

Greenfield Hydroponics AgTech Division

Agriculture Kit 4.0

GHI Green System

<https://www.GreenfieldHydroponics.com>





Greenfield Hydroponics, Big Data and Precision Agriculture

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About Greenfield Hydroponics

Greenfield Hydroponics Inc., an environmentally sustainable company based in Clemson, South Carolina, is a leader in designing and developing high-tech hydroponic farming solutions.

With over a decade of experience in hydroponic forage production, we pride ourselves on being pioneers in this industry, delivering innovative products that promote sustainability and efficiency in agricultural production.

What do we do?

We are the pioneers in introducing Big Data technologies for the agri-food sector in Europe. We have developed a technology that allows us to connect all kinds of data sources to our Big Data platform, from sensors, agricultural machinery, irrigation systems, weather forecasting systems, ERPs, etc., with the aim of centralizing the data, processing it and generating value-added information that helps improve crop management for any type of farmer or agricultural company.

Our objectives

- ▶ **Help our clients take advantage of the data they have and generate it, in an intelligent way, to generate valuable information and help them make better decisions.**
- ▶ **Provide intelligent services and technology that facilitate the centralization and integration of data and allow knowing the status and needs of the agricultural business in a simple and intuitive way.**



Identity & Brand

The result is GREENFIELD AGTECH, a close brand but with international projection thanks to an abstract and short name capable of penetrating different markets and to the simplicity, strength, character and intelligence that emanates from the letters that make up the word and the whole of the graphic elements that make up the visual identity of the brand, including the logo design.

The GHI symbol is fresh, organic and therefore natural, as well as technological, organized and balanced, and it adapts perfectly to the functionalities that the crop management tool has and to the agricultural environment.

GHI is perceived as a contemporary brand, open to the world, of prestige and notoriety despite the little me that has passed since the start of its implantation phase, and all the aforementioned concepts have been perfectly integrated into the image we have created for this GHI Green System division with a great projection, which can be trusted for its high knowledge to help us "make better decisions



Challenges of Global Agriculture

- ▷ Increase \uparrow Production of 70% before 2050 (population 9,100 Million)
- ▷ fewer resources available (Water, energy and without increase in surface)
- ▷ Greater traceability and control of chemical products (demand of consumer)
- ▷ Climate change is a reality: Increased risks derived from climate change (frost, diseases, high temperatures, etc.)
- ▷ new competitors (Third World and emerging large exporting countries)



Data Agriculture - The Opportunity

- Precision Agriculture: 4.55 billion \$ 2020, with a growth of 12.2%
- The data farming opportunity is €15 billion over the next years(Monsanto)
- John Deere has redefined its strategy: "We are now a Big Data company"
- Large companies in the Agricultural Services Industry(John Deere, Monsanto, Adama, BASF, BAYER, Trimble, etc.)have marked Big Data as one of their 4 strategic pillars for the future



Solutions big data products for agriculture precision

GHI solutions are a family of products and services so that industry managers agri-food auxiliaries possess information and make better decisions about their businesses and improve their profitability.



Our technology / Our Core Technologies



clouds
computing



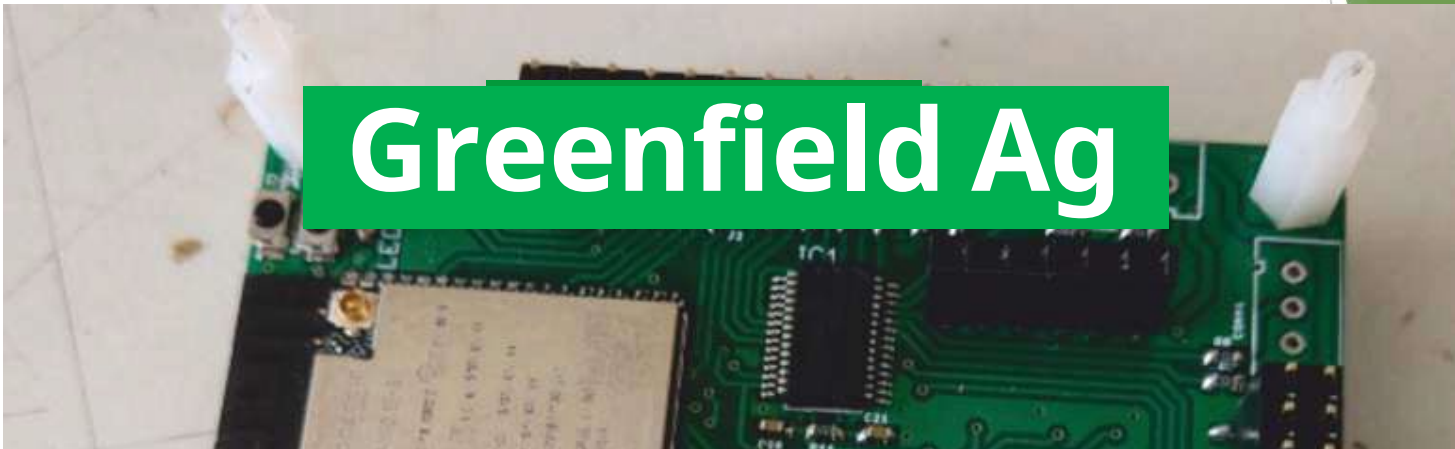
big data



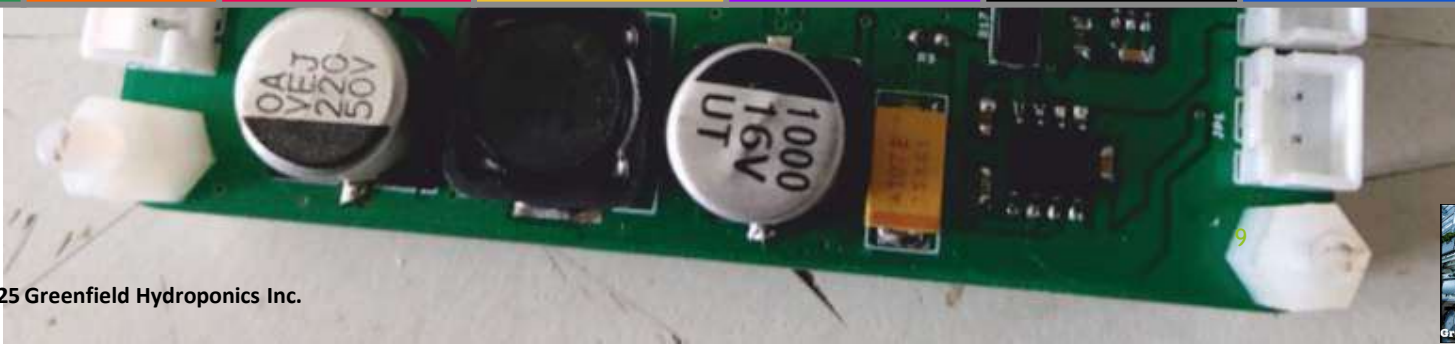
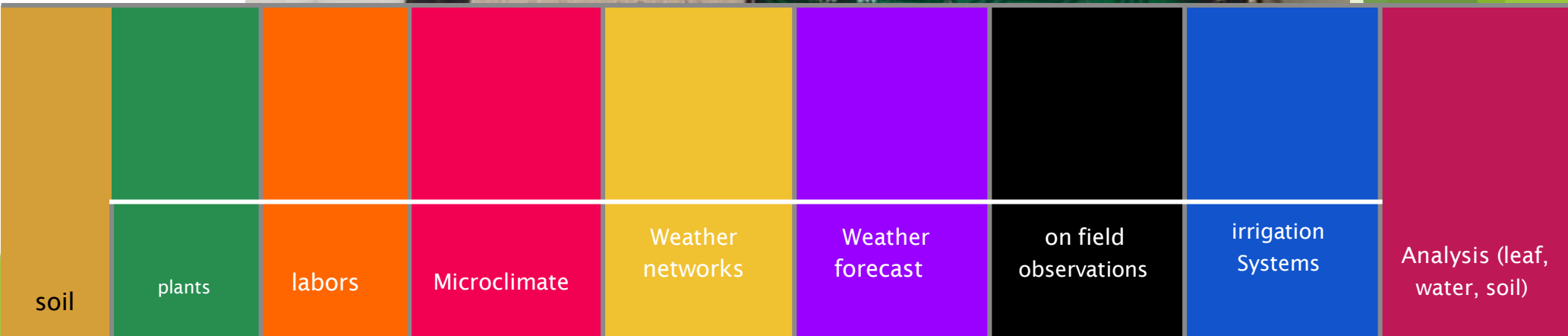
Sensorization



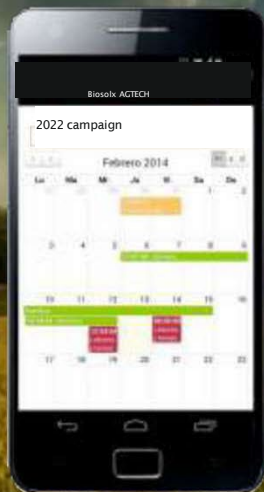
Our Vision- All the data in SmartAPP



Greenfield Ag



Greenfield Ag Products and Services



Need that covers

basic need of cultivation information and traceability

monitoring and identification of crop needs

advanced management of agronomic operations and operations, including operational forecasts and data centralization

GHI special solution for lawn management sports

Definition

Online field notebook, for control and registration of the tasks carried out, according to European regulations

Comprehensive monitoring system and Big Data analysis, which identifies crop management needs for improve decision making

Ad-hoc solutions, based on the Big Data platform of Agriculture of Precision, system integration and custom algorithm

Comprehensive monitoring system and Big Data analysis, which identifies crop management needs for improve decision making





BiosolX AGTECH

2022 campaign

Febreiro 2014

Lu	Ma	Mi	Ju	Vi	Sa	Do
27	28	29	30	31	1	2
			18:46:12 Trasplante			
3	4	5	6	7	8	9
			17:37:55 Siembra			
10	11	12	13	14	15	16
Siembra						
10:18:01 Siembra				08:00:00 Labores y tareas		
			12:34:54 Labores y tareas			
17	18	19	20	21	22	23

Field notebook
fully digitized

Greenfield Ag



Greenfield Ag Smart APP

GHI's data APP remotely enables control of the cultivation in the controlled environment.



Traceability

Easy-to-use food traceability tool



People management

Control the productivity of your employees



Production management

Have more precise management of your horticultural crop

Financial management

Have financial control over your fruit and vegetable production



Real time data on PC

Our software is a simple and complete online service to record field tasks and access weather forecasts and basic indicators, through the Internet and APP.



Objective: Allow the advisor/agronomist technician to manage several field notebooks at the same time, according to their specific needs.



Greenfield Ag

Precision Agriculture meets Big Data



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Greenfield Ag's App is the first Big Data solution for precision agriculture. Managers and producers can control the current and future status of their crops, the risks that affect them, and carry out data-based management from any device with Internet access.



Greenfield Ag Sensors is an innovative datalogger that collects data of the different microclimates of a plot. Thanks to their compatibility with different sensors, they can measure up to 24 different parameters related to the needs of the crop.



Greenfield Ag Soft is the cloud service that manages the data from sensors with external meteorological data and with data introduced by users to generate valuable information with the new Big Data technologies. Allowing the monitoring of data in real time and 24x7.



GREENFIELD AG'S SMART APP MONITORING AND CONTROL OF CROP SYSTEMS



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**It has several power models:
from solar recharging, batteries
to electric current.**



Greenfield Ag's Platform

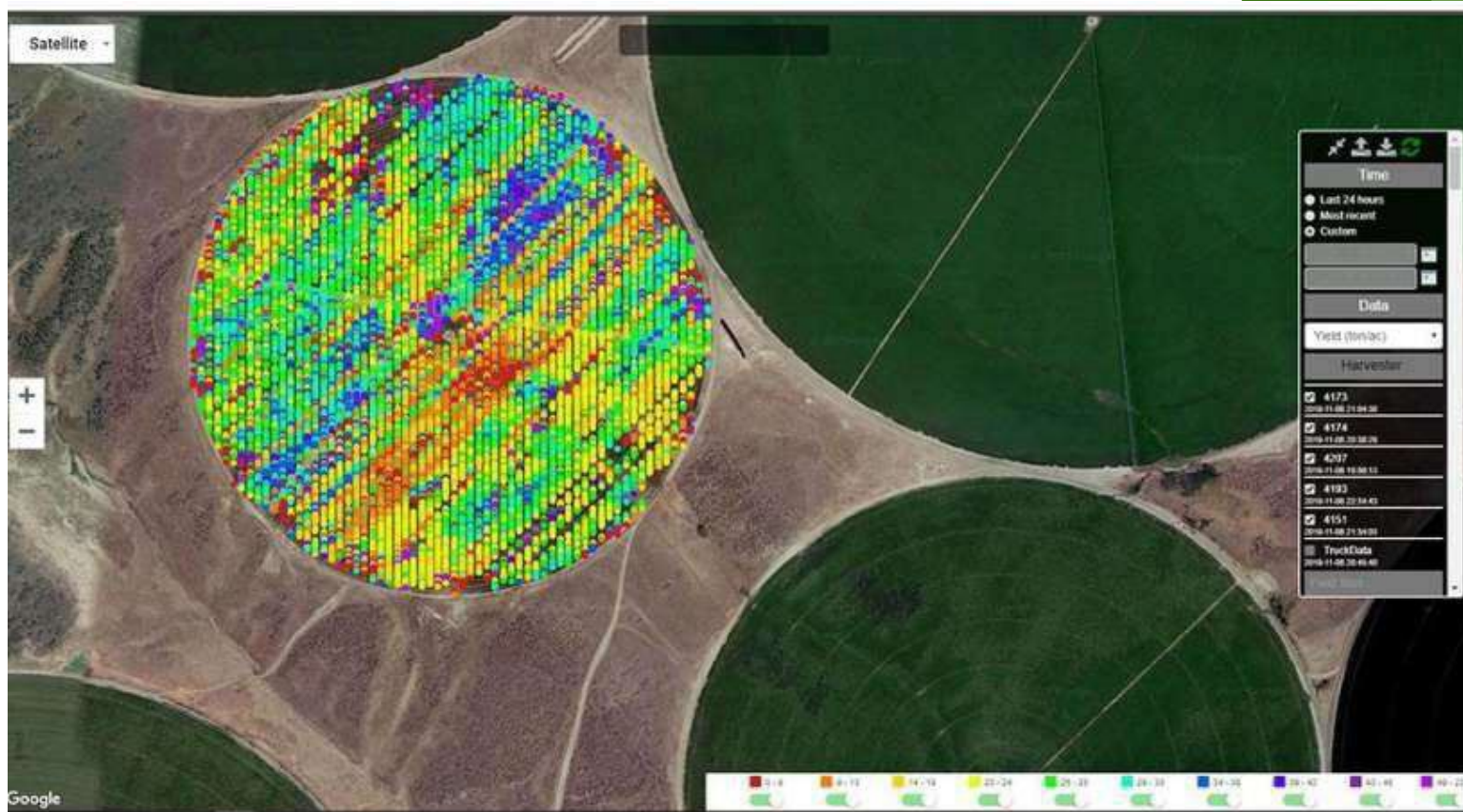


Greenfield Ag's cloud is a Big Data platform, where all manageable data is accessible to users, as well as its powerful algorithm engine.

From GHI cloud, users can follow the status of their crops in real time from any device connected to the internet, managing all the information according to their needs and those of their crops.



All data in the GHI cloud



GHI's cloud has a knowledge engine that allows it to process more than 100 algorithms and models related to the most important aspects of crop management. Each model can be customized, in addition to learning dynamically from the special conditions of each farm and crop, to make predictions.



In Realtime Data

- ▶ **Water resources**
 - ↻ Vapor pressure deficit
 - ↻ Different models of evapotranspiration
 - ↻ Personalized Water Balance Statisticians
 - ↻ Averages, maximums, minimums, modes, variance, etc. Disease and Pest Risks
 - ↻ Extensive crops (wheat, corn, soybeans, etc.)
 - ↻ Fruit and vegetables (citrus, tomato, lettuce, onion, garlic, etc.)
- ↻ Olive grove and vineyard
 - ▶ **Growth, Development and Production**
 - ↻ Degree days, cold hours, thermal integrals
 - ↻ Phenological, phenolic development
 - ↻ Production, capacity, etc.
 - ▶ **Meteorology**
 - ↻ Deviation of the prediction of several services depending on the microclimate
 - ↻ Weather forecast, frost, etc. for 7 days, 15 days, etc.



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Sectorization and sensors



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Benefits



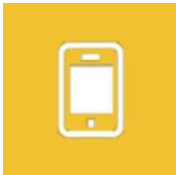
Smart platform.
Access to all information from anywhere and on any device.



Monitoring . Control the climatic parameters that affect your farms and plots thanks to your GHI Data.



Weather Forecasts
Know the real-time status of weather forecasts for your farms and plots, stay ahead of events.




Alarms
Schedule alerts and notifications by SMS and e-mail according to your needs and be informed of the climatic phenomena that occur.



Control and savings in irrigation
Know the water available to the plant in real time, carry out correct irrigation programming based on the water content of the soil in real time.



Task log
Control and record all the activities in a simple and fast way and with a click download the complete exploitation logbook to present to the authorities.



What Are Irrigation Sensors?



A critical feature of all irrigation sensors is that farmers can add them to their existing irrigation system. They are easy to install, and with regular maintenance, irrigation sensors can last for years and years, helping to reduce water use and save resources while increasing crop quality.



Our Kit



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