clients.
- ◇ Programmed radar management with on/off cycles triggered by events within the simulation.
- ◇ Advanced visualizations for R-ESM clients, including tabular views, RF/Time, PW/Time, Polar charts, tactical map, and ELINT features for collecting and visualizing PDMs.
- ◇ MQTT-based communication to simplify node communication within the simulation.
- ◇ Support for DIS communication to enhance interoperability with other systems.

TECHNICAL SPECIFICATIONS

- ◇ Supports up to 100 unique elements (platforms and/or entities).
- ◇ Supports up to 50 simple radars (emitters).
- ◇ Each radar can handle up to 50 programmed operating modes.
- ◇ Supports 1 R-ESM, extendable to 5.
- ◇ Each R-ESM can process up to 1.5 million PDM per second, with filtering options for higher volumes.

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