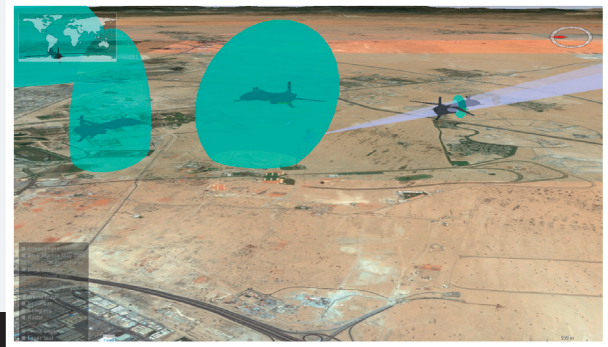




technology for innovation

## EW-TISS: ELECTRONIC WARFARE TRAINING INTEGRATED SIMULATION SYSTEM



**Easy-to-use software for ELINT  
and COMINT Operator Training**

**Knowledge Transfer on Electronic  
Warfare, Surveillance and  
Navigation techniques by means  
of classroom training**

**Familiarize with analyzing Signals  
in Pulse- or Signal-View**

**Automated debriefing  
functionality to identify  
operator performance gaps**

**Analysis of specific operational  
techniques effectiveness**

**Mission planning capabilities**

**Merging of ELINT and COMINT  
Operator results to facilitate  
Command and Control Training**

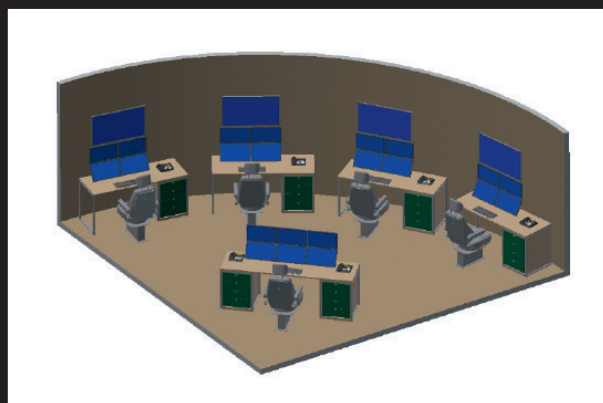
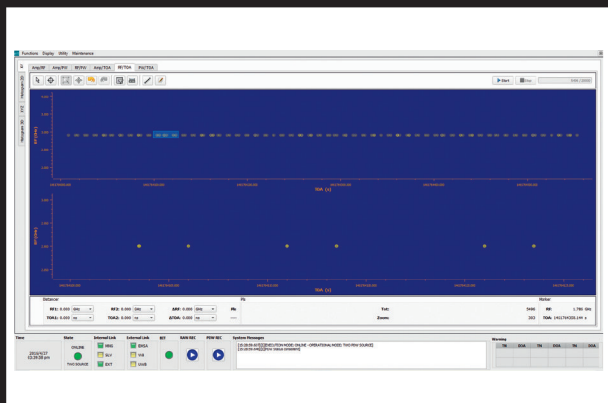
EW-TISS is a software based training solution for the acquisition of operational and analysis skills by Operators of Radar reconnaissance systems (ELINT-Systems) and systems for Communications Intelligence.

The instructor can predefine platforms (ships, vehicles, aircrafts), Emitters and Receivers and place them on a geo referenced map. A Scenario can be developed by adding all necessary parameters like trajectories and kinematics for the platforms and emission models for the sensors.

The software environment calculates the temporal evolution of the signal scenario, the electromagnetic propagation of the signals as well as the received signals of the used ELINT- Receivers. The signal output is dependent on the emitter behavioral parameters and the Operator Settings of the ELINT-Systems.

The synthetic data are presented to the trainee. The data presentation takes place through the graphical user interface of the sensor accessed by the trainee, which is part of the simulation environment.

## EW-TISS



Various behavioral models of civil and military radar functions, like

- Multifunctional phased array
- Mechanical search
- Search & track
- Weapon Guidance

Modern wide open and digital ELINT receiver models

Radar, Receiver and Platform model parameters can be modified by the User and stored locally

The number of entities in the simulation scenario can be defined by the User

Signals are generated at the following levels:

- Track level  
Numerical representation of the dynamic status of a platform mainly describing its position, kinematics and overall attributes or behavior
- PDM level  
Pulses with their set of parameters (e.g. amplitude, time, frequency, location)
- I/Q sample level  
Representation of intrapulse features

Compliant with High Level Architecture (HLA) standard enabling EW-TISS to be integrated in other systems and used as a service

### Functional entities of the Simulation Environment

Communication & Data Management  
Encloses the necessary infrastructure for data management, data exchange and synchronization of the entire architecture

Simulation Management  
Functions devoted to the control of the simulation environment including the configuration of the used entities, their dynamic evolution and kinematics

Radar search, detection, tracking functions  
Functions accomplished by radar systems which are modelled through the switch between radar modes and waveforms during the simulation

Receiver functions  
Model of basic receivers and the scanning strategy implemented over angle and frequency (linear scanning with selectable scanning rate, jumping over bands of interest with different dwell time)

EM propagation  
Function to take into account the propagation phenomena for the simulated signals including timing, attenuation and Doppler shift aspects

Signal Analysis function  
Real time display of selectable parameters of the incoming signals / information slides within window tabs