



OpTecBB



Photonics Israel

Cluster of photonics  
Industries in Israel





Tree  
Health



Fruit  
Optimization



Farming  
Efficiency



Tree-Centric &  
Big Data Platform

# Objectives

- Build a 'per-tree' intelligence network for millions of trees, world-wide and over time
- Increase yield by tracking tree-health, detection of diseases and pests, fruit production, identifying weak trees
- Boost growers' and industry ROI by leveraging digitally transformed agronomy, operations and decision-making

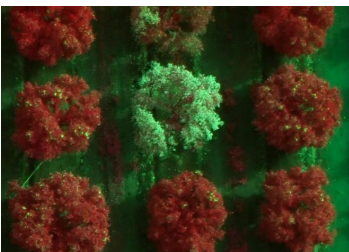
# Input Data

- Multi-layered data collection and analysis campaign
- Different frequency per data layer
- Very high resolution RGB and multi-spectral data



# Flow

## Collection



MS

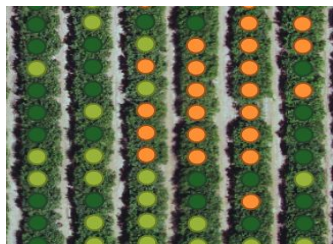


RGB



Ground

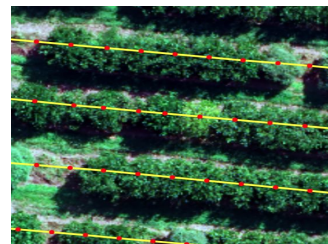
## Analysis



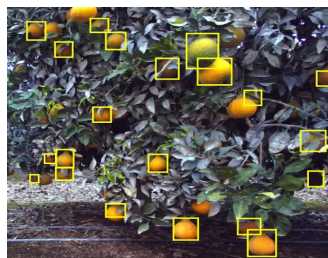
Classification



Geometry

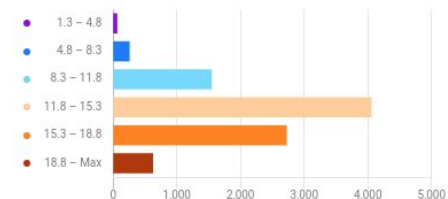
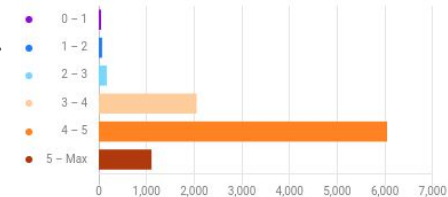
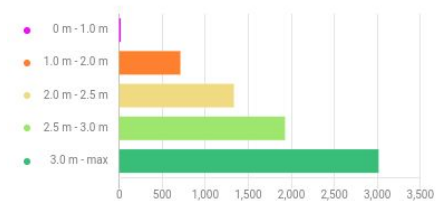


Index



Fruit Estimate

## Reporting

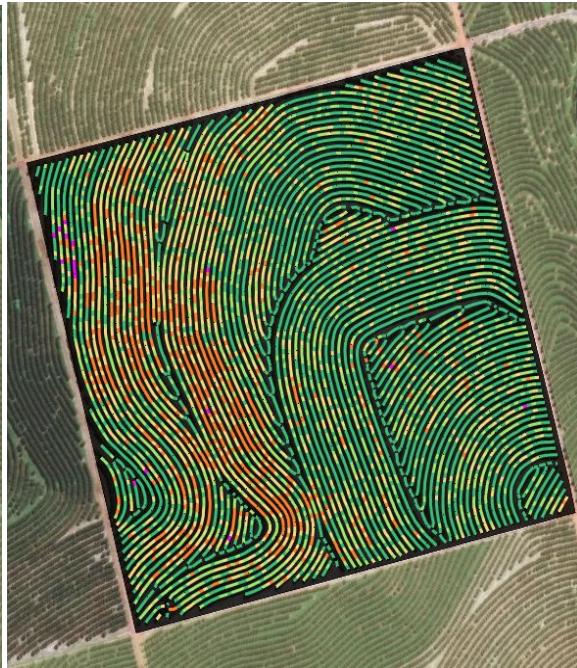




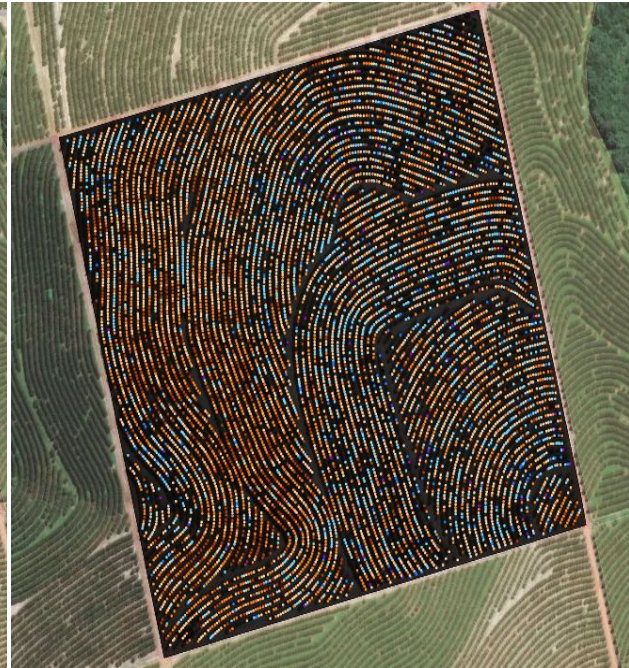
# Visual Reporting



Pest



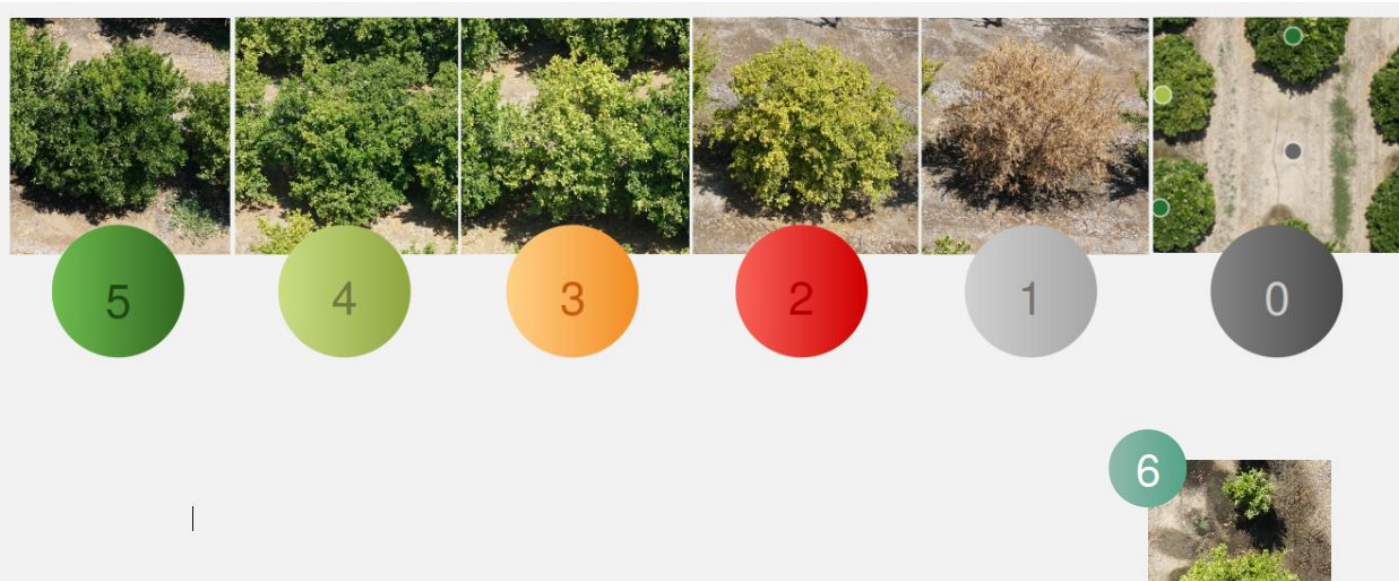
Grove spacings



Tree geometry

# Tree Health

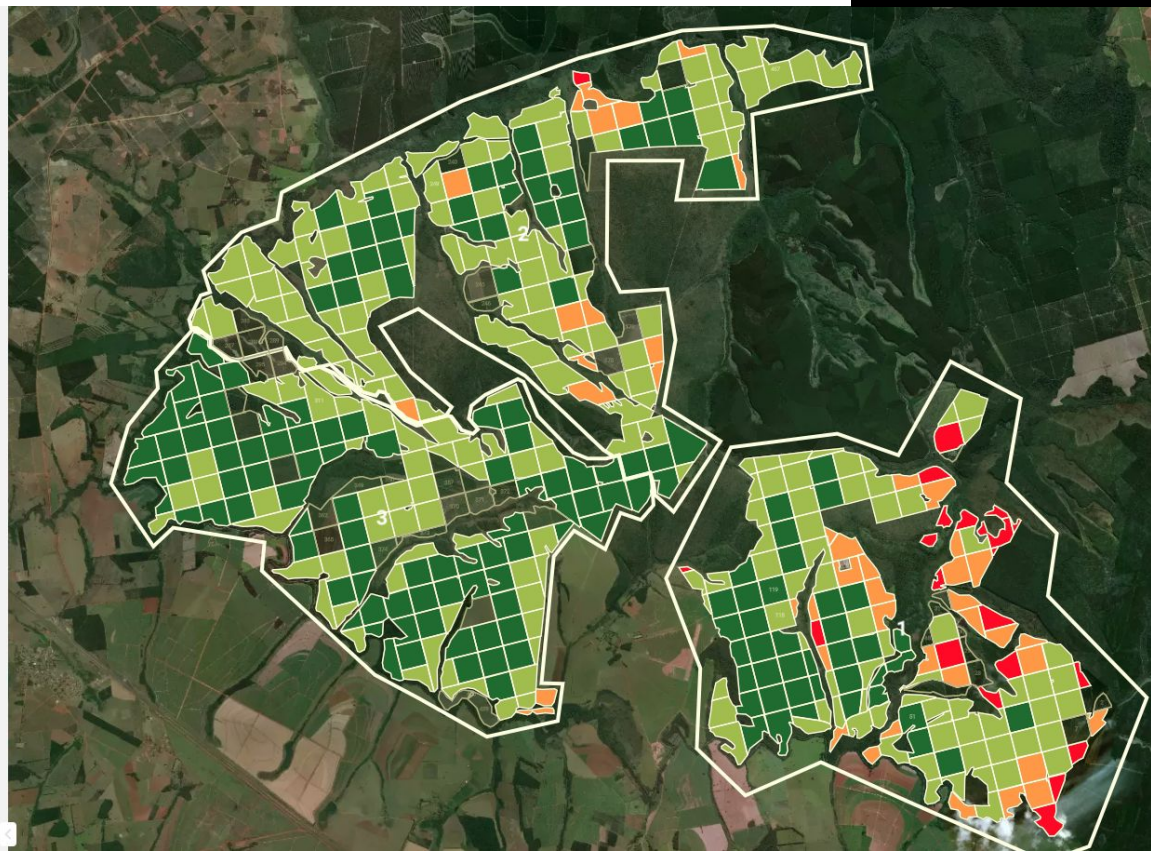
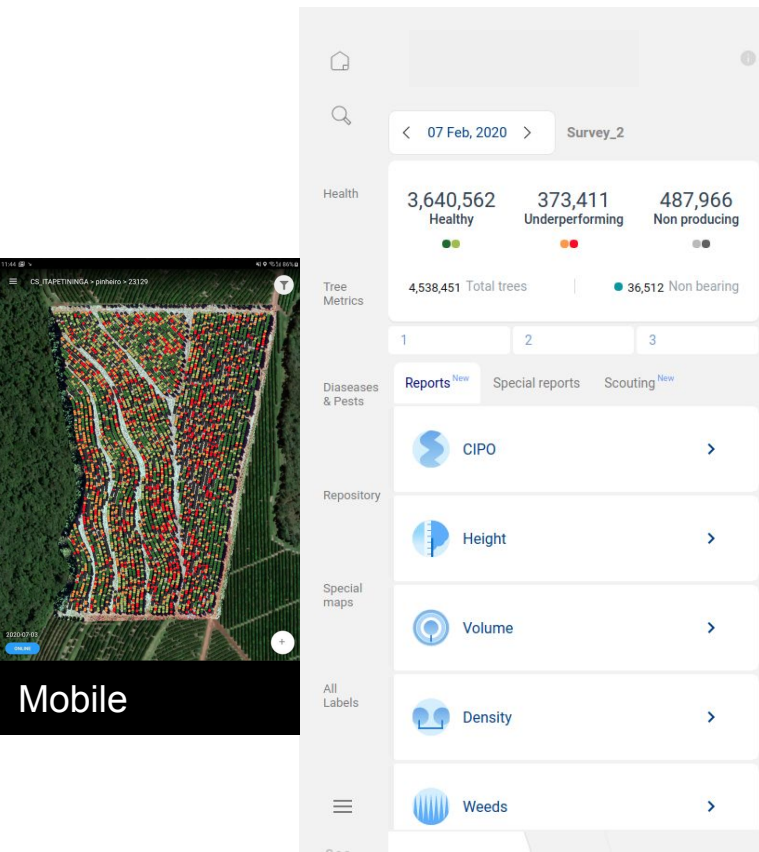
- Detect non-producing trees
- Detecting weak and under-performing trees
- Replant growth evaluation





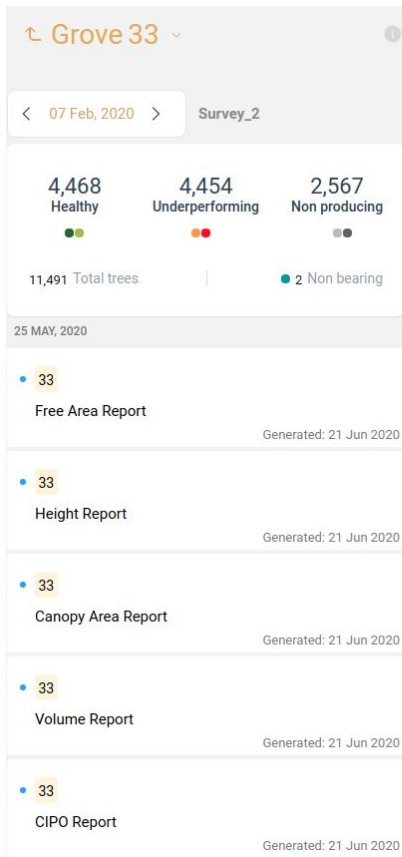
# Farm/Zone Level

Web

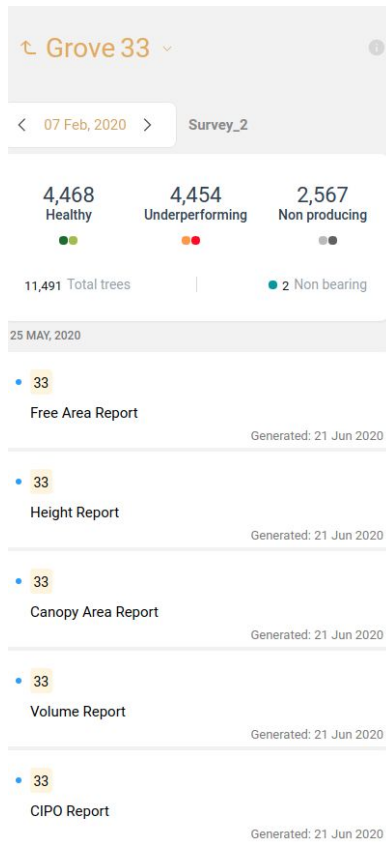




# Grove Level



# Tree Level





Tree 1/67/101



Score history



No items yet



05/25/20

02/07/20

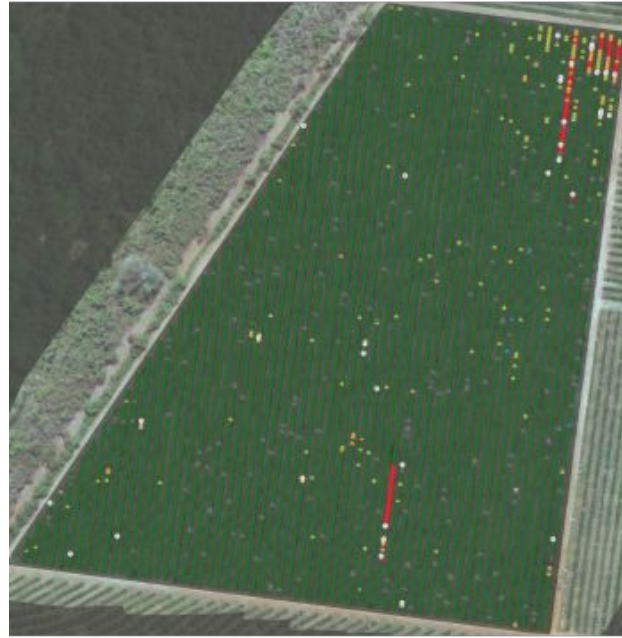
11/18/19



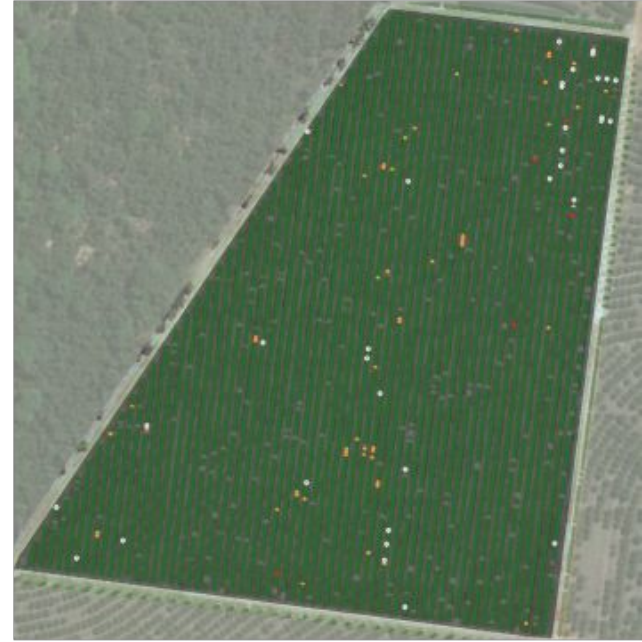


# Farming Efficiency

September 2019



February 2020



# @Scale

- Countries
  - USA
  - Brazil
  - South Africa
  - Chile



- Crops
  - Citrus
  - Olive
  - Almond
  - Hazelnuts
  - Avocado



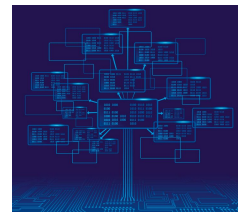
- Area covered
  - Over 50,000 Ha



- Trees
  - 30,000,000 trees covered



- Data
  - Roughly 1.5TB each day





A photograph of a dirt path winding through a lush green orchard of orange trees. The path is covered in tall grass and leads towards a bright blue sky with scattered white clouds. The trees are dense and healthy, with some green oranges visible on the branches. In the center of the path, there is a logo consisting of a green triangle pointing upwards and a blue triangle pointing downwards, meeting at a point.

Thank you!

See  
Tree