

Cyprus

Department of Lands and Surveys

Using a modern alternative to traditional surveying methods to deliver accurate, detailed data in Cyprus

“By harnessing the capabilities of Unmanned Aerial Vehicles (UAVs), this pilot project offers a modern alternative to traditional surveying methods. The aim is to enable the efficient and cost-effective collection of cadastral and topographic data to create detailed, accurate, up-to-date maps, 3D models and geospatial information for a wide range of applications, such as mapping and cadastral surveying.”

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More detailed and accurate geospatial data including 3D models and updated topographical features can be delivered for a wide range of applications in Cyprus, thanks to a pilot project harnessing the power of Unmanned Aerial Vehicles (UAVs).

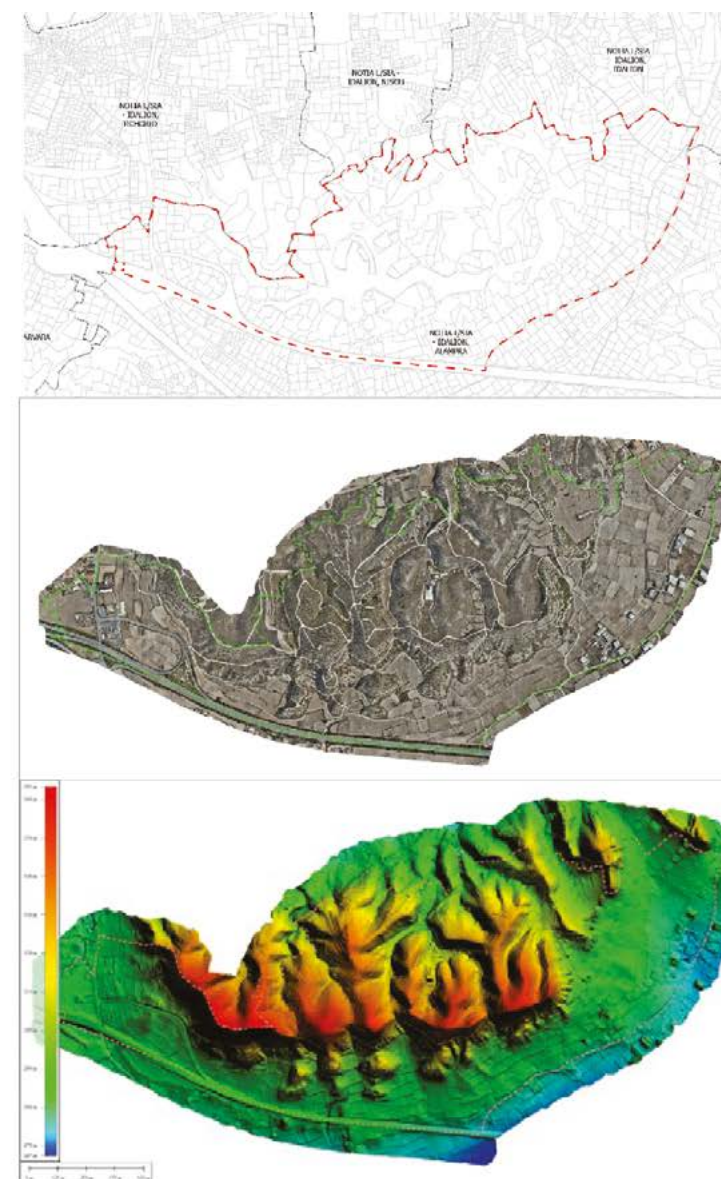
The initiative by the Department of Lands and Surveys, Cyprus uses the capabilities of UAVs for the efficient and cost-effective collection of cadastral and topographic data. Applications benefiting from the project include mapping and cadastral surveying.

The area of interest (AOI) of the pilot study covered an extent of approximately 2,7 km² – a block area for cadastral resurvey including 536 plots of government land, private parcels and forest land with uneven terrain.



The work was carried out using DJI's M350 RTK integrated with RGB camera P1 45MP full-frame sensor for photogrammetric data, and L2 LiDAR sensor, which supports up to five returns and real-time point cloud generation.

Field data collection, (project plan, GCP targets setting, data collection of images, and lidar) together with office data processing (orthomosaics, 3D mesh and GIS) were used to produce a range of products such as: Digital Elevation Models (DEM), Contours, Depiction of Rivers, Colour LiDAR by elevation and LiDAR elevation points.



Benefits

- Reduces manual processing time compared to typical field survey.
- Improves precision by delivering high-resolution imagery.
- Facilitates easier frequent updates.
- Monitors terrain changes over time.
- Enables feature extraction using AI.
- Delivers flexibility and cost savings compared to aerial photography and traditional field survey.
- Environmentally-friendly and minimises disruption to the surrounding area.
- Provides up-to-date data for mapping.