MANAGE FARMS VIA TECHNOLOGY

REVOLUTIONIZING SUGAR CANE MANAGEMENT
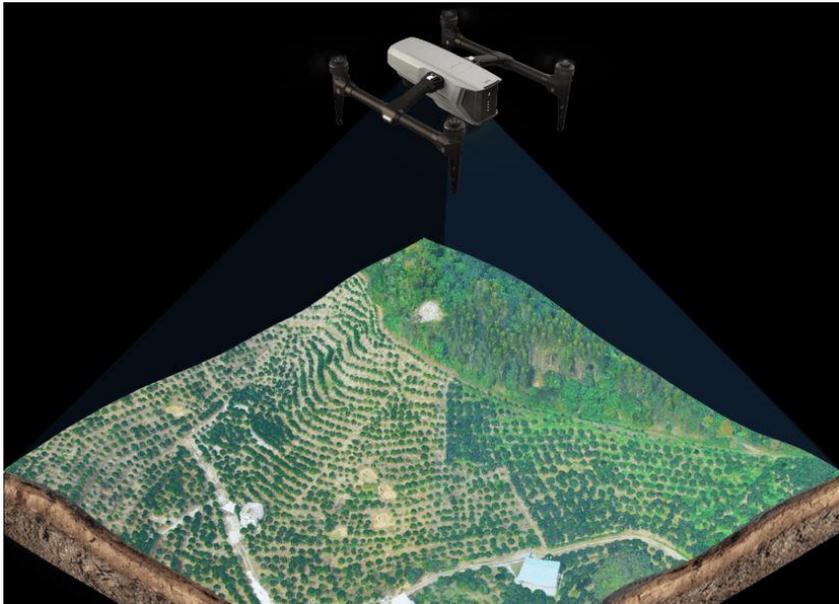
AIRNEX

Automation & Control
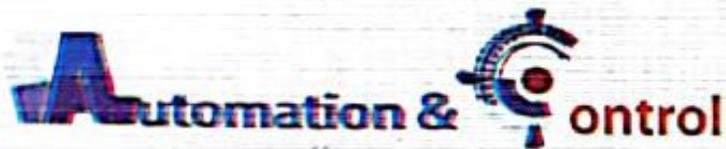
Automation & Control Enterprises
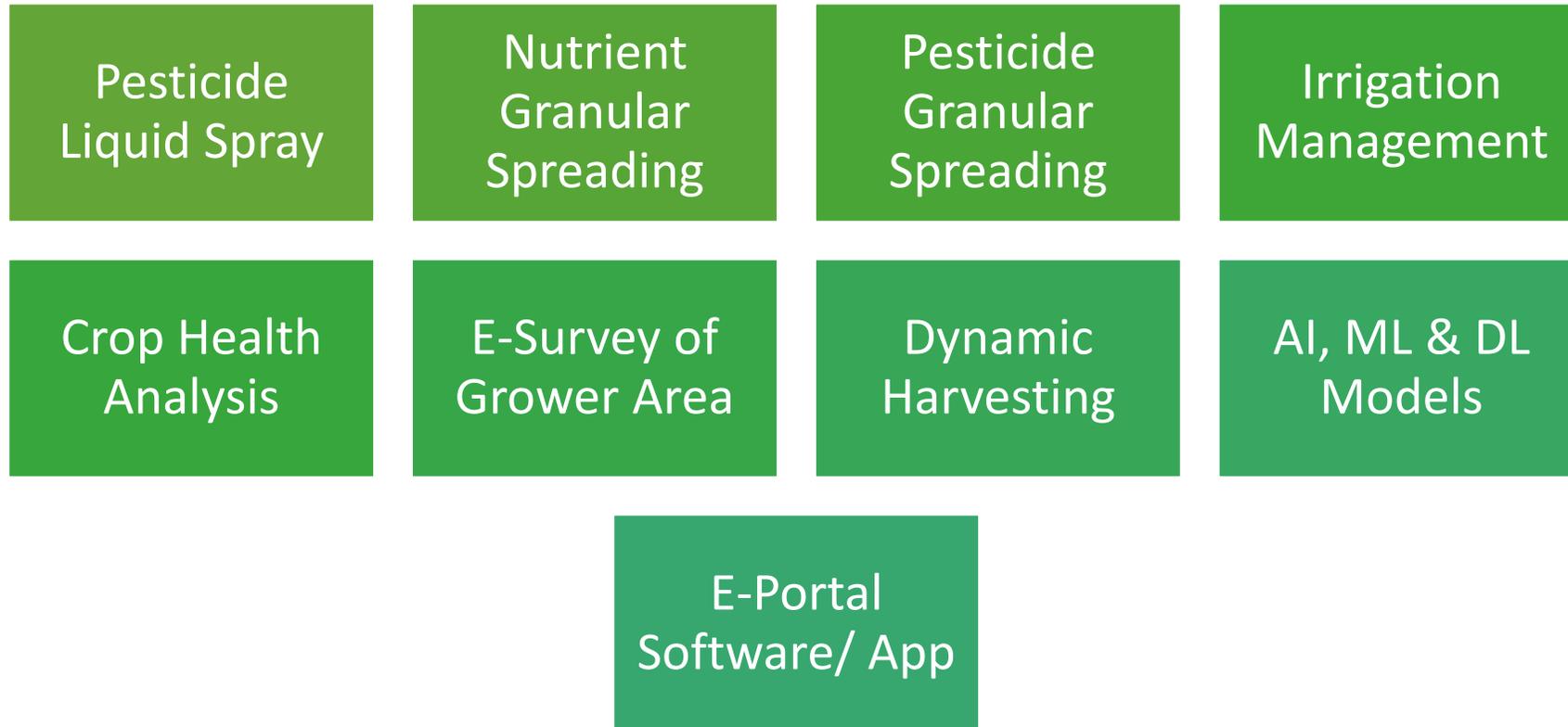C-20, Block-5, Gulshan-e-Iqbal
Karachi, Sindh, Pakistan
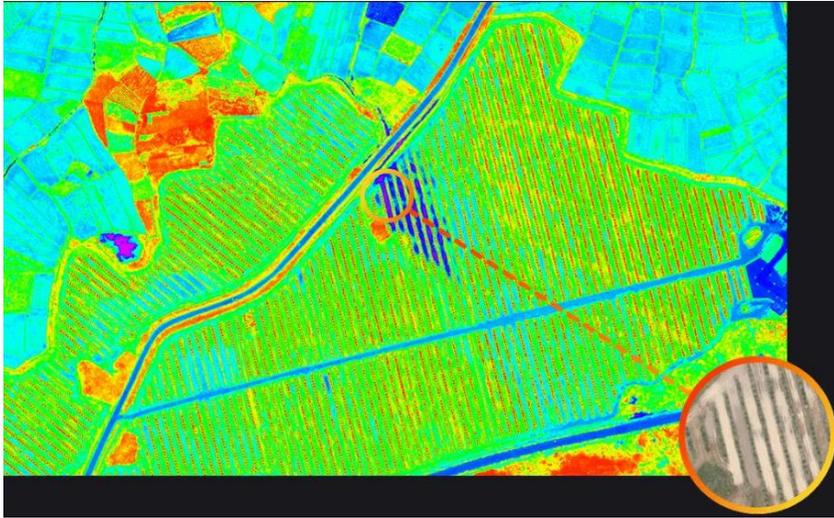
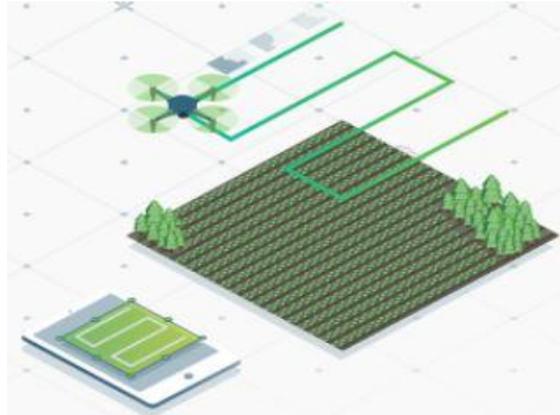# Actionable Intelligence (Eye in the Sky)

1. RIGHT INFORMATION
2. AT THE RIGHT TIME
3. FOR THE RIGHT PLACE
4. FOR THE RIGHT QUANTITY OF INPUTS
5. DECISION SUPPORT SYSTEM
6. SAVES INPUTS
7. YIELD INCREASE
8. FUTURE PREDICTIONS

Actionable Intelligence through Drones & Geo-Spatial Technology

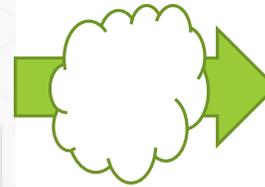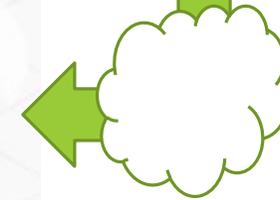|			
Pesticide Liquid Spray	Nutrient Granular Spreading	Pesticide Granular Spreading	Irrigation Management
Crop Health Analysis	E-Survey of Grower Area	Dynamic Harvesting	AI, ML & DL Models
	E-Portal Software/ App		

Process Flow

Data Acquisition

Data Uploading

Data Analyzing

Intelligence integration in Decision Making

Data Sharing

Proven ROIs Worldwide

USA (Corn) -> $487 of avg. USD revenue increase per acre

Colombia (Sugarcane) -> 30% reduction in weed control inputs

Argentina (Sugarcane) -> 30% reduction in operational & logistical costs

Brazil (Planting Projects) -> 100% improvement in mapping productivity

Brazil (Coffee planting & irrigation) -> 10% improvement in land use efficiency

Russia (Wheat) ->20% reduction in nitrogen application

Poland (Nitrogen reduction) -> 15% reduction in nitrogen use

Romania (Fertilization Efficiency) -> 10% increase in fertilization efficiency

Serbia (First season ROI) -> 100% drone ROI in one growing season

France (Rapeseed & cereals) -> 10% avg. yield increase (17,000 ac)

Spain (Grape) -> 17% increase in annual wine production

Autonomous Aerial Liquid Precision Spraying

Spray only where it needs

3D spraying plans for orchards according to tree height and altitude

For liquid pesticides & fertilizers

40-60 acres coverage/day per drone
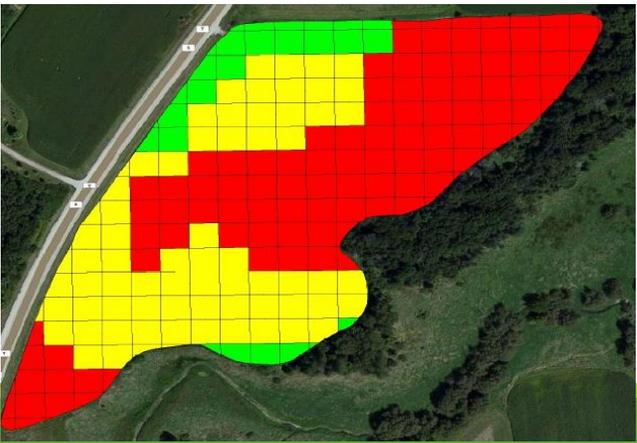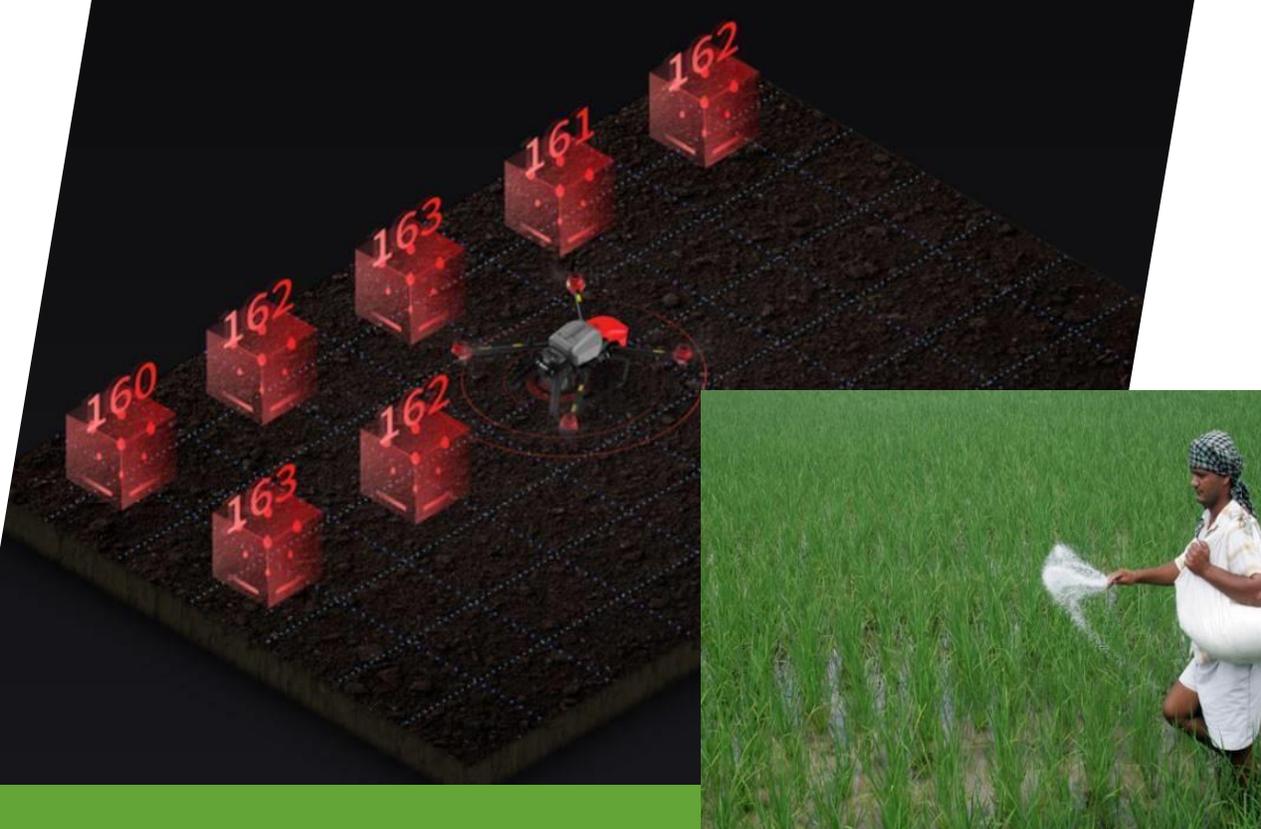
Day & Night operations

Video Demo

Aerial Spraying through Drone

Aerial Granules Spreading

➢ Uniformly dispense granular seeds, fertilizers or pesticides

➢ 1mm to 10mm granule

➢ 40-60 acres/day per drone
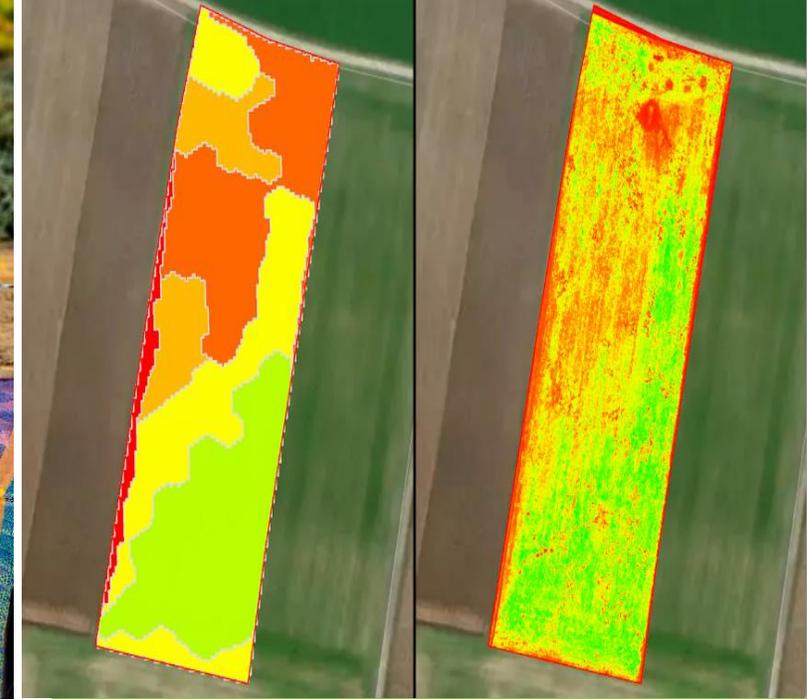
➢ No more problems of uneven granular application.

Granular Spreading through drone

Irrigation Management

Problem	Solution	Impact
No optimized water management system. No record of water consumption. Changing ecology and environment. Result: Excess or less volume of water application.	Soil Moisture based auto-irrigation closed loop mechanism. Weather Station based scientific justification for precise irrigation. Digitized record.	Water saving. Optimum water dosage results in better crop health. Digitized record of water application

Weekly data update on dashboard

Analysis based geo-ref hotspots

Over mobile app and web

SMS and call-based alert

Temporal crop data products include,

Crop conditions

Stress zones

CROP MONITORING

Imager 1 (Blue)

Imager 2 (Green)

Imager 5 (Red Edge)

Imager 4 (NIR)

Imager 3 (Red)
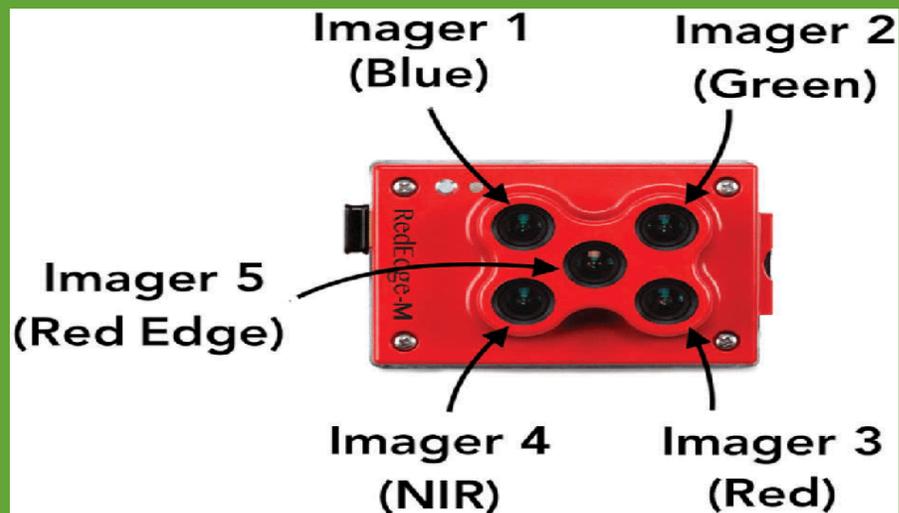
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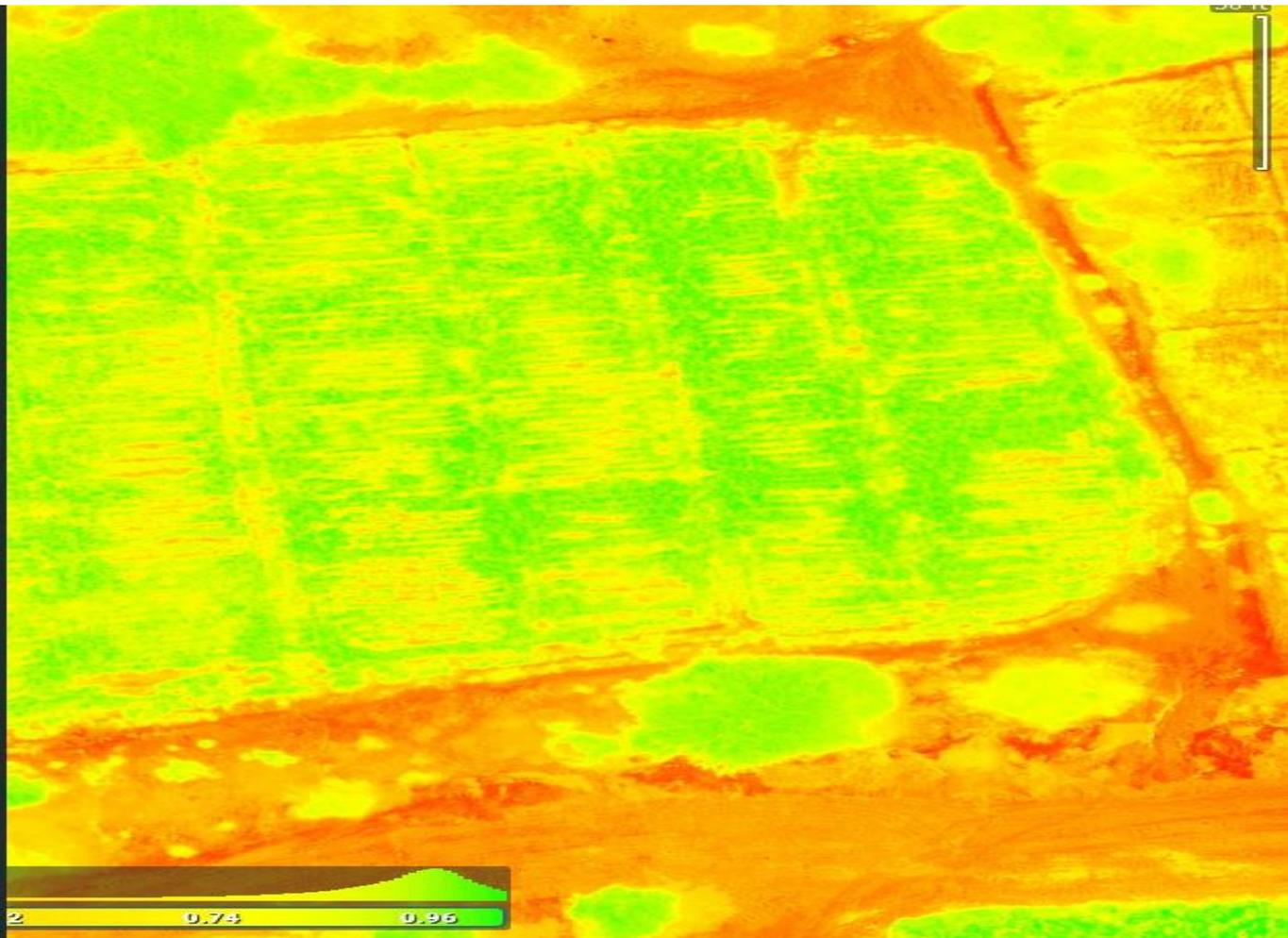- Satellite based
- 10 m resolution
- Weekly
- Multispectral + RGB

2
- Satellite based
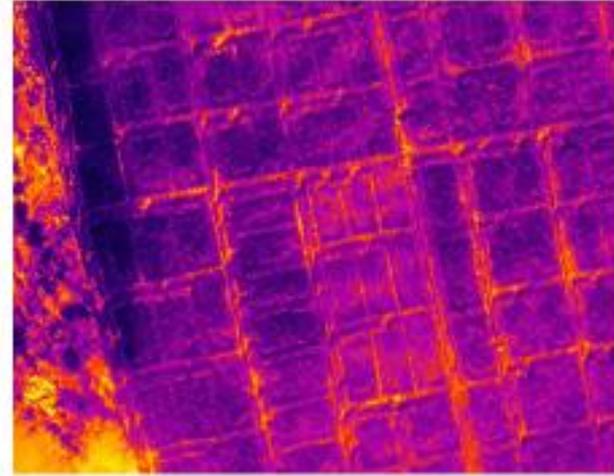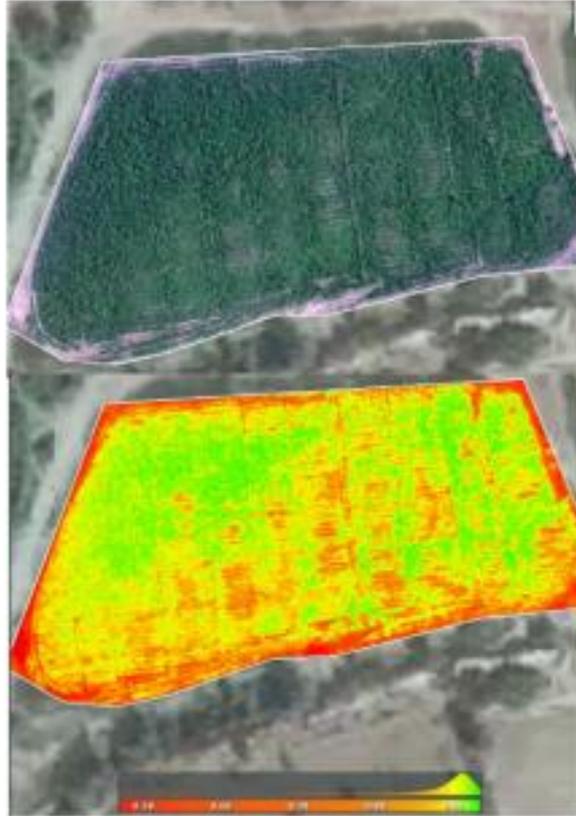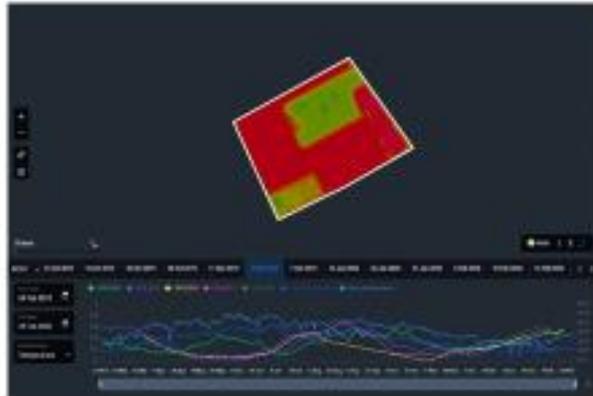- 3 m resolution
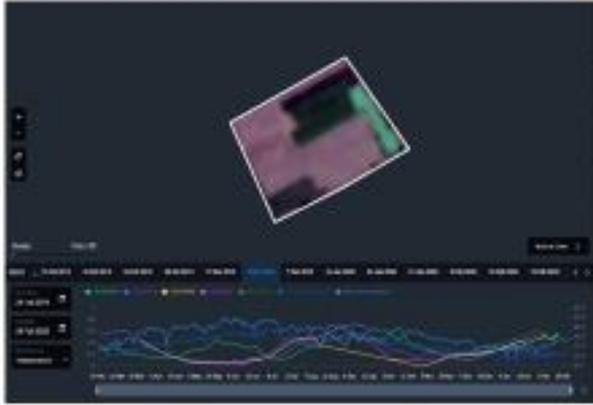- Weekly
- Multispectral + RGB

3
- Drone based
- 1 cm resolution
- Weekly
- Multispectral + RGB

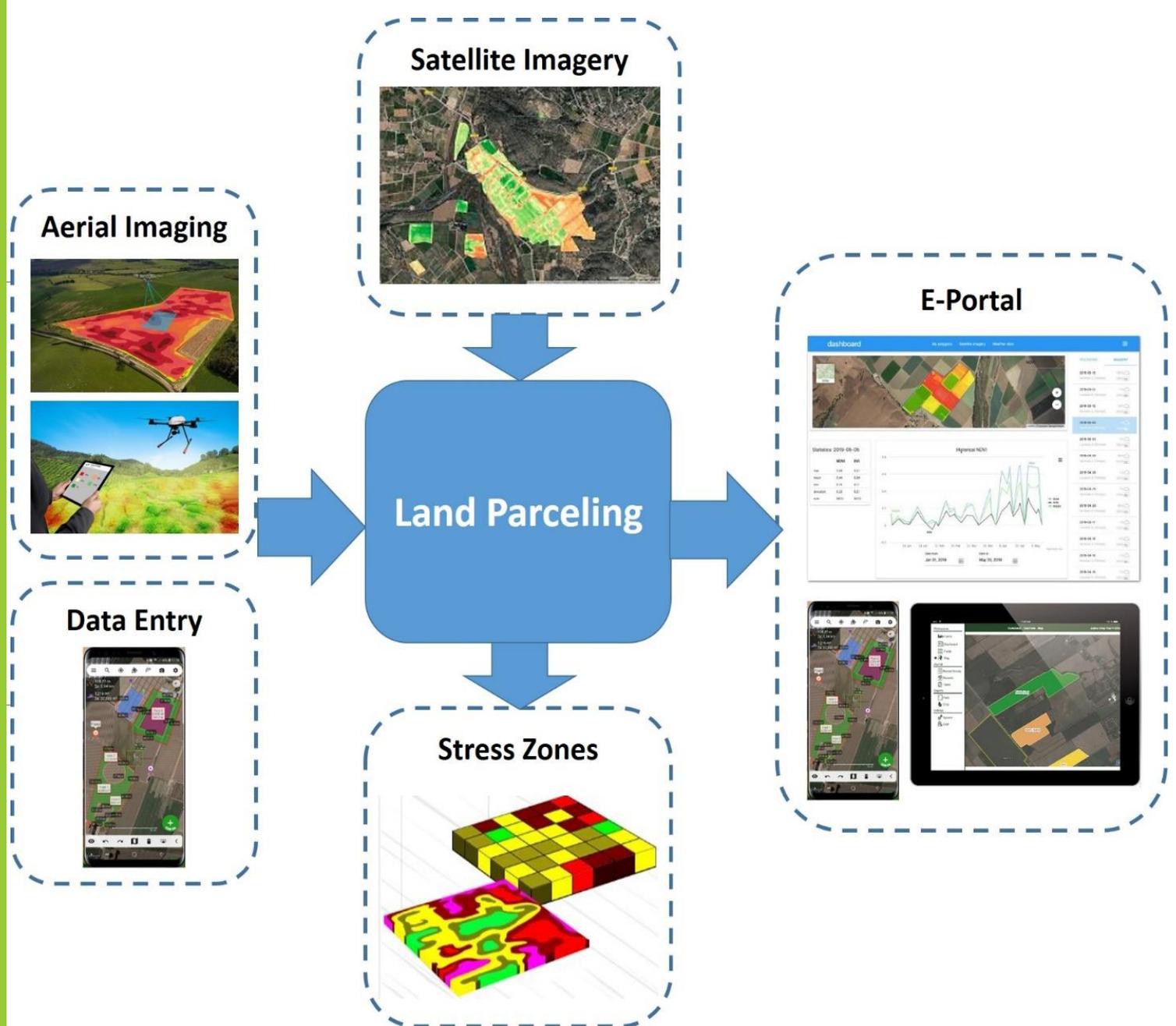# Crop Health Analysis

FARM HEALTH MANAGEMENT

E-Survey

E-Survey of the sugar cane crop area

Estimation of sugar cane crop available for crushing during crushing season

E-Portal for access of the grower land parcels and E-Portal for dynamic harvesting during crushing season

Dynamic Harvesting & Yield Estimate

Live Farm visibility every fifteen days on a web-portal

Includes yield estimates with marking on the sugarcane crop available during crushing season

Optimize overall mill operations

TIME-LINE OF ACTIVITIES

- Weedicide Spray (February)
- E-Survey (May-Sep)
- Crop Health Analysis (Full Season Optional)
- Liquid Pesticide Spray (As requested)
- Granular Pesticide Spray/ Spreading (As requested)
- Granular Micronutrient Spreading (As requested)
- Dynamic Harvest Management (Crushing Months)
- Irrigation Management (Full Season Optional)
- Soil Testing (Start of season)