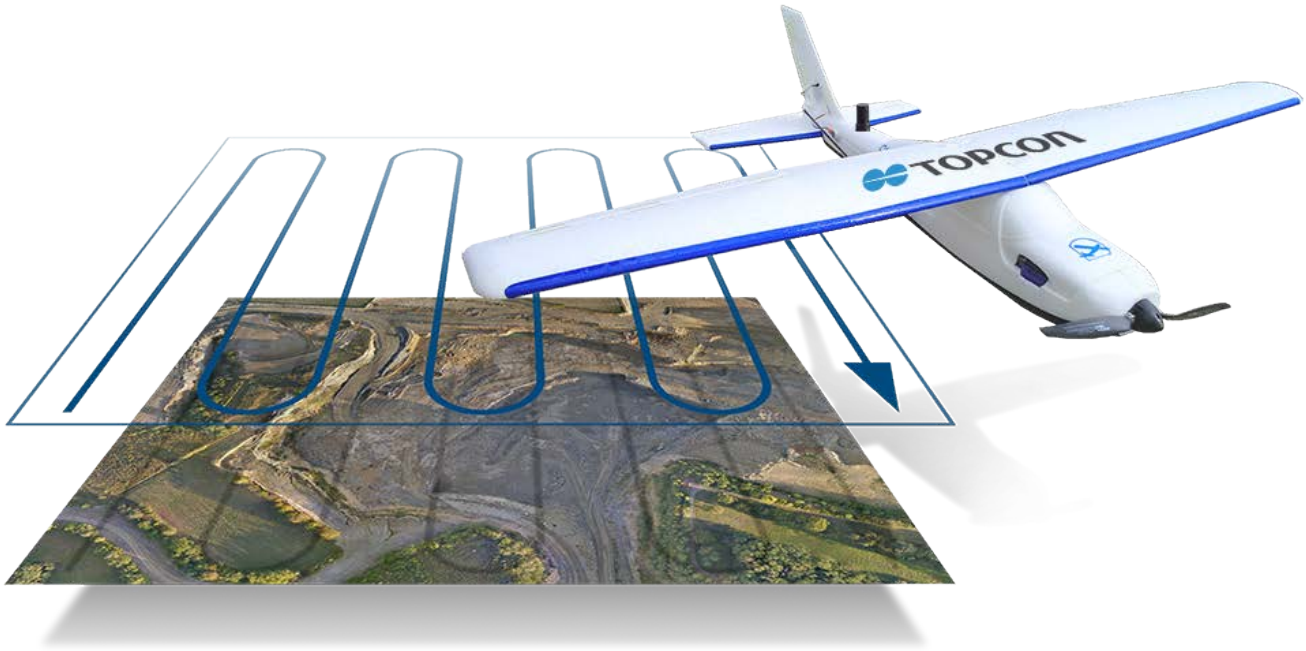
# SIRIUS PRO
## Powered by MAVinci

TOPCON

## Aerial Mapping System




- High accuracy aerial mapping using GNSS RTK
- No need to spend time on collecting Ground Control Points
- Get high accuracy in areas that cannot be accessed
- Full post processing and evaluation software

# **SIRIUS PRO** Aerial Mapping System

## SIRIUS PRO Aerial Mapping System.

### High accuracy without ground control

The Sirius Pro delivers highly accurate aerial mapping results using GNSS-RTK. Achieving 5cm accuracy without Ground Control Points (GCP) means an increase in productivity when compared to other solutions.

In the traditional approach, placing GCPs and measuring them adds a significant amount of extra time and cost to the project; the time dealing with GCPs can be more than 50% of the whole project time. On projects where the ground area access was impossible or extremely limited, providing high accuracy mapping was a serious problem. Without enough GCPs it was hard to match the accuracy requirements set by your customer – rendering projects uneconomical.

Instead of GCPs, Sirius PRO uses GNSS RTK in combination with precision timing technology to determine the exact location for each of the positions at which a photo is taken. This precise positioning technology allows the image locations to be used as the equivalent of GCPs.

### Work in field areas

Easy to use in field areas

### Cover areas that require more than one flight

Save up to 30% flight time for large UAS missions

### Simple hand launch

The UAS is directly launched by hand, no catapult etc. is necessary

### Easy to land in small areas

Easy to land in small areas. The UAS is manually controlled by simple up/down, left/right commands

### Wind

The UAS is fully operational with wind of up to 40 km/h with gusts up to 48 km/h

### Rain

Use the UAS even in rain

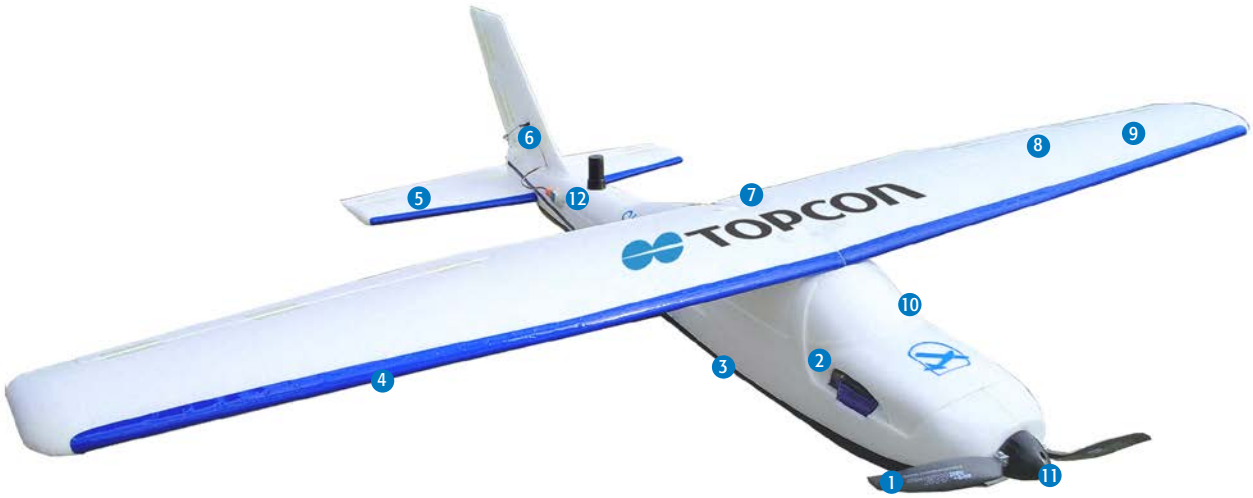
### Temperature

Operate the system in hot or cold outside temperatures from -20°C to +45°C

### Light

High quality camera performs exceptionally well under low light conditions

## PRIMARY FEATURES




1. Folding propeller (protection for landing)
2. Single battery powered UAS
3. Calibrated camera with large sensor
4. Flashing lights below the wings
5. Detachable tail rudders
6. Special long life actuator
7. Security switch for engine control
8. Extremely lightweight foam material
9. White color prevents overheating
10. Access to camera storage card
11. Electric brushless motor
12. GNSS Antenna

### Assisted Flying

Manual pilot enables the Unmanned Aerial System (UAS) to fly with simple left/right, up/down commands. It steers the UAS during launch, fly and landing.

## KIT COMPONENTS

- SIRIUS PRO
- Ground station with remote control
- Camera kit
- Accessories kit
- Transport Box
- Software Suite

# **SIRIUS PRO** Aerial Mapping System

## SPECIFICATIONS

| Test Data Accuracy | GSD | X/Y | Z |
|---|---|---|---|
| Agricultural Area 1 | 1.6cm | 2.4cm | 3.1cm |
| Stone Pit | 2-3cm | 4.4cm | 0.8cm |
| Agricultural Area 2 | 3.5cm | 5.1cm | 3.2cm |
| Agricultural Area 3 | 10cm | 7.2cm | 8.6cm |

| Airframe | |
|---|---|
| Material | Elapor |
| Wingspan | 163cm |
| Length | 120cm |
| Take Off Weight | 2,7 kg (with 550g payload) |
| Flight time | 55 min (with 550g payload and one battery) |
| Speed over ground | 49 km/h |
| Ceiling height | 100 m |

| GNSS Component | |
|---|---|
| Number of Channels | 226 Universal Channels |
| Signals Tracked | GPS L1 C/A, L2C, L2 P(Y), GLONASS L1/L2, Galileo E1 |
| Accuracy RTK (Kinematic) | |
| Horizontal | 10mm + 1.0ppm x baseline |
| Vertical | 5mm + 1.0ppm x baseline |

For more specifications information:
**www.topcon-positioning.eu**

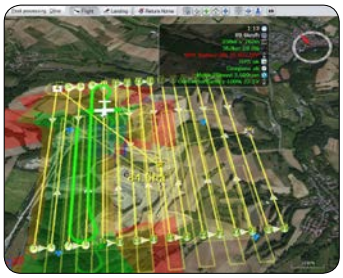
## WORKFLOW

# SIRIUS PRO Project Workflow

The Sirius Pro comes with all software for a complete workflow.

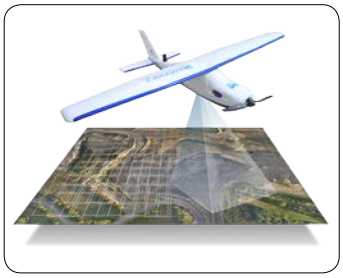
### Track Point Storage

Point storage data can be recorded on a pc after the flight.



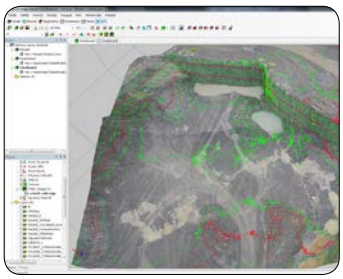
### Image Acquisition

The onboard camera captures images automatically and these are stored on the UAS.



### Post Processing

After the flight single pictures are post processed into orthophotos and DEMs. These can then be easily analysed using ImageMaster software.

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