DIASCA Forest Monitoring Working Group Meeting

DIASCA
Digital Integration of Agricultural Supply Chains Alliance

Towards DPI in Deforestation-Free Agricultural Value Chains

SASI
Sustainable Agricultural Supply Chains Initiative

FAO
FIAT PANIS


Happy New Year

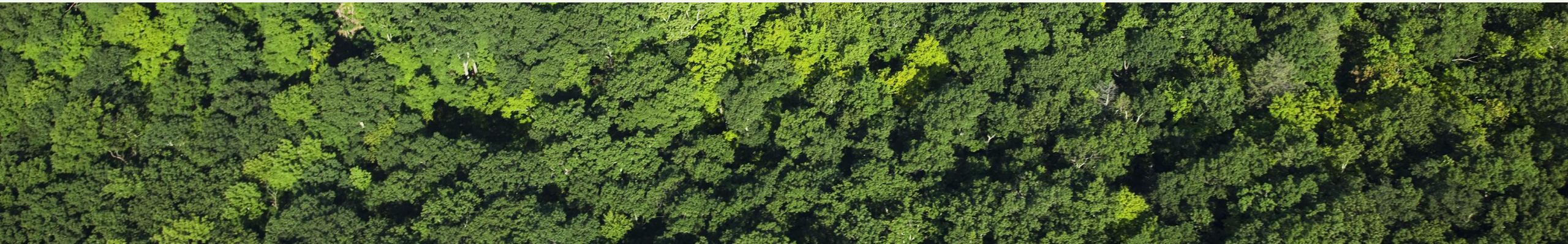
INA Initiative für nachhaltige Agrarlieferketten

- Project phase ended October 31
- INA has initiated DIASCA

DIASCA
Digital Integration of Agricultural Supply Chains Alliance

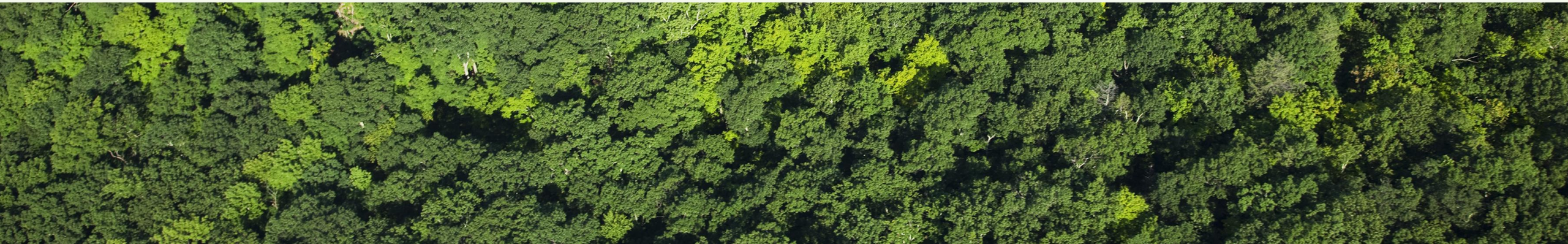
SASI Sustainable Agricultural Supply Chains Initiative

- New project phase → New Name
- **Continuation of DIASCA**
- SASI is a cluster within the GIZ agriculture dept (SV NA, SAFE, I4Ag, GV Agrichains)



Housekeeping

- Session will NOT be recorded, but slides will be shared
- Ask questions in the chat
- Raise your hand if you want to speak
- Mute your mic unless you are given the floor
- No stage for individual commercial pitches



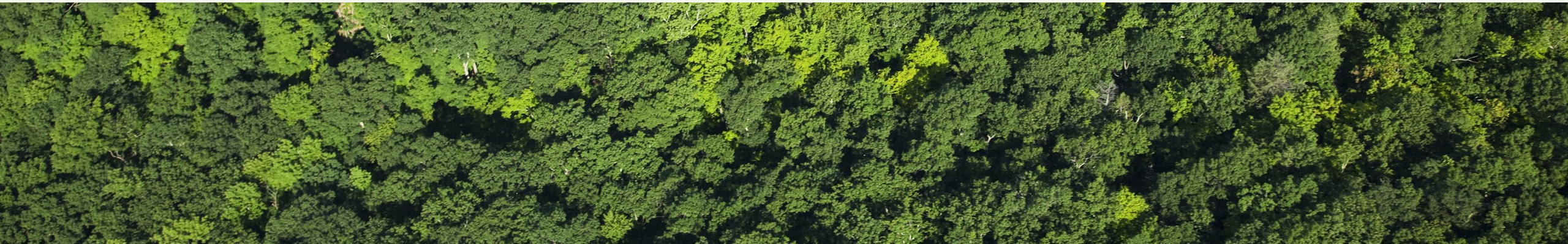
Agenda

1. Welcome
2. DIASCA Intro & Update
3. What happened so far?
4. DPI building blocks
5. Discussion
6. Outlook

Poll

Who is in the room?

Have you participated in a DIASCA meeting before?



DIASCA Forest Monitoring Working Group

Webinar Series: priority to producing countries

- What works?
- What challenges do you face?
- How can we (all) support each other?

5 slots in 2025

DIASCA
Digital Integration of Agricultura
Supply Chains Alliance

Sustainable Agriculture
for Forest Ecosystems

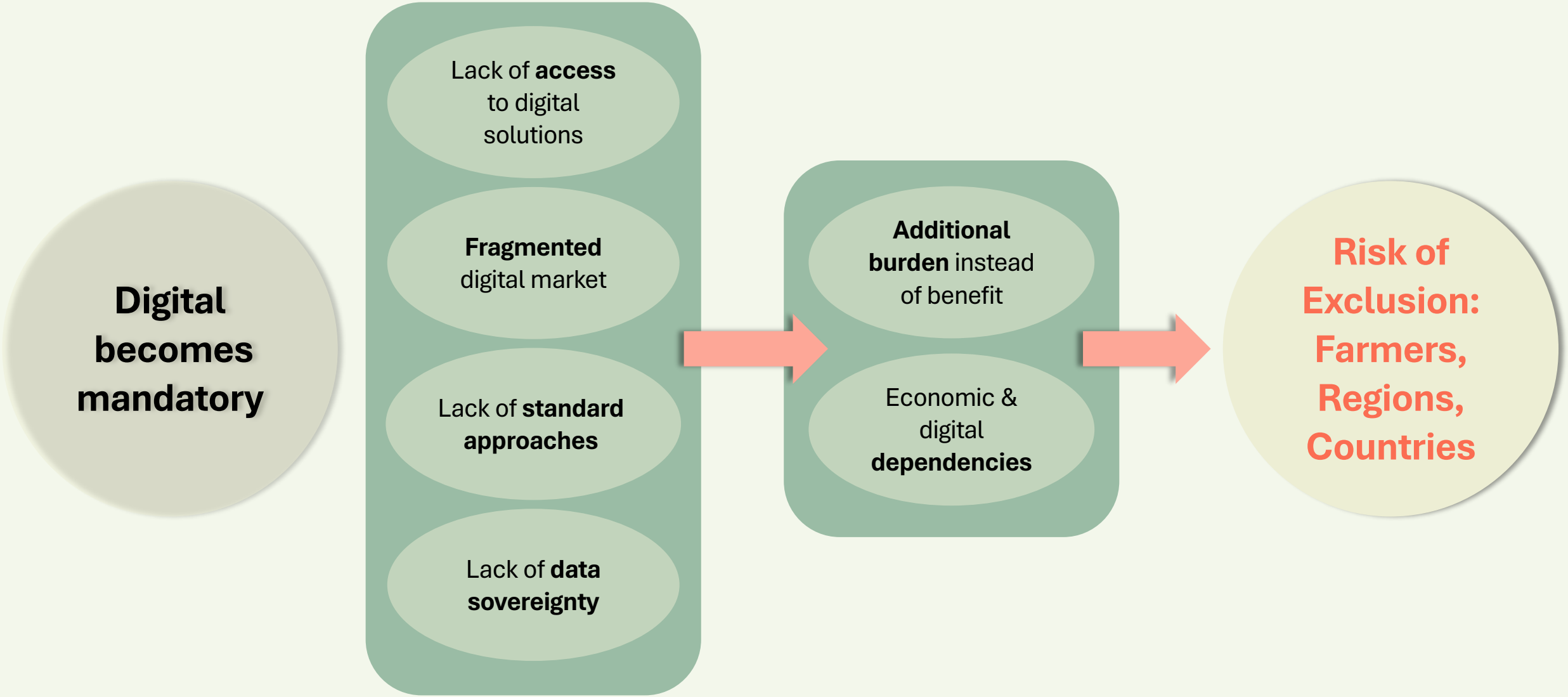
Food and Agriculture
Organization of the
United Nations

FOREST DATA
Partnership

COSA
Committee On
Sustainability Assessment

Update on DIASCA and Digital Public Infrastructure

What drives us?



Heading towards compliance....
...yet: Everyone is building their own railway track
....and their own trains!

But what about....

- Cost / Reusability
- Accessibility
- Maintainability
- Interoperability / Standardization
- Trust (Neutrality, Security)
- Quality

Photo by Bruno Kelzer on Unsplash

Defining **Digital Public Infrastructure** (DPI)

A set of **technology building blocks**

powered by **interoperable open standards/specifications**

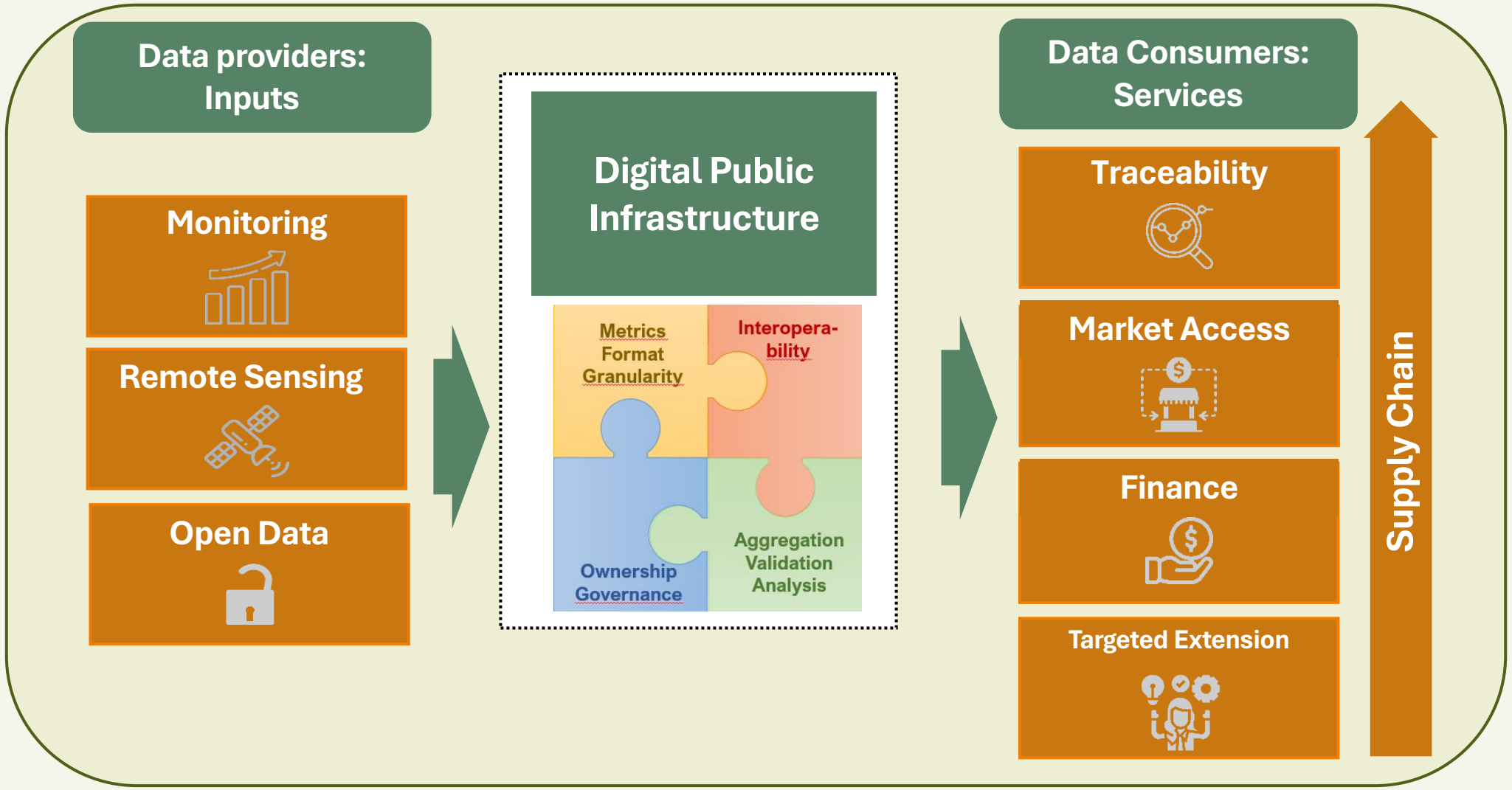
operated under **a set of enabling rules**

with **open, transparent, and participatory governance**

to **drive innovation, inclusion, and competition** *at scale*

Source: DPI Thinking Extended- CDPI (gitbook.io)

Digital Backbone
for Sustainable Agricultural Value Chains



DIASCA: Vision & Mission

DIASCA
Digital Integration of Agricultural Supply Chains Alliance

Vision:

Fostering digital public infrastructure (DPI) in agriculture, benefiting all stakeholders, with a special focus on farmers.

Mission:

To **enhance the global digital ecosystem in agriculture** by developing and promoting **efficient, accessible, and interoperable digital public infrastructure (DPI) elements and frameworks** through an open and inclusive multi-stakeholder process.

DIASCA Working Groups

National Implementation

Forest Monitoring

Traceability

Living Income

Community

600+ actors – public & private sector, tech, science etc.

Global Alignment, Exchange, Coordination

DIASCA

Towards DPI for Agriculture

National Implementation

Machine :: Technology

- Tech Building Blocks
- Open Standards
- Identifiers
- Public Data

Human :: Policy

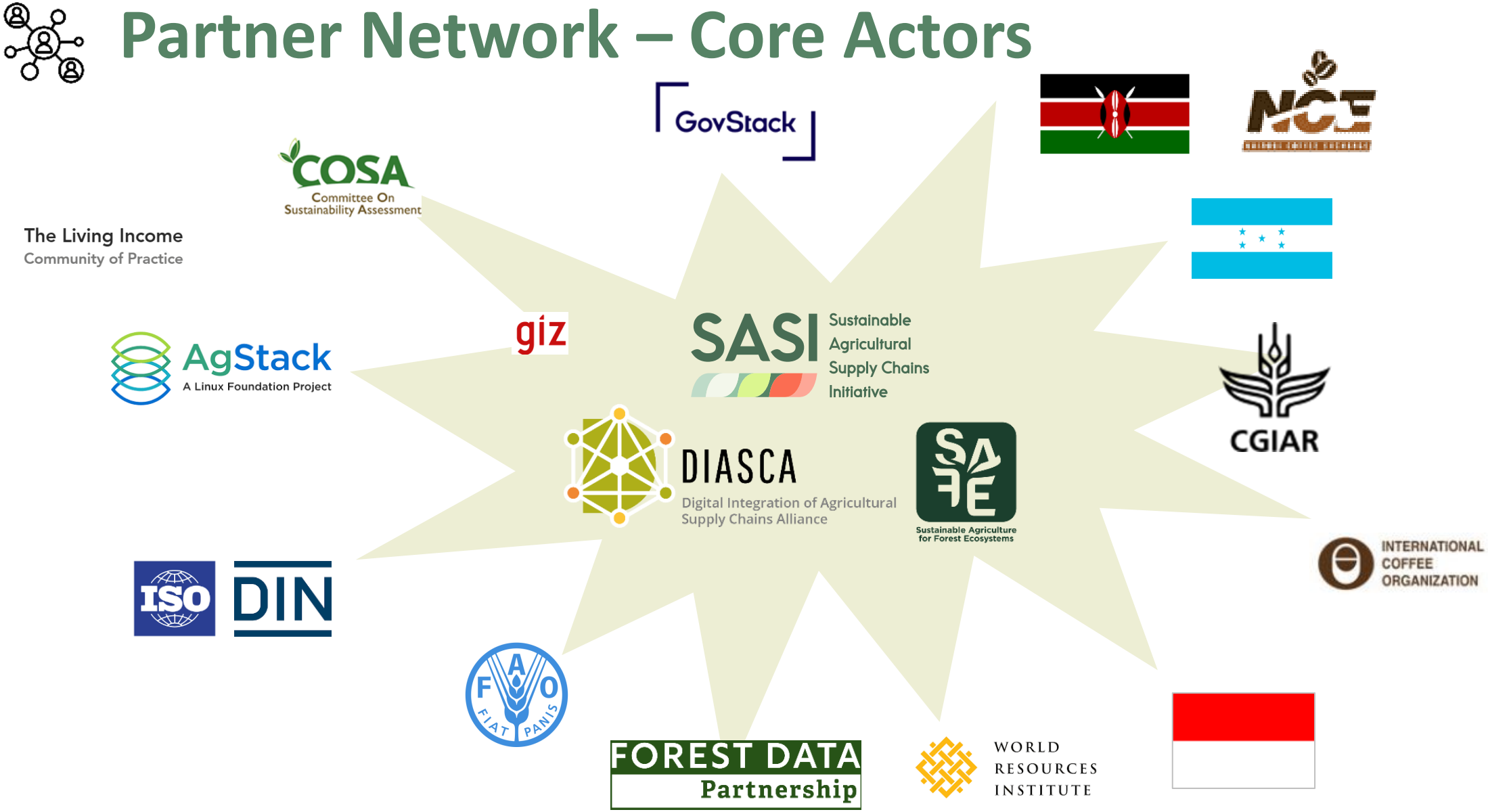
- Enabling Rules
- Governance
- Business Model

Community

600+ actors – public & private sector, tech, science etc.

Global Alignment, Exchange, Coordination

Partner Network – Core Actors



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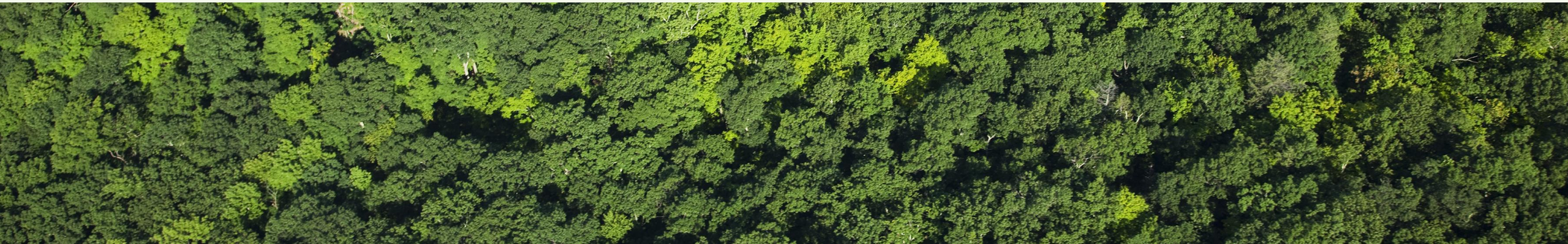
What happened so far

EU Deforestation Regulation

- EUDR postponed by one year
- EU Information System of the Deforestation Regulation went online on December 6, 2024.



Recent Publications

DIASCA

DIASCA Strategic Workshop, 11-12 July 2024, Berlin

DIASCA
Digital Integration of Agricultural Supply Chains Alliance

Download Report:

Strategic Workshop

Shaping the future of DPI in Agriculture

11-12th July 2024
Berlin, DIN HQ, Burggrafenstraße 6, 10787 Berlin

Commissioned by: Federal Ministry for Economic Cooperation and Development
Implemented by: giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH; INA Initiative for Sustainable Agricultural Supply Chains
Hosted at: DIN

Participants

SAFE Sustainable Agriculture for Forest Ecosystems
USAID FROM THE AMERICAN PEOPLE
FAO FIAT PANIS
DATA GOVERNANCE IN AFRICA
ISO DIN
Google
The Commonwealth
Microsoft
BILL & MELINDA GATES foundation
CGIAR
WORLD RESOURCES INSTITUTE
COSA Committee On Sustainability Assessment
IISD International Institute for Sustainable Development
GS1
International Trade Centre
Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung
AgStack A Linux Foundation Project
DEUTSCHER KAFFEEVERBAND WACH. HEISS. STARK.
FOREST DATA Partnership
ENV
International Partnerships
varda FIELD DATA EXCHANGE
UNECE

Food and Agriculture Organization of the United Nations

Knowledge Exchange on Forest Monitoring for Transparent Commodity Value Chains

FAO HQ , Rome, 25-28 November 2024

Rome FAO HQ,
26 to 28 November 2024

Food and Agriculture Organization of the United Nations

Key focus areas of discussion

Data readiness challenges:

- Limited access to high-resolution geospatial data
- Misalignment between global and national datasets
- Gaps in monitoring commodities (cocoa, coffee and rubber)

Data governance challenges:

- Inconsistent regulatory frameworks and unclear data ownership
- Privacy concerns for smallholder farmers and Indigenous communities

And broader barriers: limited funding and technical knowledge; communication gaps hindering coordination and participation…

Food and Agriculture Organization of the United Nations

Key takeaways from the exchange:

Collaborative platforms: open-source, interoperable platforms, pooling resources

Enhancing knowledge exchange: sharing advanced practices and mutual learning, between countries and regions

Building trust among stakeholders: inclusivity, transparency, and tangible benefits as engagement drivers and data quality enhancement

Public-private partnerships: mobilizing resources and leveraging cross-sector strengths

CCL: collective efforts to harmonize frameworks, empower stakeholders, and scale solutions are critical for achieving deforestation-free value chains.

Food and Agriculture Organization of the United Nations

Comprehensive information and executive summary of the Exchange available at this link

Food and Agriculture Organization of the United Nations

Project Overview: Accelerating Innovative Monitoring for Forests and Commodities

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giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Co-funded by the European Union

german cooperation DEUTSCHE ZUSAMMENARBEIT

Implemented by giz

Aim4Commodities

- **Title:** Accelerating Innovative Monitoring For Forests and Commodities
- **Donor:** BMZ - Fund for the Promotion of Innovation in Agriculture (i4Ag)
- **Budget:** 1.4 M USD
- **Duration:** 18 months

Scope and activities of A4C

- **Decentralized asset registry** : owned by countries and providing actors dealing with regulatory mechanisms with a standardised geometry format that is easy to use, to integrate and to share geolocation information along traceability chains.
- **Integration and deployment** of WHISP with traceability tools: e.g. INATrace, ITC DFTG, TechnoServe
- **Automated field boundaries**: using a combination of top-down (automatically produced, verified or updated from remote sensing imagery) and bottom-up approaches (information produced, verified or updated in the field)
- **Capacity building** with Ground and Pilot Asset Registry in Kenya (coffee), Colombia (cocoa) and Laos (rubber)
- **Training material**: eLearning course on DPI and Ground

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DIASCA Digital Integration of Agricultural Supply Chains Alliance

DPI Building Blocks

DPI Building Blocks

Boundaries
- Field data
- Manual / AI-based
- Segmentation

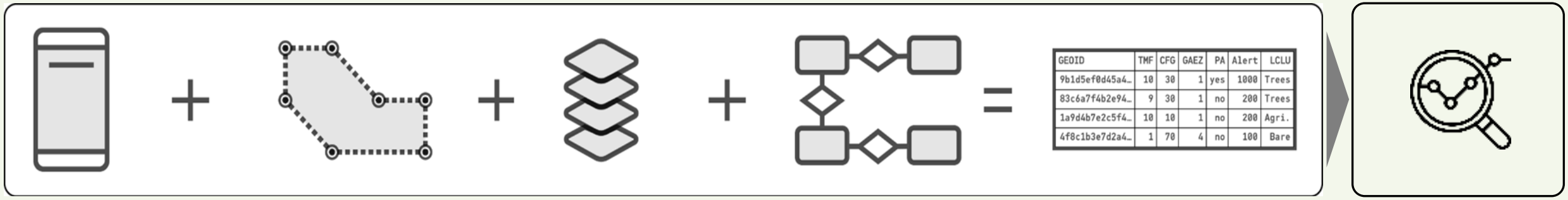
Unique Geo-IDs
- GDSP compliant
- Anonymous
- Attribute-less

Public geodata
- Land cover (change)
- Biophysical
- Land use

Public models
- AI models
- Decision trees

Compliance support
- Standardized data
- Risk assessment at plot level

Traceability
- interoperable



INA Sustainable Agricultural Supply Chain Initiative Trace

AgStack A Linux Foundation Project Asset Registry

Whisp

TraceFoodChain

openRAL

INA Sustainable Agricultural Supply Chain Initiative Trace

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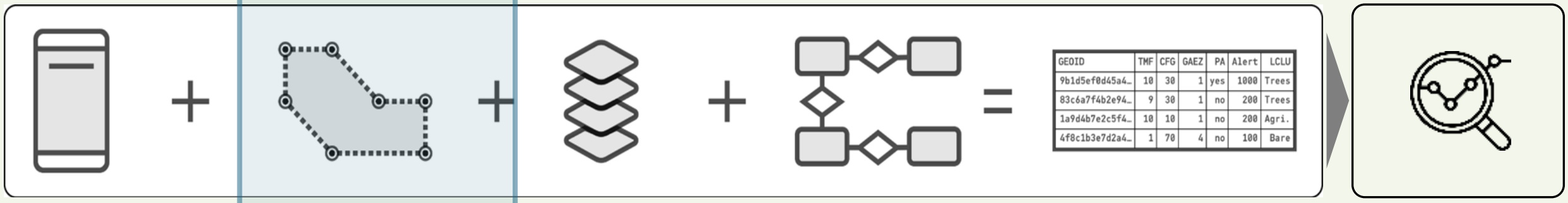

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INA Sustainable Agricultural Supply Chain Initiative Trace

Geo-IDs: Asset Registry

http://asset-registry.agstack.org

Geoid: **`ff93ad2470125dfe0f21b7b857140c94efa635c8b6f25104419e88129db9f682`**

- Developed by AgStack, under the LINUX foundation
- It is a free, open source, public registry to create and maintain ubiquitous, geo-intelligent unique “public GeoIDs” for field boundaries without requiring any other attribution
- GeoIDs are anonymous, addressable but not discoverable
- To be hosted by FAO globally, complemented by national instances

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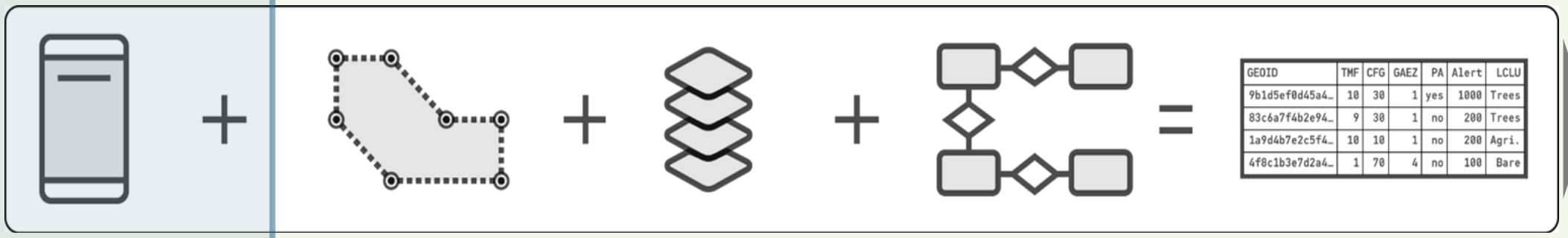

GEOID	TMF	CFG	GAEZ	PA	Alert	LCLU
9b1d5ef0d45a4…	10	30	1	yes	1000	Trees
83c6a7f4b2e94…	9	30	1	no	200	Trees
1a9d4b7e2c5f4…	10	10	1	no	200	Agri.
4f8c1b3e7d2a4…	1	70	4	no	100	Bare

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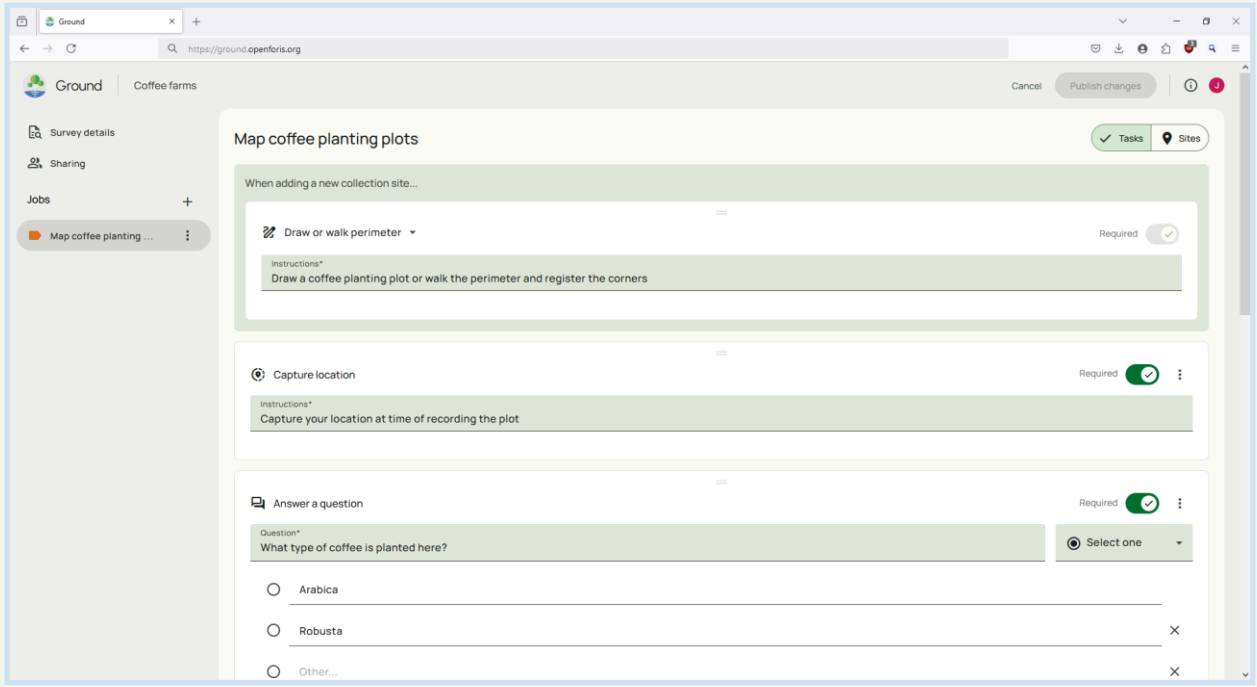
What is OpenForis Ground?

Easy-to-use open-source survey tool with a special focus on geodata collection, developed in cooperation by FAO and a team of Google developers giving 20% of their time



→ Web application for survey setup & organization of collected data
https://ground.openforis.org/

→ Android application for data collection

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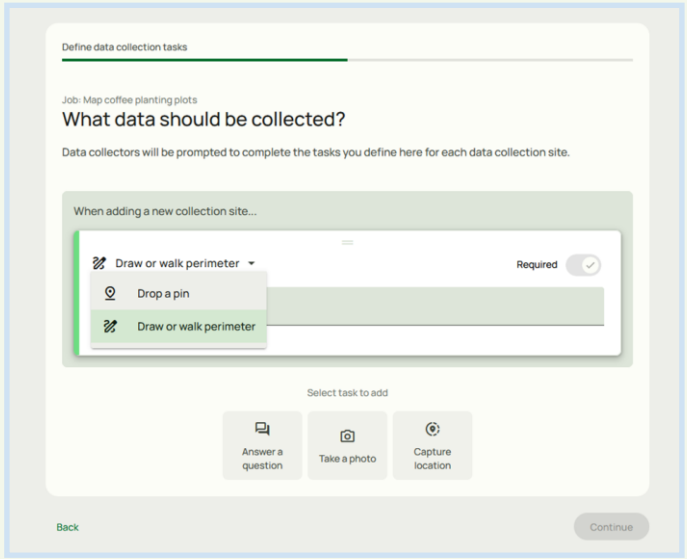
What is Ground?

What can you do with it?

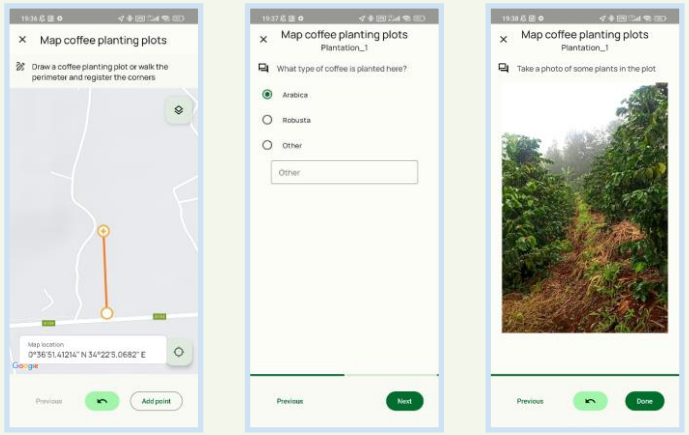
→ Create own specialized surveys for field data collection, e.g.:

- Collect point locations & draw field boundaries;
- Ask custom questions, e.g. „What plants are grown there?“, „When was the field established?“, „What fertilizers do you use?“, or anything else.
- Take photos.



→ Collected (geo)data are easily exportable for further use, e.g.,

- to build a database;
- to create detailed statistics;
- to scan for deforestation risk in other applications (such as OpenForis Whisp);
- to create Due Diligence Statements.



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Update on OpenForis Ground

What's new since the last DIASCA exchange?

- Increased stability & improved user experience
- Automatic Whisp scan of newly collected geodata
- French, Spanish and Portuguese interface for Android app
- Multiple partners employing GROUND in East & West Africa, and South America

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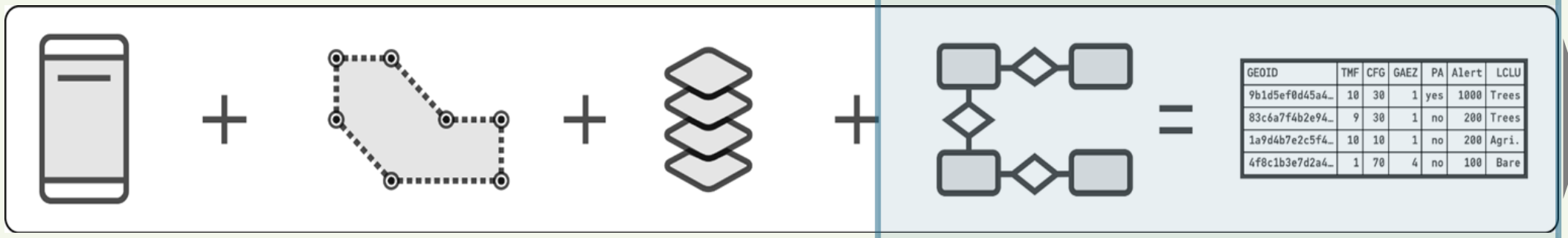

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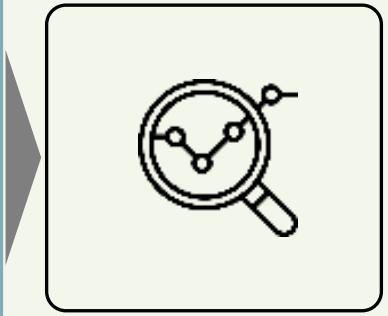

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AgStack A Linux Foundation Project Asset Registry

Whisp

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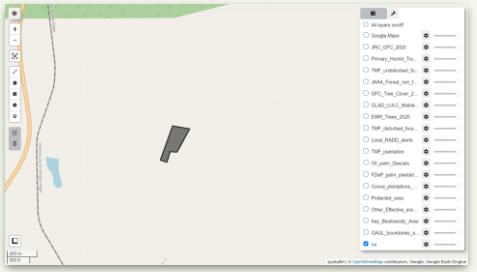
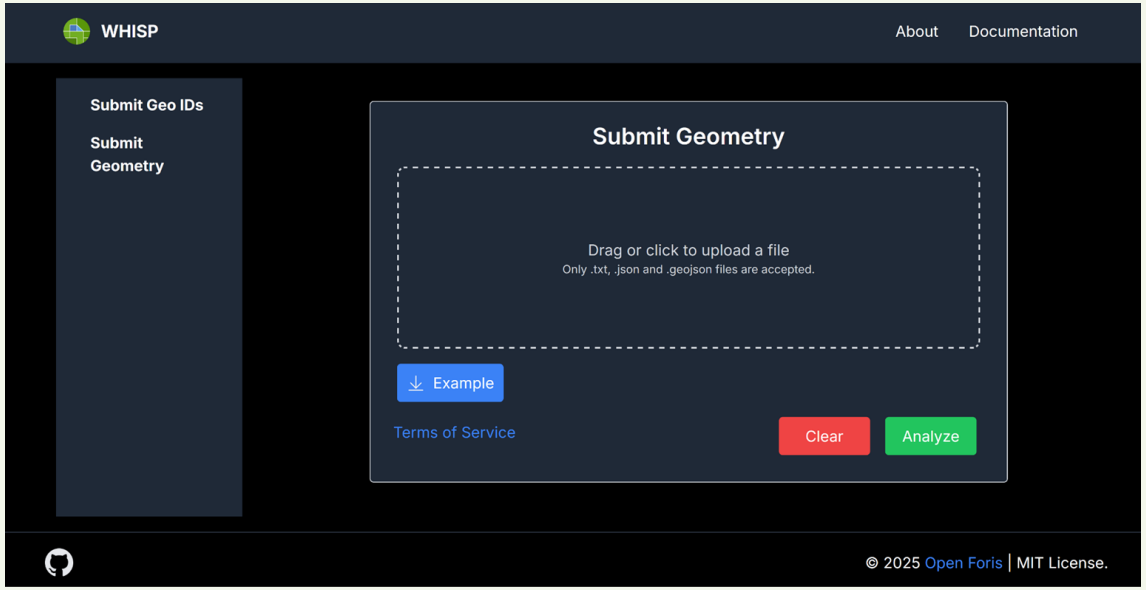
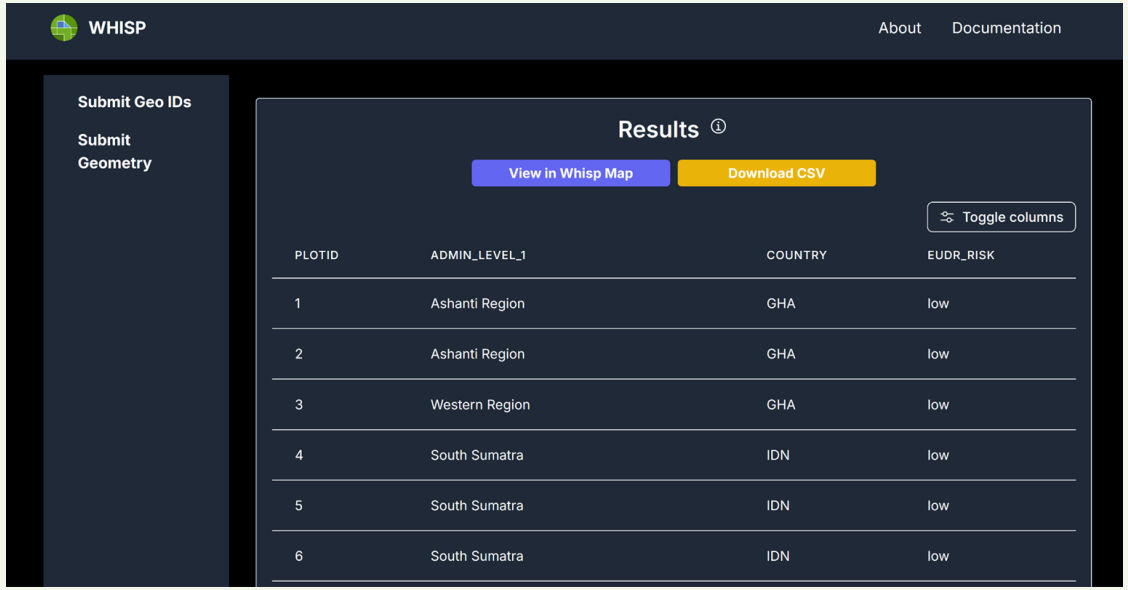
Whisp

What is Whisp?

- A simple zonal statistics algorithm that scans your geodata against publicly available map products for indicators around deforestation and produces a non-binding risk estimate:
  → “High risk”, “Low risk”, or “More info needed”
- Useable through API or web browser application with geometry files in GeoJSON format (& WKT)







→ https://whisp.openforis.org/

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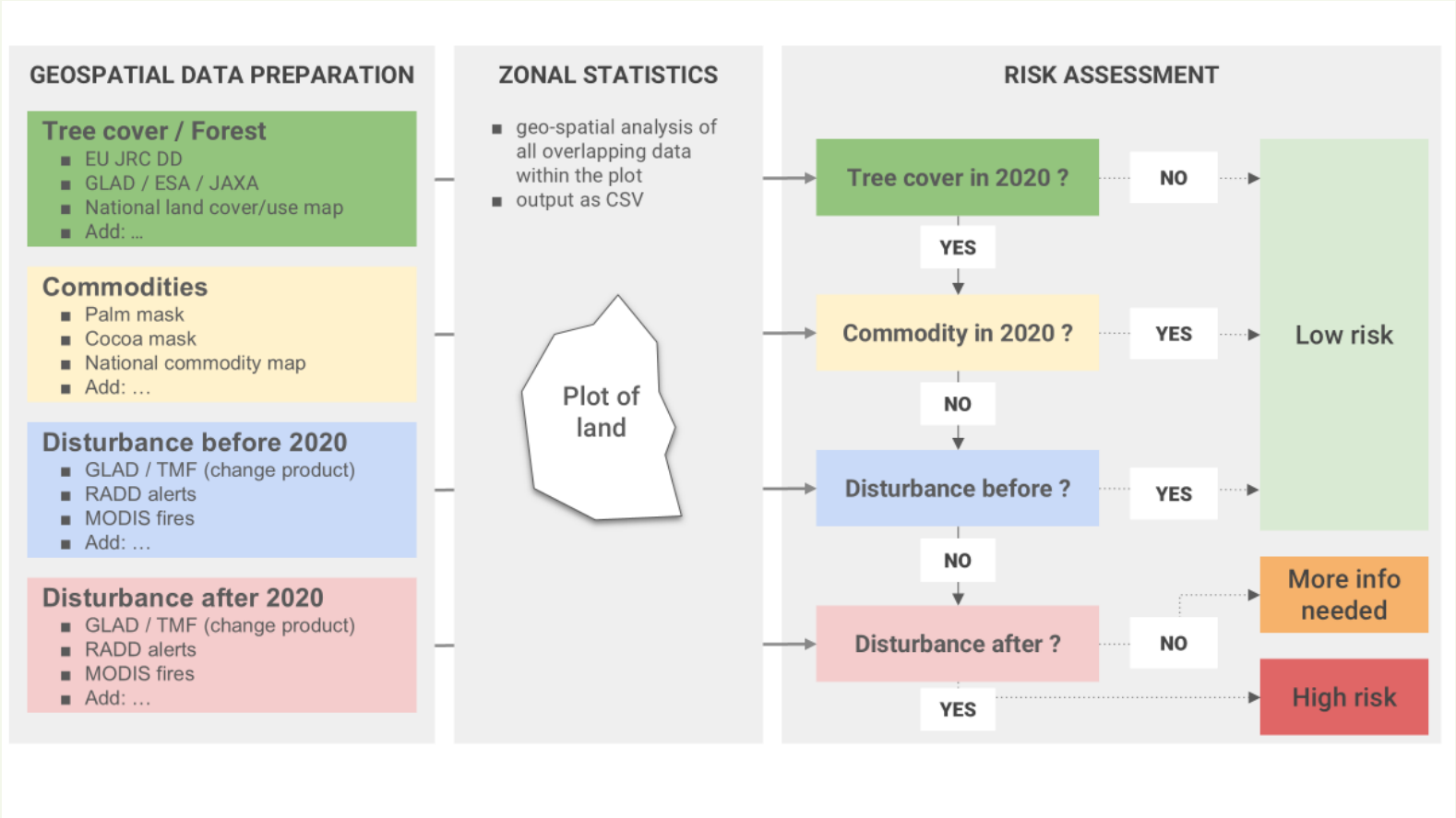
Whisp

What is Whisp?

Algorithm bringing together multiple open-source maps relevant to deforestation (Convergence of Evidence approach):

- EUFO JRC map of forest cover 2020 and multiple other tree cover maps;
- Commodity maps from individual countries, e.g. Côte d'Ivoire;
- Forest disturbance maps (e.g., GLAD and RADD-Alert);
- NO MAP CREATED BY FAO ITSELF !

Whisp is fully open-source and may be forked from Github so you can adapt it to your individual needs!



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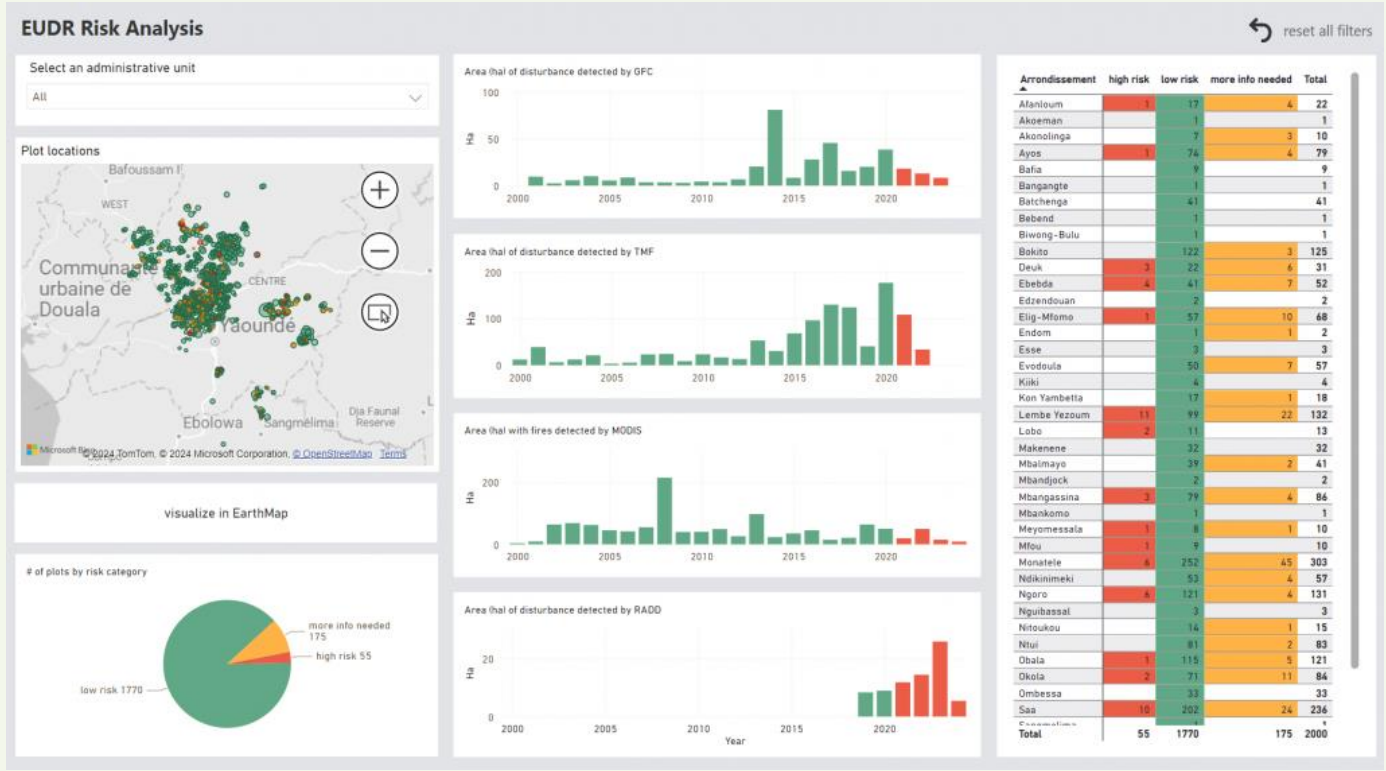
Whisp

What is Whisp?

After sending your geodata through Whisp, you may use the output CSV file to fill a dashboard.



[Tableau dashboard template]

[PowerBI dashboard template]

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Update on Whisp

Whisp

What's new since the last DIASCA exchange?

- Increased stability & improved user experience
- Up to 500 geometries processable at a time, soon to be further increased
- Layer updates (both existing & new layers)

DPI Building Blocks

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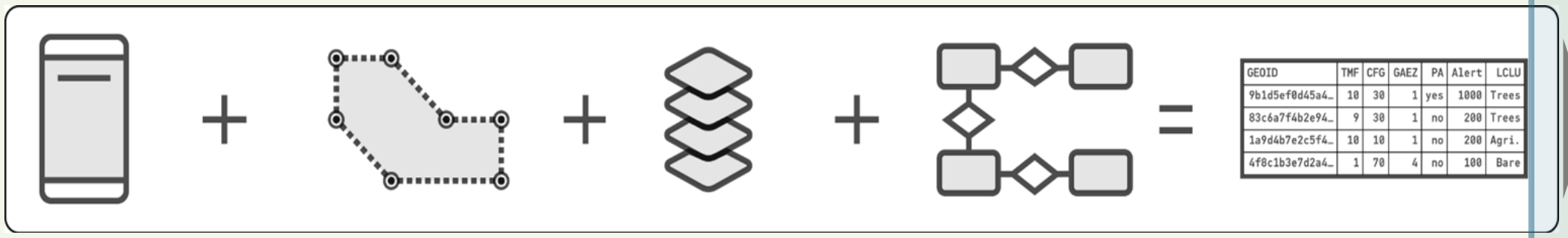

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INA Sustainable Agricultural Supply Chain Initiative Trace

AgStack A Linux Foundation Project Asset Registry

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INATrace – a tool for traceability

INATrace…

- …is an open-source traceability solution
- …has been developed with the users, especially women
- …maps all process steps and transactions, from the cooperative to the end product
- …is adaptable, transferable and scalable.
- … is based on blockchain technology.

Features for EUDR

Polygon Mapping

Data entry App

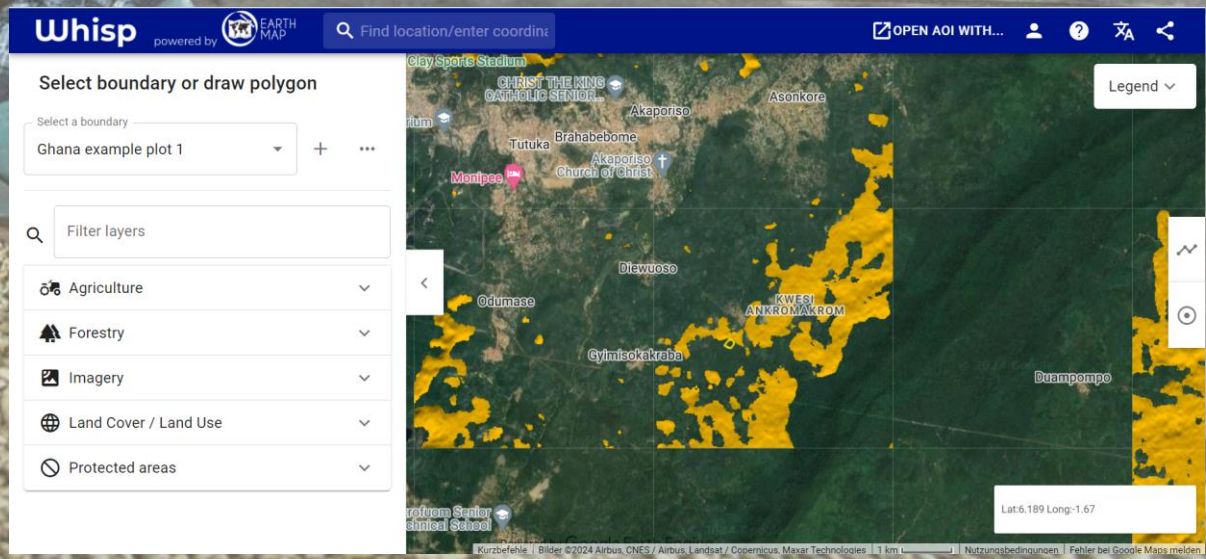
Forest Monitoring

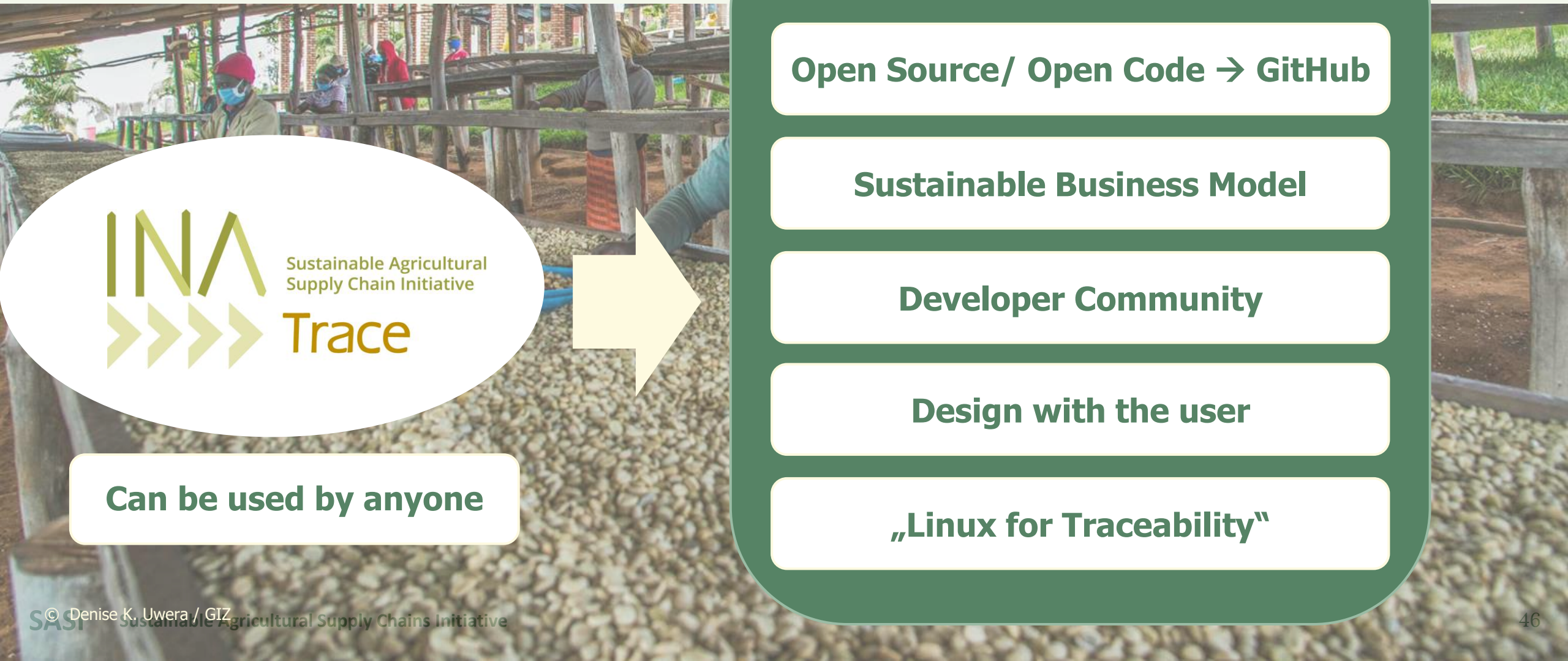
Features for EUDR

Polygon Mapping

Data entry App

Forest Monitoring





INA Sustainable Agricultural Supply Chain Initiative Trace

Can be used by anyone

Digital Public Good

- Open Source/ Open Code → GitHub
- Sustainable Business Model
- Developer Community
- Design with the user
- „Linux for Traceability“

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Discussion

Guiding Questions

Poll:

What challenges do you currently face in forest monitoring and compliance with regulations?

→ You may give more than one answer.

→ Please use keywords, no sentences.

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Alignment with other working groups

Working Groups - continued

Global exchange on country-level activities

Forest Monitoring

Resumes from today

- DPI Building Blocks Exchange
- Data standard to facilitate efficient forest monitoring data exchange

Living Income

Resumes soon

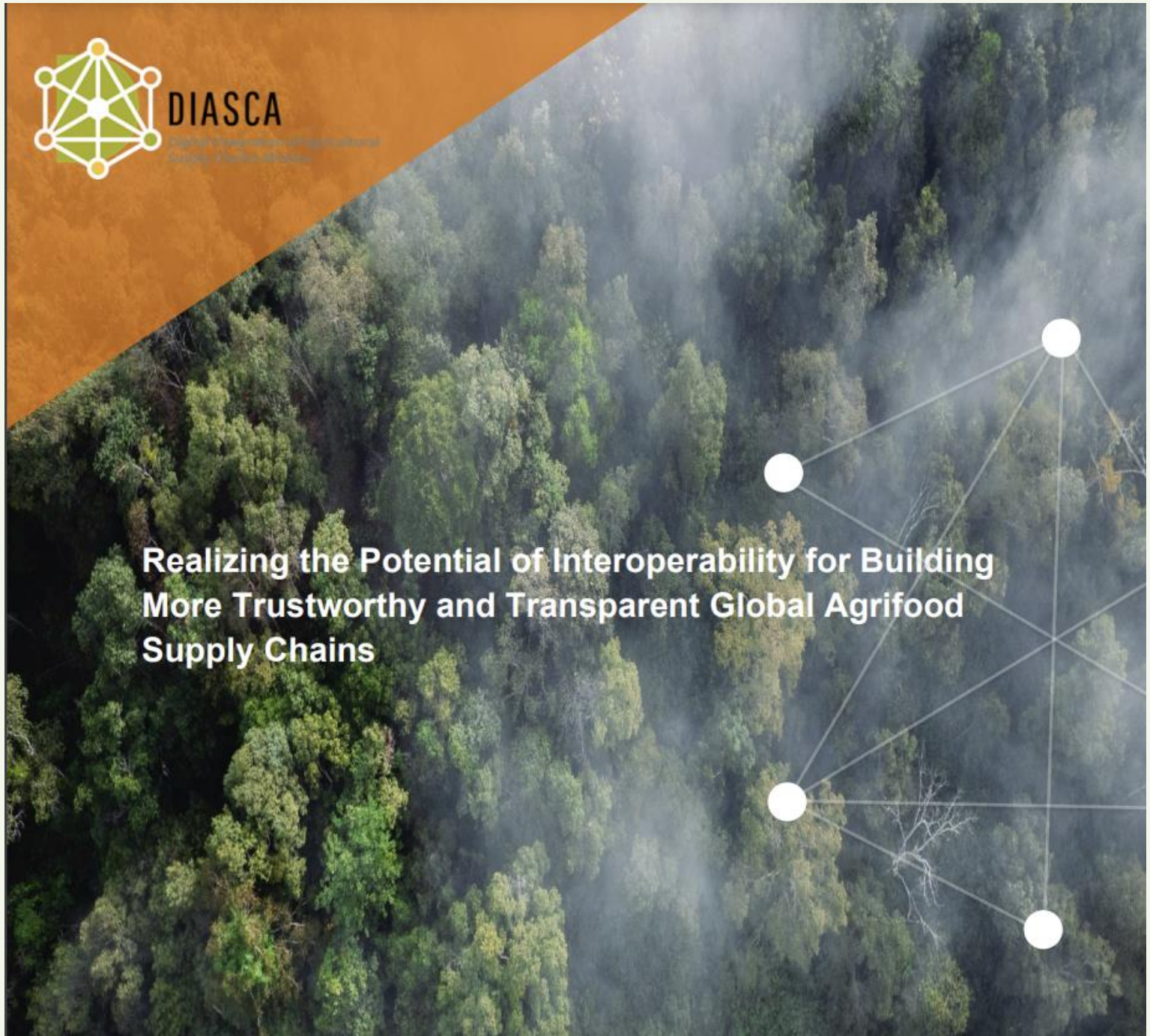
- Income Standardization User Guide & Interoperability Model.
- Groundwork for CSDDD

Traceability & Governance

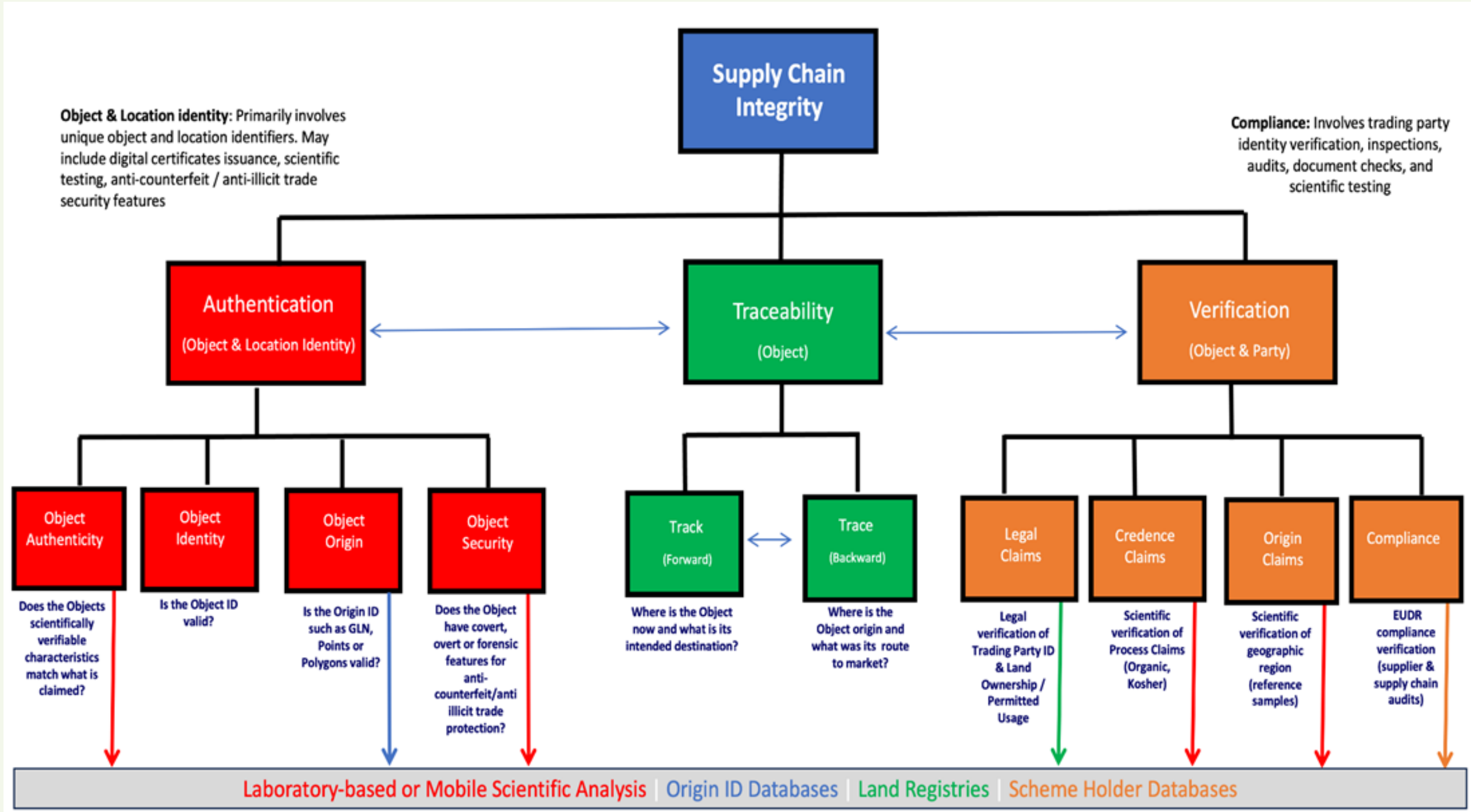
Resumes soon

- Identify and validate key replicable standards, digital solutions, and critical capabilities
- Supply chain interoperability & collaborative governance

→ register at diasca.org



Traceability Working Paper


Supply Chain Integrity
Object & Location identity: Primarily involves unique object and location identifiers. May include digital certificates issuance, scientific testing, anti-counterfeit / anti-illicit trade security features
Compliance: Involves trading party identity verification, inspections, audits, document checks, and scientific testing
Authentication
(Object & Location Identity)
Traceability
(Object)
Verification
(Object & Party)
Object Authenticity
Object Identity
Object Origin
Object Security
Track
(Forward)
Trace
(Backward)
Legal Claims
Credence Claims
Origin Claims
Compliance
Does the Objects scientifically verifiable characteristics match what is claimed?
Is the Object ID valid?
Is the Origin ID such as GLN, Points or Polygons valid?
Does the Object have covert, overt or forensic features for anti-counterfeit/anti illicit trade protection?
Where is the Object now and what is its intended destination?
Where is the Object origin and what was its route to market?
Legal verification of Trading Party ID & Land Ownership / Permitted Usage
Scientific verification of Process Claims (Organic, Kosher)
Scientific verification of geographic region (reference samples)
EUDR compliance verification (supplier & supply chain audits)
Laboratory-based or Mobile Scientific Analysis | Origin ID Databases | Land Registries | Scheme Holder Databases

Group mediation toward a “trust framework”

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Integrated open source building blocks:

Asset Registry (Linux Foundation AgStack) an open, decentralized service for registering polyons and minting of unique alphanumberic GeoIDs, can support a shared services for deduplication of data generated from multiple sources. (**43,000 polygons registered in 40 countries)** https://github.com/agstack/asset-registry

Whisp (FAO). Whisp—"What is in that plot" —en open service supporting relevant information for forest monitoring and supporting the due diligence process for EUDR. Whisp takes a 'convergence of evidence' approach with multiple sources of public satellite data to analyze what is in a particular plot of land.
https://github.com/forestdatapartnership/whisp

INAtrace (GIZ) -Open-source chain-of-custody solution developed to ensure that smallholder farmers are not excluded from the market. Used by 40 organizations to improve supply chain traceability. Includes polygon mapping and satellite monitoring to comply with the EU Deforestation **Regulation (40 companies in 3 countries)**.
https://github.com/INATrace

TerraTrac (TechnoServe) Facilitates the recording of points and polygons in the field and their verification with a central registry—without an internet connection. Offers a simple interface ideal for rural areas. As an open-source option, it promotes interoperability with other solutions.
https://github.com/agstack/TerraTrac-field-app

Debida Diligencia para cumplimiento de EUDR

Productor

Comercializ ador

Exportador

Data

Reporte

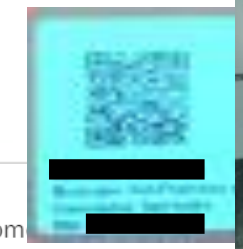
Usuario (Aduana) UE

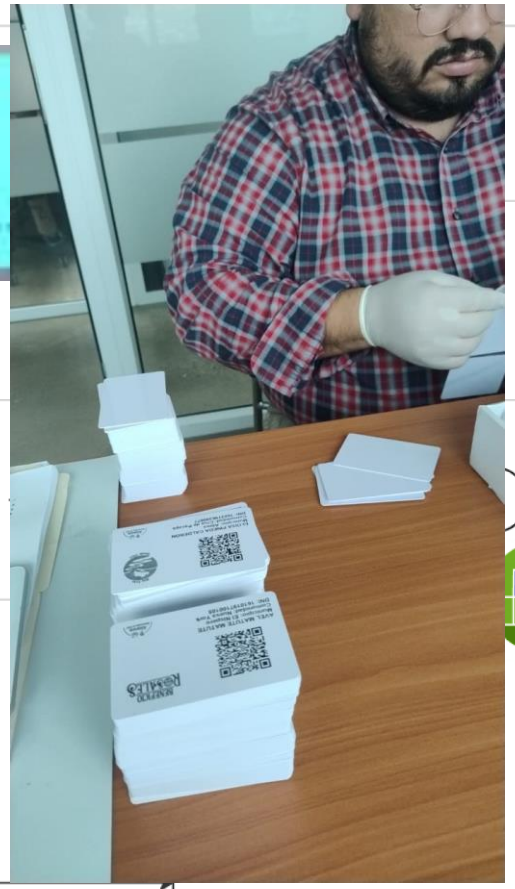
El productor asociado reporta la información de su finca

El productor asociado vende su café

NFC

CIAT-First Sale





El comercializador compra el café usando carnet NFC registrando información relevante: Geo-ID, nombre productor, fecha, cantidad,ubicación de la parcela

El com consolida un lote y vende a exportador

El exportador compra el café y registra información relevante: GEO-ID de productores, nombre comercializador, cantidad, fecha...

TerraTrac

Creación de polígono

Si

Extensión mayor a 4 ha?

No

Creación de Punto

Registro de productores

AgStack

Registro de bienes (fincas)

Registro de compras a productores geolocalizados

Registro de compras a comercializadores geolocalizados

El exportador verifica el cumplimiento del lote

Whisp

WHISP

base de datos de riesgos

Verificación de legalidad

GRAIN CHAIN

INA Sustainable Agricultural Supply Chain Initiative Trace

Trazabilidad

Manejo de riesgo

Declaración de Debida Diligencia (DDD)

Next Steps

- **New Series of Traceability Working Group Meetings**
  - **Action areas from report—engaging the global DIASCA 'brain trust'**
  - **Managing Semantic and Syntactic Interoperability**
  - **Country Cases**

    (sign up: https://www.sustainable-supply-chains.org/topics/digitalisation-traceability/diasca)

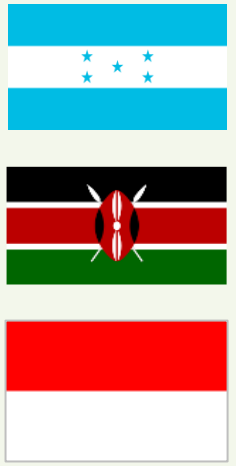
- **Toward Digital Public Infrastructure in Honduras**
- **Launching the "Trust Framework" in Kenya with the Nairobi Coffee Exchange**

Engagement opportunities

In-Country Collaboration & Alignment

Engage in national level collaborations on DPI implementation

- Tools integration
- Polygon & data sharing
- Partner network activation
- Governance elaboration
- Align projects



...and more

→ **reach out to diasca@giz.de**

Next session in 6 weeks

SASI Sustainable Agricultural Supply Chains Initiative

DIASCA Digital Integration of Agricultural Supply Chains Alliance

SASI – Sustainable Agricultural Supply Chains Initiative by

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

On behalf of

Federal Ministry for Economic Cooperation and Development

Credits

https://www.flaticon.com/free-icon/team_1283342
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