EU GLOBAL ACTION ON SPACE

EU Global Space Action - Business Coaching Services

Support for the Internationalisation of Space Cooperation between Latin America and the EU

Intza Balenciaga, EU Global Action on Space

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Promoting the European Union Space Programme

EU Global Action on Space

Initiative:
European Commission

Approach:
- Market Intelligence
- Information on EU space programmes
- Space diplomacy
- Business coaching service / Internationalization

Objective: To facilitate international cooperation between international and European companies by creating opportunities for partnership/collaboration

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What cooperations are supported?

NON-EUROPEAN ENTITIES

- Legally established in a suitable country (slide 5)
- Age min. 3 years
- Private or public company, space or non-space entities, space agencies, government institutions, universities...

APPLY NOW

EUROPEAN ENTITIES

- Legally established or based in EU27
- Age min. 3 years
- SMEs tecn. space: Galileo, Copernicus, EGNOS
- Any topic of space, environment, agriculture, marine and coastal areas, etc.

APPLY NOW

Collaboration: commercial, technological, research, initiation of a joint project or a joint proposal

Object: Use of spatial data, applications or technology of the EU space program

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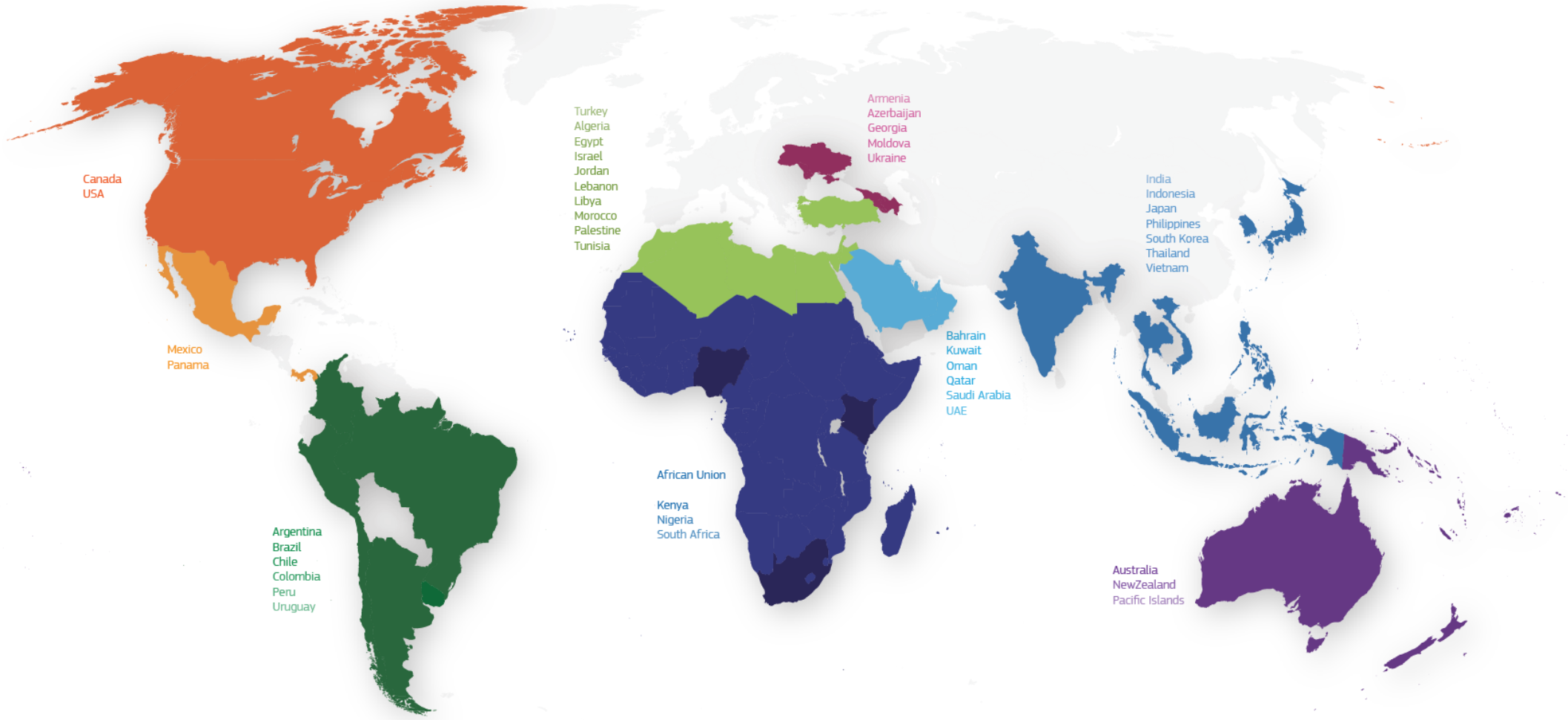
Support for internationalization in more than 90 countries globally



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How do we facilitate business opportunities?

Supported cooperations: Europe and Latin America

Countries of the European Union:
Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovenia, Spain, Sweden and Slovakia.

Latin America
Mexico, Panama, Argentina, **Brazil**, Chile, Colombia, Peru Uruguay

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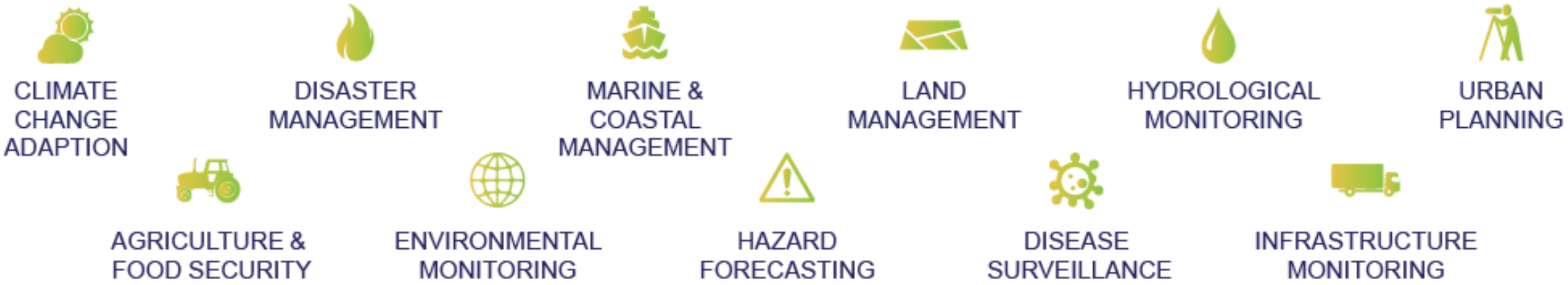
How do we facilitate business opportunities?

Space is important for many fields of application
(There is no limitation of sectors or topics!)



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How do we facilitate business opportunities?

Benefits in a nutshell:

- FIRST-HAND INSIGHTS INTO EU SPACE PROGRAMME
- ACCESS TO EUROPEAN SPACE ACTORS FROM INSTITUTIONS TO INDUSTRY
- EXCLUSIVE ACCESS TO TRAINING
- ACCESS TO INTERNATIONAL MARKET INTELLIGENCE
- COMPREHENSIVE SUPPORT FOR PARTNERSHIPS AND COMMERCIAL AGREEMENTS
- COOPERATE WITH KEY INTERNATIONAL STAKEHOLDERS

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How do we facilitate business opportunities?

Support for internationalization - online events, including matchmaking events

Over 10 virtual events to help you find business partners based on country and space related topics: For example, Oman, Qatar, Bahrain, Kuwait, Saudi Arabia, UAE, Israel, Bolivia, Chile, Colombia, Panama, South Africa, Mexico and Australia.

Online day | EU Space Programme benefits and business opportunities for agriculture and emergency response in Latin America

Read all

Webinar | The Copernicus Programme and its applications for environmental and infrastructure monitoring in the Gulf region

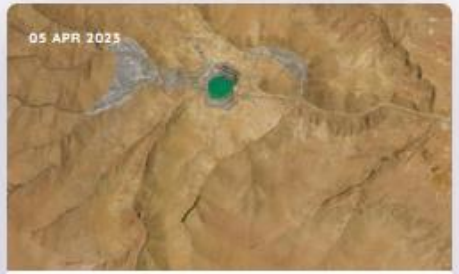
Read all

Business-to-Business | International cooperation between Gulf countries and the EU

Read all

Webinar | The Copernicus Programme and its applications for infrastructure and land degradation monitoring in UAE

Read all



Webinar | EU Space Programme and business opportunities for sustainable mining in Argentina

Read all

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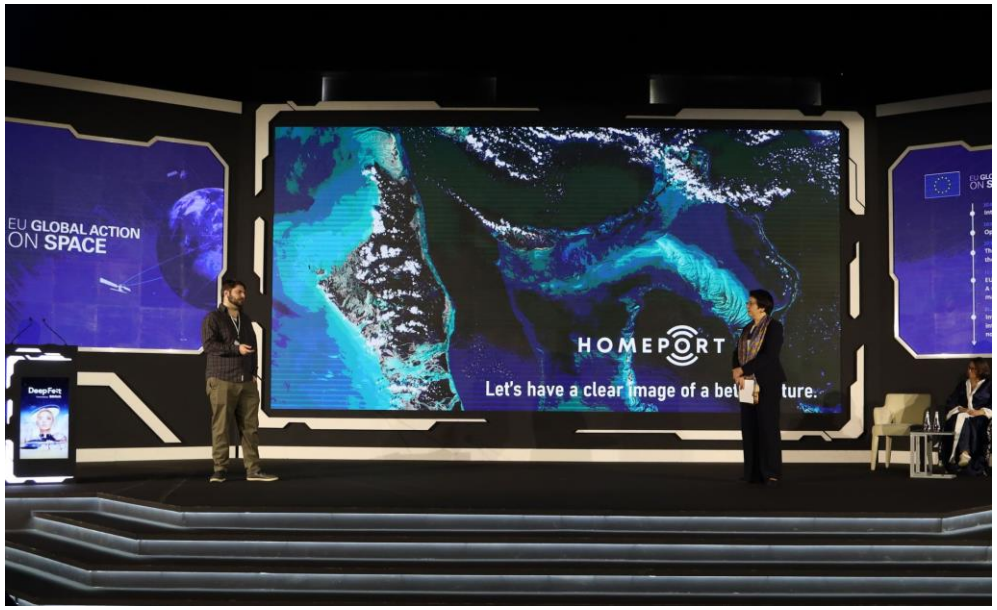
How do we facilitate business opportunities?

Support for internationalization - Live events

Join us for dedicated EU Global Action Live events to meet new business partners in person: For example, Saudi Arabia, Côte d'Ivoire, Israel, Brazil, Panama, Africa, etc.



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How do we facilitate business opportunities?

Supporting internationalization - Dedicated pitching sessions

Individual pitching opportunities: Unique and specific occasion for each country and topic, depending on the needs of non-European stakeholders

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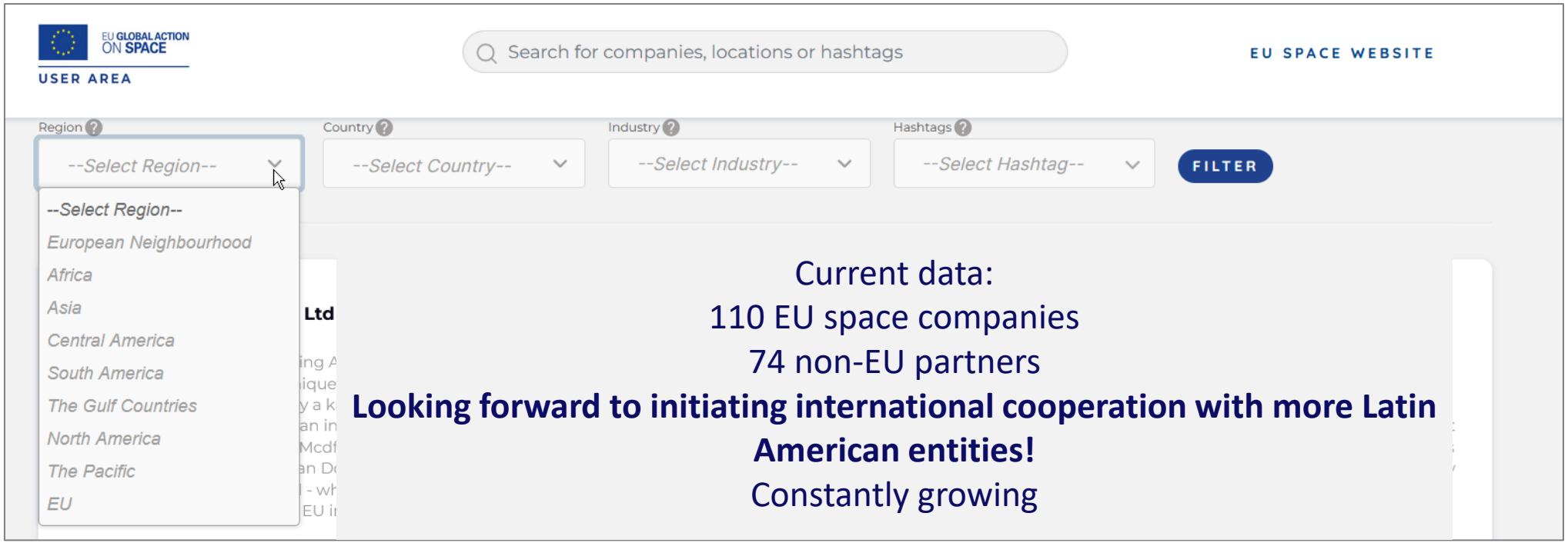
How do we facilitate business opportunities?

Support for internationalization - Matchmaking Closed Platform

Successful participants have access to the EU Global Action on Space platform: this closed platform provides non-EU stakeholders with access to companies from the EU and around the globe



Current data:
110 EU space companies
74 non-EU partners
Looking forward to initiating international cooperation with more Latin American entities!
Constantly growing

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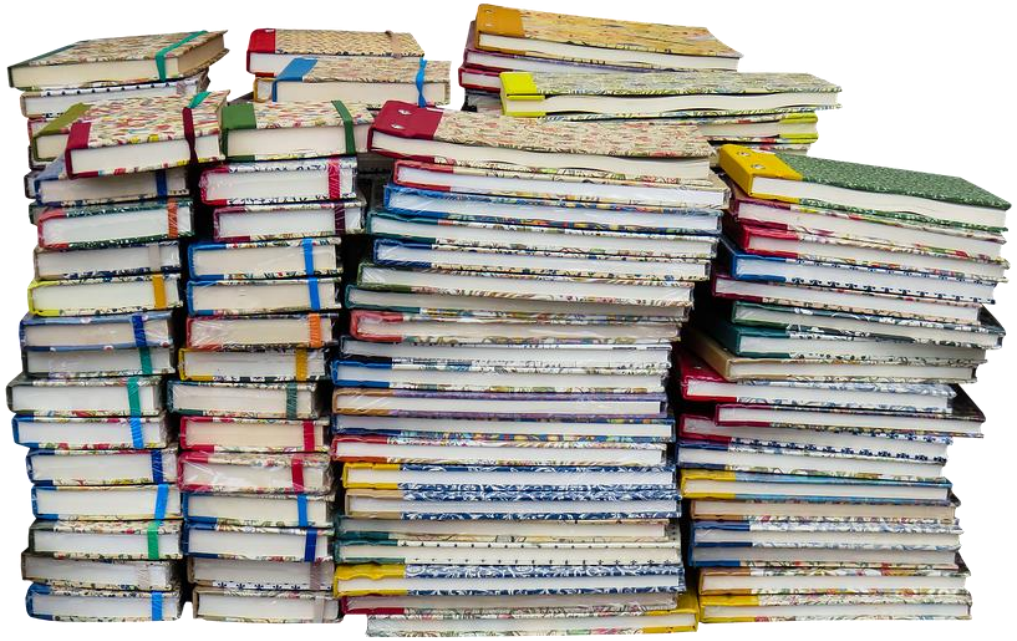
How do we facilitate business opportunities?

Support for internationalization (I) - Support programs

We are constantly looking for international aid programs and regularly send you up-to-date information on European funding programmes. To obtain this, you need you to apply to the open call and become part of the EU Global Action Program ☺!



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How do we facilitate business opportunities?

Support for internationalization (II) - Support programs, e.g.:

The **third EUSPA Horizon Europe Call** with an overall budget of **34.5 million EUR** is opening in October and the indicative deadline for the submissions is February 2024.

Be prepared to join one of the bidding consortia that will seek to develop cutting edge solutions based on EU Space Programme components!

- **HORIZON-EUSPA-2023-SPACE-01-46:** "Designing space-based downstream applications with international partners" - (R&I Action) 6mEUR (Brazil is an **eligible non-EU country** for this call -- together with US, Australia, Ukraine, Chile, Colombia, Serbia, African Union member states and India)
- HORIZON-EUSPA-2023-SPACE-01-43: Copernicus-based applications for businesses and policy-making - (R&I Action) 7mEUR
- HORIZON-EUSPA-2023-SPACE-01-61: EU GOVSATCOM for a safer and more secure EU - (Innovation Action) 10mEUR

EU GLOBAL ACTION ON SPACE

How do we facilitate business opportunities?

Apply now! The call is open until March 2024!

Open call until March 2024

FAQ

Companies approved for the Business Coaching Service will be notified individually and will be provided with access to a closed platform via email

EU ENTITIES

APPLY NOW

NON-EU ENTITIES

APPLY NOW

www.eu-global-space.eu/apply-now

If you are already exploring international cooperation (meaning: you already have a pre-defined target market / market segment / potential partner) please send us an e-mail with the details to businesscoaching@eu-global-space.eu immediately after having registered.

Copernicus Europe's eyes on Earth EGNOS GALILEO

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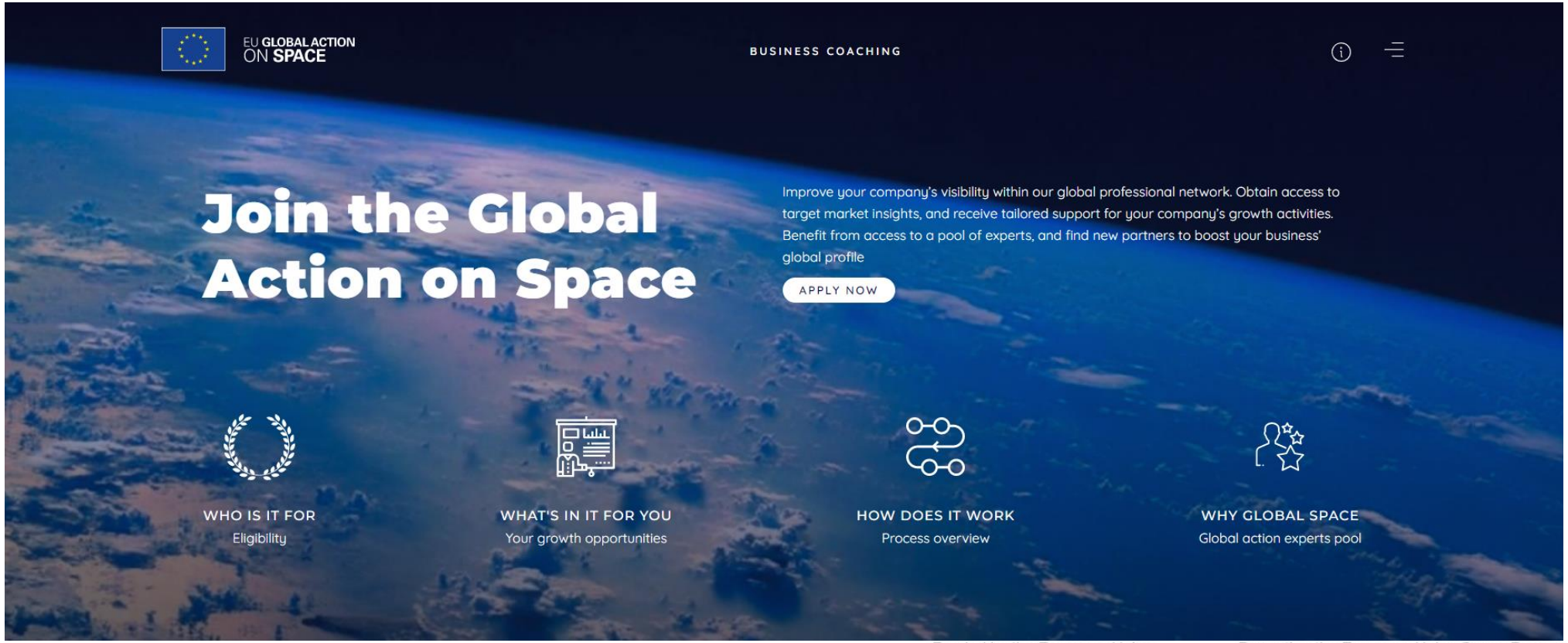
How do we facilitate business opportunities?

https://www.eu-global-space.eu/apply-now



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Thank you!

Let´s stay in touch!

Contact: businesscoaching@eu-global-space.eu

Website: www.eu-global-space.eu/business-coaching

Apply now: www.eu-global-space.eu/apply-now

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#EUSpace

The agribusiness in the EU and Brazil, synergies and collaborations

Brasilia, 14 September 2023 - Harvesting from Space: EU Space Programme Benefits for Agriculture in Brazil

Reinhard Blasi, Market Downstream & Innovation Manager

EUSPA
European Union Agency for the Space Programme

Brazil and its eligibility to Horizon (1/3)

Brazil and its eligibility to Horizon (2/3)

Brazil and its eligibility to Horizon (3/3)

EUSPA Horizon Europe call of 2023
(HORIZON-EUSPA-2023-SPACE-01)

Type of Action	Topic	Indicative budget (EUR mln)
IA	EGNSS - Transition towards a green, smart and more secure post-pandemic society	3.5
IA	EGNSS - Closing the gaps in mature, regulated and long lead markets	8
RIA	Copernicus-based applications for businesses and policy-making	7
RIA	Designing space-based downstream applications with international partners	6
IA	EU GOVSATCOM for a safer and more secure EU	10
	Total budget:	34,5

Indicative deadline: February 2024

Innovation action (IA)

Activities to produce plans and arrangements or **designs for new,** altered **or improved products**, processes or services.

Research and innovation action (RIA)

Activities to **establish new knowledge** or to **explore the feasibility** of a new or improved technology, product, process, service or solution.

For the indicative description of the call please see the Horizon Europe 7. Work Programme 2023-2024

HORIZON-EUSPA-2023-SPACE-01-46

Designing space-based downstream applications with international partners

TRL 3-4

- **Use of EGNSS and sharing of expertise** with public and/or private entities to introduce EU-space based solutions
- The **use of Copernicus** data, to develop jointly algorithms, services and/or products
- The **combined use of EGNSS and Copernicus** to develop innovative downstream applications
- **Create business-oriented partnerships** between European industry and international partners
- Exploit **integration of EO data with positioning data and ICT** (e.g. cloud computing) from international partner countries
- Proposals dealing with EGNSS are encouraged to **involve relevant organisations on the European side** (e.g. EASA, ESSP, EMSA)
- <u>Participation of a partner from a country that has signed a Copernicus Cooperation Arrangement is required for Copernicus-based applications</u>

Legal entities established in countries that have signed an administrative cooperation arrangement on Copernicus data access and Earth observation data exchange are exceptionally eligible for Union funding: United States, Australia, Ukraine, Chile, Colombia, Serbia, African Union member states, India and Brazil

The call is not published yet, therefore the information presented here is indicative only. For the preliminary description of the topics please see the Horizon Europe 7. Work Programme 2023-2024.

#EUSpace

Linking space to user needs

Get in touch with us

www.euspa.europa.eu

EU4Space | EUSPA | @EU4Space | @space4eu | EUSPA | @EUSPA@social.network.europa.eu

The European Union Agency for the Space Programme is hiring!

Apply today and help shape the future of **#EUSpace!**

The agribusiness in the EU and Brazil,

Synergies and Collaborations

14/09/2023

Nelson Ananias Filho

Sustainability Coordinator

CNA

Internal use

CNA

Sustainable Brazilian Farming

"The future of Brazilian farming has already begun".

Internal use

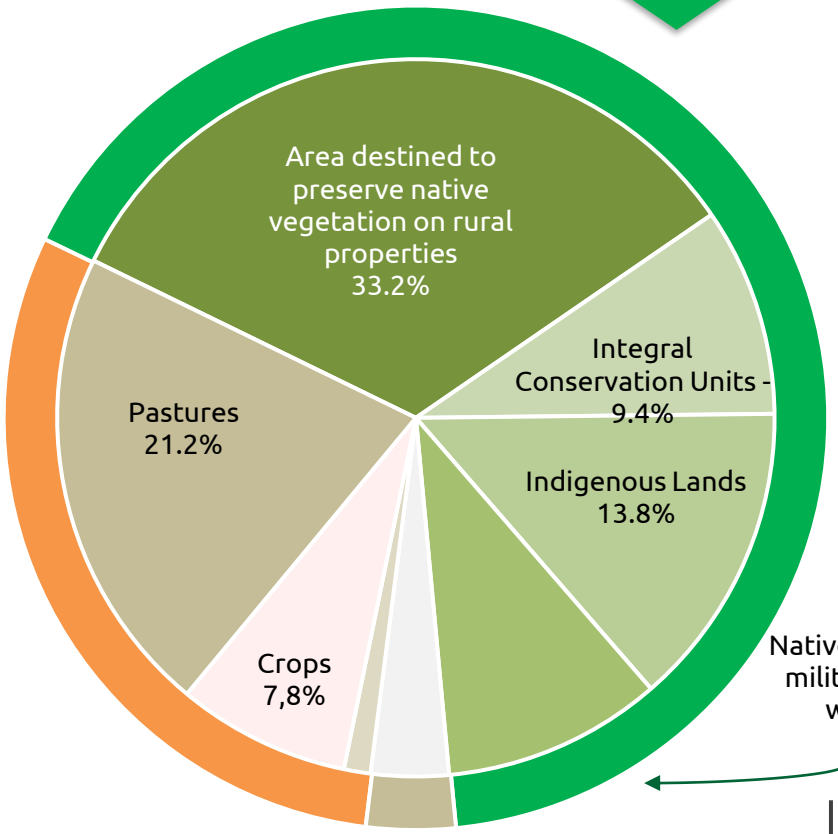
CNA

Sustainable Brazilian Farming

Brazilian Environmental Legislation: Land Use and Occupation Environmental Policies

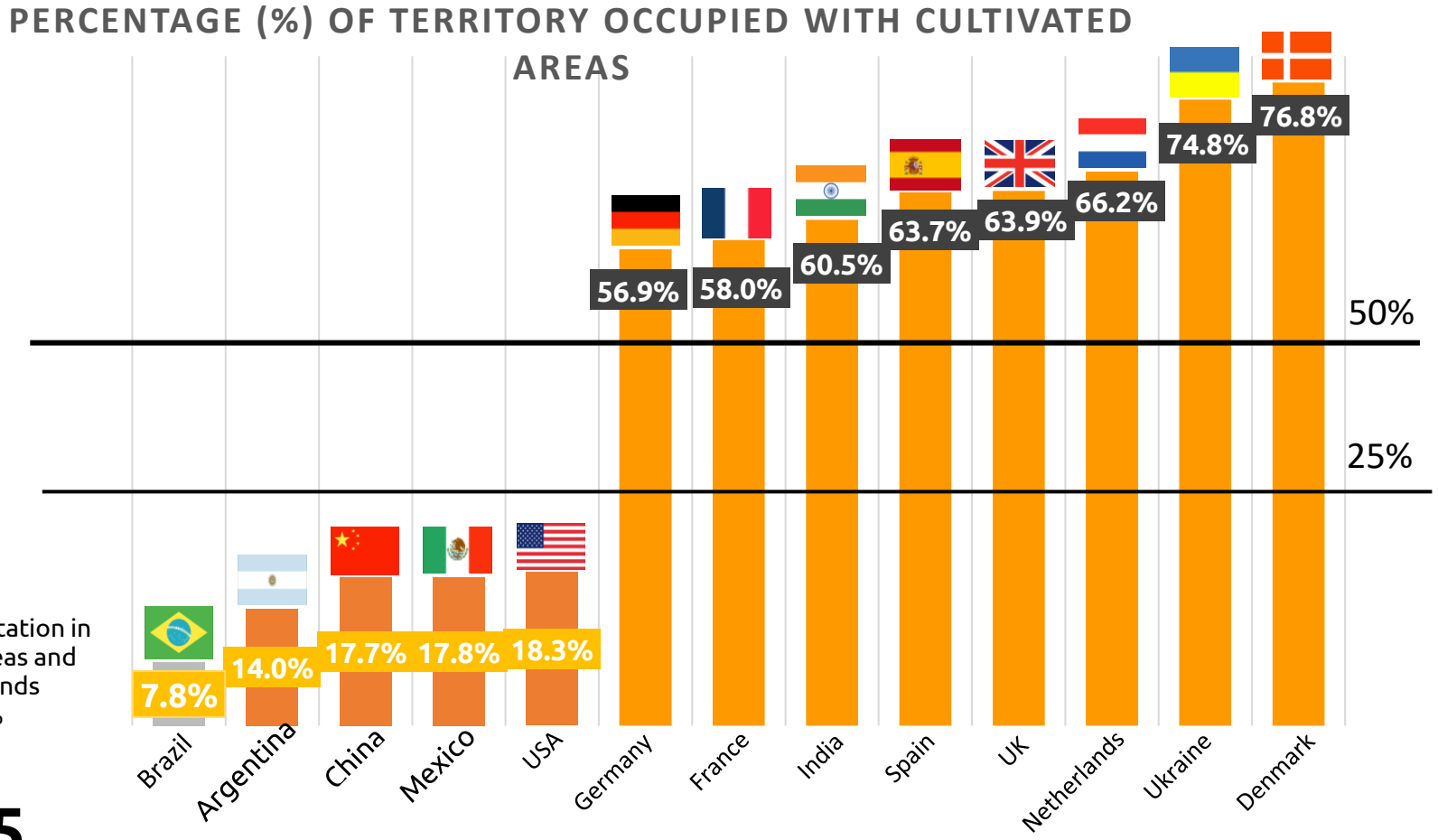
Brazilian Territorial Planning

Area destined for the preservation and protection of native vegetation | **66,3%**



Agricultural and Livestock Use | **30.2 %**

3.5 %



Fonte: Global Cropland (2019). Disponível em: https://croplands.org/app/map/statsMap
Global Food Security Analysis-Support Data at 30 Meters (GFSAD30) Project

Fonte: MMA, 2018; FUNAI, 2018; EMBRAPA TERRACLASS, 2014; IBGE, 2017, 2018, 2019; SFB/SICAR, 2021

In the world there are **195 countries**, of which **186 have a territory smaller (or equal)** to the total area dedicated to the preservation of native vegetation by Brazilian rural producers

The combined area devoted to native vegetation in all of Brazil is equivalent to the surface area of 48 European countries and territories.

Fonte: EMBRAPA, 2021

Internal use

CNA

Sustainable Brazilian Farming

Synergies

Internal use

CNA

Sustainable Brazilian Farming

The Brazilian way to produce

Sustainability of Brazilian Agribusiness

CNA

The Brazilian way of producing and preserving

PRESERVATION
SUSTAINABILITY

The practices adopted by Brazilian farmers are strategic for mitigating climate change. The country is an example of low carbon agriculture and has the strictest environmental law in the world.

SCIENCE
TECHNOLOGY

Our excellence in tropical agriculture is the result of innovation and technological development. Brazilian production is aligned with the best practices for the environment based on scientific principles.

POLICY
AGRICULTURE

Investments are fundamental for innovation and for reducing the use of resources. To increase productivity, Brazil focuses on technical assistance and training programs for the rural sector.

RECOGNITION
INTERNATIONAL

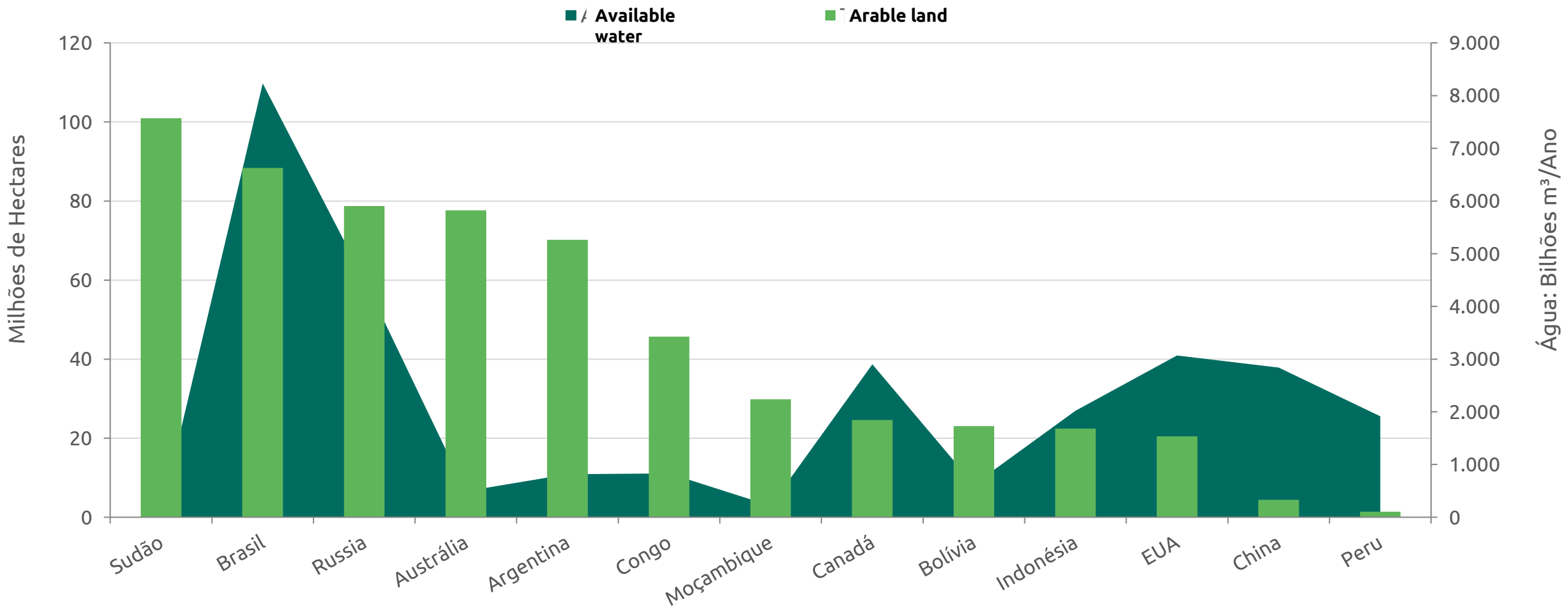
Brazilian agricultural products have broad access to the global market. The 190 countries that import Brazilian products attest to our commitment to the highest international standards.

Fonte: CNA

Internal use

Availability of land and water worldwide

Ensuring food security

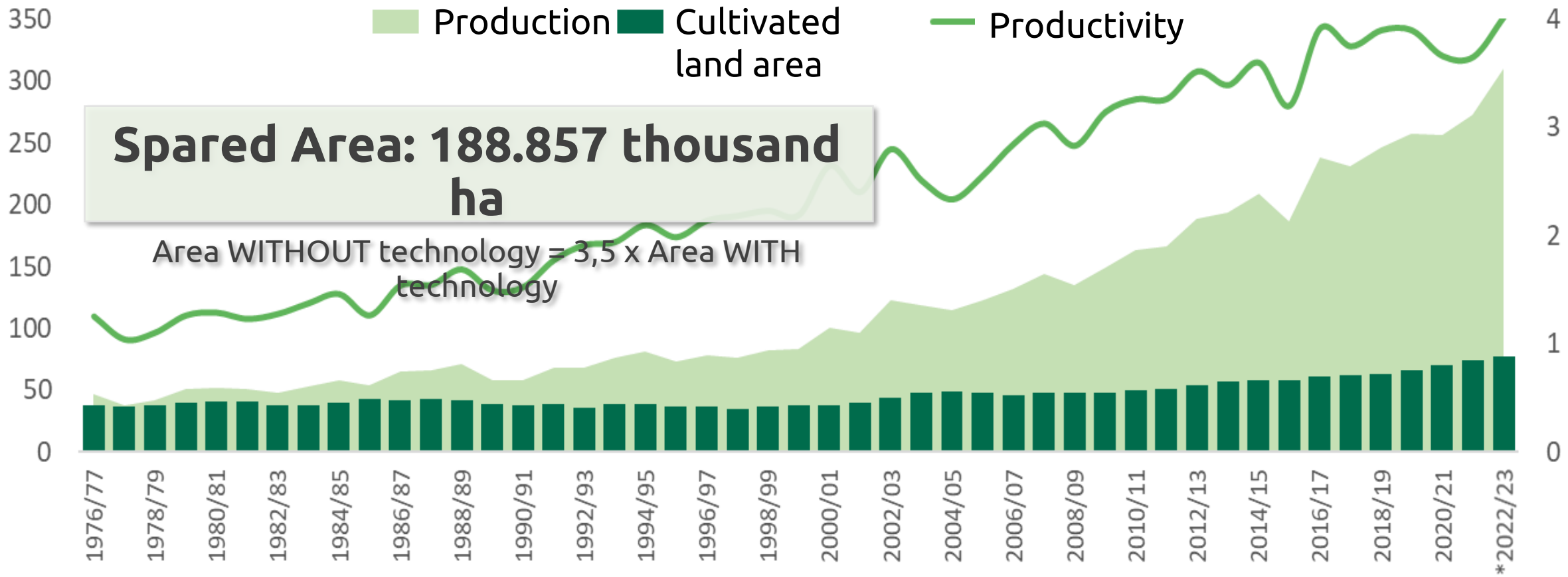


Fonte: Fischer eShah(2010), Banco Mundial (citado em 2010) e Icone/FAO

Internal use

Evolution of Grain and Fiber Production

Technology: The basis of Brazilian agricultural development



Spared Area: 188.857 thousand ha

Area WITHOUT technology = 3,5 x Area WITH technology

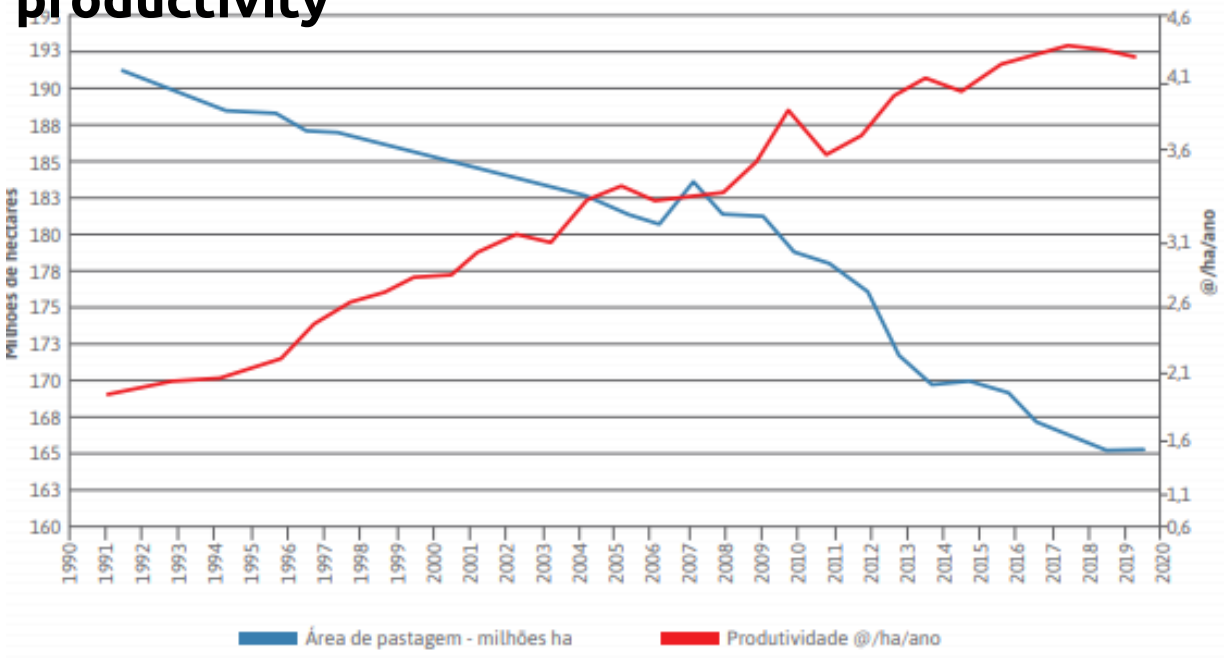
Indicator	1976/77	2022/23*	Var. %
Production (million tons)	46.9	**309.9**	560%
Area (million hectares)	37.3	**77**	106%
Productivity (tons/hectare)	1.3	**4**	220%

Fonte: CONAB (Março/2023); Elaboração: CNA.

Technology: the basis of the Brazilian cattle breeding development

CNA

Evolution of pasture area and evolution of productivity



Fonte: Elaborado pela ABIEC (Athenagro, Conab, IBGE, INPE< Lapig, Rally da Pecuária, Embrapa)

Between 1990 and 2020, the pasture area shrank

13,6%

1990 **191,3** million of ha

2020 **165,2** million of ha

About **50.3 million hectares** that are no longer pastureland, are today in **different stages of regeneration**

Increased technology in cattle ranching prevented

253.8 million

of hectares from deforestation

Fonte: ABIEC

Internal use

CNA

Sustainable Brazilian Farming

Collaborations

ESG Agro

Environment

Forestry Code
Water Law
Agriculture ABC
Nationally Determined Contributions (NDCs)
Multilateral Agreements

Social

Labor Standards
Local social and cultural projects
Diversity
Employment generation
Income generation

Governance

Family Units
Succession
Technical assistance

Internal use

CNA

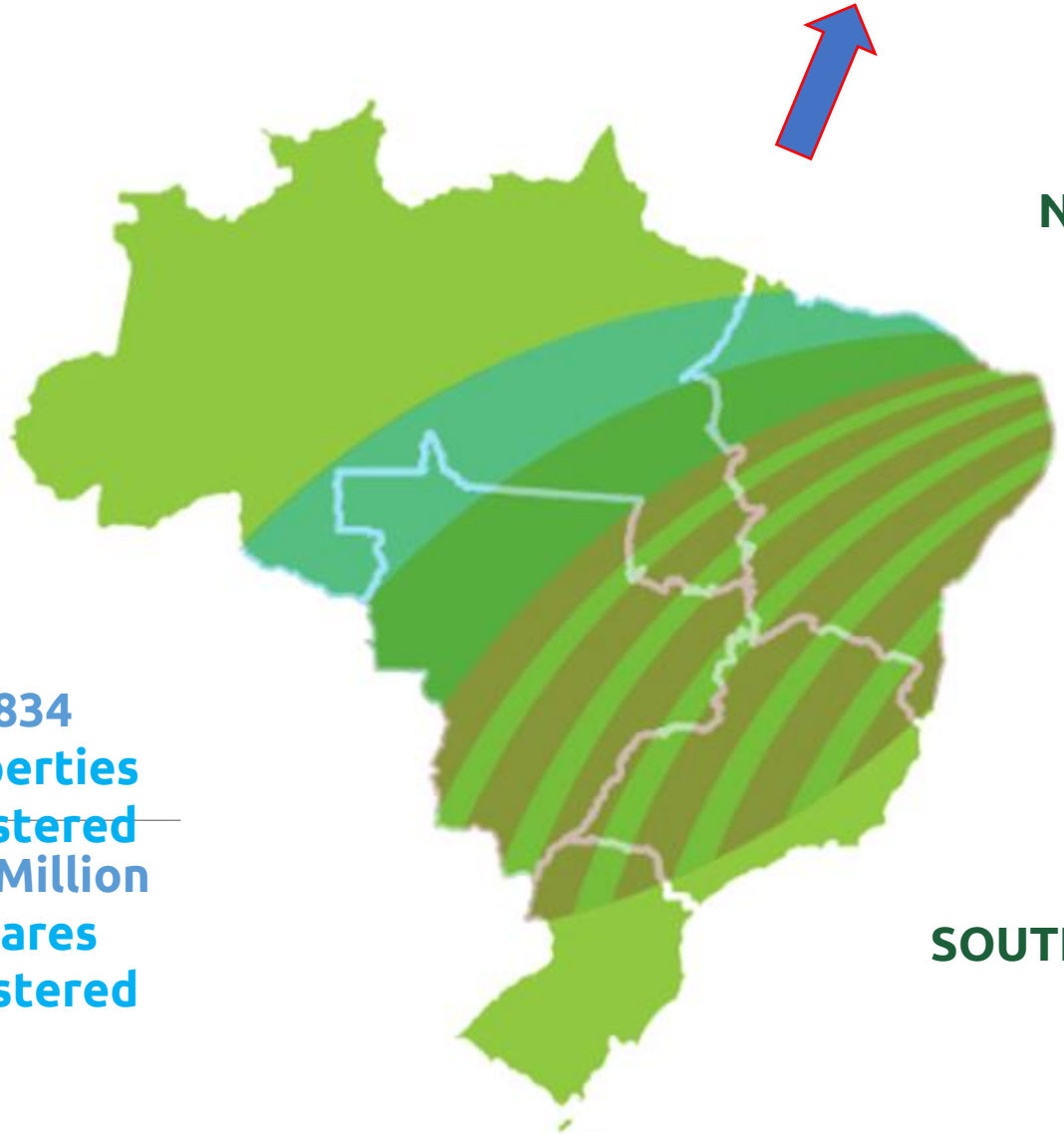
Sustainable Brazilian Farming

Rural Environmental Cadastre (CAR)
Environmental Regularization Program (PRA)

THE ENVIRONMENTAL RURAL REGISTRY (CAR) IN NUMBERS	6.4 Millions	543 Million hectares
Data until November 2019	Properties Registered	Registered

NORTH
852.488 properties registered
152.7 Million hectares registered

NORTHEAST
2.3 Million properties registered
92.6 Million hectares registered



CAR
CADASTRO AMBIENTAL RURAL

SOUTHEAST
1.3 Million properties registered
74.8 Million hectares registered

CENTER-WEST
500.834 properties registered
142 Million hectares registered

SOUTH
1.4 Million properties registered
48 Million hectares registered

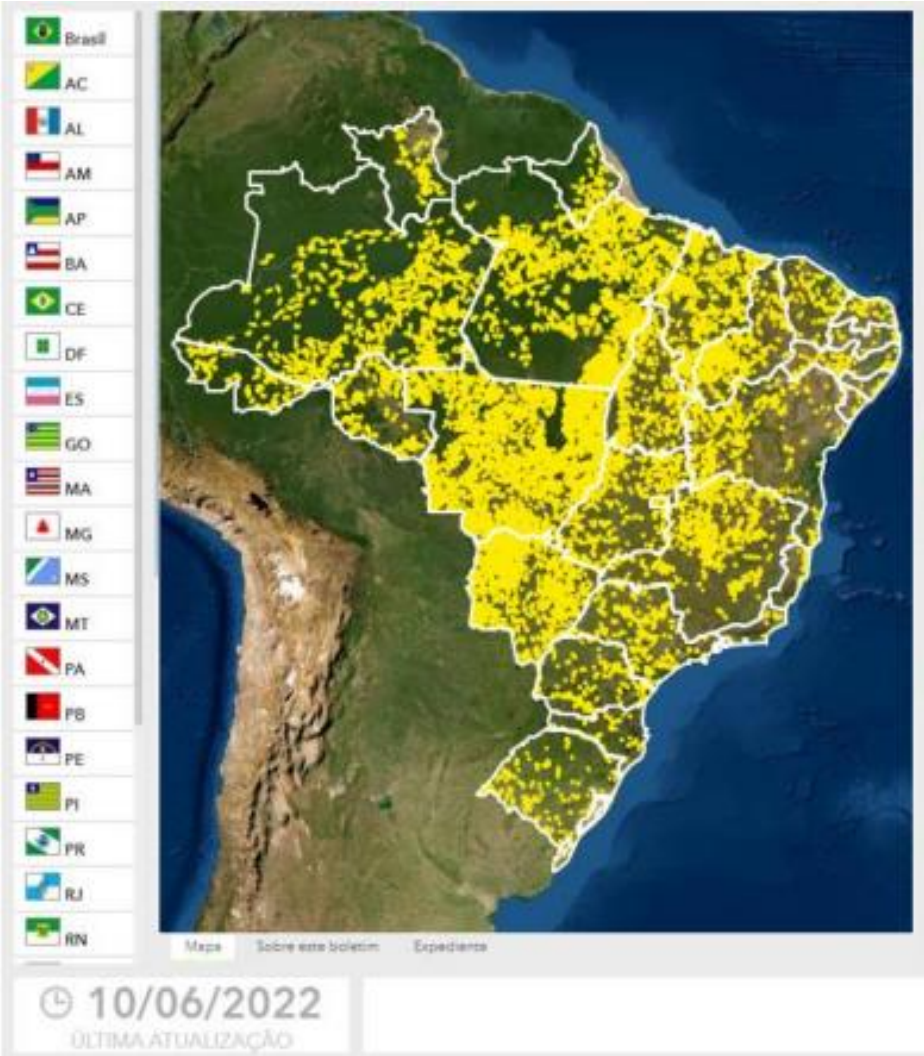
CNA

Brazilian Forest Code - Environmental Regularization

CNA

Rural Environmental Cadastre (CAR) Numbers

CAR
CADASTRO AMBIENTAL RURAL



DECLARED CARs
6.643.633
(Rural Environmental Cadastre)

23% with some kind of analysis

0,68% with analysis completed

PRA ADMISSION
3.5 MILLION (52%)

Fonte: SFB (disponível em: //www.gov.br/agricultura/pt-br/assuntos/servico-florestal-brasileiro/boletim-informativo-car

What can collaboration respond to?

- **Deforestation:** affects all production chains, not just agribusiness, even agribusiness has a detachment from deforestation, as 0.9 of the properties that have CAR have some type of illegal deforestation.

- **Difficulty in implementing the Forest Code:** 3% of the CAR analyzed – More than 50% of producers indicated they want to do the PRA. But there is even a lack of regularization of the PRAs. The car is the basis for any traceability programs and private protocols. Without it, the producer is subject to the meat TAC, for example, EU due diligence (requires monitoring of the production chain so that products do not come from deforested areas).

- **Improve the emissions inventory:** Brazil is the 7th largest emitter, with 2.8% of global emissions. The current methodology could be more suitable for our sector, for example, the balance of livestock farming on pasture is not taken into account, there is no accounting for carbon sequestration by pastures

CNA

Where collaboration begins?

Deforestation:

- Establish a policy to combat illegal deforestation, not only based on command in control, but also on regional development policies, promoting land regularization (accountability) and environmental regulation and all the benefits of the code;
- Strengthen policies against burning and forest fires – strengthening fire brigades.
- Improv the PSA law – value the National PSA Program;
- Financing of actions – improve access to the climate fund, the Amazon fund and others;

Speed up CAR analysis:

- Streamlined Analysis – Analyzes CAR;
- PRA improvement;
- Create CAR analysis task force.

National emissions inventory could be better:

- Adapt emissions inventories for a closer assessment of Brazilian agricultural emissions.

CNA

CNA

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flickr.com/canaldoprodutor youtube.com/agrofortebrasilforte

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FutureWater

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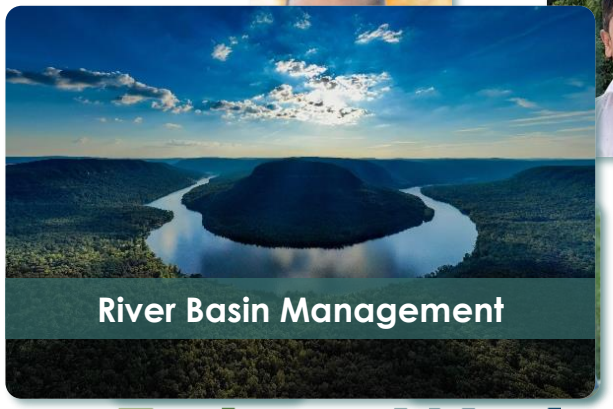
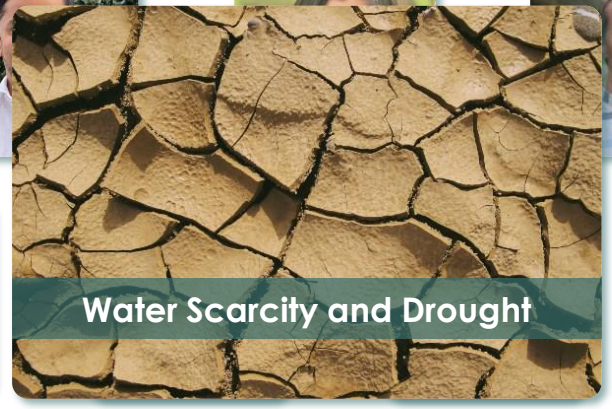
FutureWater

Solutions: Technical reports, policy reports, scientific publications, training, datasets, models, operational services





FutureWater

Copernicus EGNOS GALILEO

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Int… …Os, Foundations and Private Initiatives

668 projects

95 countries

577 publications

Industrial Economics, Incorporated (IEc)

…romoting the European Union Space Programme

eco business Fund

FONERWA For a Green & Resilient Rwanda

WAGENINGEN UNIVERSITY & RESEARCH

TU Delft

EGNOS

SNV

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EO-based solutions

- **InfoSequia**
- **MAGDA**
- **Climate risk and vulnerability assessment**

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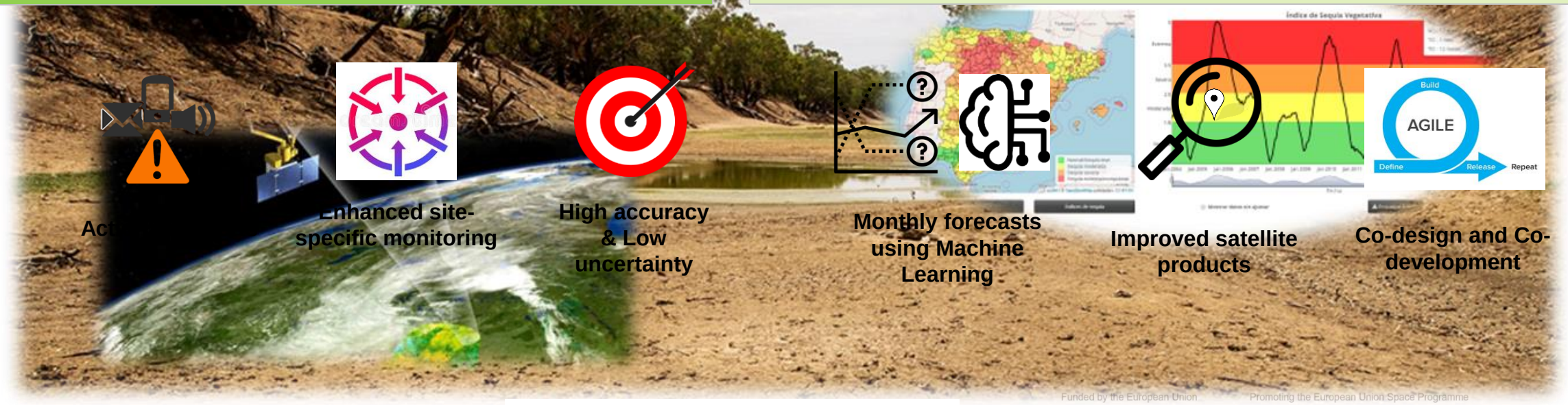
InfoSequia

An operational satellite-based **Drought Early Warning** and **Forecasting System** for quantifying risks and provide seasonal outlooks of crop yield and water supply failures. The development is supported by **European Space Agency (InCUBED)**. Operational in **Spain, Mozambique and Colombia.**

Competitive advantages

Added values



Act

Enhanced site-specific monitoring

High accuracy & Low uncertainty

Monthly forecasts using Machine Learning

Improved satellite products

Co-design and Co-development

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FutureWater

info Sequia
Drought Monitoring and Impact Assessment Toolbox

Copernicus
EGNOS
GALILEO

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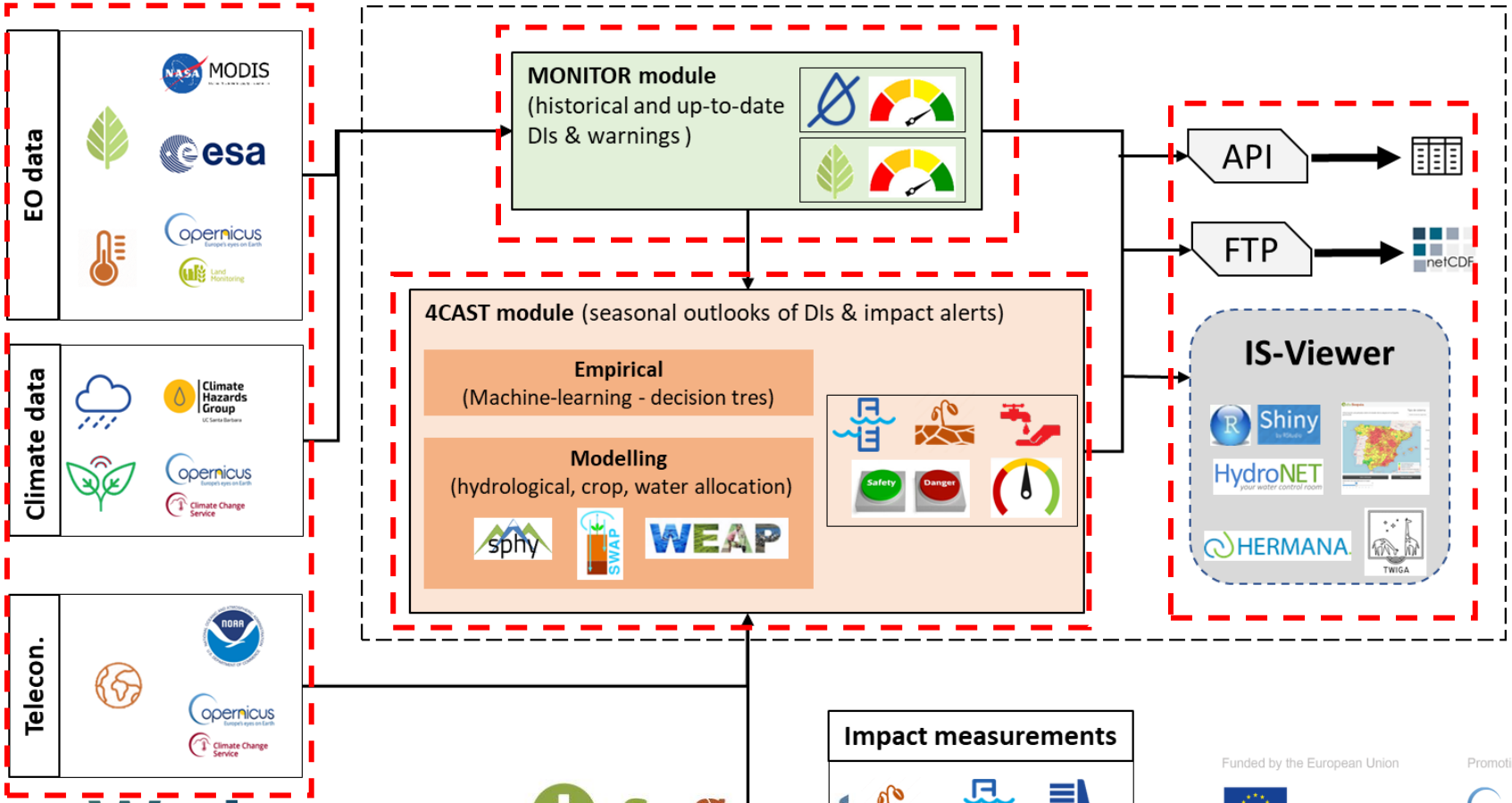
InfoSequia workflow



FutureWater

infoSequia

Drought Monitoring and Impact Assessment Toolbox

Funded by the European Union

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Copernicus EGNOS GALILEO

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InfoSequia-4CAST Drought Bulletin

Date issued	25 March 2023
Region of interest	Gaza (Mozambique)
Crop type	Maize
Forecasted period	May 2023

1 Seasonal Forecast

This section summarizes the key outputs retrieved at the district level by the InfoSequia-4CAST system. and which are used to support the interpretation of the overall seasonal outlook. Figure 2 highlights the individual districts with different probabilities of crop failure.

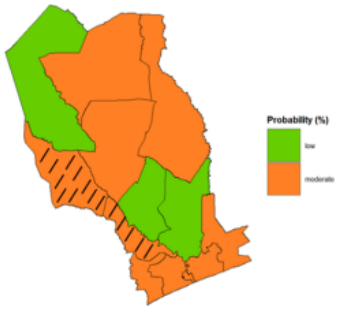

Figure 2. Probability of crop failure at district level. Districts where early response is recommended include forward slashes.

Level of risk at the district level (dashed lines over the districts where early response is recommended)

Overview of risk at the province level

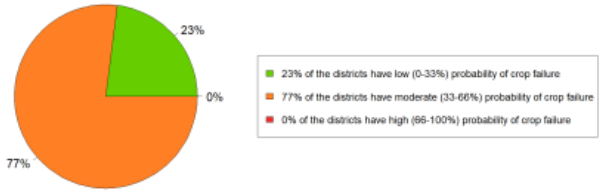

Figure 1. Probability of crop failure distribution at the province level.

1.1 Recommendation for Early Response per district

The Early Response trigger was exceeded in **7** districts (check Appendix for a description of this concept).

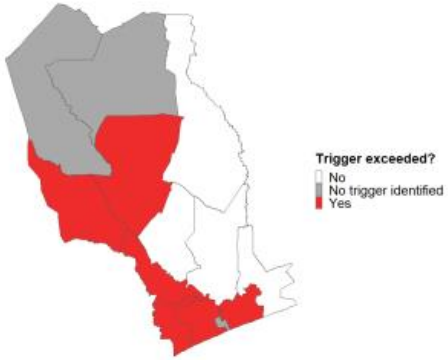

Figure 3. Districts with probability of crop failure above Early Response trigger of the 4CAST.

Early Action triggers per district (probability level that was able to predict at least 50% of crop failure without producing more than 50% false alarms)

1.2 Forecast skill

Forecast skill is defined as the overall performance of the model during the hindcast and is based on the ROC score. Figure 4 shows the ROC score values retrieved at the district level. For further technical details, please refer to the Appendix of this bulletin.

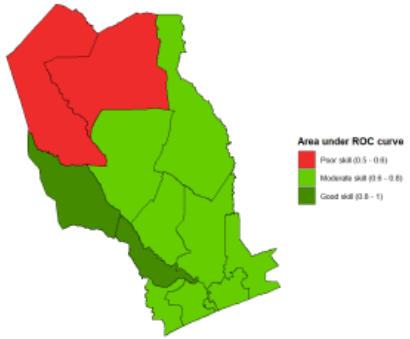

Figure 4. Overview of the current lead time forecast quality (ROC).

Quality of the forecast based on a hindcast period

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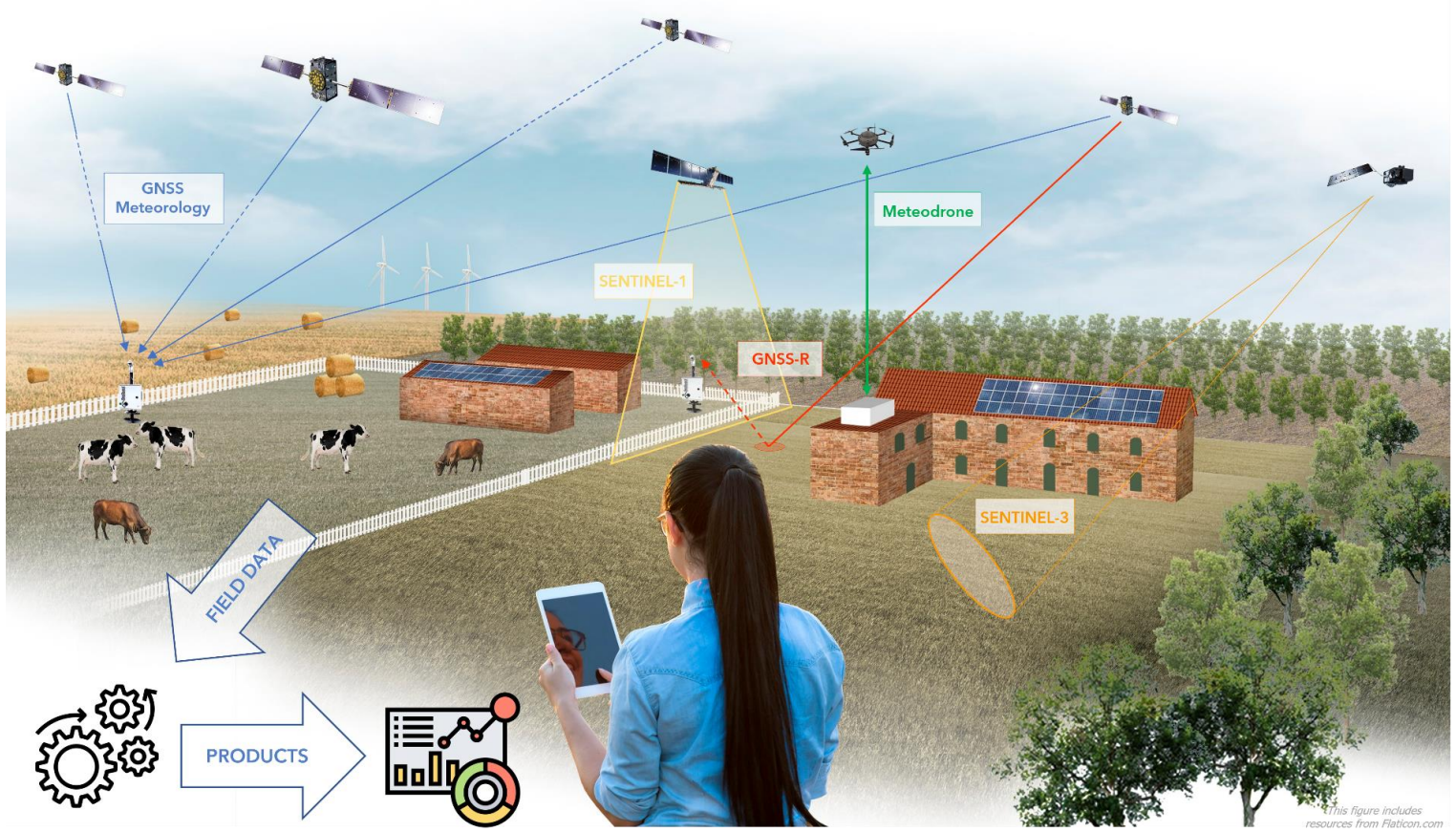
MAGDA

- Toolkit for irrigation and crop monitoring advisories with **Galileo**, **Copernicus, Meteodrones and field sensors**
- Weather forecasts and irrigation advisories to farmers via dashboard/APIs and Farm Management Systems



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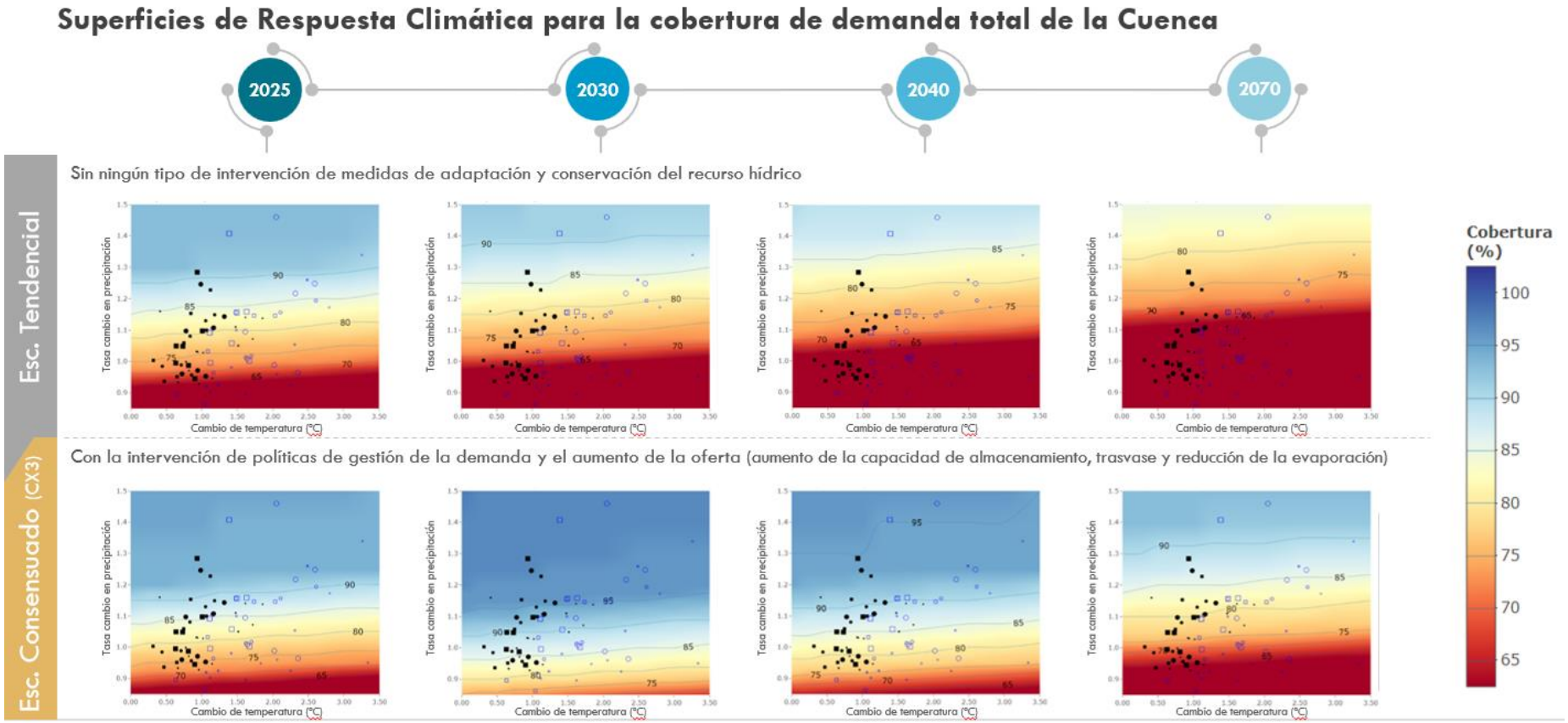
EU GLOBAL ACTION ON SPACE

Climate resilient technologies

Climate Response Surfaces for water-demand coverage at basin scale (Panama Canal Basin)



EO data

MODIS

esa

Copernicus

sphy

+

WEAP

Promoting the European Union Space Programme

Copernicus EGNOS GALILEO

Bottom-up – Climate projection – Numerical simulation – Optimal water allocation

EU GLOBAL ACTION ON SPACE

Opportunities

- **Pilot InfoSequia** in Brazil and complement Copernicus EO data with observations from **CBERS**
- We are seeking **National stakeholders** and **key early adopters** to deploy our solutions
- **EU** funding mechanism such as Horizon proposals
- **One-to-one business**

Thank you!

Follow us
on LinkedIn

S.Khanal@futurewater.nl

BEETLE FORTECH

A Sustainable Tomorrow

Pioneering the path to a greener future with the EU Global Action on Space initiative.

EU GLOBAL ACTION ON SPACE

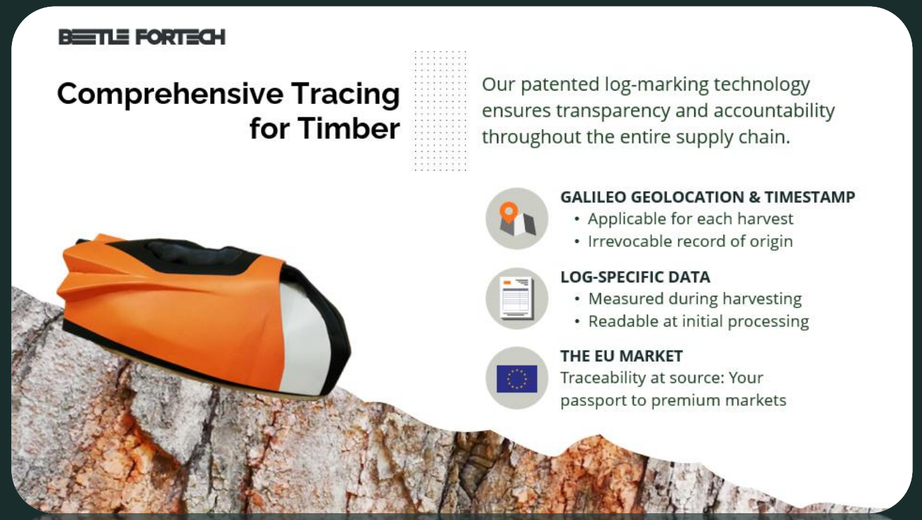
SEBASTIAN VOGLER

Co-Founder & Co-CEO

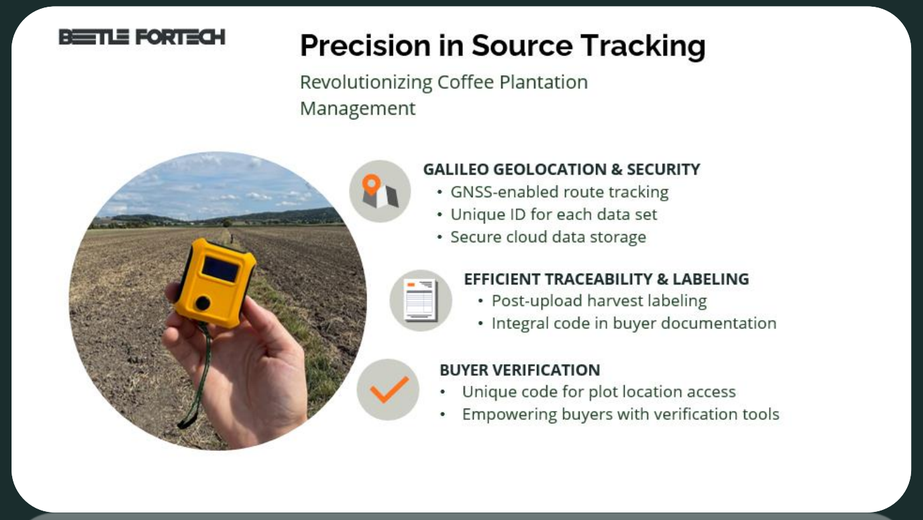
www.beetlefortech.com | sebastian.vogler@beetlefortech.com | +43 677 64302415

Our Technologies

Innovating Timber & Coffee Industries



LOG-MARKING TECHNOLOGY



COFFEE SOURCE TRACKING

BEETLE FORTECH

Comprehensive Tracing for Timber

Our patented log-marking technology ensures transparency and accountability throughout the entire supply chain.

GALILEO GEOLOCATION & TIMESTAMP

- Applicable for each harvest
- Irrevocable record of origin

LOG-SPECIFIC DATA

- Measured during harvesting
- Readable at initial processing

THE EU MARKET

Traceability at source: Your passport to premium markets

BEETLE FORTECH

Precision in Source Tracking

Revolutionizing Coffee Plantation Management

GALILEO GEOLOCATION & SECURITY

- GNSS-enabled route tracking
- Unique ID for each data set
- Secure cloud data storage

EFFICIENT TRACEABILITY & LABELING

- Post-upload harvest labeling
- Integral code in buyer documentation

BUYER VERIFICATION

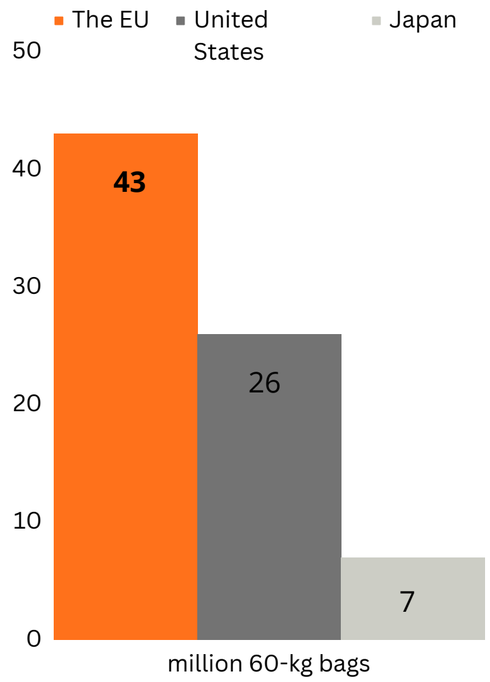
- Unique code for plot location access
- Empowering buyers with verification tools

BFT
Forest Tec

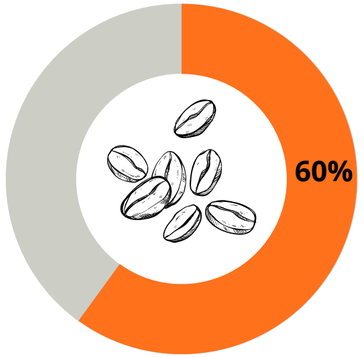
BEETLE FORTECH

The EU Opportunity for Latin American Coffee

EU'S DOMINANCE IN COFFEE IMPORTS (2021/2022)



GLOBAL VSS*-COMPLIANT COFFEE PRODUCTION



SEAMLESS COMPLIANCE WITH EU DEFORESTATION LAWS

Image: Airbus 2023

- Leverage Galileo & Copernicus data for deforestation analysis & verification
- Navigate new regulations with ease
- Align your business with EU Sustainable Development Goals

Source: IISD.org/ssi, 2022
*VSS: voluntary sustainability standards

Our Team

WINNER OF

GALILEO MASTERS 2021 Prize Winner

Copernicus masters 2021 Prize Winner

greenstart

klima+ energie fonds

GALILEO INCUBATION

SPACE4ENERGY HACKATHON

ADVISED BY

JOANNEUM RESEARCH

THÜNEN

BOKU

GD HOLZ

FUNDED & SUPPORTED BY

FFG Forschung wirkt.

Bundesministerium Klimaschutz, Umwelt, Energie, Mobilität, Innovation und Technologie

ac/cent

esa

NVIDIA INCEPTION PROGRAM

business incubation centre Austria

EU GLOBAL ACTION ON SPACE

Giuseppe Ramalli
Customized solutions in precision agriculture
Bluebiloba S.r.l.

blue biloba

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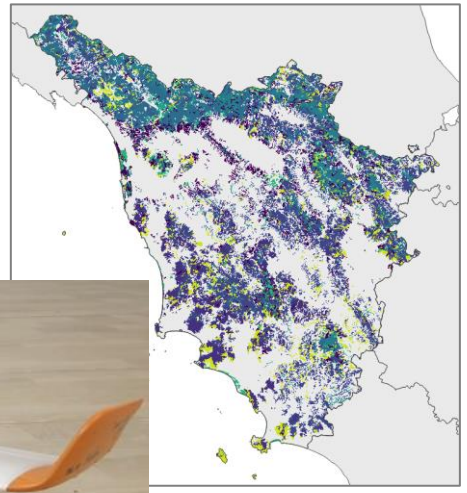
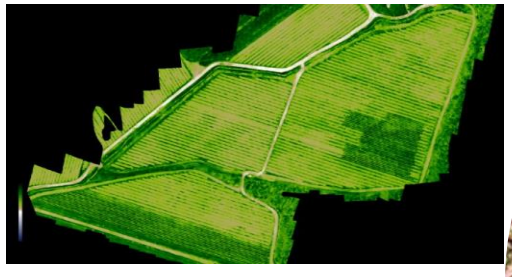
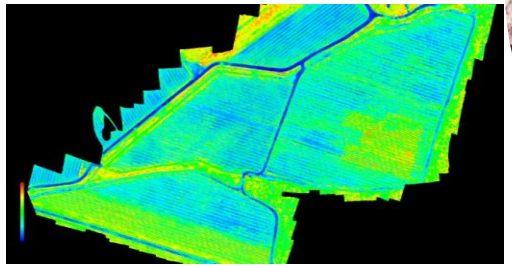
EU GLOBAL ACTION ON SPACE

Bluebiloba srl is an Innovative Startup established in 2018

active in the provision of innovative and personalized services to customer needs in the **IT sector of forestry** and **precision agriculture**.







Bluebiloba s.r.l. works with public and private and research bodies to generate efficient solutions suited to needs

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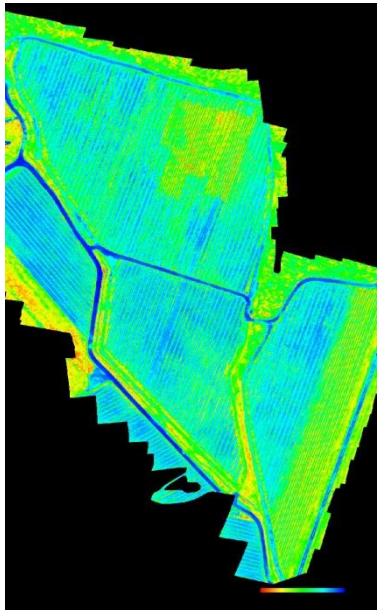
EU GLOBAL ACTION ON SPACE

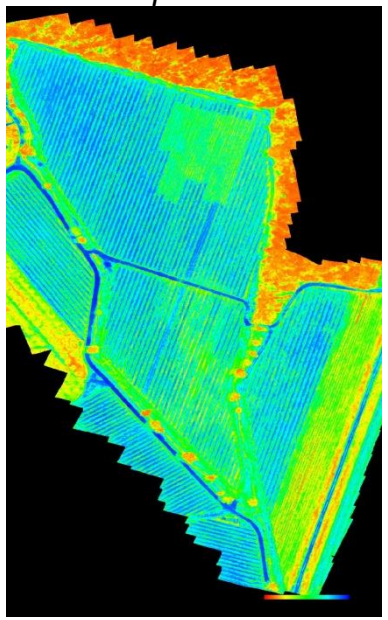
Bluebiloba **uses autonomous drones** with great autonomy for large surfaces, capable of carrying multispectral, IR and RGB sensors, **to be able to acquire multiple data.**
The small distances from the crops grown allow for very accurate data at low cost, which can be acquired at any useful time.

NDVI INDEX

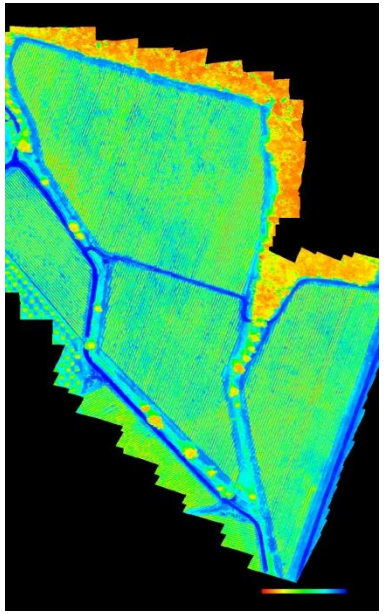
March



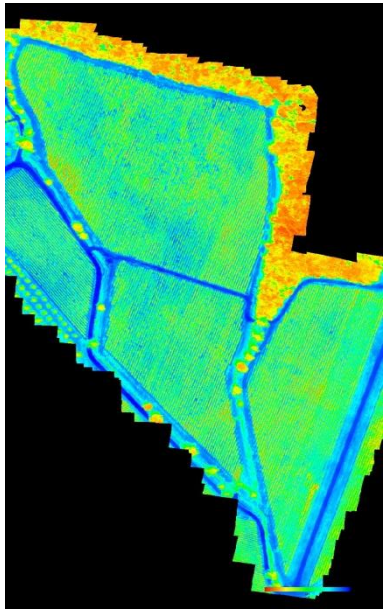
April



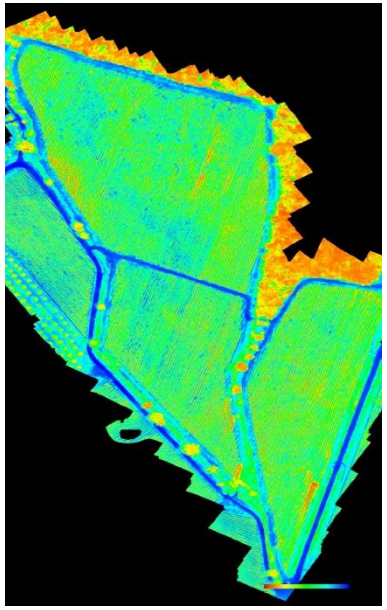
June



July



August



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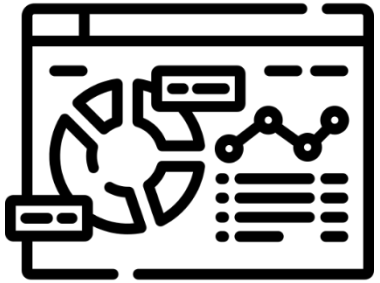
The data acquired with the drones is processed to generate precise

high definition multispectral orthomosaics (*3-4cm/pixel*):

Blue **Green** **Red** **Red Edge** **Nir**

Having multiple and separate spectra **allows you to develop relationships** such as :



NDVI (Normalized Difference Vegetation Index)
GNDVI (Green-NDVI)
SAVI (Soil-Adjusted Vegetation Index)
WDRVI (Wide Dynamic Range Vegetation Index)
EVI (Enhanced Vegetation Index)

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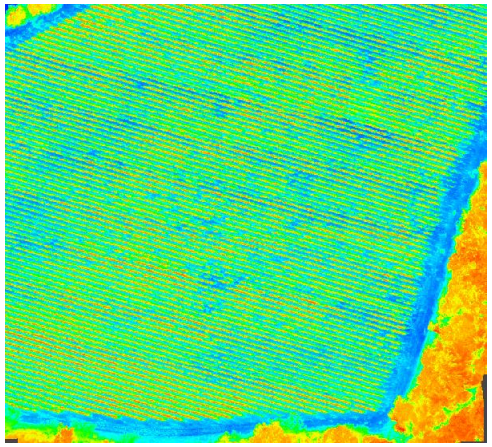
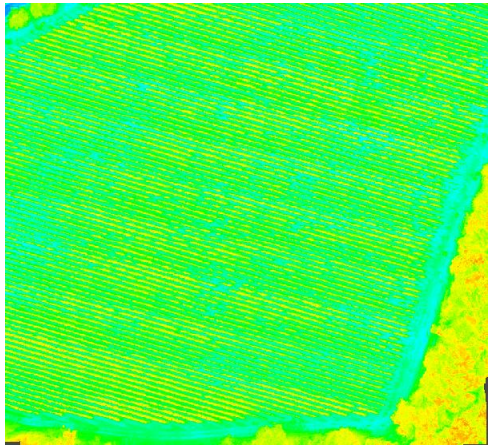
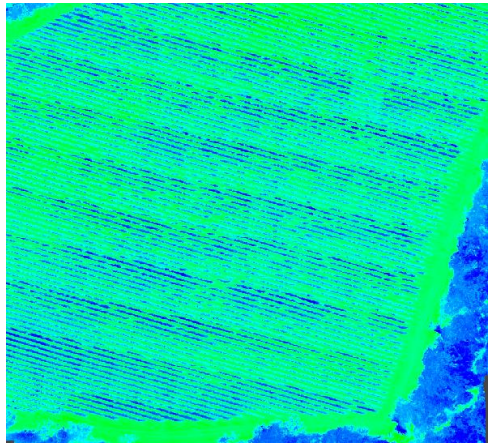
The indices are generated by performing specific mathematical operations with the individual spectra based on the characteristics of the plantations (e.g. height and development of vegetation, stage of development or ground cover) or to help understand problems (**hydration, fertilization or pests).**



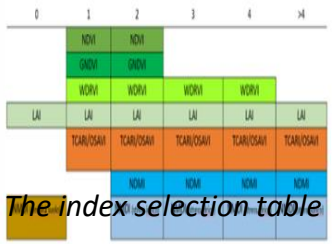
NDVI index



GNDVI index



(NIR-BLU)/(NIR+BLU)



The index selection table

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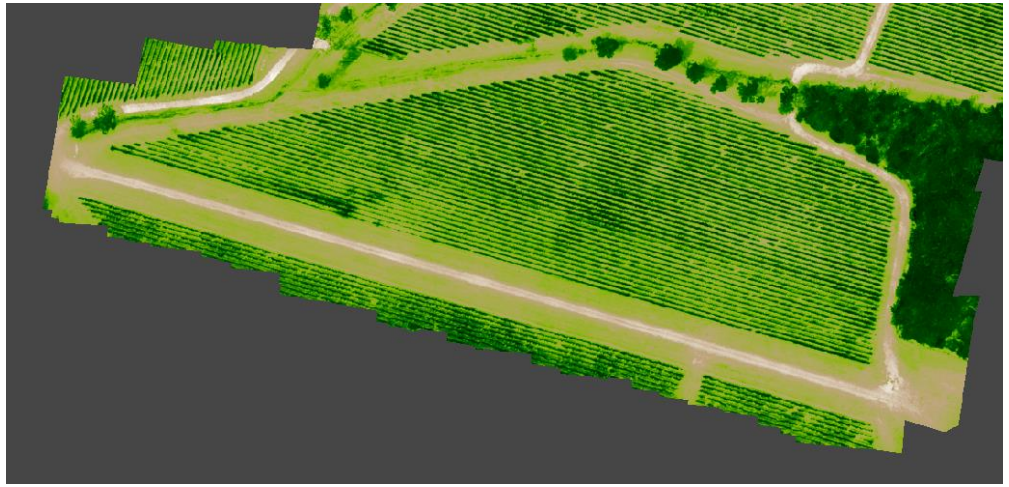
…… we use the **best multiband multispectral sensors**

	Multispectral	Panchromatic
Pixel size	3.45 µm	3.45 µm
Resolution	1456 x 1088 (1.58 MP per multispectral band)	2464 x 2056 (5.1MP panchromatic band)
Aspect ratio	4 : 3	6 : 5
Sensor size	6.3 mm diagonal	11.1 mm diagonal
Focal length	5.5 mm	10.3 mm
Field of view	49.6° HFOV x 38.3° VFOV (Multispectral bands)	44.5° HFOV x 37.7° VFOV (Panchromatic band)
Output bit depth	12-bit	12-bit
GSD @ 120 m (394 ft)	7.7 cm/pixel per multispectral band	3.98 cm/pixel for panchromatic band
GSD @ 60 m (197 ft)	3.85 cm/pixel per multispectral band	1.99 cm/pixel for panchromatic band

Name	Center	Bandwidth
Blue	475 nm	32 nm
Green	560 nm	27 nm
Red	668 nm	16 nm
Red edge	717 nm	12 nm
Near infrared	842 nm	57 nm
Panchromatic	634.5 nm	463 nm

Unlike other sensors, this one ensures great accuracy and precision of the data



NDVI 2cm/pix

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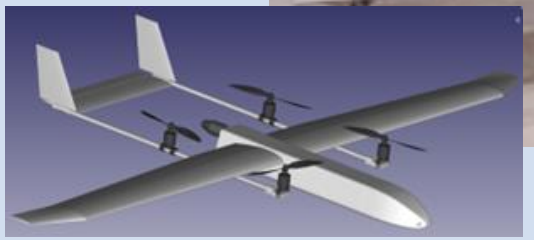
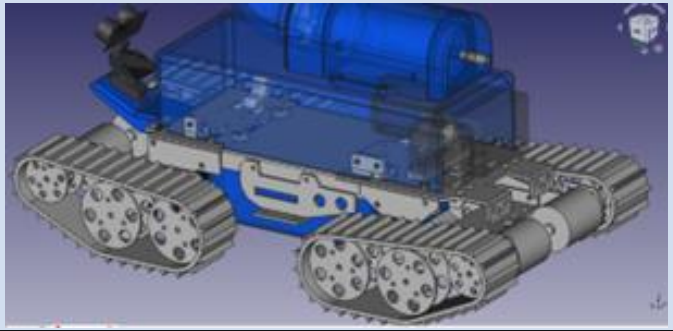
Bluebiloba srl - **design** and **build** our:

	Multicopter		**Fixed Wing**
			
	VTOL		**Terrestrial**
			

and track to make an efficency solution to the problems.

EU GLOBAL ACTION ON SPACE

Not is all:

our environmental drones

both **flying** and **terrestrial**,

allow us to know the **level of air pollution** in real time,

also taking air samples to be analyzed in the laboratory

```
10:48:44.392 ->
10:48:45.397 -> NH3: 1013/1006 = 1.71 => 0.28ppm
10:48:46.085 -> CO: 450/408 = 1.18 => 3.63ppm
10:48:46.763 -> NO2: 930/885 = 1.56 => 0.23ppm
10:48:47.480 -> 1013
10:48:47.480 ->
10:48:47.480 ->
10:48:47.480 ->
10:48:48.445 -> NH3: 1013/1006 = 1.71 => 0.28ppm
10:48:49.164 -> CO: 446/408 = 1.16 => 3.70ppm
10:48:49.833 -> NO2: 929/885 = 1.56 => 0.23ppm
```

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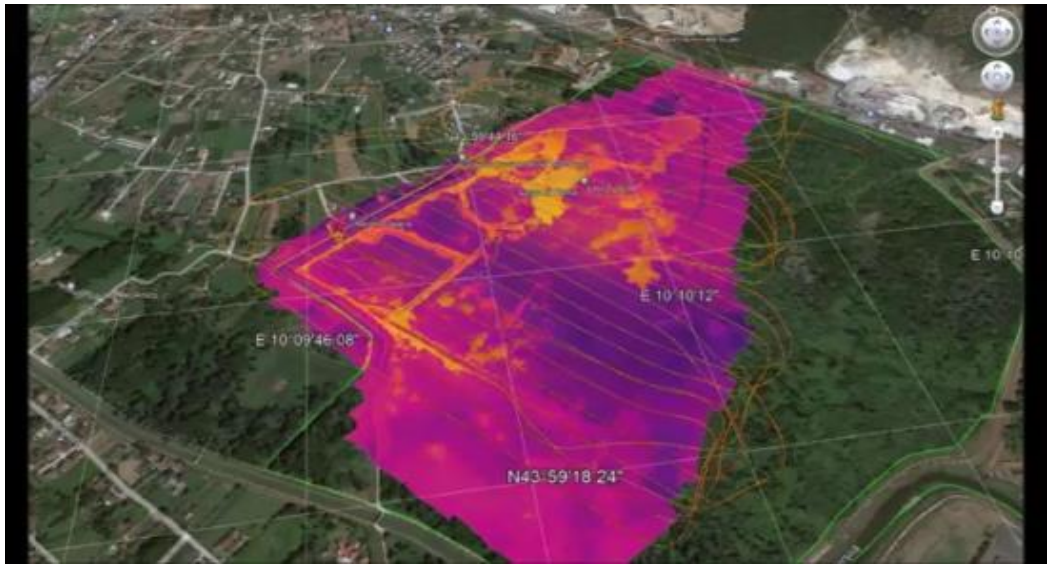

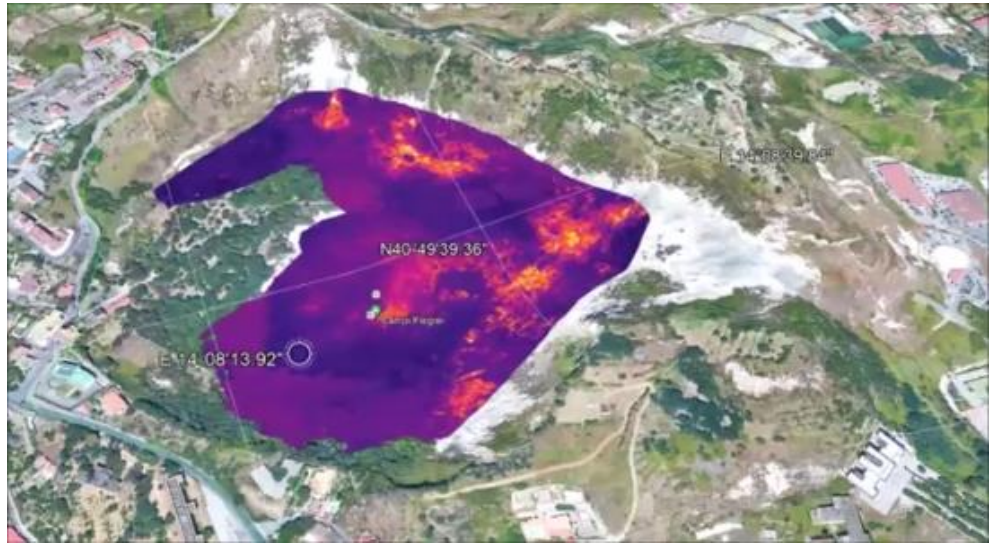

Bluebiloba has always *collaborated* with **public** and **private** bodies looking for an efficient solution to problems, and is a company chosen by EU Global Action

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SPIN-OFF APPROVATO

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Thanks for your attention

ForTech

DAGRI Department

blue biloba

UNIVERSITÀ DEGLI STUDI FIRENZE

SPIN-OFF APPROVATO

PEFC

PEFC/18-41-70

Promuoviamo la Gestione Sostenibile delle Foreste

www.pefc.it

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Copernicus EGNOS GALILEO

Christian Mittermaier | christian.mittermaier@constellr.com

Measuring temperature to manage Earth’s water and carbon resources

Unveil the unseen - for timely decisions

Brasilia | 14.09.2023

EU GLOBAL ACTION ON SPACE

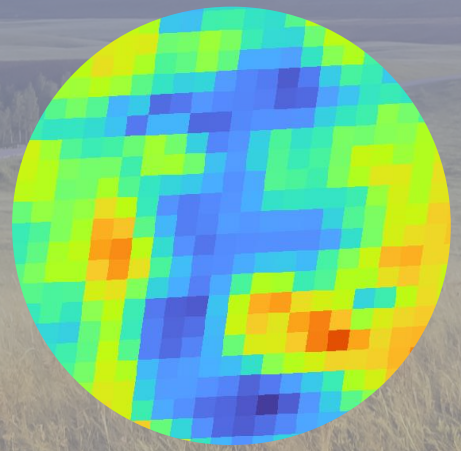
Unmatched precision, accuracy & frequency in thermal infrared for temperature, water and carbon measurements

Visual RGB image

Reflectance

Daily revisit

Public missions

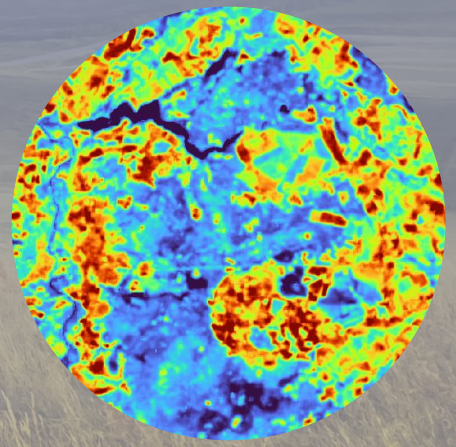


17 °C 38 °C

Emissions

48h/96h revisit

constellr



17 °C 38 °C

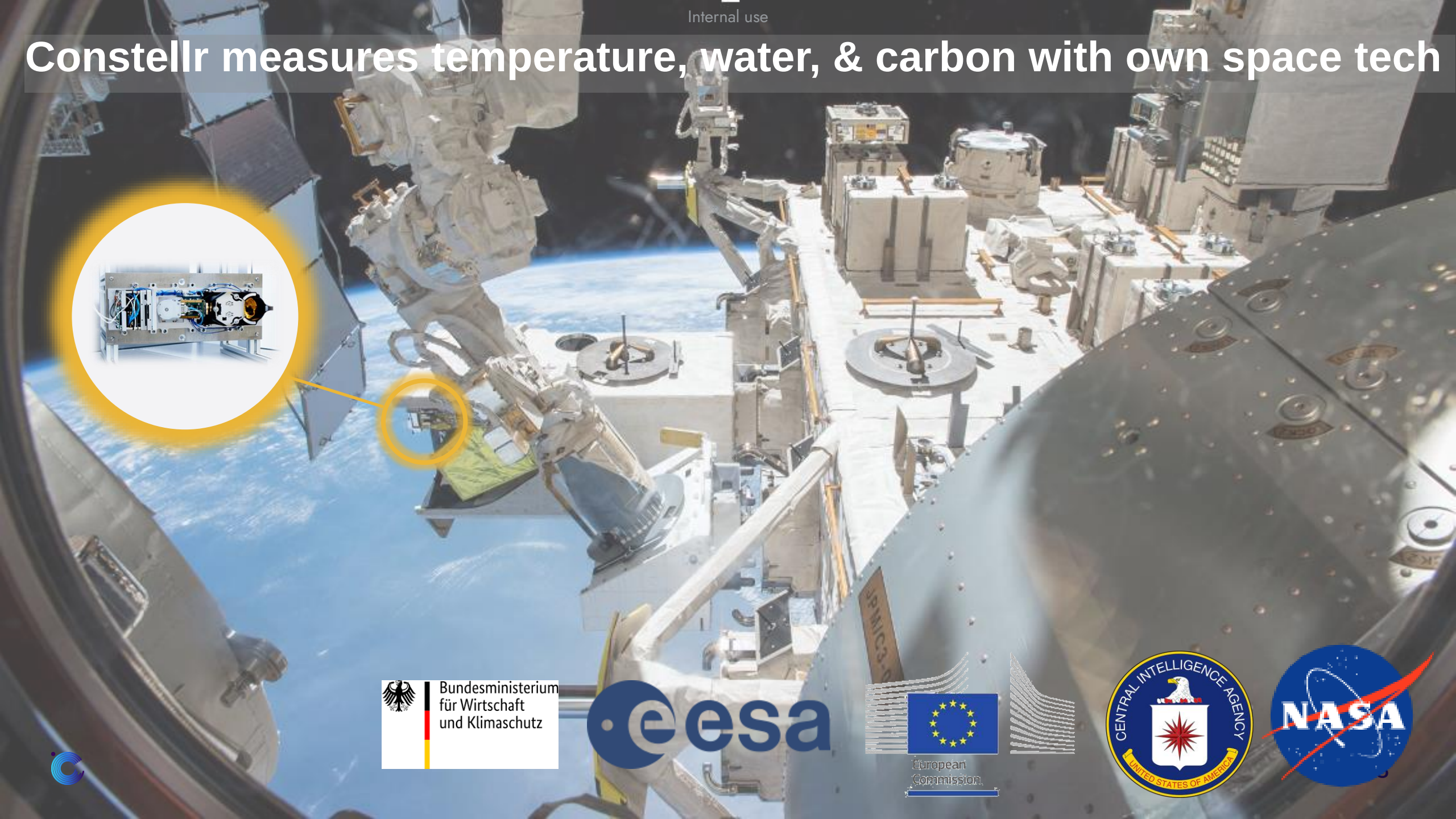
Emissions

48h/96h revisit

30 m LWIR / 10 m VNIR at nadir

1,5 K absolute radiometric accuracy

Constellr measures temperature, water, & carbon with own space tech



thermal infrared
visual near-infrared
3rd of May 23
10:30 am
11th of May 23
10:30 am
20th of May 23
10:30 am
°C
27.5
30.0
32.5
35.0
37.5
40.0
42.5
45.0

Temperature monitoring unveils new ways of crop monitoring

Water assessment

Irrigation

Water & cost savings up to 40%

eureka innovation beyond borders

Plant Stress detection

Fertilizer/Pesticide

Increasing nutrient uptake by 1,5x
water efficiency by 1.7x

YARA

Measurement, Reporting & Verification (ESG)

Soil health

Reduction in soil samples up to 85%

BAYER

BAYER CARBON

* Yara gave their consent to speak about the collaboration and share limited data.

constellr

Unveil your capabilities

Email
Christian.mittermaier@constellr.com

Website
www.constellr.com/

Linkedin
Christian Mittermaier

EU GLOBAL ACTION ON SPACE

Gustavo Caluori Satei
Managing Director Europe
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www.spacesur.com

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EU GLOBAL ACTION ON SPACE

Who we are

SPACE SUR

We are a selected company of the EU Global Action on Space, specialized in software engineering and solutions applied to the entire aerospace cycle, from the development of satellites and complex systems, to the implementation of geospatial solutions with high added value for different industries.

Our mission is to generate a positive impact on business and society based on the application of space technology for digital transformation.

SpaceSUR Europe
Barcelona, Spain

SpaceSUR LATAM
Buenos Aires, Argentina

Management System
ISO 9001:2015
TÜVRheinland CERTIFIED
www.tuv.com
ID 9108626361

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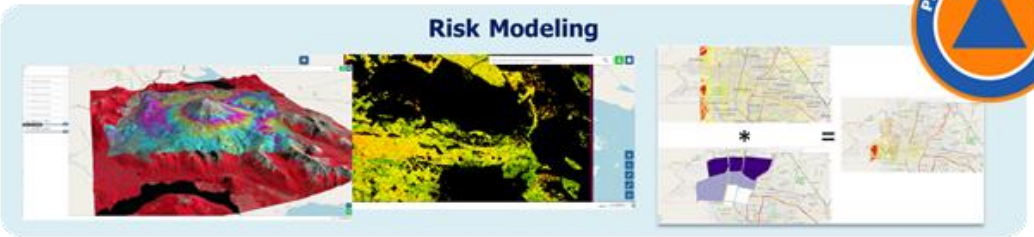
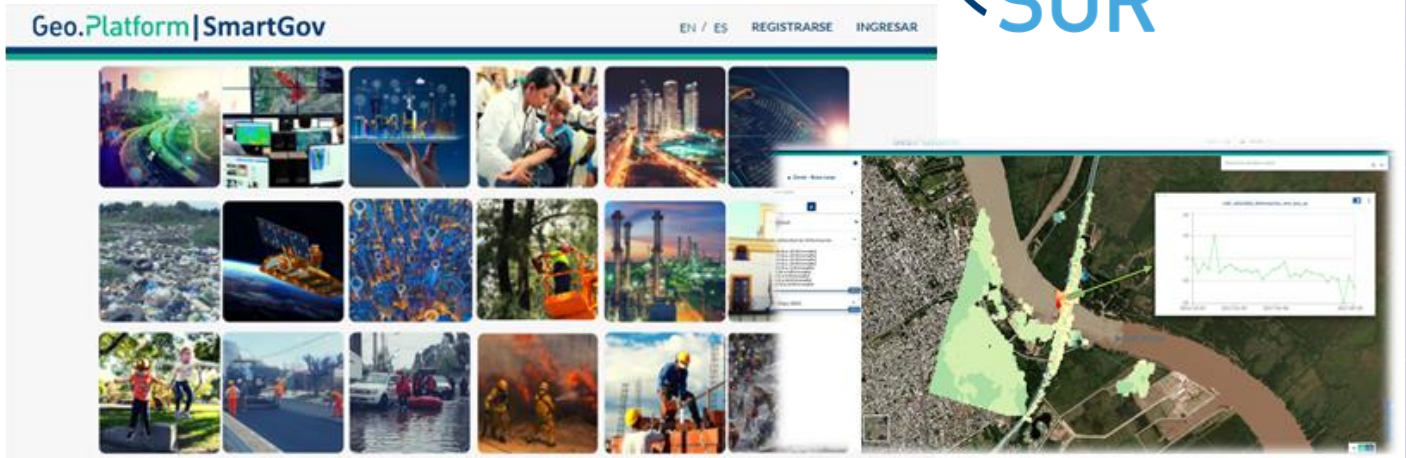
EU GLOBAL ACTION ON SPACE

Success Cases & Product

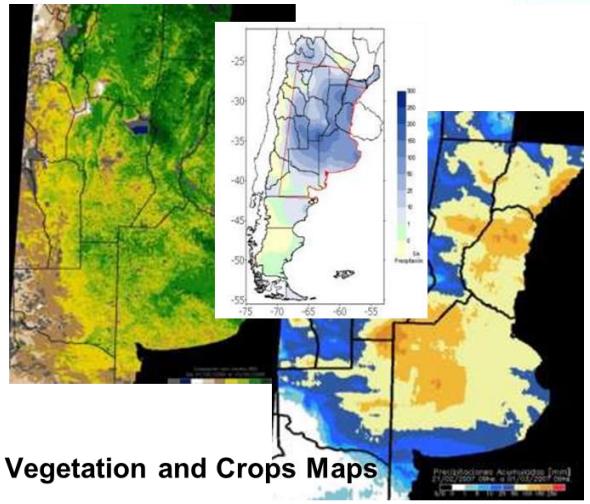
SPACE SUR

SINAGIR: National Risk Management System

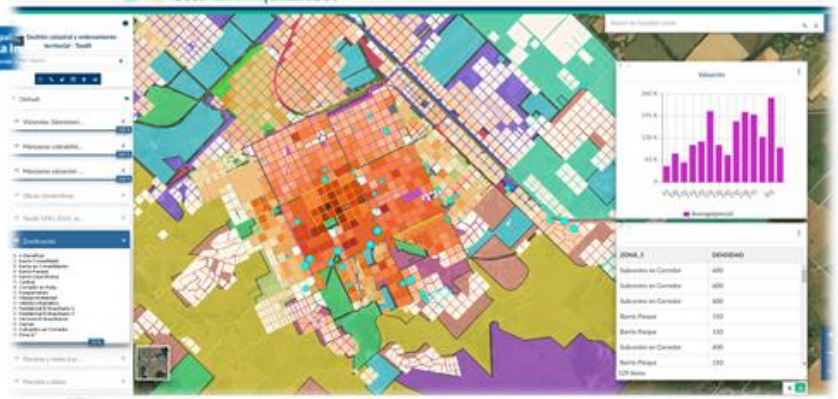




SmartGov 4.0 cloud platform



Vegetation and Crops Maps



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Our Business Model

SPACE SUR

DATA SOURCES

Geo.Platform
Earth and Assets Remote Monitoring

SaaS

On premises

Hybrid

Consulting

Expertise

- ✓ Geospatial data collection and management
- ✓ Geospatial data processing and analysis
- ✓ Mapping and data delivery
- ✓ Knowledge management, technical writing, and documentation
- ✓ Transfer of Technology

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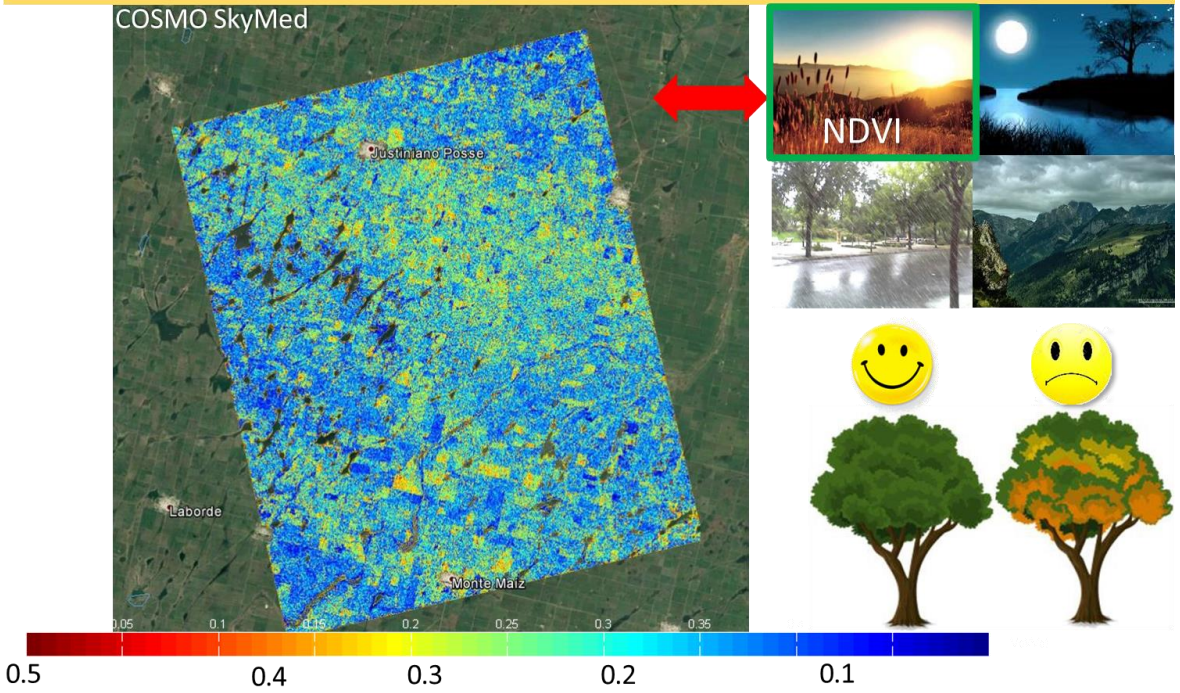
Agricultural applied solutions

SPACE SUR

Radar Vegetation Index

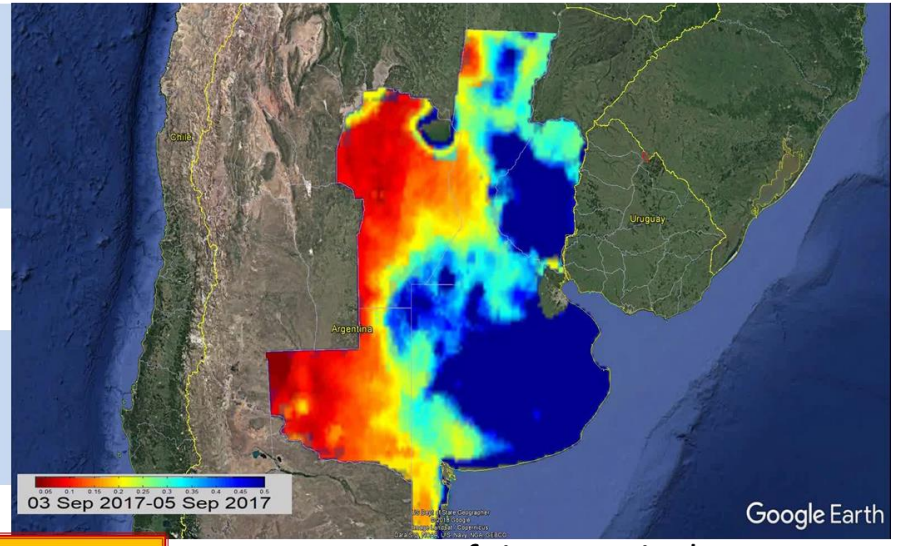
AOI: Córdoba Argentina



Drought Indicador

Recurrence of soil moisture values

sep/2017 to feb/2018



percentage of times a pixel was below 15% soil moisture

SMAP
- ✓ integration every 3 days
- ✓ pixel 9 km

SAOCOM: 250 m

Our solutions are framed within the SIASGE constellation, integrated by 2 SAOCOM 1A+1B SAR Band-L and 4 COSMO SkyMed SAR-2000, Copernicus Contributing Missions Online from Europe.

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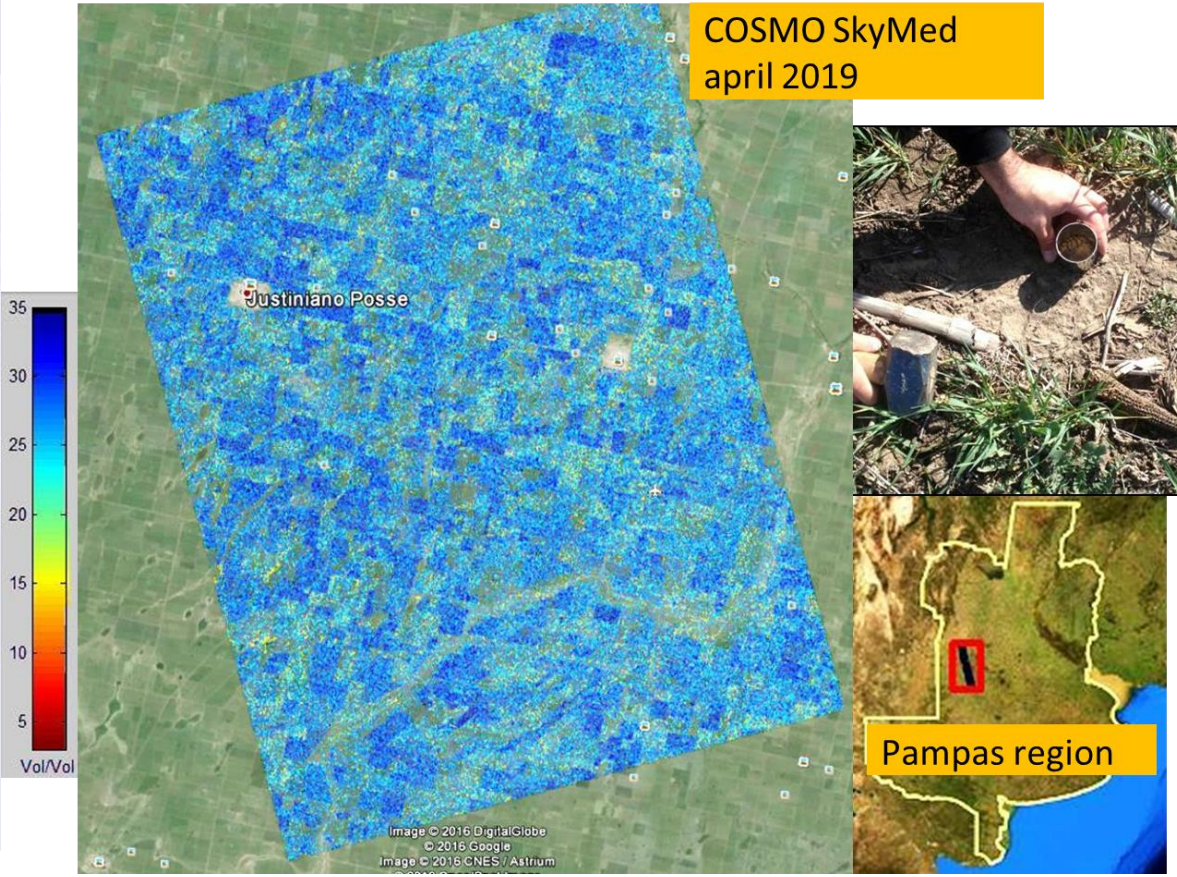
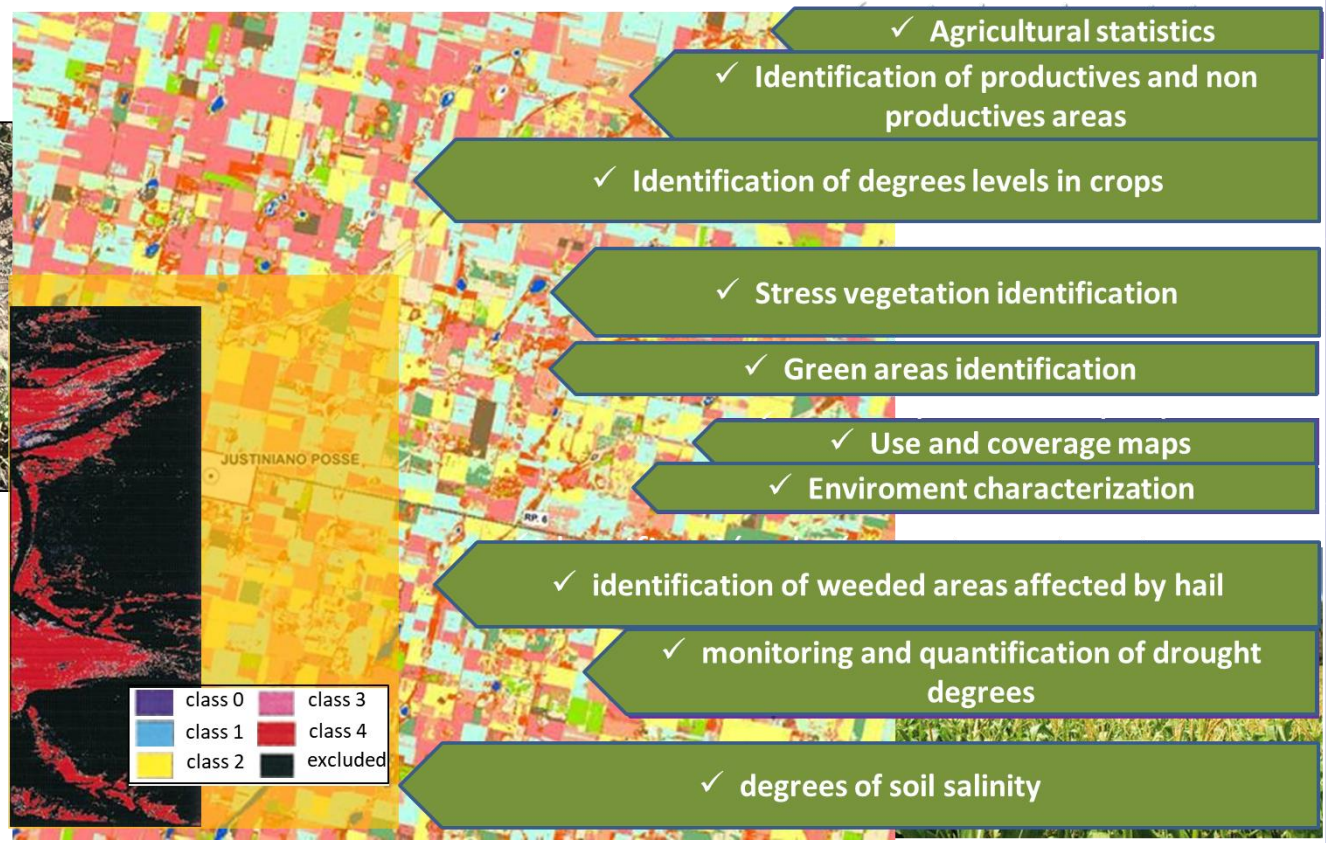
Agricultural applied solutions

SPACE SUR

Soil Moisture Map



Other Contributions to Agriculture



- ✓ Agricultural statistics
- ✓ Identification of productives and non productives areas
- ✓ Identification of degrees levels in crops
- ✓ Stress vegetation identification
- ✓ Green areas identification
- ✓ Use and coverage maps
- ✓ Enviroment characterization
- ✓ identification of weeded areas affected by hail
- ✓ monitoring and quantification of drought degrees
- ✓ degrees of soil salinity

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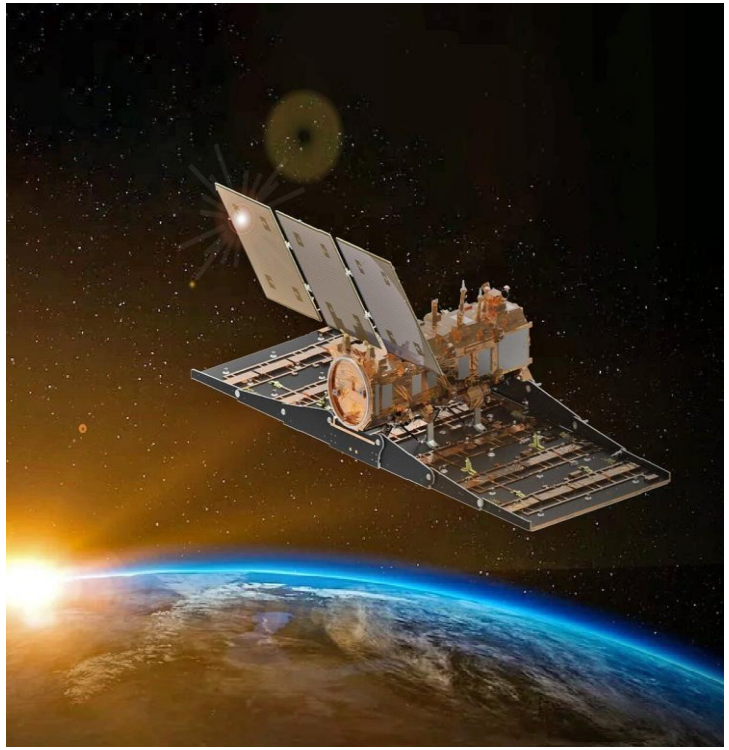
Main Products

Strategic Applications

The Strategic Applications, make use of the Humidity Map to generate their own products of interest for agriculture and hydrology, among which are: thematic maps, forecasts of online performance according to crop management scenarios, newsletters of forecasts hydrological deterministic and probabilistic, short and long term, etc.



DSS – Decision Support System For Agriculture

- The LCC (Land Cover Classification Processor) is a system designed to assist in decision-making in crop management through computational simulation of crop practices under varying conditions.

FIM – Fussarium Incidence Map. Wheat Head Blight Disease Forecast System

- It allows obtaining a spatio-temporal prognosis of fusarium disease in the wheat region, offering distribution maps according to the degree of severity of the infestation

HEM - Risk and Hydrological Emergency Management

- Processor that allows to generate forecasts and management of hydrological emergencies of five basins of national interest.

Strategic Applications - ONLINE

WEB application that allows to cross the information obtained by the SAS-DSS and SAS-FIM batch processors with different crop management scenarios to obtain information in an interactive way that helps in decision making through the analysis and projections of crop yields and Fusariosis infection risk.

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Agricultural Plots

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