CBI
Digital Solutions for EUDR Compliance

Introduction

Are you interested in exporting to Europe? Then you probably know that 7 products must meet the European Union Deforestation Regulation (EUDR) requirements. All coffee, cacao, soy, palm oil, cattle, rubber and wood must come from land not deforested after 1 January 2021. Also, they must be produced according to the producing country's own

laws. It is the importers and traders in Europe who must prove they comply with the EUDR legislation. They must sign a Due Diligence Statement (DDS). As a farmer, cooperative, exporter, Business Support Organisation (BSO) or government worker, you will play a crucial role in providing your European buyers with the necessary geodata and legal information.

In this CBI factsheet, you learn what information to collect and how to manage this information. This document includes a link to practical case studies and an overview of digital solutions towards (and beyond) EUDR compliance.

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1. Users of EUDR digital solutions

A. If you are a farmer

What can you do to advance EUDR compliance?

- Do not clear any forest (defined as trees over 5 meters on more than 0.5 ha of land).
- Map your farm with a smartphone, using (free) software.
- Or: Allow access to your land for your buyer to map your farm.
- Document your family's situation: school enrolment children, land titles.
- Share above information with your buyer (agent/cooperative/exporter), possibly by selling it at a premium. Beware of ownership and access (see tips).

Who are your partners towards EUDR compliance?

- Your cooperative/other buyer(s), for example agent or exporter who can map your farm;
- Your government, for example for mapping your farm, for access to national databases and validation services and forest protection.

Tips:

- Check if there is a national system of having your farm registered. This will help you, as an exporter, to quickly find the geodata of the farmers you have purchased from. It may even have a validation system added to it, where satellite imagery can prove the farmers did not grow anything on deforested land after 2021.
- If doing it yourself (DIY) without support from a (local) buyer, consider using free apps for mapping (see Chapter 2.1 and Category 1 in the EUDR Digital Solutions Longlist.)
- When sharing data with others (buyers), make sure you have access to your data - for example by downloading the data that was taken by your buyer (or the buyer's agent) to your own device - and that it is updated regularly.
- Check who in the supply chain will access your data.
- Ensure that you can withdraw your data from a buyer's database in case the commercial relationship is ended.
- Look into the opportunity to monetise carbon capture by (large) trees in the plantation of your members.

See also the case study about coffee farmers Moise and Louise in Rwanda.

B. If you are part of a farmer group

What can you do to advance EUDR compliance?

- List all your farmers, remove double names, allocate digital IDs – preferably use national ID numbers, otherwise create your own digital identification numbers (for internal use).
- Make farmer profiles, including geodata of farms and social aspects.
- Aggregate the above information by using a digital solution from the EUDR Digital Solutions longlist that compares functionality and costs.
- Share the farmer geodata and farmer IDs with your buyers, possibly by selling it at a premium – remember that the burden of proof lies with the EU-importer.

Who are your partners towards EUDR compliance?

- Your buyer(s), for example an exporter that can map your members' farms;
- If applicable: your certification body, for example Fairtrade International, Rainforest Alliance. These organisations have modules to document EUDR compliance;
- Your government, for example for mapping, access to national farmer database, deforestation-validation services, forest protection.

Tips:

- Ask your buyer(s) which EUDR digital solution they use and check what format GPS data they need.
- See if you can benefit from software support and/or funding from your buyer(s).
- Check if the geodata format of your farmers' plots is compatible with the type of software your buyers are using (e.g. GeoJSON files).
- If DIY and on a budget, look at cost reduction opportunities by using free apps for mapping (see Chapter 2.1 and Category 1 in the EUDR Digital Solutions Longlist), but be aware that free software like Google will "own" your data – for privacy and accuracy it is recommended to use specialised mapping software.
- Try to centralise data for easy sharing with multiple validation platforms that buyers use (harmonise tools).
- Budget sufficiently for the mapping of your farmers' plots.
- For mapping, consider dedicated handheld GPS devices – these are more reliable and accurate than smartphones.
- Look into the opportunity to monetise carbon sequestration in your plantation.
- Look into the opportunity to market your EUDR compliance towards (new) buyers.

See also the Case Study about Honduran cooperative extension worker Juan.

1. Users of EUDR digital solutions

C. If you are an exporter

What can you do to advance EUDR compliance?

- List all your suppliers, such as farmer groups and their members, or individual farmers. Remove double names, allocate digital ID's, if possible, from national registries.
- Interact with your buyers, to understand their EUDR requirements. Share the information with farmer groups and/or individual farmers.
- Facilitate the collecting of farmer profiles, including farms' geodata and social aspects from your suppliers.
- Work with your suppliers to identify risks related to human rights and deforestation.
- Aggregate the above information by using a digital solution from the EUDR Digital Solutions longlist that compares functionality and costs.
- Share the information with your buyer, possibly by selling it at a premium.

Who are your partners towards EUDR compliance?

- Your buyer(s), for example an importer that can provide you software, hardware and budget to map farms.
- Your certification bodies, for example Fairtrade International, Rainforest Alliance.

They have modules to document EUDR compliance.
- Your government, for example for mapping farms, access to national farmer database and validation services.

Tips:

- Fill out any Codes of Conduct / EUDR compliance documents that buyers require.
- Ask your buyer(s) which EUDR digital solution they use – perhaps you can use the same platform, making it easier to share data.
- Budget for sufficient technical assistance to map farmers/suppliers' activities.
- Look into the opportunity to monetise carbon sequestration in your cooperative's plantation.
- Decide if you want to trace products to the farm level or aggregator level (see Chapter 3D).

See also the Case Study of chocolate exporter Jimena from Peru.

D. If you are (part of) a Business Support Organisation (BSO)

What can you do to advance EUDR compliance?

- Inform companies about the EUDR, possibly through experts.
- Inform companies about relevant software service providers.
- Stimulate active exchange of your country's suppliers with EU buyers (for example webinars, visits).
- Share best practices regarding EUDR compliance among members and clients.
- Connect your members with initiatives that can help with technical assistance, for example NGOs, development agencies.
- Liaise between your government and the private sector – make companies aware of available (free) national services.

Who are your partners in facilitating EUDR-compliance of your member companies?

- Importers (possibly providing software and budget);
- Certification bodies, for example Fairtrade International, Rainforest Alliance – these have modules to become EUDR-compliant;
- Government, for example for access to national farmer database and deforestation-validation services.

Tips:

- Your BSO can be the missing link between importers and private export sector: interact with both sides, facilitate conversations about practical solutions to overcome challenges towards EUDR compliance.

E. If you are part of Government

What can you do to advance EUDR compliance?

- Strengthen anti-deforestation laws, review forestry codes, improve enforcement.
- Strengthen legal land title ownership and enforcement.
- Raise awareness about your country's biodiversity to increase your exporters' motivation to become EUDR-compliant.
- Invest in rural schools (counter child labour).
- Inform companies about the EUDR (use experts, webinars, website, town meetings).
- Invest in creating a national mapping or traceability system to become EUDR-compliant.
- Inform producers about your national system or inform them about private software service providers.
- Mapping of farms to create a national database, accessible for exporters and importers.
- Stimulate active exchange of your country's exporters with EU importers (for example webinars, business visits).
- Share the best practices regarding EUDR compliance among your exporters.
- Connect exporters with initiatives that can help with technical assistance (for example NGOs, development agencies). Strengthen the transparency of current relevant legislation.

Who are your partners in facilitating EUDR-compliance of your companies?

- Importers (that can provide software, budget);
- Certification bodies, for example Fairtrade International, Rainforest Alliance (these have modules to document EUDR compliance);
- NGOs, for example to set up Child Labour Monitor and Remediation Systems (CLMRS);
- Sector organisations/BSOs.

Tips:

- Please realise that (updating and managing) a national farm database is complex – make sure you always have sufficient personnel.
- Beware of scepticism from the private sector about government involvement.
- Make your countries' companies aware of the opportunity to monetise carbon sequestration.

See also this case study about palm oil farmers and the Indonesian government's dashboard.

2. Categories of EUDR digital solutions

There are roughly 5 categories of digital solutions that can help you towards EUDR compliance. For each category, the EUDR Digital Solutions Longlist lists the different companies and their functionalities.

1. Basic field mapping tools

- **Description:** Primary focus on local-level spatial data gathering, visualisation, and basic mapping functionalities. You can typically customise and adapt these to a wide range of industries. These tools require additional expertise to analyse environmental and social risks.
- **Target group:** Individual users, smallholder farmers, surveyors, NGOs, and local agricultural or conservation projects with limited budgets or simpler mapping requirements.
- **Examples:** GPS Field Area Measure, Mappt Lite, Locus Map, Google Maps / Earth.

2. Professional field mapping and spatial analysis tools

- **Description:** These tools are more sophisticated than standard field mapping tools listed above; they offer enterprise-scale geospatial analysis capabilities combined with powerful datasets and integrations. These tools can also analyse land-use changes (such as deforestation) and overlay complex data layers like socio-economic and environmental risks. Finally, they allow for decision-making and compliance reporting.
- **Target group:** GIS (Geographic Information System) professionals, environmental scientists, researchers, enterprises and governments interested in advanced multi-layered geospatial modelling.
- **Examples:** ArcGIS by Esri, Blue Marble Geographics, MapSwipe, QGIS, QField, Ground.

3. Satellite-based environmental monitoring tools

- **Description:** Focused on real-time monitoring and large-scale analysing land changes over time, using satellite imagery with high granularity, often incorporating AI and machine learning for insights. These tools are built to detect deforestation, land degradation, and changes in vegetation or carbon storage.
- **Target group:** Large corporations, governments, environmental organisations, and agribusinesses interested in regular, high-resolution monitoring and analysis of land cover to enforce conservation laws, monitor carbon sequestration, or comply with regulations like the EUDR.
- **Examples:** Satelligence, LiveEO, Space Intelligence, Gras, Whisp.

[1]In our analysis, 2 companies have overlapping categories: Blue Marble Geographics fits in category 1 for its ease of use, but also (and primarily) in category 2. Koltiva's Koltitrace fits primarily in category 5, but also has strong farm-level features (category 4).

2. Categories of EUDR digital solutions

4. Farm sustainability and traceability tools

- **Description:** Designed for the agricultural sector. These tools focus on mapping, monitoring good agricultural practices and traceability. They combine geospatial data with farmer behaviour, crop management, and compliance tracking to ensure sustainable practices.
- **Target groups:** Agricultural stakeholders like cooperatives, farmers, and aggregators, interested in document practices, yield, mapping, and regulatory compliance like the EUDR.
- **Examples:** Farmforce, Farmerline's Mergdata, Enveritas, Smallholdr, KoltiTrace, eProd, INATrace.

5. Supply chain and risk management tools

- **Description:** These tools operate at a broader organisational level, connecting multiple tiers of the supply chain. They trace the movement of goods across the entire supply chain, ensuring visibility and risk analysis from production to consumer. These tools help identify risks such as deforestation, labour issues, and reputational risks in sourcing practices. The tools are used to assess supplier compliance, alignment with corporative sustainability goals and due diligence reporting.
- **Target group:** Corporate stakeholders looking to manage supply chain risks, improve transparency, and reduce reputational risks.
- **Examples:** Sourcemap, KoltiTrace, TraceX, Osapiens.

3. Functionalities of EUDR digital solutions

A. *Mapping of farms*

- You can map farms while you walk or drive around the area, using handheld devices such as a dedicated GPS devices or (paid or free) apps on smartphones. Free (open-source) apps are available (see EUDR Digital Solutions Longlist for a comparison).
- If you can detect the farms on a map on the computer, you can also pinpoint or draw them in the office with Google Maps/Earth, MapSwipe or MapMyWalk (all free), but the accuracy will not be good and you may have issues with overlapping farms if drawings are not done very precisely.
- You can share the created map of farms (or export the coordinates to an Excel file) with your partner / importer, who can carry out EUDR (geo)validation (see below).

Tips

- **Check if the digital solution works offline** with your smartphone (in the field there may not be internet). Check if the app works on **Android** or **iOS.**
- **Check the GPS format of your software.** The EUDR requires recording of locations to 6 decimal places, for example Latitude: -3.123456, Longitude: 39.987654 (Decimal Degrees) or GeoJSON (often used in GIS): [98.765432, 12.345678]. This precision corresponds to an accuracy of approximately 11 centimetres. That is sufficient to map specific farm boundaries and ensure compliance with deforestation and land-use regulations. A standard Garmin GPS unit records to 5 decimal places behind the point. A difference of 1 decimal place (from 5 to 6) represents about 0.11 meters (11 cm). This may matter when working with smallholder farms or tightly packed plots where accuracy is critical.

- **Check if the software can connect** with external high precision **GNSS** (Global Navigation Satellite System) devices that support **RTK** (Real-Time Kinematic) technology, which is accurate up to a few centimetres.
- **Check the reliability of your device.** Experience from the field indicates that dedicated handheld GPS units work a lot better than smartphones. Test devices and software before rolling out the approach to many plots. If not, you may spend a lot of time having to re-plot land, as overlap and other inaccuracies may occur.
- **Check the privacy and ownership of data:** How is the data about families and farms being shared? Who has access? EUDR geospatial and personal data must be handled in compliance with national and EU (GDPR) privacy laws. Digital solution service providers must ensure proper security and restricted access to protect sensitive information.
- **Storage of data:** make sure data is also stored safely offline (on a local hard disk), so you still have the information in case an app is not working properly.

[2]For farms larger than 4 hectares, polygon mapping is required by the EUDR.

B. *Validating non-deforestation*

- Many digital solutions have (or can integrate) **historic forest maps** prior to 1 January 2021. These are overlapped on the coordinates you have taken of the farm(s). The app can now assess if or not any deforestation has taken place after the cut-off date.
- Other digital solutions **specialise in high-resolution, multi-temporal satellite imagery (remote sensing).** If you enter the geodata of your mapped farm(s) in their software, it will allow more accurate non-deforestation validation (or any land use change) than using standard historic maps that the EU uses. This is particularly important to **counter potential "false flags"** the EU might detect. For example, when the EU falsely identifies deforestation while in fact it was a pruned or converted plantation.
- Importers and their suppliers must also demonstrate a process in which they analyse **deforestation risks** and how they can mitigate these risks. This is usually done through research and questionnaires throughout the supply chain and can be documented in Word or Excel

files (not many apps allow for risk documentation).
- See which digital solutions can do validation of non-forestation in the EUDR Digital Solutions Longlist.

Tips

- **Granularity of the satellite imagery.** Check what resolution imagery your digital solution service provider uses. High resolution satellite imagery can distinguish small-scale changes in land use, such as forest clearance or degradation, that may occur over areas as small as a few meters. Coarser imagery might miss smaller deforestation activities. Courser imagery may also give false flags, for instance indicating deforestation when there were only pruning activities.
- **Enable multi-temporal (frequent) monitoring.** If satellite imagery can detect changes shortly after they occur, it will allow you to intervene quickly or anticipate on segregating products from non-EUDR-

compliant farms.
- **EU customs independence:** Even though apps can 'validate' for EUDR compliance, the various EU-customs will validate independently. No app can guarantee fully that a shipment is allowed to enter. In addition, some countries (national competent authorities – NCAs) may be stricter than others.

3. Functionalities of EUDR digital solutions

C. Validating legality

- National Competent Authorities (NCAs) will be inspecting not only the **geodata,** but also the **legal aspects,** such as the legality of the land used by farmers, involvement of child labour on plantations, taxes paid, or corruption.
- NCAs will also determine if you conducted a **risk analysis** (EUDR article 10) and (if relevant) whether there is a methodology for **mitigating the risks** (EUDR article 11).
- You can document these legal aspects by conducting **interviews with farmers.** You can simply use **Word or Excel files** for this, but some **apps can integrate questionnaires.** This makes it easy for extension officers out in the field to use their smartphone, monitoring and updating information with farmers as they go along.
- To see which digital solutions are useful for documenting social and legal aspects, check the EUDR Digital Solutions Longlist.

Tips

- **Summarise your own country's national laws and regulations relevant to your production.** Knowing what is mandated regarding national biodiversity, taxes, export requirements, human rights, labour conditions will allow you to make a relevant questionnaire for your farmers and document possible risks.
- Beware that the Netherlands and Belgium consider **child labour** in the scope of the EUDR. If you are exporting to these countries, it is advisable to have a Child Labour Monitoring and Remediation System **(CLMRS)** in place.
- **Privacy and ownership of data: c**heck how the data about farmer households and farms are being shared – who has access? EUDR geospatial and personal data (for example, farm owners' identities, land tenure documents) must be handled in compliance with national and EU (GDPR) privacy laws. Organisations must ensure proper consent, security, and restricted access to protect sensitive information.
- **Storage of data:** make sure data is also stored safely offline (on a local hard disk) so that in case of malfunction of an app you still have access to the information.

D. Demonstrating supply chain traceability

- Exporters and importers need to work together **to prove that the products in a particular container can be traced back to (non-deforested) land.**
- Some digital solutions are designed to **document transactions between farmers and their buyers.** Here, the digital farmer IDs are not only linked to a plot of land, but also to the purchases from the farmers.
- This functionality may come in an **app on a smartphone,** which makes it very handy for buying officers (agents) in the field. It also avoids having to transfer a lot of paperwork to Excel or other software in the office.
- Ideally, the app can combine **'bag-level'** traceability codes to produce a **'batch-level'** or 'aggregator-level' code. The Netherlands and German national competent authorities (NCAs) allow for aggregator level traceability, other countries require traceability to the farm level.
- If you choose to only trace to **aggregator level,** you need to follow the principle of **declaration in excess.**

This means you need to include every farm plot registered to the aggregator. In that case, beware that if any farm plot is found to be non-compliant (regardless of whether it actually produced the non-compliant product), the whole parcel will be considered non-compliant. This creates a greater risk, but it is administratively easier.
- The list of all farmers and their corresponding plots will need to be entered into the EUDR digital portal, so that EU-customs can validate themselves with their own forest maps.
- To see which digital solutions specialise in supply chain traceability, check the EUDR Digital Solutions Longlist.

Tips

- **Allocating farmer IDs** is helpful to access databases more accurately, in case of duplication or misspelling of names. Use national ID numbers, where possible.

- **Try to be as precise as possible with traceability.** If bags are tagged to farm-level, the easier it is to pull out that farmer's product before shipping, if shown non-compliant.
- Make sure you have a **solid Internal Management System (IMS)** in place that has documented risks and risk-mitigation strategies related to relevant social aspects in your supply chain; European NCAs may require extra "conclusive and verifiable evidence" to show that the supply chain is free from (even historic) violations of legality (for example corruption, tax fraud, human rights abuses).
- Integrate a **Child Labour Monitoring and Remediation System** in your IMS. The Netherlands' and Belgium's NCAs consider child labour as part of the EUDR.

4. Functionalities beyond EUDR compliance

Besides the above functions related to EUDR compliance, you may consider integrating extra digital funcionalities that can give you a competitive advantage.

A. Monitoring good agricultural practices (gap)

- Many apps allow field officers to document trainings conducted with farmers.
- The digital solution may monitor productivity of farmers, or quality (for example cupping scores for coffee).
- Agricultural extensionists can then analyse the productivity change related to certain agricultural practices, a great way to measure effectiveness of pilot projects.
- To see which digital solutions specialise in monitoring production practices, check the EUDR Digital Solutions Longlist.

B. Providing financial services

- The software service may serve as a payment device, that a farmer can bring to a bank to collect cash that was added to his device (for example on his unique QR code) by a buying agent.
- Farmer loans (for example advances) may be distributed to farmers through the device. Or the farmer can save up in the app.

- Farmer insurance may be set up by some digital solution services.
- To see which digital solutions offer financial services, check the EUDR Digital Solutions Longlist.

C. Monitoring carbon storage

- Some digital solutions allow for measuring and documenting the increase in plantations' biomass. This is done mostly by remote sensing.
- Users can upload polygon measurements of a farmer group in the software. It can then calculate the carbon sequestration over a period of time, based on multi-temporal satellite imagery.
- The resulting Carbon Removal Units (CRUs) can then be sold to industry. As an example, your EUDR-compliance data (mapped farms) can be integrated into platforms such as Acorn (part of Rabobank). These platforms can then calculate the CRUs and sell it to industry to offset their own carbon emissions. Reportedly, the revenue is distributed back to farmers. At Sinkit, biochar is monitored for future CRUs.
- Carbon storage (and its monetisation) is most effective in agroforestry areas (because of considerable growth of large tree species). These programmes also need enough farmers to make the setting up worthwhile for your carbon measuring partner.
- To see which digital solutions do carbon monitoring, check the EUDR Digital Solutions Longlist.

4. Functionalities beyond EUDR compliance

D. Weather and price alerts

- Digital solutions may use APIs from public or private meteorological agencies to forecast data based on the user's geolocation (via GPS or entered coordinates).
- Tools may process weather data to deliver agricultural insights, such as rainfall expectations, drought warnings, or optimal planting windows.
- Weather updates can be sent via app notifications, SMS, or dashboards.
- Digital solutions may also collect commodity price data from local and international markets. Some tools provide live price updates based on data from exchanges, cooperatives, and suppliers.
- Farmers or businesses can set up alerts for price thresholds.
- Pricing information may also include historical data, helping users predict trends or make informed decisions.
- See which digital solutions provide weather and price alerts in the EUDR Digital Solutions Longlist.

5. Choosing an EUDR digital solution

- Your **role** in the supply chain: Are you a farmer, cooperative, exporter, BSO or government? (See Chapter 1. Users)

- The **functionalities** you wish to have: Are you interested primarily in mapping, or also in zero-deforestation-validation, monitoring of social criteria and agricultural practices? Or even in monitoring carbon sequestration? (See Chapter 2. Functionalities)

- **Your budget** – it is recommended to select the tool most appropriate for you and then budget for it, either within your organisation or in partnership with your importer(s). Is only mapping needed? Then free apps are available – with those you can get the locations of the farms and send these to your importers, so they can do the non-deforestation validation with the software they use.

- **Your privacy** – mapped information can be stored locally (on your own disk drive) or in clouds, such as Google or companies' own servers. Be aware that mapping all your farmers in Google Maps / Earth will give Google access to this information. Sensitive information such as income (sales) and land titles are sometimes also stored in the (private software) apps. As a farmer (group), look carefully at the ownership and access to this information and that it can be updated periodically. Platforms claim to operate on a consent-based model where farmers are considered the "owner" of the information, but access is available for exporters and importers.

- View the EUDR Digital Solutions Longlist. Disclaimer: this list does not cover all possible items and options. Over time, providers may change functionalities, costs and other parameters.

6. Useful links

- [CBI EUDR compliance case studies](#)

- [EUDR Information requirements (Article 9)](#)

- [CBI webinar: Tips to meet EUDR Requirements in the coffee sector](#)

- [ITC EUDR checklist](#)

- [EU General Data Protection Regulation (GDPR)](#)

- [ITC: New step-by-step guide on EUDR, including 5 downloadable EUDR handbooks / modules](#)

- [EU Due Diligence content (Annex II)](#)

- [EUDR: full legislation information](#)

- [CBI 7 tips on how to become EUDR compliant in coffee](#)