ROKE

CEMA SIMULATOR

Training and mission rehearsal

CLASSROOM TRAINING ENVIRONMENT

The CEMA simulator can be hosted on existing classroom IT without the need for other elements of the EW system. It can be used by students for pre-deployment training without being collocated with equipment. It can be operated in a multi-site environment, allowing students to remotely log on to train against common scenarios.

SCENARIO SELECTION

Scenario selection and replay in two clicks. Simple controls to pause, resume or restart the scenario to enable scenarios to be repeated or paused whilst receiving instruction. A timer shows progress of the scenario. The instructor map position is automatically positioned to show the scenario overview. Tracks are displayed to the instructor so they can see how emitters and nodes will move during the scenario. It is complementary to all Roke product lines to reduce and remove skill fade.

RICH TARGET SIMULATION

Fixed frequency or Frequency Hopping emitters are simulated at preset positions which can be either fixed or follow a defined movement pattern. Emitters can be enabled or disabled by the instructor whilst the simulation is running. The changes are reflected in real time to the student.

STUDENT VIEW

The CEMA simulator takes the modelled scenario and ensures that the student is presented with the correct geo-positional emitter information based on their position within the scenario. They can connect to any defined networked ES node within the scenario and their positional data will automatically update to be correctly georeferenced. Other nodes in the network are simulated to ensure that positional data is available. Students can simulate any node in a scenario, and the instructor can operate multimodal vignettes. The instructor can inject errors and faults for the student to respond to.

SCENARIO GENERATION

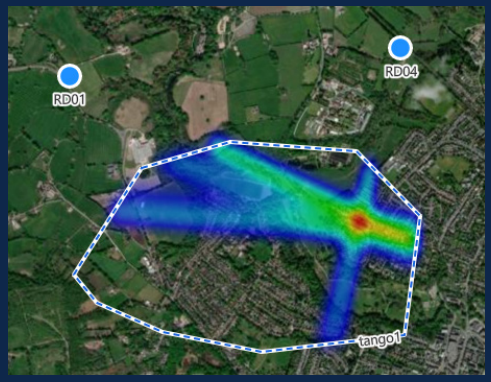
The CEMA scenario generator uses open standards based scenario generation capability supporting easy creation of simulated training environments. New scenarios can be rapidly setup.

FEATURES

- Accurate simulation of CEMA scenarios for training
- Common UI look and feel in preparation for operations
- Scenarios can be loaded, paused and resumed quickly in line with student needs
- Simple to create and run scenarios in Open format
- Simulate Static or Mobile nodes and emitters
- Simulate equipment faults and denial/jamming by the enemy

BENEFITS

- Pure software training solution, no hardware procurement
- Can be hosted on 3rd party networks and across multiple sites
- It is complimentary to all Roke product lines to reduce and remove skill fade
- Low cost training environment



CEMA SIMULATOR SPECIFICATIONS

Technical Specifications	
Scenario Format	GeoJSON.
Positional Formats Supported	Static location. Define a path for the emitter or surveillance node to follow during the simulation (at defined speed). Relative to node location.
Modelled Types	Emitters. Electronic Surveillance Nodes.
Emitters Supported	Fixed Frequency. Frequency Hopping.
Transmission Model options	Transmit power model. Received Signal Strength Model.
Scenario Controls / Displays	Start, Resume, Pause, Restart. Progress/run length timer.
Mapping Formats	Geopackage format (gpkg), raster formats, WMTS.
Advanced Simulation Features	Co-Channel Direction Finding. Co-Channel Beam Forming.

Emitter Control	
Fixed Frequency Emitter Parameter Simulation	Frequency. Bandwidth. Modulation. Modulation Data (link to IQ file). Azimuth Angle of Arrival. Elevation Angle of Arrival. Transmit Power. Receive Signal Strength. On State Periodicity. Off State Periodicity. Start Delay timer.
Frequency Hopping Emitter Parameter Simulation	Hopper Span. Hop Rate.
	Hopper Raster Frequency.
Live Scenario Changes	Disable/Enable emitters. Add additional emitters. Change emitter parameters.

Node Control	
Surveillance Node control	Node Position. Node Velocity. Node Heading. Power/Battery State. Built In Test (including fault injection).

Roke Manor Research Ltd Romsey, Hampshire, SO51 0ZN, UK • +44 (0)1794 833000 • info@roke.co.uk • www.roke.co.uk

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