The Helicopter Flight Deck Trainer (HFDT) is designed to provide joint training for Flight Deck Controllers (FDC) and marine helicopter pilots. The simulator provides a safe, cost effective solution to train personnel in a realistic and controlled environment.

The simulation system combines custom developed gesture recognition software and commercial off-the-shelf (COTS) motion tracking hardware, PRESAGIS modelling and simulation software, the STAGE scenario generation tool and VAPS XT interactive graphical interfaces.

The HFDT is a flexible modular system that can be supplied in various levels, from a simple, portable, desktop trainer to a multichannel, high-performance tracking system that can accommodate multiple trainees and provide a 360° high-fidelity simulation with full environmental simulation. The system can easily be extended to include further components to meet requirements such as Flight Deck Officer (FDO) training and even full team training when integrated with a bridge simulator.

The system can be configured such that the helicopter will automatically respond to the signals given by the FDC or used with a basic helicopter model controlled by an instructor or helicopter pilot. If a higher fidelity helicopter model is required the HFDT and can be integrated with existing helicopter simulators or speak to us about a custom solution.

THE FOLLOWING ARE KEY FEATURES OF THE HFDT:

- FDC View from helideck with ship motion.
- FDC communication with bridge.
- Motion tracking to allow for:
  - Change to FDC point of view.
  - Rendering of FDC signals as seen by the helicopter pilot.
- Input of helicopter pilot hand signal for rendering on the FDC display.
- Helicopter flight instruments.
- Accurate deck markings including lights and horizontal stabiliser bar.
- Scenario definition.
- Control over all entities, including marine vessels, aircraft and helicopters.
- Set time of day.
- Control over weather conditions, including:
  - Sea state
  - Cloud cover
  - Precipitation
  - Visibility/Fog
- Different landing platforms, including:
  - Ships helideck
  - Oilrig
  - Aircraft carrier
ABOUT CYBICOM ATLAS DEFENCE

CYBICOM ATLAS DEFENCE is a joint company between Cybicom (Africa) Technologies (Pty) Ltd and ATLAS ELEKTRONIK GmbH.

CYBICOM ATLAS DEFENCE was originally created to provide in-country, local support for the combat suite installed on the South African Navy Heroine Class Submarines. CYBICOM ATLAS DEFENCE has evolved from undertaking warranty related repairs to designing and developing graphical training simulators, interface stimulators and constructing and integrating a land based Submarine Combat Suite for the South African Navy.

CYBICOM ATLAS DEFENCE is a prime example of successful technology transfer that when coupled to an effective skills retention and development program leads to international award winning performance.

VEGA PRIME

Both the FDC and helicopter components make use of PRESAGIS Vega Prime™ to render their respective 3D environments in real-time. Ideal for both high-performance and low cost hardware platforms, Vega Prime’s extensible plug-in architecture facilitates the rapid design and prototyping of real time 3D applications by utilising the most sophisticated technology available, within an easy-to-use toolkit. Vega Prime is used to create simulation applications that are completely customizable, scalable, and leverage open standards such as CDB and OpenFlight™.

STAGE

The instructor component of the HFDT is a customised version of PRESAGIS STAGE™. STAGE simulation software provides users with the ability to generate and execute complex scenarios for training and analysis. From flight simulation training to new concepts analysis, STAGE is the ideal tool for solving critical problems in simulation applications, including:

- System Specification and Design Analysis
- Naval Training and Mission Rehearsal
- Virtual Test Bench
- Battle-Lab, Command & Control
- Military Embedded Training
- First Responders and Homeland Security
- Network Centric Operations

VAPS XT

PRESAGIS VAPS XT™ is used to create the helicopter HMI. VAPS XT provides a rapid prototyping, design, and deployment environment for the creation of 2D and 3D photorealistic graphical displays, including instrumentation and equipment models, specifically for real time 3D simulation and training applications.