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## Course Information

Course Title: **Surveying with RTK Drone** Duration: **5 Days** Training Modes: **Offline** 

## Course Eligibility

- Good knowledge of computers, surveying concepts and instruments
- Experience in total station and DGPS surveying

#### Best for:

- Land surveyors
- Mapping professionals

### Fee

45,000 INR, for resident Nationals of India, Nepal, Bhutan, Bangladesh, Sri Lanka and Maldives, & Myanmar.

1125 USD, For Non-Residents of India.

INSTALMENTS: 5,000 on registration. 40,000 - before the course starts.

| Software's                 | Technologies      |
|----------------------------|-------------------|
| 1. DJI Phamtom 4 RTK App   | 1. GIS            |
| 2. Pix4D                   | 2. GPS/GNSS       |
| 3. Drone DeployTerra Tools | 3. Land Surveying |
|                            | 4. Photogrammetry |
|                            | 5. LIDAR          |

### Overview

In India Drone are taking over on the traditional surveying methods like total station surveying. Drone Surveying save time and cost of project. Drones are being employ on many application like: Volume or earth





work calculation in mining, change detections with LiDAR, Topographic Surveying of Roads, Dams, Bridges, 3D Modelling of archaeological, heritage site / monuments, power grid surveying, forest surveying and change detection, Fishery surveys, Thermals Surveys of Solar panels, to generate high accuracy cadastral maps and many more.

Training will take you through advance aerial surveying concepts with Drone, aerial surveying, GNSS/GPS, Photogrammetry fundamental concepts with hand on exercise on, flight planning, simulation, data downloading, image processing using different photogrammetric software's, exploring output like DEM, DTM, Point Could, Point could editing, removing noise, ortho-photo editing and much more. This Drone Surveying course also covers very important concept and end to end workflow of RTK/PPK drone surveying. Complete field and office procedure explained with practical. You will processing PPK data and apply correction and use corrected / Fix PPK solution data in image processing with photogrammetric software.

## Learning Objectives

- 1. Understand Drones, History of Drone/UAS/UAVs, drone assembly, Safety, payload, battery life, specs for good results
- 2. Explain application of drone for Surveying & Mapping like Construction, Agricultural, Engineering Land Survey and Architecture uses
- 3. Know regulations of DGCA and Drone license, registration in India
- 4. Perform surveying site flight planning with different app like Drone, Deploy, Pix4D capture, GS RTK App
- 5. Executive surveying flight with safety
- 6. Know to aerial Photogrammetry, Aerial Triangulation and how it effect accuracy
- 7. Post-process data with different app like Drone, Deploy, Pix4D
- 8. Consideration for post-processing RTK & PPK flight data
- 9. Analyse output data, contouring, DSM and Volumetric Measurement Calculation
- 10. Produce traditional topographic map as like Total Station
- 11. Know the kind of map/outcome can produce form drone surveying
- 12. Understand fundamentals of GNSS RTK & PPK Surveying, Map accuracy: Relative vs. Absolute Accuracy Survey-Grade Accuracy,



Factors that Improve Map Accuracy, Techniques of controlling errors

- 13. Employ GNSS RTK & PPK technologies in Drone Surveying
- 14. Consideration for hardware selections, payload, comparison of surveying drone and its accuracy
- 15. Consideration, planning strategies of GCP Check points in vertical and horizontal accuracies
- 16. Planning and estimation of drone surveying job
- 17. Use D-RTK 2 Mobile Station in Drone RTK Surveying and mapping,
- Explain what is NTRIP (Network Transport of RTCM via Internet Protocol), NTRIP for configuring your GNSS base station and utilize own custom RTK network
- 19. End to End surveying workflow: RTK Flight & PPK Flight. Field and office procedures with practical exercise on field
- 20. Using Survey of India CORS network data for PPK processing
- 21. Know general requirement in various government and private drone land surveying tenders.

## How to Apply

Step 1: register at: https://www.khagolam.com/home/register

- Step 2: Check mail for course & bank details
- Step 3: Transfer payment & share transaction receipt on What's App

Step 4: You will receive registration confirmation, by SMS/Call/Whats App.

#### REGISTRATION SHALL CLOSE 4 DAYS BEFORE THE START DATE. SPOT REGISTRATIONS ARE NOT ALLOWED.

## FAQ's

Q: Does fees include accommodation and food? A: No. but we can help you to get the nearest accommodation.

Q: What kind of drone will used for training?

- A: DJI Phantom 4 RTK with GNSS base station
- Q: Dose fess includes accommodation and food
- A: No. but we can help you to get nearest accommodation



#### Q: Can I get a drone license of DGCA after completion of this course? A: No. Drone license is provided when you purchase the drone.

# Q: Is the institute DGCA approved? Can I get a drone pilot license from DGCA after completion of this course?

A: No. Drone pilot license covers no aspect of surveying. It all about aviation rule and fundamentals of flying. KIG covers all about drone surveying you need know hence even if you have DGCA approved pilot licence you can do this course to learn drone surveying.

# Q: I do not have Total Station and DGPS surveying experience, can I do the course?

A: If your fundamentals of surveying is clear, you can do this course. But knowledge or experience of Total Station and DGPS surveying will help to understand thing quickly.

## Q: Which drone is suitable for surveying, what's its cost & from where I can purchase it?

A: Answer to all these questions is covered in the course. After completing the course, you will come to know it.

# Q: Can I use Multispectral or LiDAR payload drone surveying after completing the course?

A: Yes, you can. Drone Surveying methods of are same for photogrammetric, multispectral and LiDAR survey payload.





#### Why Khagolam:

- Specialize institute for geospatial technologies
- Job oriented curriculum
- Comprehensive training material
- 100% placement assistance
- Professional Trainers
- Exposure to live projects
- Flexible timings
- Exposure to 3D GIS
- Practice, aptitude and interview rounds
- e-library facility



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Be in touch @