

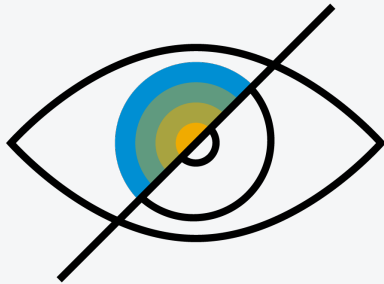
SAP Green Token – ***Supply Chain Traceability &*** ***Transparency for EUDR*** ***compliance***

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SAP SE
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Public

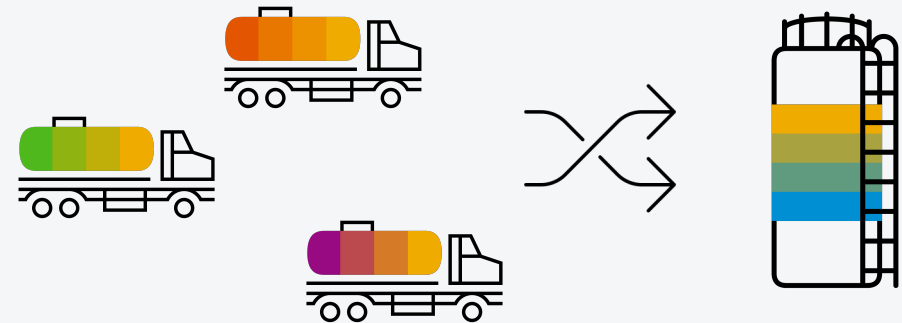
Raw Material Supply Chain Challenges

Lack of visibility and commingled materials



Supply Chain Blind Spots

Companies do not have visibility into the origin of materials and to what extent they are truly sustainable



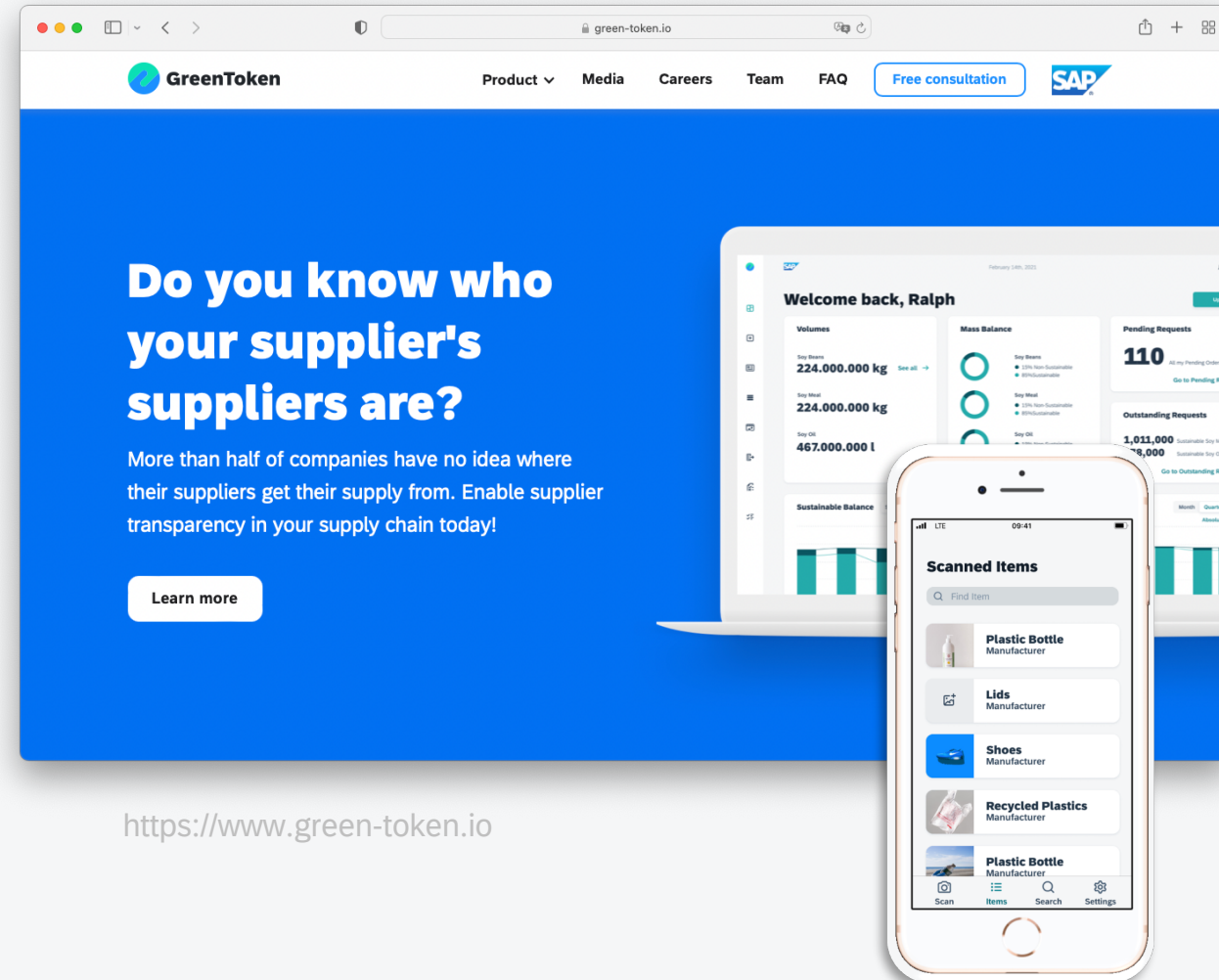
Continuous Flows

Traceability for continuously moved, transformed and bulk-traded materials requires novel approaches

SAP Green Token

What is SAP Green Token?

- **SaaS based** Supply Chain Traceability And Chain-of-Custody Solution For Raw Materials
- **System for sustainability certificate management** for compliance with standards like ISCC, REDcert, EUDR and others.
- Uses digital twin **Tokens** on a **Blockchain** to persist no-deforestation facts like shape files across the chain of custody
- Can be **integrated into 3rd party mapping/shape file systems** – eg LiveEO, TraceMark, Google maps etc



<https://www.green-token.io>

No-Deforestation Palm

Origin Record

Eg at weighbridge from grower

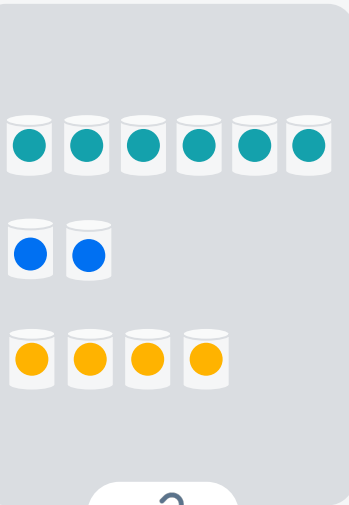
FFB from **Certified EUDR Smallholder location A** + shape file

FFB from **Certified EUDR smallholder location B** + shape file

FFB from **Certified EUDR Smallholder loc C** + CO2 footprint+ shape file

Aggregation

Fresh Fruit Bunch (FFB) Collection and delivery to palm mill



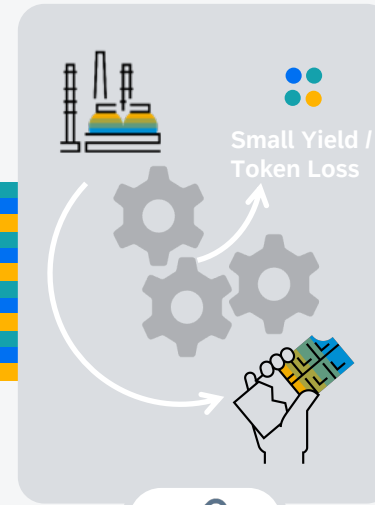
Crush Plant

Many origins get commingled at crush plant and CPO is made



Production & Sales

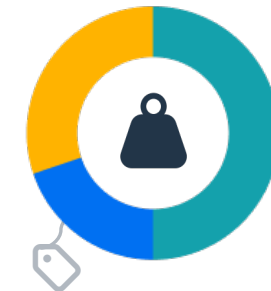
Refining to product and Marketing Yielding of Tokens at Ratio



Material & Product Transparency

All smallholders EUDR certified

- ✓ Geo-Location
- ✓ Certification
- ✓ Full Traceability
- ✓ ... (other attributes)



50% **Certified Loc. A**
20% **Certified Loc. B**
30% **Certified C + CO2**

Full auditing with blockchain backed 'chain of custody' records

Immutable Chain of Custody (Blockchain) across multiple business partner

Token get transferred to supply chain actor 'wallets'

Raw Material Supply Chain challenges

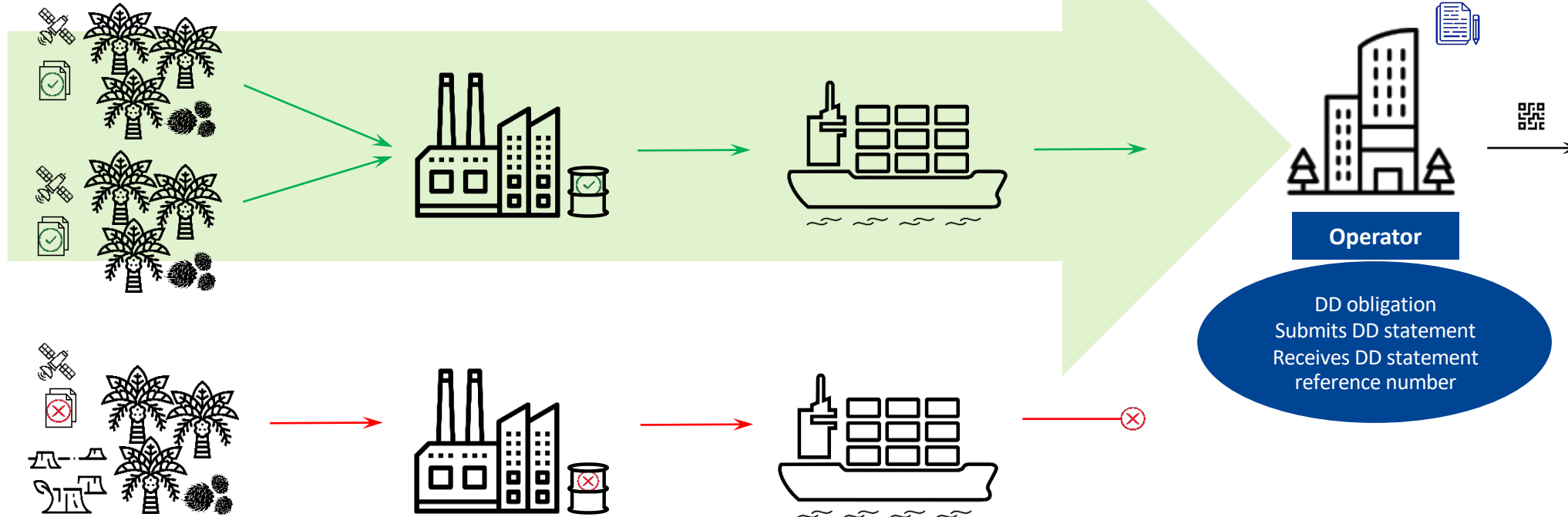
Our Understanding of the EUDR Regulations

1. Some palm oil plants in producer country are grown on deforestation-free plantations and some on deforested land

2. Palm fruits from confirmed deforestation-free and other plantations are processed separately, although deforestation-free fruit from different plantations can be mixed

3. The deforestation-free palm oil is kept segregated during transport. Geolocation of all plantations contributing to the shipment is required

4. EU importer places the deforestation-free palm oil on the market



Demo Scenario

Live demo of Green Token + shape file provider

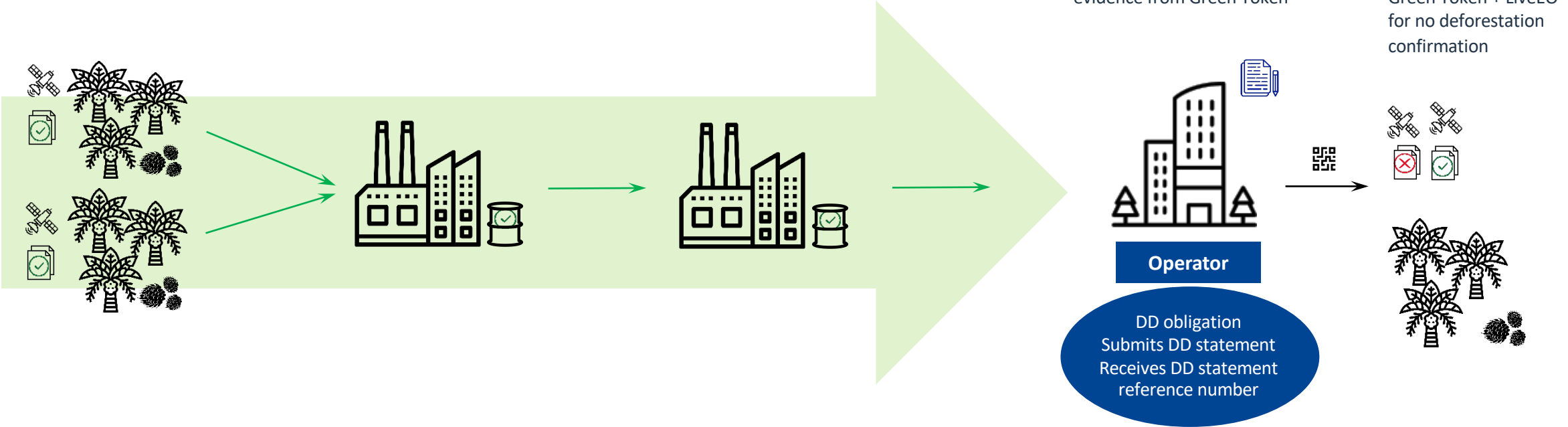
1. LiveEO map shape file(s) to growers

2. Grower delivers FFB to Mill – this is recorded in Green Token

3. FFB is processed to refined products – the shape file follows the material

4. EU importer places the deforestation-free palm oil on the market with shape file evidence from Green Token

5. Audits are carried out using the delivered shape file references in Green Token + LiveEO for no deforestation confirmation



BMEL Questions, SAP Green Token Answers



<p>How is your business affected by deforestation free supply chains? (system developers/users, agriculture or other sectors, raw materials concerned, products concerned...)</p>	<p>SAP is the worlds leading ERP business platform for the worlds leading companies. Our customers across all sectors such as consumer products, food, furniture, fashion, building materials, bio energy etc. manufacture and import trillions of euros of goods to be sold in EU markets that could be affected by this legislation.</p> <p>Their SAP ERP system is the statement of fact of their business, listing materials origin, manufacturing, purchase and sales orders etc. Our customers are already coming to us looking for practical solutions based on their SAP ERP systems to help them address the requirements of EUDR and help them prove that they are EUDR compliant.</p>
<p>What experience/expertise does your company have with supply chain management / traceability systems?</p>	<p>SAP has a number of mature software products that can help manage and trace supply chains. Firstly, the SAP ERP system has intrinsic supply chain management built in – as described above, 400,000 customers rely on SAP in their day to day business including supply chain management . Secondly, specific products exist such as SAP Green Token which are driven by the supply chain goods movements in SAP ERP and provide complete chain of custody traceability with ESG facts right back to material origin.</p>
<p>What requirements of the regulation on the due diligence of market participants and traders can be fulfilled by their supply chain management/traceability systems – where are possibilities and limits/necessities?</p>	<p>The majority of installed supply chain management systems only have tier 1 supplier and customer visibility. That is to say a company knows who their immediate supplier is and their immediate customer, but beyond that tier 1 view, the information is not available. This is a huge limit in EUDR reporting where non standard or ad hoc processes may be required to fill in the missing due diligence data.</p> <p>Also there is an issue of trust. If a supplier is saying that they are EUDR complaint, how can you be assured of the claim and carry out a simple audit? Again, this is beyond the scope of most installed supply chain management/traceability systems .</p>



BMEL Questions, SAP Green Token Answers

<p>How does your system deal with specific challenges, e.g. countries, raw materials and products,</p>	<p>As described in this document, SAP Green Token is a tier-n supply chain traceability system that allows all supply chain partners to collaborate and persist data required by the EUDR regulation from original origin to end product regardless of the number of supply chain actors and regardless of the number of times the material is processed and transformed. It is a cloud SaaS product which is fully integrated into SAP ERP and other systems.</p>
<p>i. Sourcing and validating information from multiple sources</p>	<p>SAP Green Token is a material accounting system. It relies on being driven by external inputs, such as a goods receipt from a SAP ERP. These external systems are usually trusted, but beyond simple data validity checking (e.g. alpha text when numeric is required) , source data is not usually validated.</p>
<p>ii. specific features (what do you mean by this?) producer</p>	<p>SAP Green Token is a material accounting system. Specific features can be added as a data attribute on the digital twin token.</p>
<p>iii. a varying risk of products for breaches of the EU Regulation; and</p>	<p>SAP Green Token is a material accounting system. Specific features such as supplier risk profile can be added as a data attribute on the digital twin token.</p>
<p>iv. Complex supply chains / heterogeneous flows of goods / blends?</p>	<p>SAP Green Token handles this extremely well. Any simple or complex supply chain can be modeled in SAP Green Token including the ability to define processes such as heterogeneous flows of goods, conversion processes (eg FFB to CPO), and blending processes.</p>
<p>What are the three most important questions about the regulation that need to be answered urgently from the point of view of a system winder/user?</p>	<ol style="list-style-type: none"> 1. Will a small amount (say 5% or less) of unidentified material be allowed in the regulation? Eg, I have a cargo of 10,000 MT of crude palm oil, I can prove 99,000 MT is EUDR complaint. Will this cargo be rejected if the 1% cannot be approved? 2. How will the scheme be audited? What information needs to be persisted in order that the EU are satisfied that a vendor meets the requirements. 3. How are after the fact corrections handled? Example: A supplier says they are EUDR compliant and then is unable to provide evidence after the fact. Who's responsibility is it then to notify the EU, make a correction, withdraw products etc.

Thank you.

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