

# CAE Tropos™ -6000 Series for Helicopter Flight Training

CAE Tropos-6000, our leading visual solution for the civil market, has been adapted to address the unique requirements of helicopter flight training. CAE Tropos-6000 is particularly well-suited to the visual realism critical for near-the-surface maneuvering.

CAE Tropos-6000 image generators (IGs) enhance the realism of pilot training through extensive use of advanced weather simulation including wind conditions, lighting and variable visibility, realistic animation of rotor downwash and recirculation effects, high-density urban environments, moving objects and people, geographically correct landmarks and offshore structures, 3D sea states, and a worldwide database derived from satellite imagery.

CAE Tropos-6000 combines the proven image quality and true fidelity of CAE Tropos with the latest commercial-off-the-shelf (COTS) technologies. CAE Tropos-6000 takes full advantage of high-definition (HD) projectors for unprecedented visual realism while meeting or exceeding the requirements of FAA and JAA/EASA regulatory requirements.



CAE Tropos-6000 supports feature-rich, high-resolution mission scenarios for urban, coastal, offshore and other environments – including detailed structures, obstructions, weather and lighting effects, 3D water, and artificially intelligent dynamic characters.



## CAE Tropos-6000 features

- **Level D compliant** visual system (FAA Part 60, Change 1 and JAR-FSTD H)
- **Ultra-high resolution** for improved speed and height cueing for low-level flying and situational awareness of confined area obstacles
- **High-definition** ultra-bright, next-generation fixed matrix projectors optimized for flight simulation
- **Direct projection displays** optimized for near-the-surface operations and providing fields-of-view up to 220° horizontal x 80° vertical, including chin window coverage
- **Standard and customizable databases** for urban environments, major landmarks, airports, mountains, and sloped ground
- **Dynamic 3D ocean** supporting maritime training, including landing on ships and high-detail oil and gas rigs, in a variety of sea states and weather conditions
- **Rich and proven feature set** developed from extensive experience in high-end visualization for commercial and military training in support of rotary-wing applications.



## Image Generator graphic performance

### CAE Tropos™-6000

<b>Visual Simulation polygons per channel</b>	100,000 at 60Hz
<b>Pixels per channel</b>	2.1 million
<b>Update rates</b>	60Hz day & night
<b>Transport delay</b>	52ms day & night
<b>Texture type</b>	Full-color phototextures, dual textures, microtextures, global textures up to 12 LODs (Levels of Detail), video textures, sensor textures, transparency, contour

## Environment Simulation

- Physics-based sky simulation
- Layered fog
- 3D puffy clouds
- Falling snow, rain, hail
- Blowing effects (brownout/whiteout): snow, sand, dust
- Library of storm fronts
- 3D waves, whitecaps, ship wakes, blowing flames and smoke, water recirculation
- Winter and summer representations of airport scenes where required

## Airport and Heliport Simulation

- Helicopter landing pad simulation - including ground and rooftop landing pads, confined area heliports, hospital, and offshore
- Landing aids appropriate to the helipad

## Variable Complexity

- Multiple levels of difficulty – instructor-selectable complexity such as on/off utility lines, moving cranes, and other obstacles
- Artificially intelligent human form and moving vehicle simulation – enables dynamic outcomes for more realistic training compared with scripted scenarios

## Operational Benefits

- Reliability and performance typical to COTS components
- Fast re-position time
- Compatibility to run on other COTS PC platforms for brief/debrief applications

## Mission/Scenario Configurations and Options

- Mission/Scenario Simulation
  - Offshore Oil and Gas Platforms (OGP)
  - Emergency Medical Services (EMS)
  - Law Enforcement Crime Scene and Pursuit
  - Search and Rescue (SAR)
  - Long Line
- Winter Conditions
- Mountain Flying
- NVG Operations



8585 Côte-de-Liesse  
Saint-Laurent, Québec  
Canada H4T 1G6

Tel: +1-514-341-6780, extension 3583  
Fax: +1-514-341-7699  
visuals@cae.com