



## NETCOMM SIMULATION ENVIRONMENT

NCSE is a Modelling and Simulation environment based on the OPNET® suite, offering:

### Simulation of any operational network asset

- Sensors fields
- Infrastructure networks
- Mobile networks
- Aerial networks
- Satellite networks.

### Analysis

- Scalability
- Survivability
- Availability and reliability.

### Utilization of “State of the art” Communication and Networking technologies

- Suite of MANET protocols
- Satellite communications
- Wireless
- 2D/3D visualization of communications.

### Realizing the “System-in-the-Loop” (SITL) capability

This allows for establishing a connection “Live Constructive” through which real hardware or applications and the simulation environment interact as a single unified system.

This allows for:

- Analyzing effects of a simulated network on a real application
- Utilizing simulation as a traffic generator to load real networks
- Conducting stress tests on real equipment applications in a environment that simulates operational conditions
- Testing new equipment or applications before their introduction on the field using a replica of the same in the simulated environment.



## APPLICATIONS AREAS

### Pre-deployment Planning

NCSE allows for planning and verifying pre-deployment of the units that will be actually used in the real operation employing a 3D visual representation. It also can be used to conduct “What if” analyses aiming to identify specific conditions that can affect the required levels of performance.

### Acquisition Support

Provide the capability of modeling and simulating new techniques and technologies (WiMAX, MANET, Software Defined Radio) before their introduction “in the field”, verifying their applicability in complex scenarios.

## DECISION MAKING PROCESS

### Support

Provide the capability of conducting complete end-to-end analyses of complex systems.

Through participation in a “Synthetic Environment” over HLA, any interaction of a foreseen entity with the global scenario, can be analyzed by “Decision Makers” having a complete picture used to explore any possible option.

### Training

NCSE provides an environment integrable with Virtual Simulation tools (i.e. VBS2) to build LVC (Live-Virtual-Constructive) architectures aimed at providing an advanced training environment on telecommunication assets in operational scenarios.