Alteia

Alteia solutions for digital phenotyping

WORLD ECONOMIC FORUM
Awarded as Technology Pioneer

Deloitte.
Technology Fast50

La FRENCH TECH

Digital Phenotyping

Screen more and faster

Score accurately

Measure new traits

Precision Agriculture

Smart Plantation and Forestry

Digital phenotyping is now common in the breeding ecosystem.

The underlying challenge is how to integrate and scale this technology into your digital environment.

A **platform** to effectively manage your data, decisions, and operations.

Enable Digital Twins,
a virtual representation that serves as the real-time digital counterpart of physical objects or processes.

SENSORS

DATABASES

MODELS

METHODS

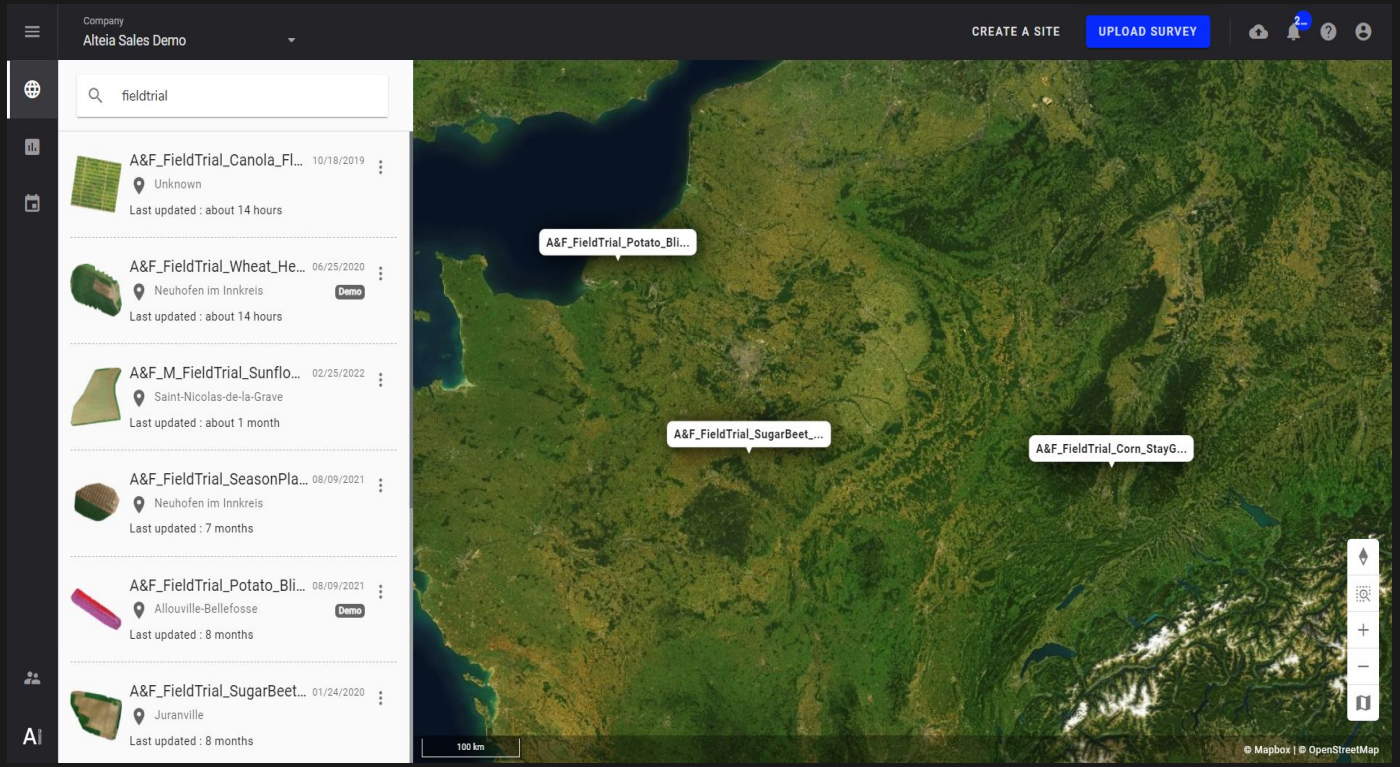
Web interface
White label

Specific business modules and analytics

Automated workflows

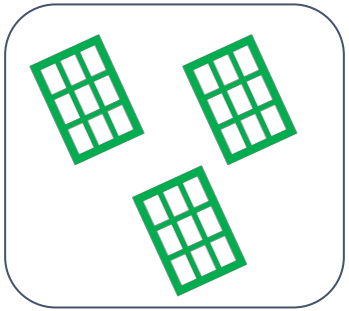
APIs & SDK
Docker

Cloud or on-premise

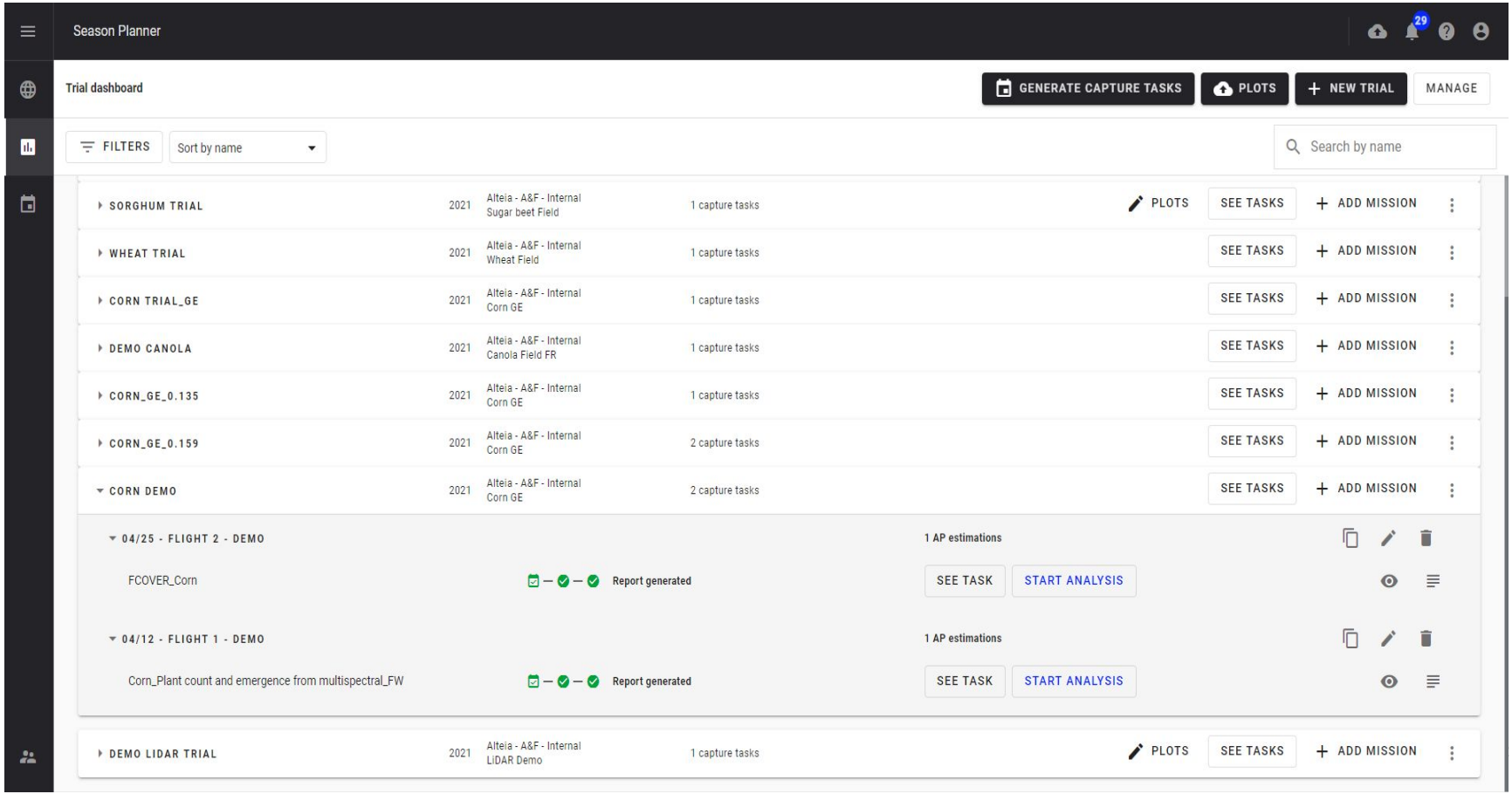


Digital phenotyping: Workflow in the Alteia Platform

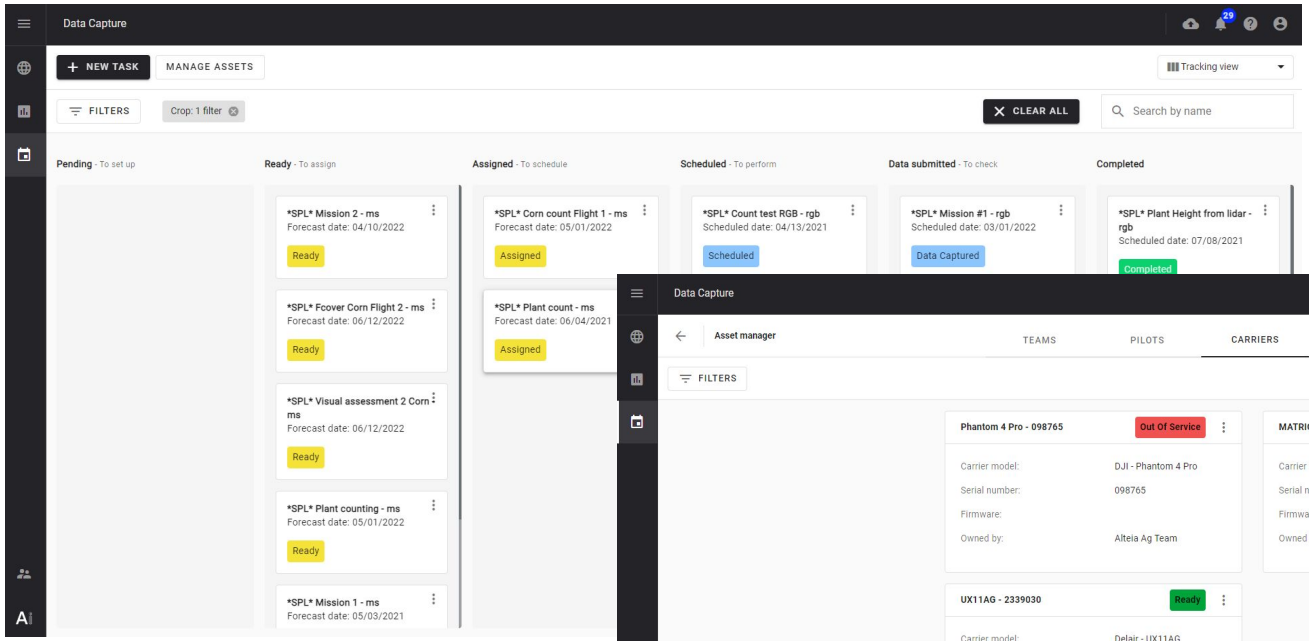
Create & Schedule your trials → **Manage data capture operations** → **Quality check & data upload in the cloud** → **Run models and Export reports**

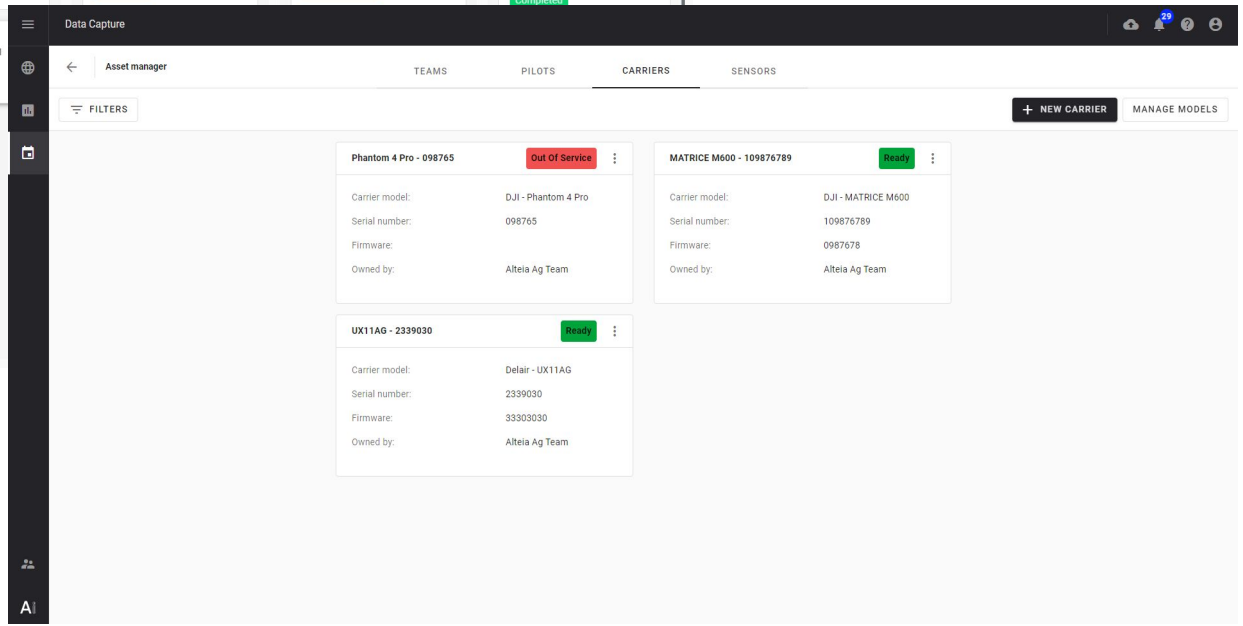


Digital phenotyping: Manage the trials

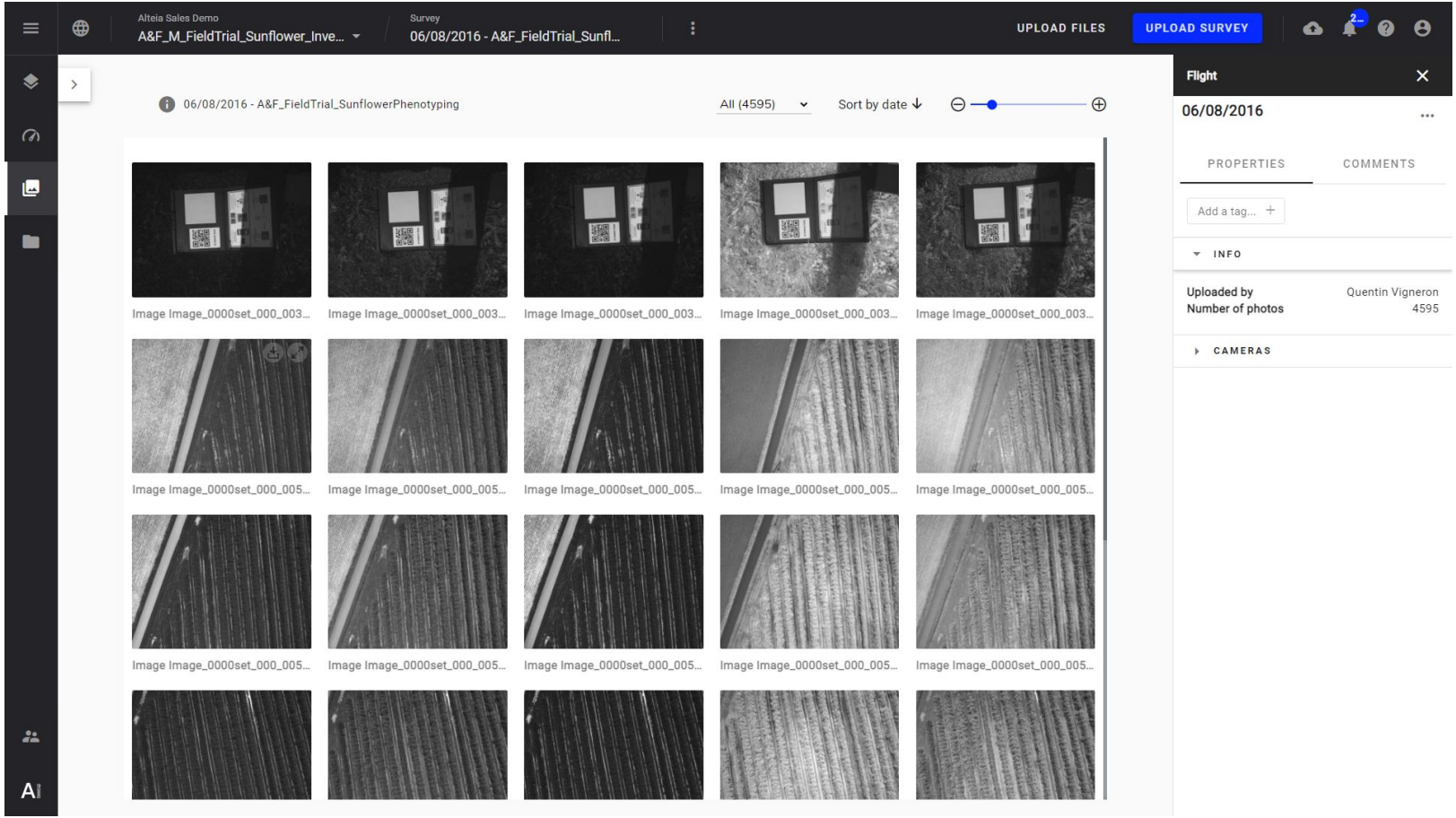


Digital phenotyping: Manage the data acquisition





Digital phenotyping: Data storage

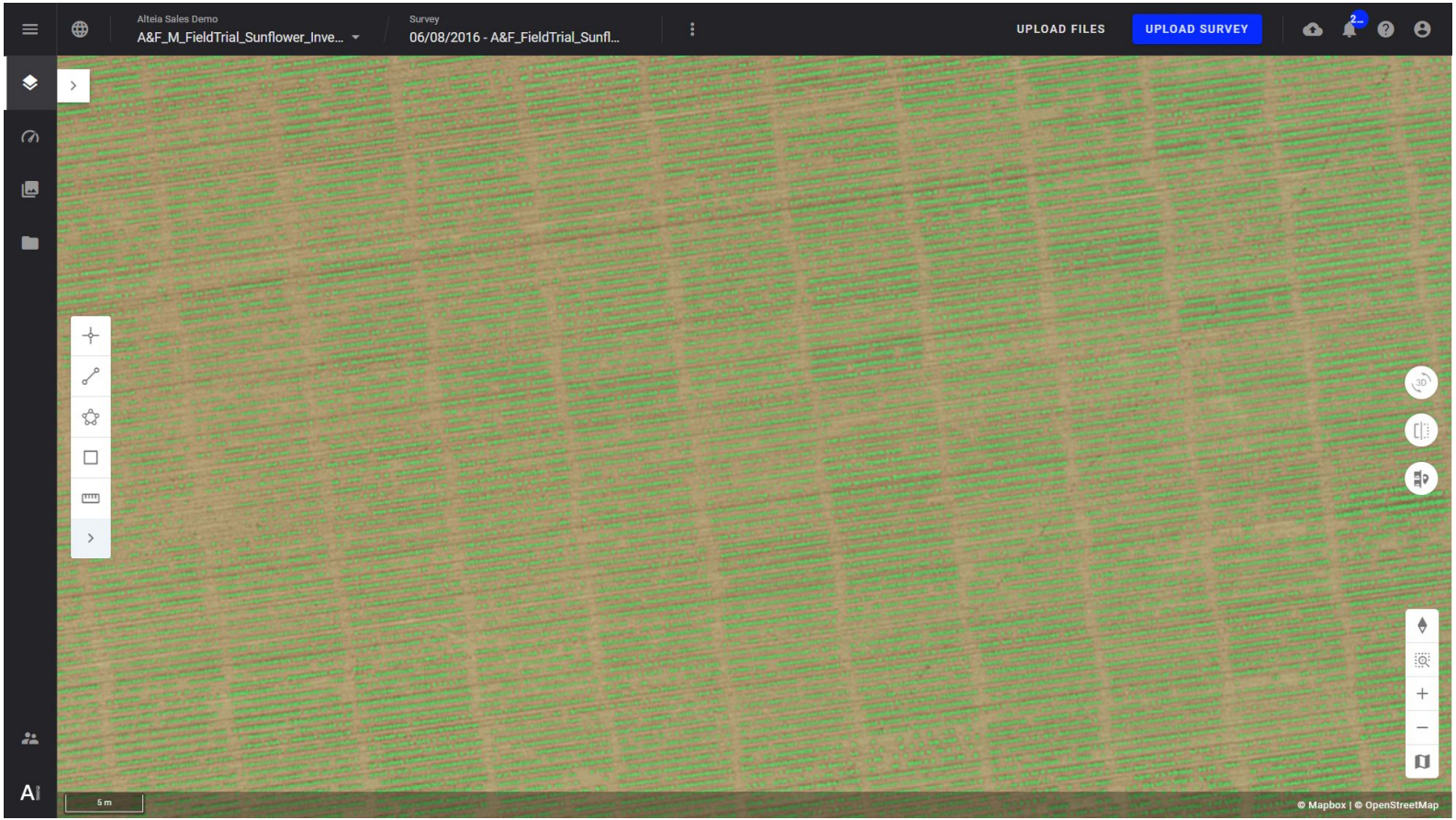


Digital phenotyping: Photogrammetry

TECHNOLOGY PARTNERS

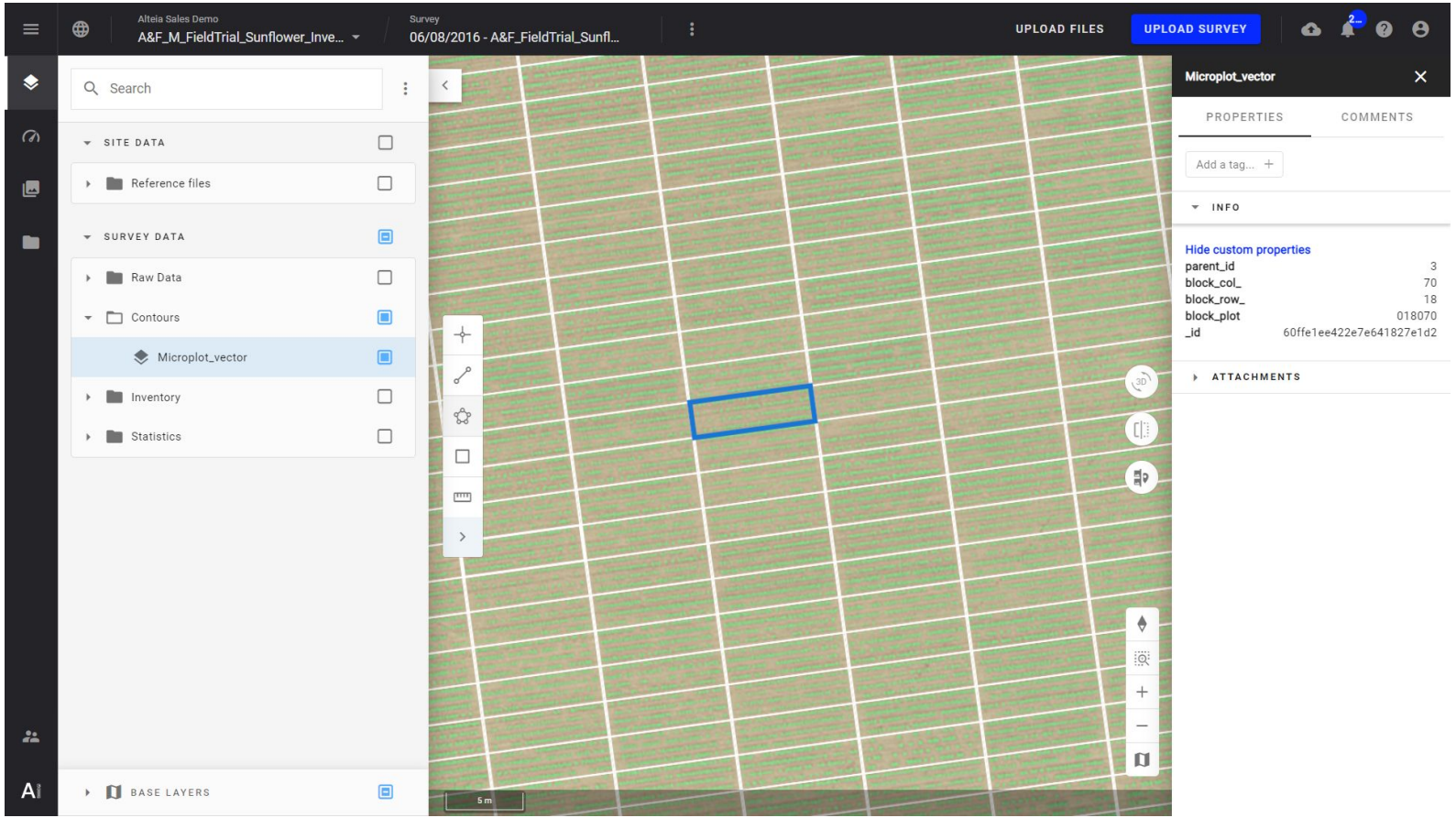
Pix4d photogrammetry engine

Agisoft photogrammetry engine

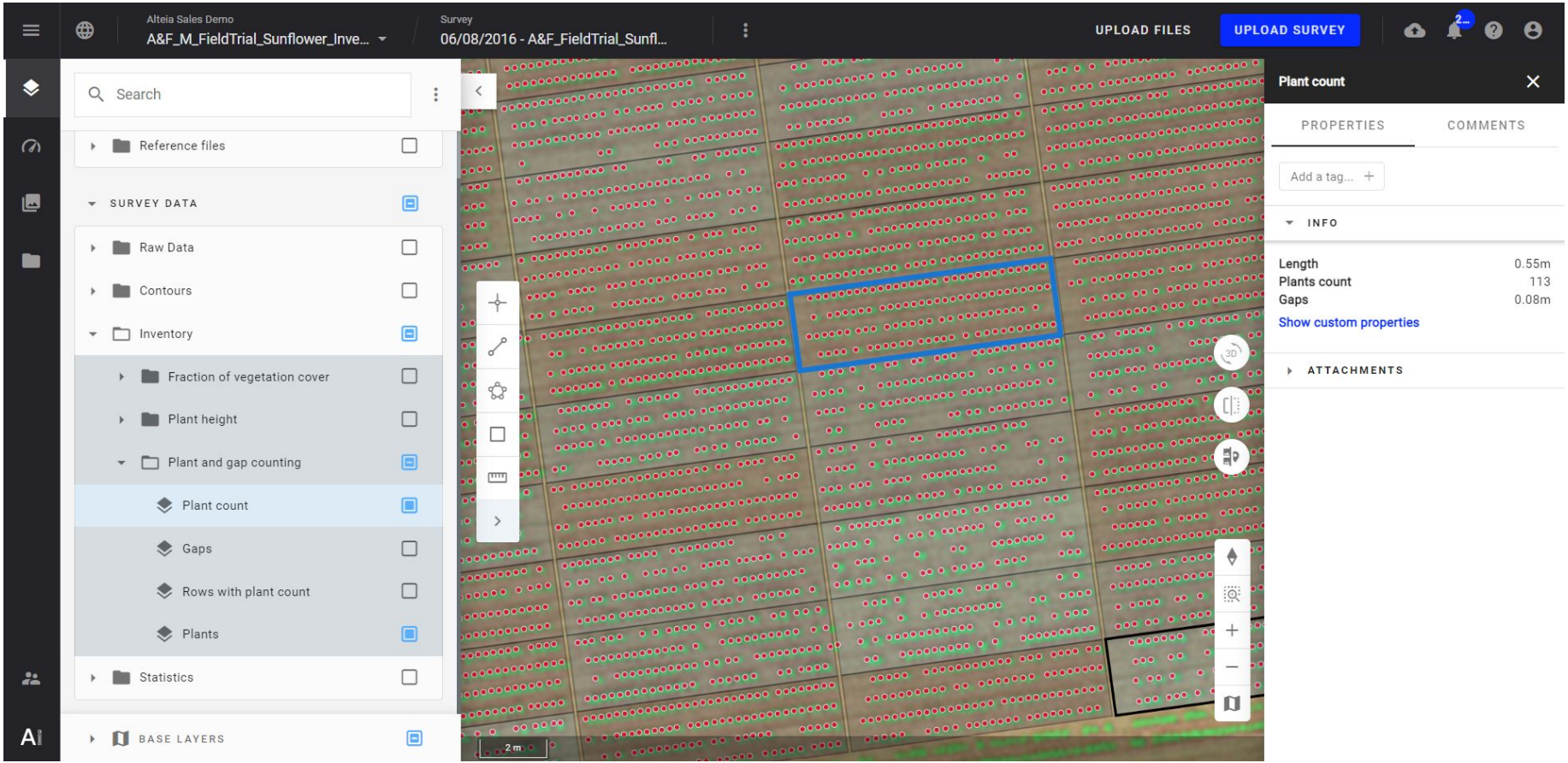


Alteia - 2022

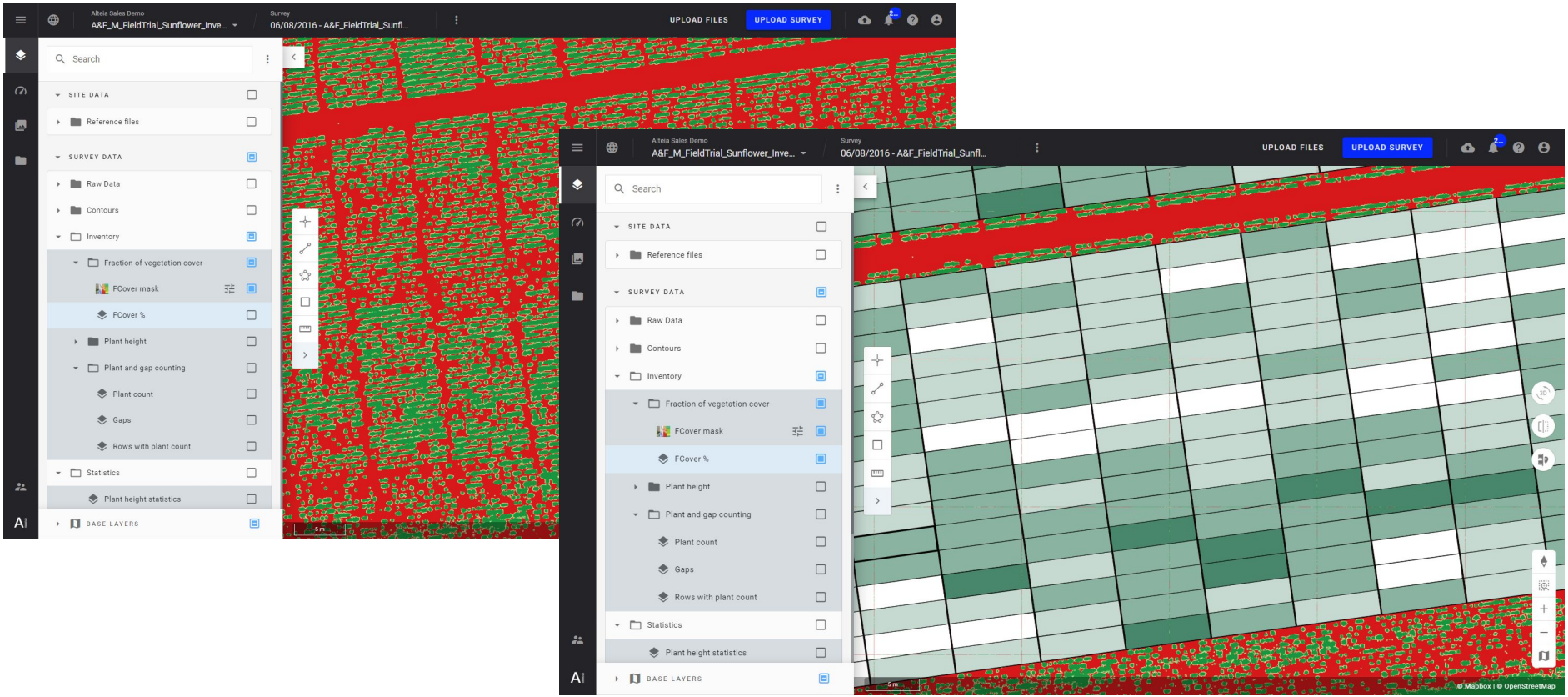
Digital phenotyping: Microplot design



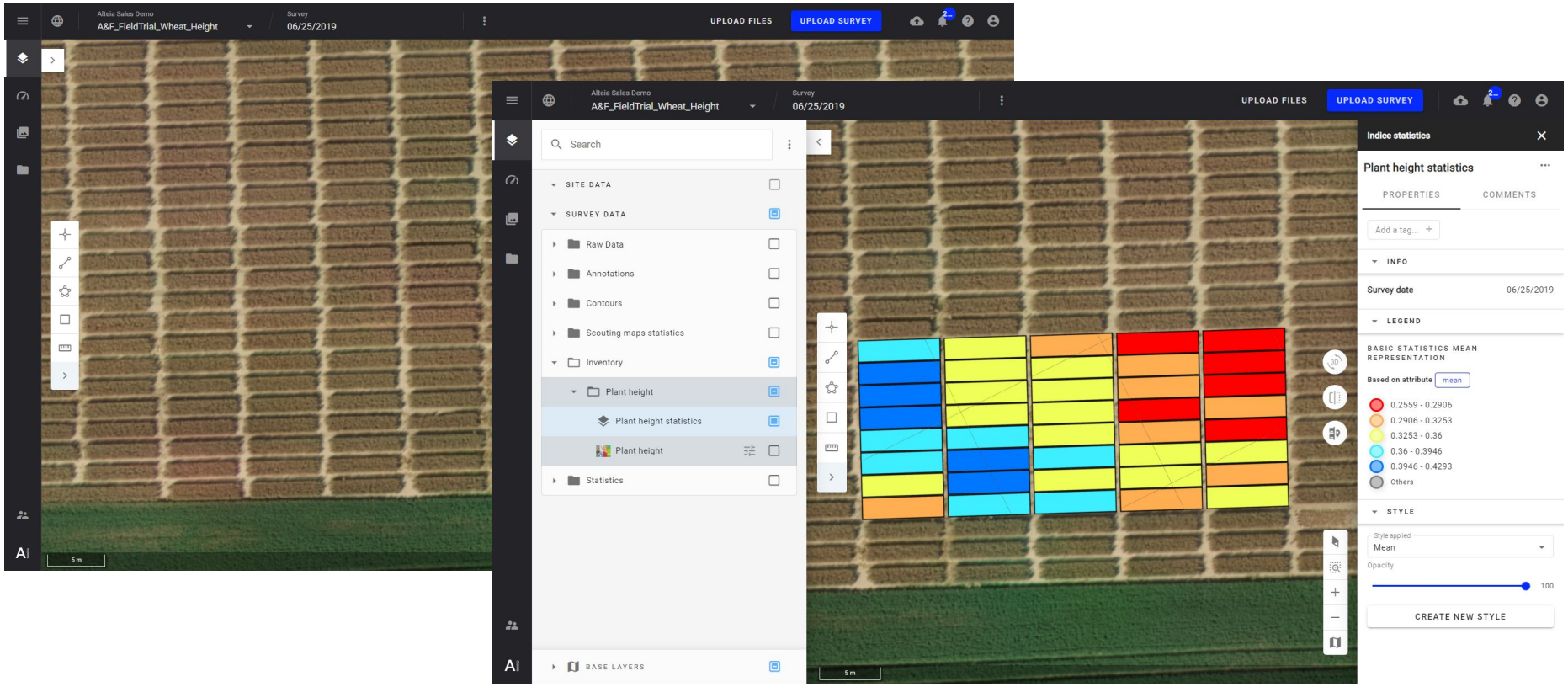
Digital phenotyping: Trait extraction - Plant Count



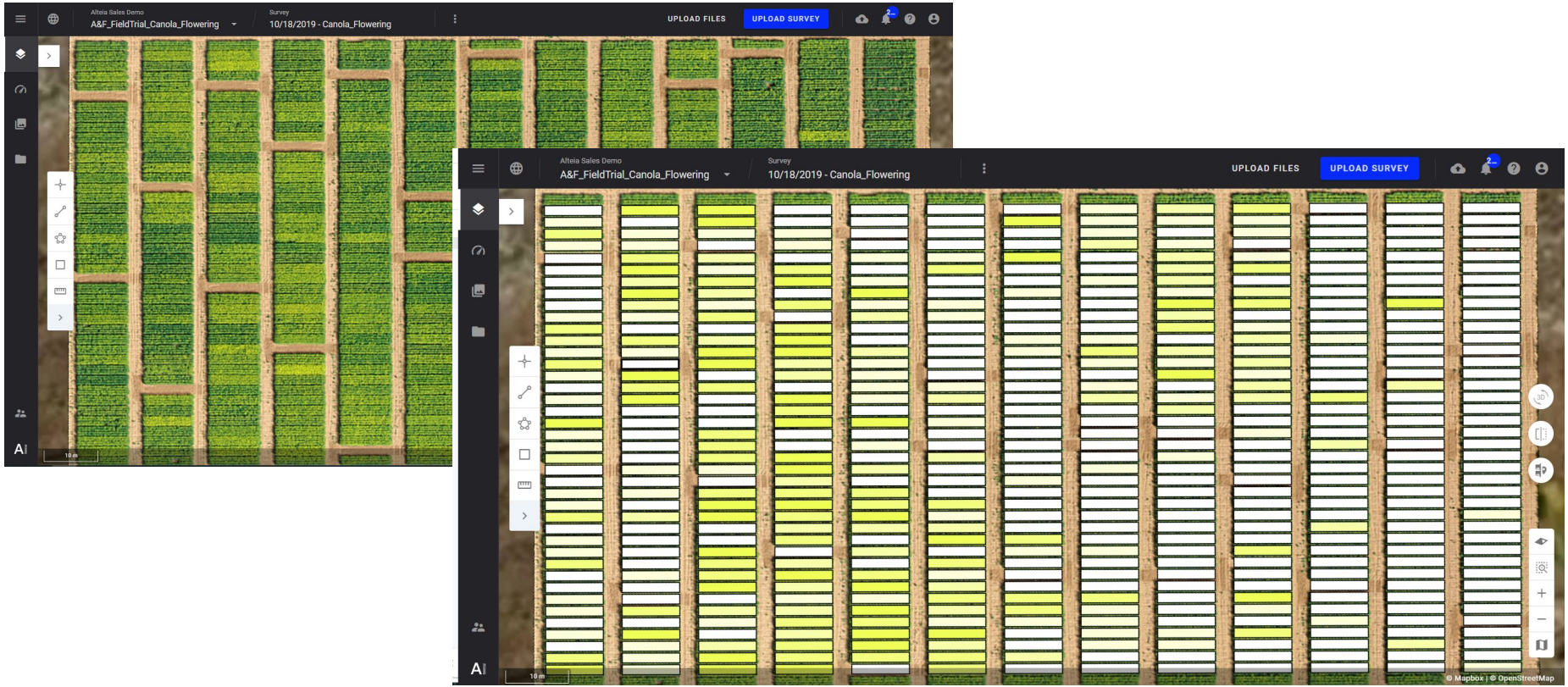
Digital phenotyping: Trait extraction - Fraction of Vegetation cover



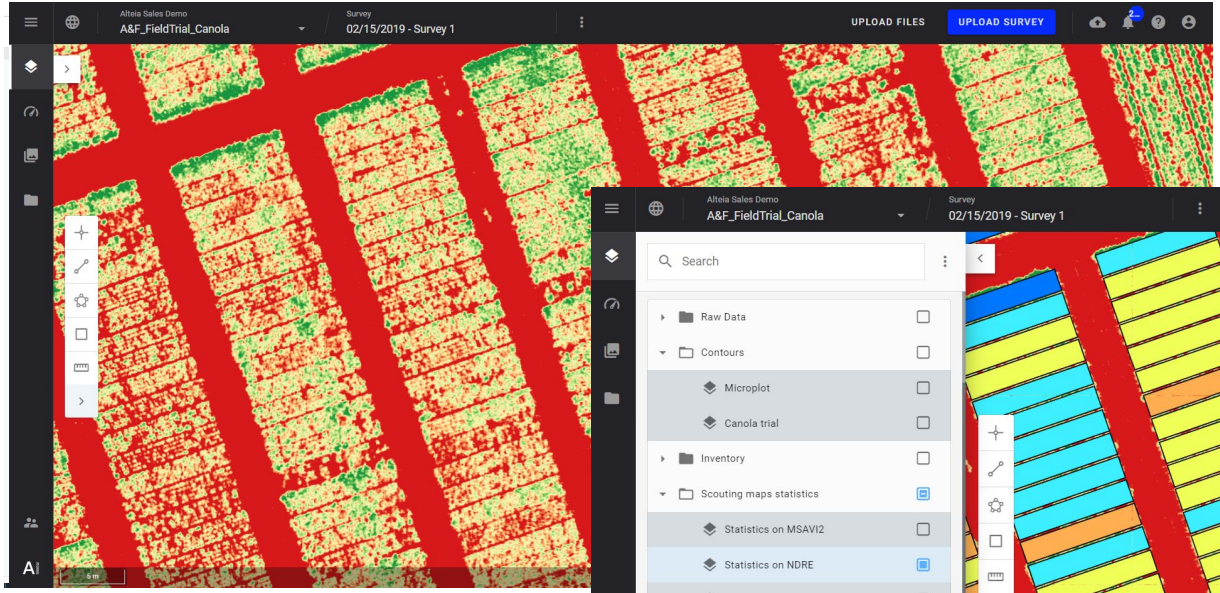
Digital phenotyping: Trait extraction - Plant Height

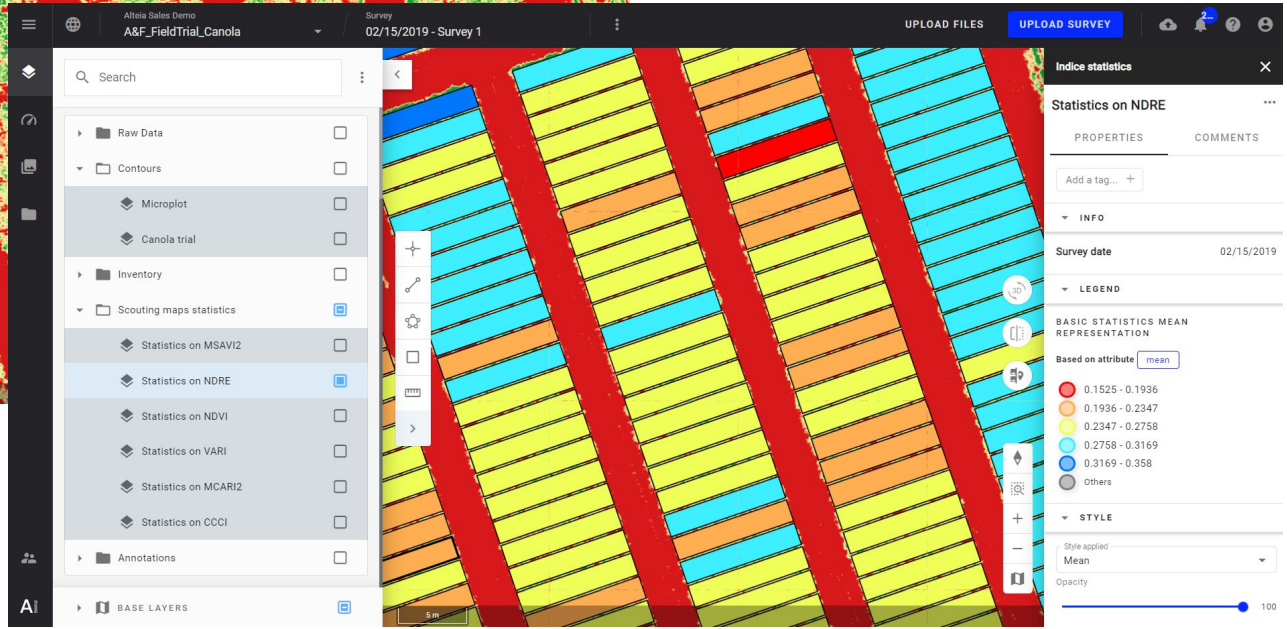


Digital phenotyping: Trait extraction - Flowering characterization



Digital phenotyping: Trait extraction - Vegetation index statistics

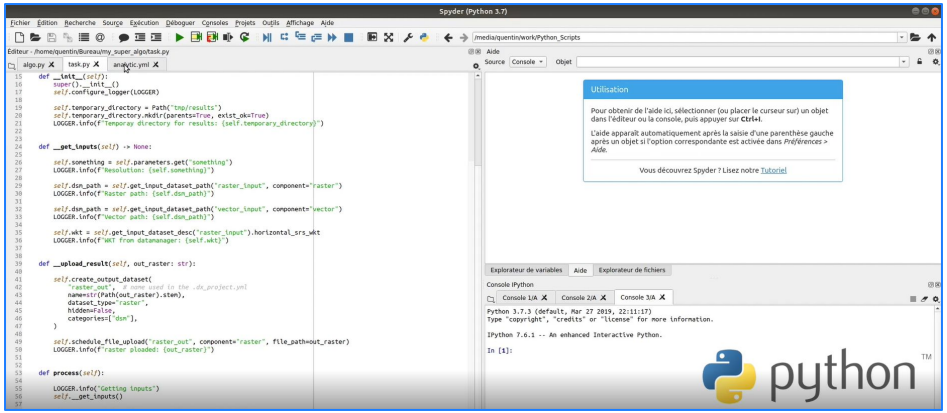




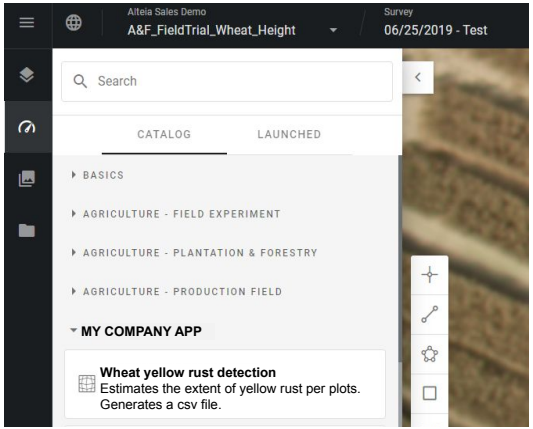
Custom indices can be computed

Digital phenotyping: Deploy your own analytics app

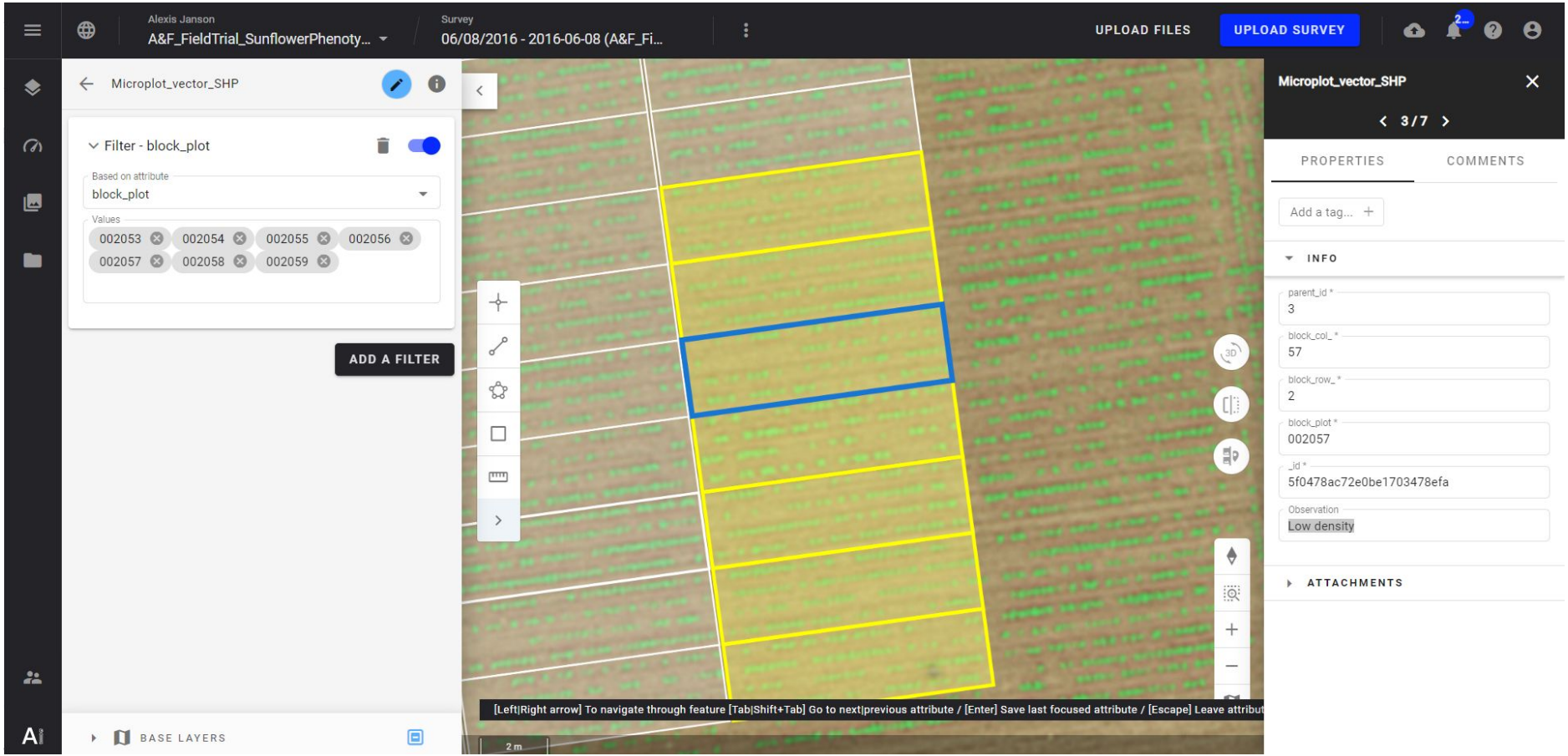
Code your app



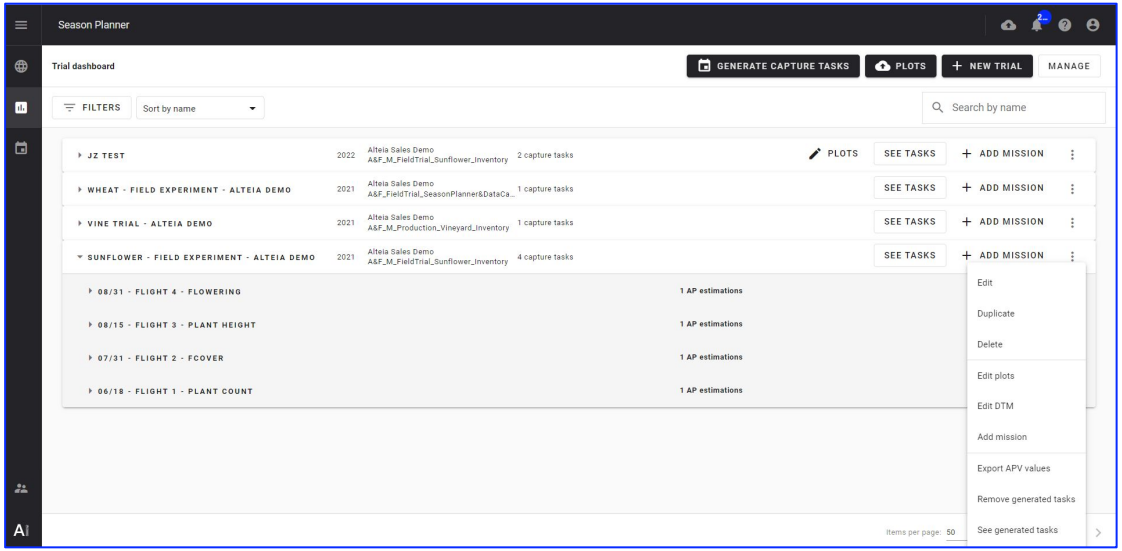
Run it in Alteia



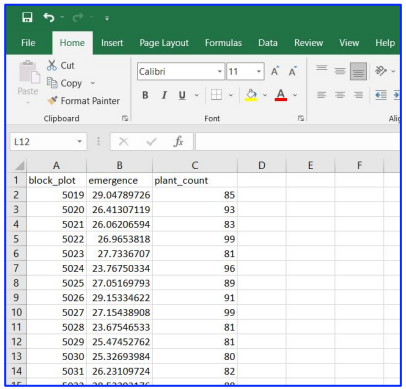
Digital phenotyping: Navigation & Manual scoring



Digital phenotyping: Data export



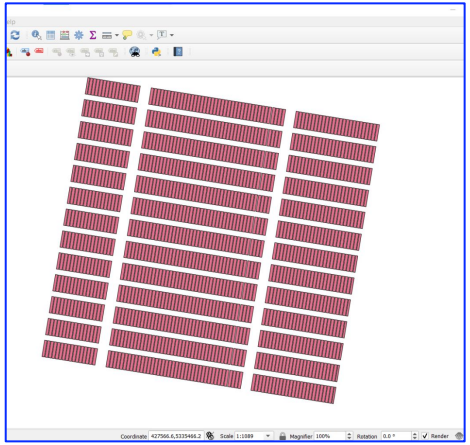
CSV



block_plot	emergence	plant_count
5019	29.04789726	85
5020	26.41307119	93
5021	26.06206594	83
5022	26.9653818	99
5023	27.7336707	81
5024	23.76750334	96
5025	27.05169793	89
5026	29.15334622	91
5027	27.15438908	99
5028	23.67546533	81
5029	25.47452762	81
5030	25.32693984	80
5031	26.23109724	82

API

GIS Formats (shp, geojson…)



Services

Training and Expertise consulting

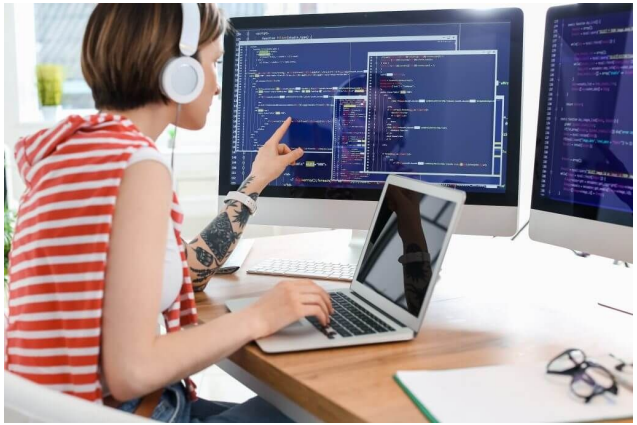
- Alteia Platform onboarding
- GIS, photogrammetry, sensor topics applied to phenotyping
- Alteia SDK and APIs
- CLI Support (custom analytics integration within the Alteia platform)

Data processing service

- Alteia support for processing complex data sets or sensors

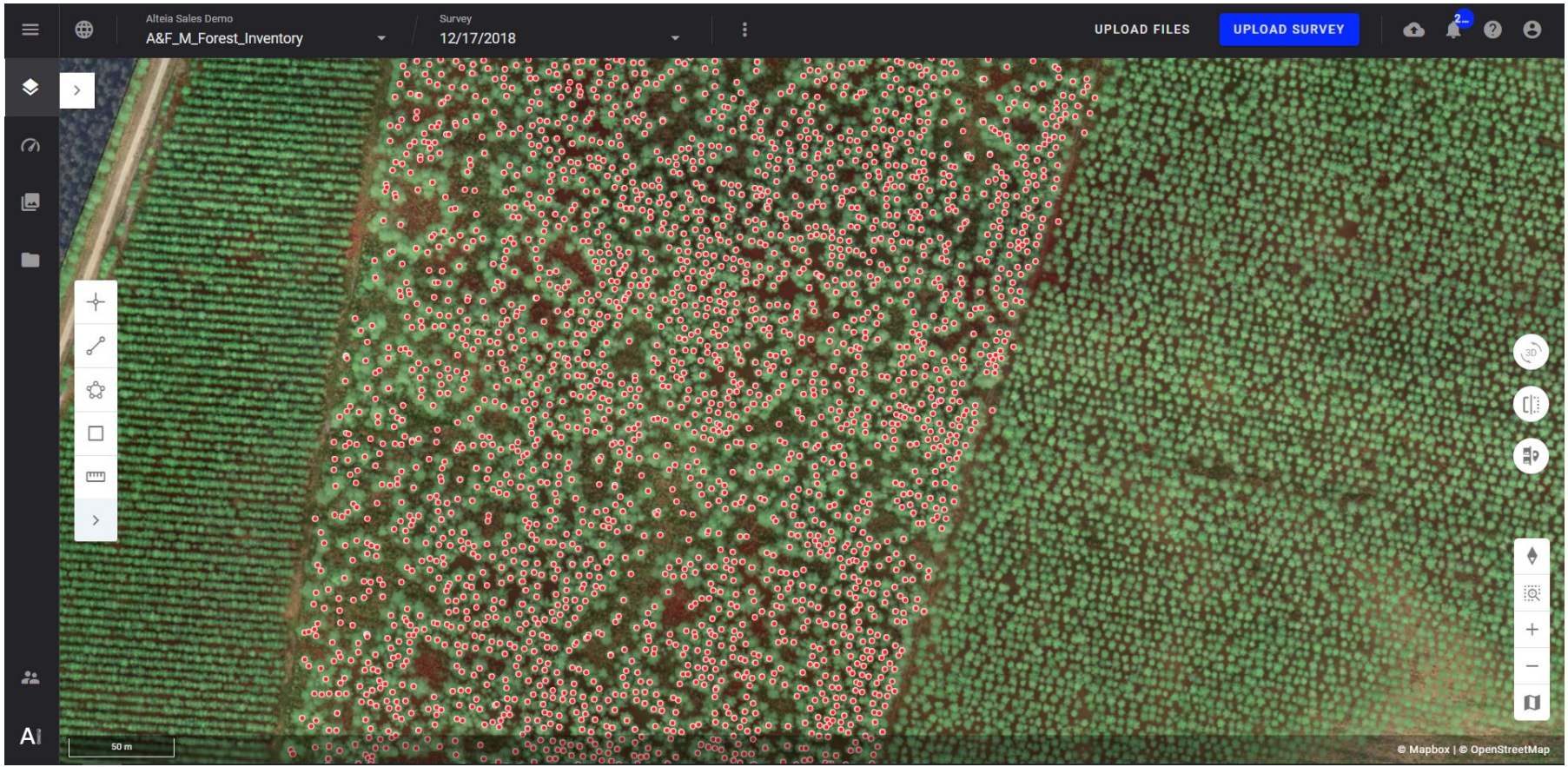
Data science

- Development of new phenotyping applications (traits…)



Other applications - Precision Agriculture

Other applications - Smart plantation and forestry



THANK YOU

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