



# Reearth

The farmers official satellite service provider





# **First impressions count. Here is ours. But... who we are?**

Well, we are a satellite service provider focused on agriculture. To help farmers transition to a regenerative agriculture offering a 1:1 mentoring during the process with care to increase both production and profit of the farmers.







We also act as a link of solutions connecting the producers with other companies that can help transform their business into more sustainable ones. We main focus on the beginning will be the producers of natural fibers like cotton and hemp for example. So we can transform the fashion industry once for all.



# Satellite analysis



With our partner companies, we can analyze the soil and crop via satellite to provide useful data about the health of the production.



We can also determinate local dangers for the crop like wildfires localizations or illegal deforestation nearby.



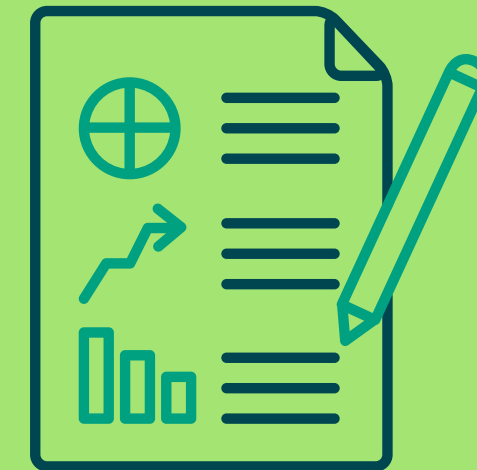
With the satellites analysis we can identify percentile of native vegetation, the eco-region, hydrography, soil slope, soil humidity, soil fertility desertification danger and much more.





## Satellite analysis

Once we have the data collected you won't even need to think what to do with it. We wouldn't leave you alone with the boring numbers. We will provide you with insights regarding the data, for example once you receive the data from the soil humidity we can inform you if the soil is lacking or having enough water, to optimize the irrigation system and save water and money.

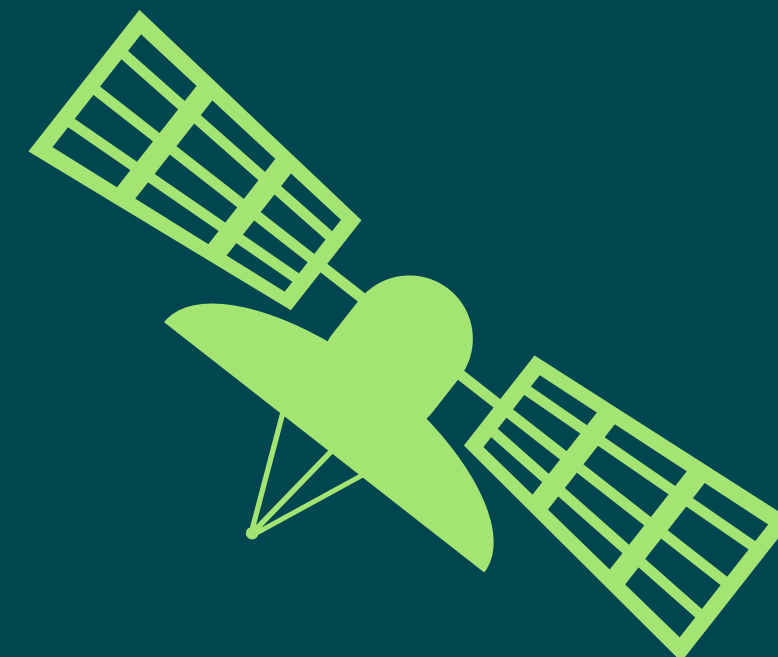
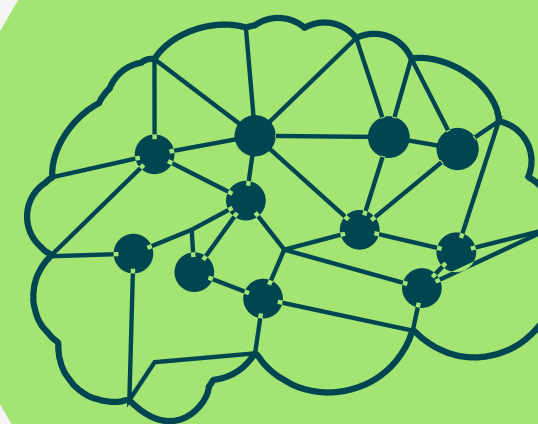






## Satellite analysis

Using of AI combined with satellite imagery; we can read the image and remove information from your soil and crop like infestation of pests and many other forms of monitoring the crop and soil to optimize the production and the farmer's resources.







## Satellite analysis

Once the farmer is subscribed to our program it will gain access to all our monitoring tools with one condition, they have to be engaged with our mission, because we will offer alongside the insights,

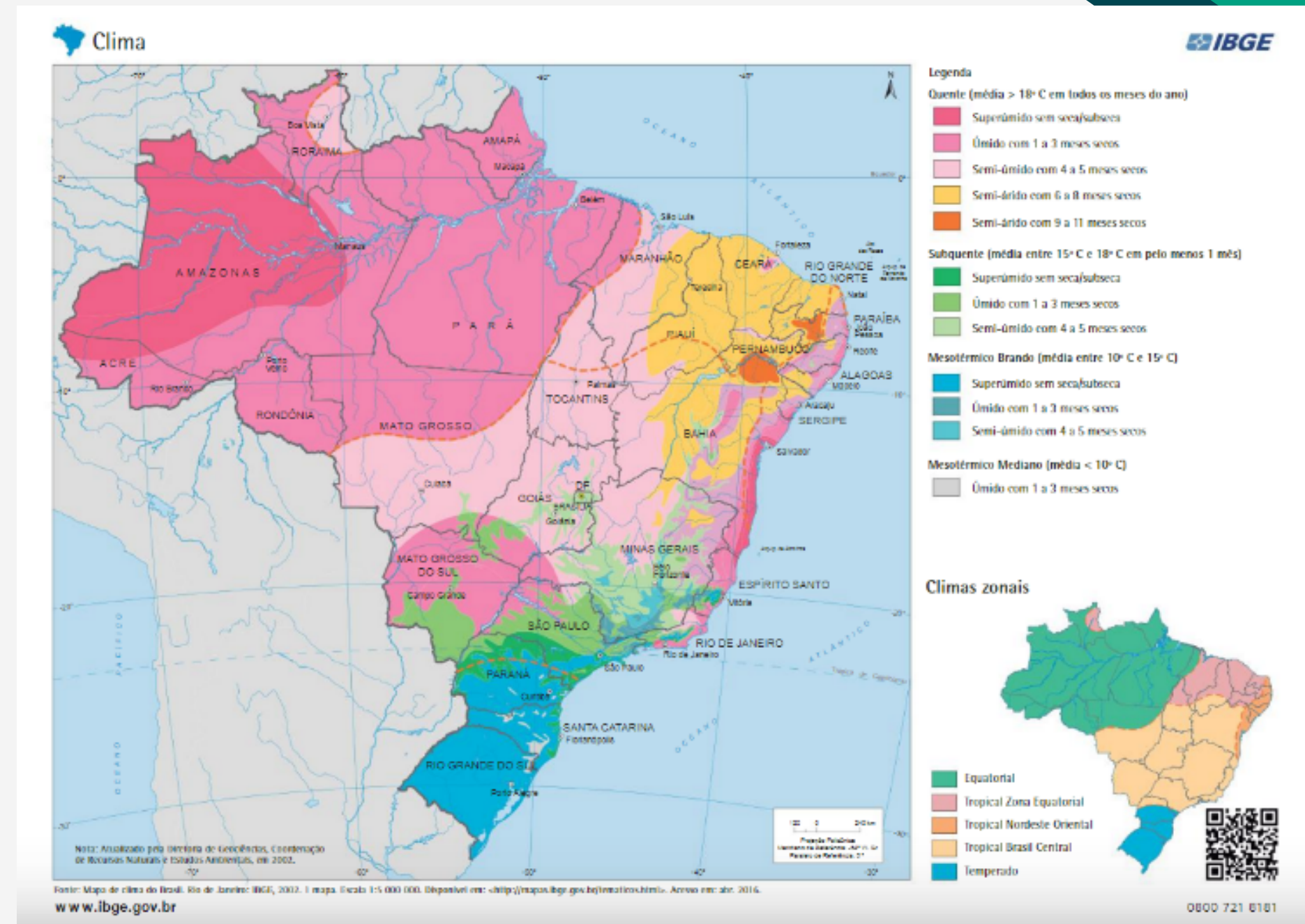
**advices and 24/7 mentoring on how to transition to a regenerative agriculture.**

Proving that is possible to conciliate profit and production with sustainability especially in the natural fibers productions.



# The dangers: Desertification

Caused by human activities and climate variation. This advanced stage of land degradation holds all arid and semiarid lands hostages of the danger to lose their production capacity. Just like the northwest of Brazil can be turned into a desert. The pressure put through agriculture in vulnerable lands can expel the population that currently live on them.





## The dangers

Desertification is a worldwide problem, affecting all the producing countries, happening when the soil chemistry and hydrology is changed. A rise in global temperatures is likely to accelerate the process of desertification as evaporation rates increase. But now imagine combining the deserts on the global south we already have, if Brazil joins the list, a relevant percentage of the global south can lose their production capacity





## The dangers

You can see the weight of desertification, but it isn't our only danger:

Human caused  
climate changes

Water scarcity

Droughts



Sea level rising

Food system collapse

Growing population





**We need to mitigate this effects in our society...**

**That's why we are starting by who is making the most damage and its also extremely necessary in our daily life.**

**The Cotton!**



## **We need to mitigate this effects in our society...**

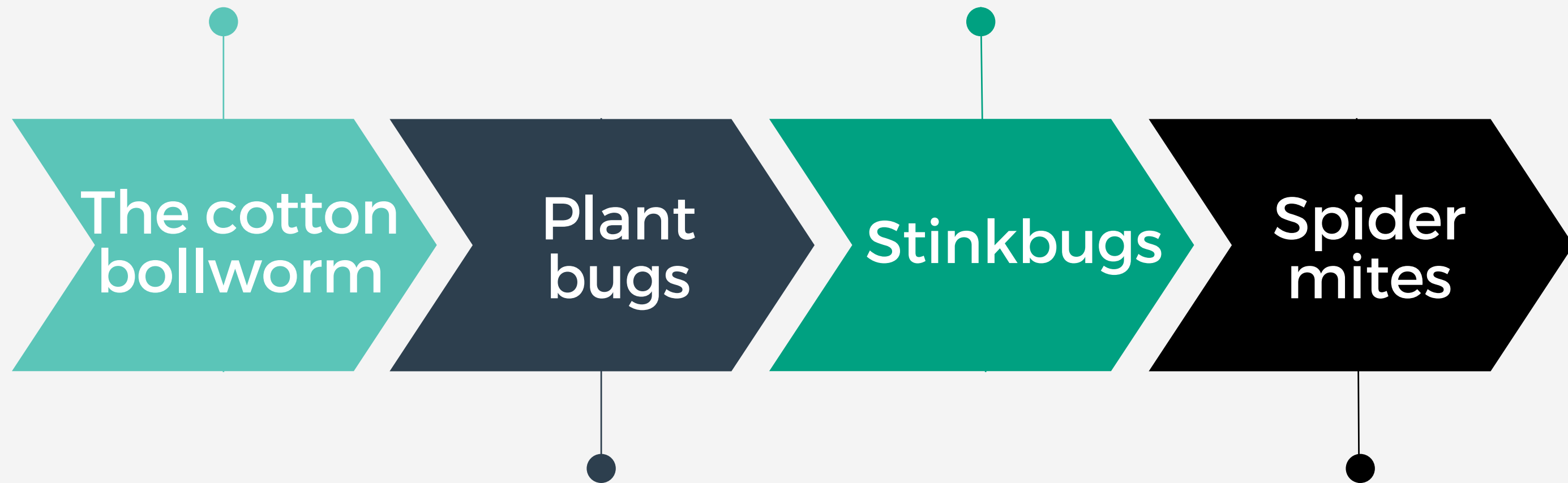
That's why we are starting by who is making the most damage and its also extremely necessary in our daily life.





## Why Cotton?

The cotton production is delicate; the crop is very sensible to climate variations and to it is susceptible to a wide range of insect pests. Among the most destructive are:



## Why Cotton?

Regardless of the pest, insect pest management is the highest variable cost associated with production of the cotton crops that is why the production of cotton is responsible to consumes more pesticide than any other single crop.

So, even though cotton is grown on only 2.5% of the planet's agricultural land, it accounts for 16% of all insecticides used worldwide.



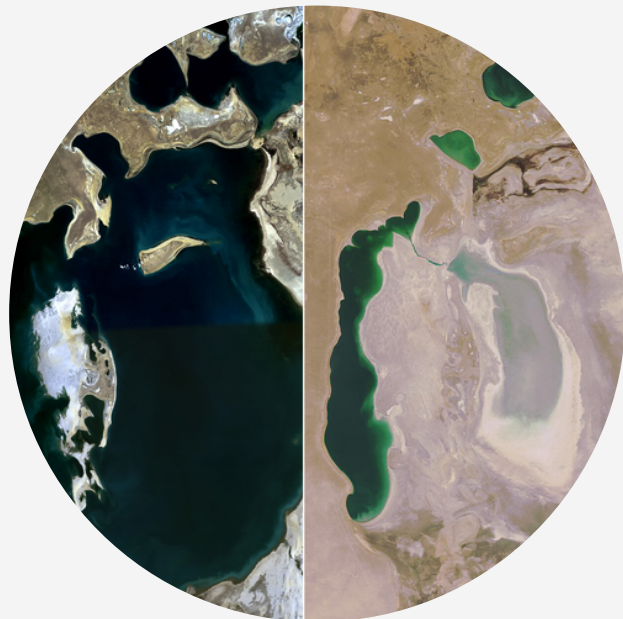
## Why Cotton?

This intense use of pesticides is responsible for a large water contamination and for causing diseases like cancer, infertility and birth defects in the nearby population.

Not enough it contaminates water but the heavy irrigation system of cotton production is responsible for the drought of rivers and severe impacts on major ecosystems such as the Aral Sea in Central Asia, the Indus Delta in Pakistan and the Murray Darling River in Australia.

## Why Cotton?

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## **The Indu river case**

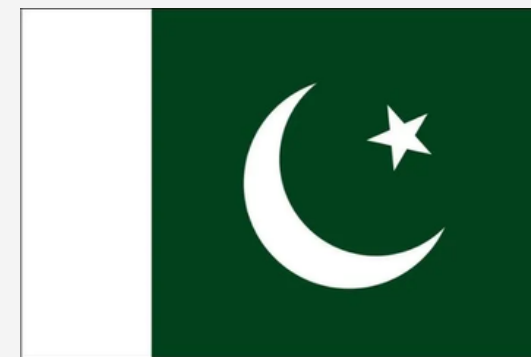
**Where the cotton crops use 97% of the water of the Indus River.**

**But also, Half of the textiles are made of cotton, and its production is responsible for the income of almost 250 million individuals and for 7% of labor in developing countries.**



## Cotton business

Annual business revenue stimulated by cotton in the U.S. economy exceeds \$120 billion, making cotton United States' number one value-added crop. Being important not only to USA but to Brazil, Pakistan, India, Australia and China. That are the leading cotton producers' countries.







## How to mitigate the dangers?

That is why we preach **regenerative agriculture** inside the fashion industry.

Because with its collections of scientific based practices that cannot only mitigate but get to the point of revert the crisis.

The ideal is to have regenerative agriculture in **every** sector, and we will be in charge of the fashion industry change.



## **How to mitigate the dangers?**

The deforestation empowers climate change as the carbon dioxide stored in the plants is released. Not only we will offer a way to measure how much greenhouse gases (GHG) gases have been released as we will offer a solution through regenerative agriculture where the new plants inserted in between the cotton crop will help the trap the carbon back into the soil.





## **How to mitigate the dangers?**

Regenerative agriculture also helps reduce the risk of floods, through higher nutrient use efficiency (NUE) increases crop yield and optimizes land use efficiency, while improved water use efficiency reduces the stress on freshwater reserves. That could be potentially dangerous to the cotton, hemp and other natural fibers.



# Regenerative Agriculture

The soil of a regenerative farm collects vital nutrients along the time, differently than conventional farms that only degrade the soil with time. By improving soil fertility through increased biomass production, thereby preventing soil degradation.

More diverse rotation and reduced pesticide usage supports biodiversity on farms while, in some cases, higher crop yields mean more natural habitats can be protected rather than cleared for agriculture.





# **Regenerative Agriculture**

Regenerative agriculture improves long-term farmer livelihood through reduced costs, improved crop yield and crop quality, and greater resilience to market volatility and extreme climate events. It also opens new green revenue streams for farmers, such as rewarding them for carbon capture and storage in the soil.

Less chemical and pesticide inputs on regenerative farms and ranches means less chemical pollution impacting ground and surface water, and in turn, a reduction in harmful algal blooms and drinking water pollution.



## **Regenerative Agriculture**

According to the World Economic Forum, regenerative farming on 40% of the world's cropland would save around 600 million tons of emissions. This is around 2% of the total, equivalent to the footprint of Germany. In addition, in order to limit climate change to 1.5 degrees, it must be scaled faster, and move from covering around 15 % of global cropland today to 40 % by 2030.





## **How will we do it?**

There isn't a solution fits for all case scenario, every farm in different climate and locations will request different implementation of regenerative practices. Moreover, why we know that even for a regenerative farmer, the job is not easy is that we will offer the best analysis possible to support this delicate moment of transition.







## **How will we do it?**

Therefore, we offer two solutions that combined are a powerful accelerator and protector on the moment of transition

**Satellites analysis of the soil and  
crop**

**Mentoring on transitioning to a  
regenerative agriculture**

Therefore, to create a more sustainable agriculture a technological footprint will be the innovation and that's where we act, democratizing part of the technologies needed in this process.



## How will we do it?

Considering only Brazil, where we intend to start operations there are 5 million farmers where 77% of these, are familiar agriculture, the size of their markets can vary a lot, some families can't even compete with the giant farmers that control the markets, so we will help them to become more competitive and technological.





## **How will we do it?**

Furthermore, the owners of massive crops need constantly to relay on technology to become more productive using less amount of lands, optimizing the plantation. And we will help them to access the best of data available about their lands so this process becomes easier and assisted.

Connecting the soil to satellites, we will be able to read many dangers to the production that escapes the eyes of the farmer like wildfires locations, soil humidity, changes in climate, CHIRSP analysis, soil temperature, early pest control, natural disasters, fertility, desertification risk, and much more, creating security to the farmer, and transforming data into production.





## **How will we do it?**

The idea here is that every farmer worldwide can use of our platform to request analysis for their soil and gain access to the data, we will turn the data into insights and promote them on the app so every farmer will have a virtual assistant while they transition to a regenerative agriculture



## How will we do it?

The analysis from their soil works via satellite, once on the app an analysis is requested we will send it to our partners like the **Jiahe Info Company**, that will use of satellite imagery combined with a AI that reads the soil and sends back a report on all the soils needs and characteristics required.





## **How will we do it?**

Moreover, our big innovative difference it's our permission from GHGSat to use their satellite that is capable to read how much greenhouse gases (GHG) a region, or building is releasing. A necessary data as the carbon footprint of cotton is extraordinarily high: between 2 and 4 tons of CO<sub>2</sub> per hectare. Globally, cotton cultivation accounts for 220 million tons of CO<sub>2</sub> per annum.







## **How will we do it?**

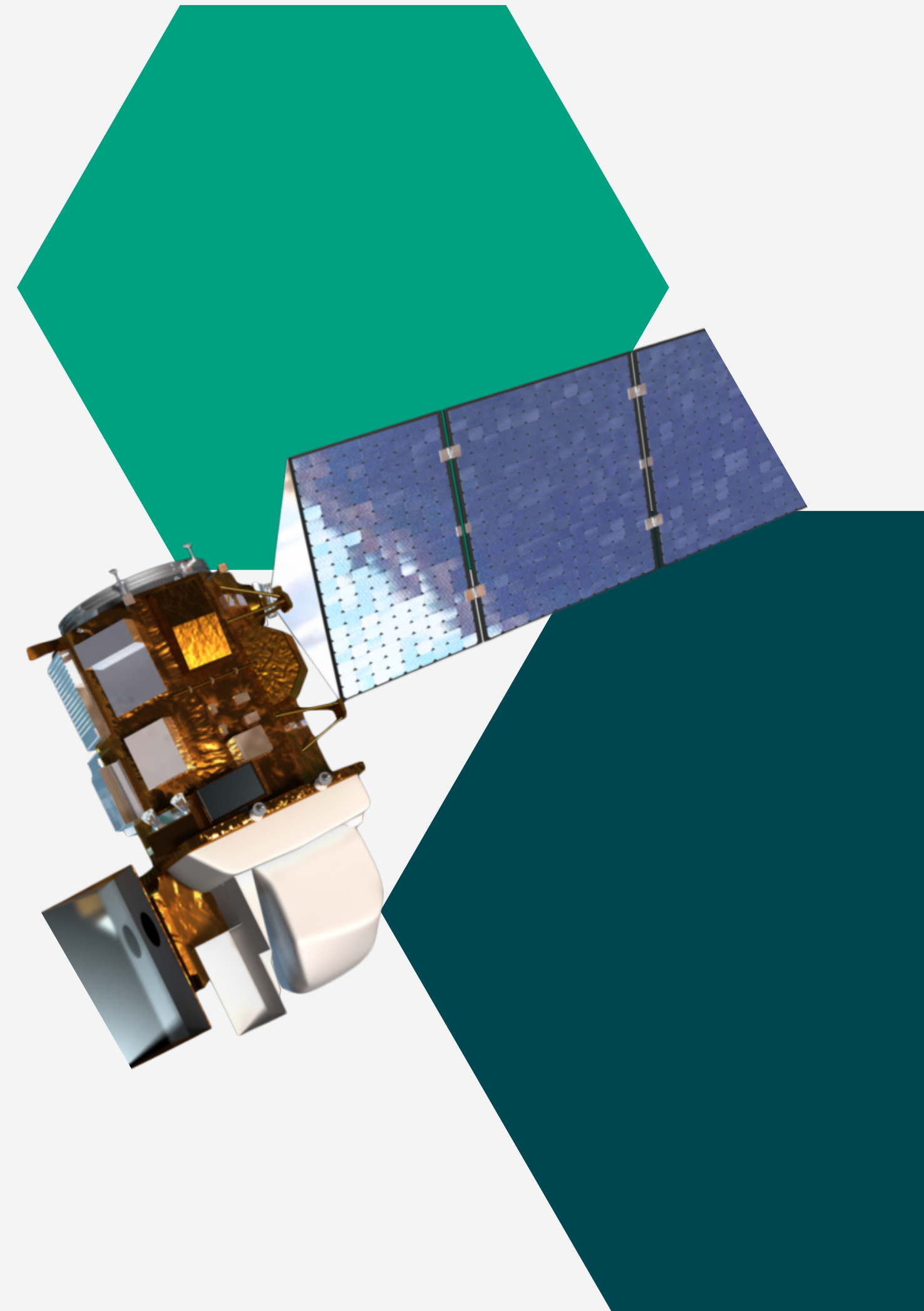
With this unique technology, we can work even on animal agriculture controlling the levels of methane, as animals are integrated in many technics of regenerative agriculture and including the farmers in the carbon global market.





## **How will we do it?**

We will also be using the LandSat-8 which data is already made available, especially about Brazil where we can protect Amazon rainforest, and help turn small producers competitive and the big ones into sustainable.





## **How will we do it?**

As said in the New Forum Report, on EU emissions could be lowered 6% a year if only one-fifth of EU farmers were supported to transition to net zero, boosting soil health and incomes by €2-9 billion. So we realize that money is not enough to motivate farmers to transition to a regenerative agriculture, but offering 1:1 tracking and solutions delivering we can turn regenerative agriculture into a reality.





## **How will we do it?**

Our solutions will cover specific approaches to each landscape and climate, a powerful AI will need to be constructed keeping tracking on the farmers progress as they transition, and we will create a step by step transition so it can be soft and resilient, helping achieve net zero by 2030.



## **How will we do it?**

Rearth and the farmers will operate through cooperation; we will democratize the access to high technology solutions in agriculture. Where the farmers once subscribed to the platform will pay a monthly amount to have access to the satellite and AI analysis of their soil and crop.



**Rearth**



## **How will we do it?**

**An amount that is far from corresponding to the real price of a satellite service. We will operate like an insurance company, especially because once the analysis is done, the farmer won't need to perform a new one so soon, as they will be busy transitioning to a regenerative agriculture and putting in practice the insights from the previous analysis. And the satellite analysis of the same thing needs to be done in a time apart otherwise the same data will be collected twice. What keeps the farmers as a stakeholder, and income provider for the company while they get the help to transition to a regenerative agriculture.**





## **How will we do it?**

Beyond the motivation to support the ecological revolution and regenerate the planet, there is an economical benefit in transitioning to a regenerative agriculture.

Due partially to improved soil health, the overall health and yields of their crops improved because of their regenerative farming techniques.





## **How will we do it?**

Cost-savings from reduced use of chemicals, including fertilizers, herbicides and pesticides, and antibiotics, had a positive impact on farm and ranch profitability. On the macro-level, regenerative agriculture has the power to drive rural economic development. There is a concept of regenerative economies that goes beyond the farm and includes the larger food supply web.

The idea of regenerative agriculture is to generate life and wealth across the connective tissues of processing, infrastructure, distribution, and supply of food. Build farmer's income from environmental outcomes such as carbon reduction and removal.



## **How will we do it?**

**We need a well-functioning market with a credible system of payments for environmental outcomes, trusted by buyers and sellers that creates a new, durable, income stream for farmers.**

**A way to make sure to protect both production and profit is through including new key performance indicators into the process of evaluating the socio-economic situation of the farm.**





## How will we do it?

### Being it...

- ROI (return on investment) on a yearly basis.
- NPV (net present value)
- Revenue of each marketed commodity
- Production costs (\$/year)
- Human Workload
- Diversity of farmer income
- Youth empowerment
- Women empowerment
- Community benefits





## **How will we do it?**

The solution serves directly the farmers, and small or big producers worldwide, but the consequences from our solution are going to affect directly in a short and long term everyone, but especially the impoverished that already are the ones expected to be the most affected by the climate crisis, and food and water crisis



## **Success case:**

Created by the WWF, the better cotton initiative partners with farmers committed to minimize the harmful impact of crop protection practices; use water efficiently and care for the availability of water; care for the health of the soil; conserve natural habitats; care for and preserve the quality of the fiber; and promote decent work. Farmers that adopt these best management practices are growing healthier cotton, with less pesticide, fertilizer and water overruns.



better<sup>TM</sup>  
cotton





## **Success case:**

For instance, 97% of the water in the Indus River goes towards producing crops like cotton. Now over 75,000 Pakistani farmers have reduced their use of water by 39 per cent, helping reduce pressure on the Indus River. In addition, the Better Cotton Initiative helped these farmers reduce pesticides by 47 per cent and chemical fertilizer by 39 per cent across over 300,000 hectares in 2012. Yields are just as good, and there is an average 11 percent increase in income compared to farmers who are still using conventional practices.



## Expectations

We will operate by the signature model, every month the farmers will pay a relatively low cost of operation expected between 80 and 100 USD to access the platform.



## **Expectations**

Once they have the access they will send to our AI the details of their lands, like size of land, type of cultures, technologies involved, and more and then the insights on how to expand, the threats and opportunities will be started and received monthly.

On the same app, the farmers will be able to request the analysis via satellite of their lands, so they can improve the crops and transition to a regenerative agriculture.



## **Expectations**

Once the request was made, we will send the respective analysis for example, use and occupation of the land, to our partners companies responsible for such analysis.

Our solutions is attractive because it's the one that provides ongoing help with a purpose to transition to a more efficient and money saving technic, besides enabling the farmers to access high technology solution for a small price.



## **Expectations**

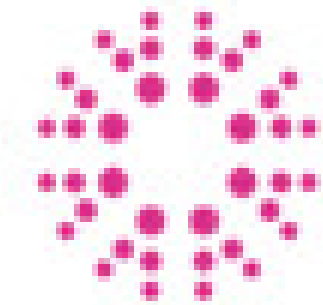
Creating value through increasing the farmers security and profit at the same time that it places the farmers as a key to revert climate crisis, sequestering tons of carbon mass out of the atmosphere, and placing it back at the soil, creating a more health and fertile soil to production of natural fibers.

The farmers will pay every month even if they don't request a satellite analysis so the money saved by the company will go entirely to hire the satellites and pay the workers and the partners companies.



## **How we will use the investment:**

Once winning the Hult Prize investment, we would use the 1.000.000 USD to five things, develop our app, hire a social media manager, develop a marketing plan, go to conferences of fashion and agriculture to make ourselves known and save the rest of the money to keep us operational until we have reached the optimal number of subscribers.



**HULT  
PRIZE**