

# All-in-One Precision Agriculture Software and API

January 2026

- Website: [geopard.tech](https://geopard.tech)
- Docs: [docs.geopard.tech](https://docs.geopard.tech)
- [Book a call](#)
- [Start Free Trial](#)



# How to create Smart Recommendations?

## Topography

Historical **Field Potential**

Yield **Limiting factors**

Current season **Weather**

## Soil

Organic Matter

pH

EC

N, P, K

Micronutrients

Moisture

## Yield data

Grain moisture

Protein

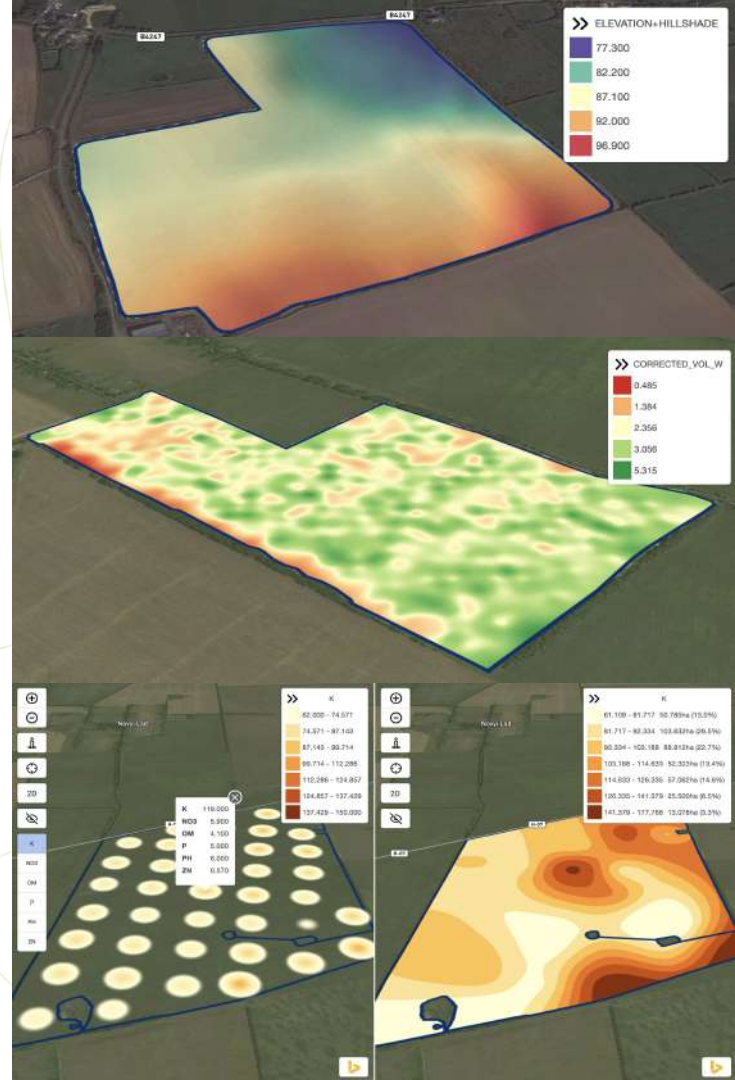
## Plant sampling

## Seasonal Operations

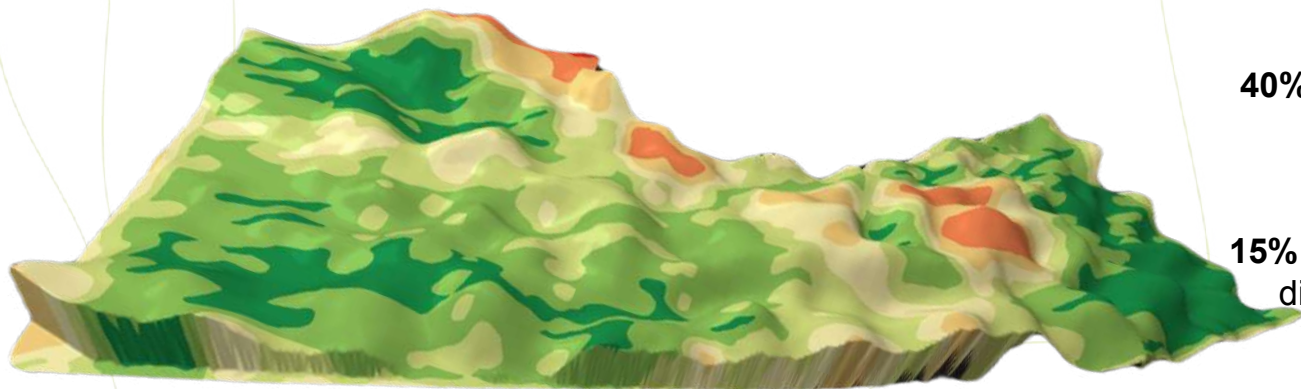
as-applied fertilizer, crop protection

seeds

## Trials & R&D planning



# Digital Twin of a Field



**400%** - average difference of yield in **high** and **low** crop productivity zones

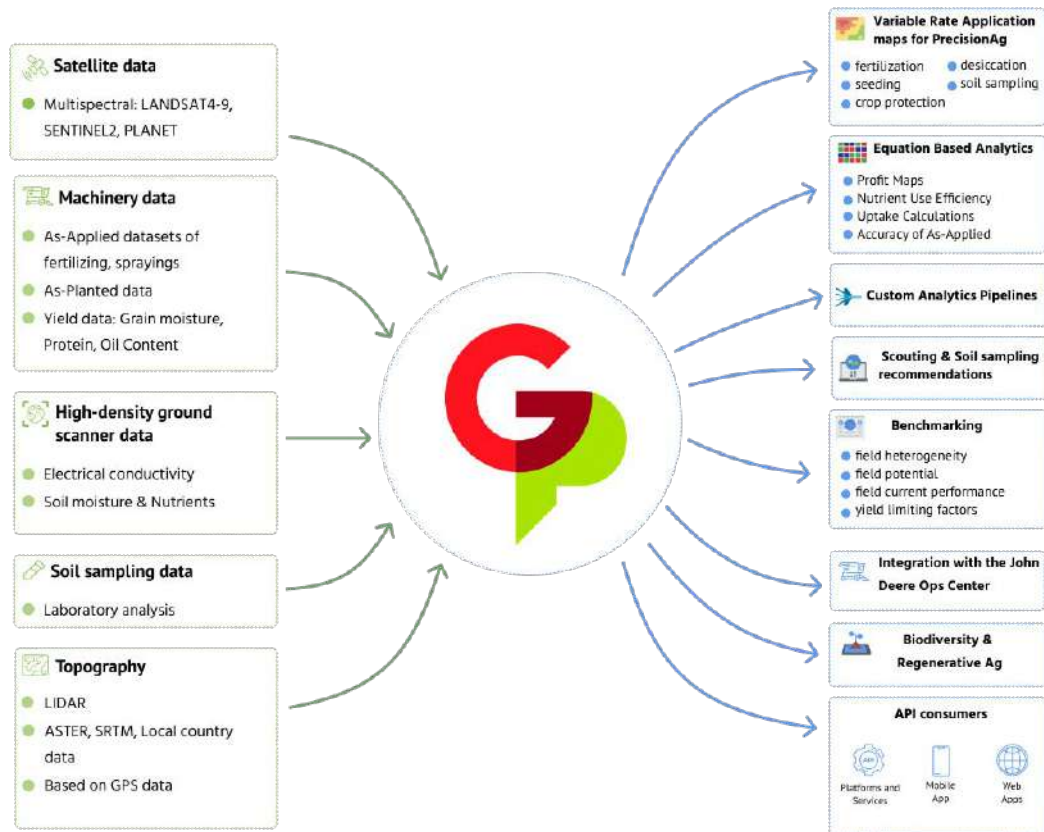
**40%** - share of ag inputs costs in crop production

**15%** - economic efficiency from optimal distribution of Ag input resources

**Sustainable farming** - variable rate application, no-till, cover cropping, crop rotation, carbon markets

**Pricelessly for Environment** - reduction of fertilizers, crop protection and water usage

# Automated Platform for Precision Agriculture

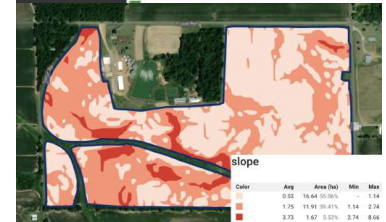
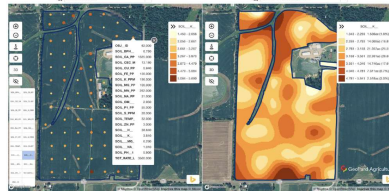
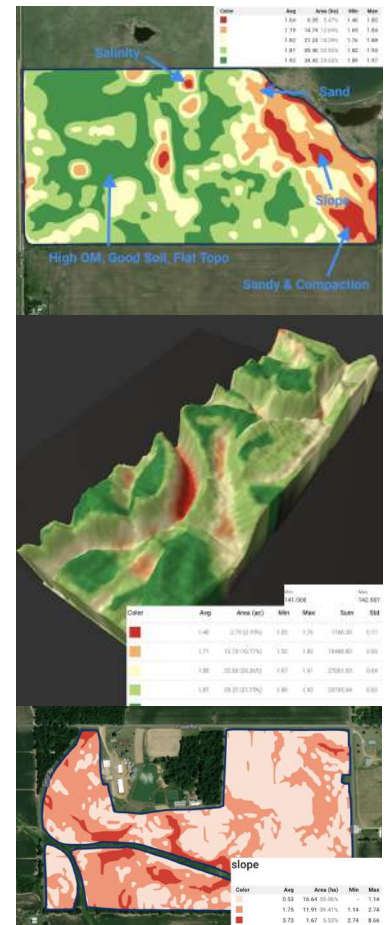




# How It Works

## Automated powerhouse for sustainable and precision agriculture

- VR maps based on multiple data layers
- Flexible agronomic logic: apply any math/formula/equation to calculate recommendations
- Support of all common data types: satellite imagery, radar imagery, machinery data, scanners and sensors
- Automated solution for recommendations >> Hyper-Automation of agronomy
- Simple UX for fast manipulation with complex agricultural data
- Powerful API for integration into customer solutions and business processes
- Enabler for transition into Sustainability and Carbon efficient practices
- A.I. & Big Data
- Mobile apps with offline mode



# 1 Min Demo Video



[Youtube video link](#)

# About GeoPard

[GeoPard](#) is an agriculture intelligence platform that enables crop farming agribusinesses to increase ROI and integrate data-driven sustainable agriculture practices using cutting-edge spatial data analytics and AI algorithms.

GeoPard automates workflows to create Variable Rate Application maps for seeding, fertilizing, and crop protection based on various data sources such as satellite imagery, yield, soil, topography, machinery data, and custom agronomic logic (including multi-layers & equations).

GeoPard provides its solution as White-label, On-premise, API, web, and mobile applications.

## Value for Clients

GeoPard is committed to advancing soil health using state-of-the-art spatial technology. Our platform integrates remote sensing, sensor, topography, and machinery data, providing an all-in-one solution tailored for precision & sustainable agriculture. By transforming farm data into actionable insights, we aim to optimize yields and minimize costs. Above all, we prioritize data security, ensuring that all information remains under the exclusive ownership of our clients.

# Agricultural Season with GeoPard





# Team

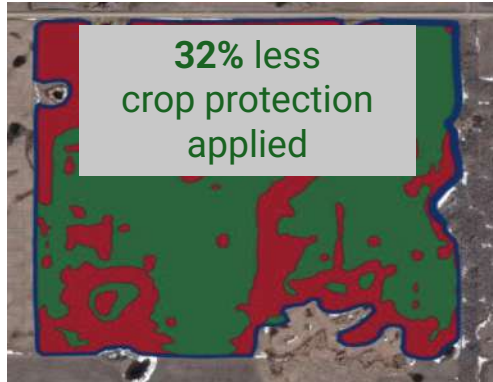
Build solutions as one team for **12+ years in Precision Agriculture**

<b>2012</b>		<b>2015</b>	 	<b>2019</b>	
Co-founders of Zoner. The solution was popular in the Canada, US & eastern EU. Acquired by Bayer in 2015.		Technical Managers of Bayer Xarvio Digital Farming (now BASF).		Co-founders of GeoPard Agriculture	
Developed VRA maps & soil sampling engine widely used in the US, Canada, Europe		Mastered integration and developed foundation of Xarvio Field Manager, incl. GIS engine		<b>Automated decision support system recommendations and post-harvest analytics</b>	

# Agronomic Use Cases (> 30 modules)

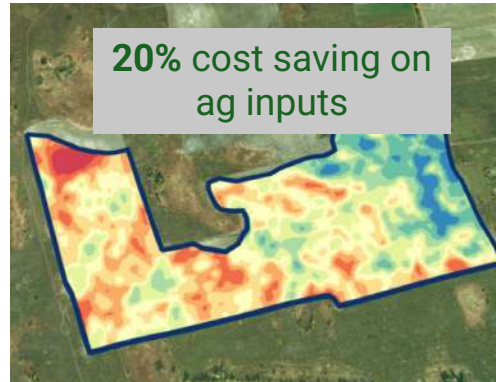
## VR fungicide application

Data: Current vegetation & bare soil  
Crop: Wheat



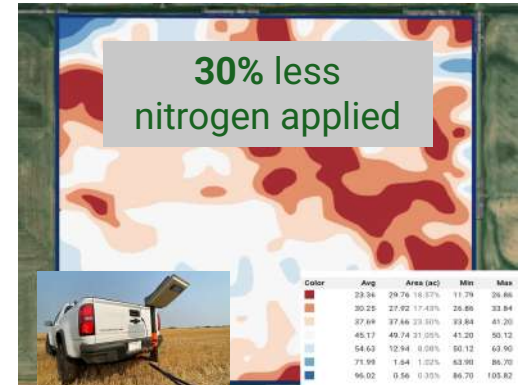
## VR seeding

Data: Soil sampling (Organic Matter)  
+ Topography + Last 15 years Field Potential  
Seeding rate: 60k-85k/ha  
Crop: Corn



## VR fertilizing

Data: ground scanners (SoilOptix, GeoProspectors, Electrical Conductivity), Topography, Historical vegetation  
Crop : Canola



# Variable Rate Seeding maps based on Electrical Conductivity soil scanner data

Verified:

- Seeding VRA map for Barley
- Spraying VRA after Drone Spray Application
- Upcoming Fertilization and Seeding VRA maps

[Documentation](#)

SoilScanner 2020-09-03 40542



SoilScanner 2020-09-03 40542 ec25



Color	ID	Avg	Area (ha)	Min	Max	Me
1	32.643	5.80	18.02%	26.352	45.181	31
2	40.711	6.25	19.41%	28.087	50.076	40
3	47.956	20.14	62.07%	31.841	55.500	47

Rates: seeding						
Color	ID	Area (ha)				
1	5.80	18.02%				210
2	6.25	19.41%				230
3	20.14	62.58%				250
Total Product Volume						7688.57
Average Product Rate						238.94
Unit						kg / ha
Price per Unit						0.00
Cost per Product						0.00
Total Products Cost						0

Overview		
Creation Date	Updated Date	Data Classification
04/05/2023	04/05/2023	Type
		Equal interval
Polygon min area	# of zones	Heterogeneity factor
500	4	0.197

Data Source		
Data Type	Dataset Name	Dataset Attribute
Soil Data	SoilScanner	ec25
	2020-09-03	
	40542	

Upload Date  
12/04/2023

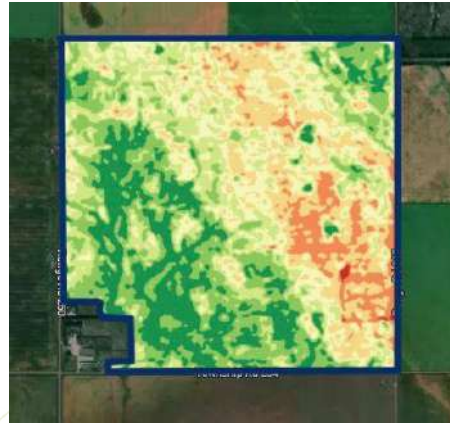
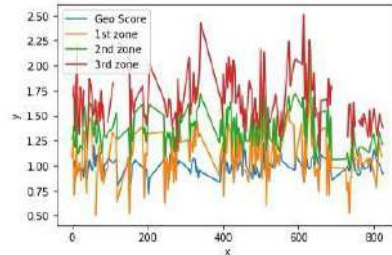
# Automated Field Potential Maps

Automated multi-year (up to 30 years and the last 6 years stacked) field potential maps. Patented.

The heterogeneity index helps benchmark fields and prioritise ag operations.

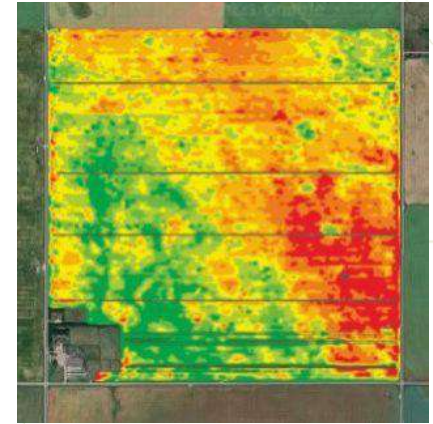
[Blog: Multi-Year Zones](#)

[Blog: Heterogeneity Factor](#)



GeoPard Field Potential maps

VS



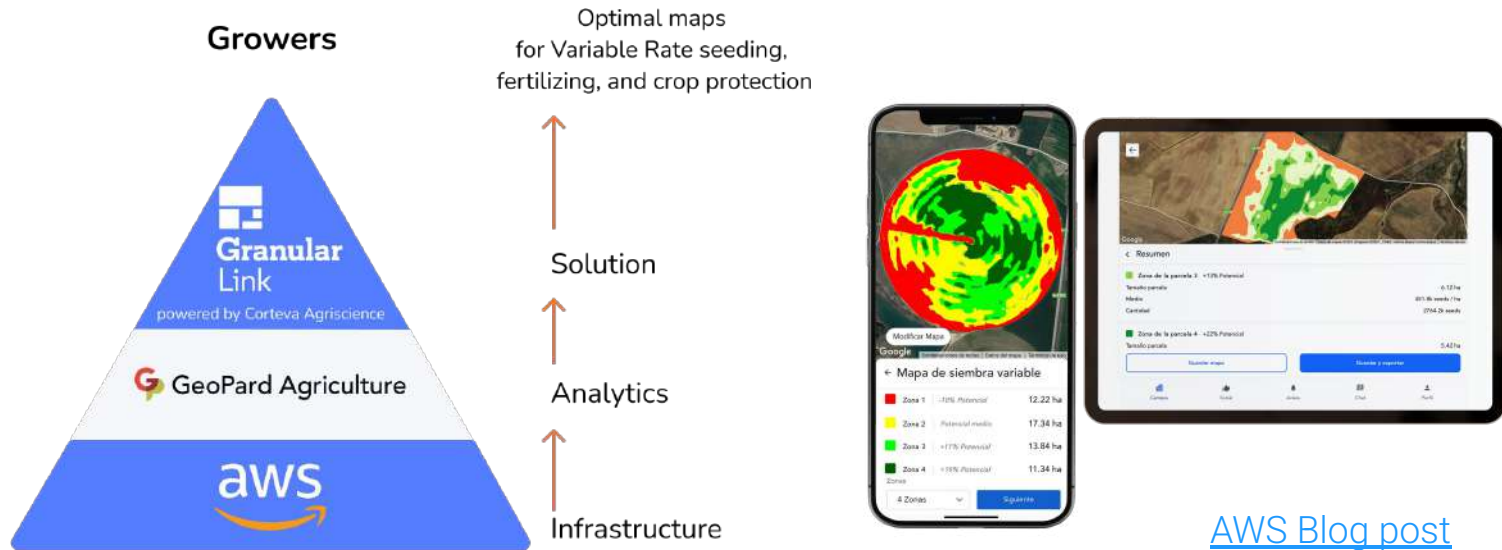
Yield data

# Successful client case - Corteva

**WHO:** Corteva Agriscience, Ag inputs manufacturer, USD 14.2B revenue, 21 000 employees.

**SOLUTION:** Automated Prescription maps & farm data analytics via API

**RESULTS:** Launch Smart Farming commercial apps in EU countries in just 1 year



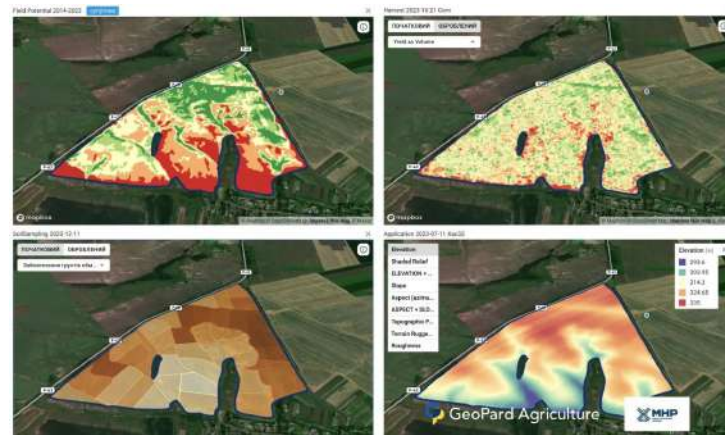


# Successful client case - MHP (1m acres, 350k hectares)

**WHO:** MHP (MHP SE): 350,000 ha (1m acres), 36,000+ employees.

**SOLUTION:** automated **VRA/Rx** prescription maps and 360° analytics, integrated with **John Deere Ops Center & Climate FieldView**.

**RESULTS:** Automated ag data management, fast recommendation generation (VRA/Rx), full-season coverage from planning to post-season analytics.



# JohnDeere Ops Center Integration

## Deere & GeoPard workflows

GeoPard seamlessly integrates with the John Deere Operations Center, bringing advanced analytics to the forefront of precision farming.

Our platform enhances the capabilities of John Deere tech, providing dealers and farmers with actionable insights for optimal agricultural outcomes.

Start Free. Empower Your Operation  
Center Now.



## GrainSensing HarvestLab data analysis

Use-case LVA, John Deere dealer helps farmers to calculate Fertilizer use efficiency by analyzing Protein, Harvesting, As-Applied data in GeoPard. Read the use-case



- GeoPard augments Ops center with analytical layers: topography, soil, Profit mats, NUE maps, cleaned/calibrated Yield
- Data automatically flows bi-directionally
- [geopard.tech/johndeere](https://geopard.tech/johndeere)
- [Integration Overview and Tutorial](#)
- [Work Plans creation](#)

# JohnDeere + GeoPard User Stories



John Deere  
1,315,963 followers  
4d · Edited ·

Make every drop count, that is the future of smart water use in agriculture.

Climate change is affecting weather patterns to the detriment of farmers around the world. To feed us all, they must, among other things, maximize their harvest while minimizing their water use.

In short, farmers need to make every drop count. And that is why we at John Deere are working with our partner company [GeoPard Agriculture](#) to provide with high technology solutions to make it possible. GeoPard is an unbiased, cloud-based analytics powerhouse for precision agriculture. The core of the platform is capable of processing any set of geospatial data.

"Smart water management is one of the most important features of our precision agriculture solutions", says [Martin Klausmann](#) our expert for implementations and the John Deere Operations Center together with [Dmitry Dementiev](#) CEO and co-founder of GeoPard Agriculture.

That's because using tools such as soil analysis through satellite data and precise field maps, farmers can gain comprehensive insights into their fields, that allow them to apply the exact amount of water needed for optimal growth - no more, no less. And this precision is something that we and GeoPard are constantly pushing forward, for a more sustainable use of our resources.

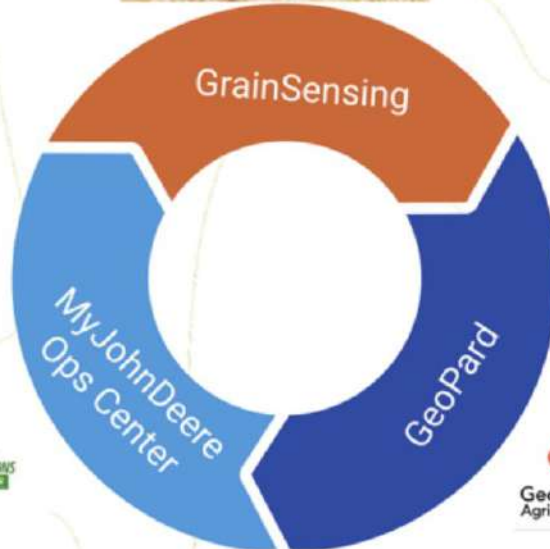
What do you think are the keys to smart water use in the field?

#JohnDeereEurope



GeoPard Agriculture

Simplify complexity



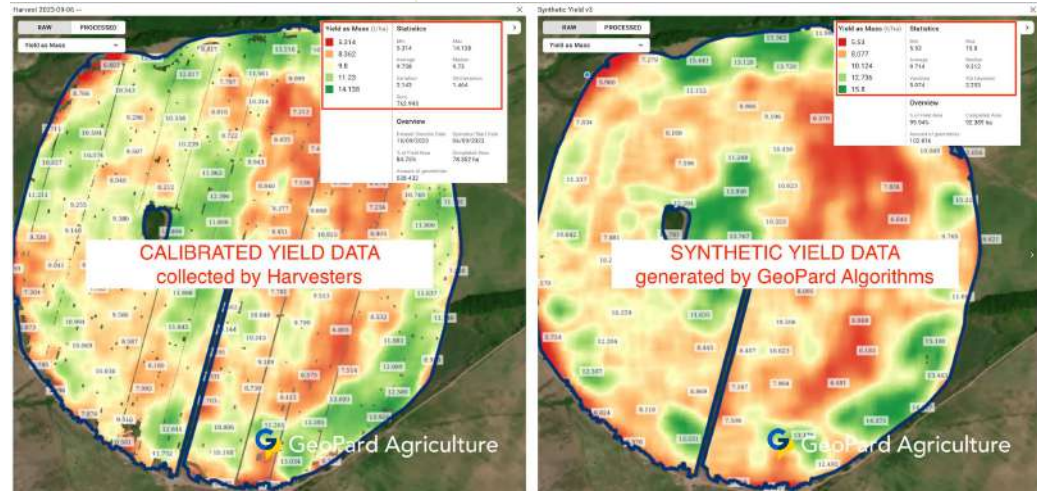
- [Linkedin Post](#)
- [Dealer Story \(Italy\)](#)

# Synthetic Yield Maps

87% Accuracy

Based on total or average yield  
GeoPard creates Yield dataset

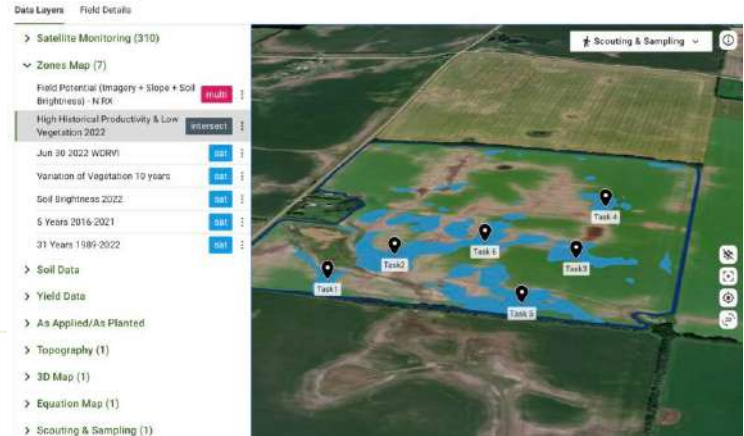
[Read more](#)



# Automated Scouting Tasks

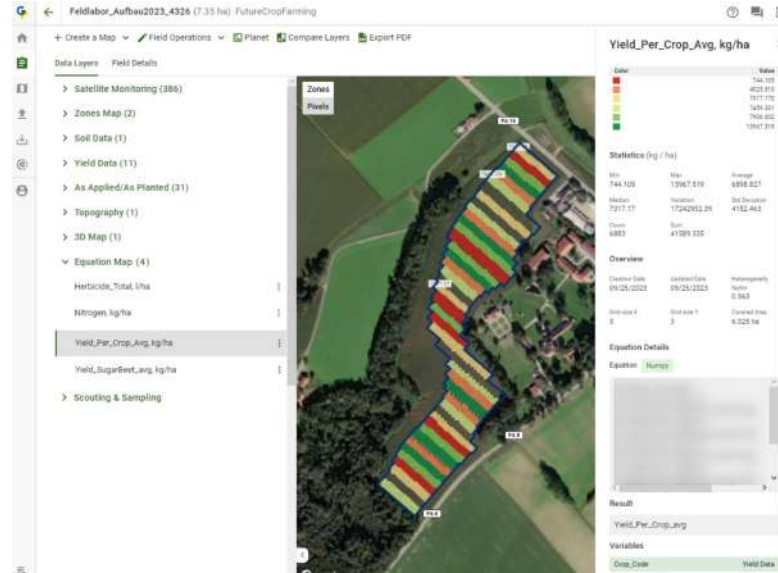
Reduce Field Visits & Fuel Consumption.  
Find representative areas for accurate  
Yield Prediction

[Read more](#)





# Measure Regenerative Farming Practices



[Read: Visualizing Economic Impacts of Sustainable Farming](#)

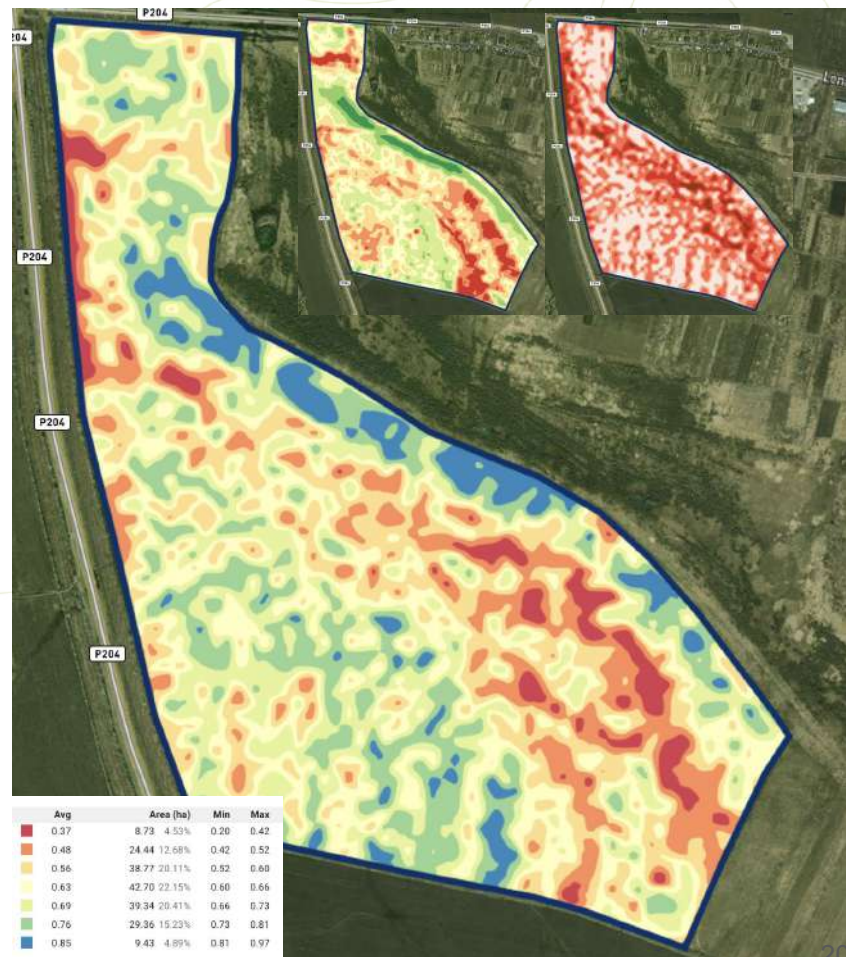
# Multi-layer Maps

Delineation of management zones based on a [combination of any data layers](#) available in GeoPard with the flexibility to set a weight for each layer.

*Example: 8 Years Historical Productivity (weight=1) and Slope (weight=-1)*

Popular layers combinations:

- Satellite imagery (historical or in-season) and EC data
- Soil Sampling and Topography
- A mix of multiple vegetation indices



# Equation based Analytics

- Integrate multiple data layers.
- Use GeoPard templates or **create your formulas**.
- Calculate sub-field level ROI and economic efficiency.
- Integrated Variable Rate recommendations.

[Blog post with examples](#)



## Tri-State: Indiana and Michigan Liming Rates for Organic Soils

PDF Source

When the Target pH is 5.3 and the soil pH is < 5.3, then the LR =  $37.6 - (7.1 \times \text{soil pH})$ .

When the Target pH is greater than 5.3 and the soil pH is < 5.3, then the LR =  $[37.6 \times (7.1 \times \text{soil pH})] + [(\text{target pH} - 5.3) \times 5.0]$ .

When the Target pH is greater than 5.3 and the soil pH is > 5.3, then the LR =  $[(\text{target pH} - \text{soil pH}) \times 5.0]$

### Equation in Python

```
if targetpH == 5.3 and soilpH < 5.3:
    return 37.6 - (7.1 * soilpH)
elif targetpH > 5.3 and soilpH < 5.3:
    return (37.6 * (7.1 * soilpH)) + ((targetpH - 5.3) * 5.0)
elif targetpH > 5.3 and soilpH > 5.3:
    return ((targetpH - soilpH) * 5.0)
else:
    return defaultLimeRate
```

### Variables from datasets

targetpH  
soilpH

# VR Recommendations based on Equations



## Lime Rx based on SoilOptix pH



## Phosphorus Corn Recommendations (South Dakota State University)



## Potassium Removal based on Yield



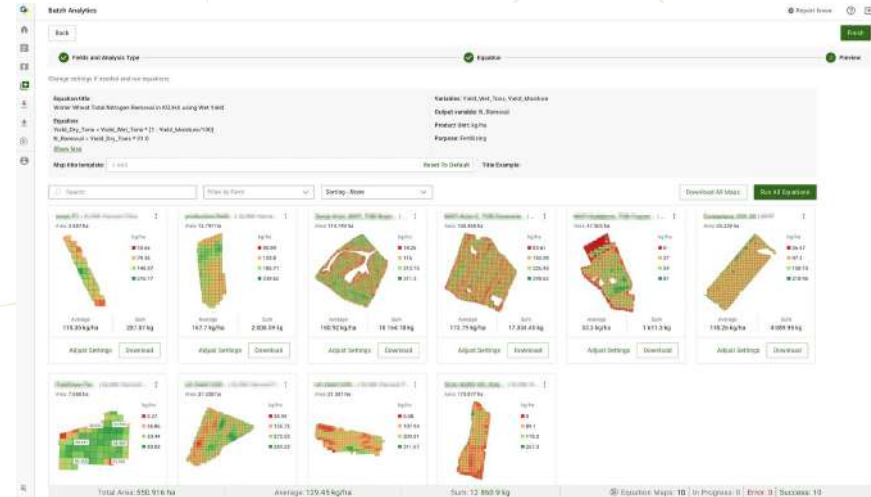
## Nitrogen: Target vs Applied



# Batch Analytics

GeoPard enables creating of maps for multiple fields simultaneously

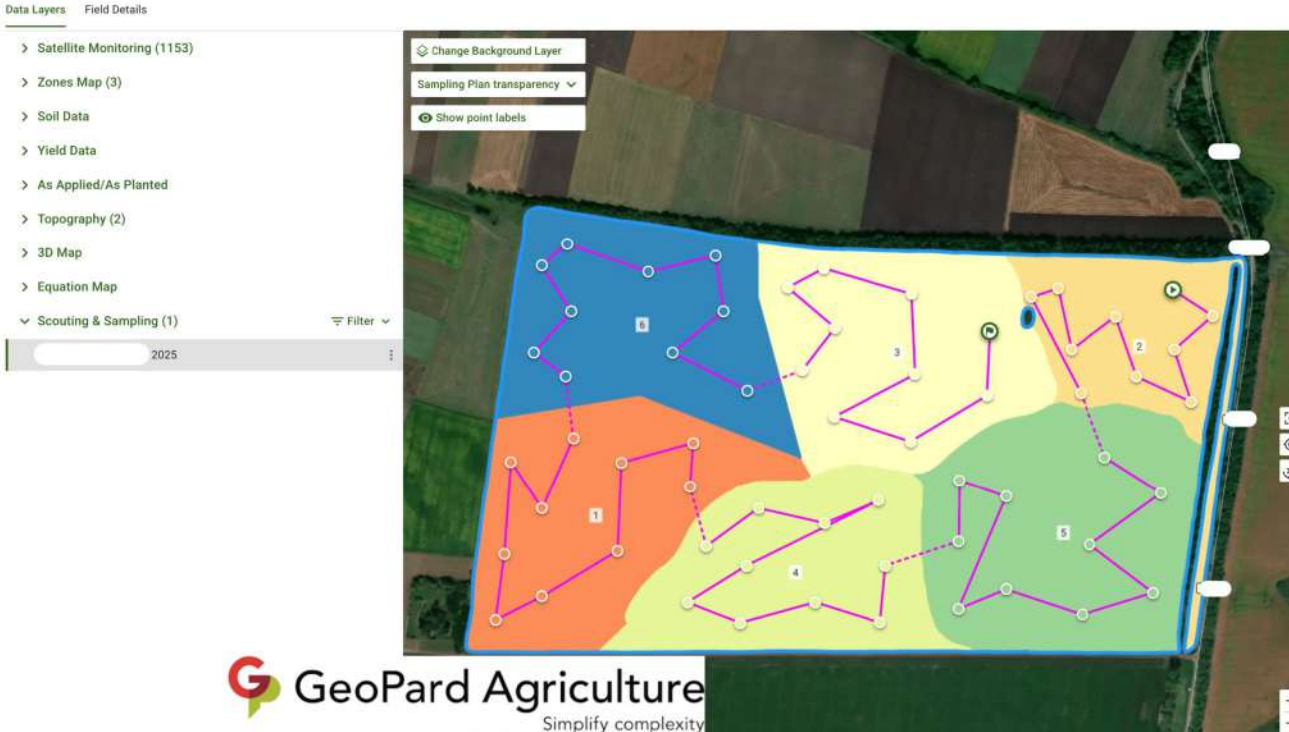
- Generate maps for any field group, including Profit Maps and VRA maps for seeding, spraying, fertilizing, or Uptake calculations.
- Calculated field averages and **total input volumes for all fields to efficiently plan purchases**. Use any GeoPard or custom formula (including efficiency, [Fertilizer Use Efficiency](#), [Profit maps](#), Fertilizer uptake, or based on satellite imagery)
- GeoPard automatically smartly links variables to layers and attributes (no need to manually map the Yield Dry variable to the Yield dataset or pH to soil sampling pH - GeoPard does it for you)





# Recommendation on Soil Samples & Paths

[Tutorial](#)

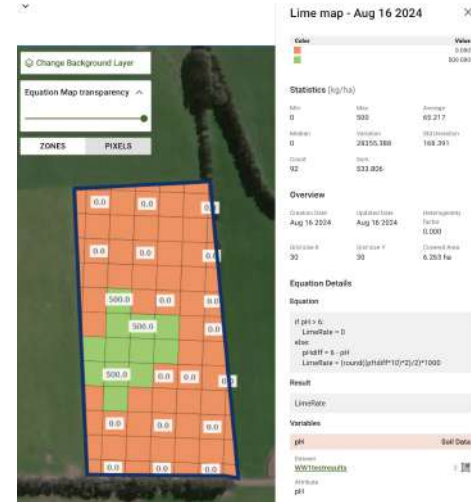
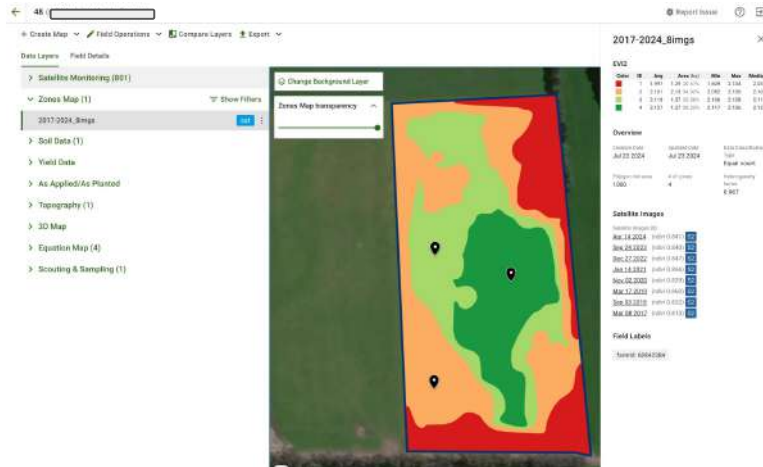


# Soil Sampling Recommendations

50% cost reduction

Automated zones & Soil Sampling Plans

VR fertilizer based on soil sampling & Equation



# Fertilizer (Nitrogen) Use Efficiency Calculations

Protein Yield

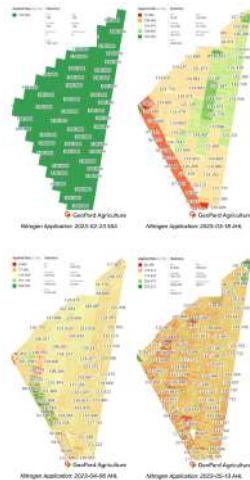


+

Yield

+

Fertilizer Applied



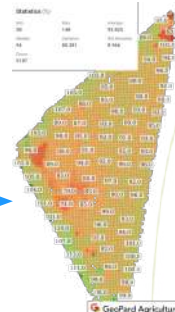
Nitrogen Uptake



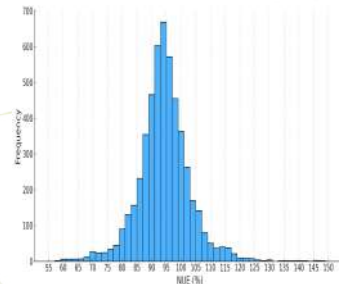
Statistics (kg / ha)		
Min	106.405	Average
Max	183.436	141.321
Median	142.084	Std Deviation
Variation	99.39	9.969
Count	5220	Sum
		1819.76

Nitrogen Uptake (kg / ha)

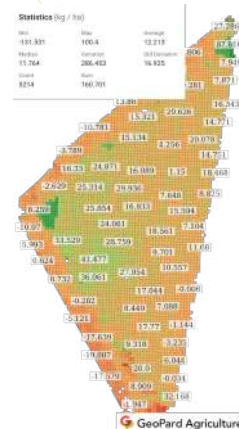
Nitrogen Use Efficiency (%)



Distribution of Nitrogen Use Efficiency (NUE)



Nitrogen Surplus (kg/ha)

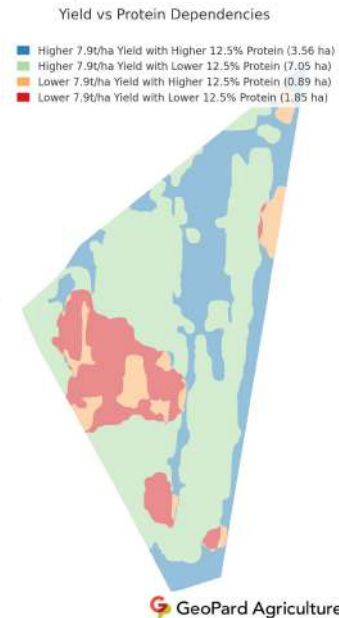
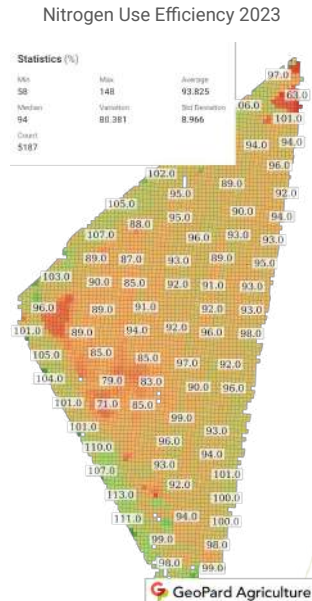


# Nitrogen Use Efficiency use-case

Use-case with a German JohnDeere dealer LVA, [NUE, N Uptake, N Surplus based on GrainSensing HarvestLab, Yield](#)



**JOHN DEERE  
OPERATIONS CENTER  
CONNECTED**



# ANY PRODUCT Use Efficiency

Select an equation to create prescriptions.

**Create New**

Create and save your own equation with the parameters you need.

**Select from existing**

Category

Predefined Equations

☐

**Corn Total Boron Removal in KG/HA**

This formula estimates Boron (B) uptake and removal for Corn (Grain and Stover) crops grown in different countries of the world in metric units. Last modified: March 2022.

[Source URL](#)

☐

**Corn Total Nitrogen Removal in KG/HA**

This formula estimates Nitrogen (N) uptake and removal for Corn (Grain and Stover) crops grown in different countries of the world in metric units. Last modified: March 2022.

[Source URL](#)

☐

**Corn Phosphorus Recommendations South Dakota State University in LB/AC**

SDSU Extension fertilizer recommendations are based on field research in South Dakota and neighboring states. Phosphorus soil test results in this guide are stated in parts per million (ppm) and not pounds per acre. Interpretation for the Olsen phosphorus soil test procedures is listed here. Banding P near the seed as a starter frequently results in more efficient use of these fertilizers. The P205 recommendation can be reduced by one third if applying as a starter. If the previous "crop" was fallow or potatoes. The growth of corn after fallow or potatoes is sometimes not satisfactory. To correct this, apply 20-30 lbs/acre of P205 as a starter. Revised September 2005.

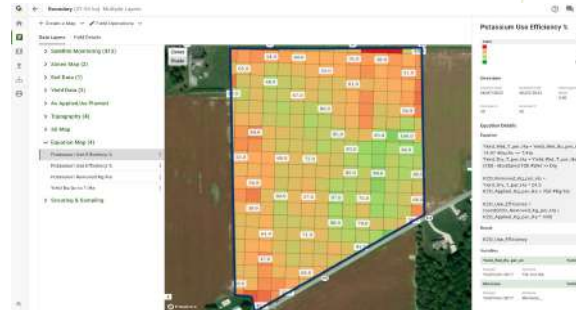
[Source URL](#)

☐

**Corn Total Magnesium Removal in KG/HA**

This formula estimates Magnesium (Mg) uptake and removal for Corn (Grain and Stover) crops grown in different countries of the world in metric units. Last modified: March 2022.

[Source URL](#)



Potassium Use Efficiency

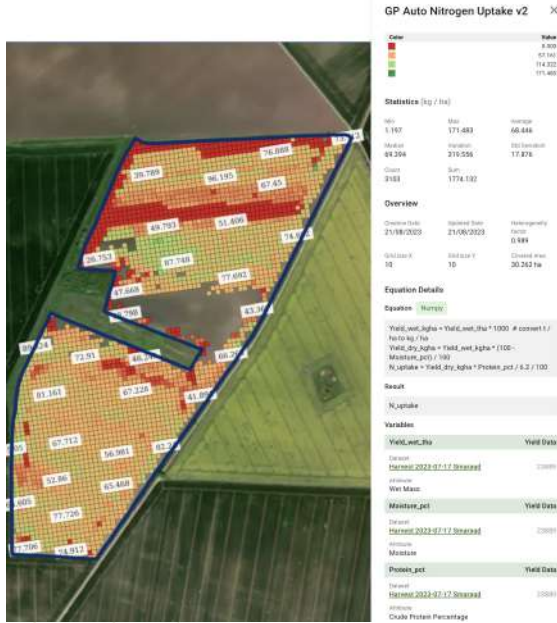
Linked to the field factual data as-applied fertilizer, protein, and yield



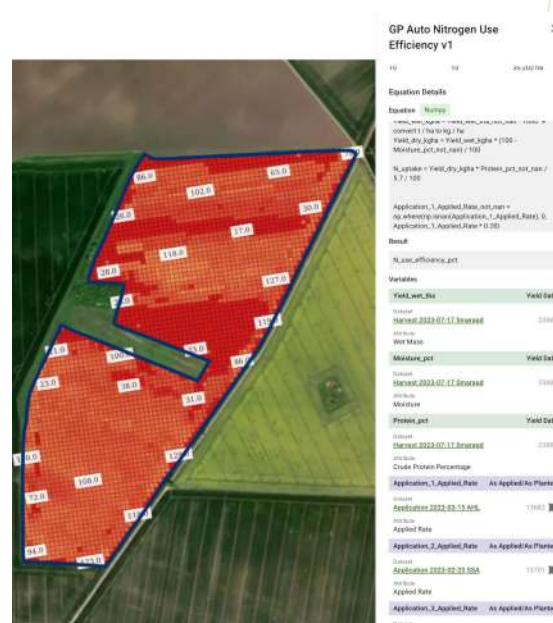
Nitrogen Use Efficiency



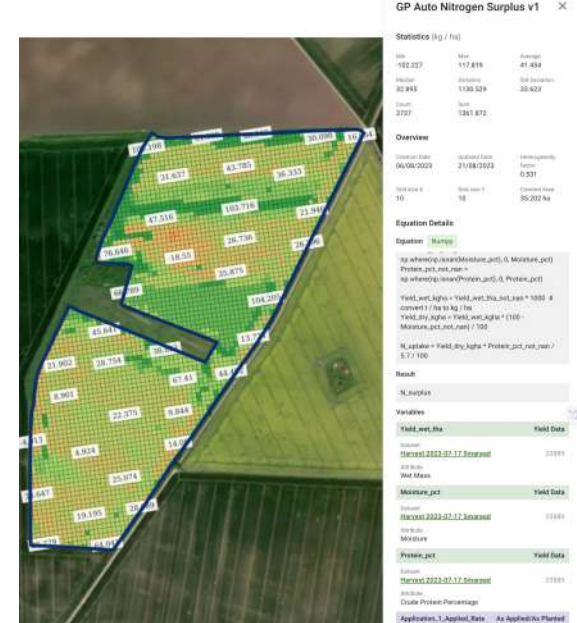
# Nitrogen Uptake & Surplus



Nitrogen Uptake

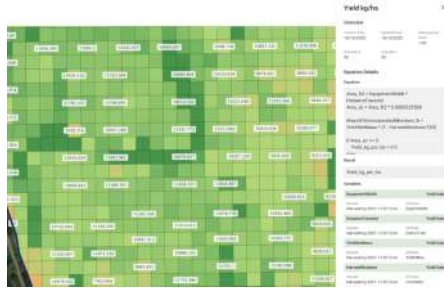


Nitrogen Use Efficiency



Nitrogen Surplus

# Yield Trends



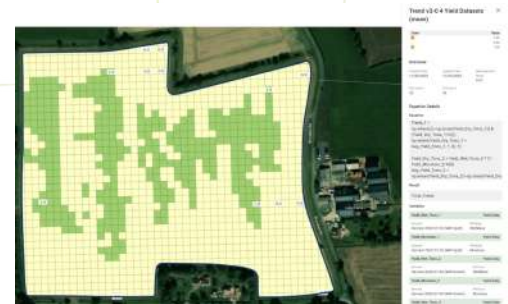
Yield Calibration and Conversion based on DistanceTraveled(ft),  
EquipmentWidth(ft), HarvestMoisture(%),  
YieldWetMass(lb)



Yield Trend above/below Average



Dry Yield Calibration based on  
HarvestMoisture (%) and YieldWetMass (lb)



Yield Trend for 4 Datasets

# Detect application errors: As-applied vs Rx



Cluster As-Planted Data to evaluate the Application

Accuracy:

- 1) nodata
- 2) below acceptable range
- 3) in acceptable range
- 4) above the acceptable range

[Read more](#)

# Profit Maps



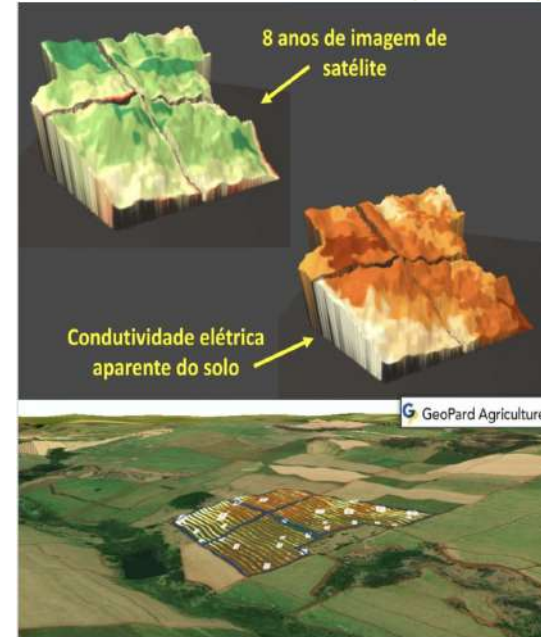
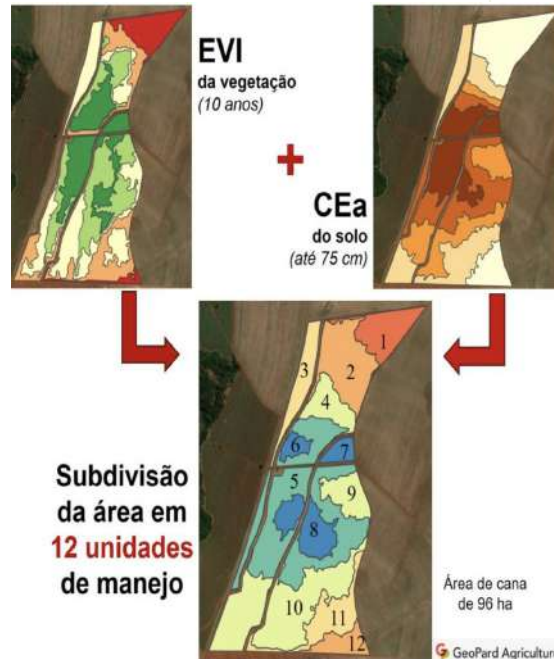
Cross-Margin Profitability maps are calculated based on factual farm data: as-applied (fertilizer, crop protection), as-planted, harvesting.

[Read more](#)



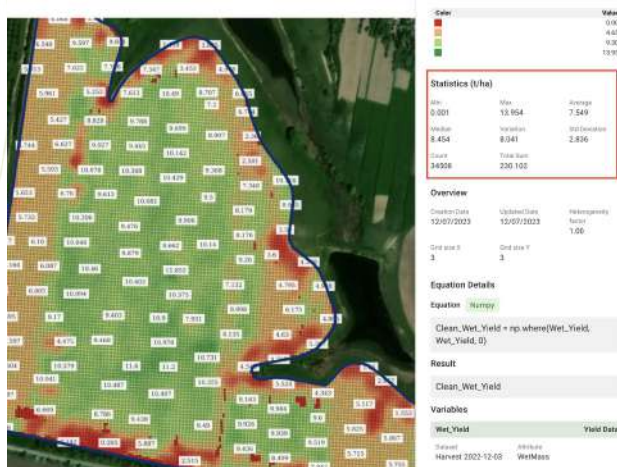
# Use-Cases From Brazil

Multi-layer farm  
data analytics &  
correlation analysis





# Equations: Use Cases - Yield Stats & Slope for VRA



Yield Distribution (Statistics) including  
Total Collected Yield



Convert Slope into Factor for VRA  
Fertilizing, Seeding, Crop Protection

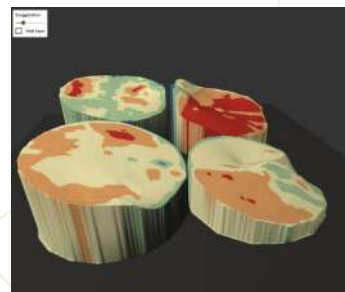
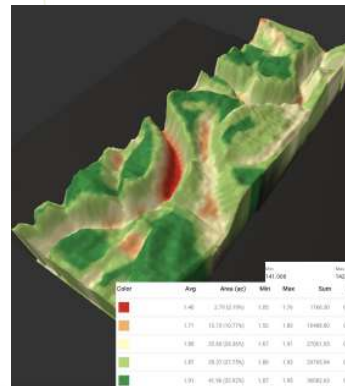
# 3D Maps in Browser

Learn geospatial dependencies between data layers.

Combine **a base layer** (topographic, slope, relief positions, soil properties, or vegetation distribution) and **a cover zones map** (zones from yield, historical vegetation, organic matter, electrical conductivity, pH distribution).

3D model is visualized right in the browser without need of installing any additional software or plugins.

[3D Maps - GeoPard Agriculture](#)



# Topography Profile

Complete topographic profile including  
[Elevation](#), [Slope](#), [Aspect](#), [HillShade](#), [Relief](#)  
[Position](#), [Ruggedness](#), [Roughness](#) built on top  
of Remote Sensing or [Machinery Datasets](#)

Example: Slope and Relief Position maps.



# Use-Case: Automated Scouting

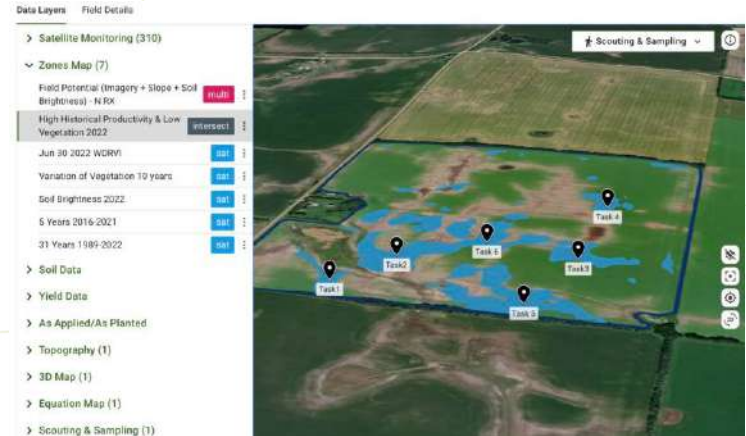
Automated detection of locations that need to be scouted.

Some examples:

- Estimate expected yield of the whole field by checking the development of crops in a certain place
- Unexpected low vegetation zones
- Scout yield limiting locations

Based on GeoPard unique maps such as field potential, stability, current productivity, multi-layers maps & cross analytics.

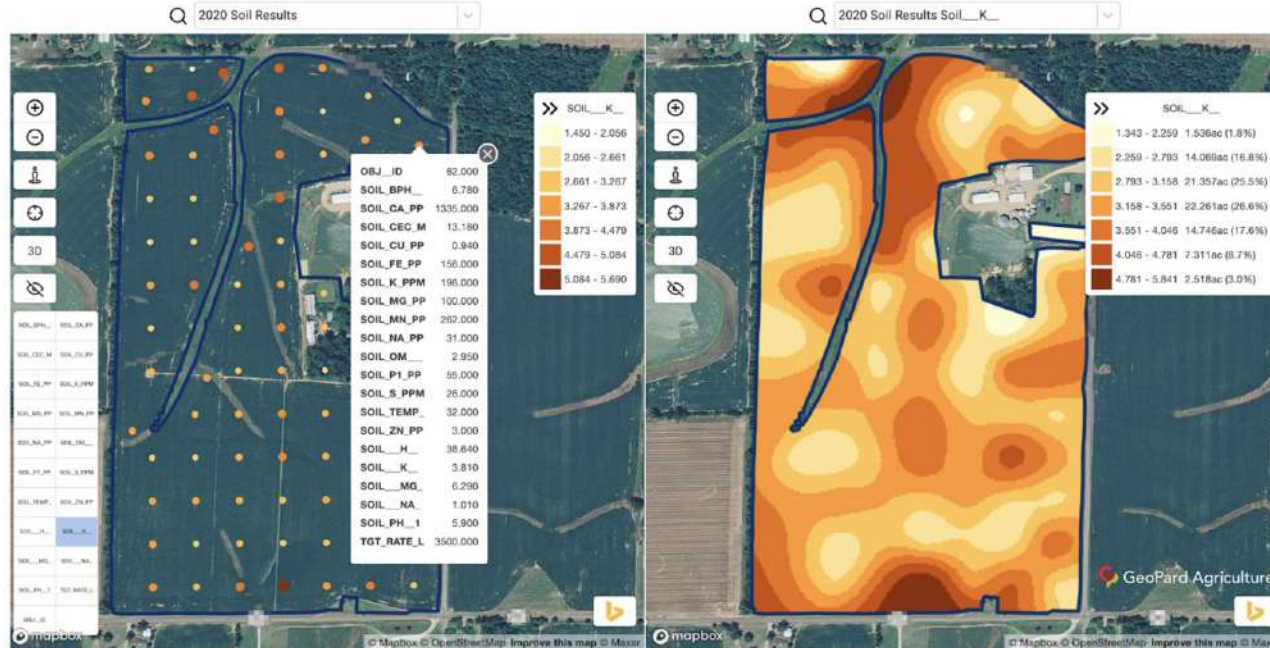
[Read more](#)



# Soil sampling

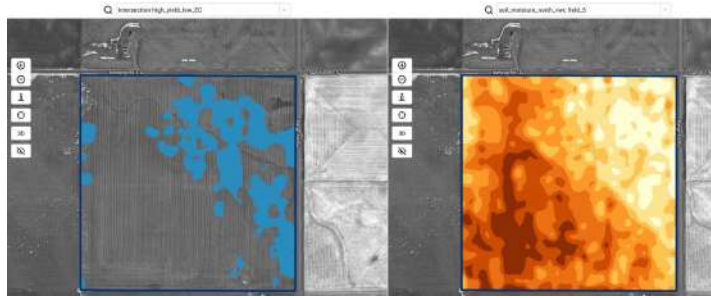
Planning of soil sampling (zonal & grid), VRA maps based on soil data

[Blog: Soil data analytics](#)

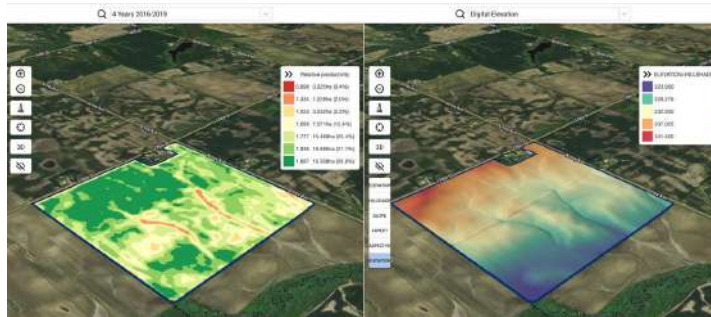




# Use-Case: Detection of Yield Limiting Factors



Yield / Soil Moisture correlation



LIDAR topographic analytics

# VRA Maps, Cost Calculation and Export

Create Variable rate application (VRA) maps by adding rates to any management zone map.

Costs calculation for Rx maps - know your costs per zone and per product.

VRA maps are compatible with most agricultural machines and can be exported as a **shapefile**, **ISOXML** or to **JohnDeere Ops Center**

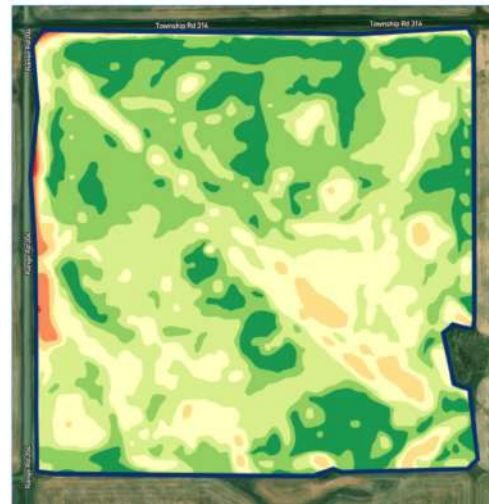


Description: Rates

Ensure the units you are using match the rate controller requirements:  
- sprays will use l/ha or gal/ac;  
- fertilizer, lime, etc. will use kg/ha or lb/ac.

Purpose: Fertilizing

Color	Area (ac)	N	P	Product
Red	0.91 (0.38%)	4	3	
Orange	1.47 (0.54%)	6	4	
Yellow	6.22 (0.88%)	7	5	
Light Green	22.43 (20.72%)	8	7	
Green	48.18 (20.77%)	9	9	
Dark Green	48.12 (20.78%)	11	11	
Dark Green	23.89 (15.21%)	13	12.5	
Total Product Volume		1 541.20	1 481.17	
Average Product Rate		9.85	9.46	
Price per Unit		0.21	0.34	
Cost per Product		323.65	503.86	
Total Product Cost		827.25		



# Zones Adjustments

Merge and split zones feature allows to make a few important things:

- Split polygons
- Merge polygons
- Draw strip trials
- [Hand-free drawing tools](#)
- Assign a polygon or a complete zone to another class [Blog: Merge and Split zones](#)



# Soil Brightness Index

[Soil brightness](#) works as a proxy for soil organic matter, sands, and salinity areas, and is becoming an increasingly important index for studying changes in soil conditions over time.

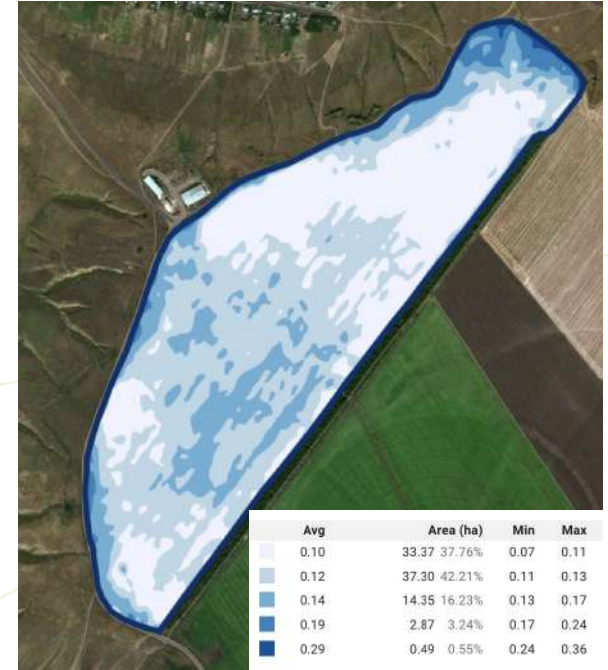
Relevant in measuring and monitoring soil degradation and soil erosion patterns.



# Stability Maps / Change Detection

Detect [the most changeable and stable spots](#) in the field during any period: the last 1-2 weeks or 1-2 months or even a couple of years (stability and variation of vegetation from season to season).

Coming: Combine with the latest image to see the positive or negative trends for every pixel.





# Intersection of Data Layers

Overlapping among management zones based on different layers to define dependencies between data layers, to identify the most interesting/valuable areas for extended analytics (scouting, soil, plant sampling), and to improve agronomic practices.

Example: Influence of high slope to low historical crop productivity.

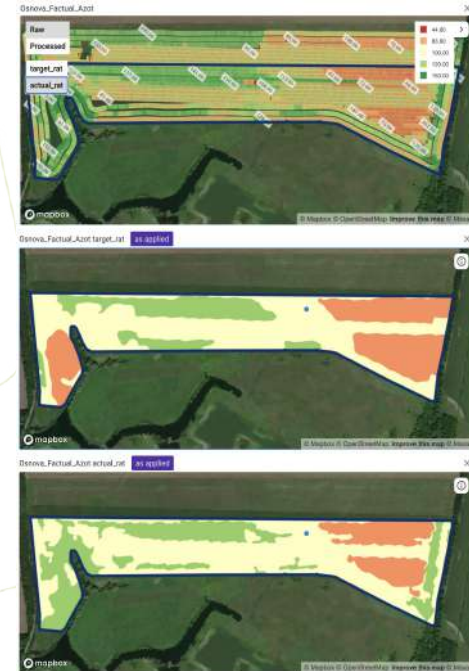


# As-Applied and As-Planted Data Analytics

Monitoring of the VRA execution results including a comparison of planned and applied maps.  
Useful for the calculation of ROI of Variable Rate technology.

Example: Comparison planned and executed VRA maps.

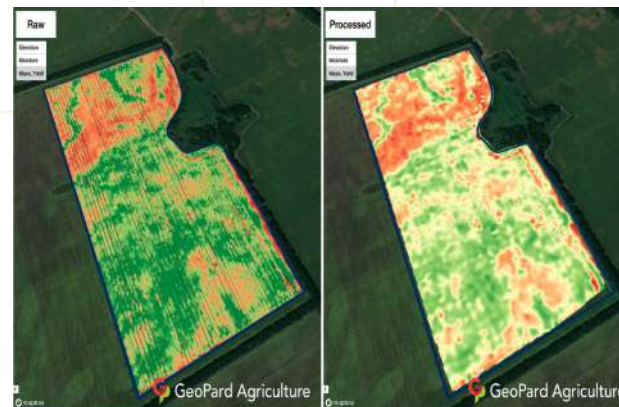
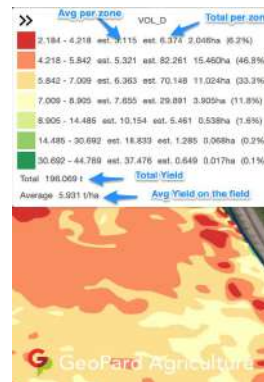
[Blog post - Accuracy of Rx vs As-Applied](#)



# Yield Data Analytics

- Batch Import of harvesting data
- Automated Processing: Cleaning & Calibration
- Visualization & Analytics of all attributes
- Statistics per attribute on subfield level (moisture, protein, oil, per field, zone, pixel)

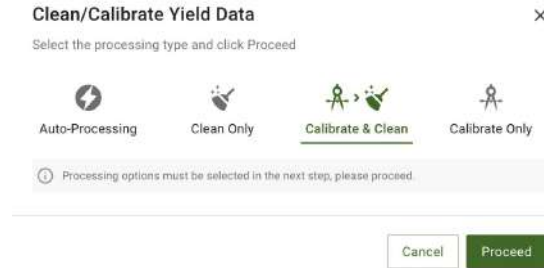
[Read an article in our blog](#)



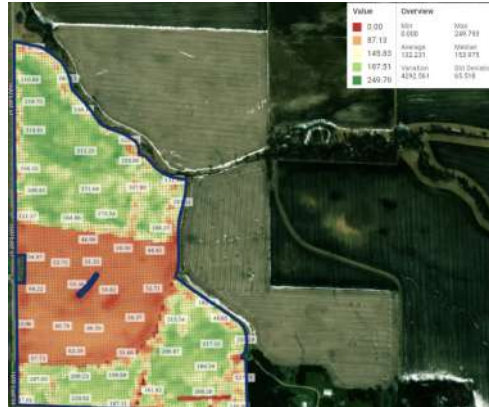
# Yield Auto-Cleaning and Auto-Calibration

- AI & Rule-based models enable automated yield data cleaning & calibration
- Automatically calibrated data from several harvesters
- Smart Cleaning of abnormal values and j-hooks

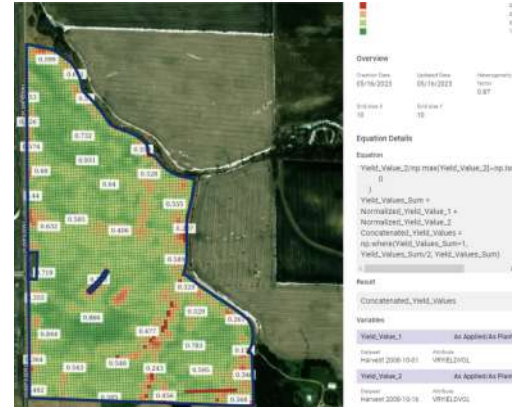
[Yield Cleaning Tutorial](#)



# Yield Aggregation, Cleaning & Calibration



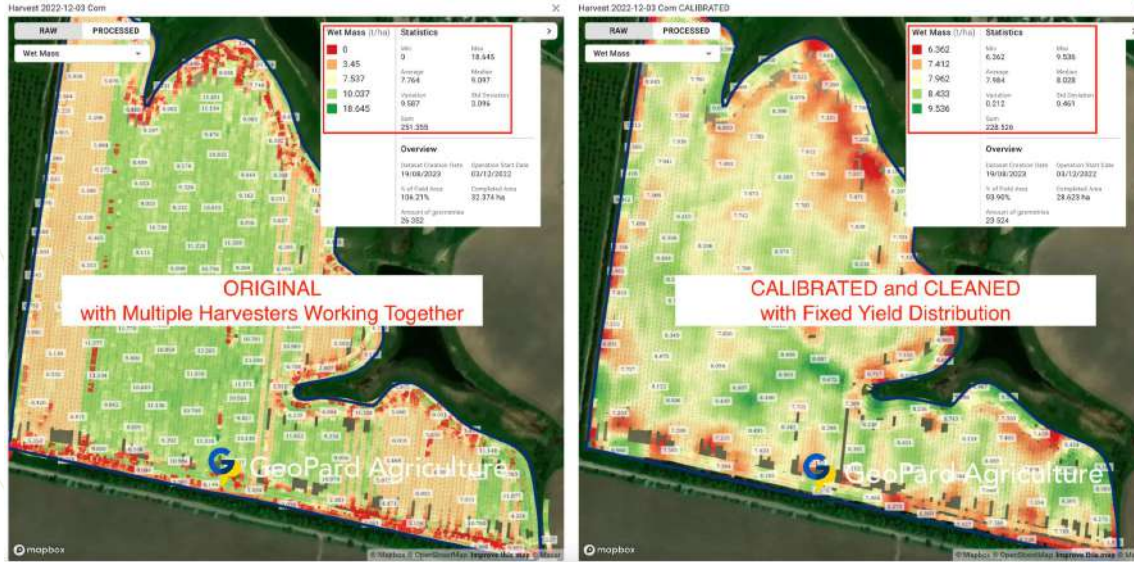
Merging 2 Yield Datasets,  
harvested in Different days



Combining and Calibrating datasets



# Yield Aggregation, Cleaning & Calibration



A.I. based automated yield cleaning & calibration

[Tutorial](#)

**Yield Data Legend**

Yield Range	Color
0.00 to 0.10	Red
0.10 to 0.20	Yellow
0.20 to 0.30	Green
0.30 to 0.40	Blue

**Map Data Summary**

Field Name	Area (Hectares)	Yield (t/ha)
Field 1	10.00	0.10
Field 2	10.00	0.20
Field 3	10.00	0.30
Field 4	10.00	0.40

**Map Labels**

Field 1  
Field 2  
Field 3  
Field 4

[illegible]

# Trial analytics Tutorial

# Field Trial Analytics Tutorial

 [Trial Analytics Guide](#)



Plan vs Yield: 120 Rate

Color	Value
Red	5.478
Orange	6.019
Yellow	6.561
Green	7.582

Min	Max	Average
5.478	7.089	6.395
Median	Variance	Std Deviation
6.49	0.157	0.396
Count	Sum	
744	11.004	

Creation Date	Updated Date	Heterogeneity Factor
05/06/2023	05/06/2023	0.088
Grid Size X	Grid Size Y	Control Area
5	5	1.861 ha

Equation Details

Equation **Numpy**

Yield\_Zone = np.where(Zone==3, Yield\_WetMass, np.nan)

Result

Yield\_Zone

Variables

Zone	As Applied/As Planted
Dataset	Attribute
28032023_N34_VRA	ZONE
Yield_WetMass	Yield Data
Dataset	Attribute
Harvest 2023 07 31 Winter Wheat CALIBRATE CLEAN	WetMass

# Evaluation of Efficiency of VRA

Separately evaluate each zone both statistically and geospatially, then compile the results.

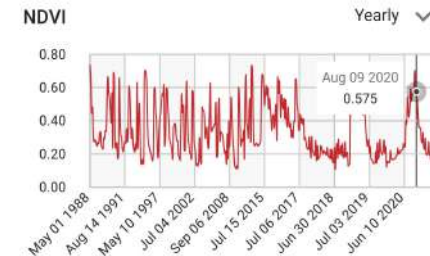
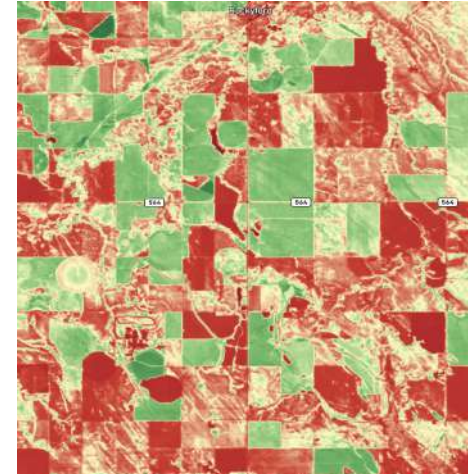


Links: [Trial Analytics](#)



# Current and Historical Imagery

- Support field and region level with indices: RGB, NIR, EVI2, LAI, NDVI, GNDVI, IPVI, GCI, RCI, SAVI, OSAVI, NDWI, WDRVI, SBI, NDMI, MSI, CCCI, MCARI, TCARI, MCARI/OSAVI, TCARI/OSAVI
- Time-series analysis
- Accurate cloud and shadows detection
- Automated management zones for each new non-cloudy image during the season with configurable parameters (index, number of zones, min size of polygon)
- VRA maps - your own rules for rates calculation
- Export pixel-based imagery data to utilize in further analysis/models
- Data sources:
  - Sentinel 2 (2015 - ...)
  - Landsat (1988 - ...)
  - Planet (2015 - ...)
  - Hyperspectral imagery (2022)

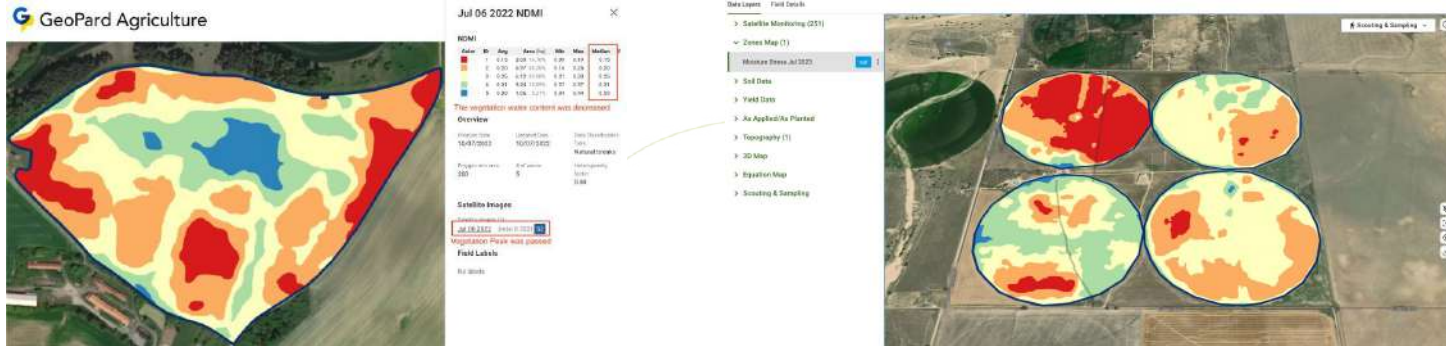




# Relative Soil & Grain Moisture

- The index determines vegetation water content. It is useful for finding the spots with existing water stress in plants
- Lower NDMI values mark the spots where the plants are under stress from insufficient moisture
- On the other side, lower NDMI values following the vegetation peak highlight the spots that are becoming ready for harvesting first

[More in blog](#)



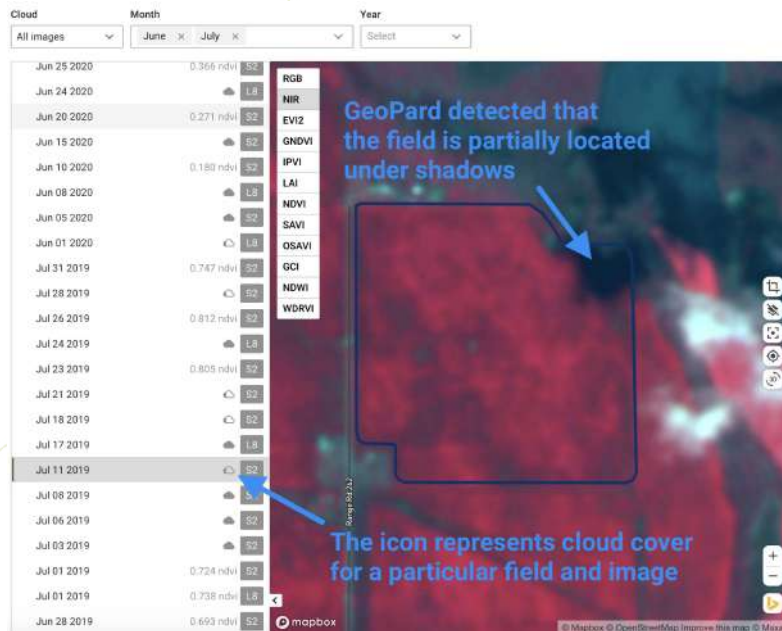
# Best-In-Class Clouds And Shadows Detection

GeoPard provides [high accuracy of clouds and shadows](#) detection using proprietary algorithms.

The algorithm's accuracy is about 95%, while competitors have ~80% accuracy.

Enables **Automation of Analytics based on Imagery**

Advanced image filter allows looking at partially cloudy and cloudy images to verify decisions.



# Planet Labs Imagery Analysis and Rx Creation

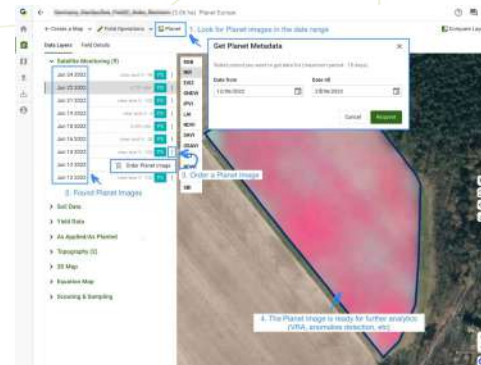
- Automated data processing includes:
- Clouds/shadow detection
- Data normalization and cleaning
- [Order imagery in 1 click](#)
- [Analytics products and VR maps based on Planet imagery](#)



Sentinel-2

VS

Planet  
Scope

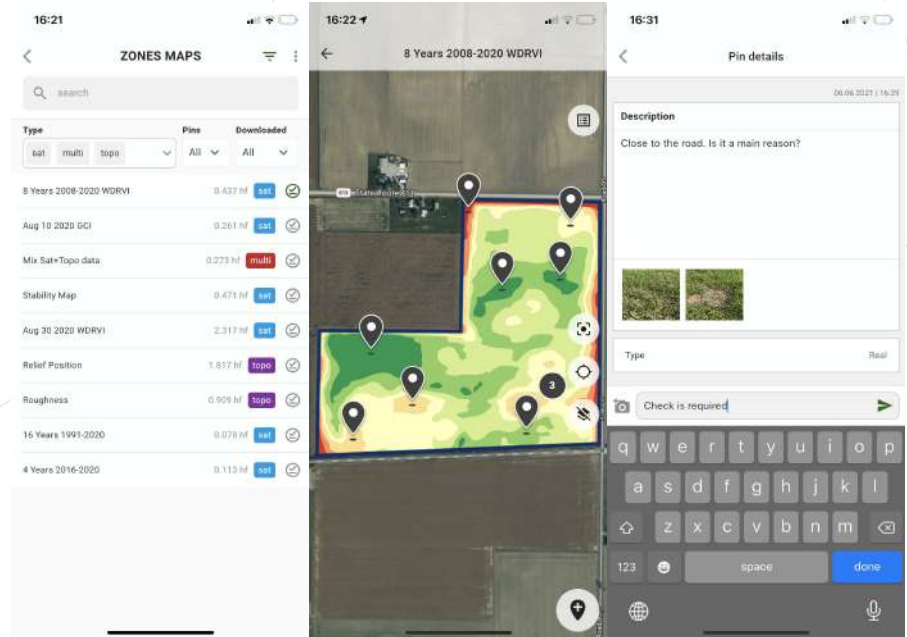


# Mobile Application

Sync between mobile and web apps

- Online access to all the field datasets and VR zones
- Offline zones and soil maps and scouting capabilities including planning and executed actions with comments and photos
- Platforms: IOS, Android. Mobile and Tablets
- While Label applications

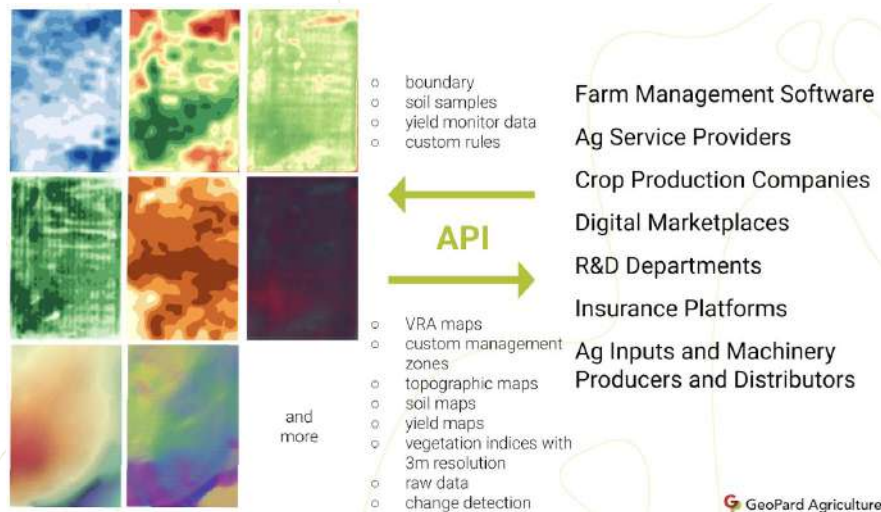
[Mobile apps tutorial](#)



# Powerful API and Automation

- All services are available for integration via API
- GraphQL
- OAuth 2.0 protocol
- Geodata: WMS, WFS
- The user interface for Administration
- User interface widgets for direct integration into other platforms

[Read more](#)





# Data Compatibility

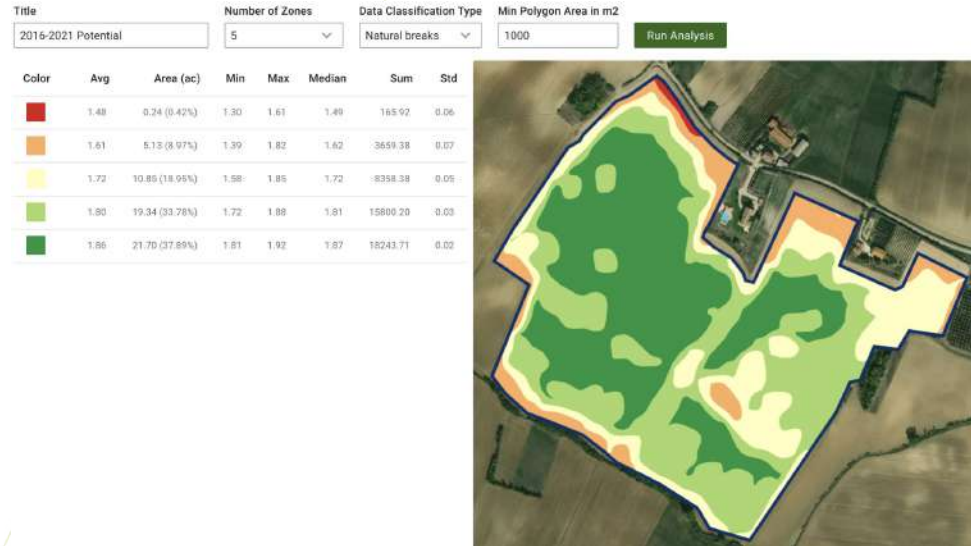
✓ Raven Slingshot and Viper Pro 4	Shapefiles
✓ Trimble	Shapefiles and Isoxml
✓ John Deere GS3 and GS4 data	<a href="#">GS3 details</a> , <a href="#">GS4 details</a>
✓ John Deere	MyJD Ops Center integrated, see details in our <a href="#">blog post</a>
✓ AGCO	ISOXML and shapefiles
✓ CNH	ISOXML/shapefiles supported
✓ Topcon/TAP	Shapefile supported
✓ Mueller	ISOXML/Shapefiles supported, <a href="#">details here</a>
✓ ISOXML	Claas, Topcon, Dickey John, CNH and others
✓ AgLeader Monitors	Shapefile support, <a href="#">details here</a>
✓ Amazone / Amatron	Shapefile, ISOXML, <a href="#">Amatron 3 details</a> , <a href="#">Amatron4 details</a>
✓ GeoJson	Generic vector data format. Is supported by most GIS programs including Esri ArcGis, QGIS. Available for API users
✓ Shapefile	Generic vector data format. Is supported by most GIS programs including Esri ArcGis, QGIS
✓ API / Widgets for integration of GeoPard analytics into other systems.	

# Statistics for Zones

Calculate statistics on zone level to determine how accurate the measurements are.

Statistical metrics:

- minimum
- maximum
- average
- median
- sum
- standard deviation



# Statistics for Machinery Datasets

Calculate statistics for every attribute collected by machinery during agricultural operations (Seeding, Fertilizing, Crop Protection, Harvesting) to determine how accurate the operation was executed and total applied number of agricultural input.

Statistical metrics:

- minimum
- maximum
- average
- median
- total sum
- standard deviation



# PDF Reporting

Export as PDF any data layer including Imagery, Yield, Soil, As-Applied, Topography, Zones and Equations

A report can aggregate up to 60 data layers

It includes stats per attribute

## 2. Zone Maps

### 2.1. 1988-2023 Field Potential

#### Overview

Creation Date 23 Aug 2023	Updated Date 23 Aug 2023	Data Classification Type Equal count	Polygon min area 500	# of zones 5	Heterogeneity factor 0.22
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#### EVI2

Color	ID	Avg	Area (ac)	Min	Max	Median	Std Dev	Sum
Dark Red	1	0.36	6.26 19.73%	0.35	0.47	0.36	0.01	1007.15
Orange	2	1.14	6.45 20.30%	0.35	1.80	1.29	0.47	3328.39
Yellow	3	1.76	7.23 22.76%	1.66	1.81	1.77	0.03	5656.17
Light Green	4	1.80	6.56 20.66%	1.79	1.81	1.80	0.01	5284.25
Dark Green	5	1.81	5.26 16.56%	1.80	1.82	1.81	0.00	4298.02

#### Data Layers

##### Satellite Monitoring

###### Index

###### EVI2

Satellite Images (28)

27 Jul 2023, 12 Jul 2022, 5 Sep 2021, 7 Jul 2020, 8 Jul 2019, 28 Jun 2018, 22 Jun 2016, 23 Aug 2015, 28 Jul 2014, 16 Jul 2013, 20 Jul 2011, 25 Aug 2010, 6 Aug 2009, 9 Jul 2007, 29 Jul 2006, 24 Jun 2005, 30 Jun 2004, 22 Aug 2003, 21 Jul 2000, 5 Aug 1997, 26 Jul 1996, 31 Jul 1995, 29 Aug 1994, 25 Jul 1993, 31 Jul 1992, 18 Jun 1991, 28 Jun 1989, 11 Jul 1988

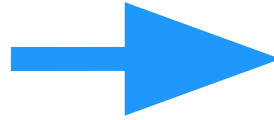
# Automated Heterogeneity index

Decide which fields to target first with precisionAg

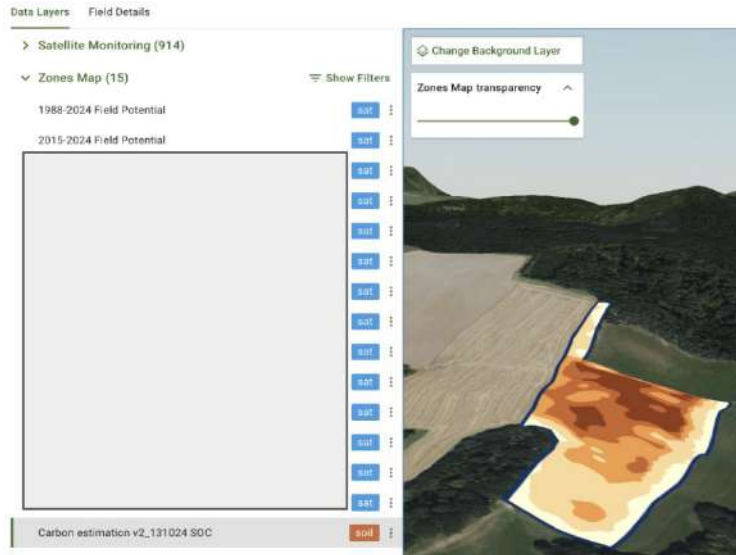




# Field Boundaries Delineation Model



# Soil Organic Carbon/Stock/Bulk Density Predictions



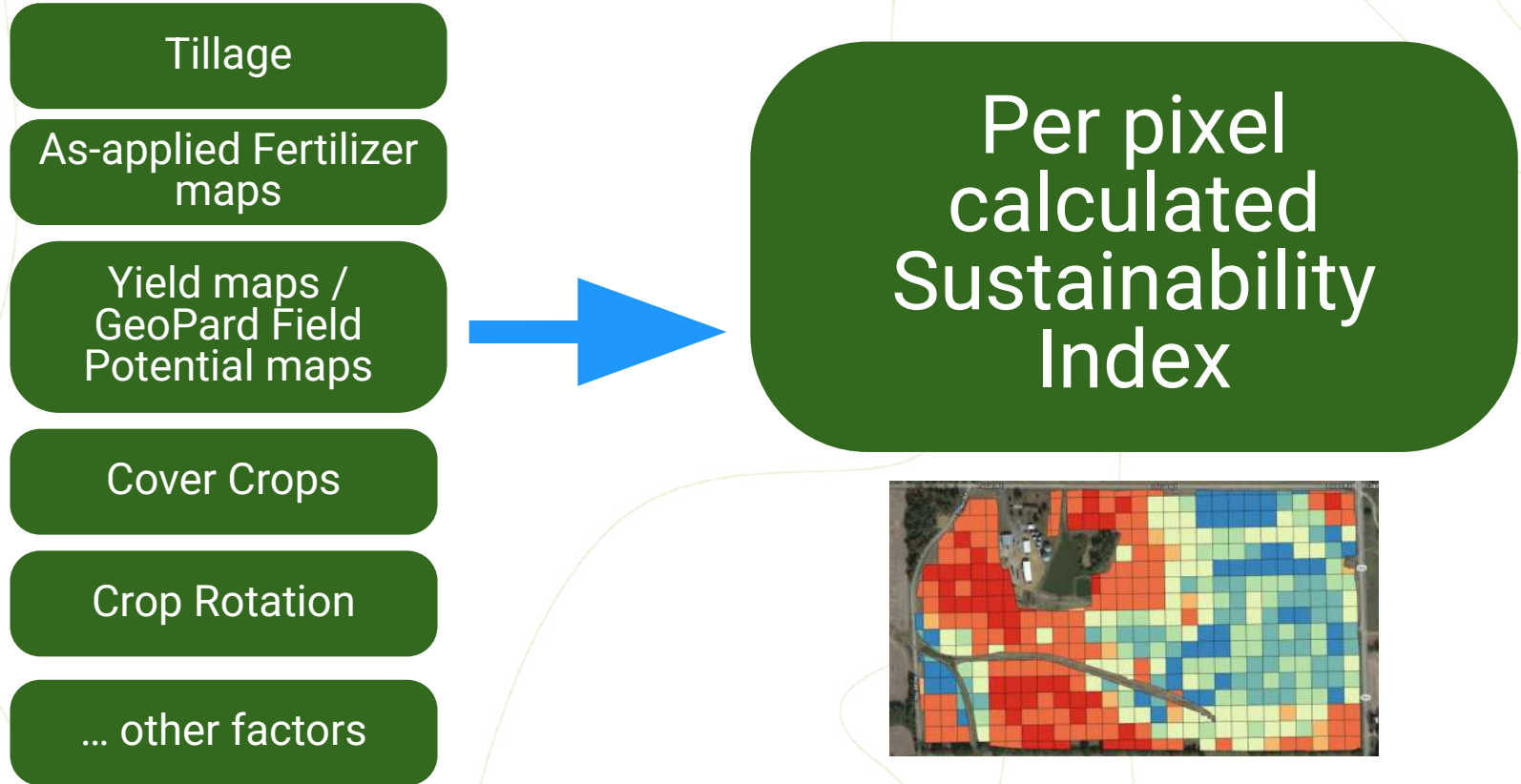
82% Accuracy, tested in  
the USA, Brazil, Germany  
and South Africa

# Farm View Module

Visually compare layers across fields



# Sustainability Index



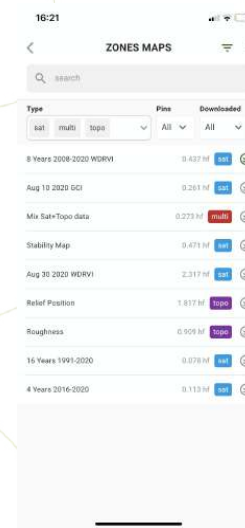
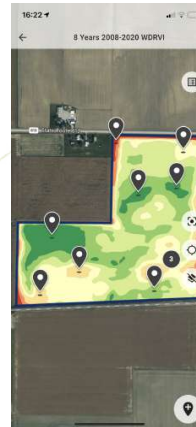
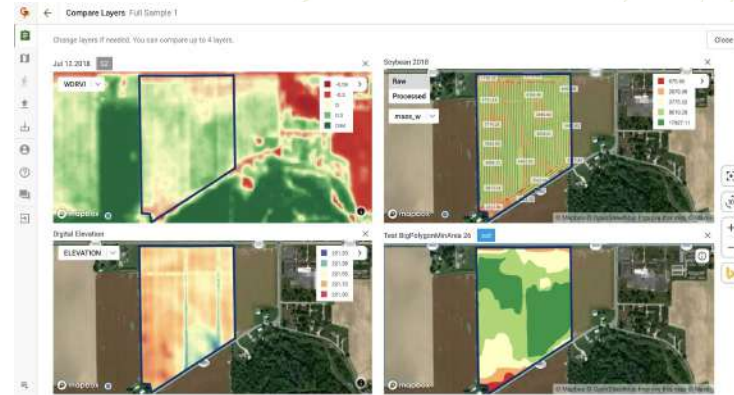
# Web, Mobile, API, Widgets, White-Label

**WEB:** Online access to all the features.

**Mobile:** Online access to all field datasets and zone. Offline zones and soil maps, and scouting capabilities including planning and executed actions with comments and photos.

**API:** All services are available for integration via API; GraphQL; OAuth 2.0 protocol; Geo data: WMS, WFS; User interface for Administration; User interface **widgets** for direct integration into other platforms

**White-Label & On-Premise** applications.





# Partner Program



## Partner Program

Join the GeoPard Community Partner Program and earn money by advising and bringing the solution to your network, promoting and telling how well GeoPard Agriculture works for you.



## Promo materials

We will provide you with marketing materials, videos, images, case studies, product demos and a dedicated affiliate manager to support you as our partner. Feel free to add information about GeoPard on your website and use your other channels for promotion.



## Clients

All clients who enter your referral code, follow your redirect link for registration or inform us of your recommendation will be identified as a referral sale. Clients receive a special bonus for registering with the referral.



## Reward

The program includes payouts for bringing users into GeoPard Agriculture. You get high commissions: 25% of the annual income for the first 2 years of each referral sale. Read more about Program Terms and Conditions [here](#).

[Become GeoPard Partner](#)

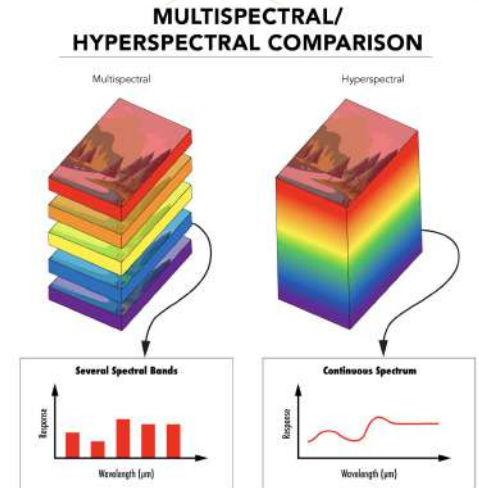
# R&D: Hyperspectral Imagery Analytics

GeoPard managed to successfully preprocess (clean, normalize), upload, calculate statistics, various indices and spectral signatures for HYPERSPECTRAL Imagery ( $\pm 250$  bands in comparison to  $\pm 10$  bands from multispectral imagery).

Use-cases:

- Remote detection of sustainable & [regenerative farming practices](#)
- Distinguishing different plant species with similar spectral signatures
- Identifying plant biochemical composition
- Quantifying soil vegetation
- Model soil agrochemical attributes
- Carbon estimations

This is the part of the [project partially funded](#) by the EU and the Ministry of the Environment of North Rhine-Westphalia



# Talk to Your Fields: GeoPard MCP

## CONVERSATIONAL AGRONOMY



### Talk to Your Fields

Ask natural language questions about field performance, profits and soil health.



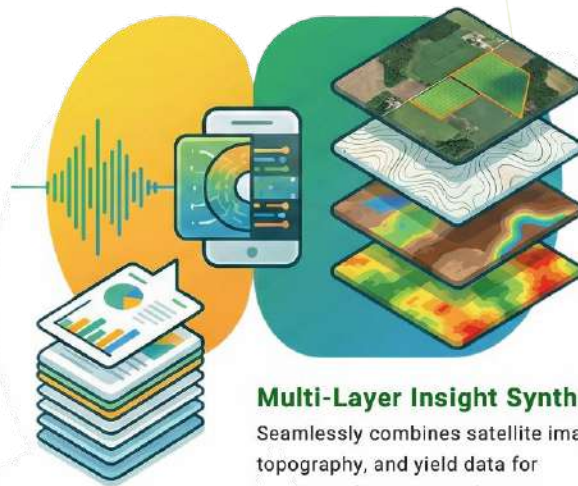
### Universal LLM Support

Access your data directly within ChatGPT, Claude, or developer environments like Cursor.



### Instant Custom Reports

Generate branded, actionable reports immediately through simple conversational chat prompts.



### Multi-Layer Insight Synthesis

Seamlessly combines satellite imagery, topography, and yield data for automated recommendations.

## 80% Reduction Manual Work

Automation of VRA maps and analytics significantly reduces manual data processing time.

## Enterprise-Ready Connectivity

Fully integrates with John Deere Operations Center and CNH ecosystems.



**CNH FieldOps**

# 2026 release: Yield Prediction Models

GeoPard deep knowledge of each individual fields allow us to create high quality Yield prediction models.

# 2026 release: Advanced Trial Analytics & AI Recommendations

Planned to be released in March 2026.

Including Trials drawing.



# 2026 release: Automated workflows

User Interface to set up per farm or account automated analytics

# 2026 release: Crop Records & Field Level calculators

GeoPard team is working on a simple cost tracking module, linked to smart recommendations.

# 2026 release: AB Lines, Drainage Lines

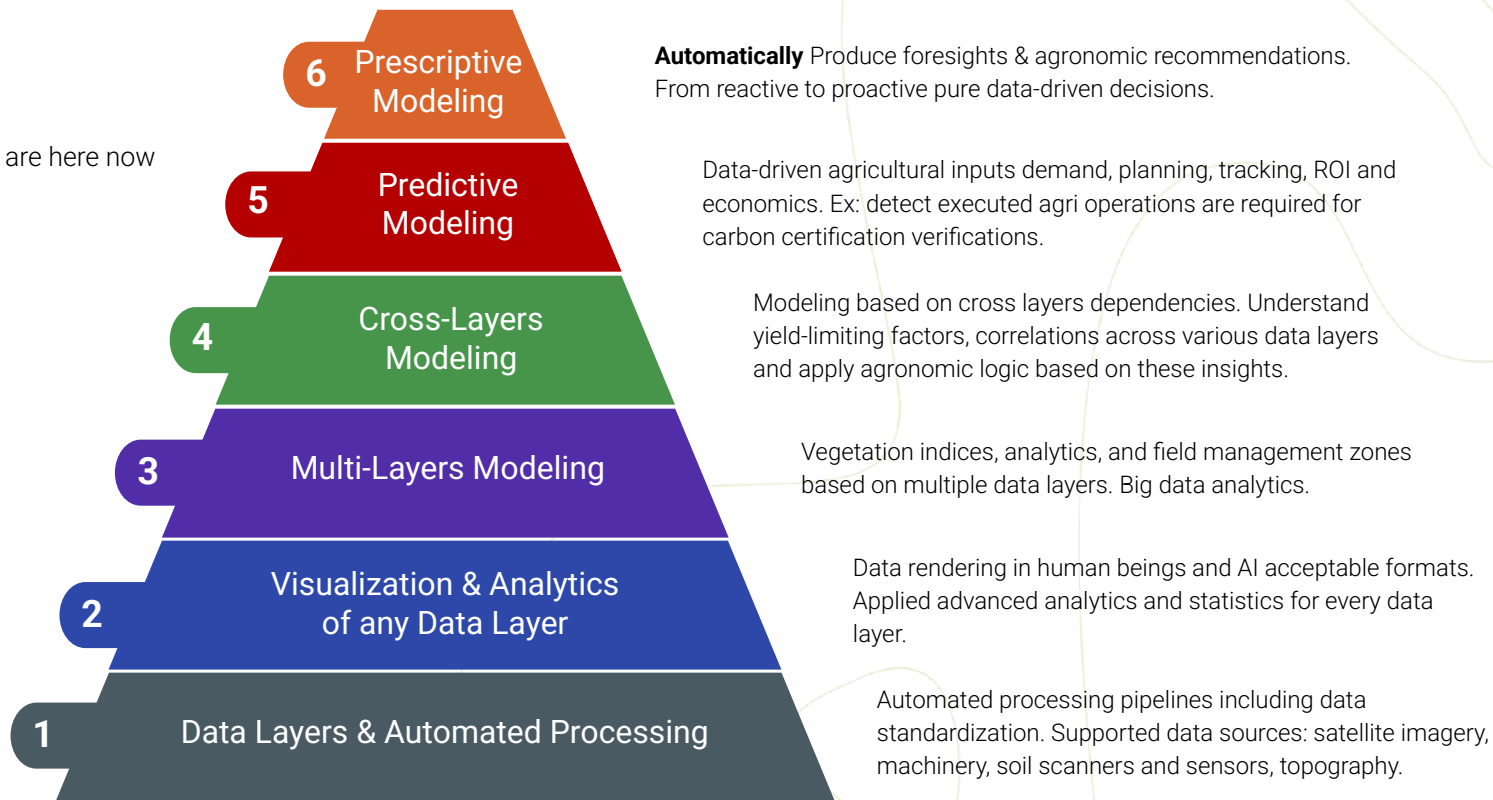
# Founders are domain experts



# Product Vision



We are here now





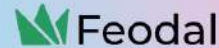
# Documentation

[docs.geopard.tech](https://docs.geopard.tech) - web, mobile, API

[John Deere Ops Center Integration](#)

# Top Ag Businesses & Research

## Trust us



RESEARCH & PROJECT PARTNERS:





**Thank you!**

Dmitry Dementiev, CEO, Co-Founder



email: [dmitry.dementiev@geopard.tech](mailto:dmitry.dementiev@geopard.tech)

Cologne, Germany

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