



eTLS

EXPEDITIONARY TRANSPONDER LANDING SYSTEM

- **CAT I Precision Guidance**
- **All Weather GPS-Denied Environment**
- **AFWERX Phase II SBIR New Deployment Capabilities**
- **Expeditionary Roll-on/Roll-off**
- **Optimized Night Ops/IMC**
- **Drone Calibration of TTLS**

The eTLS is a precision approach guidance and surveillance system designed to provide all-weather airfield access and situational awareness for improved airport accessibility and safety. The eTLS is a highly mobile, rugged, and quickly deployable ATC solution for expeditionary forces during contingency and humanitarian operations.

The eTLS is designed for GPS-denied environments and used where conventional ILS equipment cannot be sited due to rugged terrain or limited property. The system has the ability to support defense CONOPS including Agile Combat Employment (ACE) and Expeditionary Advanced Base Operations (EABO).

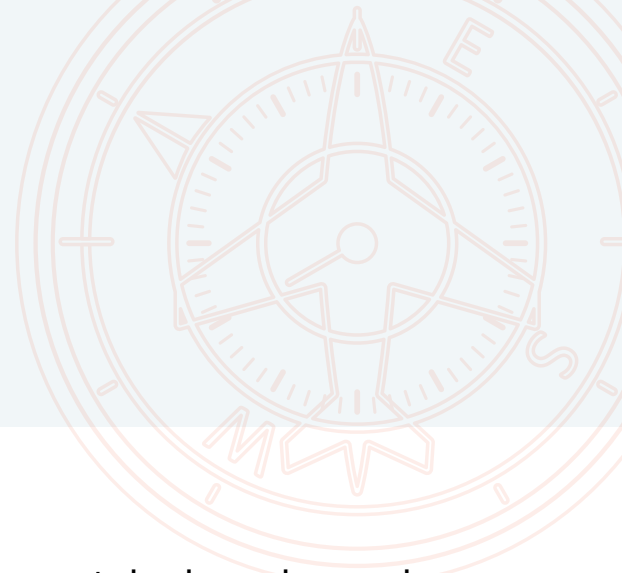
Expeditionary—Roll-On/Roll-Off: Rotary/Fixed Wing/Tilt Rotor Aircraft

- Packaged for towing by ATV/UTV and transport on a single mobility aircraft (E.g., C-130, C-17, C-5, C-295, CN-235, V-22, H-47)
- Deployable in 2 hours by 2 personnel with minimal training
- Modular packaging, independent of transport structures, scalable to operational requirements
- Tool-less system
- Packed by install location zones for rapid set up



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KEY PRODUCT FEATURES

- ILS and PAR guidance to 20 NM
- Area surveillance to 100NM with SSR display
- Sets up and operates independently of GPS
- Aircraft tracking applies multilateration techniques to replies from all Mode 3/A/C/S transponders
- Compliant with all ICAO signal-in-space requirements for CAT I ILS
- Software defined approach includes marker beacon tones
- Supports segmented and curved approaches using RNP design criteria
- Toggle between variable glideslope angles supported for obstacle avoidance or rotary-wing operations
- Guidance for up to four aircraft on simultaneous approach on discrete ILS frequency pairs
- Built-in integrity monitor ensures 24/7 accuracy within specified tolerances

USER EXPERIENCE

- Flies identically to an ILS—no upgraded avionics or pilot training required
- 2-hour setup and teardown for rapid deployment
- Minimal installed footprint adjacent to touchdown
- Modular packaging for a single trailer towed by ATV/UTV, stored on single 463L pallet, or transported on other vehicles
- TLS tracks and provides guidance to IFR-equipped ACFT with Mode 3/A/C/S transponders

DRONE CALIBRATION

Rapid calibration using a drone, alleviating reliance on manned aircraft for calibration flights:

- TLS used in conjunction with an ANPC designed transponder based drone calibration payload and ground station
- Drone with ANPC standalone payload will fly defined flight profiles for TLS calibration
- Data collected from payload will serve as truth data to compare with transponder data for calibration
- Reduced time, human error and cost from plane-piloted flights

NIGHT OPS/IMC

Streamlined design to simplify setup and operations in low/no light using night vision goggles (NVG), including:

- Component and case labeling with contrast for NVG + Color coding for daytime use
- Clear cable labeling & keyed connectors