X-GEN®

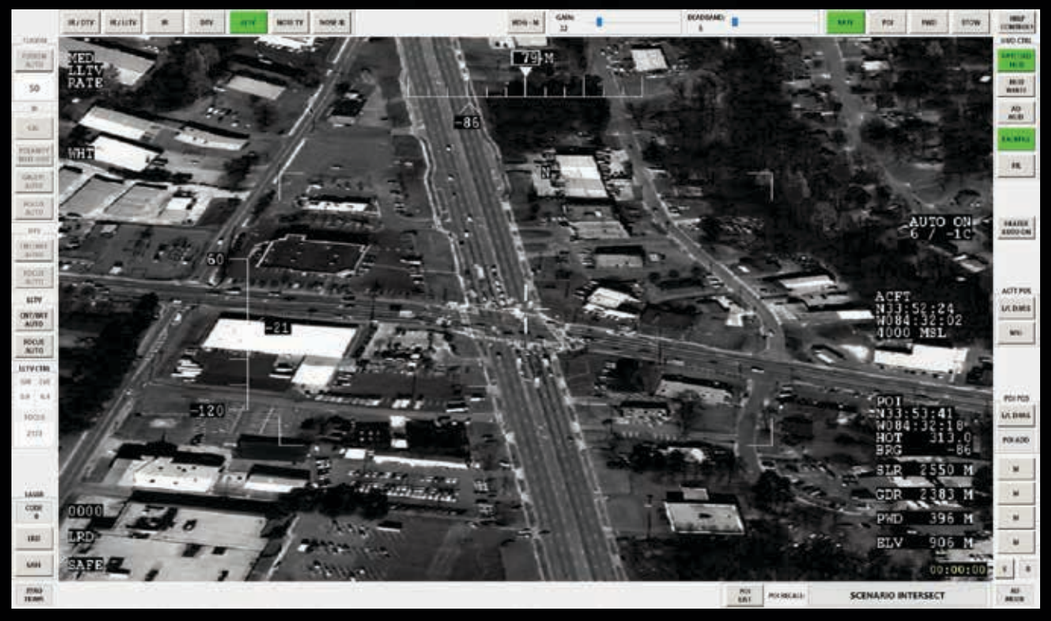
High-Fidelity Unmanned Systems Simulation

CATI has designed a High-Fidelity Virtual Training and Testing System focused on the unique requirements of the commercial/civil community. X-GEN® incorporattes the latest technology for training payload and air vehicle operators from basic through full-operational, location-specific training, and rehearsal procedures. X-GEN® is based on CATI's proven image generator software for real-time scene rendering of sensor views. X-GEN® also has an open architecture design which provides a programmable 6-DOF aero-model that supports any air vehicle control, menus,cued symbology, and 2D map display. X-GEN® is scalable to run on a laptop, desktop, or full Ground Control Station (GCS) configuration. Users have the capability to design and train on custom scenarios as well as add future updates.

X-GEN® is adaptable to meet the diversified training needs of universities, municipalities, law enforcement agencies, and commercial organizations without the burden of data rights restrictions. X-GEN® supports mulitple air vehicle payloads with tunable sensor characteristics, simulating any LLTV and IR sensors.

CATI's Generic UAV model

X-GEN® Pilot View



X-GEN® Sensor View

X-GEN® Map View

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X-GEN®
Generic Unmanned Aircraft System Trainer

CATI Training Systems

Air Vehicle Operation Features

- Automatic Flight Control System (AFCS)
- Flight Symbology
- 2D map display with Airspace situational awareness
- Route planning
- AV checklist operations
- High-fidelity fixed-wing and rotary-wing air vehicle modeling

Payload Operation Features

- IR - TV - EO payload sensor views
- Sensor pan and zoom
- Laser ranging and designation
- Geo-stabilized point and entity tracker
- Multiple electronic/digital zoom and focus
- Sensor fusion IR & TV - IR & EO
- Contrast-based Image Auto-Tracker (IAT)

Standard Interfaces and Databases

- Distributed Interactive Simulation (DIS)
- High Level Architecture (HLA)
- Extensive libraries of world-wide, geospecific, high-resolution databases
- Rapid placement of database features using the Environmental Modeling Editor (EME®) for fast turnaround and reduced cost

Generic UAV/RPA Parameters

- Multiple air vehicles; fully tunable in size, endurance, weight, or payload
- Pilot or sensor models selectable on a single workstation

Instructor Operating Station (IOS)

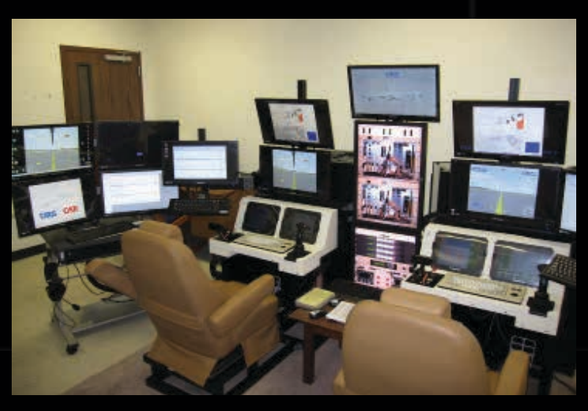
- Network control of multiple X-GEN® student stations
- Scenario and lesson plan selection
- Atmospheric effects control
- Multiple cloud, fog, and haze layer models
- Continuous time of day based on geographic location
- Activation/deactivation of emergency procedures either manually or through pre-selected criteria
- Automated monitoring and logging of trainee actions under emergency procedures

Export Control

- X-GEN® is approved for export
- Civilian and Commercial X-IG® sales are subject to the jurisdiction of the U.S. Department of Commerce in accordance with the Export Administration Regulations as EAR-99

Above: Full UAV Ground Control Station (GCS) Configuration in use

Below (left to right): Full UAV Ground Control Station (GCS) Configuration, UAS Flight Training Ground Control Stations at Embry Riddle Aeronautical University, Desktop UAS Trainer Configuration, Laptop UAS Trainer Configuration

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