euramec
fly right

ISR VIRTUAL CREW TRAINING SYSTEM

Simulator based Pilot/TFO
Tactical Training

"When the time to perform arrives,
the time to train has past"

RAPID IMAGING
SOLUTIONS

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The key-word is **"Practice"**. Training doesn't end after the instructor leaves, it's an on-going process that is critical for safe and effective operations. But in the real world, it's not always possible to train every day and in every weather condition. Tight budgets, aircraft & systems maintenance, and more can prevent a unit from conducting scheduled training which means that new Pilot or TFO will have his/her hands full when the call for support happens.

Introducing the **ISR Virtual Crew Training System**

The VCTS is an EASA FNPT-II & FAA Approved Flight Training Device (FTD) with a modular aircraft platform - C182, T206H, C208, Kodiak, DA-42/62 or even rotorwing can all be designed and flown. The VCTS is built on an aluminum platform that can easily accomodate 4 students and is comprised of a custom built cockpit replica and a rear extension designed for the TFO training station with Gimbal Imaging Systems Trainer software and Augmented Reality software, as used in the unit's patrol aircraft.

From startup, taxi, and operations over the target area, the VCTS replicates the look and feel of todays Airborne Law Enforcement aerial support platforms. With outside views in spectacular 4K resolution and wrap-around visibility up to 240° using 3-channel COTS projection system that delivers a truly immersive experience.

Benefits realized:

* one time initial investment versus real aircraft operational costs such as fuel, maintenance, repair.
* Risk management tool that enhances pilot safety and improves crew coordination
* All-weather training tool
* Build procedural proficiency without excessive costs
* Pilot time may be logged for instrument currency

Diamond DA-62 MPP Virtual Crew Training System

AVIONICS, INSTRUMENTATION, & HARDWARE

Simulated G1000 PFD, MFD & Audio control
WAAS/EGNOS capable for LPV approaches
Jeppeson NavData database with 28 day cycle updates
Simulated GFC700 Autopilot system with Flight Director
Avionics Bus 1 and Bus 2
Standby Battery Aram & Test
Electric and manual trim wheel
Iindustrial-grade flight controls with dynamic control loading
DA-62 MPP modeled aircraft system switches
Linked rudder pedals with dynamic control loading

NAVIGATION, SCENERY DATA, AND WEATHER

World-wide navigation data by Jeppeson
Enhanced visual scenery with over 22,000 airports
Dynamic weather (clouds, winds, turbulance, & icing)
Visible precipitation (rain and snow)
International GPS database
User modification of navigation database elements
Virtual Airport facility directory
Tablet WiFi connectivity for Foreflight or Garmin Pilot, & others.

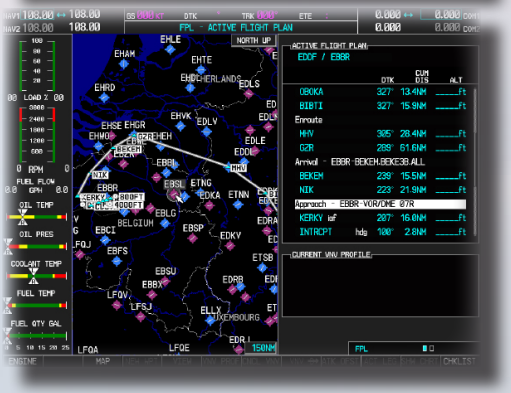
INSTRUCTOR STATION - IOS

Easy to use touch screen interface including:
- Easy position of the aircraft on or relative to airfields, traffic pattern, etc.
- Full control of weather (cloud layers, visibility, pressure, winds, precipitation, turbulence, etc), date, time, and real world weather.
- Trigger malfunctions including flight instruments, systems and mechanical failures, which can be linked to flight data and G1000 (e.g. fail attitude indicator at 1000 ft.)

EMERGENCY PROCEDURES TRAINING

Instructor and/or computer controlled failures
- PFD and MFD
- reversionary backup
- power plant
- systems

Immediate, timed, gradual, and random failures
RAIM, AHRS



VISUAL SYSTEM

- The VCTS includes a 3-channel 1080p HD projection system with COTS projectors, ensuring a U-shape +/- 240° horizontal field of view.
- The projectors are mounted on a standalone frame.
- The calibration system is developed together with the University of Hasselt in Belgium, leaders in the field of digital video applications.
- Blending and warping is done with a proprietary software plug-in developed by Euramec.
- Horizontal view is 240°, Vertical view is normally 45°
- Complete set-up of the screen with projector stand fits into a 4.8 x 4.5 x 2.5 m area.
- The system has a resolution and refresh rate which is sufficient to achieve an EASEA FNPT-II or FAA level 5 certification.

EASA FNPT-II CERTIFIED
FAA ADVANCED FLIGHT TRAINING DEVICE

DA-62 MPP VCTS - TFO Training Station

Continuous Improvement - the name of the game in Airborne Law Enforcement. The Virtual Crew Training System with TFO training station was developed to make your Air Department more ***effective***. It's all about being a force multiplier for your ground units and every dollar spent on training, if done correctly, will multiply the effectiveness of your operations multi-fold.

The VCTS is that force multiplier. With the TFO Training Station addition to the VCTS, we can save your department countless hours and money by bringing the Tactical Flight Officer (TFO) and Pilot up to speed on effective operational tactics in a safe and virtual training environment.

Rapid Imaging Solutions has teamed with Aerosimulators Group, to to provide the Gimbal Imaging Systems Trainer (GIST) as part of the Virtual Crew Training System. A complete Electro-Optic Infrared (EO/IR) sensor simulation accurately modeling system performance, the VCTS GIST software offers a cost-effective training solution for Sensor Operators, Tactical Flight Officers, and Pilots on a wide range of gimbal imaging systems, including FLIR, L3Harris Wescam, Raytheon, Lockheed Martin, and Trakka Systems.

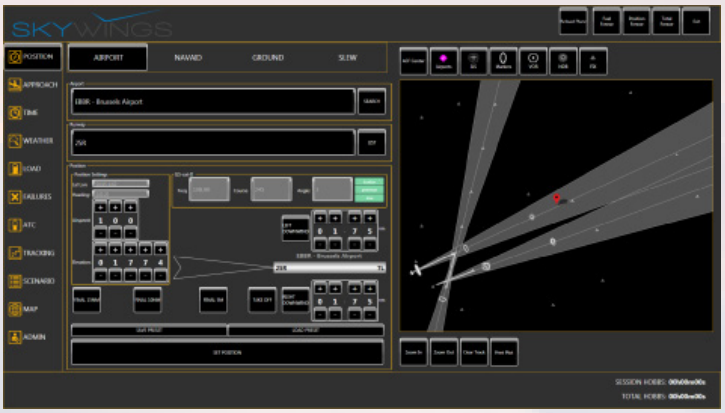
Key Features

- Replica Hand Control Units (HCU) or Operator Control Units (OCU) interacting with the specific turret overlay.
- Pre-loaded scenarios and avatars that are designed to provide operators with a variety of situations to learn and practice the operation and menu structure of the installed EO/IR turret(s).
- Scenery content database with the Air Departments regional area of operations and geo-specific terrain.
- The ability to develop and program specific scenarios typically encountered by Air Department units.
- Simulated airborne Searchlights that are slaved to the EO/IR system
- 3rd party integration with leading Augmented Reality software.
- AI behavior controlled with ASG's Semi-Automated Forces allowing for scripted or dynamically controlled forces

Perimeter Containment, Hi Speed pursuit, Search and Rescue, are just a few of the scenarios that can be programed and utilized for training by the Pilot/TFO team. Our partner, Air Bear Tactical Aircraft and their Director of Airborne Law Enforcement Solutions - retired CHP officer John Nielsen, can provide your Air Department with custom tactical training for an immediate improvement in air support operations.

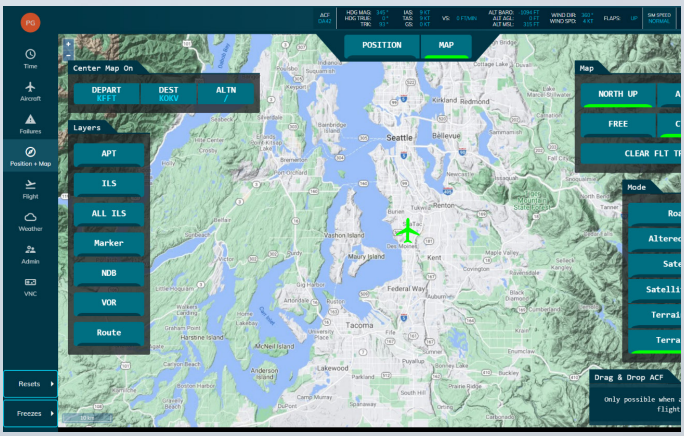
Instructor Operator Station

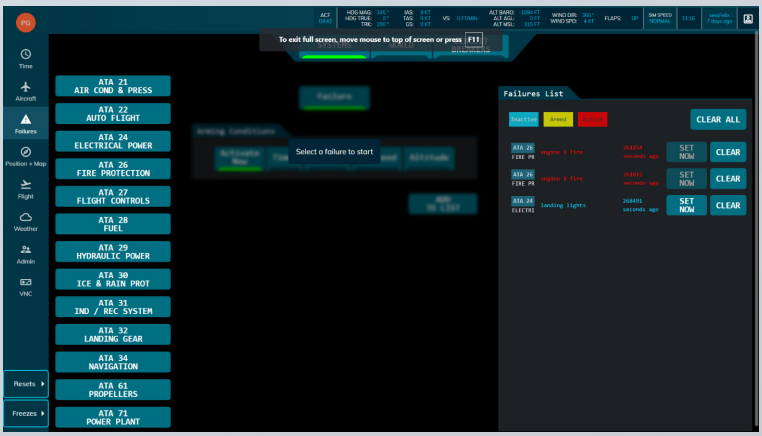
For the Virtual Crew Training System, our Instructor Operator Station is designed to assist the instructor in controlling all aspects of the simulation training environment, and monitoring the Pilot/TFO performance in the VCTS Simulator. The instructor can control, via the Euramec custom designed software, all functions for both the flight deck and the TFO training station with GIST software. This includes aircraft position and systems, meteorological, environmental, situational, and EO/IR sensor parameters.



The IOS software runs on a seperate PC, Laptop, or even Ipad and is controlled through an easy to use touchscreen interface. Features include:

- Easy positioning of the aircraft on or relative to airfields (ramp, runway), circuits (Final,downwind, ...), approaches (navigational beacons) with customizable presets. Also included are slew modes for lateral, vertical and attitude displacement.
- Full control of weather (cloud layers, visibility, pressure, winds, precipitation, turbulence,...), date and time with customizable presets.
- An interactive mapview featuring airports, navaids, airways and airspaces, also incorporating the vertical component of flight and real time display of the standby instruments (EFIS option available).
- A flight data tracker with record and playback functionality to review flights, which is directly coupled to the mapview. Also, different parameters of flight data can be displayed on a real-time moving graph.
- Easy to use fuel and payload manager with center of gravity setting and customizable presets.
- Fuel, Total and Position Freeze modes.
- Trigger malfunctions including flight instruments, systems and mechanical failures, which can be linked to flight data and G1000 (e.g. fail attitude indicator at 1000feet).





TFO Training Aid
Gimbal Imaging System

Complete Electro-Optic Infrared (EO/IR) sensor simulation, accurately modelling system performance.

The Gimbal Imaging Sensor Trainer (GIST) offers a cost effective training solution for Sensor Operators (SO), Tactical Flight Officers (TFO) and Pilots.

Sensor System Functionality

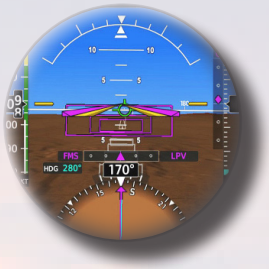
- Detailed menu structure
- Realistic and fully functional control units
- Camera sensors and imaging controls
- Automatic Video Tracking (AVT)
- Laser Operation
- Sensor Video Processing

Range of Simulated Sensors

- Electro-Optic (EO)
- Mid-Wave IR (MWIR) & Short-Wave IR (SWIR)
- Low-Light
- Payload specific fixed, stepped, and continuous zoom
- LI, LP, LRFGF, and LD
- Image Fusion

- High-performance, stand-alone, compact EO/IR sensor simulator system solution provides scenario-based training to support operational requirements.
- This solution will provide all the capabilities needed for rapid in-house EO/IR sensor training and certification at an attractive price.
- Our goal is to make this capability affordable, simple to transport, and easy to use.
- This opportunity is based on a weekly rental or lease, and can be customized to meet our customers financial needs.

A Design Inspired by Decades of Experience



Software that allows you to train like you fly

Each VCTS Simulator features an aircraft-specific simulation of your aircrafts avionics suite. If it has a G1000 panel, your sim will too. Euramec has developed a proprietary software platform that replicates the G1000's features and functionality with exacting detail. If it's in the real G1000, it's in the sim. Instead of being distracted by differences, Flight Officers can train just like they fly, using features like synthetic terrain, charts, taxi charts, ADS-B, TAWS, VNAV, and WAAS.

Hardware that Looks, Feels, and Functions Like the Real Thing

The first thing you notice about any sim is the hardware. The hardware components of our VCTS simulators are aircraft-specific, work just like their real-world counterparts, and are engineered for heavy use by multiple users. Fully functional buttons and knobs build muscle memory and minimize negative transfer of skill. There's no new interface to learn in the sim (and no new interface to forget in the airplane).

Aircraft Performance Based on Real-world Specs

The best avionics and hardware can't make up for unrealistic flight dynamics. Simply put: a simulator should fly just like the airplane it's simulating. We meticulously develop the flight model for each of our simulated aircraft based on the real aircraft's performance specifications. It's an art as well as a science, and our customers appreciate the effort we make to get it right.

240° Outside Views in Stunning Hi Definition

Our wrap-around outside views provide much more than "eye-candy". It simulates the entire environment that your Air Department operates in: airports, terrain, the sky, and familiar landmarks. From short flights in the local area to long flights across your entire operations area, we support most any VFR or IFR training scenario you can dream up. The view outside the window includes the entire planet - more than 24,000 airports, a modifiable real-time weather system with all seasons, and a variety of lighting effects.

Instructor Operator Station

Our Instructor/Operator Station (IOS) provides a professional interface to control every aspect of the Pilot/TFO's training. Easy positioning of the aircraft, full control of the weather, flight data tracker with record and playback functionality, and easy to use fuel and payload manager with CG settings and customizable presets. The IOS includes trigger malfunctions including flight instruments, systems, and mechanical failures.

Why Pilot/TFO training matters

Continuous improvement is not just desirable – it's a necessity in order to keep pace with the ever expanding complexity of law enforcement operations. Today's air support platforms have an incredible amount of technology and capabilities to use against increasingly intelligent suspects. The TFO/Pilot team need to be masters of their craft to keep the tactical advantage in the hands of law enforcement. Proficiency with your thermal imager, communications, and mapping systems is the key to success and we're here to help you master these tasks.

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Return on Investment

In todays world, operating and maintenance costs continue to climb to record highs. With an initial investment in the VCTS, the cost savings across several areas can be seen in the first year of operations. Contact us for an in-depth cost analysis.

Stop Waiting.
Contact us to learn more.

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ASG-ISR

Air Bear Tactical Aircraft

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TACTICAL AIRCRAFT