agremo
formerly AgriSens

AGRICULTURE INSIGHTS THROUGH AUTOMATED ANALYSIS OF DRONE-COLLECTED IMAGES

WE ENABLE **DRONE OPERATORS TO HELP FARMERS** MONITOR AND MANAGE THEIR CROPS PER FIELD, THROUGHOUT THE SEASON.

1500 USERS from more than **45 COUNTRIES** worldwide trust us

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USED BY:

➢ LARGE AGRICULTURAL PRODUCERS

➢ INDIVIDUAL FARMERS

➢ RESEARCHERS AND SEED PRODUCERS

➢ INSURANCE COMPANIES AND BANKS

GLOBAL REACH:

Agremo partnered with **DroneDeploy**, world's #1 cloud–based platform for commercial drone operations, as a pioneer in building image analysis applications.

Agremo is used to gain valuable insights into fields and act preventively, correctively, or assess the overall state and damage level of the crops, etc.

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Lack of accurate and early insights for farmers

WHEN, WHERE AND HOW TO TREAT PLANT STRESS?

WHEN, HOW MUCH AND WHERE TO APPLY FERTILIZERS?

HOW MANY PLANTS WE HAVE? WAS THE SOWING OK?

*"… In order to keep up with increasing demand, **agriculture will have to revolutionise** the way it produces food and become much more productive …"*
Source: PwC, May 2016.

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We are developing **solutions to help farmers** make decisions about their crops by leveraging remote sensing and drone technology.

Agremo solves problems caused by **lack of accurate and early insights** into seasonal crops and ability to accurately manage perennial plantations, by providing remote sensing image analysis automation.

Backed by an expert system, applications enable automated identification of issues and recommend actions to users.

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FIELD CROPS

VEGETABLES

FRUITS & PLANTATIONS

VINEYARDS

EXAMPLES OF USAGE:

- ✓ Plant counting & Inventory
- ✓ Sowing quality estimation
- ✓ Yield estimation

- ✓ Growing stage estimation
- ✓ Nutrients variable application map
- ✓ Spraying & Irrigation map
- ✓ Damage assessment map

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OUR USER BASE

1500 USERS FROM
45 COUNTRIES

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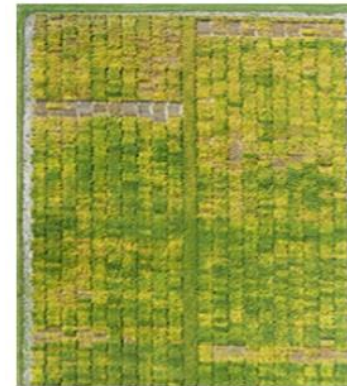formerly AgriSens

➢ **AUTOMATICALLY IDENTIFY**
ISSUES & RECOMMEND ACTIONS

➢ **USER-FRIENDLY**
ACTIONABLE OUTPUTS

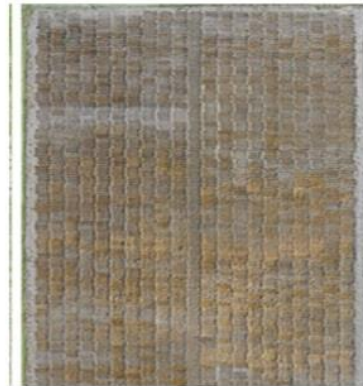➢ **INTEGRATION**
TO OTHER PLATFORMS
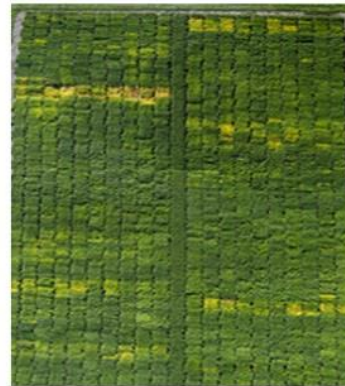
Mid-season
Plant status tracking
Crop status (growing stage)
Spore, dust, pollen counts

Late-season
Weed detection
Leaf area indexing
Disease detection

Pre - Harvest
Biomass and yield estimation
Crop discrimination

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CROP SPECIES

WE HAVE SUCESSFULLY ANALYSED MORE THAN 60 TYPES OF PLANTS
BUT POSSIBILITIES ARE LIMITLESS

OUR SHORTLIST INCLUDES :

Corn	Tomatoes	Coconut
Winter Barley	Almond	Cabbage
Wheat	Potato	Apricot
Triticale	Walnuts	Squash
Sugar Beets	Watermelon	Palm
Sunflower	Carrot	Mango
Rapeseed	Grape	Banana
Soy	Avocado	Trees
Alfalfa	Pecans	Winter Oats
Vetches	Nectarine Grove	Barley
Clover	Beets	Onion
Lavender	Sugar Cane	Pineapple
Pear	Lettuce	Cotton
Apple	Yam	Orange
Plum	Orchard	. . .
Olive	Field Dodder	

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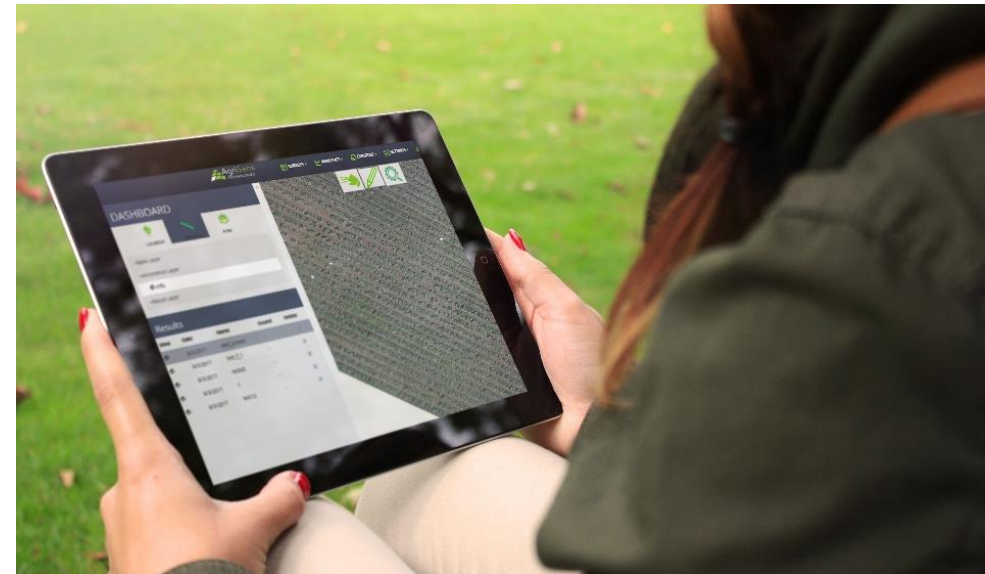
VALUE CREATION THROUGHOUT THE ENTIRE SEASON

EXAMPLE: CORN SCAN CALENDAR – NORTHERN HEMISPHERE

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Comenments
Land sampling	■												Ground cover profiling; Historical report
Leveling/Nivelation		■											Drainage estimation, planning and topography; 3D digital model
Fertilization			■										Use the previous scen's flight report; Nutrients variable map
Plant Preparation													No scan is needed
Herbicides/black				■									Scan the land for initial weeds or insects; Weed or insects detection
Planting				■									Plant stand evaluation and comparison with targeted; Sowing quality
Herbicides/green					■	■	■						Scan before herbicide spraying (areas of interest); Weed managemet
Cultivation													No scan is needed
Fertilization						■							The management of in-season nitrogen application; Nutrients variable map
Irrigation							■	■					Determine crop health in the field. Irrigation map
Harvest									■	■			Determine right time for harvest; Biomass and yield estimation
Developing new land										■	■		Terrain, rock, tree and obstacle mapping; Eagle eye.

SURVEYS ARE INTEGRATED INTO FARMER'S NATURAL PLANTING AND HARVEST CYCLE!

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User	Crop	Plants Counted
ToshiroAoki	Tomatoes	**439,806**

Run ID	Plant Stage	Planting Density
57476013dd3227626ddf696d	N/A	**20,000 plants/ha**

Location	Input Details	Deviation %
Davis, California, USA	Tomatoes counting	**26.78% below norm**

Planting Rate

85   115
60   140
0   200

73.22 %

Poor to Fair   Average to Good   Excellent
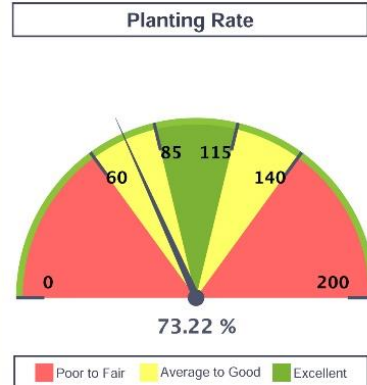
Area:	300,351 m2	**Additional Comments**
Recording:	May 26, 2016	For recommended set we used 20,000 plants per hectare
Camera:	RGB	

"…We wanted to compare the number of plants in the field to what we're being billed, so that we can hold the planter accountable. The outcome was clear—rather than the **5%** loss the planter claimed, the map showed **26%** fewer plants than the farm had been billed for…" **said Toshiro.**

Read more how Toshiro saved time & money using Agremo

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USE CASE – BANANA & MANGO

USER: Caribe Drones, Puerto Rico

CROP: BANANA, MANGO

ANALYSIS: SEASON MONITORING

BENEFITS: Optimal irrigation and distribution of agrochemicals with better weed, disease and pest control. Lower costs due to timely and precise treatments. Better crop quality and higher yields.

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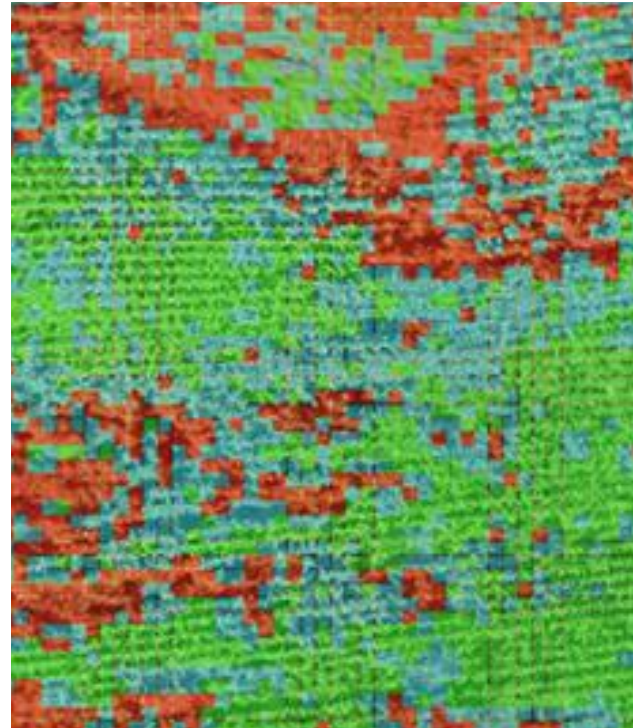
USER: AndrewMcInnes, Usa

CROP: WHEAT

ANALYSIS: STRESS DETECTION

BENEFITS: Threats can be identified in early stages and inputs can be applied in localized manner. Timely identifying threats can lead to higher yields and more revenue over the long-term.
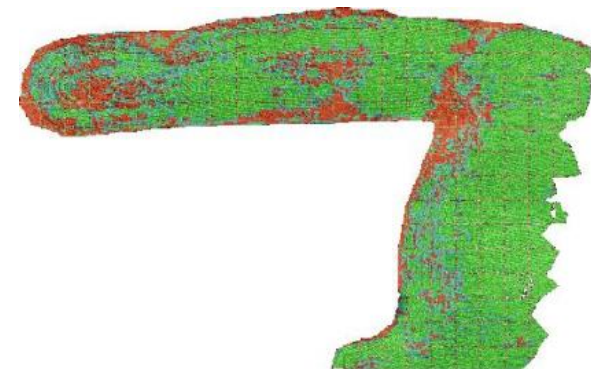
WHEAT RUST

CROP: CORN

ANALYSIS: WEED DETECTION

INFECTED 24.71% OF AREA

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GRAPES

PLANT COUNTING

TOTAL COUNT: **28,155**

User

Institute of Field and Vegetable Crops

Run ID

586e491408835600017f85c1

Location

Beograd, Serbia

Crop

Clover

Plant Stage

90 Day

Input Details

Clover stress detection

Healthy area

0.62 ha

Analyzed area

0.76 ha

Stress detected %

5.89 - 18.74 %

Plant health

12.41 %

5.69 %

81.89 %

● Fine ● Potential stress ● Stress
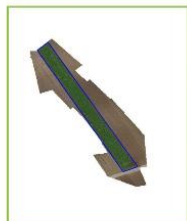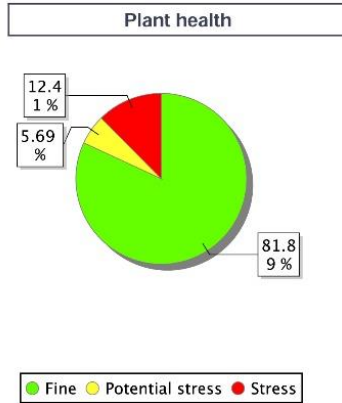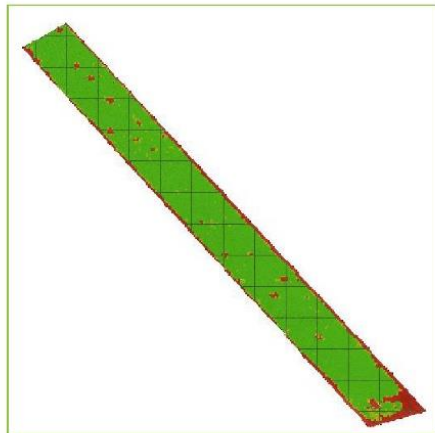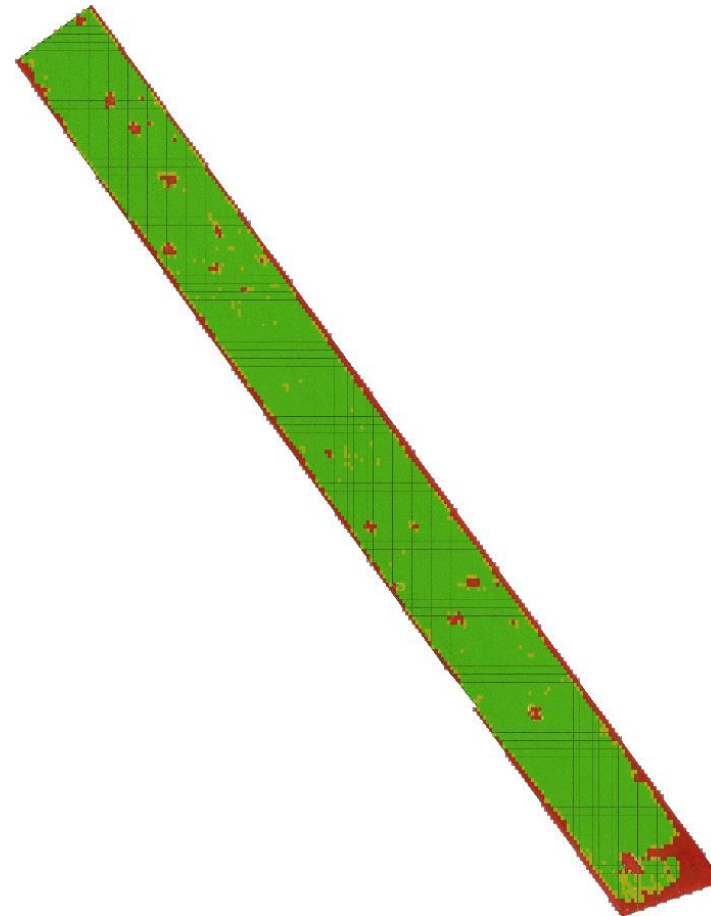
Area: **0.76 ha**

Camera: **RGB**

Recording **Nov 10, 2015**

Additional Comments

Stress: Canopy cover = 0%
Potentional stress: Canopy cover = 65%-75%
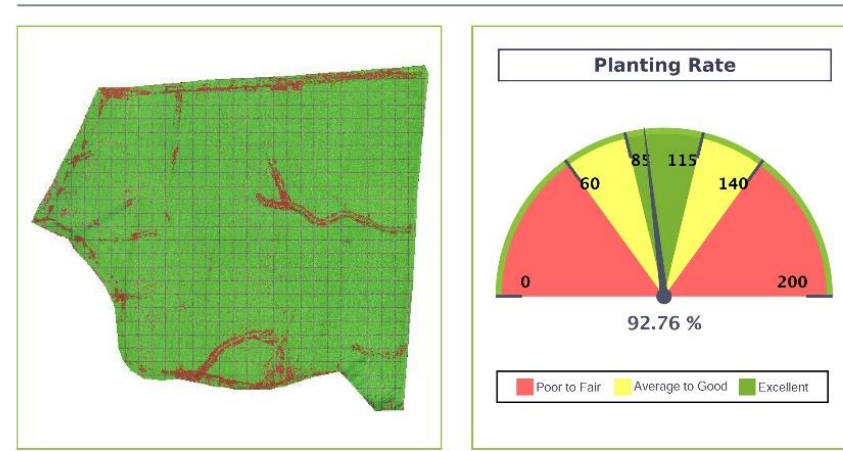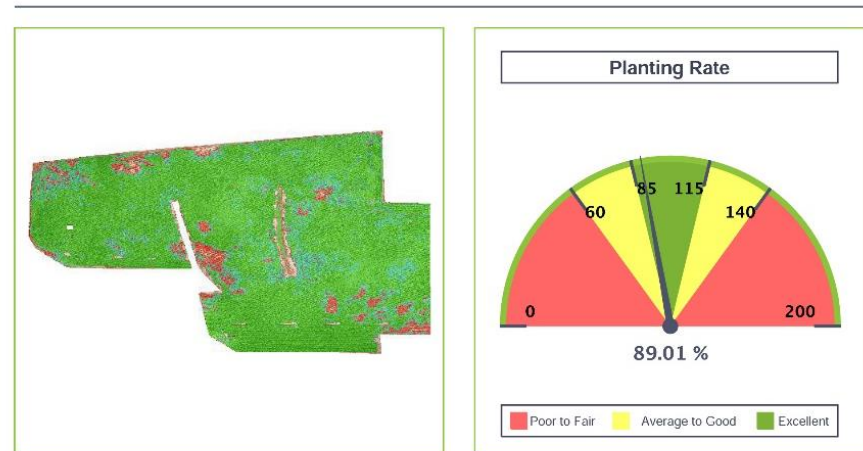Fine: Canopy cover = 100%

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Left Panel

User	**Crop**	**Plants Counted**
DroneDeploy	Corn	646,822 +/- 2.1%
Run ID	**Plant Stage**	**Planting Density**
5796d169b0f7c861d3f8259d	Silking sandy/Clay	57,000 plants/ha
Location	**Input Details**	**Deviation %**
Wagner, South Dakota, USA	Corn 23000 R1 silking sandy/Clay	10.99% below norm

Planting Rate

89.01 %

Poor to Fair   Average to Good   Excellent

Area: **127,491 m2**

Recording: **Jul 26, 2016**

Camera: **RGB**

Additional Comments

Lost plants: 79,882

Estimated Analysis Error: +/- 2.1%

Right Panel

User	**Crop**	**Plants Counted**
DroneDeploy	Wheat	13,395,957
Run ID	**Plant Stage**	**Planting Density**
585a1594e882780001a406c5	18 Day	445,544 plants/ha
Location	**Input Details**	**Deviation %**
Cayce, Kentucky, USA	Counting	7.24% below norm

Planting Rate

92.76 %

Poor to Fair   Average to Good   Excellent

Area: **324,128 m2**

Recording **Dec 21, 2016**

Camera: **RGB**

Additional Comments

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STAND COUNT
Survey date: **09-20- 2016**
BRICK FIELD
Dave Jackson

Crop:	Growing Stage:	Field Area:	Analysis Name:
Oilseed Rape	**32 days**	**30 Acres**	**oilseed_rape_2016**

PLANTS COUNTED
7,864,231

PLANNED SEEDING DENSITY
340 000 / ACRE

The difference between the counted number of plants and the planned number of plants is

23.8% ↓
UNDER NORM

which is close to **2,335,769** plants

PLANNED

COUNTED

10M
9M
8M
7M
6M
5M
4M
3M
2M
1M
0

Estimated Analysis Error: +- 0,5%

Map name   www.agremo.com   support@agremo.com

Other solutions can also produce a report, but nobody knows what to do with it !

Agremo REPORTS
ARE EASY TO UNDERSTAND

Example: Plant Counting provides insights into plant count and sowing quality. It counts plants on the scanned area, reporting results against the recommended set.

Vines will be planted, corn will spring up, a whole growth of new crops; and people will still fall in love in vintages and harvests yet to come. Life is eternal - it is a perpetual renewal of birth and growth.

Émile Zola

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