

eArthpIx

Geospatíal consultant



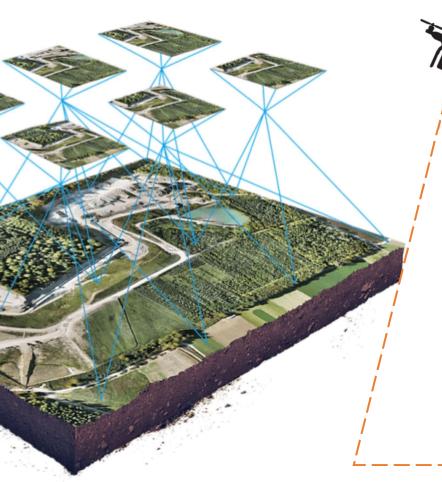
About us

We build and deliver world-class professional consultancy, advisory and solution services to both public and private sectors in the areas of geoinformatics where Artificial intelligence (AI) and GIS intersect. All our expertise also offers services in the automation of UAV drone/LiDAR surveying and mapping in infrastructure, agriculture, industrial, mining and surveillance sectors.



Aerial survey

An aerial survey refers to the capturing the aerial photos using unmanned aerial vehicle (UAV), with respective sensors, such as RGB or multispectral cameras, and LIDAR payload. In case of a drone survey with an RGB camera, the ground is photographed several times from different angles, and photogrammetry technique uses coordinates tagged in image and combines images that contain the same point on the ground from multiple vantage points to yield detailed 2D and 3D maps



MAIN ADVANTAGES

- Reduce field time (approx. 7x)
- Reduce survey cost
- Surveying in inaccessible area
- Accurate measurements at millions of points
- Different kind of data can be generated
 - ✓ Orthomosaic
 - ✓ DSM, DTM
 - ✓ Contours
 - ✓ 3D Models

SERVICES

Topographical surveys

events

Land management and development

Urban Planning

Assessing the impact of

(cyclones/floods/tsun-

extreme

ami)



CONSTRUCTION

- Tracking construction progress
- 3D models of sites

❖ INSPECTION

- Structures like bridges,
 buildings and
 monuments inspection
- Road/Rail monitoring
- Slope monitoring

❖ AGRICULTURE

- Monitor plant health
- o Perform plant count

MINING

- Inventory and management of stockpile volume
- Mine or quarry monitoring and operation planning
- o Assessment before drilling or blasting

BREAKWAKER ALIGNMENT ASSESSMENT



DETAILED AERIAL SURVEY OF MANGROL FISING HARBOUR

Scope of work:

Detailed topography survey of new Mangrol Fishing Harbour, with main focus on eastern and western breakwaters.

Study Area:

The fishing port has been built to create the tranquillity conditions inside the harbour for safe berthing of vessels. It has two rubble-mound breakwaters, eastern breakwater (~1km) and western breakwater (~0.25km).



Workflow:

Collection of Ground Control Point

Depend on the required accuracy of project, the number of ground control points (GCP) will be collected using RTK survey along the breakwaters. The GCPs will be used in orthorectification processing of geotagged images from drone.

Image Processing

The geo-tagged images collected from drone (during low tide) will be stitched together and further processed to large and high resolution orthomaps, digital elevation models or 3D-models.

Accuracy Check

Along with GCPs will collect the check points to check the accuracy of the processed outputs. We deliver the outputs to the clients with the accuracy of few centimetres as per requirements of the client.

BREAKWAKER ALIGNMENT ASSESSMENT



Deliverables

Orthomosaic

This can be used to digitise the existing breakwater, port facilities.

❖ Digital Surface Model (DSM)

The DSM can be used to extract the model geometric properties such as slope of breakwater, top width, length of breakwater and it is possible to obtain the tetrapod mean diameter.

❖ 3D Model

This will be very useful for virtual inspection of tetrapod's

Quality Report

This summarises the data processed and accuracy of model outputs.