

Drone for CNS Maintenance

Maintenance for CNS facilities like ILS or VOR can be greatly improved by measuring them from the air instead of being limited to ground measurements. Using drone technology, the signal can be measured further and higher in the air, providing more accurate results. The built-in software provides instant results which can be monitored and checked on ground. Thanks to its good correlation with flight check, CNS drone measurements represent an excellent complement which has the potential to reduce flight checks by 50 % and more, and to reduce CNS maintenance cost.



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ILS Preflight Checker Software: Operational in Switzerland since January 2018

Features

- GP Vertical Profile
 - Vertical trajectory up to 250 m
 - Live measurements and computations:
 - GP angle and sector widths in normal and alarm conditions
- Mini Approach for LOC and GP
 - Along the ILS trajectory (1km long)
 - Simultaneous and live LOC and GP measurements:
 - LOC displacement error, Course / Clearance ratio, GP angle and Threshold Crossing Height in normal and alarm conditions
- LOC Lateral Orbit
 - A circular or “orbit” trajectory in the LOC farfield
 - DDM versus azimuth angle

VOR Checker Software: Operational in Switzerland since December 2018

Features

- Orbit measurements
 - A circular or “orbit” trajectory around the VOR
 - Azimuth error, FM Deviation, RF Level, 30 Hz and 9960 Hz modulation depths versus azimuth angle
- Radial measurements
 - Along the VOR radial (including overflight)
 - Azimuth error, FM Deviation, RF Level, 30 Hz and 9960 Hz modulation depths versus VOR distance
 - Deep analysis of the cone of silence

Advantages

- High sensitivity
- Low noise figure
- Simultaneous CRS/CLR analysis
- 100 data records per second for deep analysis of signal disturbance
- Time- and very accurate location-stamp through RTK GPS

Customer Value

- Reduction of periodic flight checks
- Reduction of commissioning flight checks
- Increased cost efficiency for CNS maintenance
- Less operation and noise disturbances compared to normal flight checks
- Possibility of ad-hoc, reliable measurements in case of corrective interventions