



ICS.abunda.PLUS

[www.abunda.plus](http://www.abunda.plus)

### Which problems are addressed?

Smallholder-dominated crop organizations often manually consolidate data on spreadsheets, risking errors and compliance failures throughout the value chain. Abunda+ helps producer organisations, cooperatives and traders who certify and purchase goods from smallholder producers to digitally manage their data, comply with standards, and provide high-quality data for their customers and their databases or traceability systems. Traceability only fulfils its purpose if the information on the producer and their production plots is reliable. With Abunda+, you get a solid foundation of data, on which to build your supply chain and traceability.

### What is traced?

The internal control system is the heart of the organic and fair trade certification. Technicians conduct internal audits to ensure members comply with standards, certifications,

and deforestation rules. Abunda+ offline mobile app allows the documentation of the whole information making part of the internal control system: Personal and social data of producers, their production plots (GIS Polygon recording), the plot's special elements (e.g. Houses, special trees), neighbours, inputs, animals and crops on a plot, etc. with geolocalisation and photographic documentation. Furthermore the producer's memberships in producer groups, their certifications including its status (transition, certified, passive,...), the identified non-conformities as well as the management of their corrective measures, sanctions, and many more. It allows the certification- and quality management to organise internal and external audits. Our solution allows a documentation where and when the internal audit has happened. Regarding deforestation compliance, Abunda+ enables suppliers to document the agricultural usage in the field identified as deforestation risk.

**A simple to use and affordable tool for farmer's groups to digitise their internal control system and manage the compliance with EUDR, EU organic legislation and any other ESG-certifications like Fairtrade, etc.**

### What makes you unique?

Abunda+ can be used by people with a very low level of computer and software-knowledge. It is easy to handle and highly flexible, especially regarding different regions, languages, and crops/goods. The management interface (for the quality- and certification responsible of the organisation) is in Spanish, English, French. The Working language for the technicians (Questionnaire, GIS-Measurement in the field, Photo documentation) is made in any available written language, including p.ex. Malagasy or Mende.

Abunda+ is complementary to traceability or deforestation due diligence systems.

Out of own interest, any import company should consider supporting their suppliers in the global south with technology and know-how.

### Customers

Smallholder farmer's organisations; cooperatives; import companies; certification bodies

### Users

Technical Staff of Smallholder Farmer's Organisations and cooperatives; Quality and Certification responsables of Organisations and Cooperatives; Internal and external Auditors

### Regulatory Compliance

EUDR, EU organic regulation; Any certification (Rainforest Alliance, BioSuisse, FLO Fairtrade, Fair For Life, SPP, etc.)

### Data Protection

Data is owned by the field owner/producer, this is ensured by the terms and conditions of Abunda+. During the process of internal Auditing, the producer/owner is informed about the use and ownership of the data. All information is stored on a AWS cloud service.

### Crops targeted



Coffee, Cocoa

Others: Turmeric, cloves, cinnamon, ginger and vanilla



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[www.elucid.social](http://www.elucid.social)

**Our digital platform enhances healthcare access in agricultural and mining sectors, improving small-scale producers' lives and providing clients with real-time, auditable data to strengthen sustainability claims and human rights due diligence.**

### Which problems are addressed?

High out-of-pocket healthcare costs annually push over 100,000 people into extreme poverty and deter individuals from accessing essential medical services. Despite the existence of national insurance systems, only a minority of farmers have active policies, primarily due to service gaps, financial barriers, the distance to registration offices, and a general distrust of public systems. This lack of healthcare access adversely affects the health and well-being of farming communities and, by extension, undermines the resilience of the supply chain.

Poor health contributes to increased absenteeism and decreased productivity among farmers, disrupting cocoa production. Additionally, health challenges negatively impact

farming practices and post-harvest handling, compromising the quality of cocoa beans. The burden of high out-of-pocket payments for healthcare forces farming households to adopt negative coping mechanisms, such as child labour, and encourages unsustainable farming practices that contribute to deforestation and environmental degradation as a means to cover health costs.

Furthermore, the limited availability of data on health and social risks poses a challenge for companies working with these communities to manage social risks, ultimately jeopardizing the long-term sustainability of cocoa production in the region.

### What is traced?

Our solution effectively traces and monitors the impact of the health

program on the health and livelihoods of smallholder farmers, ensuring compliance with global standards and national social protection policies. By providing auditable data, we help companies make valid sustainability claims.

### What makes you unique?

Elucid's Health Program stands out for its ability to provide quality healthcare, especially in remote areas where other insurance options fall short. Our digital solution facilitates efficient claims processing and offline data collection, ensuring timely financing for healthcare facilities and enabling us to monitor service provision and quality of care. Additionally, we prioritize providing high-quality data to support auditable sustainability claims, enhancing transparency and credibility for our clients.

### Customers

Brands, manufacturers and suppliers

### Users

Farmers and healthcare providers in origin countries and our international clients.

### Regulatory Compliance

ESRS (all of the S), EUDR (polygon mapping, etc).

### Data Protection

Elucid prioritizes data protection and privacy through clear data ownership, encryption, and two-factor authentication. Our compliance with GDPR standards ensures regulatory adherence. Additionally, we employ access logging, real-time data analysis, and automated fraud detection to safeguard user data.

### Technology used



Artificial Intelligence

Others: Progressive Web Applications

### Crops targeted



Coffee, Cocoa

Others: Bananas, Mica, Cotton



**Louisa Marie Truss**

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[www.farmerconnect.com](http://www.farmerconnect.com)

We're a tech company that brings trust across supply chains

**Which problems are addressed?**

Food and agriculture supply chains are complex, often starting in rural and offline environments, with many different players. This is a challenge when it comes to sustainability: you need reliable data starting from the origin and spanning across the entire supply chain in order to know if a product comes from a deforestation zone or has involved child labor.

This is why farmer connect provides end-to-end traceability across entire supply chains, addressing regulatory compliance needs, starting with EUDR, as well as ESG reporting requirements. One traceability solution to cover the different data points that are relevant for your organization and the growing needs of regulatory reporting.

**What is traced?**

farmer connect traceability allows for the creation of farm profiles incl. polygon or plot data as well as information on the farmer, crops, farm practice and certificates.

Our solution is commodity agnostic meaning we can support a wide range of commodities including multi-commodity supply chains. We can trace both, product transactions as well as financial transactions on demand.

**What makes you unique?**

Offline tooling for first mile: farmer connect provides one single solution from first mile to the EU information system. Our solution includes offline tooling that allows for data capture in the field which is then mapped di-

rectly into the system.

High degree of standardization and APIs: Our system applies GS1 standards and is compatible with ERP or logistics systems for all parts of the supply chain that are already digitalized. We support integration with existing IT infrastructure (ERP) or third party systems (satellite assessments or other). This allows for a maximum degree of automation, minimizing manual effort as well as error. One system for growing regulatory requirements: farmer connect offers one traceability system that covers today's regulatory requirements around EUDR and embraces additional data points and certifications to meet future needs, e.g. supply chain act and CSDDD.

**Customers**

Brands, traders, cooperatives & processors

**Users**

Supply Chain analysts, Farmers, Cooperatives, Certification bodies, Sustainability Managers, Traders, Brands, Content Creators

**Regulatory Compliance**

EUDR, German Supply Chain Due Diligence Act etc

**Data Protection**

We primarily use blockchain in the context of traceability, so that we can enable auditable provenance of goods or cash.

With a Self-Sovereign Identity (SSI) solution at the core, FarmerID allows producers to safely store & manage digital versions of identification documents, transaction receipts or (agricultural) certificates in one place. Producers can manage the sharing of their Personally Identifiable Information via Farmer ID to ensure full autonomy and data privacy per global standards ie GDPR.

**Technology used**



Blockchain



Satellite Imagery

**Crops targeted**



Coffee, Cocoa

Others: Shea, rubber, timber



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[www.farmforce.com](http://www.farmforce.com)

Farmforce Solutions offers digital agricultural management software aimed at enhancing sustainability, compliance, and operational excellence in farming operations.

### Which problems are addressed?

More than 600 million smallholder farmers produce the world's food. From them to the first collection point, known as the first mile, most of the sustainability challenges occur: deforestation, child labour, use of illegal chemicals, fraud, and more. Other approaches focus different aspects, making the agri-commodities supply chain more sustainable or improving producers' conditions of life. However, to do this, one elusive thing is needed: visibility and traceability on the first mile. This information is hard to get, but with accurate data and processes, the various supply chain stakeholders can undertake proper actions to tackle food's first mile sustainability challenges.

### What is traced?

Farmforce traces a comprehensive list of indicators enabling its customers to:

- Get full traceability of their agri-commodities supply chain: Farmers database & GPS mapping, farming inputs & planting campaigns, harvesting & purchasing
- Monitor the effectiveness of their sustainability programs: monitor & remediate child labor, improve the quality of the soils and reduce pollution, Measure CO2 emissions and agro forestry programs, increase living income & find new business opportunities
- Ensure compliance of their activities: EUDR, EUCSDDD, etc.
- Enable operational excellence on the first mile: Increase yields, producers training, ease of certifications processes, production

planning, field staff management

### What makes you unique?

- Pure focus on First Mile: The first mile is so complex that they dedicate their effort to this step of agri-commodities supply chain. Farmforce is an expert in this specific field, with comprehensive solutions applicable to all crops.
- "Bush-proof" solution: Farmforce's solution works offline in the most remote corners of the world. The valuable data of food's first mile is always protected, safe, and never lost.
- Never-ending innovation: Farmforce is one step ahead of the next First Mile challenges. For example, when deforestation regulation was adopted by the EU, Farmforce was in place with the solution.

### Customers

Commodities first collection points (cooperatives, aggregators, etc.), traders, processors, and brand owners.

### Users

All the above mentioned stakeholders: field agent, sustainability managers, agronomists, supply chain/operations managers, certification managers, etc.

### Regulatory Compliance

EUDR, various certifications (Fairtrade, RA)

### Data Protection

Farmforce is GDPR-compliant (data-hosted by AWS in Ireland) and ISO 27001 certified.

### Technology used



Artificial Intelligence



Satellite Imagery

### Crops targeted



Coffee, Cocoa

Others: Rubber, Palm Oil, Herbs, Spices, Nuts, Vegetal and Essential Oils, etc.



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**FarmStrong**  
FOUNDATION

[www.farmstrong-foundation.org](http://www.farmstrong-foundation.org)

### Which problems are addressed?

We are working on an integrated rural development system approach in which two-way traceability plays a role. Dealing with “down-stream” traceability of tropical agricultural commodities produced by individual, dispersed, isolated, remote, invisible smallholders in a complex ecosystem in an untransparent and highly fragmented supply chain requires a lot of experience and expertise on the ground. However, if the aim is socio-economic and environmental impact at the target group level, the “up-stream” traceability of payments and premiums is even more critical. We work in both directions at the same time. .

### What is traced?

We are employing a combination of multiple solutions simultaneously. We trace cocoa beans from farmers to bush warehouses to usinage facilities in the port areas AND we monitor what is happening in the areas where we work both from social-economic and environmental perspective. We trace payments, we trace tree planted, we monitor land-use change, reforestation, deforestation, biomass evolution, (decrease and increase), crop health (disease detection) and weather patterns.

### What makes you unique?

We work with a combination of technologies operating in cooperation with the relevant stakeholders simultaneously. We believe that creating impact through reliability, integrity, and trustworthiness cannot be achieved through a single solution approach alone; instead, it requires a multifaceted approach tailored to specific challenges and contexts.

### Customers

All the donors we work with and more to come, this approach will allow them to be conform to legislations and expectations with the highest level of integrity, meaning lowest risk on fraud.

### Users

Anybody who wants to set a system covering the above points.

### Data Protection

All ARTCI compliant

### Technology used



Artificial Intelligence

EO, MoMo, micro-chip, digital nano-spectrum image sensors, biological markers, biometrics and more.  
Blockchain could be included

### Crops targeted



Cocoa

Other: Palm Oil, Cashew, Rubber



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**A cash flow mobile app used by smallholder farmers and enabling the measurement of Living Income gaps.**

[www.fynka.com](http://www.fynka.com)

**Which problems are addressed?**

The mobile application Fynka aims to support smallholder farmers by fostering an entrepreneurial spirit, aiding informed decision-making, and improving their livelihoods. By using the Fynka app, farmers can enhance various income drivers like: controlling their finances, make informed decisions, increase productivity while managing known costs and risks. Thus, profitability can increase by efficiently allocating labor. Farmers' net household income are expected rise, which is crucial for saving money. Savings can then be allocated towards repaying loans, planning for future uncertainties (medical expenses, funerals, etc), and investing in life-changing projects and labor-saving activities. Fynka strives to break the cycle of high-interest debt and day-to-day living, empowering farmers to focus on their future and achieve their aspirations. By earning a living income, farmers can pay their workers a living wage, improving gender equality and social stability in the industry.

**What is traced?**

To enhance farmers' livelihoods and decision-making, the Fynka mobile app provides tools to trace farmers' plots and monitor household net income. It uses GPS data to map plots, giving farmers a clear visual overview of land boundaries and crop distribution. Farmers can track revenues and expenses from both on-farm and off-farm activities for all household members, categorizing income from sources such as crop sales, livestock, and other farm-based or off-farm revenue streams. Fynka also allows users to track farming and personal expenses. With visual representations like graphs and charts, the app offers trend analysis that helps identify patterns in income and expenses, empowering farmers to make data-driven decisions.

**What makes you unique?**

Fynka combines an entrepreneurial and digital approach by training users on entrepreneurship while using the app. As farmers to collect data independently, they improve their financial management. The app provides farmers a toolkit for strategic planning and positive savings practices.

Fynka considers the entire farming system including various crops. This broader perspective helps farmers diversify their income streams and manage risks across different aspects of their operations. Fynka's sharing account functionality fosters gender equality by promoting joint decision-making and resource management among household members. The app evaluates anonymised farmers' net income against Living Income benchmarks. This allows customers to measure the income gap and identify improvement areas, and to track intervention impact on farmers' financial wellbeing.

**Customers**

Cooperatives, sourcing companies and public entities.

**Users**

Smallholder farmers

**Regulatory Compliance**

GDPR, ARTCI, EUDR (farmers' plots)

**Data Protection**

Obtaining farmers' consent is imperative for data collection purposes. Analytics derived from anonymized farmers' data are accessible through a dashboard interface.

**Technology used**



Satellite Imagery

**Crops targeted**



Coffee, Cocoa



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**KoltiTrace MIS (Management Information System) is a comprehensive, integrated platform designed for agribusinesses and producers in global supply chains, offering multi-crop solutions and providing a holistic view of agricultural operations, from seed to table.**

**Which problems are addressed?**

KOLTIVA focuses on solving the market pain problems of global supply chains which include:

1. Compliance with growing demands of ever-changing regulations
2. Climate change and smallholders' vulnerability in agriculture supply chains
3. Growing consumer demand for sustainable, transparent and safe products

**What is traced?**

Our end to end supply chain traceability system includes producer profiles, farm mapping, crop production and transactional traceability, land use change GHG emissions, and deforestation verification.

**What makes you unique?**

KoltiTrace is an integrated multi-crop platform for businesses and producers that enables traceability solutions to provide transparency from seed to table. Serving as a holistic tech ecosystem, our software-as-a-service is available for multinational corporations to achieve a resilient and transparent supply chain.

On the agritech side, it offers producer profiling, geo-location & mapping,

seed-to-table traceability, and supply chain farm management alongside in-person training and coaching with field experts and agronomist team. We also utilize IoT to complement smart farming technology solutions with digital scales, portable soil analysis, and solar-powered weather station.

On the climate front, we are building products that can help with greenhouse gas assessments and pivoting to low-carbon production. We offer clients climate-smart farm support, land use mapping, and risk alerts for deforestation. Additionally, our EUDR solutions also help businesses automate the creation of due diligence statements, risk assessments, and farmer lists generated from collected data, supporting evidence submission for EUDR Compliance..

**Customers**

Producers, Agribusinesses (agri-input suppliers, distributors, buying stations, traders, processors, manufacturers), Retail and End Consumers.

**Users**

Producers, Agribusinesses, Cooperative, Field Agents, Processors, Mills.

**Regulatory Compliance**

EUDR

**Data Protection**

We adhere to the EU General Data Protection Regulatory (GDPR) compliances to meet the data security, transparency, and privacy rights standard. This Regulation lays down rules relating to the protection of natural persons with regard to the processing of personal data and rules relating to the free movement of personal data.

**Technology used**



Artificial Intelligence



Satellite Imagery

Others: IoT, Cloud

**Crops targeted**



Coffee, Cocoa

Others: Over 50 Crops are available in our solutions



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## MiCacao's project is developing together with Open Food Chain a traceability system for cacao from Peru and Colombia.

[www.openfoodchain.com/Industries/Cacao/south-america](http://www.openfoodchain.com/Industries/Cacao/south-america)

### Which problems are addressed?

Deforestation is responsible for around 10% of greenhouse gas emissions, which exacerbates the negative effects of climate change. The latest regulations approved by the European Union prohibit the importation of products linked to deforestation.

Additionally, according to monitoring by the National Program for Forest Conservation for Climate Change Mitigation of the Ministry of the Environment, Peru lost 203,000 hectares of forests in 2020, of which 180,000 hectares are related to deforestation for agriculture.

In Colombia, more than 174,000 hectares of forests were deforested just in 2021. One of the crops responsible for this action is cocoa. The global demand for chocolate

has devoured our tropical forests, where cocoa trees grow.

The European Union, the world's largest buyer of cocoa, has committed to allowing access to cocoa that does not destroy or degrade forests. This is part of a historic legislative package to address the risks of deforestation in the supply chains of various raw materials, such as livestock, timber, coffee, rubber, soybeans, cocoa, and palm oil (used to make chocolate).

### What is traced?

To address the new legislation and showcase advancements in zero deforestation, the MiCacao Project is developing an innovative digital solution linked to the cocoa value chain: the Open Cacao Chain. In the Open Cacao Chain, accessible via

mobile phone, it enables producers and other actors in the chain to input their information and, through a QR code, access details about the attributes and origin of the cocoa. We help with EUDR compliance.

### What makes you unique?

The Open Cacao Chain has two key characteristics:

1. It is freely accessible to farmers.
2. No link in the supply is left unconnected (saving time and effort)
3. Connects with any data system

### Customers

All actors in the cocoa supply chain, not farmers

### Users

All actors in the cocoa supply chain

### Regulatory Compliance

EUDR

### Data Protection

The data you choose to store is kept secure through different cryptographic techniques. Every actor in the supply chain has complete ownership of data

### Technology used



Blockchain

### Crops targeted



Coffee, Cocoa



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[www.picterra.ch](http://www.picterra.ch)

## Leveraging Earth Observation Imagery and A.I. for Critical Insights

### Which problems are addressed?

Monitoring commodities and related supply chains typically require broad area management. The current process of collecting this information is slow, difficult (usually done manually), and expensive. This leads to complexities for sustainability reporting, delayed detection of disruptions (e.g. deforestation), and lack of specific insights related to inventory, optimization, and predictions.

### What is traced?

Picterra's platform can trace any object visible in satellite, aerial, or drone imagery. Such as cocoa plants (and follow their growth), deforestation activities, wildfires, invasive species, and biodiversity monitoring.

### What makes you unique?

We have built a platform that makes it easy to develop and deploy Machine Learning for Earth Observation and extract geospatial insights (no coding skills needed). Our platform enables customers to build their own detectors for their specific solutions, with several features that enable customization of the project developments.

We can also support this work for customers who don't have their own geospatial teams through our professional services, and we have a strong focus on user experience. We are the only product in the market that has this high level of versatility with the ability to extract insights at scale and 95% faster than alternative solutions, which in turn makes it cheaper.

### Data Protection

Picterra prioritizes data security to ensure the confidentiality, integrity, and availability of user data. To ensure proper data management, we classify and segregate data by process. This approach allows us to handle sensitive information appropriately, ensuring that it is only accessible to authorized individuals and processes. We have well-defined data encryption and key management processes in place, documented in our Encryption Standards Policy. Our system architecture incorporates data flow diagrams to understand and visualize the flow of data. In terms of ownership, we are the full owner of our platform and have not sold any licenses. From time to time we employ external expertise (Law firm) to manage the protection of our IP.

### Customers

Companies across a wide range of industries, particularly within the commodity sector (soft and hard).

### Users

Geospatial professionals who understand how to work with Earth Observation data and can train the detectors on our platform.

### Regulatory Compliance

Regulations related to agriculture, forestry, sustainability practices, traceability, and fertilizers: EUDR, European Union Common Agricultural Policy (CAP), Genetically Modified Organisms (GMO) regulations, and Statistics on Agricultural Input and Output (SAIO)

### Technology used



Artificial Intelligence



Satellite Imagery

Others: Aerial and Drone Imagery

### Crops targeted



Coffee, Cocoa

Others: Wood, Palm Trees



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**We are a Swiss company and our mission is to multiply the best plant varieties for quality and yield in sufficient numbers.**

**Which problems are addressed?**

Plant breeding has made enormous progress in the last 50 years and many varieties have impressive gains in yield, disease resistance and quality. Through our technologies, we help stakeholders access the most recent varieties at scale, ensure a performing and sustainable and traceable agriculture. For some crops, the best varieties are often not available to farmers, especially in tropical countries, because the large-scale multiplication of these plants is not possible by seeds and limited to horticultural and or tissue-culture technologies.

**What is traced?**

Polyplants traces at several key steps of agricultural production: the genetic background of the propagated varieties ensuring that produced plants are true to the original material.

Polyplants also controls disease-free and high-quality stocks; and the conditions under which plants are propagated, including culture medis and environmental settings. This comprehensive tracking helps in maintaining consistent quality and purity from the lab to the field.

**What makes you unique?**

Genetic fingerprinting enables comprehensive end-to-end traceability, from seed to shelf. This ensures full visibility and transparency, empowering stakeholders to verify the origin and authenticity of products with confidence. It also allows to be compliant with the labelling rules when claiming a pure variety derived end product.

**Customers and users**

The enhanced traceability offered by Polyplants provides significant benefits across the agricultural value

chain, from farmers to end consumers. Farmers gain insights into the genetic nature and purity of the plants, enabling easiercrop management and yield optimization. Traders and processors can verify the varietyof the raw material they handle, ensuring that only the product they claimed reaches the market. Research institutes benefit from detailed data on plant genetics which aids in ongoing breeding and development of new varieties. Finally, processors and consumers enjoy greater transparency regarding to the variety their product has been from avoiding adulteration with unexpected species or variety as that has been seen in some cases. If a given variety is only grown in a given country one could also rely on genetic analysis of the product to claim it is originated from this country.

**Regulatory Compliance**

Enhanced traceability systems support compliance with local and international rules including no GMO . Additionally, improved traceability on the variety ensures the grower to get the variety he is looking for permitting him to take full benefits of the varietal progress including higher yield and income , reduced pesticide and fungicide use, and enhances crop disease resistance and drought tolerance through genetic monitoring. This approach strengthens sustainability and supports environmentally responsible farming globally.

**Technology used**



Genetics

**Crops targeted**



Coffee, Cocoa



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[www.pula-advisors.com](http://www.pula-advisors.com)

**Pula is an agricultural insurance and technology company that designs and delivers innovative agricultural insurance and digital products to help smallholder farmers endure yield risks, improve their farming practices, and bolster their incomes over time.**

### Which problems are addressed?

There are several problems Pula's solution addresses depending on the country. Some countries have looser value chains in commodities and therefore, the sector is less formal and links between data are often untracked, providing incomplete information.

A few specific data gaps that Pula's solution addresses are: 1) accurate data of yields (farmer, company, county, and regional level), 2) unknown information on the farmers growing the commodities, 3) unknown source of commodities. Due to the above challenges, many companies do not know how to comply with EUDR, leaving farmer livelihoods vulnerable.

### What is traced?

Pula's solution traces the linkages between the farmer and the end exporter. For coffee some of the stages in the link include farmers, middle men, hulling and processing company, exporter warehouse. The solution provides the missing information between actors in the value chain so that the exporter has complete information about the farmers who are producing the coffee or cocoa, despite the multiple steps in the process. Some of this information includes geolocation, yields, and demographic.

Pula takes a bottom up approach, starting with the farmers, and a top down approach, starting with the exporters, to trace and confirm the full link/value chain mapping. Concretely, Pula traces value chain actor data and market linkages, farm information and parameters that affect yield, and the implementation of good agricultural practices.

### What makes you unique?

Pula's suite of solutions is unique because it provides traceability between farmers and exporters via blockchain. Pula also provides Area Yield Index Insurance and tracks yield data, which can inform yield predictions. An example of where yield data can be helpful is that it can determine district level production variance for EUDR and it can facilitate additional public and private investment.

Pula's Global Field Operations Strength is notably characterized by: +1500 fully digitized field agents, Presence in 19 Countries with demonstration of data collection & polygon mapping capabilities, Data collection protocols defined for 32 types of crops, including Coffee and Cocoa, 150 data quality checks which have been automated, +130 successful projects, and millions of data points collected from over 250,000 sample farmers.

### Customers

Brands and manufacturers, Traders and Processors, Governments, Donors or financial institutions

### Users

Our own 1800 field agents collect the data directly from farms and other value chain actors

### Regulatory Compliance

EUDR, Corruption Perceptions Index. The solution also assess child labour, overlap with indigenous areas, etc.

### Data Protection

Pula is GDPR compliant. Data is collected and analyzed in Mavuno, Pula's inhouse platform, in line with GDPR. Pula ensures that all data is collected, processed, stored, analyzed, and shared in accordance with all relevant data protection laws. Pula has implemented technical and organizational security measures to protect personal data collected by Pula from unauthorized or unlawful access, use, or processing, as well as accidental loss, destruction, or damage. Pula also ensures that a data processing agreement is signed prior to finalizing the contractual agreement.

### Technology used



Artificial Intelligence



Blockchain

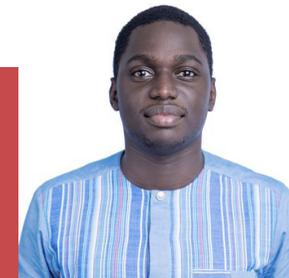


Satellite Imagery

### Crops targeted



Coffee, Cocoa



**Youssoupha Diop**

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Seedtrace is an end-to-end platform for supply chain transparency that rethinks traceability from a social and environmental impact perspective.

[www.seedtrace.org](http://www.seedtrace.org)

### Which problems are addressed?

Bold sustainability targets for the coming years are being set and communicated. But measuring the concrete contribution of every step of the supply chain to these goals remains a major challenge. With Seedtrace, we have set out to collect critical supply chain and sustainability data from the first mile and to facilitate the flow of pertinent data so everyone along the chain can contribute to a fairer and more sustainable future for the food & agriculture industry.

This also addresses the demand for more primary data imposed by the ever-changing regulatory landscape with recent directives like EUDR, CSDDD and the EU Green Claim Directive.

### What is traced?

Through our solution, we can trace products back to their origin. This allows for supply chain mapping to any degree of granularity and does justice to the uniqueness and complexity of food supply chains even with a large number of components. Furthermore, we collect sustainability data from the first mile to measure the social and environmental impact of the traced products on criteria such as payment transparency, farmer demographics, deforestation, and waste reduction.

### What makes you unique?

Our solution comes with a strong focus on primary data. It allows companies to, step by step, build transparency across their supply chains by collecting data from their own sources and from peers. We specialise in aggregating sustainability data to track and improve the social and environmental impact at the origin and to communicate to businesses, regulators and consumers down the chain.

### Customers

Brands and manufacturers

#### Users

CSR, Sourcing & Marketing Managers from Suppliers, Traders, Manufacturers, Brands & Retail

#### Regulatory Compliance

EUDR, CSDDD, EU Green Claim Directive, LkSG (in Germany)

#### Data Protection

The data on the Seedtrace platform can be securely disclosed to selected audiences like buyers, regulators or end-consumers. For our clients who are often operating with complex supply chains and multiple partners, our platform must enable granular data privacy settings. Critical data or documents of proof, like certificates, can be shared without revealing any sensitive data. Our clients have full control.

### Technology used



Artificial Intelligence    Satellite Imagery  
Others: Automated parsing, normalisation, and validation of geo-data

### Crops targeted



Coffee, Cocoa  
Others: Nuts, spices, tea, fruits & vegetables, water, superfoods, rice, grains, vegan apple leather



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# STARLING

Reliable, unbiased

Starling is a solution that accurately tracks forest changes, identify deforestation, and support partners advance their no deforestation and net zero commitments.

[www.intelligence.airbus.com/industries/forest-and-environment/starling](http://www.intelligence.airbus.com/industries/forest-and-environment/starling)

## Which problems are addressed?

Starling was born from the private sectors commitment to end deforestation from agricultural expansion. Today, Starling not only enables leading businesses tackle deforestation, but also supports a diversity of stakeholders take forest positive actions by assessing forest conservation and restoration opportunities in production landscapes.

Encouraged by company convictions and/or regulations (e.g.EUDR), many companies have made ambitious forest conservation commitments.

However, verifying status and progress of these commitments can be challenging. High market expectations require reliable and unbiased solutions to verify such commitments.

Satellite imagery resolution is crucial to provide reliable deforestation monitoring. 10m resolution is often insufficient, particularly in complex

forest cover and agroforestry areas.

Companies need trustworthy and accurate information to verify their commitments and mitigate risks where needed.

## What is traced?

Starling's user-friendly digital platform can help you reach your no-deforestation and net zero commitments faster, by measuring the environmental impact across your supply chain. Providing high quality intelligence on forestry changes, Starling is able to identify issues, prioritise actions and above all match insights with clearly identified institutional and market needs. Starling concretely monitors the following: Identification of changes in forest cover, providing an overview of the extent and dynamics of deforestation, and raising alerts when appropriate. Our platform can support you in fulfilling your obligations linked to the upcoming EU Deforestation

Regulations (EUDR) as well as your Scope 3 GHG accounting standard.

## What makes you unique?

Our solution is unique as it is a co-developed solution between Airbus and Earthworm Foundation, bringing together two expertise: a combination of what is best in space (Airbus Satellite imagery) with local insights from the ground around the world (Earthworm Foundation) This combination brought together by Airbus and Earthworm Foundation mean that Starling provides fit for purpose data insights, no matter where and what Starling is mapping and monitoring. Additionally, Starling is unique in that it not only provides more data in a data chaotic world, but also the navigation to use this data in complicated supply chain situations to facilitate partnerships that keep forest standing.

## Customers

Brands and manufacturers; Public institutions, local authorities and NGOs ; Academia and research organisations

## Users

Airbus experts, Earthworm Foundation experts, companies we are working with (Input data / sourcing boundaries)

## Regulatory Compliance

EUDR and all voluntary standards

## Data Protection

Starling is a licensed offer where user organisations are granted an access to data and tools. About Traceability data, the Starling Web Portal integrates supply chain data to enable user organisations to view, analyse and extract reports. Starling embeds supply chain data whose sourcing boundaries coming from different sources, which are continuously updated, quality checked and upgraded. Supply chain data owned by user organisations can be ingested to complement the existing data base, the web portal is fully secure and private to ensure strict application of confidentiality agreement and data is only visible to user companies.

## Technology used



Artificial Intelligence



Satellite Imagery

Others: Biophysical processing

## Crops targeted



Coffee, Cocoa

Others: Palm, Rubber, Pulp and Paper, Soy, Sugar Cane



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SusChain is an open-source platform that utilizes cryptographically verified data to promote transparency, fairness, an accountability along supply chains.

[www.suschain.org](http://www.suschain.org)

### Which problems are addressed?

Fundamental problems such as environmental damage, exploitation, and child labor along supply chains remain unchanged and continue to go unnoticed due to missing transparency. SusChain aims to provide seamless traceability and transparency along supply chains. Through SusChain, stakeholders can track every step, ensuring that all practices are sustainable and ethical.

### What is traced?

SusChain adapts to any supply chain, allowing customizable data capture and analysis from raw materials to final products, ensuring secure data sharing and storage to enhance transparency and integrity. Users decide on the extent of data entry according to their specific needs (e.g. polygon mapping to check for deforestation free origins, pricing, and payments data for living income differential handling and direct payments).

### What makes you unique?

In contrast to other proposed solutions developed by investor-driven IT companies, the idea and development of SusChain was spearheaded by multiple stakeholders from the field. SusChain supports custom configurations for specific user needs and multi-dimensional supply chains, free from the lock-in effects of proprietary software. This combination of openness, security, and adaptability distinctly sets SusChain apart.

### Customers

Businesses seeking to provide transparency in their supply chains, including brands, manufacturers, and suppliers across diverse sectors such as cocoa, coffee, sugar, and more.

### Users

The software is operated by raw material buyers, warehouse managers, and supply chain managers.

### Regulatory Compliance

SusChain supports compliance with: the proposed EU Corporate Sustainability Due Diligence Directive (CSDDD), EU Regulation for Deforestation-Free Products and GDPR

### Data Protection

SusChain is currently in an advanced testing phase, and ensuring compliance with GDPR and other relevant data protection regulations is a high priority for us. We are committed to adhering strictly to these guidelines to safeguard privacy and data security.

## Technology used

Others: Cryptographically signed, immutable data through Merkle DAG (directed acyclic graph) (block-chain-like without expensive burden)

## Crops targeted



Cocoa



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[www.swissdecode.com](http://www.swissdecode.com)

### Which problems are addressed?

First mile / origin / authenticity confirmation of a bean or another crop at any given point of value chain (departure, in transit, reception) before roasting.

Enhancing traceability at the plant / variety level ensures product quality and guarantees that buyers receive exactly what they paid for. This strengthens trust throughout the value chain.

### What is traced?

The presence of a targeted organic marker of a bean or another crop or an added organic marker via its unique genetic makeup.

The first mile / origin can be tracked by microbial tracers present in the bean fermentation or via an added organic tracer on the bags. Both tracers have the advantage of not being visible and hence more difficult to be tampered with.

The presence of specific and unique variety markers enables the certification of variety's presence (or absence) in a given cocoa / coffee mix. These genetic markers, developed for each variety, ensure the authenticity of the end-product, confirming it has not been altered.

### What makes you unique?

SwissDeCode's DNAFoil provides reliable results in under 1 hour, on site without the need for scientific training or sophisticated lab equipment.

SwissDeCode equips key stakeholders with the tools to confirm that they are trading, processing, or cultivating the selected variety as certified by local authorities.

### Customers

Food manufacturers, government agencies, certification agency, research institutes, traders receiving cocoa or coffee from growers, nurseries, local authorities, processor.

### Users

In-field personnel of cooperatives, traders or manufacturers (all supply chain actors). Factory incoming material QA personnel.

### Regulatory Compliance

EUDR 'anti-deforestation law' via ingredient origin confirmation. Ingredients' origin labeling requirements.

### Data Protection

The data are owned by a party that performs the test or acquires data. GPS-enabled device can link the test outcome to the geographic location. Privacy protocols are developed based on the needs and treated data.

### Technology used



Genetics

Others: Biotraceability with specific genetic markers

### Crops targeted



Coffee, Cocoa



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