



## 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 in-built software provides instant results that can be monitored and checked on ground. Thanks to its good correlation with flight check, CNS drone measurements represent an excellent complement that has the potential to reduce flight check and to reduce CNS maintenance cost.

### 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



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