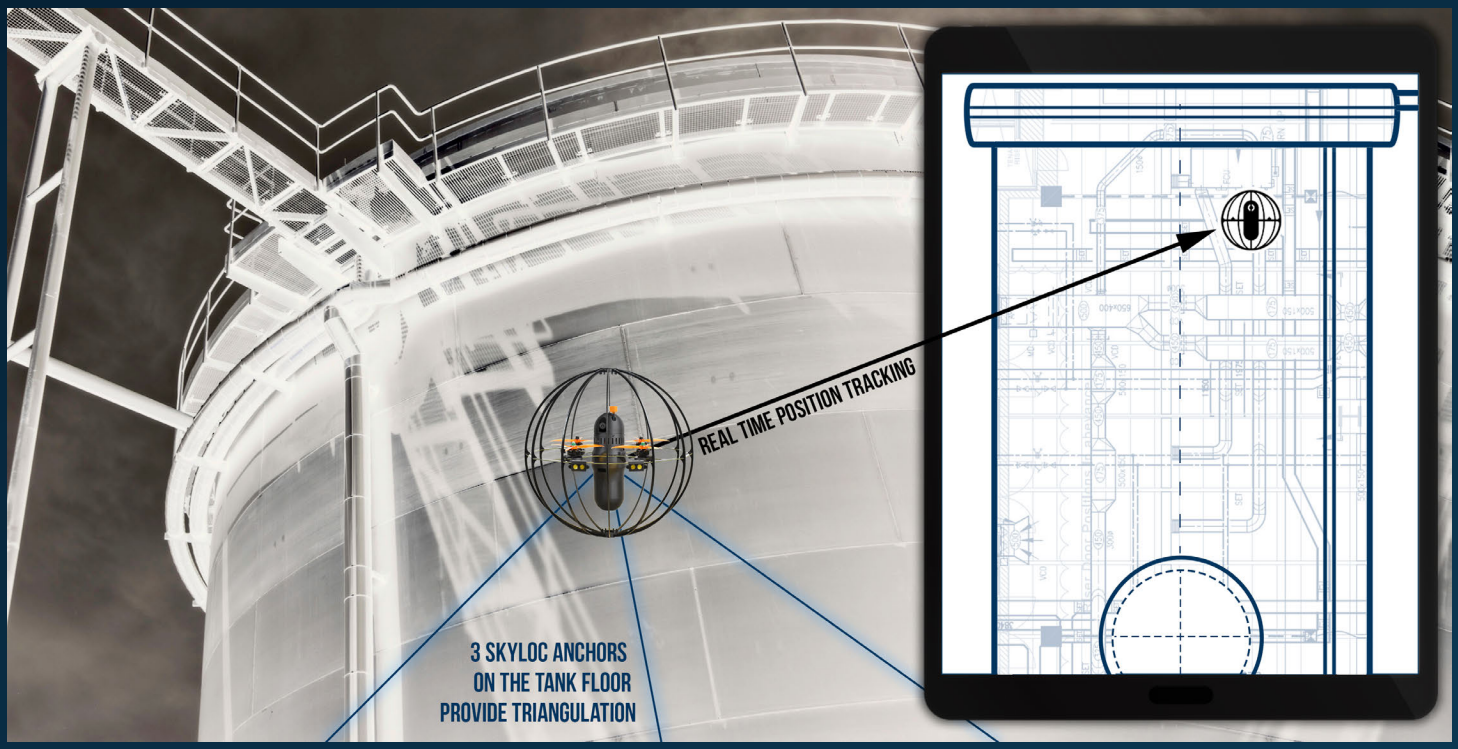
SKYLOC®

INDOOR POSITIONING SYSTEM

Skyloc is a system made of 4 or more receivers (3 anchors and 1 tag), **able to generate a GPS signal indoor**, underground or, in general, everywhere the classic GPS signal is not available. **Skyloc is one of the most versatile positioning systems on the market**. The areas of application go from vehicles to agriculture, from industrial plants inspection to hospitals. Skyloc can be a source of multiple benefits.

Used in conjunction with the **Skycopter caged drone**, Skyloc can track its position on the dedicated app's map in GPS signal-less conditions, such as tanks, tunnels, pipes and underground caves. The system can create a **multi-area network** thanks to its **deep learning** engine algorithm.



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Skyloc technology **is based on UWB** (Ultra-Wide Band), especially **immune to the narrowband interference**.

The on-board **self-calibrating system** decreases considerably the Skyloc installation speed, lowering the need of human activities.

Skyloc is accessible through **Skyloc Tracker Application**, available on Google Play for Android based tablets and smartphones. The application allows the user to manage the receivers, identify objects on a satellite map and to get the system status feedback.

TECHNINCAL SPECS

- Update frequency: 5 – 15 Hz
- Embedded gyroscope, accelerometer and compass (MPU6500)
- Weight: 20 g / 0.7 Oz
- µC: TI 80MHz

Positioning performance

- Precision: ~5 cm / ~2 in
- Resolution: ~0.3 cm / ~0.12 in
- Repeatability: ~2 cm / ~0.78 in
- Format: 3D GPS protocol
- Reference system: ECEF
- Maximum covered range (per cell): 100 m x 100 m x 100 m in LOS
- Maximum coverage (multi-cell): 3000 m x 3000 m x 3000 m (not in LOS)

Sensors

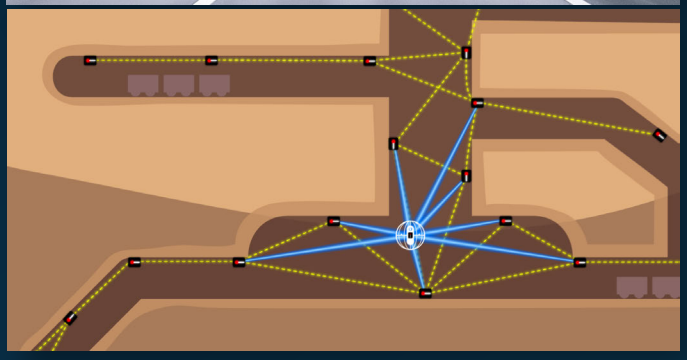
- Temeperature Sensor (optional)
- Gas Sensor (optional)
- Humidity Sensor (optional)
- Smoke Sensor (optional)

Power specs

- Voltage: 4.3 – 5.9 V
- Peak Current: 160mA
- Working temperature: -20 – 45 °C / -4 – 113 F
- Storage temperature: -40 – 80 °C / -40 – 176 F
- Transmission protocol: RF Ultra-Wide Band
- Connection (Anchor/Tag): Micro USB
- Data speed (Tx-Rx P/L mode): 110kBit/s – 6 MBit/s

Interfaces

- UART ports: 2
- USB ports: 1
- I2C ports: 1
- PWM I/O ports: 4
- PPM ports: 1
- Reset button
- Wi-Fi
- Bluetooth
- Data protocol: NMEA, Serial



Multi-area network with **deep learning** engine algorithm