WORKING WEEK 2025 AND Locate25 THE NATIONAL GEOSPATIAL CONFERENCE
Collaboration, Innovation and Resilience: Championing a Digital Generation
FIG Geospatial Council of Australia
Brisbane, Australia 6–10 April

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Why doesn't my LiDAR look like that?

ORGANISED BY FIG Geospatial Council of Australia
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INTRODUCTION

- Recent years has seen **significant advances in sensor and platform technologies**, data processing techniques, systems infrastructure, and the increased accessibility of big data via streaming services

- Massive growth in **investment** from state, local and federal government supporting the availability of terrain data

- **This has seen the demand for LiDAR** data evolve from the initial exclusive realm of highly technical surveys to use in commercial products including vehicles and mainstream household consumer appliances.

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LiDAR IS NOW MORE ACCESSIBLE THAN EVER BEFORE

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Airborne LiDAR Data

BUT.....

- **LiDAR** remains misunderstood
- **Under utilised** and undervalued
- **Lacking** consistency
- **Lacking** standardisation
- **Lacking ease of use** and integration

*"Inconsistent, and diverse product specifications, and variable data quality make it **difficult to integrate datasets to address regional, state, and national issues.***

*A national base specification adopted by all projects and jurisdictions, **which defines a consistent set of minimum specifications and products**, is required to optimise investment and the value of both existing and future data collections"*

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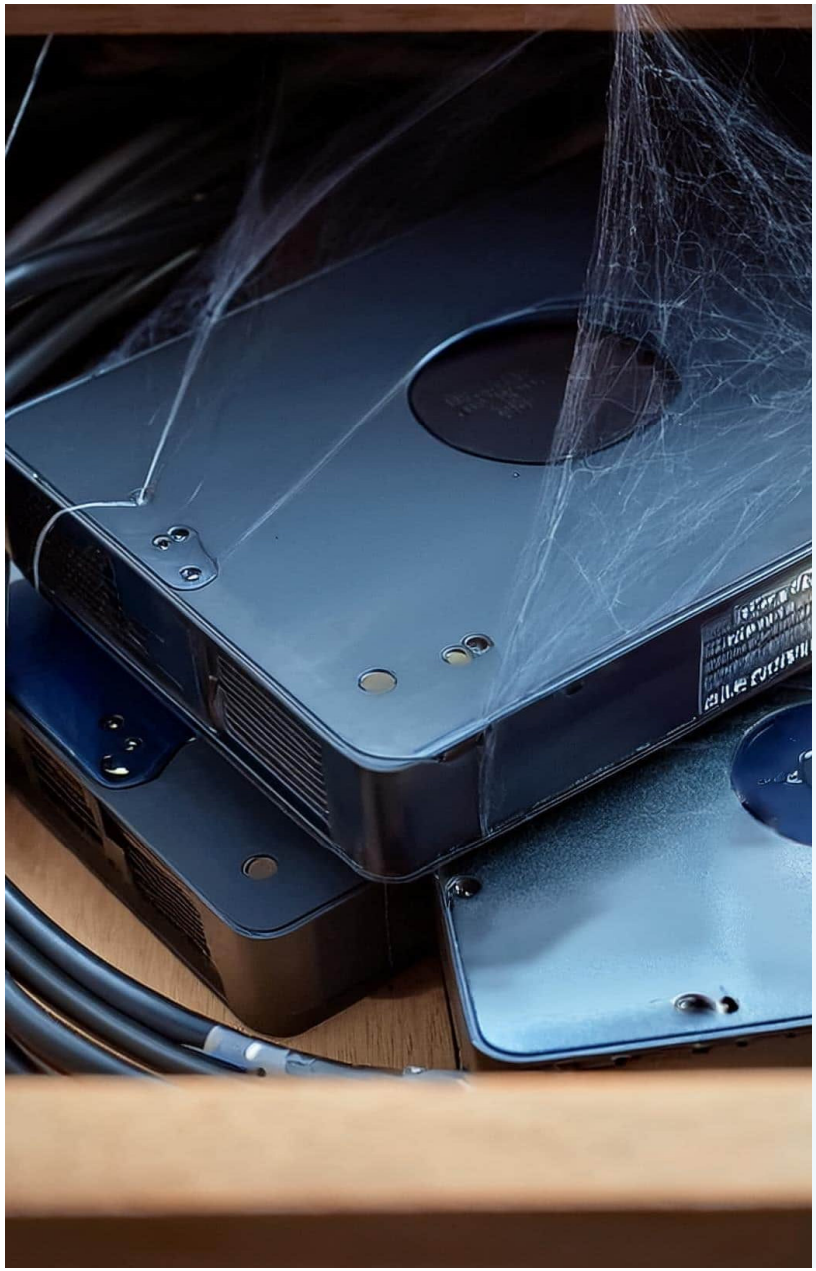
Consistent Challenges



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WHY?

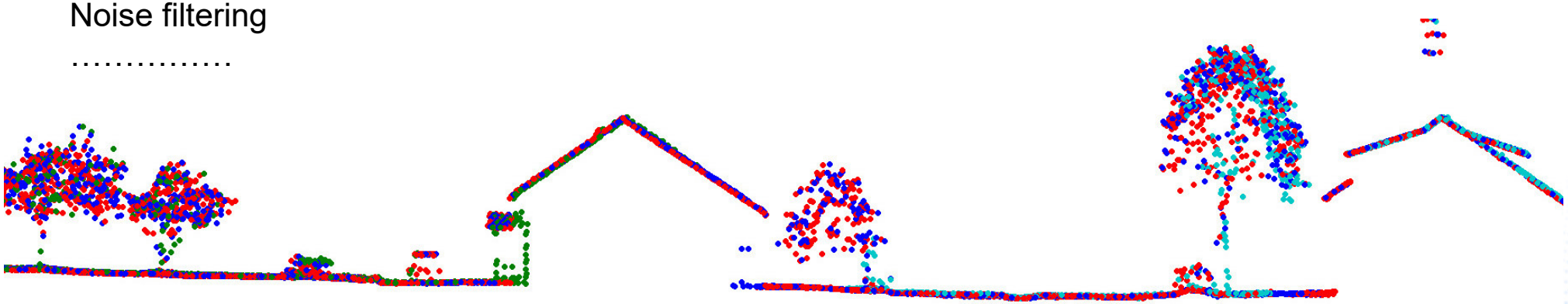
- Perhaps more than other remote sensing technologies, LiDAR collection parameters **are highly dependent on the environment of the project area.**

- Air traffic control restrictions
- Weather conditions
- Tidal flows
- Angle of the sun
- Availability of the right aircraft and the right sensor for the job
- Size of the survey area
- Distance of the survey area from air base
- Vegetation cover
- Degree of urbanisation
- Terrain variations
- Level of accuracy required
- Quality of simultaneous imagery

HERE IS WHY

LiDAR processing when done well **includes SO many unseen processes**

- flightline matching
- Classification
- Hydro flattening
- Manual and automated editing
- Noise filtering
- ……



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So, how do I make sure my **LiDAR** does look like what I wanted?

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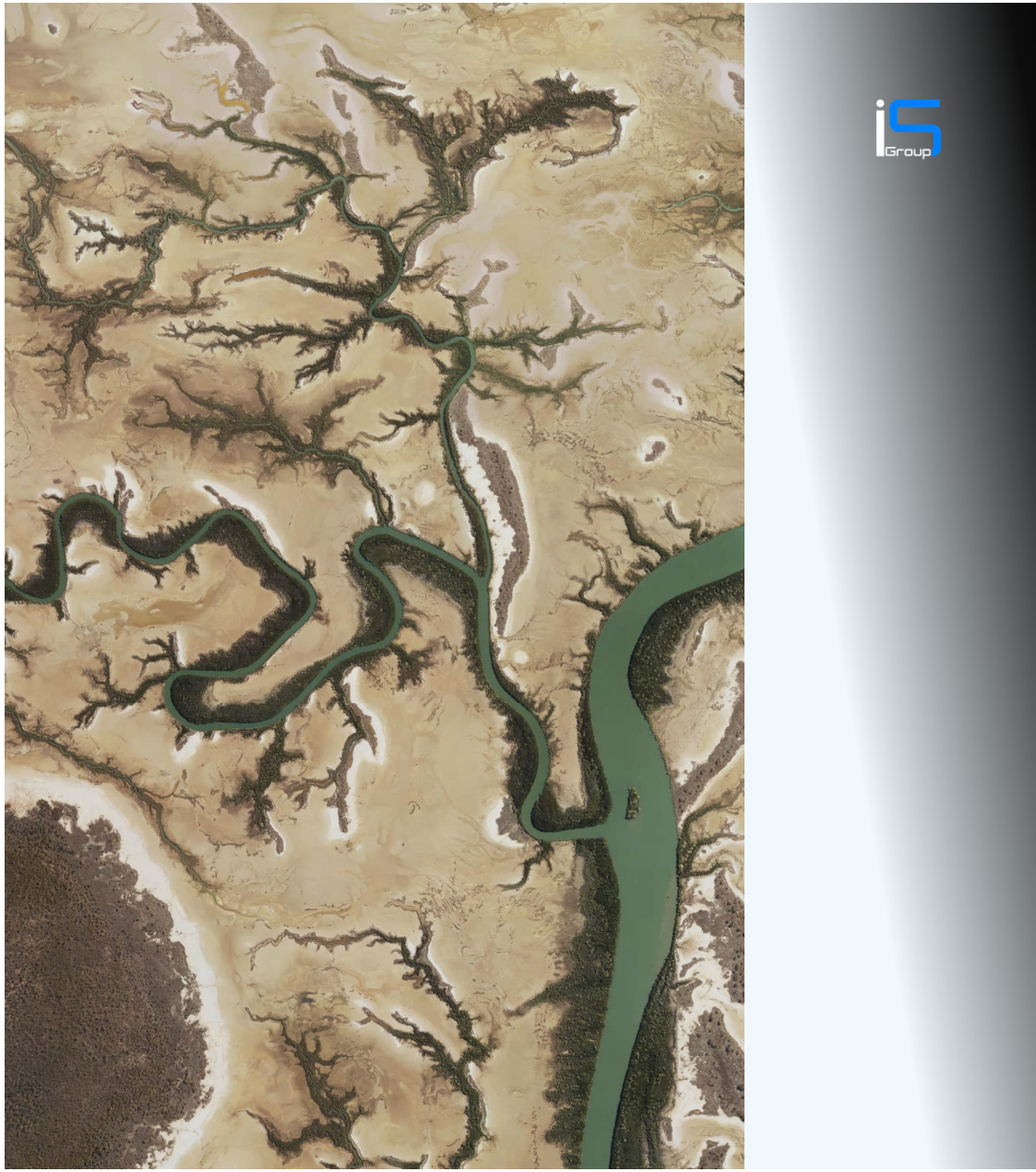
WHAT DO YOU ACTUALLY NEED?

- Step 1, **talk to us, any of us, before you put out a tender!** Australia has one of the most advanced and mature LiDAR market in the world
- Talk to more than 1, **they vary wildly**
- Talk to **your state government**
- DON'T focus on the **lowest price**
- DON'T focus on the **platform**, yes drones are cool, no they are not the only choice
- Be **flexible**



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What do you actually **need** to see? What will the data be **used for?**

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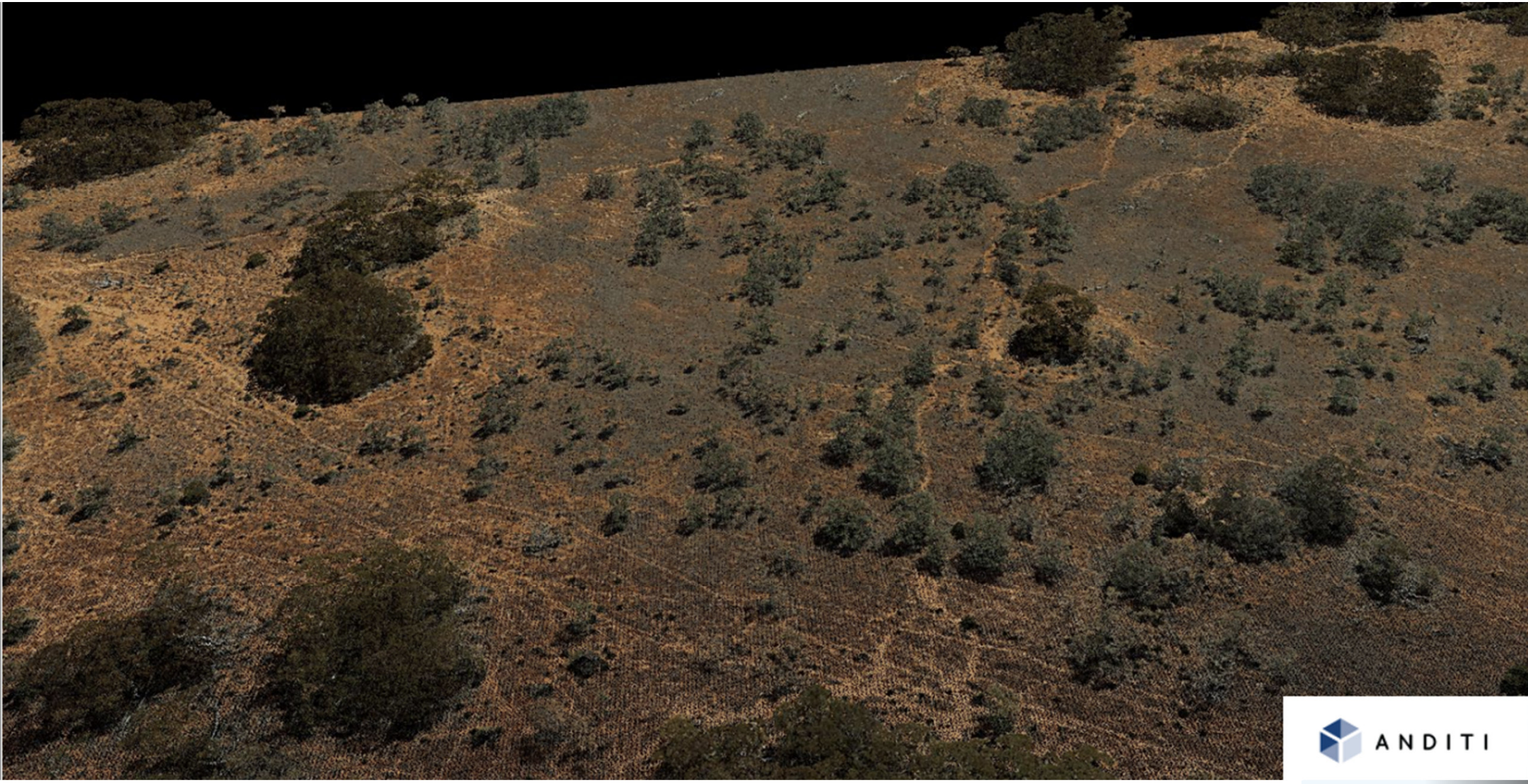

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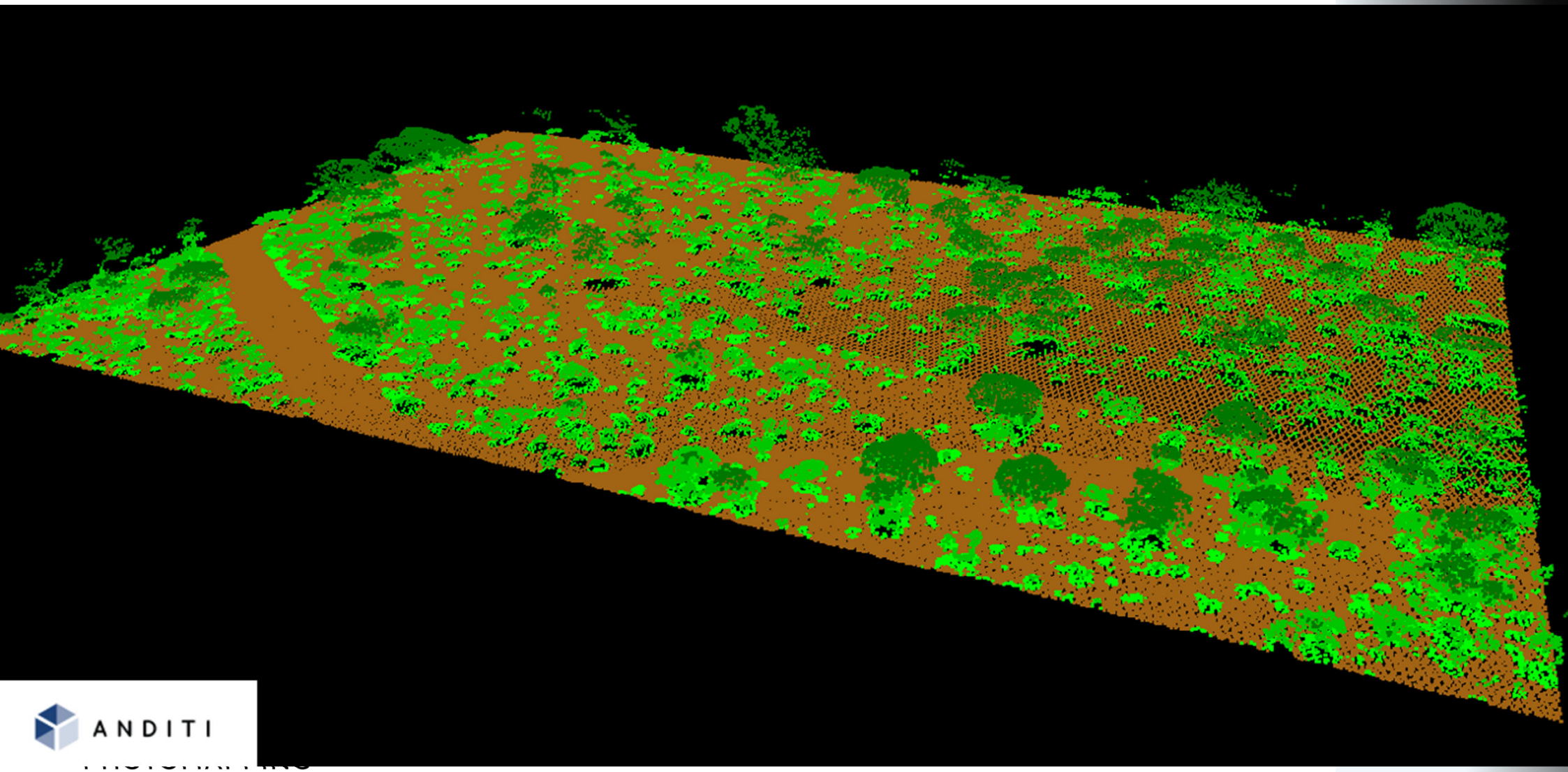

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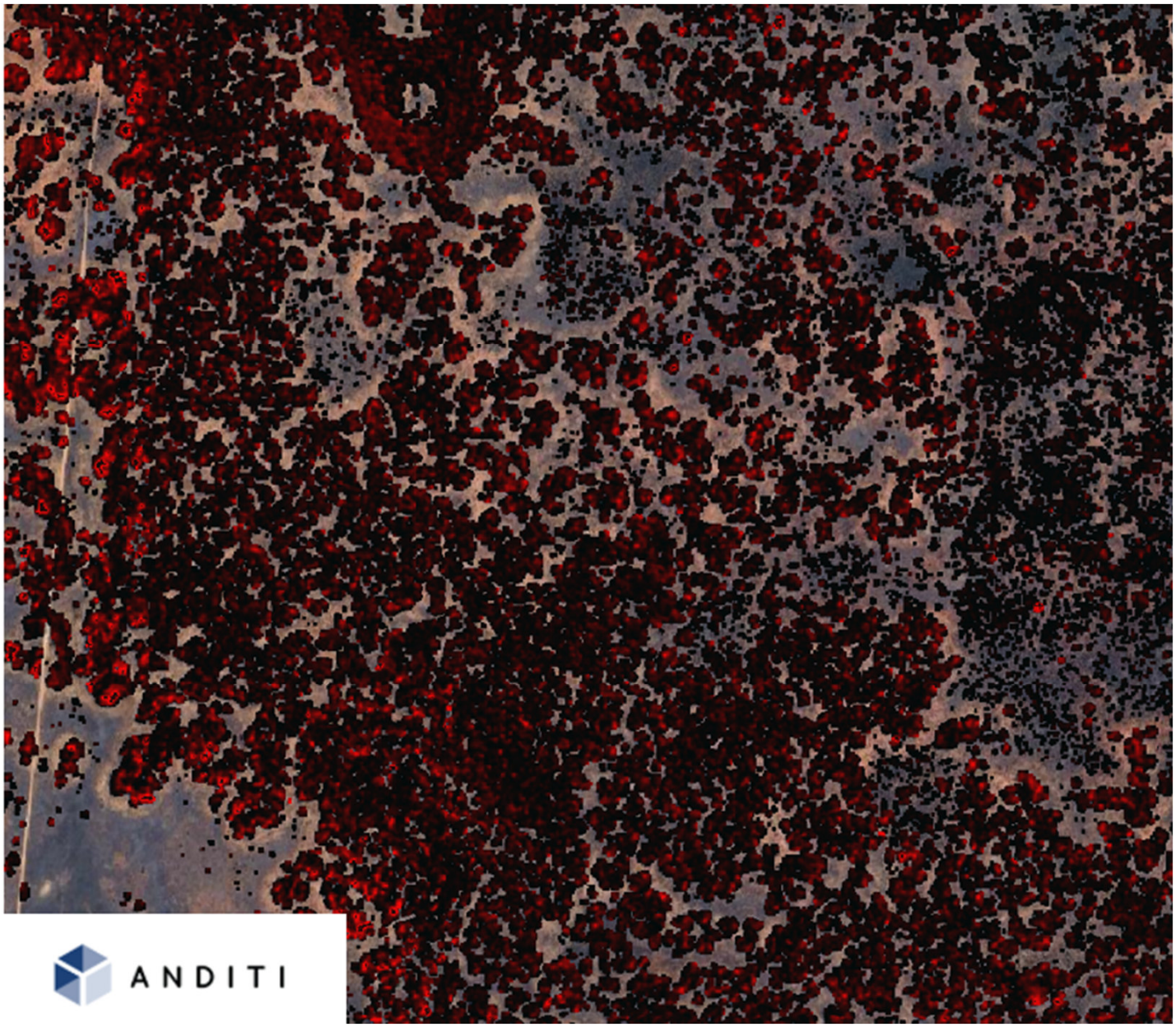

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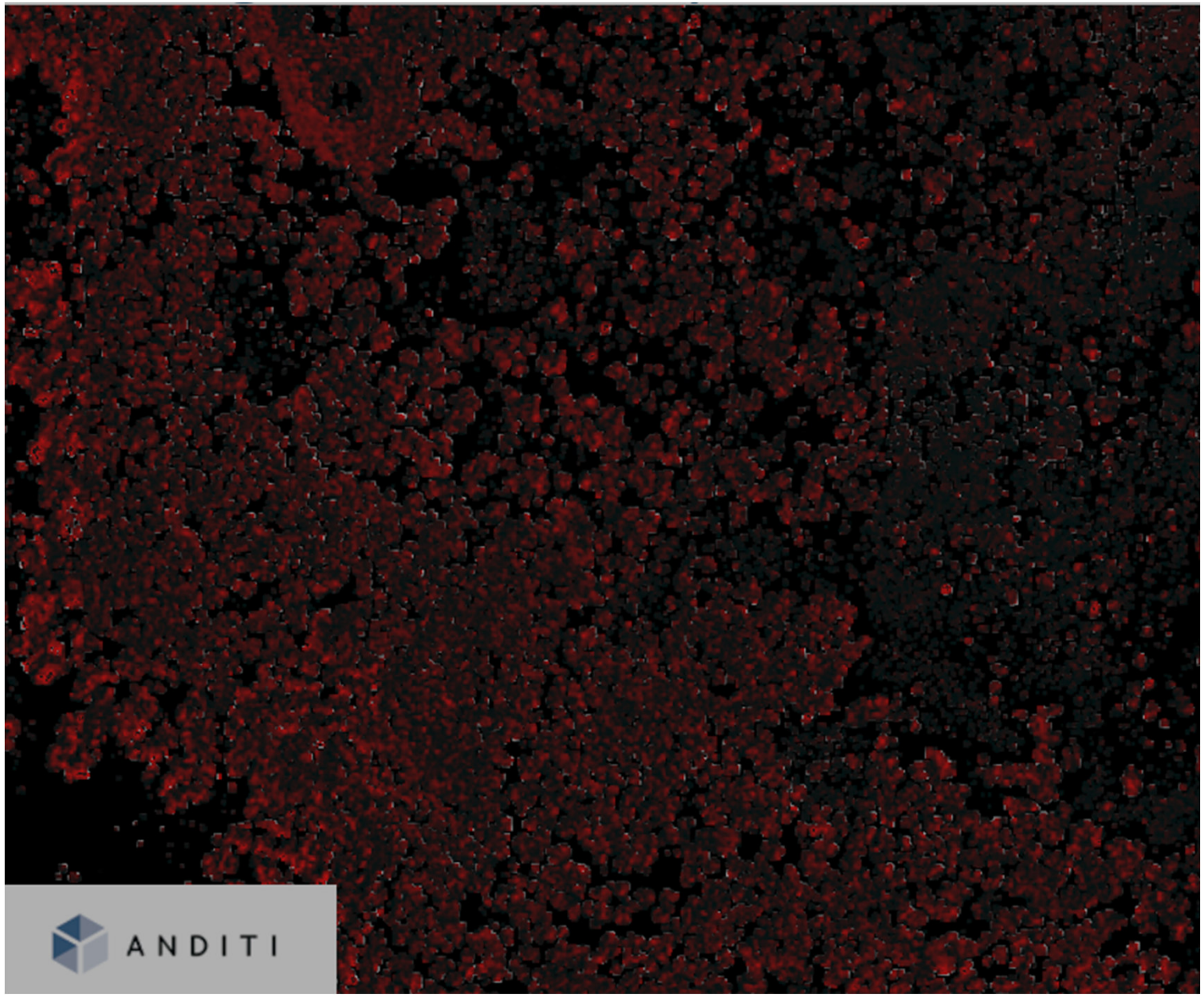
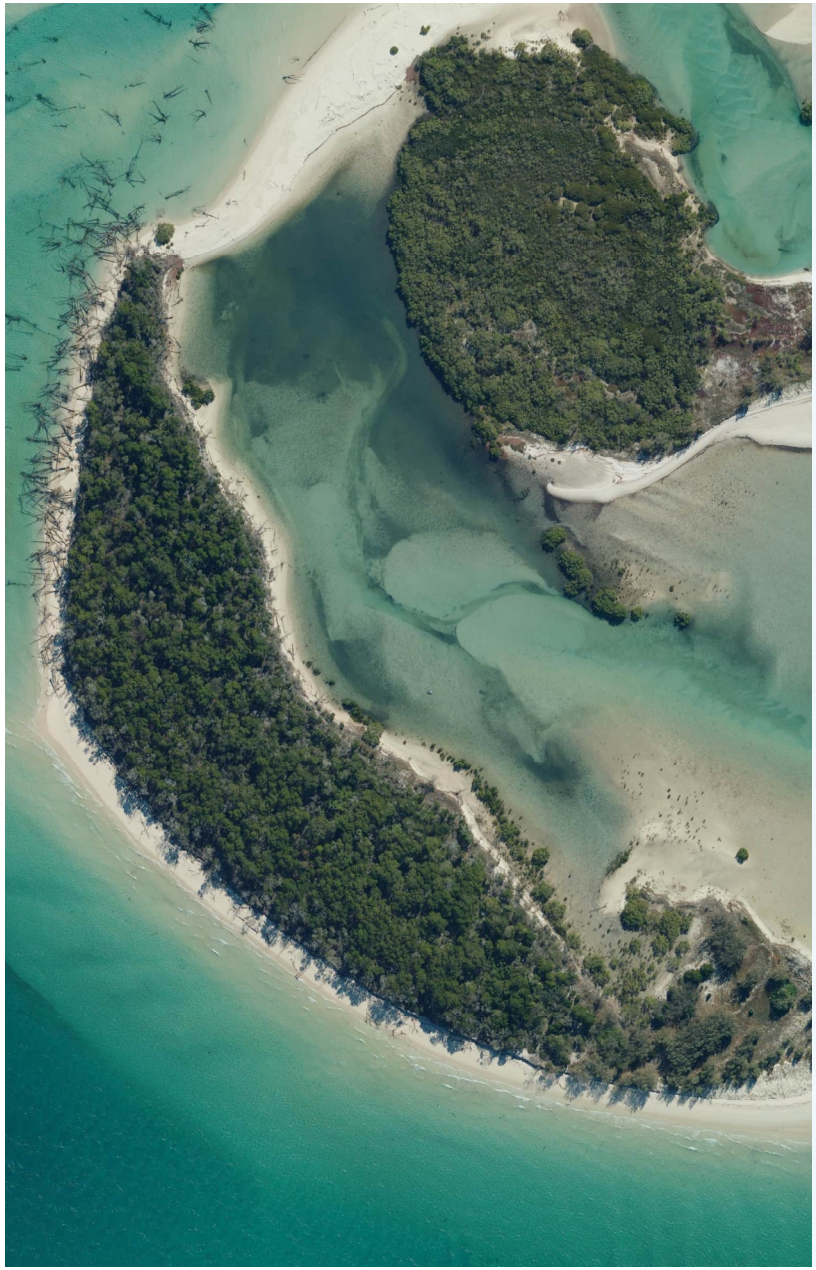
Biomass Volume



Carbon Storage Heatmap

WHAT DO YOU ACTUALLY NEED?

- Do you need **imagery**?
- 3 band/4 band
- How **good** does the imagery need to be?
- What will you use the imagery for, **does it need to be simultaneous?**



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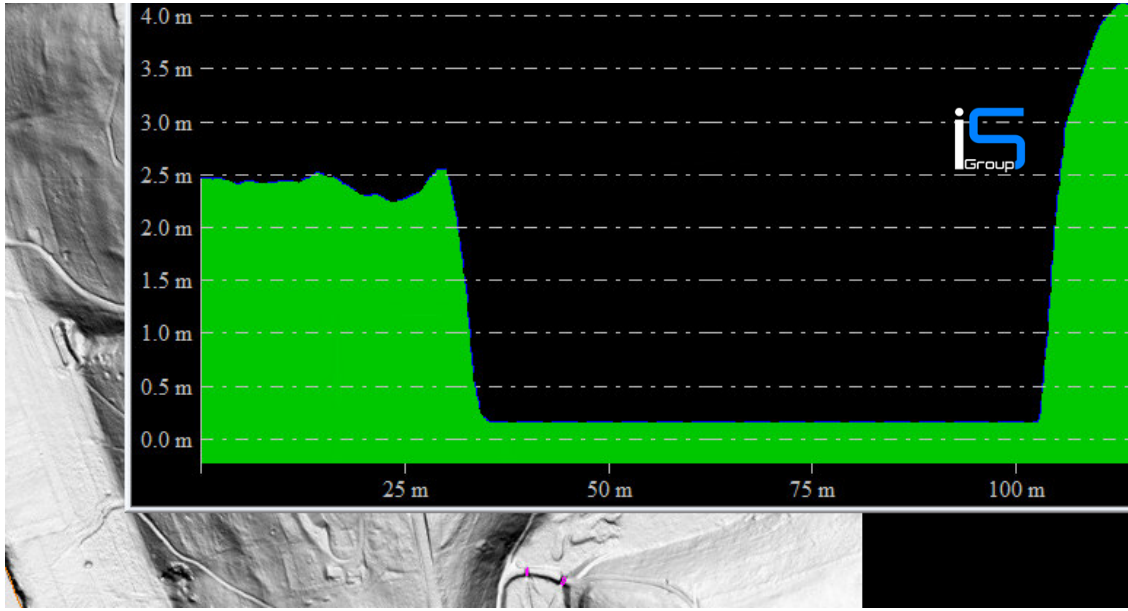
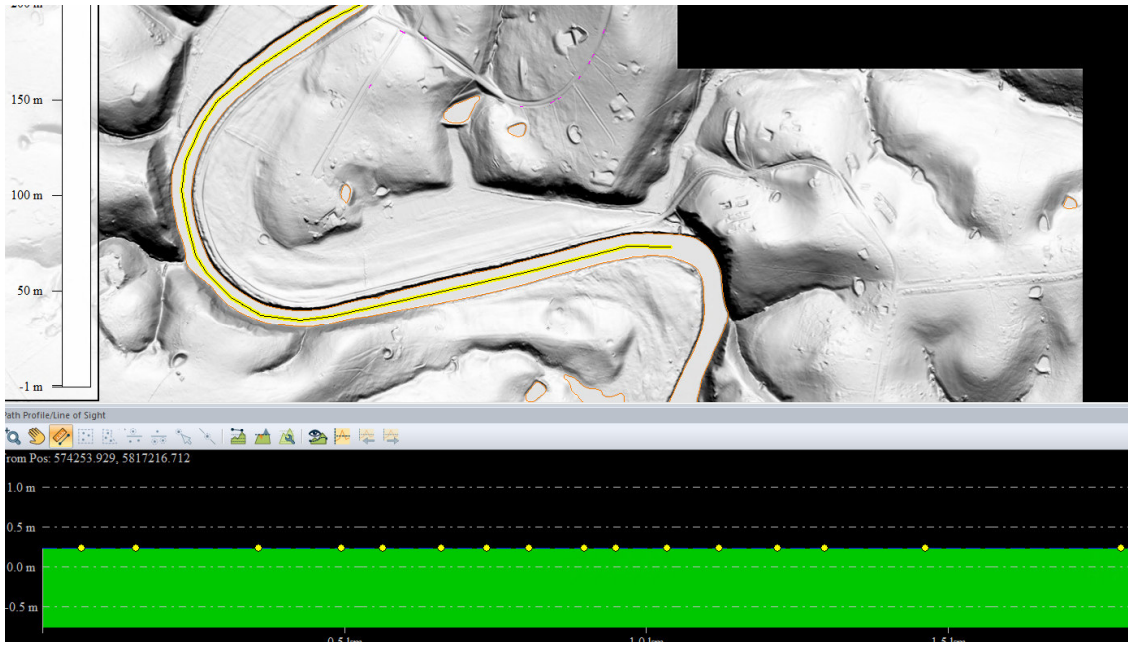
WHAT DO YOU ACTUALLY NEED?

Accuracy, Deliverables
and so much more…





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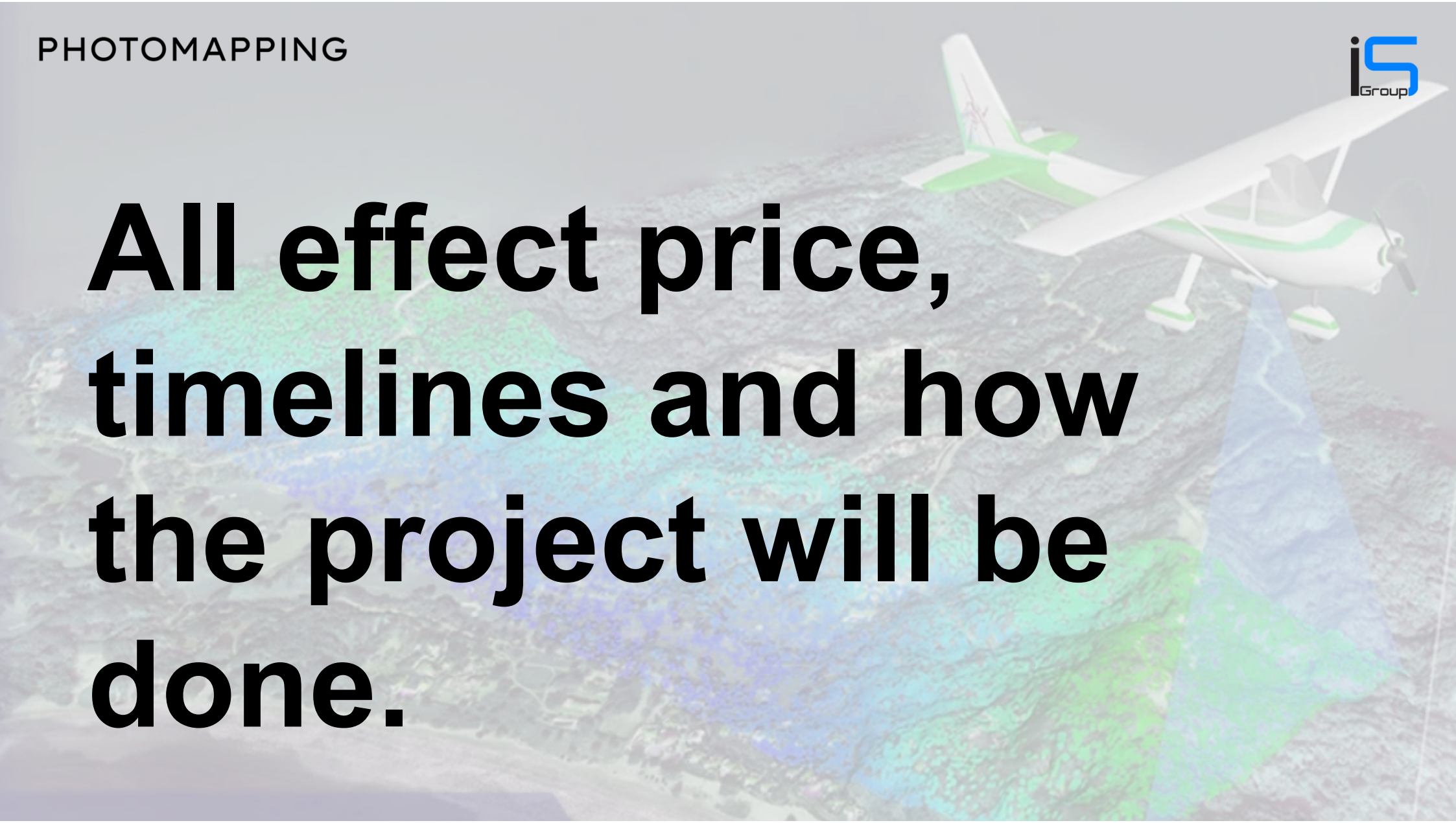
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All effect price, timelines and how the project will be done.