Cropin®

# The Ultimate Guide to EUDR Compliance for Agri-businesses

# Executive Summary

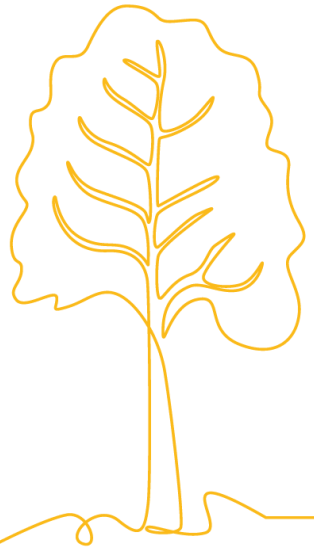
Deforestation is a critical environmental challenge, contributing significantly to climate change, biodiversity loss, and soil erosion. The European Union Deforestation Regulation (EUDR) represents a landmark effort to curb deforestation by ensuring that products placed on the EU market are not associated with deforestation or forest degradation. While the EUDR presents significant challenges for agribusinesses, including complex traceability, data management, and farmer engagement, it also presents an opportunity to drive sustainable practices across supply chains.

Uncover how Cropin's technology platform empowers businesses to navigate these challenges by providing robust solutions for traceability of origin, risk assessment, and compliance monitoring. By leveraging real-time remote monitoring, conceptualized artificial intelligence (AI)/ machine learning (ML) models, and advanced data analytics, Cropin helps businesses achieve EUDR compliance, enhance supply chain transparency, and foster a more sustainable and resilient future for agriculture.

# Impact of Deforestation

The relentless deforestation casts a long shadow across our planet, leaving behind a trail of ecological devastation. Each year, millions of hectares of precious forests are cleared, contributing significantly to climate change, biodiversity loss, and soil erosion.  According to the United Nations, agricultural expansion is the primary contributor to deforestation, accounting for nearly 90% of global forest loss.

## Agricultural expansion Drives Deforestation

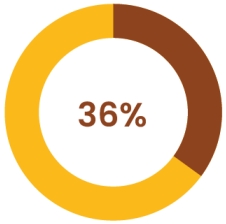


**EU Imports**
Increases demand for deforestation linked products

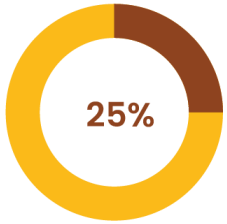
**Cropland Expansion**
Major contributor to forest loss

**Livestock Grazing**
Significant land use for farming

## EU-Linked Deforestation (1990-2008)




Crop Products

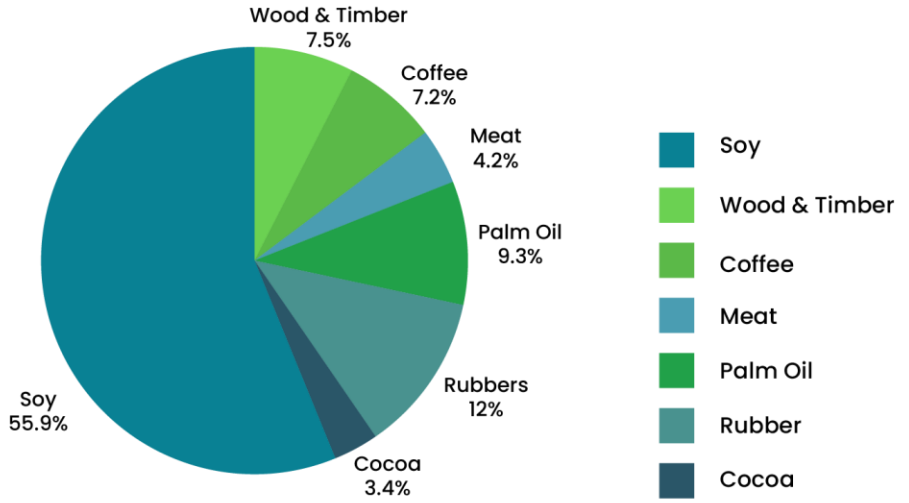



Ruminant Livestock Products

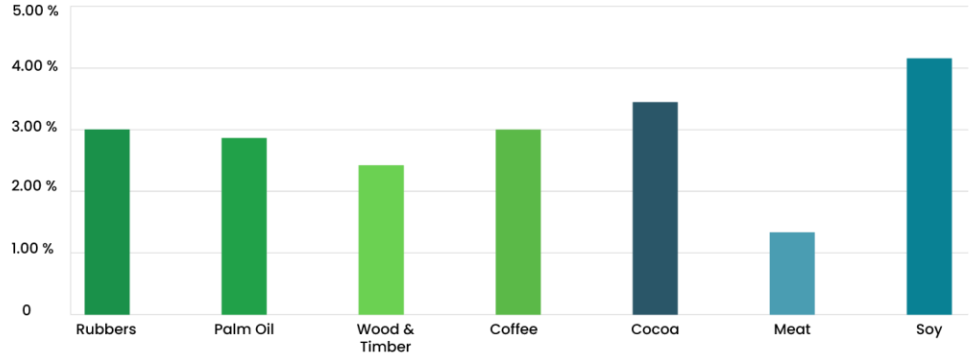
Between 1990-2008, EU imports amounted to 36% of deforestation linked to crop products and over 25% of deforestation linked to ruminant livestock products equivalent.

The European Union (EU) plays a significant role in global deforestation through its consumption patterns. Recognizing this, the EU has enacted the EU Deforestation Regulation (EUDR) – a landmark piece of legislation to curb the EU's contribution to deforestation and forest degradation.

## Value of Exports as per 2022




## CAGR of Exports to Europe



# Understanding the European Union Deforestation Regulation (EUDR)

European Union Deforestation Regulation (EUDR), the cornerstone of the EU Green Deal, seeks to protect the world's forests by ensuring that a range of agricultural commodities exported by the EU or placed on the EU market are deforestation-free. This means these products must originate from land not subject to deforestation or forest degradation after 31 December 2020. By implementing the EUDR, the EU aims to significantly reduce the impact of deforestation and forest degradation, with projections indicating a potential reduction of 71.92 thousand hectares of forest per year and a decrease in CO2 emissions by 31.9 million metric tons annually.

## EUDR seeks to

Source products from land free of deforestation after 31 December 2020

Reduce GHG emissions

Limit expansion of agricultural land and help forests thrive

# Key Components of the EUDR

## 01 Due diligence requirements for companies

Companies must conduct thorough due diligence, including exhaustive risk assessments, supply chain mapping, and implementation of robust systems to ensure deforestation-free sourcing.

## 02 Reporting obligations and monitoring mechanisms

Companies must maintain detailed records and submit regular reports on their due diligence efforts. Robust monitoring mechanisms will ensure compliance.

## 03 Traceability and geolocation of supply chains

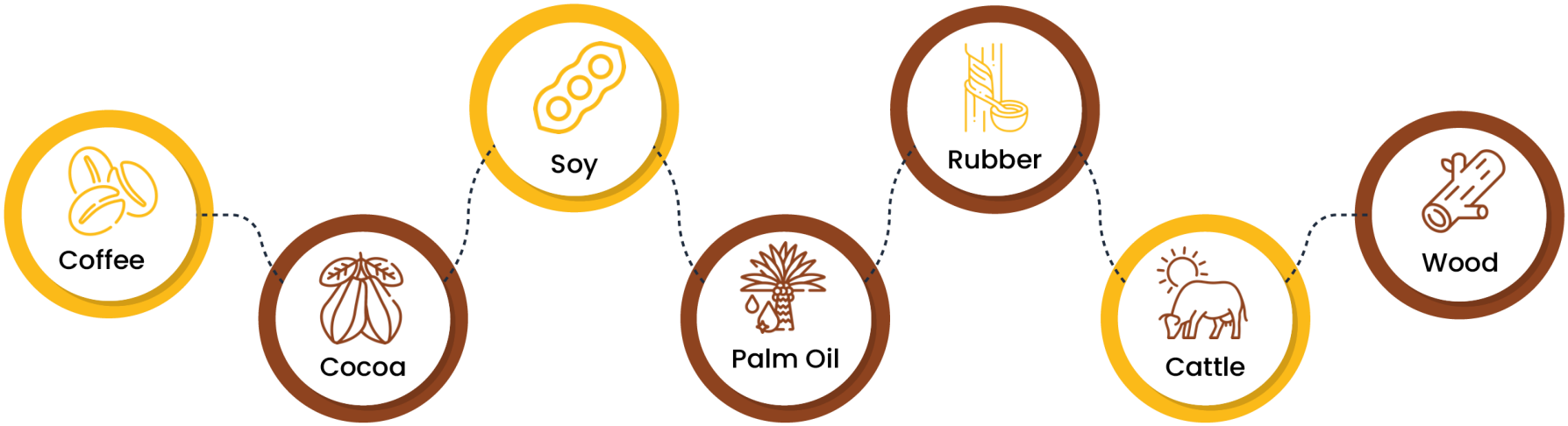
Robust traceability systems are crucial for tracking products back to their origin and mapping supply chains using geolocation data to pinpoint the source of commodities.

## 04 Develop risk management strategy

Companies must develop and document a risk management strategy based on risk assessments to address potential non-compliance. This includes sustainable farming, responsible sourcing and traceability.

# Commodities Covered by EUDR

EUDR covers seven high-risk commodities: coffee, cocoa, soy, palm oil, rubber, beef, and wood, as well as products derived from them, such as chocolate, leather, and paper.



# EUDR Requirements

To place commodities on the EU market, they must:

**Deforestation-free Origin:** Products must be sourced from land free of deforestation or forest degradation after 31 Dec 2020.

**Legal Production:** Must adhere to the laws of the country of origin.

**Due-Diligence Compliance:** Shipments must be accompanied by a due diligence statement uploaded to the EU's Central Information System.

# When does it come to force?

**31 Dec 2020**

Deforestation Free Cut-off Date

**29 Jun 2023**

EUDR Entry into force

**30 Dec 2024**

Implementation scheduled

Implementation deferred by 12 months in Dec 2024

**30 Dec 2025**

Applicable to Large Enterprises

**30 Jun 2026**

Applicable to Micro and Small Enterprises

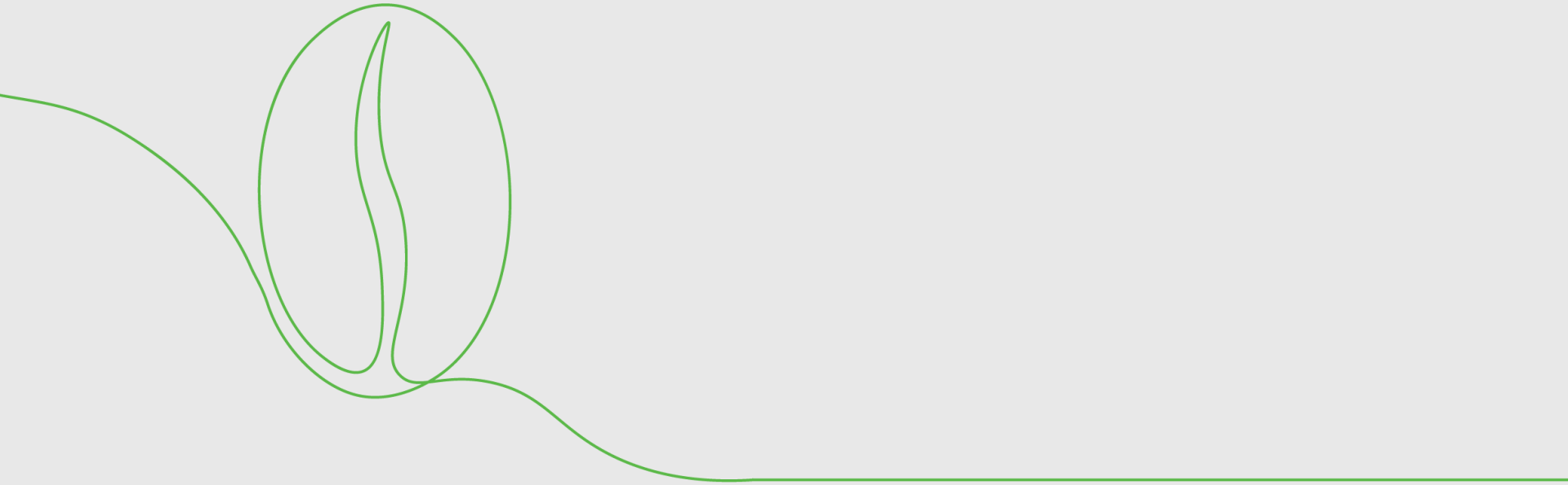
# Scope of Application

The EUDR applies to raw materials originating within the EU and elsewhere globally.

**EU-based Companies**: The EUDR applies to any company operating within the EU that imports, sells, or exports regulated commodities.

**International Companies:** Companies outside the EU that aim to sell these commodities in the EU market must also comply with the regulation.

It differentiates between "operators" (first point of entry) and "traders" (subsequent resellers), with specific requirements for both, including due diligence obligations and record-keeping.



# The EUDR: Challenges for Agribusiness

The EUDR presents several key challenges for agribusinesses:

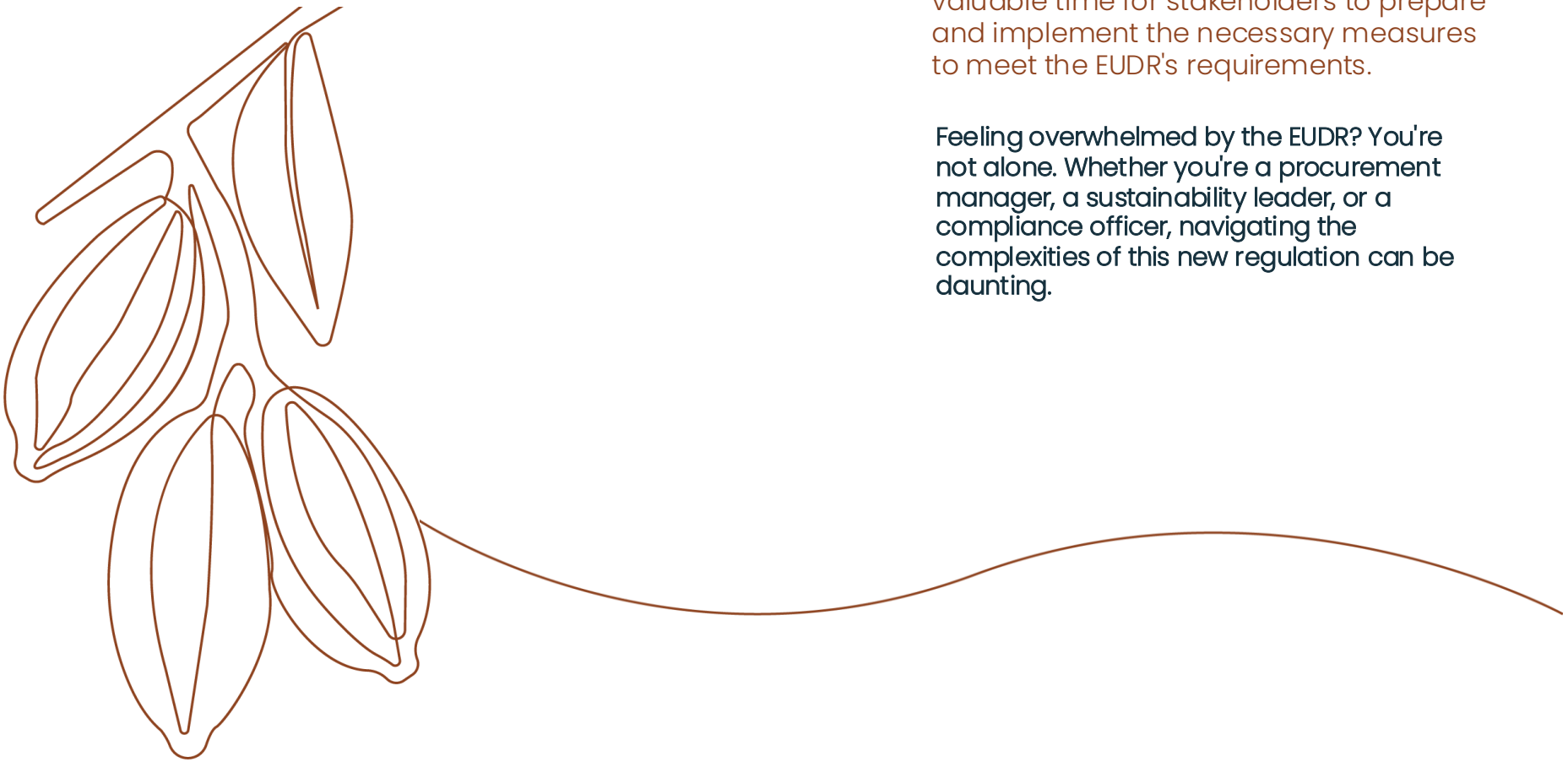
| CHALLENGES | SOLUTION |
| --- | --- |
| Traceability to Farms of Origin for complex supply chains involving smallholder farmers | The use of satellite data for remote sensing helps establish robust traceability systems, especially involving smallholder farms. |
| Data Management: Collecting, managing, and analyzing vast amounts of data on deforestation risk | Use of technology to collect, manage, and assess vast amounts of data on deforestation risk, including geolocation data, land use history, and other relevant information. |
| System Integration: Integrating EUDR compliance into existing established systems and workflow may require process overhaul | Deploy integrated Agtech platforms to seamlessly API integrate data from various sources, including satellite imagery, internal & external platforms, open-source databases, and more. |

| CHALLENGES | SOLUTION |
| --- | --- |
| **Farmer Engagement:** Supporting smallholder farmers with knowledge and resource | Leverage an integrated platform to connect with smallholder farmers and share knowledge and resources to help them understand and comply with EUDR requirements. |
| **Significant Investment** in technology, training, and personnel | The use of vendor platforms considerably reduces investments in managing compliance. |

# Postponement of Implementation

The full implementation of the EUDR has been postponed due to concerns raised by member states, traders, operators, and exporting countries regarding their ability to fully comply with the initial deadline. This postponement provides valuable time for stakeholders to prepare and implement the necessary measures to meet the EUDR's requirements.

Feeling overwhelmed by the EUDR? You're not alone. Whether you're a procurement manager, a sustainability leader, or a compliance officer, navigating the complexities of this new regulation can be daunting.



# Navigating the EUDR: The Cropin Advantage

Mapping producer locations, data collection and analysis, assessing suppliers, traceability limitations, risk assessment challenges, communication & collaboration, and validation are resource-intensive activities that can be time-consuming and complex.

If mishandled, they can pose severe consequences, including:

Fines: Up to 4% of annual turnover across the EU.

Confiscation of non-compliant products.

Trade sanctions and potential exclusion from the EU market.

Reputational damage and negative publicity.

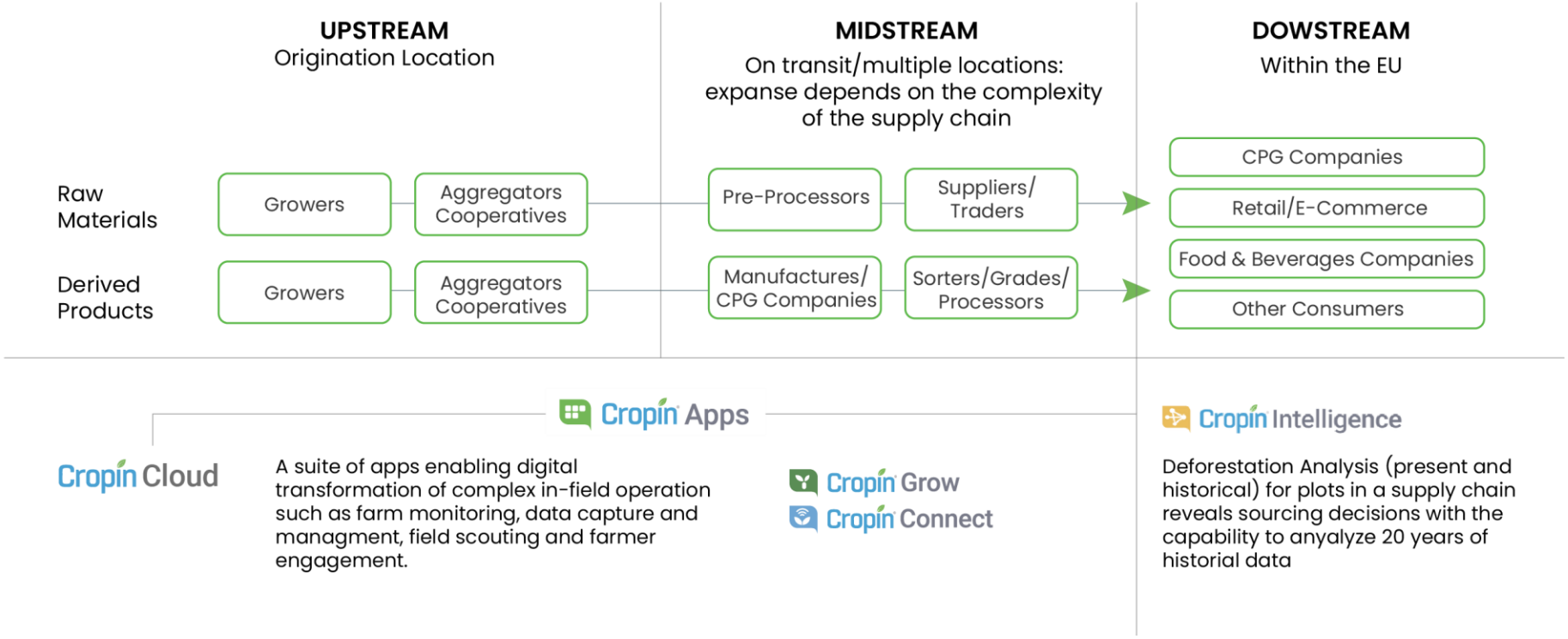
Due diligence downgrades for repeated offenders.

The safe solution: Leverage technology for EUDR compliance

# Endless Requirements. One EUDR Solution

Cropin's advanced sustainability solutions offer a dynamic platform for deforestation detection and EUDR compliance, streamlining data collection, risk assessment, monitoring, mitigation, and due diligence.

Cropin’s Comprehensive EUDR Solution




Companies can assess real-time and historical data to monitor land use activities, pinpoint deforestation hotspots, and implement proactive risk mitigation strategies. By automating data collection and management, users can streamline documentation and record-keeping.

# Deforestation Assessment

Cropin's Deforestation Assessment leverages a combination of Cropin AI Labs' proprietary models, such as our dynamic Land Use Land Cover (LULC) model, with an ensemble of open-source canopy maps (Hansen, Pulsar, European Commission Forest Maps). This comprehensive approach enables accurate identification of deforested lands by comparing historical and current satellite data, allowing for even minor change detection in forest cover overlapping with plots of interest.

The platform then utilizes change detection algorithms to pinpoint the overlap between deforested lands and customer plots, flagging non-compliant areas.

All the data across plots, satellite data proofs, and details on deforestation in those specific areas are then shared with the customer via multiple modes. This data is then visualized as insights on the dashboard on the Cropin Cloud platform, along with multiple other custom reports for reporting purposes and internal assessments.

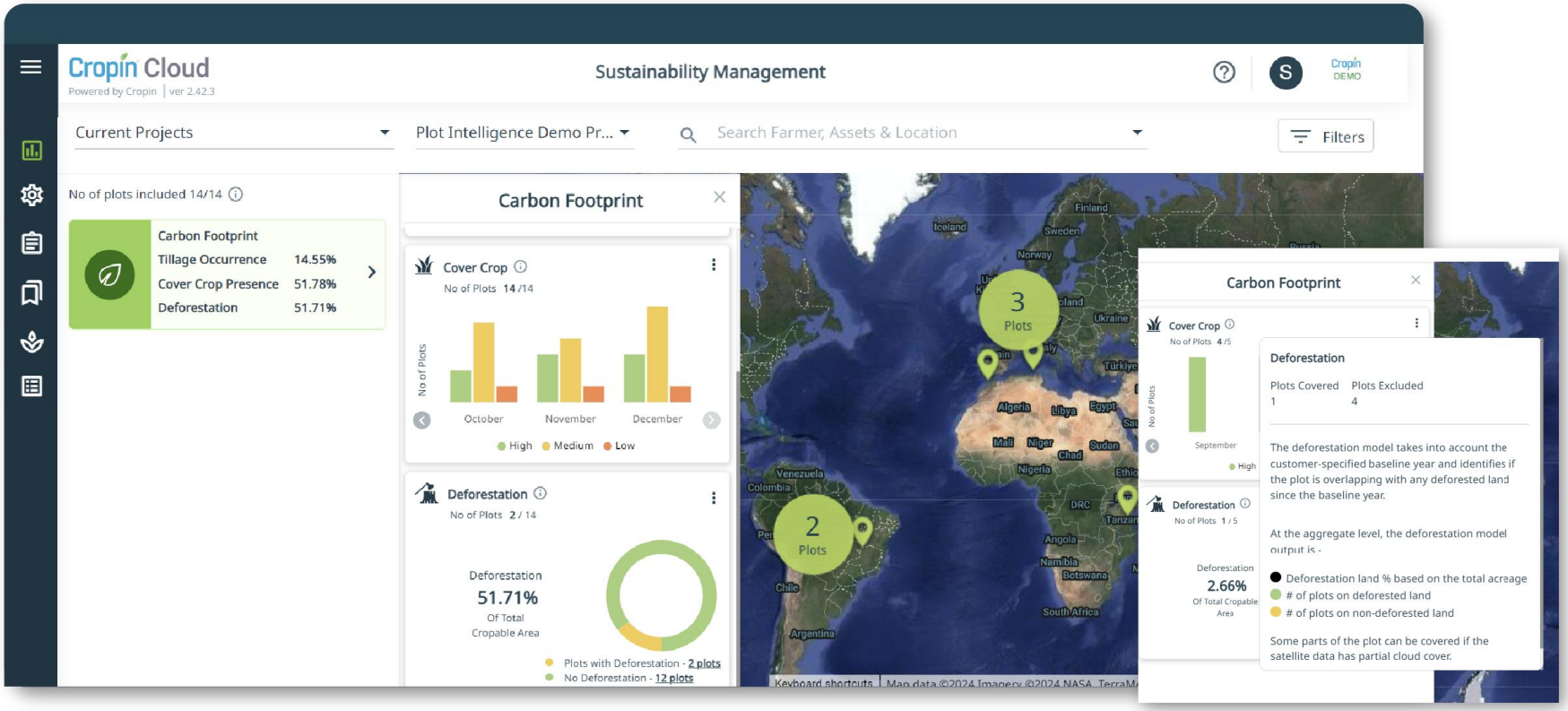



Figure: Cropin Dashboard Showing Aggregated Deforested Data

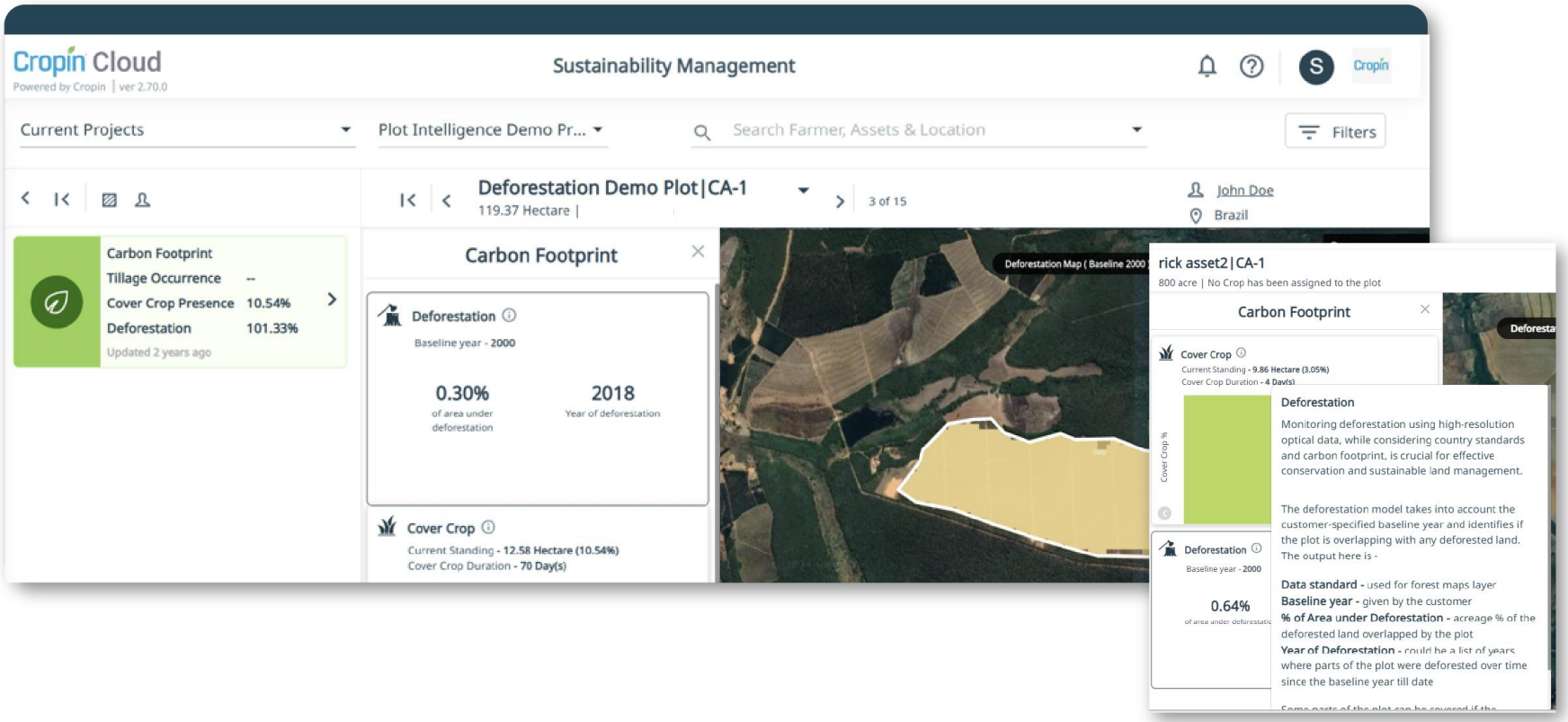



Figure: Cropin Dashboard Showing Aggregated Deforested Data

## Compliance Verification

Cropin’s Sustainability Module enables customers to run the deforestation model according to EUDR compliance, with a baseline year of 31 Dec 2020. The data from the deforestation model can be used for multiple reporting purposes required as part of the Due Diligence process. Cropin enables stakeholders to provide proof of compliance of their produce through:

### Temporal Analysis & Deforestation Year Identification

Cropin's platform incorporates sophisticated temporal analysis capabilities, allowing for precise identification of the year of deforestation with remarkable accuracy (down to a 10x10 meter resolution). This crucial feature enables a deeper understanding of land use changes over time to enhance compliance efforts with precise proof points for EUDR reporting.

### Acreage Overlap Analysis:

Cropin provides the percentage and acreage of land overlapping with deforested areas, including the year of deforestation and supporting satellite data as proof for EUDR due diligence.

### Chain of Custody Tracking

Cropin leverages system-generated QR codes for each product batch to track traceability from farm to consumer, verifying the deforestation-free status across the entire supply chain. Access to traceability report for users across the supply chain to track - source of production with its deforestation-free status, farmer details, etc.

### Custom Reporting

Offering customizable reports to meet diverse business needs and EUDR due diligence processes.

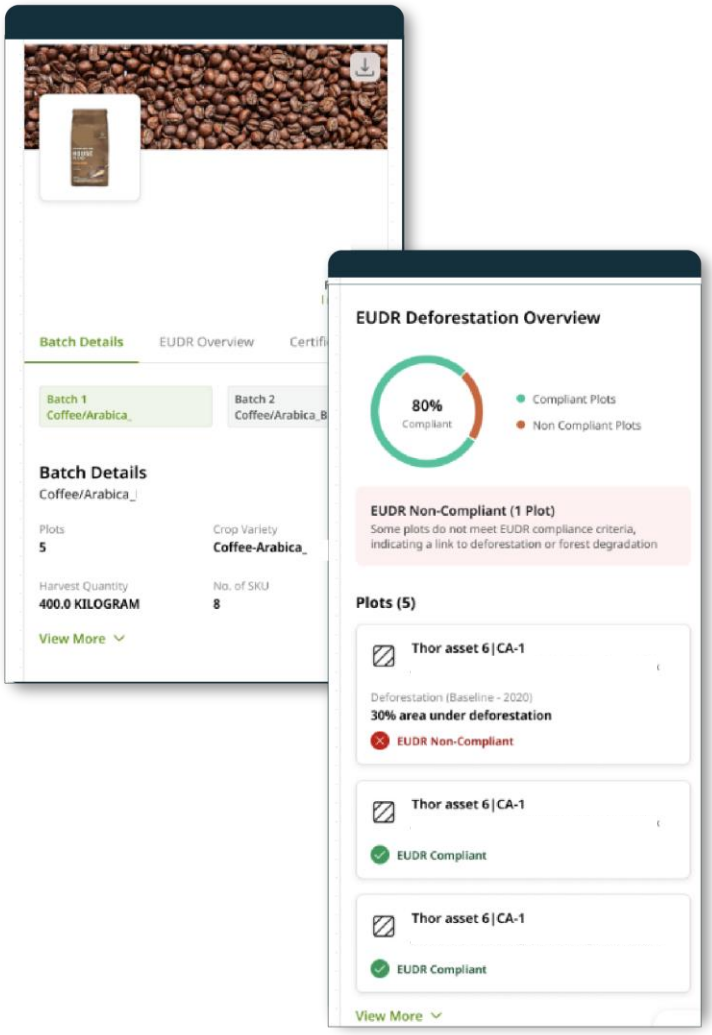



Figure: Cropin's Traceability Report

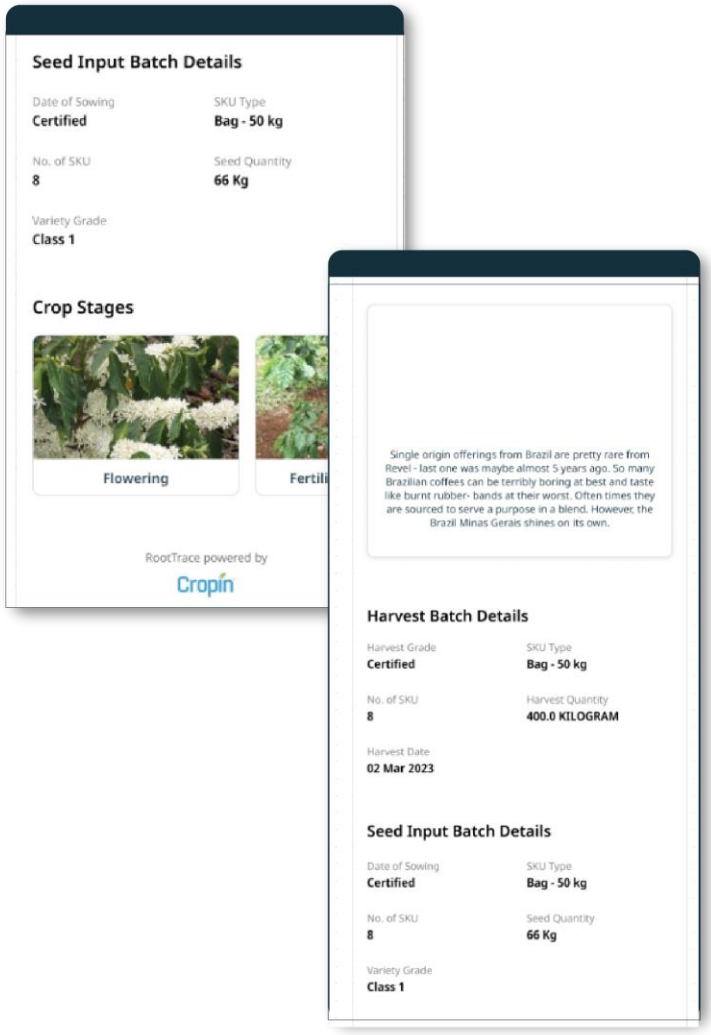



Figure: Cropin's Traceability Report

## Data Sharing & Reporting; Proof of Compliance:

All plot level data, including satellite imagery proofs and deforestation details, is readily accessible to customers through deforestation dashboards on the Cropin Cloud platform and various traceability and custom BI reports with visualizations. Cropin's solution enables stakeholders to verify and report the sourcing of their produce and the deforestation-free status with digital Monitoring, Reporting, and Verification (dMRV) as proof of compliance.

## Remote Monitoring:

Cropin harnesses the power of high-resolution satellite imagery and advanced data analytics to effectively monitor and report on deforestation activities within defined areas of interest.

## Data Integration & Traceability:

Cropin's Sustainability Module seamlessly integrates with other supply chain platforms, enabling complete traceability and tracking of products back to their origin. The highly adaptable Cropin Cloud platform allows the integration of new forest maps and other data sources as required by specific clients or regions. This flexibility ensures that the deforestation detection model remains accurate and up-to-date, enhancing its reliability and effectiveness.

## Risk Mitigation:

For plots with partial overlap with deforested areas, Cropin allows users to split the plot within the platform, enabling the sale of produce from the deforestation-free portion in EU markets. This innovative feature helps customers mitigate compliance risks and maximize market access.

## Data Security:

Cropin prioritizes data security with robust measures such as HTTPS encryption (TLS1.2/1.3), regular security audits, and data encryption in transit and at rest. Automated backups and firewall protection further enhance data security and system resilience.

## Seamless Collaboration:

Supplier engagement is paramount for EUDR compliance. Effective collaboration with suppliers is crucial for identifying and mitigating deforestation risks, building trust, and ensuring adherence to EUDR requirements. Cropin Cloud, an easy-to-use farmer engagement application, helps drive risk mitigation efforts by empowering growers with access to knowledge and crucial information, including field activity records, weather alerts, pest & disease warnings, and advisories for risk mitigation. This empowers farmers to make informed decisions and adopt sustainable practices, contributing to overall supply chain sustainability and EUDR compliance.

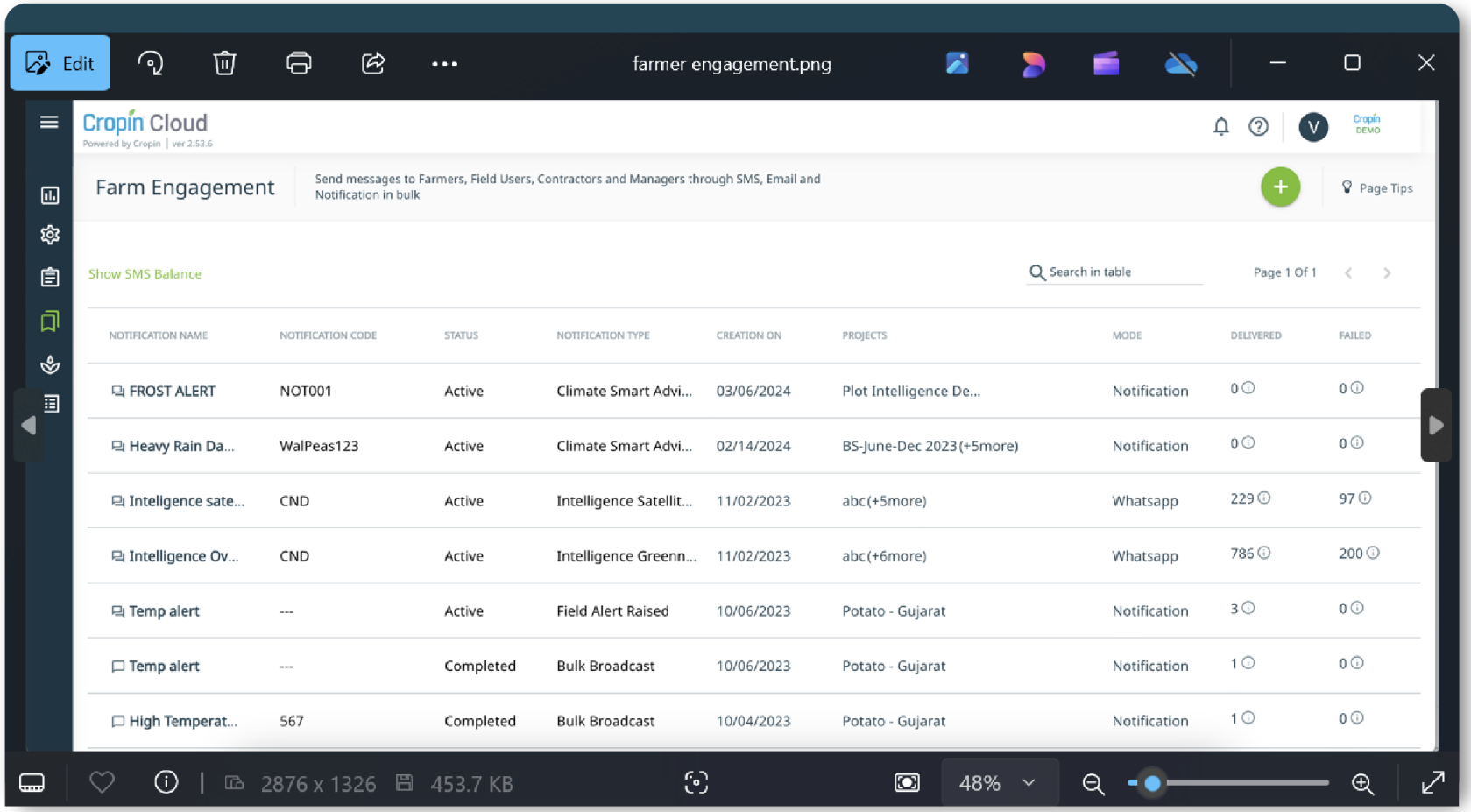



Figure: Cropin Dashboard Showing Farmer Engagement

# The Cropin Advantage

The Cropin Cloud EUDR dashboard provides the following insights:

Aggregated report with the information across all the plots

Acreage % of forest encroachment

Identification of a plot if it has encroached into any forest land

Year(s) of Deforestation

Satellite data proof of deforestation and other insights at a plot level

QR code supported traceability reports accessible across the supply chain

All the above information can be integrated into the customer's applications via APIs

While other solutions may rely on generic deforestation maps, Cropin's cutting-edge technology differentiates itself through:

- Proprietary Deforestation Model: Cropin utilizes a proprietary deforestation model alongside multiple public forest maps. Cropin's IP - our proprietary crop knowledge graph enhances the model by incorporating customized region-specific and crop-specific factors to uniquely differentiate between forests and plantations. This crucial distinction missed by public forest maps significantly enhances the accuracy of deforestation assessments.

- Risk Mitigation Capabilities: Cropin empowers users to mitigate risks associated with plots that overlap with deforested areas. The platform allows users to split plots within the system, enabling the sale of produce from the deforestation-free portion in EU markets. This innovative feature maximizes profitability and market access for businesses. Simultaneously, it allows clients to analyze portions of farms, understand why they were flagged for EUDR, and implement risk mitigation strategies.

- Customization & Flexibility: Cropin offers highly customizable reporting capabilities that allow businesses to adapt seamlessly to evolving regulatory requirements and internal reporting needs.

- Rapid Integration: Cropin can quickly integrate new forest maps in two weeks and adapt to changing regulatory landscapes, ensuring our clients comply with the latest EUDR requirements.

- Output - Dashboards with the satellite data proof, traceability report, and custom reports.

By leveraging Cropin's advanced technology, including AI/ML, proprietary deforestation models, and robust risk mitigation capabilities, businesses can navigate the complexities of the EUDR with confidence, ensure compliance, and build a more sustainable and resilient future.

Cropin's EUDR solution helps you manage compliance by streamlining data collection, risk assessment, monitoring, mitigation, and due diligence—the result, full transparency and effortless EUDR compliance.

**We don't stop here, we offer more**

# Beyond EUDR: A Comprehensive Sustainability Solution

Cropin's commitment to sustainability extends beyond EUDR compliance. Our platform offers a suite of advanced features that help businesses enhance their environmental and social impact:

- **Tillage Analysis:** Cropin leverages remote sensing to detect tillage occurrences on plots between production seasons.

  **Aggregated Insights:** Provides insights into the number of plots tilled and untilled, along with the distribution of acreage for each category.

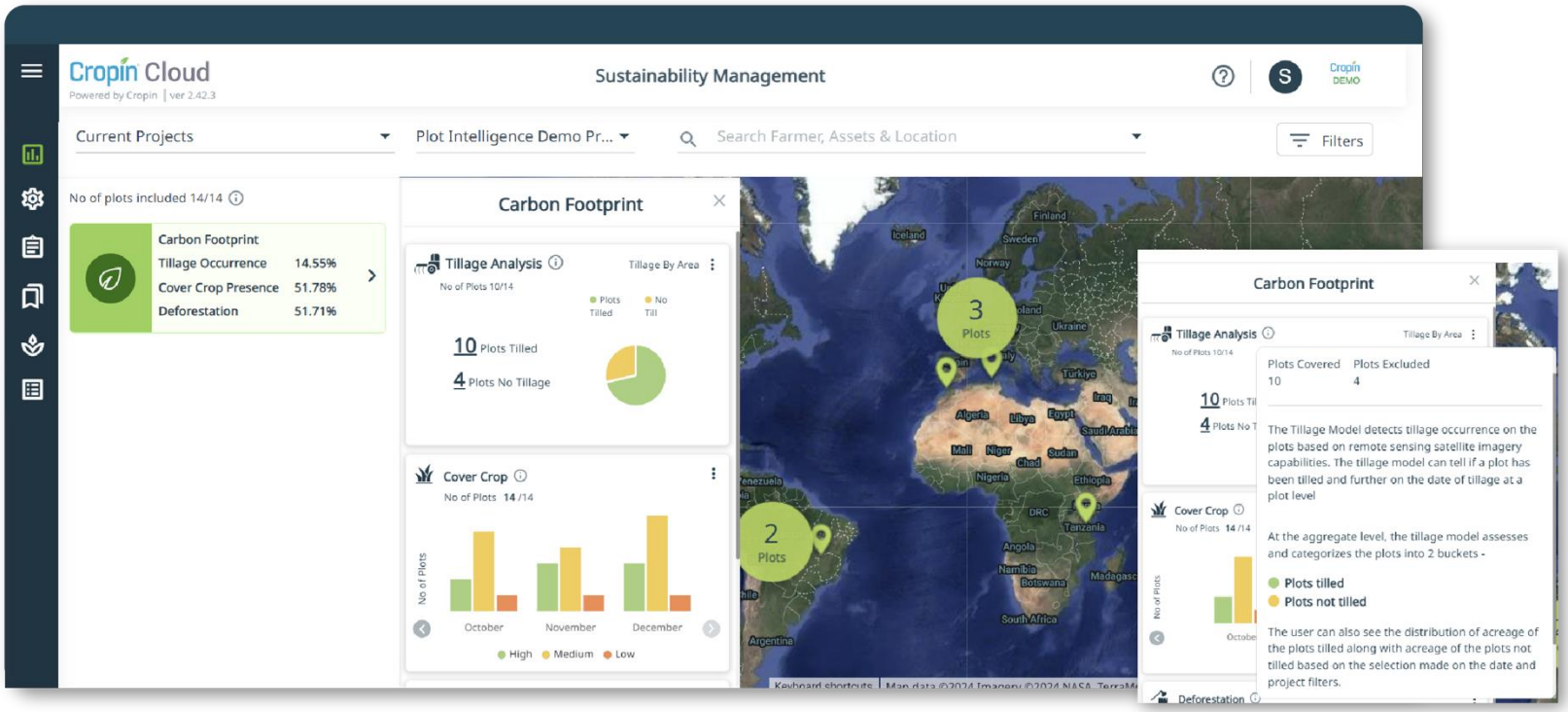



Figure: Cropin Dashboard Showing Aggregated Tillage data

**Plot-Level Insights:** Delivers detailed information on each plot, including tillage date, tillage percentage, and an assessment of the practice based on the time elapsed between tillage and subsequent sowing.

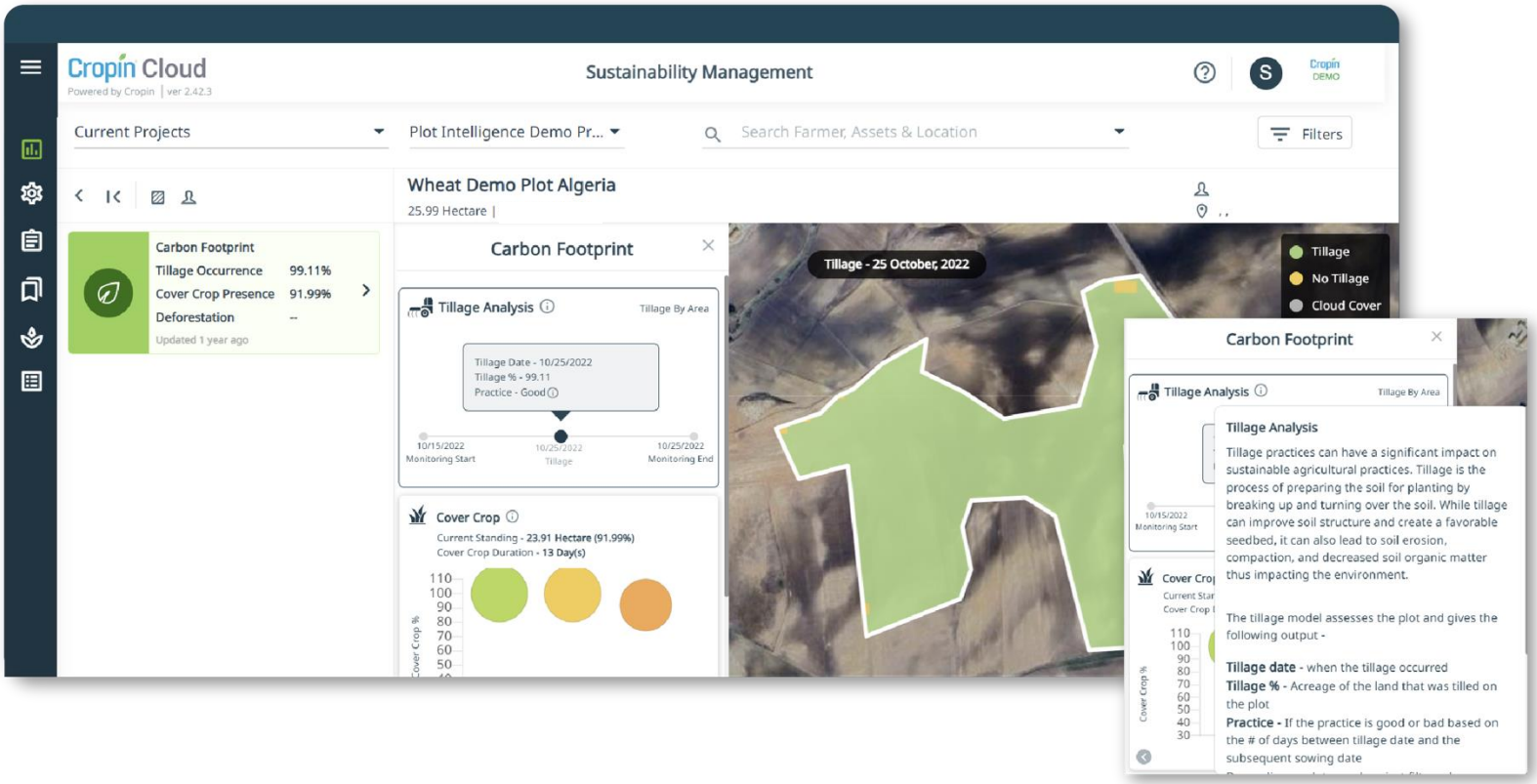



Figure: Cropin Dashboard Showing Plot-level Cover Crop data

- **Cover Crop Monitoring:** Cropin utilizes satellite imagery to detect and monitor the growth of cover crops on plots between production seasons.

  **Aggregated Insights:** Provides insights into the distribution of plots with high, medium, and low cover crop presence across different months.

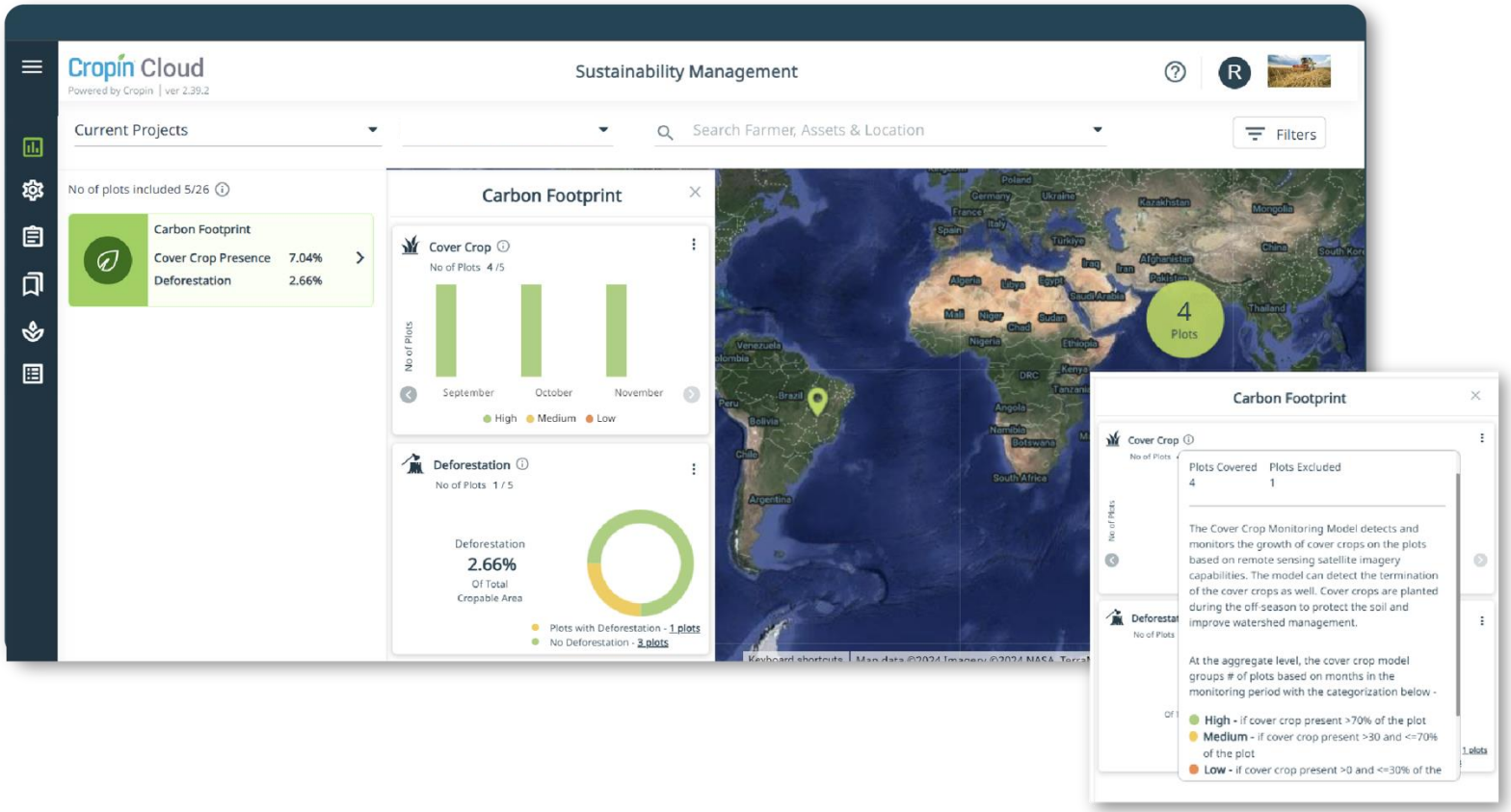



Figure: Cropin Dashboard Showing Plot-level Cover Crop data

- **Plot-Level Insights:** Offers details on the current standing of cover crops on each plot, including acreage with cover crops and the duration of cover crop presence.

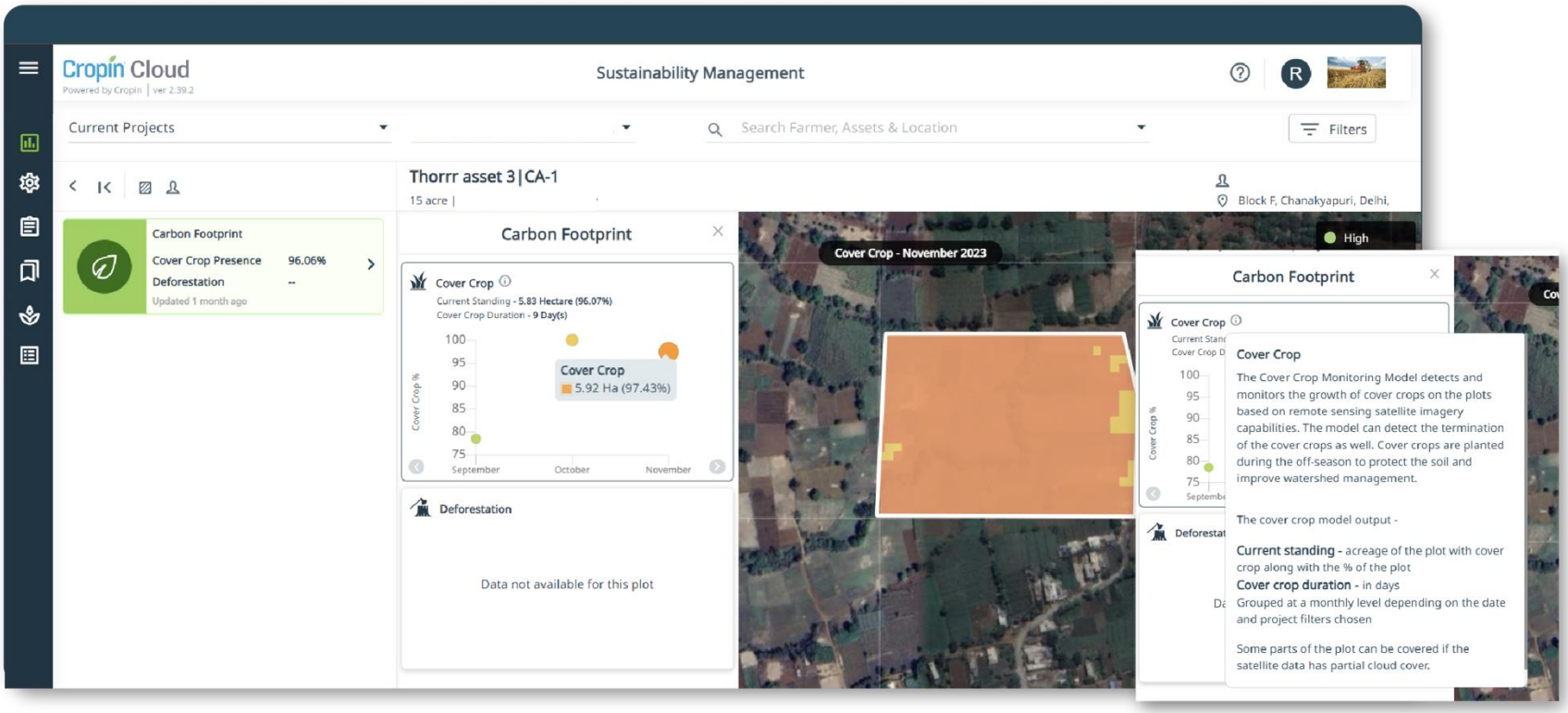



Figure: Cropin Dashboard Showing Plot-level Cover Crop data

## These advanced features, combined with our robust EUDR compliance solution, empower businesses to:

### Improve soil health:

Promote sustainable soil management practices by optimizing tillage operations and maximizing cover crop benefits.

### Enhance biodiversity:

Support the conservation of biodiversity by promoting beneficial agricultural practices.

### Reduce environmental impact:

Minimize soil erosion, improve water quality, and reduce greenhouse gas emissions.

By embracing a holistic approach to sustainability, Cropin helps businesses not only meet the requirements of the EUDR but also build a more sustainable and resilient future for agriculture.

Cropin

Founded in 2010, Cropin is the world's most advanced AI Platform for Food and Agriculture. Cropin Cloud, the world's first industry cloud for agriculture, has computed 10% of the world's cultivable lands. Implemented by over 250+ enterprises, Cropin empowers stakeholders to make informed decisions that enhance farming efficiency, productivity, and sustainability. Our teams are spread across India, The United States, Italy, The Netherlands, and Brazil. We have digitized 30 million acres of farmlands and positively impacted over 7 million farmers worldwide. Our crop knowledge graph, spanning 350 crops and 10,000 varieties in 103 countries, powers the Cropin Cloud. We are at the forefront of uniting agribusinesses, development agencies, international organizations, and governments to leverage Agtech systems to transform global food systems and attain climate goals. Cropin is backed by Google, Bill & Melinda Gates Foundation, ABC Impact, and Chiratae Ventures, among other notable investors.