

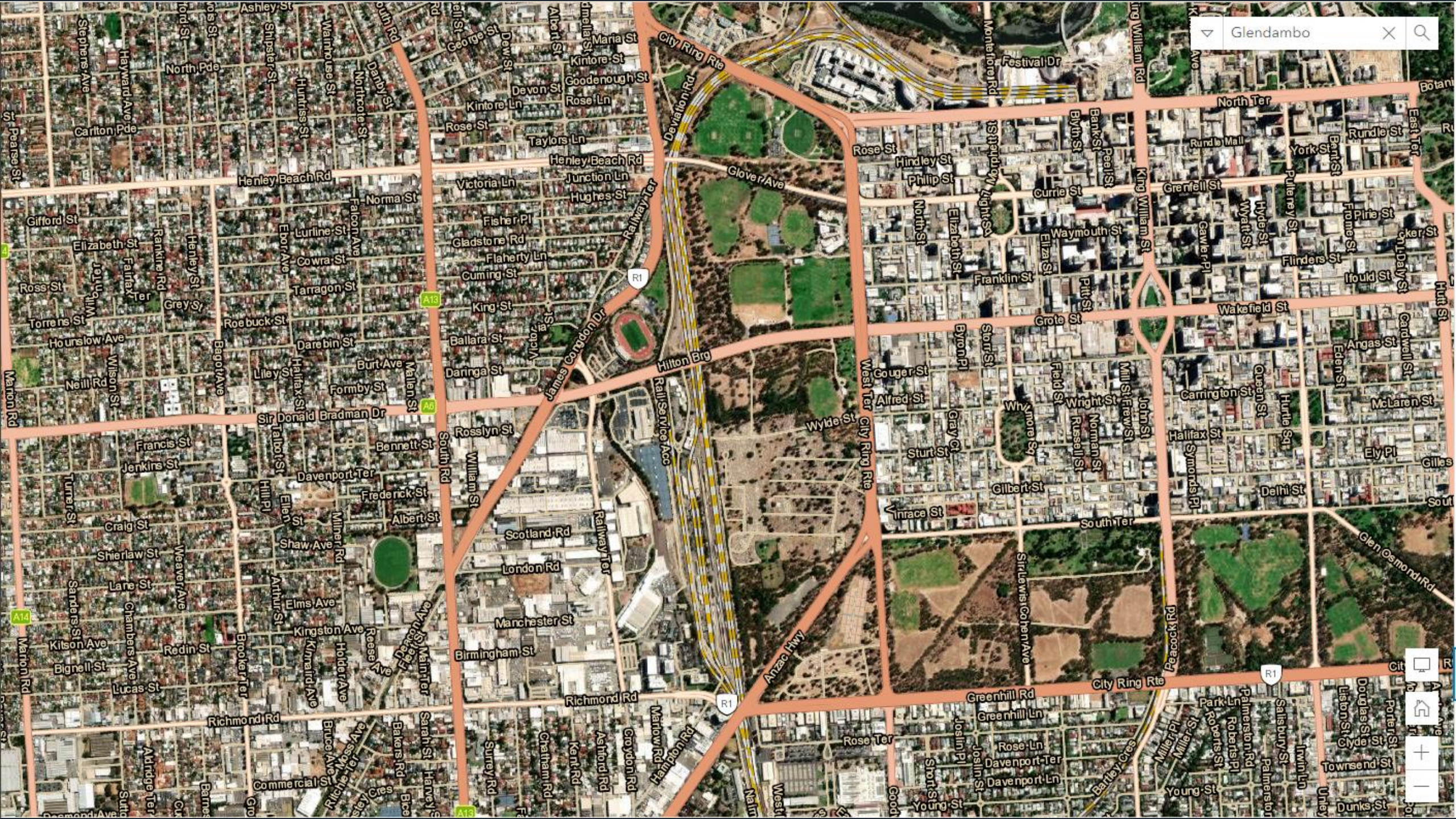
# Producing rapid imagery information products for situational awareness

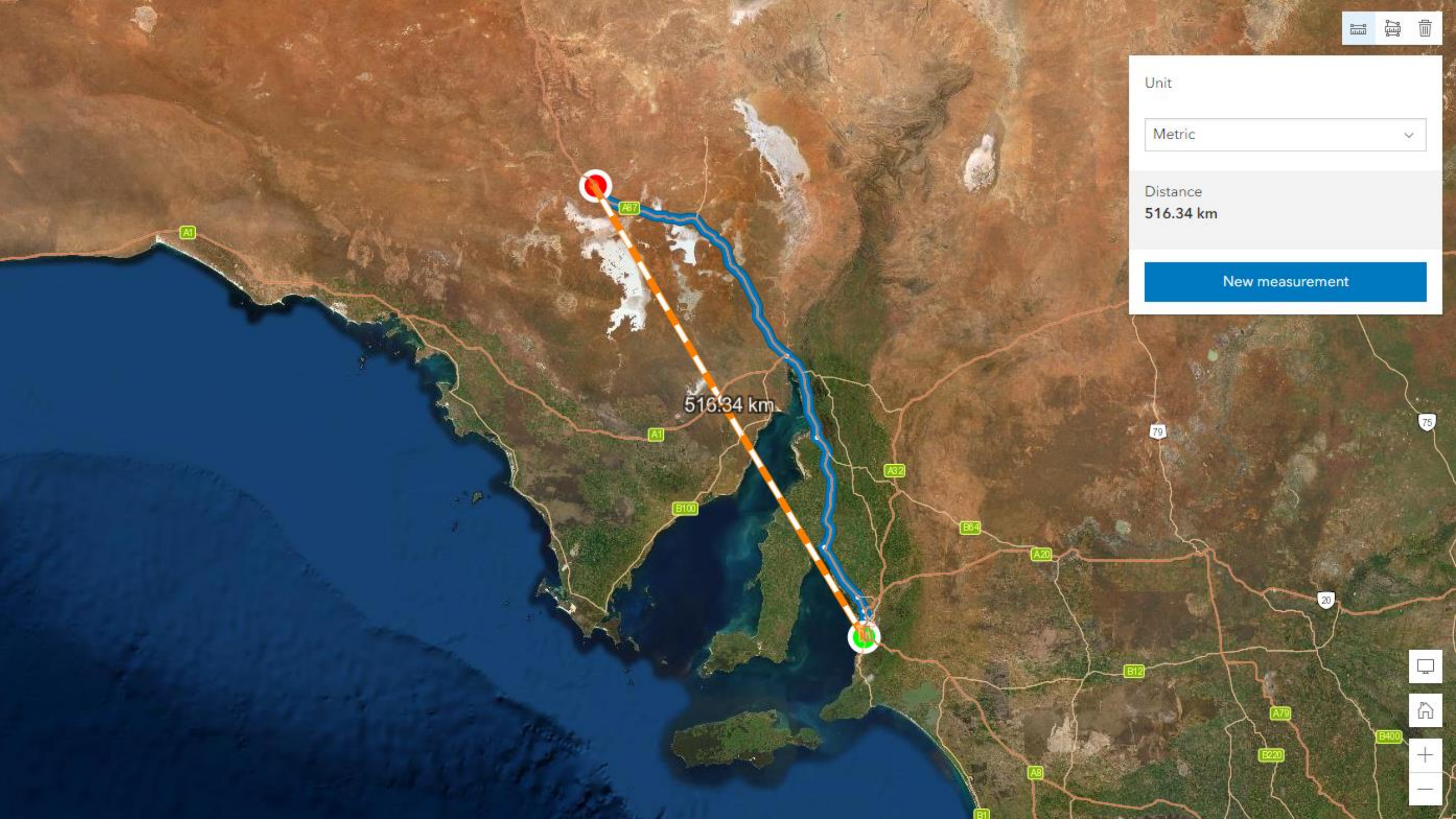
Gordon Sumerling | Advisory Services











Unit

Metric

Distance  
516.34 km

New measurement

516.34 km





# What makes Drone data collection Unique?



Spatial/Spectral  
Resolution

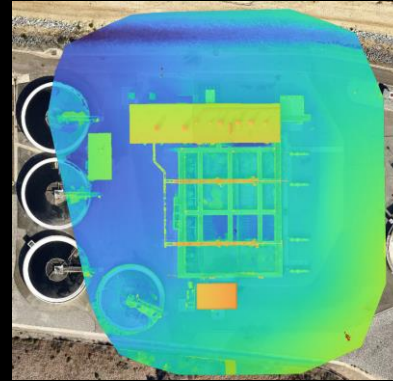
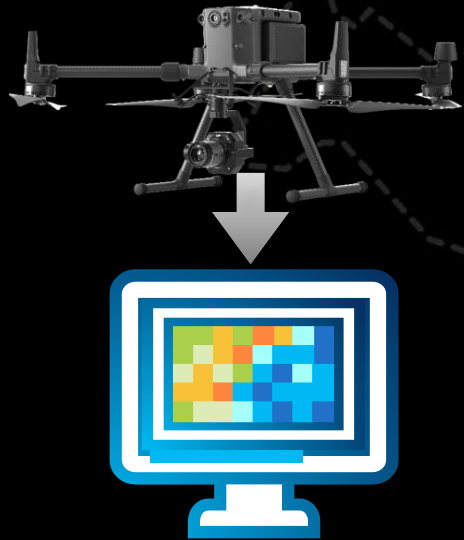


Temporal  
Resolution

Cost

**Drones fill critical gaps in data needs**

# What are the products from Drones?



## 2D Image Products:

- Orthomosaic
- Seamless stitched for base mapping
- Digital Elevation and Terrain Models
- Contours



## 3D Elevation Products:

- Point Cloud (.las files)
- Reality Mesh



## Inspection

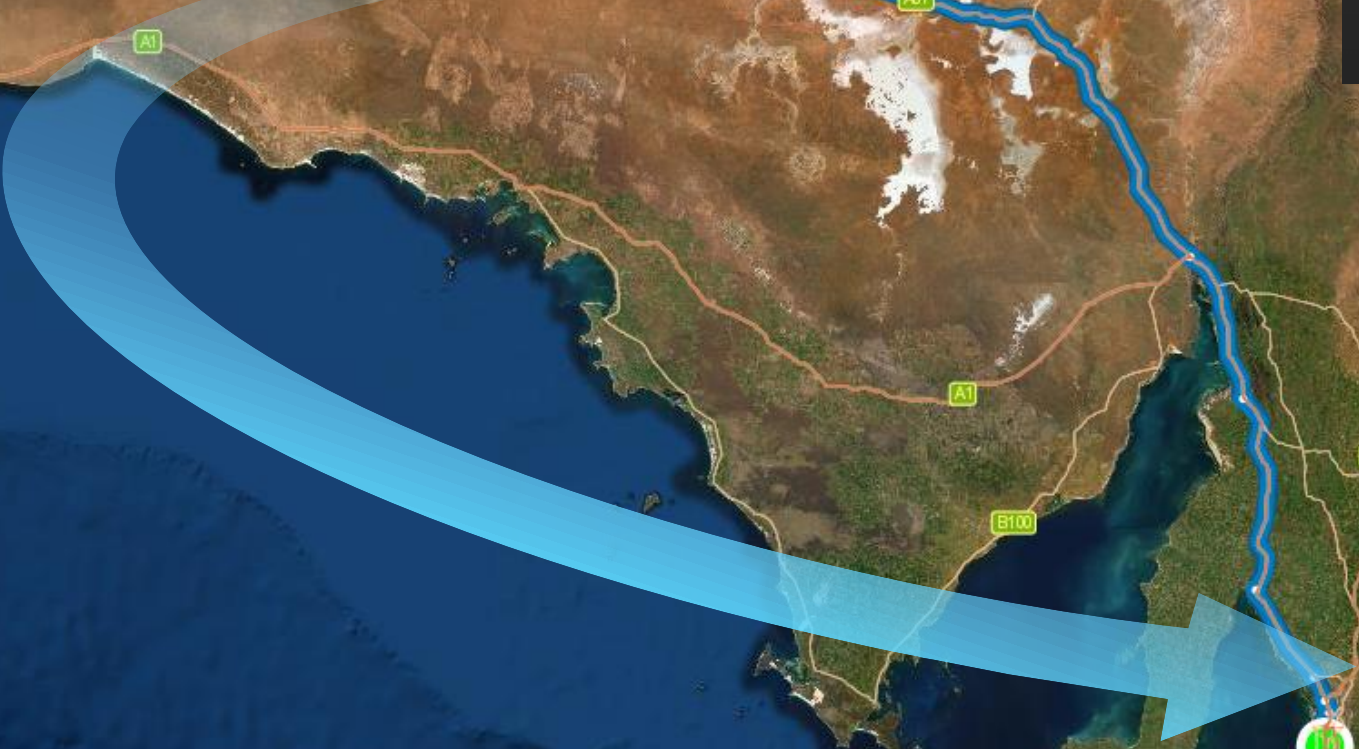
- Photo's
- Videos
- 360° Panoramas







 **Site Scan**





### Flight Plans

Select a pre-planned flight for your job site.



### Area Survey

Ideal to map large areas with little elevation change.



### Crosshatch Survey

Ideal for sites with many vertical features or elevation changes.



### Perimeter Scan

Ideal for creating high-resolution models of vertical structures.



### Inspection

Good for taking inspection photos while manually flying.



### Vertical

Ideal for modeling or inspecting vertical faces.



### Panorama

Create a 360° photo.



### Corridor Scan

Ideal to map linear features such as roads.

0 M

0 M

100%

Simulation DJI Phantom 4 Pro V2

10



### Flight Plans

Select a pre-planned flight for your job site.



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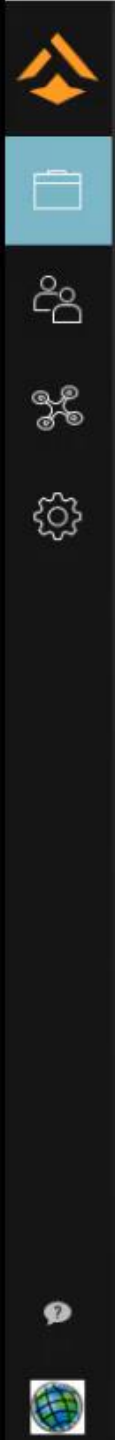
### Corridor Scan

Ideal to map linear features such as roads.

# What if my drone is not supported by Site Scan Flight?



29 Photos in total  
9 + 8 + 8 + 4  
55° 35° 20° 0°



Invite New Members +

Merge Missions

New Mission

Missions

Sort By: Recent



Flight Plans




Mission

Export

More

GCPs




Files

   **Glendambo Panorama**  
05/02/2022, 00:00



Output Settings

Members

   **Glendambo Panorama Flood**  
05/02/2022, 00:00



Forms



Image loading to full Panorama

15 minutes

NOTE: Depends on internet connectivity



# Some Examples

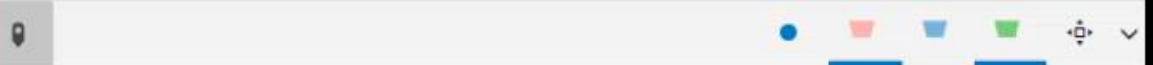
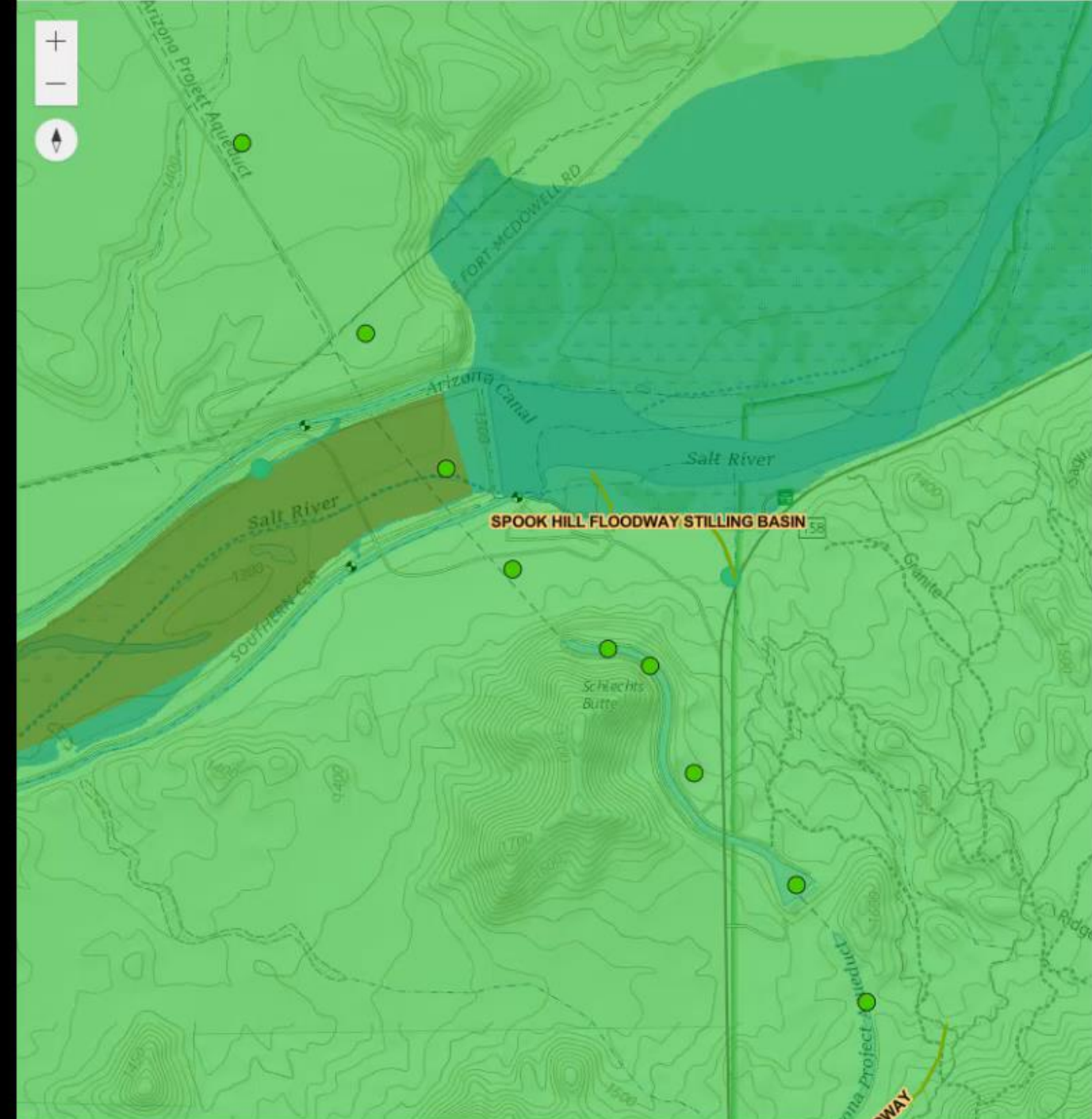
Snowy Hydro

Dixie Fires USA

Buchanan Airport Tower

Phoenix Reservoir



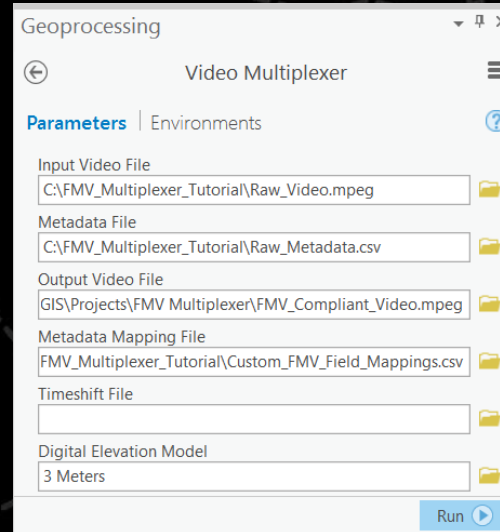
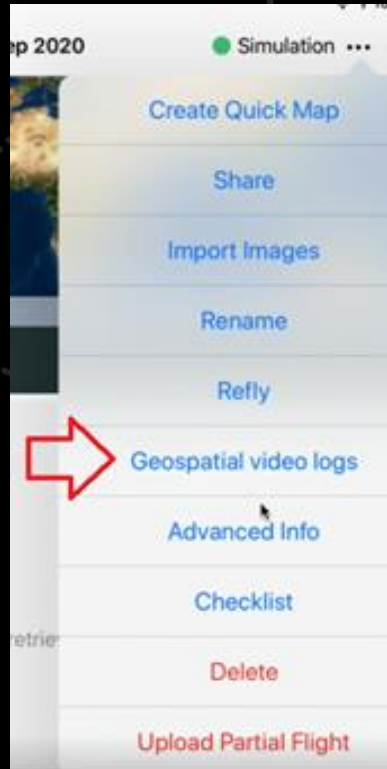
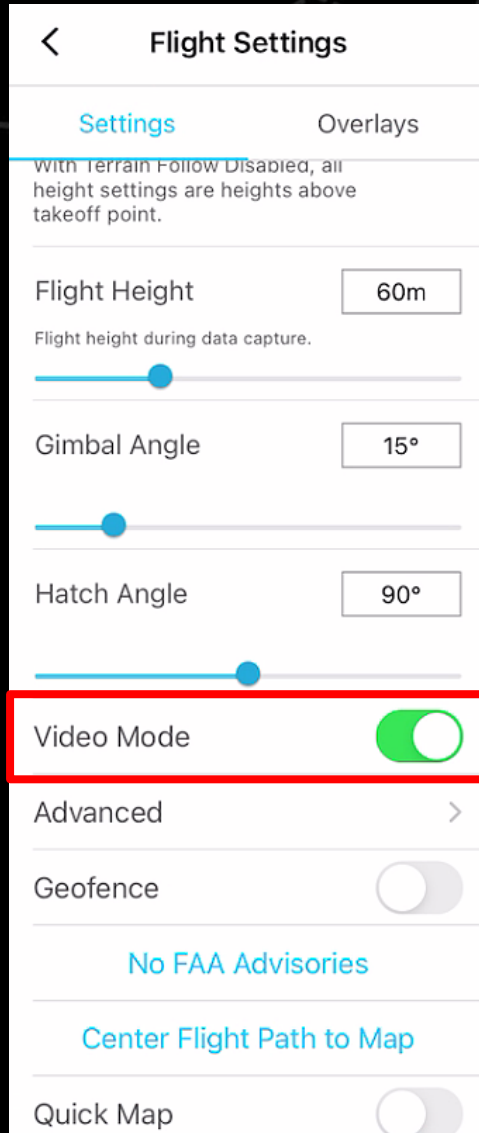


  
CLICK A GREEN MARKER ICON  
TO LOAD IMAGERY



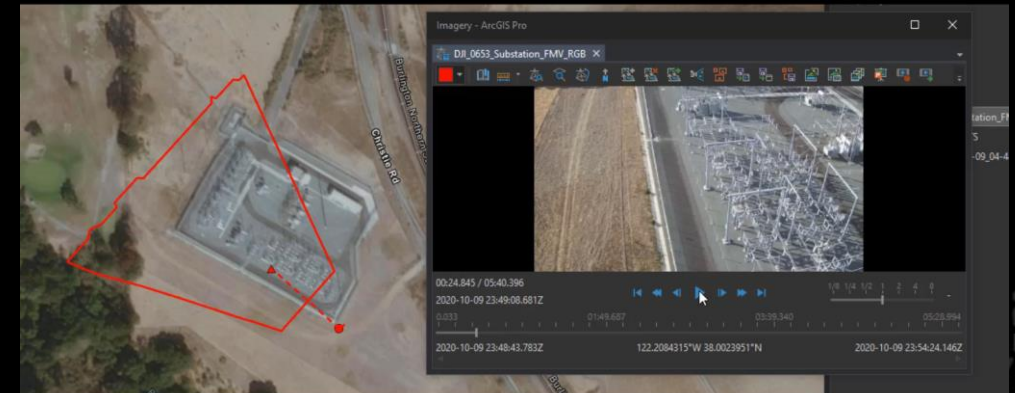
# Flight Planning

## Video Mode for Full Motion Video (FMV)



### FMV process

- Copy .mov file
- Copy .glv file
- In ArcGIS Pro run GP tool
  - [Video Multiplexer](#)
- How to: <https://support.esri.com/en/technical-article/000024386>



Project Map Insert Analysis View Edit Imagery Share

Cut Copy Paste Copy Path Clipboard

Explore Bookmarks Go To XY Navigate

Add Graphics Layer Add Data Layer

Select Select By Attributes Select By Location Clear Selection

Measure Locate Infographics Coordinate Conversion Inquiry

Pause Lock View Unplaced Convert More Labeling

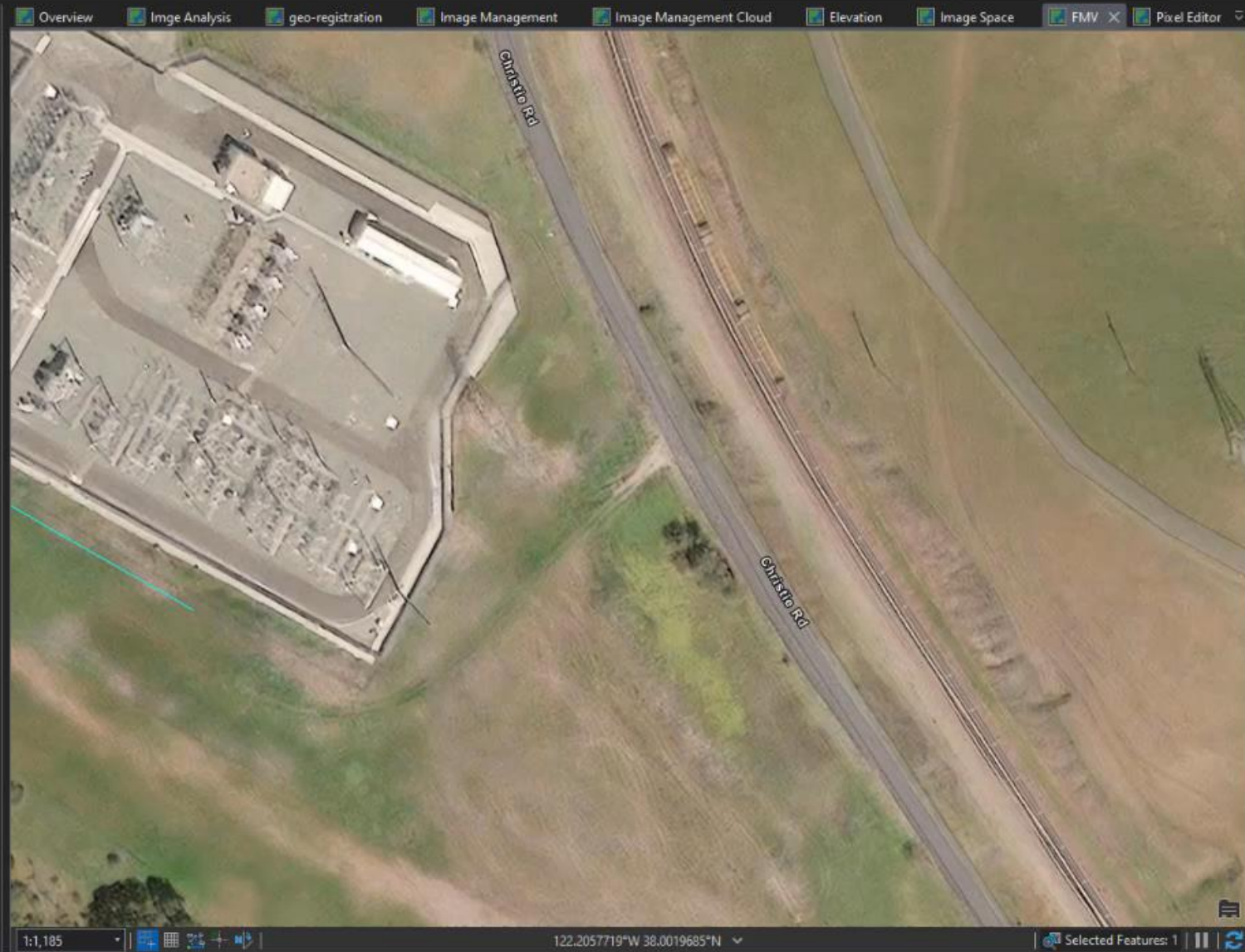
Download Map Sync Remove Offline

### Contents

Search

Drawing Order

- DJI\_0653\_Substation\_FMV\_RGB
- DJI\_0653\_Substation\_FMV\_RGB\_PlatformTrail
- DJI\_0653\_Substation\_FMV\_RGB\_FrameOutlin
- FMVAnnotations
  - Point
  - Polyline
  - Polygon
    - AnnotationClassID
      - Tier One
      - Tier Two
      - Tier Three
      - <all other values>
- Hybrid Reference Layer
- FMV\_Capture
  - Boundary
  - Footprint
  - Image
    - RGB
      - Red: Band\_1
      - Green: Band\_2
      - Blue: Band\_3
- World Imagery



### Catalog

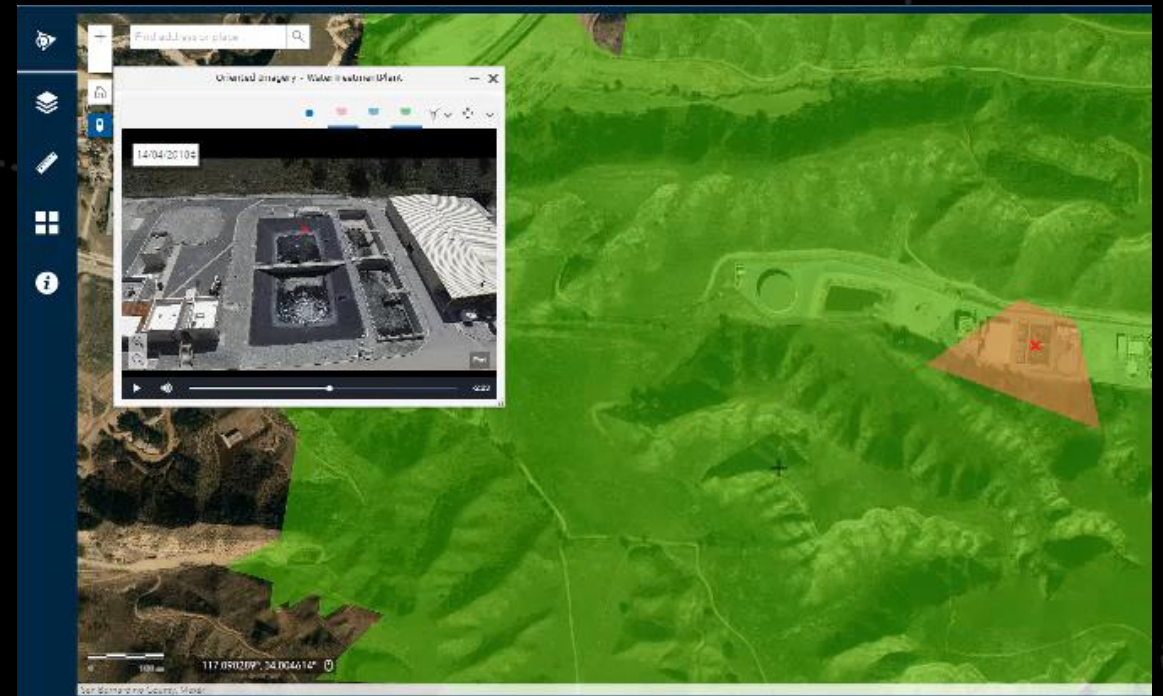
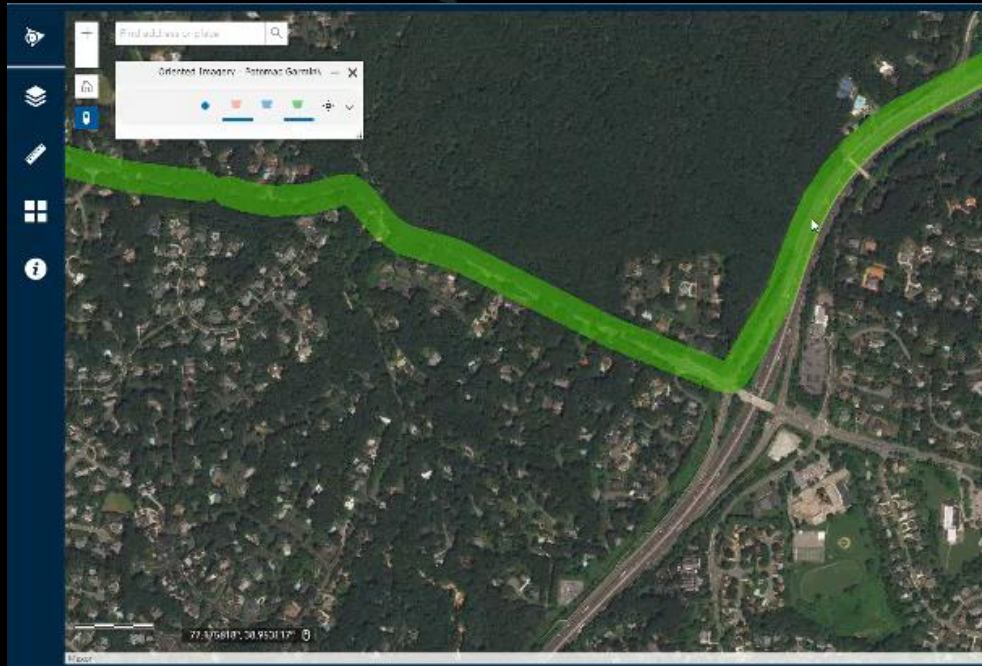
Project Portal Favorites

Search Project

- Maps
- Toolboxes
- Databases
- Styles
- Servers
- Cloud Stores
- Folders
  - Imagery
    - FMV Site Scan data
      - .backups
      - FMV Processed
        - DJI\_0653\_Substation\_FMV\_RGB.TS
        - FMV\_Franklin\_Canyon\_Substation\_IR.TS
        - Road\_FMV\_2.TS
      - FMV\_Data
      - ImportLog
      - Index
      - RasterFunctionTemplates
      - FMV\_DJI\_Project.gdb
      - FMV\_DJI\_Project.tbx
      - DJI\_0653\_2020-10-09\_04-48-43\_videolog\_RGB.csv
      - DJI\_0654\_2020-10-09\_04-48-43\_videolog.csv
      - DJI\_0654\_2020-10-09\_04-48-43\_videolog\_IR.csv
      - DJI\_0654.mov
      - SubStation.OIC
      - WA00438\_2015-07-16\_20-01-08\_L\_00-29-10\_00-30-03 - export2.mpg
  - Imagery
  - Locators

# Some FMV Examples

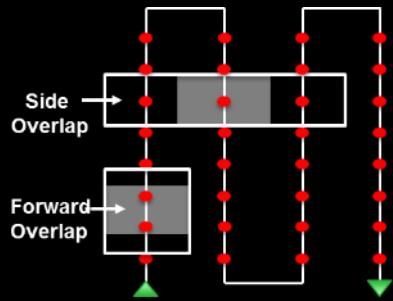
## Water Treatment Plant Garmin Car mounted video



# Capability Summary

# Site Scan for ArcGIS

## Flight Planning & Fleet Management



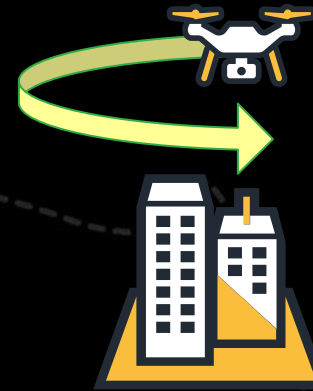
- Ensure proper collection of imagery for the type of mission
- Track pilots, drones, and batteries across organisation

## Elastic Processing (Cloud)



- System automatically scales
- Simplified workflows
- No system configuration requirements
- Entirely Cloud Hosted

## Create 2D & 3D Products



- Structure from Motion
- Orthomosaics
- DEMs & DTMs
- Classified 3D point clouds
- High-quality 3D mesh

## ArcGIS Compatibility



- End-to-End Workflow
- Integrated with ArcGIS

# Find out more

## Delivering the right tools

To discuss how your organisation can leverage location intelligence to improve situational awareness, internal and inter-agency collaboration contact Gordon Sumerling.

Gordon Sumerling

Senior Consultant, Esri Australia

T + [+61884146305](tel:+61884146305) | M [+61448140821](tel:+61448140821)

[gsumerling@esriaustralia.com.au](mailto:gsumerling@esriaustralia.com.au)

## Register your interest

### Industry roundtable

- **Enabling Resilience for Emergency Services Professionals.**

