

# CAE INFRONT3D

CAE INFRONT 3D is a field proven, instructor led, computer based training system incorporating state-of-the-art, commercially available and readily supportable components. The system provides initial and continuation training for forward observation officers (FOOs) and forward air controllers (FACs) in the delivery of artillery fire, mortar fire and close air support onto a variety of targets.

The INFRONT 3D simulation software resides on a commercial-off-the-shelf (COTS) host personal computer (PC). This PC also provides the man-machine-interface (MMI) between the instructor / operator and the simulation software.

Two high performance, high resolution image generators (IG) create the visual training scenario in real time by merging the 3D visual database with 3D targets and weapons effects. The IG computers are COTS PCs running CAE's latest generation Medallion™-6000 image generator software. The resulting scenario is displayed to the students using high resolution projectors.

An integral sound system uses digitized ammunition and target sound effects to present student observers with realistic aural cues.



## Deployable system

The deployable CAE INFRONT 3D system is designed to be easily transported to where training is required, and to be rapidly set up, ready for use, with minimal demands on facilities or infrastructure. The entire system is housed in three ruggedized transit cases.

The system comprises three COTS mini computers interconnected via a local area network (LAN) to provide training for up to twelve students. The visual training scenario is displayed using a high definition projector connected to a CAE Medallion-6000 image generator. Calibrated binoculars are provided to enable all students to carry out target identification and prepare fire missions. A generic viewing device is provided allowing the students to 'lase' into the scenario and determine ranges or grid positions. A portable high power sound system is also provided and used to generate battlefield sound effects.

The instructor operator station (IOS) computer runs the CAE INFRONT 3D software application and is used by the instructor/operator to control system operation and to monitor student performance. A dual projection system is offered as an option.

## Full mission trainer – Warrior observation post vehicle (OPV)

Warrior observation post vehicle (OPV) crew trainers are currently in-service with the U.K. Ministry of Defence. Each of the systems consists of three containerized simulated Warrior interiors and an expandable containerized instructor and debrief facility containing three instructor operating station (IOS) consoles, and is fully DIS compatible for collective training. The vehicle mock-up consists of a high fidelity turret compartment, full replica driver's compartment with realistic range of controls, gauges and instruments. The rear compartment houses the communications and MSTAR battlefield radar.

## Key features

The features of CAE INFRONT 3D include:

- Full spectrum of environmental conditions
- Full range of simulated weapons and ammunition
- Simulated voice communications
- Combat area radars
- Digital message devices
- High level architecture (HLA) to external devices
- Surveillance and target acquisition devices (such as binoculars, laser rangefinders/designators, night sights and battlefield radars)
- Detection of potential targets by scanning the landscape
- Ability to locate a target on the ground, by map reference or polar coordinates
- Ability to carry out threat analysis
- Generate and transmit fire orders (call for fire)
- Observe the fall of shot
- Calculate and transmit fire corrections
- Generate fire plans
- Generate and transmit routine and non-routine reports and returns by means of voice or digital communication systems

## Key IOS features

The CAE INFRONT 3D IOS is a simple to use, easy to learn, Windows graphical user interface. Its features include:

- Map display window on operator's control monitor
- Digitized map of the combat area (with zoom in/out function) displayed
- The IOS display may be projected for briefing/debriefing
- The operator can display the following on the projection screen:
  - Direction strip
  - Grid reference of nominated point
  - Polar co-ordinates of nominated point
  - Compass readout
- All current artillery and mortar fire control procedures are supported, including U.K. BATES and U.S. Field Manual 6-30
- Up to 150 recorded targets are supported for each exercise
- Fire plans, each with 120 serials, can be prepared and executed
- Exercises can be recorded and replayed on demand



## Options

CAE forward observation trainers are designed to support modular, cost-effective enhancements and upgrades, offering the customer the opportunity to adapt to changes in threat conditions, new equipment or training doctrine.

- Simulated communication information systems (CIS) available
- Simulated surveillance and target acquisition devices available – optical, thermal, battlefield radar
- Interoperability gateway to other training equipment
- Closed loop artillery simulation system (CLASS) – train all mission participants including OPs, fire direction centre, gun group
- Enhanced facilities for forward air control / close air support training
- National language GUI

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