SWIFTGEOSPATIAL

Transforming data into knowledge

National Space Conference - 2023

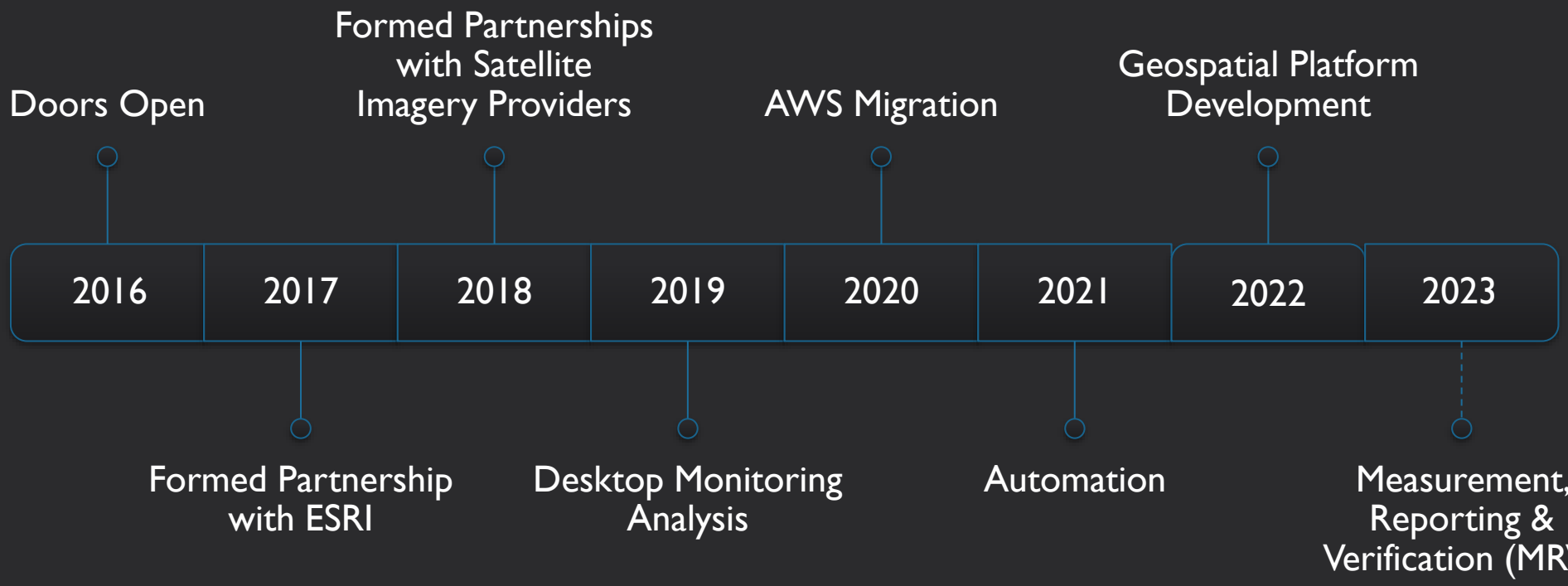
Unlocking Earth Observation Imagery to Provide Insight

Michael Breetzke – Business Development Manager

Presentation Content

- Company Introduction
- Market Verticals
- Partners
- Workflow
- Case Study

Swift Geospatial Journey



GIS and Remote Sensing Company

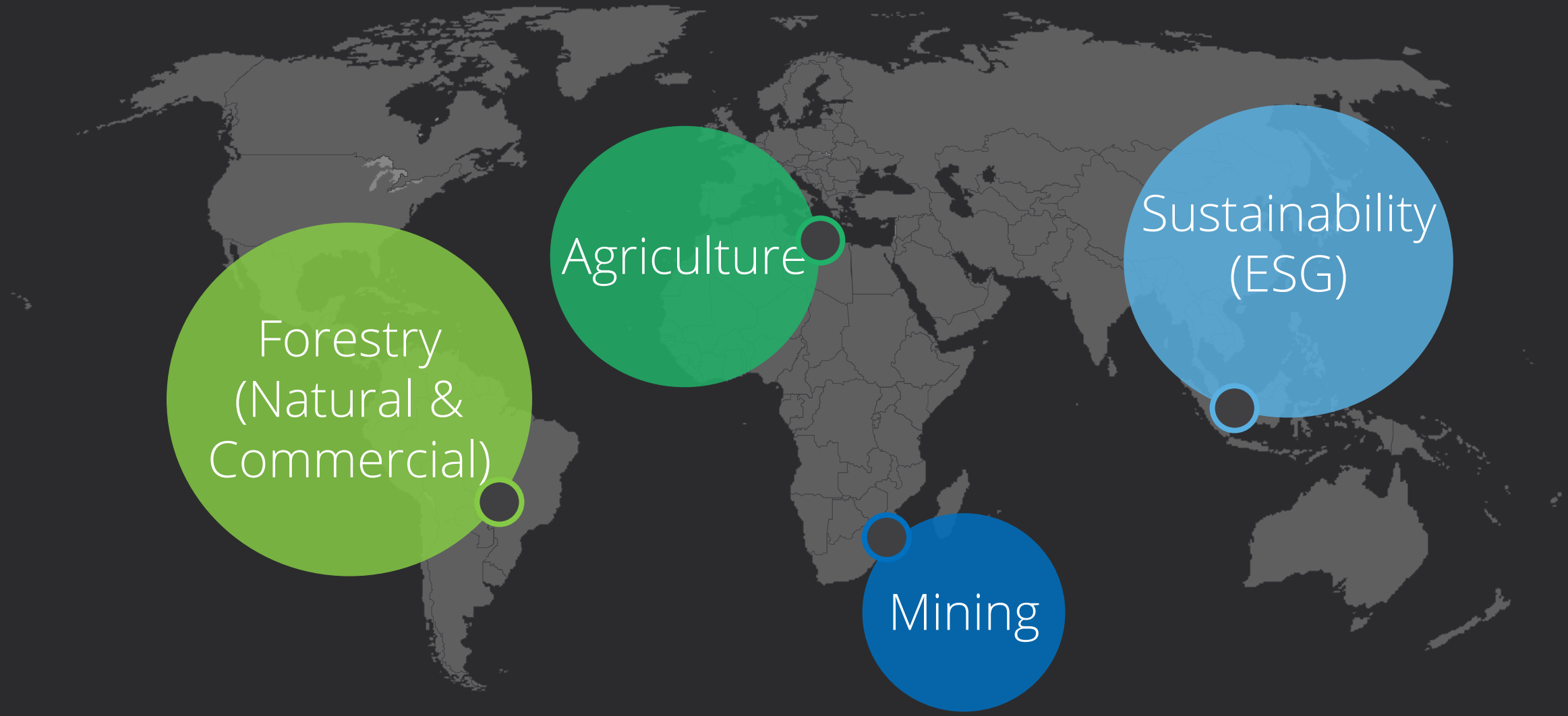
Physical Staff

- Based in Pretoria and Cape Town, South Africa
- 7 full-time staff
- 4 outsourced staff

Cloud Computing

- AWS environments based in Oregon USA, Frankfurt Germany and Cape Town South Africa
- 2 x dedicated imagery servers
- 1 x dedicated ESRI enterprise
- +/- 24 x dedicated EC2 cloud computing machines

Market Verticals



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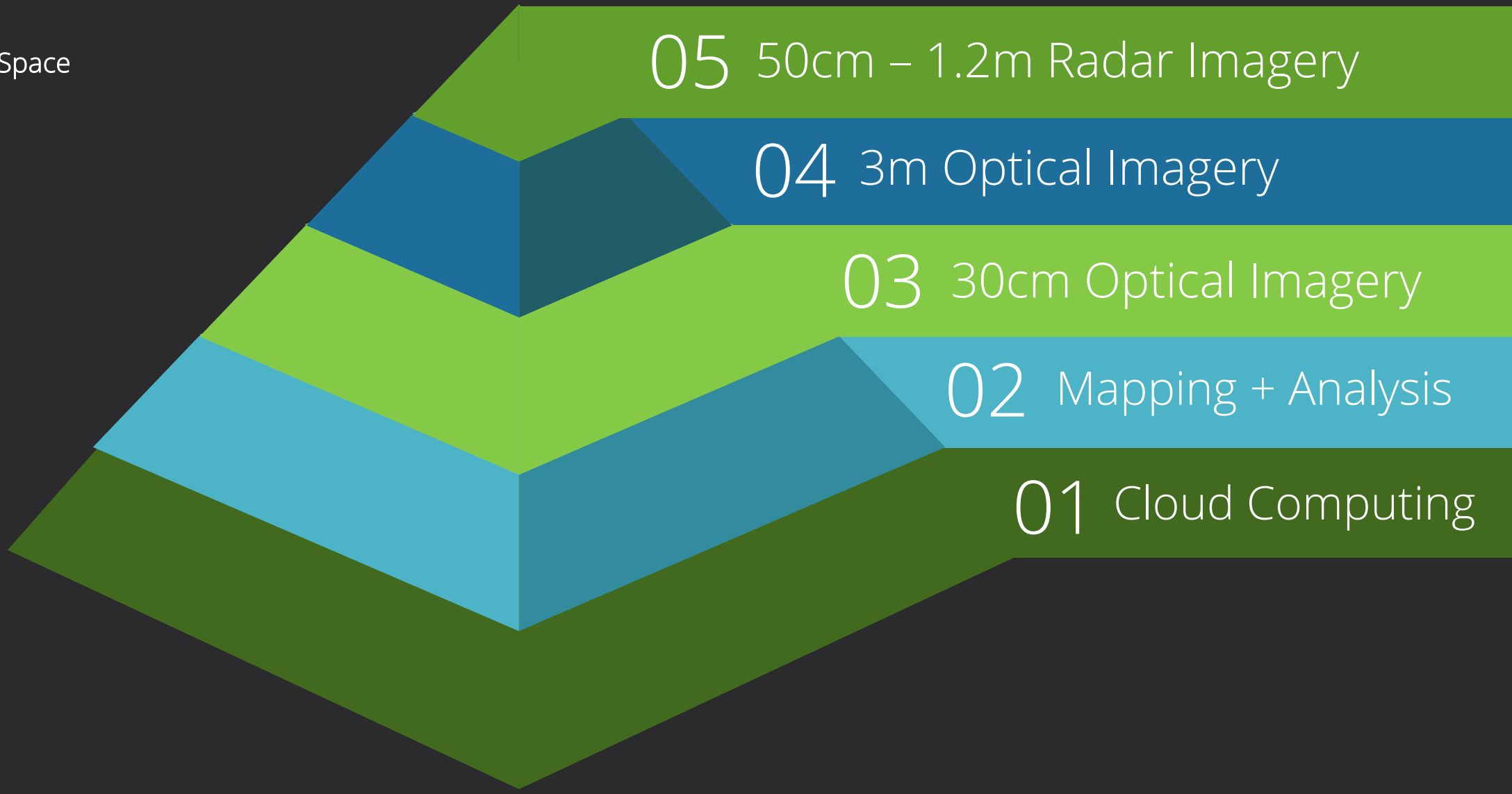
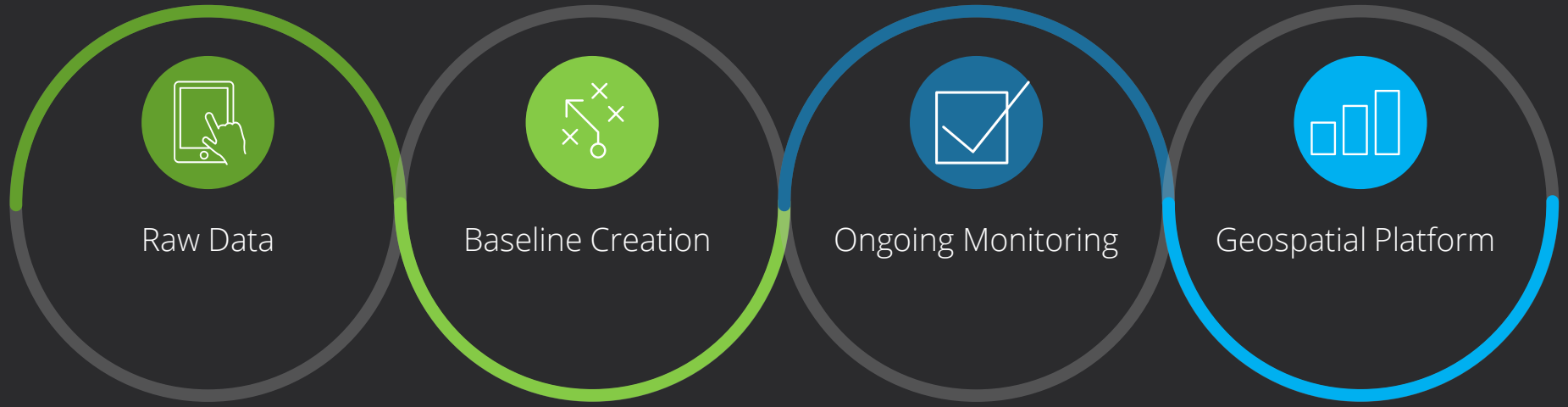
Partners

- Capella Space
- Planet
- Maxar
- ESRI
- AWS



Workflow



01 DATA

02 MEASURE

03 VERIFY

04 REPORT

Lessons learnt along the way

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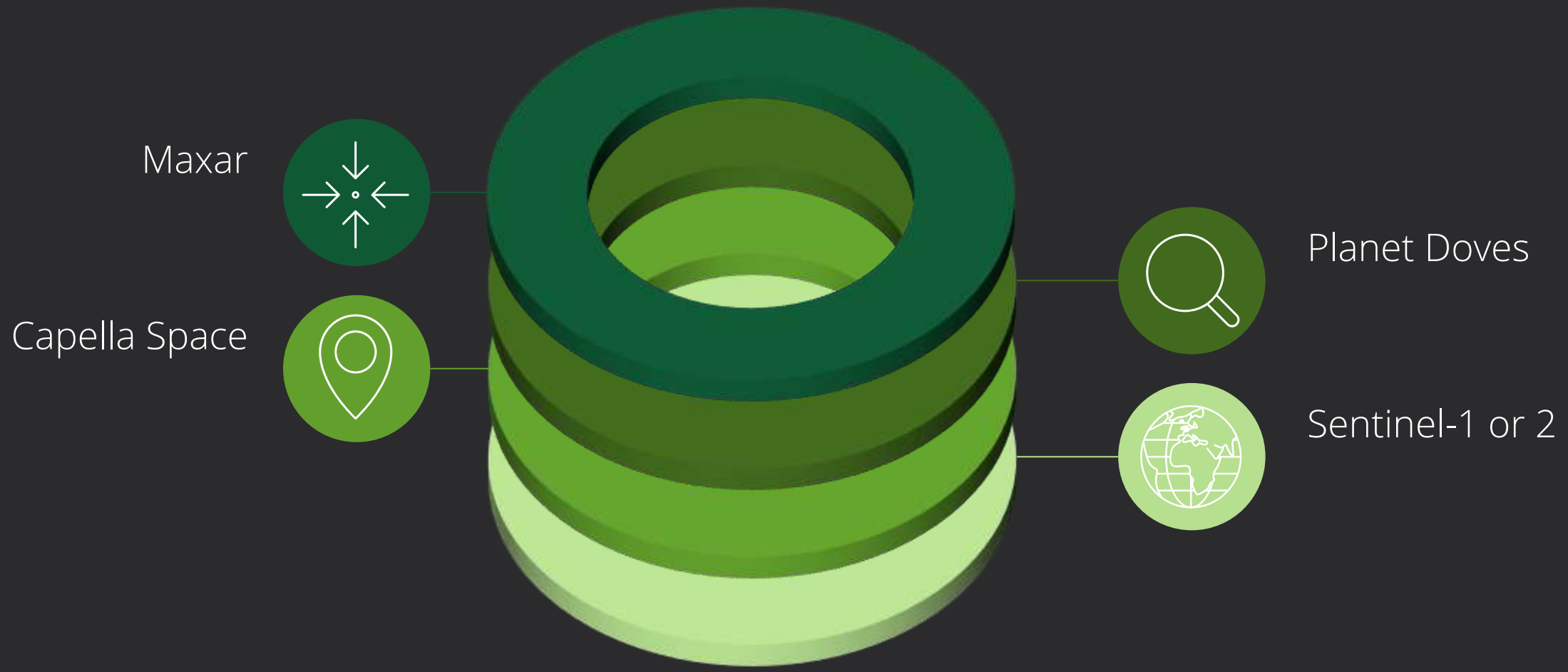
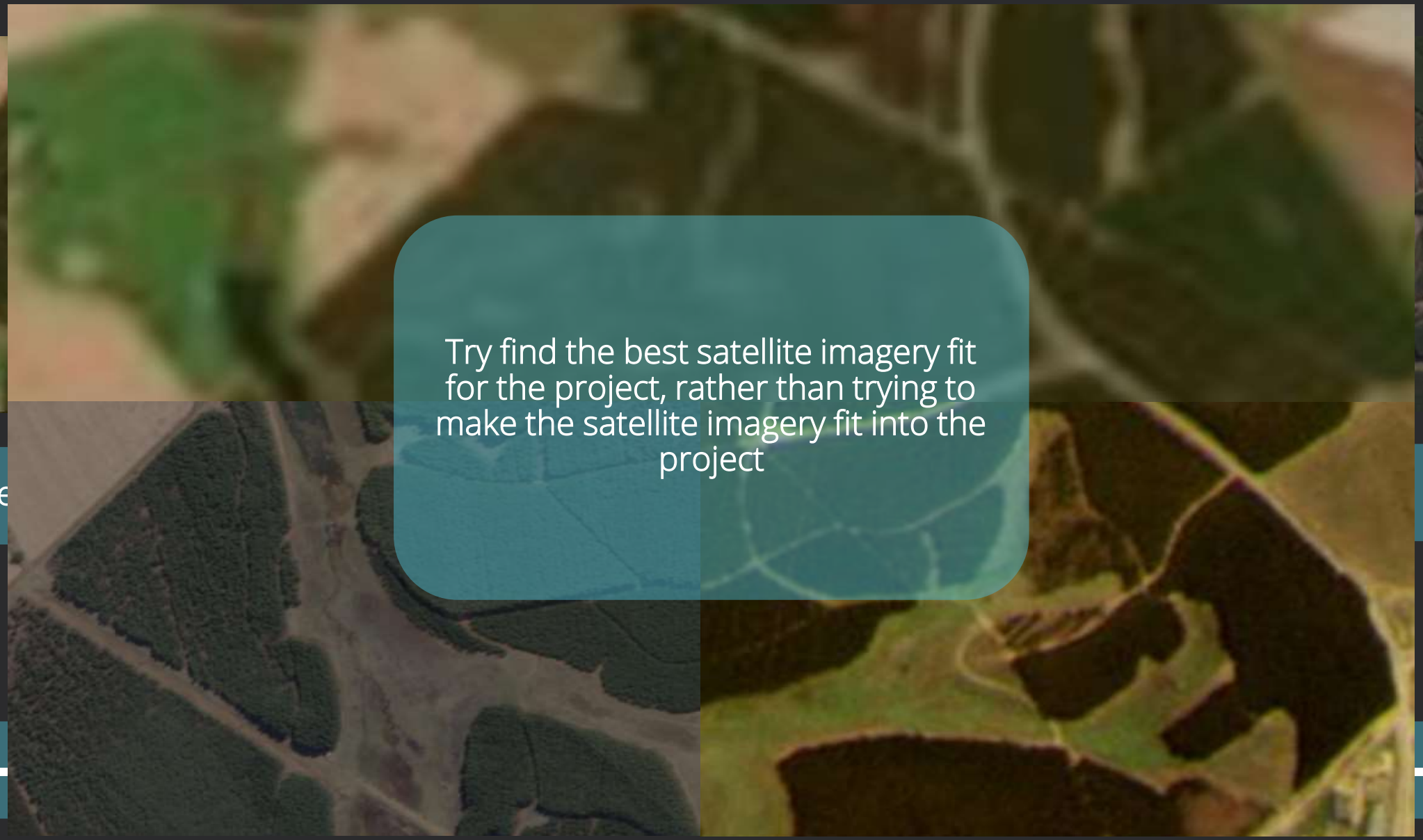
01 DATA



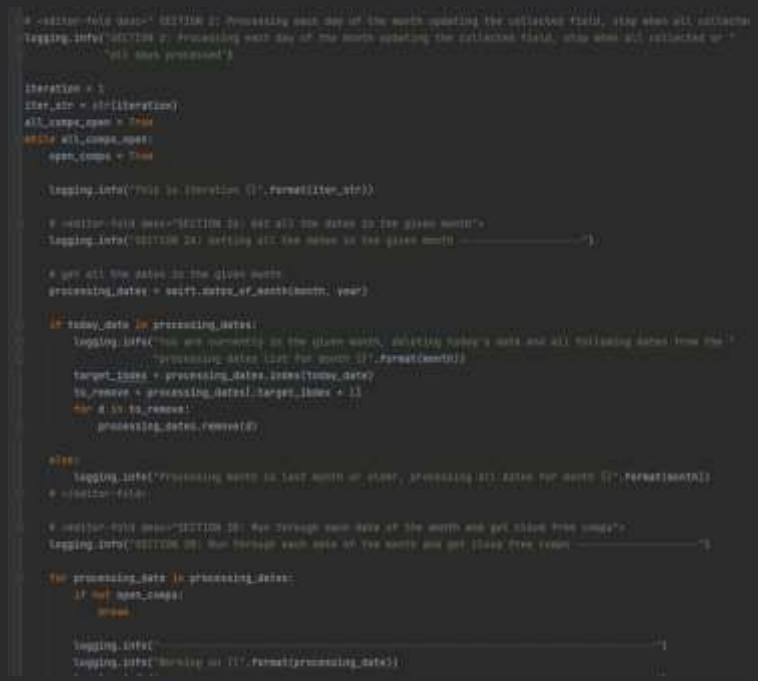
Solutions are based on using a multi-sensor approach, cloud computing and secure online delivery

01 DATA



Try find the best satellite imagery fit for the project, rather than trying to make the satellite imagery fit into the project

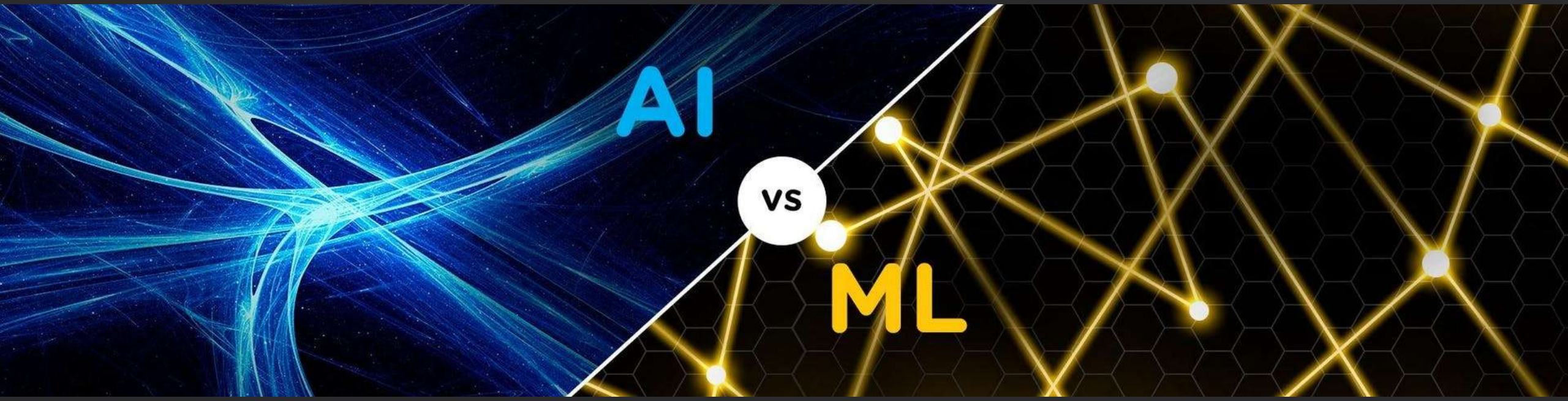
02 MEASURE



Desktop → Cloud

- ESRI ArcPRO to ESRI Enterprise
- Manual processing to Python Scripting
- No need to reinvent the wheel (NDVI was first used in 1973...50yrs old and still going strong)
  - Focus is now on type/number of sensors, speed of processing and delivery of results

03 VERIFY



AI is best for completing a complex human task with efficiency

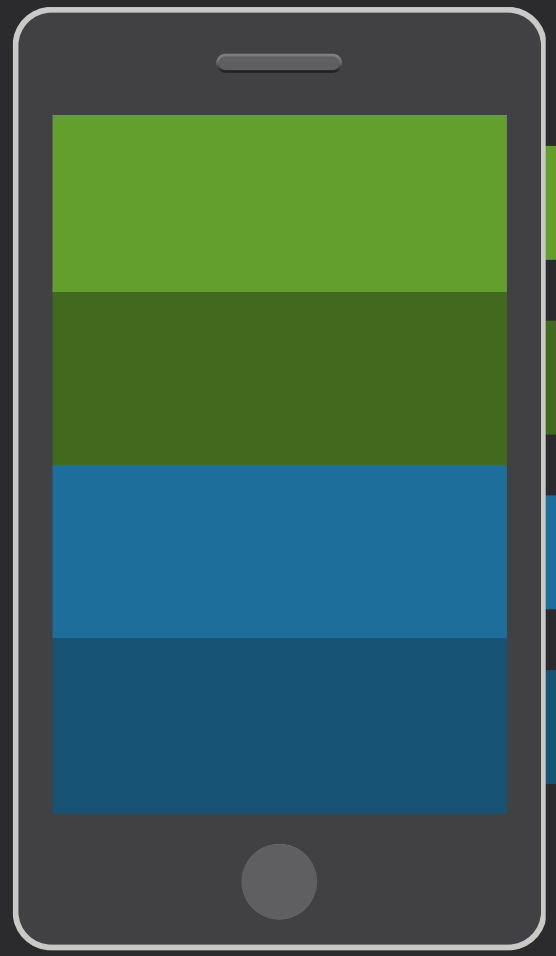
ML is best for identifying patterns in large sets of data to solve specific problems

03 VERIFY

A human eye can often be the difference between failure and success within a project.

Cloud Mask - Example

04 REPORT



User Friendly	Do not need to be a specialist
Responsive	Time it takes to generate the answers
Provide Decision Support	Transparency and validation
Customisable	Creating a partnership

Case study related to forestry & protected area monitoring

Swift Geospatial can provide deforestation and protected area monitoring. We utilize third-party GLAD and RADD alerts to offer deforestation alerts and hotspot analysis, which better highlight key areas for further investigation either through high-resolution satellite imagery collection or in-field ground teams. We have successfully implemented a Deforestation Alert System for Barry Callebaut, covering cocoa plantations in eight countries, across the globe.

Case study related to forestry & protected area monitoring

Case study related to forestry & protected area monitoring

Explore Cocoa Project Dashboards

BARRY CALLEBAUT

Brazil
Deforestation
Alert Dashboard

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BC Brazil Alerts

BC Brazil disturbance alerts dashboard.

Explore

BARRY CALLEBAUT

Cameroon
Deforestation
Alert Dashboard

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BC Cameroon Alerts

BC Cameroon disturbance alerts dashboard.

Explore

BARRY CALLEBAUT

Ghana
Deforestation
Alert Dashboard

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BC Ghana Alerts

BC Ghana disturbance alerts dashboard.

Explore

BARRY CALLEBAUT

Indonesia
Deforestation
Alert Dashboard

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BC Indonesia Alerts

BC Indonesia disturbance alerts dashboard.

Explore

Ivory Coast
Deforestation
Alert Dashboard

BC Ivory Coast Alerts

BC Ivory Coast disturbance alerts dashboard.

Explore

Nigeria
Deforestation
Alert Dashboard

BC Nigeria Alerts

BC Nigeria disturbance alerts dashboard.

Explore

Case study related to forestry & protected area monitoring

BARRY CALLEBAUT Barry-Callebaut Global Deforestation Monitoring

Portal

BC Ivory Coast Alerts

Select a date range
None

Warehouse Selector
No Warehouse Selected

Farm Information

Plantation : 0-26629790-1
Warehouse : COASI WAREHOUSE
Farm Id : 1
Ingrediant : Cocoa

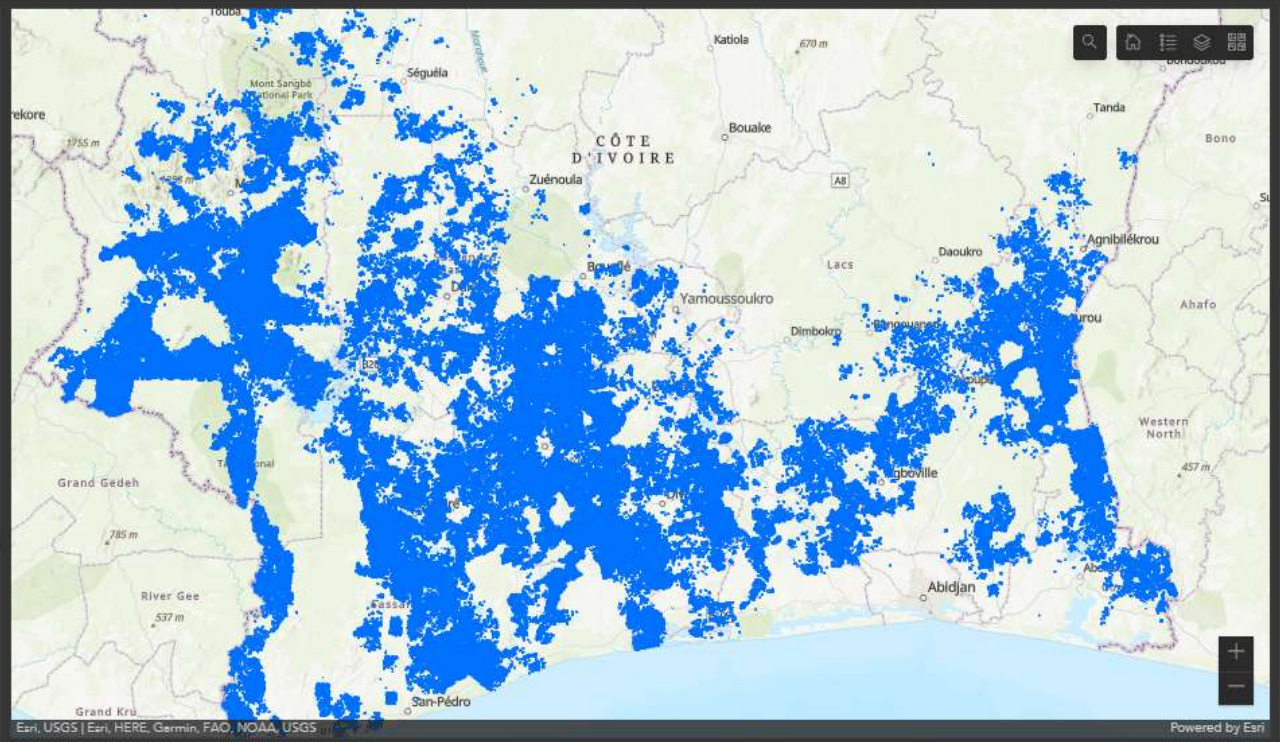
Plantation : 0-14815227-1
Warehouse : LAFILA BOUMBOU WAREHOUSE
Farm Id : 2
Ingrediant : Cocoa

Plantation : 0-27813128-1
Warehouse : SCABK WAREHOUSE
Farm Id : 3
Ingrediant : Cocoa

Plantation : 0-24386167-1
Warehouse : AZIEL SCOOPS WAREHOUSE
Farm Id : 4
Ingrediant : Cocoa

Plantation : 0-27864834-1
Warehouse : CANS WAREHOUSE
Farm Id : 5
Ingrediant : Cocoa

Plantation : 0-28139729-1
Warehouse : SCAW COOP-CA WAREHOUSE

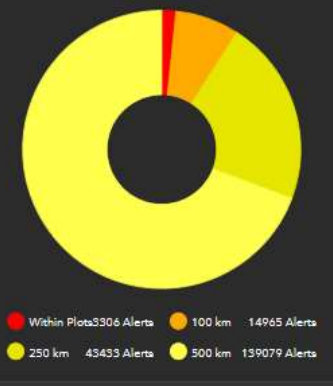


Alerts within Plots

3294

246.5 Ha

Alert Regions



Farm Alert Information

- Date : 25/12/2021, 02:00
- Zone : 0 km
- Alert Source : GLAD-L

- Date : 03/08/2021, 02:00
- Zone : 0 km
- Alert Source : GLAD-L

- Date : 17/12/2021, 02:00
- Zone : 0 km
- Alert Source : GLAD-L

- Date : 03/08/2021, 02:00
- Zone : 0 km
- Alert Source : GLAD-L

- Date : 13/04/2021, 02:00
- Zone : 0 km
- Alert Source : GLAD-L

Disturbance Alerts

Date: 01/08/2023
Area: 0.152285 ha
Source: GLAD-L
Farm:
Forest Type:

Date: 01/08/2023
Area: 0.076144 ha
Source: GLAD-L
Farm:
Forest Type:

Date: 01/08/2023
Area: 0.076147 ha
Source: GLAD-L
Farm:
Forest Type:

Date: 01/08/2023
Area: 0.076147 ha
Source: GLAD-L
Farm:
Forest Type:

Date: 01/08/2023
Area: 0.837615 ha
Source: GLAD-L
Farm:

Yearly Forest Loss

Disturbance Total Area Ha | Disturbance Total Alerts | Tree Cover Loss - Area

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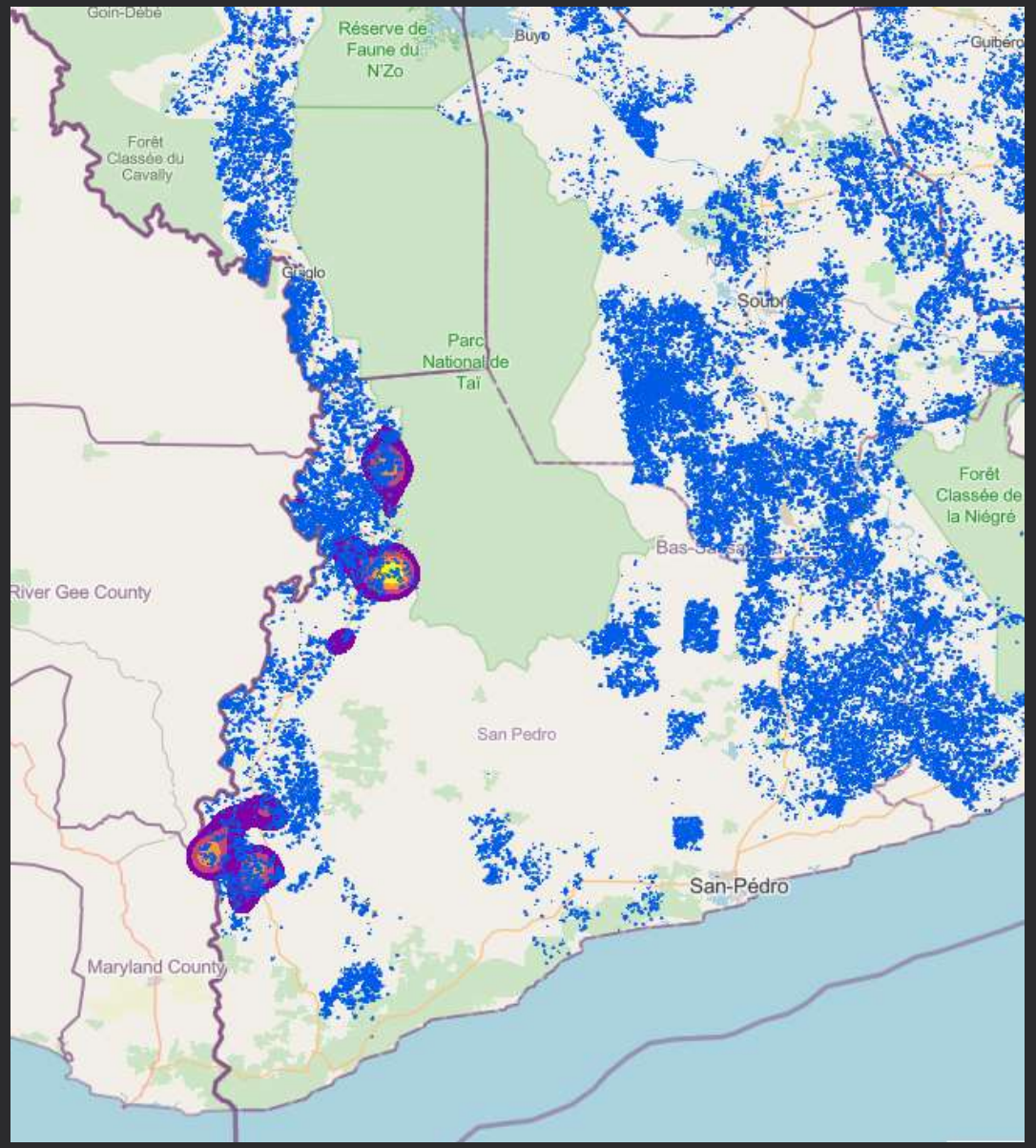
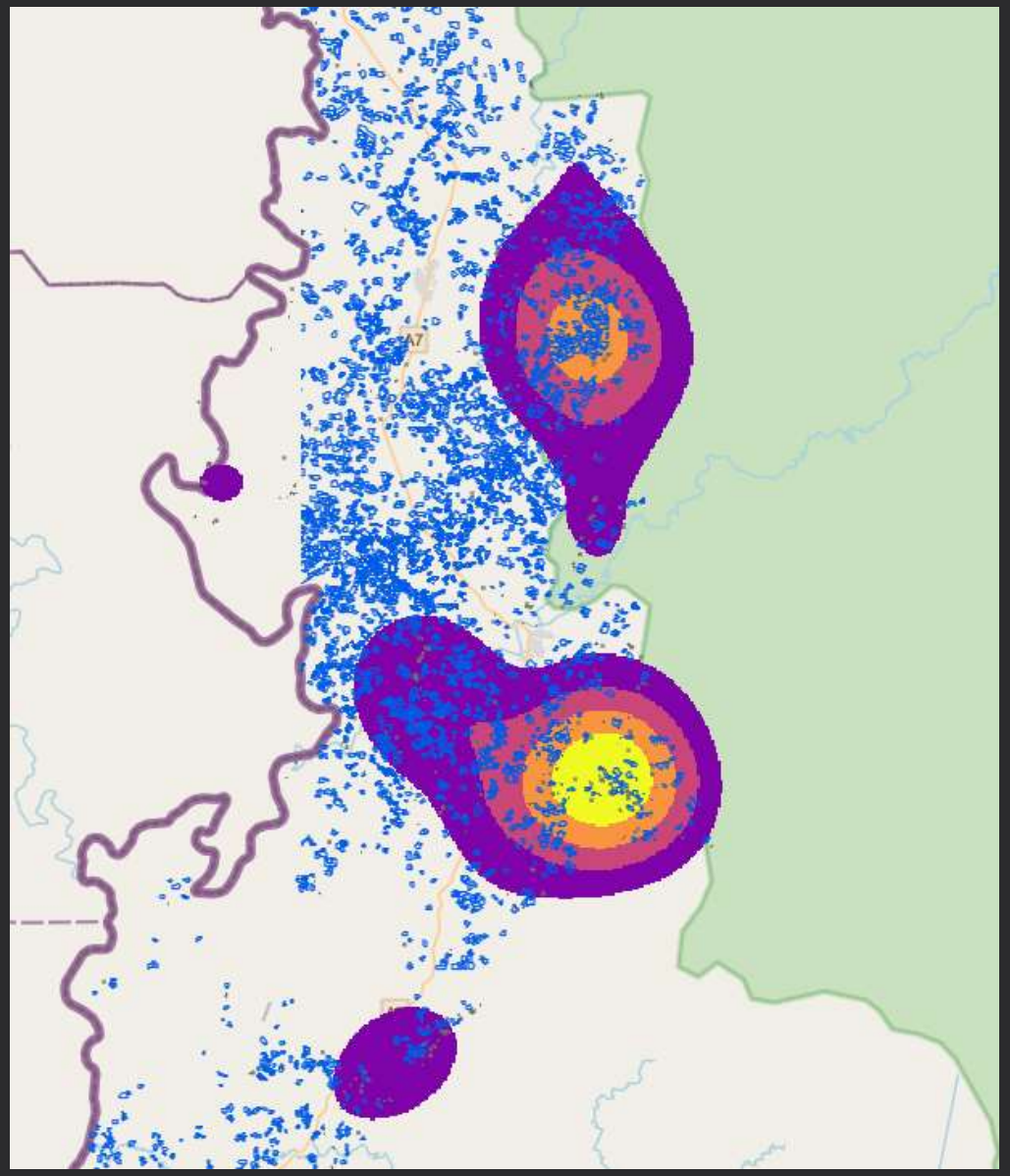
Case study related to forestry & protected area monitoring





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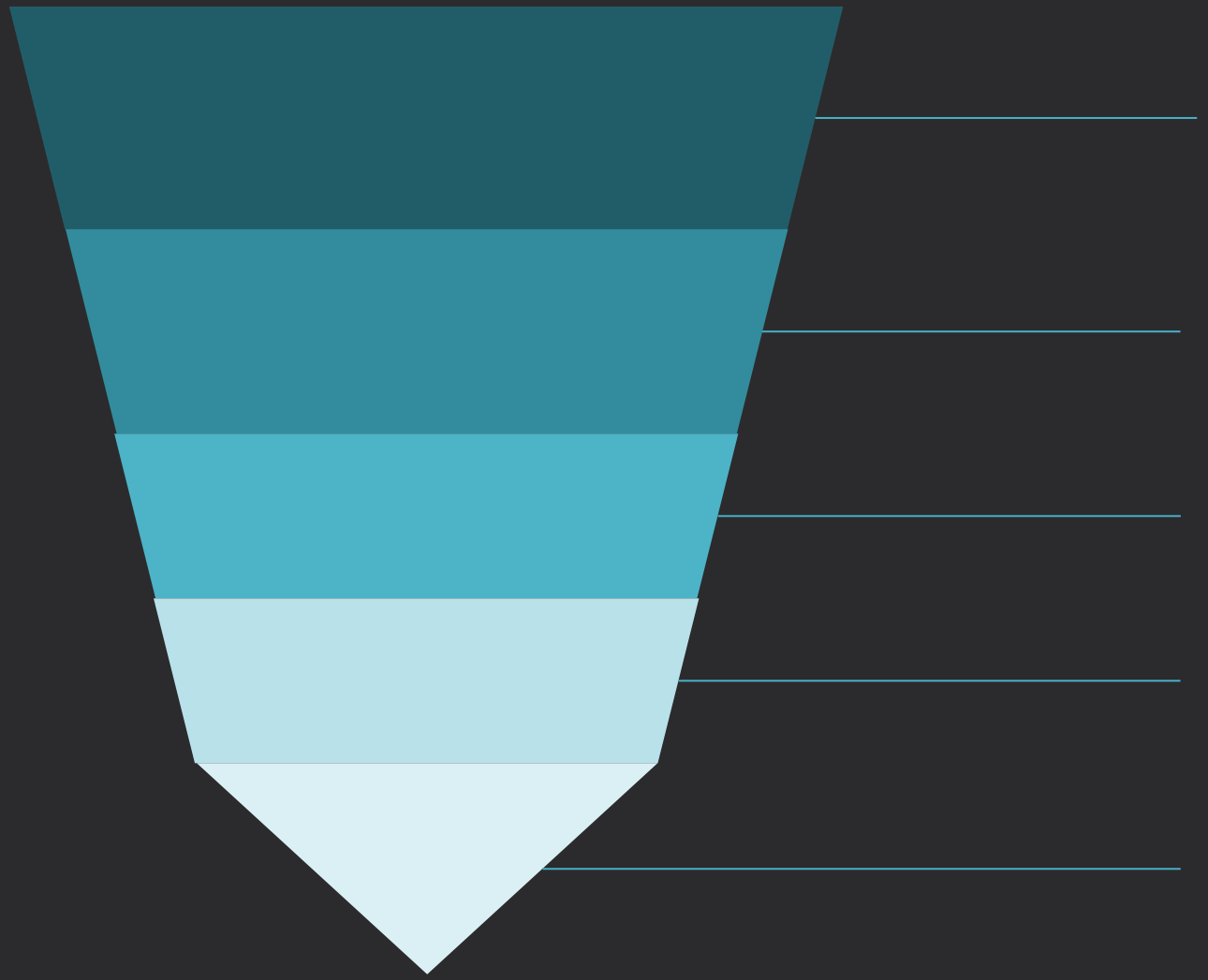
Case study related to forestry & protected area monitoring



3rd Party Generated Deforestation Alerts – **Country Wide Analysis**

Sentinel-1 and/or Sentinel-2 satellite imagery verification

PlanetScope hot spot analysis and verification. **Smaller areas to be targeted**.

High resolution 30cm/50cm further verification for **small-scale deforestation**

Field teams to be sent to problematic areas with **in-field surveys to be conducted**

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www.swiftgeospatial.solution
michael@swiftgeospatial.solutions