





**DIASCA**

Digital Integration of Agricultural  
Supply Chains Alliance

*The DIASCA Team at INA hosted a strategic workshop to collaboratively develop a joint vision and actionable roadmap for DPI in Agriculture with key stakeholders*

## Executive Summary

DIASCA (Digital Integration of Agricultural Supply Chains Alliance) Team at INA hosted a strategic workshop aimed at developing a joint vision and actionable roadmap for the enhancement of Digital Public Infrastructure (DPI) in agriculture. This workshop brought together key stakeholders, including technology experts, policymakers, international organizations, NGOs and other industry participants, to collaboratively define the future direction of DPI in the agricultural sector.

The primary objectives of the workshop were to:

- 1. Establish a Joint Vision for DPI by 2030:** Participants discussed and aligned on a shared vision for how DPI can transform agriculture over the next decade, focusing on inclusivity, efficiency, and innovation.
- 2. Identify and Prioritize Use Cases:** The group identified key challenges that DPI can address, exploring use cases that would deliver significant benefits to all stakeholders, particularly in promoting data accessibility and interoperability.
- 3. Align on Governance, Collaboration, and Roles:** The objective was to discuss and align on the governance structures, collaboration mechanisms, and role definitions necessary for effective coordination across organizations involved in DPI for agriculture.

Discussions centered on aligning efforts across organizations, with a consensus that DIASCA should serve as the secretariat, taking the lead in convening, networking, and communication around DPI in agriculture. Participants engaged in in-depth discussions on the current state of digital and data engagements in agriculture, identifying topical, thematic, and geographic priorities. The workshop concluded with a clear action plan that established DIASCA's role in leading and facilitating the integration of digital infrastructure across agricultural supply chains through a dedicated network and secretariat. Other stakeholders are encouraged to contribute to the funding of secretariat functions, support activities, and assume additional responsibilities. This collaborative and balanced approach is essential for accelerating the development and implementation of DPI, ensuring that all actors, especially farmers, benefit from advancements in technology and data management.

*The Initiative for Sustainable Agricultural Supply Chains (INA) is an association of stakeholders from the private sector, civil society, and the public sector, a program of Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.*

*More information about INA at [www.nachhaltige-agrarlieferketten.org](http://www.nachhaltige-agrarlieferketten.org)*

*More information about DIASCA at [www.diasca.org](http://www.diasca.org)*

# Workshop Agenda 11<sup>th</sup> and 12<sup>th</sup> of July 2024

## Day 1

9:00 - 9:15

### Opening

*Yvonne Franke, Federal Ministry for Economic Cooperation and Development (BMZ)*

*Andrea Burkhardt (GIZ/INA)*

*Moderator: Leonhard Nima, Studio Nima*

9:30 - 10:00

### Setting the Scene: DPI & DIASCA

- *What is Digital Public Infrastructure?*

*Kamya Chandra, Chief Strategy Officer (CDPI) → [link](#)*

- *DIASCA – What has been achieved?*

*Lars Kahnert (GIZ/INA), Rémi D'Annunzio (FAO) → [link](#)*

*Brian King (CGIAR/CIAT) → [link](#)*

*Matthew Himmel → [link](#) & Liam Brody (COSA) → [link](#)*

10:00 - 12:30

### Working Session: Painting The Big Picture

*Key objectives and vision*

- *Which solutions can DPI provide?*
- *How should DPI in agriculture look in 10 years?*
- *What are the key elements needed for a successful roll out of DPI?  
Taking a technology view, policy view, and business view*

13:30 - 16:30

### Working Session: Narrowing down on Use Cases

*Break-Outs by specific objective and/or country use cases*

- *Take Stock: What are existing engagements and resources?*
- *Identify Gaps: What else is needed?*
- *What are the critical elements that we need to focus on?*
- *What are priority activities for the next three years?*
- *Where are potential synergies of collective action?*

16:30 - 17:00

### Plenary session: Towards a joint roadmap

- *How can we align and prioritize our efforts to ensure cohesive and coordinated progress?*

## Day 2

9:00 - 9:30

### Opening and Recap

- *What are the actionable items for moving forward?*

9:30 - 12:00

### Working Session: Way forward

- *How shall we collaborate effectively?*
- *Which resources and coordination levels are required?*
- *What are the potential funding sources and strategies?*
- *Synthesizing action, resources, collaboration, and coordination*
- *What are the immediate next steps?*

12:00 - 12:30

### Recap & Closing



# Vision for DPI in Agriculture



In the future, DPI should enable high **interoperability** among systems, reducing the need for redundant and siloed data entries

DPI should be so seamlessly integrated into everyday operations that it is only noticeable when something goes wrong

DPI must be designed with climate sensitivity in mind, promoting practices that support environmental sustainability.

DPI should ensure that all stakeholders, especially smallholder farmers, have access to and can benefit from data. It should facilitate data portability and usability across various applications.

DPI should be designed to be flexible and adaptable, accommodating new technological advancements and evolving needs over time.

DPI should facilitate global collaboration through harmonized standards, ensuring equitable data sharing and usage across different regions and sectors.

Governance mechanisms should be inclusive, involving a wide range of stakeholders from various sectors and geographical regions to ensure broad-based support and implementation.

The infrastructure should be sustainable, repairable, and reusable, aligning with environmental and sustainability goals.

In 10 years, the term DPI may not even be known. Systems will be so deeply integrated into everyday use that we'll be focused on the next big issue



The following points highlight the main benefits that Digital Public Infrastructure (DPI) can offer, based on insights gathered during the workshop:

## Data Interoperability and Standardization

- **Standardize Information Feeds and Metrics:** DPI should support joint standards for data collection, reporting, and analytics. This will facilitate seamless data exchange across different systems and applications, addressing the current fragmentation
- **Registry vs. Closed Database:** Promoting the use of a registry rather than a closed database can enhance data accessibility and mitigate barriers to effective data sharing

## Efficiency and Integration

- **Eliminate Redundant Data Collection:** DPI eliminates the need for collecting data multiple times, thereby enhancing overall efficiency within the agricultural sector
- **Switching Between Apps:** Facilitating smooth transitions between different applications can streamline processes and reduce operational complexity.

## Open and Inclusive Governance

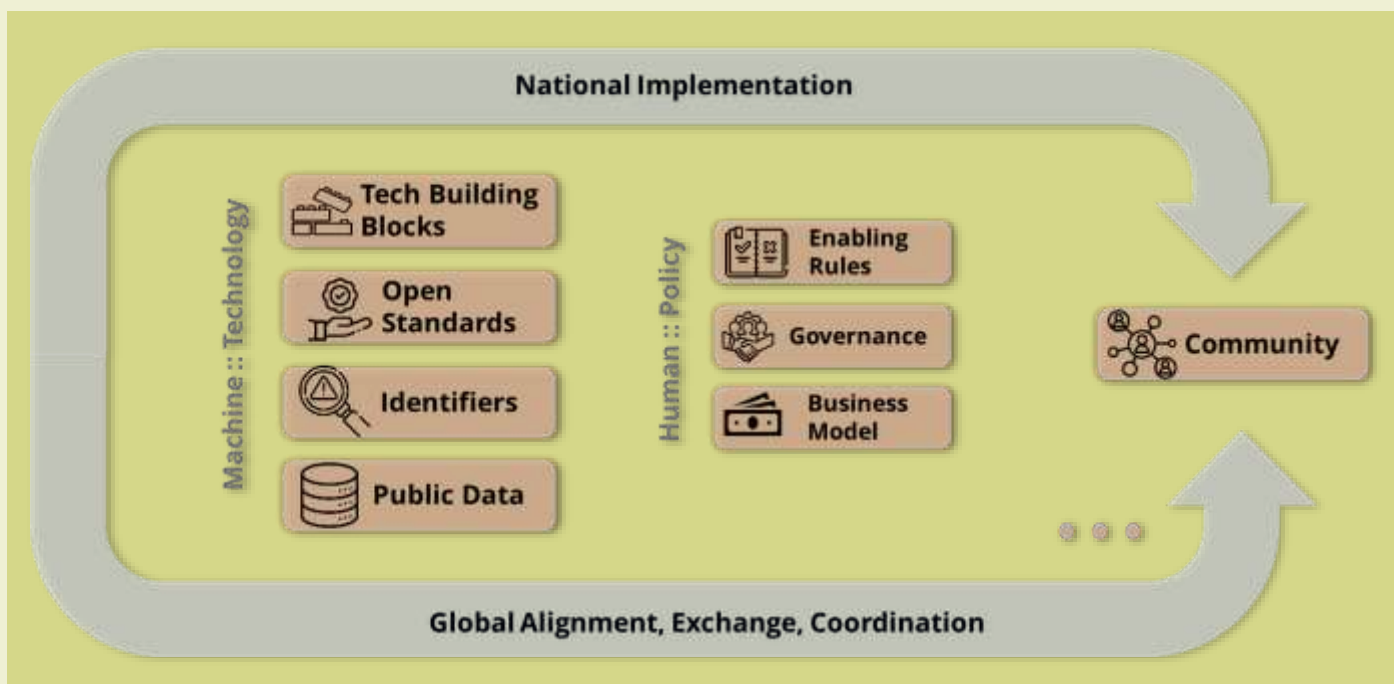
- **Transparent and Trustworthy Systems:** DPI should foster open governance that promotes transparency and builds trust throughout the supply chain.
- **Economic Inclusion and Market Access:** By supporting economic inclusion, DPI can help integrate smallholder farmers into larger markets, thereby improving their economic opportunities.

## Technological and Infrastructure Support

- **Geospatial Insights and Physical Infrastructure:** Integrating technological and physical infrastructure components, such as connectivity and digital devices, supports comprehensive data usage and accessibility.
- **Value Creation for Farmers:** DPI should ensure that data provides valuable insights and services that enhance farmers' productivity and profitability.

## Data Ownership and Security

- **Consent Mechanisms:** DPI must include mechanisms that allow farmers to manage their data and provide consent, thus safeguarding their data sovereignty and addressing privacy issues.
- **Data Ownership for Farmers:** Ensuring that farmers retain ownership of their data is crucial. This approach allows them to leverage their data for better outcomes and control.



## Key Elements: Human | Policy

ENABLING RULES	GOVERNANCE	BUSINESS MODEL
<p><b>Community-consented code of conduct &amp; guiding principles around DPI</b></p> <ul style="list-style-type: none"> <li>• Agreement on responsible data ownership, data use, data sharing</li> <li>• Farmer / Stakeholder education</li> </ul>	<p><b>Community-driven, national level commitment for DPI to support farmers and other stakeholders</b></p> <ul style="list-style-type: none"> <li>• <i>Data governance</i> to incentivize collection, ownership, protection AND</li> <li>• <i>Digital governance</i> coordinating efforts</li> <li>• Inclusiveness!</li> </ul>	<p><b>Positive cost-benefit ratio for maintainers and users, inclusive across sectors and stakeholders</b></p> <ul style="list-style-type: none"> <li>• Direct and short-term incentives</li> <li>• Removal of disincentives (tax rises, lack of land title)</li> <li>• Diverse funding streams</li> </ul>



## Key Elements: Machine | Technology

### TECH BUILDING BLOCKS

**Common set of building blocks fit for *multiple* verticals or use cases**

- Needs-based
- Ground-tested, designed with the user
- Interoperable, API-ed
- Reference architecture

### OPEN STANDARDS

**Set of priority digital standards for interoperability and seamless data exchange**

- Avoidance of duplication, alignment with standardizing bodies
- Adaptability, Flexibility
- Promotion of uptake

### PUBLIC DATA

**Increased availability of discoverable quality data**

- Aligned open data sources
- Incentives & campaigns to publish siloed data
- Transparency of analysis methods

### IDENTIFIERS

**Framework to unambiguously reference entities and geolocations**

- Registries catalogue
- Identifiers translation map and registry standard
- Registries adoption campaign



## Use Case: DPI for EUDR in Honduras and Ethiopia

### Objective

Facilitate market, technology, and data access for smallholders, enhance interoperable forest monitoring systems to increase data availability, promote the application of geospatial analytics and remote sensing for EUDR and CSDDD risk assessment procedures. Improve data systems and promote an open data platform, where smallholders will be able to get value from their data.

### Description

Establish a trust framework around the development of DPI, using experience from Honduras and transferring the process to Ethiopia. Teams of key organizations to develop prototype.

### Gaps

Offline function for transmitting spatial & ID data and metadata.

### Next steps

- Action research around DPI; identify the right stakeholders.
- Move in a stepwise manner, get confirmation at every step of the way.
- Organize kick-off workshop.
- Create a coalition of the willing.

### Next 3 years

- The Honduran prototype available by the end of 2024.
- The first container of EUDR-compliant coffee received in March/April 2025.
- Within 2025, establish a governance and co-investment group.
- Establish cross-country & cross-commodity learning community.
- Transfer the Honduran approach to other countries e.g. Ethiopia (trust framework).







## Use Case: EUDR Geodata Requirements for Coffee in Kenya

### Objective

Develop DPI for geolocation management for EUDR data, including asset and identity registries. Promote the openness of data, communicate on it, and establish standards.

### Description

Tackle the challenge of 40K farmers without geolocation data, partly organized in cooperatives, linked to multiple operators with diverse ownership of geodata.

### Stock Taking

- European Farmer Association Code of Conduct.
- Asset registry, Geofield ID system.
- Country examples (e.g. Costa Rica, Peru)
- Geospatial data sharing protocol.
- Rainforest Alliance system.

### Gaps

- Absence or incompleteness of national registry
- No awareness on data needs
- No information on data usage and backward data flows
- Limited access to hardware devices, connectivity
- Lack of guidance

### Next steps

- Country experience exchange
- Create a database with clarity on permissions for data usage, storage, and privacy
- Public-private financial contributions
- Provide guidelines and documentation

### Next 3 years

- Stakeholder mapping e.g. Kenya coffee board, government, EU, value chain actors
- Engagement and trust building between stakeholders
- Identify and map existing technologies, data sources, datasets, local Kenyan data collection initiatives
- Decide on a mapping strategy (how to relate data sets, leverage existing sets, consent on data, identifiers)
- Involve partners in data collection and financing
- Capacity building
- Identify new actors within the second year
- By year 3, all polygons digitized and access to data ensured.

### Potential synergies of collective action

- Map initiatives and share learnings
- Define data model of farmer (blueprint definition); bridge legal entity level with physical land level.





## Tech Building Block: "Payload Project"

### Objective

Creation of an open-source building block that enables flexible data attribution within supply chains, ensuring compliance.

### Description

Flexible system that allows for inclusion of additional attributes to traced lots with addable JSON-schemas, nodes and certificate-based access authorization and TCP/IP-inspired workflow for attribute tracking.

### Gaps

- Some solutions address attribute tracking, but no payload is really defined
- Data sources for attribute value creation.

### Next steps

- Secure short and long-term funding, define ownership & roles.
- Design the payload and describe how it should work.
- Develop an open-source community project.
- Create sub-working groups within Agstack.
- Build a spec.
- Define connection points for various information to add or read from the payload.
- Early concept should work on polygons, tools for JSON authorship, authority token, flexible schema/json, APIs for viewing and reading.

### Next 3 years

- Leverage respective areas of expertise e.g. policy, tech, value chain function.
- Include all stakeholders in the governance process.
- Explore different country contexts.
- Solve the hosting challenge, and discuss the topics of sovereignty, low funding, cyber security.
- Establish a knowledge framework to map status quo. Reflect on regulations needed and stakeholders needed.
- Invest in a comprehensive and inclusive design phase.
- DIASCA can develop the business model and act as a communication bridge between policy makers, users and tech builders (ETL, API).



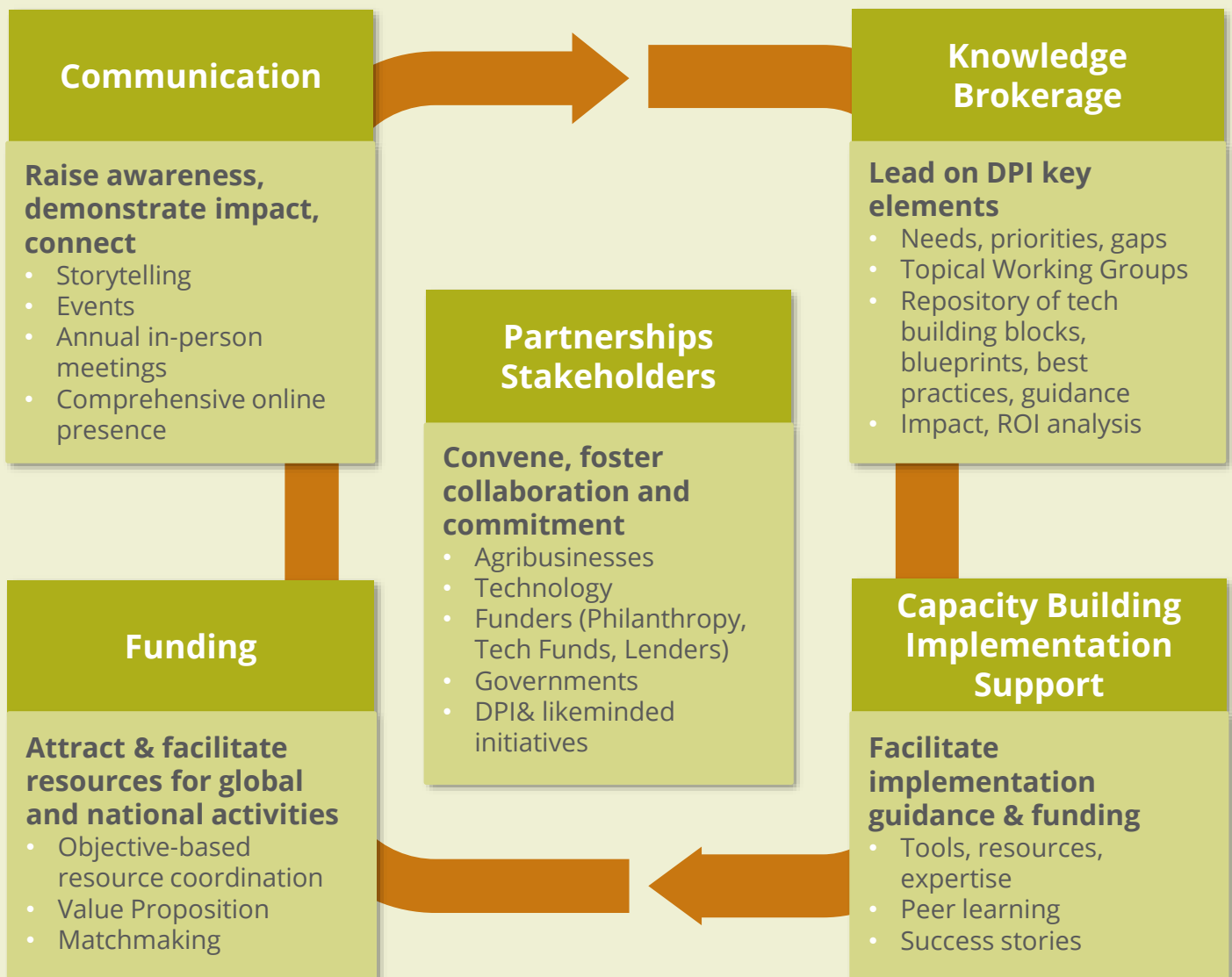


**DIASCA should be a neutral, precompetitive, and inclusive multi-stakeholder network to foster DPI implementation in agriculture, connecting stakeholders, facilitating and curating knowledge and funding, and be a one-stop shop for technical guidance and support.**

To do so, DIASCA seeks new and strengthens existing **partnerships** and engages with key **stakeholders** around topical expertise, funding, and DPI implementation.

These include:

- **key industry stakeholders** for a precompetitive engagement of collaboration and co-investment, and to ensure solutions meet real-world needs.
- **international organizations, funders and lenders** like World Bank, IFAD or large technology corporations (Google, Bezos Earth Fund, etc.) for maintaining involvement and securing funding.
- the **technology DPI community** to bring tech building blocks together (Google, Microsoft, AgStack, FAO, etc.).
- **other initiatives working on DPI** or individual elements for topical expertise (CDPI, UNDP, GovStack,...) and alignment.
- **governments** or organizations working with governments on DPI sharing learnings on governance, business models, and leveraging local solutions.





## Knowledge Brokerage

DIASCA should be a neutral knowledge broker on the DPI key elements, assessing needs, taking stock and identifying gaps. These include technology building blocks, guidance material and blueprints on digital or data governance models, business model best practices or technical standards etc. Prioritized gaps shall be filled through topical working groups (e.g. for standard development) or in the framework of in-country projects. Resources on DPI key elements are to be documented and made publicly available. Likewise, evidence on impact, economic return-on-investment, and individual stakeholders' benefits – funders', governments', and users' - shall be collected and disseminated.

## Capacity Building & Implementation Support

Closely engaging with e.g. national level DPI implementation initiatives, DIASCA collects, curates, and makes available experiences, technology tools, blueprints, and best practices to support implementation. DIASCA may provide matchmaking of implementing initiatives with funders, lenders, technology, and expertise. Demonstrating success stories, examples of viable business models and RoI evidence, DIASCA can play a role in raising awareness and communicating the cause for DPI and help leveraging local solutions. This can be complemented by the facilitation of peer learning events.

## Funding

DIASCA should strategically engage with funders, public, philanthropic as well as tech funds, and help coordinate an efficient allocation of resources. DIASCA facilitates partnership models between funders and partners, without necessarily directly implementing or funding projects. Along prioritized and agreed objectives, DIASCA

- coordinates and aligns with donors' funding strategies, providing donors with value propositions, needs, RoI analyses and alignment options.
- facilitates cash and in-kind match-funding of different donors and implementers, including agribusinesses, to support in-country implementation activities, or to foster the needs-based development of DPI elements, such as technology building blocks, standards, guidelines, training or communication material.
- attracts cash and in-kind contributions for the coordination role, including the secretariat function.

## Communication

DIASCA's communication function aims to raise awareness about DPI benefits and impact and to leverage the engagement and collaboration of stakeholders. This includes

- the curation of **communication material** translating the technical concept of DPI into easy, analogy-supported messaging for non-technical decision-makers, supported by a documentation of success stories and positive **ROI** evidence.
- regular **stakeholder convenings** in the form of virtual webinars and regular in-person events.
- a comprehensive **online platform** hosting all knowledge resources, updates etc.





## What are the immediate next steps?

### Organization

1. define a clear **vision, mission, objectives**, concrete **tasks**, and DPI **value proposition** for DIASCA, keeping focus on digital for agricultural supply chains,
2. define the **role** of DIASCA (as a neutral convener, connector across the core members, and facilitator of activities), including a value proposition for funders and collaborators,
3. elaborate a public-private **governance** structure, benefit from leadership of some core organizations, while including small companies and cooperatives as well as technology companies in decision-making processes. This might include a separate advisory panel.

### Resources

1. based on the objectives and value proposition definition, define **budgetary needs** (core function, DPI elements, projects),
2. identify and target relevant **funding sources** for various purposes.
3. build a **public-private co-investment structure** and **financing models** for DIASCA, seeking MoUs or more structured legal arrangements with key organisations and/or assessing the feasibility of a membership fees-based revenue model.

### Content

#### Continue

1. **stakeholder engagement** identifying potential on-ground collaborators to initiate pilots.
2. mapping relevant **activities**, documenting use-cases, and **storytelling** for communication.
3. traceability, forest monitoring and income workgroups.
4. development of **data model** semantics and syntax around living income and governance.
5. linking DIASCA results to **DIN/ISO** work to speed up dissemination and uptake.
6. development of **DPI prototype** and in-country implementations for EUDR.

#### Initiate

1. **CSDDD** working group to help prepare the community for compliance.
2. work on **data governance** (data ownership, data model structure).
3. development of **farmer ID-models** and semi-centralized farmer registry.
4. development of an **attribute registry**.
5. mini projects at local and national levels to collectively prepare stakeholders for compliance.
6. survey of global community on DPI priority **needs**.

## List of Participants

Name	Organisation
Alicia Sullivan	Google
Andrea Burkhardt	GIZ/INA
Andy Jenkinson	Varda
Ariane Makamgain Kamdem	GIZ/INA
Brian King	CIAT/CGIAR
Charlotte Heyl	German Coffee Association
Christian Hennig	ISO TC 347 Data-Driven Agrifood Systems
Elke Sümnick-Matthäi	GIZ/SAFE
Evan Notman	USAID
Gregory Sampson	International Trade Center (ITC)
Gyde Feddersen	GIZ/INA
Jean Willain	EU/DG ENV
Johannes Lehmann	DIN
Juan Guzman Hidalgo	GIZ/DataGov in Africa
Lars Kahnert	GIZ/INA
Liam Brody	Committee on Sustainability Assessment (COSA)
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Tina Schneider	World Resources Institute (WRI)
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Yvonne Franke	Federal Ministry for Economic Cooperation and Development (BMZ)

