THE CHALLENGES OF RAW-MATERIAL PROCUREMENT

Visibility, Traceability or Transparency?
In a constantly and rapidly changing world, we at OPTEL continue to innovate and invest in new solutions to help you manage your operations as efficiently as possible.

Because raw-material procurement is increasingly challenging and technologies are always evolving, we have decided to share our vision for the best and most complete raw-material procurement platform on the market.

In early 2018, we acquired GeoTraceability Ltd., a global traceability solution provider in the field of raw-material procurement. Founded seven years earlier, GeoTraceability has helped companies engage with more than 350,000 smallholder producers in 19 countries through supply chain visibility, traceability and capacity-building initiatives.

In this white paper, you will learn about:

- The differences between visibility, traceability and transparency
- Raw-material procurement and its supply chain risks
- The benefits of smallholder engagement
Visibility, Traceability and Transparency: Which to choose?

As a technology solution buyer, you must choose between different solutions on the market. Some emphasize visibility, while others focus on transparency or traceability. It is difficult to choose because your needs and objectives may correspond in part to any or all of the three offerings. The first step towards an informed choice is to understand the differences and nuances between these approaches.

Let’s start by looking at the basic definitions:

**Visibility**
- ‘the state of being able to see or be seen’
- ‘the distance one can see as determined by…’
- ‘the degree to which something has attracted general attention’

In an operational business context, we could say that visibility is the ability to view the processes, transactions and other activities operating in an organization. Thanks to intelligent systems with predictive and risk-management capabilities, it is now even possible to foresee future events and potential issues.

**Traceability**
- ‘the ability to verify the history, location or application of an item by means of documented recorded identification’
- ‘the ability to keep track of a given set or type of information to a given degree’
- ‘the ability to chronologically interrelate uniquely identifiable entities in a way that is verifiable’

In a production and operational trade context, and as ISO defines it, we could say that traceability is ‘the totality of data and operations that is capable of maintaining desired information about a product and its components through all or part of its production and utilization chain.’

**Transparency**
- ‘the characteristic of being easy to see through’

In an operational business context, we could say that transparency is ‘the quality of being done in an open way without secrets and operating in such a way that it is easy for others to see what actions are performed and their consequences.’ Transparency implies openness, communication and accountability.

Without getting into semantics, an organization that uses raw materials could see it this way:

- **Visibility** (Awareness)
- **Traceability** (Assurance)
- **Transparency** (Disclosure)

You need to have the knowledge and understanding that something is happening or exists before deciding to disclose it.

The processes required to achieve a certain level of visibility and traceability are very different. Visibility is obtained based on a broad spectrum of information collected from various sources and disclosed by suppliers. This involves a dose of subjectivity and empiricism in the data analysis. It may therefore be risky for an organization to make claims solely on the basis of this information.

Traceability is a systematic and rigorous process of collecting and processing data. It tracks and traces traceable items as they are being created and as they move and evolve along the supply chain. Traceability makes it possible to verify that the products are authentic and that the vendors apply specific standards. A traceability system can be audited by a third party and enables compliance with regulatory requirements.

We can say that traceability is the highest form of visibility; however, it is not required at all levels and depends on the supply chain and the claims you wish to make. Unless you need to comply with regulations, excellent visibility of your supply chain will allow you to decide where and when traceability is required to reach your goals.

OPTEL proposes a new platform that incorporates the three approaches, allowing you to better anticipate and manage your raw-material supply.
Why raw-material visibility matters

Many key raw materials are sourced from around the world and bring with them their share of problems and risks. Putting all the responsibility on your first-tier supplier and the ones behind might result in unpleasant and costly surprises. Even if you don’t use raw materials, but ingredients or components, you need to have visibility on the raw materials that go into these ingredients or components, and the conditions under which they were produced.

Raw-material visibility is not only about brand protection, but also about securing your mid- and long-term supplies and avoiding disruptions and price volatility. Competition for access to raw materials continues to rise as many factors threaten production such as climate changes, urbanization and conflictual land use. The companies that secure their supply are connected to those who produce raw materials and those who market them.

But visibility could bring additional benefits and advantages, such as efficiency and cost control. Visibility on the movement of products and the factors that could delay shipments or increase the price of inputs will help you control your inventories and avoid costly last-minute supplier replacement. Continuous monitoring of the performance of your key suppliers, and their own suppliers, will also help you predict and manage risks.

The insights you will gain through supply chain visibility will guide you to make data-driven investments and obtain positive returns. You’ll know where and how to invest while assessing the impact.

Raw-Material Procurement – What Are the Risks?

Different factors outside your business can affect the production and the circulation of raw materials and thus threaten your supplies and operations. We can group them into these categories:

- Raw material and supply chain characteristics
- Stability of producing countries
- Supplier capabilities and performance
- Uncontrollable events

The effectiveness of communications between your various departments (sales, procurement, production, finance) and their performance will of course play an important role, but you will still be highly dependent on external factors. Maintaining an ongoing supply chain sighting, benchmarking and verification process is the only way to manage the risks. Having 360-degree visibility is therefore a key element of success.
Knowing the risks associated with raw materials and their supply chains

By combining different data sources and through various analytical tools and system outputs, OPTEL's GeoTraceability platform will provide the following capabilities:

- Ability to see the risks associated with a product and its components/raw materials
- Ability to ensure compliance with standards and regulations

Country Stability

The platform will gather different indicators and monthly assessments, and rate political, economic and financial risks for developed, emerging and frontier markets. The resulting capability is to monitor and evaluate country stability.

Knowing the Risks Associated with your Suppliers

Unless you are in the unique situation where you can instantly replace any of your suppliers without affecting your production and profitability, you are dependent on them to ensure the continuity of your operations. If they do well, you will probably do well; if they do badly, you will certainly be negatively affected. Your first-tier and upstream suppliers are in exactly the same situation you are; therefore, you need visibility across all the tiers in your supply chains. Visibility should be considered as a collaborative advantage for all interconnected suppliers/customers.

Most of the solutions that allow you to have some visibility along your supply chains offer the geographical location of supplier facilities and a static time measure of their capacity and performance (supply chain mapping and supplier risk assessment). This is not particularly useful, as things could change rapidly in some part of the supply chain because everything is interrelated. Also, the network of suppliers involved is likely to change per purchasing contract.

OPTEL proposes a dynamic approach based on supplier engagement and continuous improvement (using scorecards to assess supplier performance and risks) and the tracking of information and product flow. We combine a global supplier database with the tracking of purchasing contracts.

Key capabilities for the platform are:

- Ability to see supplier data such as organizational profile, capabilities and facility locations
- Ability to see all supplier facilities
- Ability to prequalify suppliers
- Ability to monitor supplier performance
- Ability to see labor conditions at a supplier site
- Ability to benchmark suppliers
- Ability to share selective data with suppliers
- Ability to evaluate and keep records on suppliers

Increasing Logistics Visibility and Supply Chain Efficiency

Visibility on the movement of products and the factors that could delay shipments or increase the price of inputs will help you control your inventories and avoid costly last-minute supplier replacement. Continuous monitoring of the performance of your key suppliers, and their own suppliers, will also help you predict and manage risks.

In this regard, the capabilities are:

- Ability to monitor shipments leaving supplier site
- Ability to see shipments between two sites
- Ability to see the in-transit inventory between any sites
- Ability to see basic shipment details such as dispatching records, origin, destination, items, quantity, carrier, promised delivery date, etc.
- Ability to see late and timely shipments
- Ability to see shipments affected by an uncontrollable event
- Ability to manage procurement contracts
- Ability to see carrier performance over time
- Ability to see regularity of supplies
- Ability to monitor quality of supplies
- Ability to monitor supplier loyalty
- Ability to monitor losses and waste
- Ability to trigger traceability requests
Monitoring Uncontrollable Events

There are many unforeseen circumstances that could disrupt the normal dynamics of supply chains. Examples include:

- Natural disasters such as earthquakes, floods, tornados, tsunamis, etc.
- Periods of unrest, strikes/lockouts, terrorism, cyber attacks, embargoes, civil war or other conflicts
- Hyper-inflation, devaluation or other major economic events
- Accidents affecting infrastructure such as power grids and telecommunications

The common thread in uncontrollable events is uncertainty. The platform will assess the degree of uncertainty based on criteria that determine the importance of an uncontrollable event.

- Ability to see any geopolitical and uncontrollable events that can affect your supply chain
- Ability to see all the affected sites/nodes
- Ability to see all the affected items and suppliers over space and time

The insights gained through supply chain visibility will help you identify areas of high risks where material and product traceability is needed.

PART 2 – RAW-MATERIAL TRACEABILITY

The Best Approach to Traceability

The production and use of raw materials require several steps and processes. On rare occasions, only one organization will be involved. In most cases, several organizations will play specific roles in creating a value chain. Getting them to feed a traceability system by collecting and sharing information is a challenge.

Traceability solutions therefore need to be fully compatible with the client’s operations, those of their suppliers and, sometimes, even those of their customers. At OPTEL, we aim to implement a robust and credible traceability system that can be audited by a third party without disrupting regular operations.

A product traceability system focuses on the integrity of the product being traced. The goal is to always be able to guarantee the source of the raw material/product and to avoid contamination with non-traceable material, even if it has changed ownership and has been transformed.

We do this by tracing containers (such as bags or boxes) that we call ‘traceable items.’ A traceable item must be uniquely identified in a human- and/or machine-readable way, or with a virtual ID.

Traceable items could be transformed and evolve in various ways, e.g., when a truckload of cocoa bags is received at a mill, opened and mixed into a batch of unprocessed cocoa beans. The product traceability system links each cocoa bag ID (the initial traceable item) with the batch identifier (the new traceable item) to establish a traceability link.
PART 3 – SUPPLY CHAIN TRANSPARENCY

Disclosure Strategy

Information disclosure activities in most companies are largely limited to compliance with legal requirements and to occasional reactions to external events, such as an incident or a negative campaign. For many stakeholders – customers, consumers, investors and even your own employees – being compliant is not enough and can even be negatively perceived.

In this context, a strategy of voluntary information disclosure has considerable potential for changing stakeholders’ perceptions of the company and its market value by decreasing the cost of capital as a market advantage and consequently enhancing growth.

You can leverage the information collected in your supply chains to support your communications and commit to the path of transparency. Depending on the level of accountability you have chosen, you can use this same information to back your corporate commitments and report externally.

Responsible sourcing is not only about transparent supply chains, but about proving you are having a positive impact. Our platform offers several ways to communicate and disclose information.

The platform includes analytical, dashboarding and reporting tools, as well as storytelling functionalities, to support your communication plan. If these capabilities don’t meet all your expectations, all the data or the result of a query based on set criteria can be exported in various formats.

This gives you the ability to use sophisticated reporting software like Tableau and Power BI to build your own reports.
**Examples of information disclosure**

Information disclosure based on evidence and verifiable data allows consumers to appreciate the efforts of brands to minimize human and environmental impact on supply chain purchasing decisions.

**Workers and human rights** – Having the ability to trace the journey of the product inputs you receive in your facilities, from the production or extraction sites to your first-tier suppliers, allows you to monitor and report on the alignment of business operations with international labor and human rights standards. When it is not the case, you can indicate what mitigation measures you have put in place and the results.

**Carbon footprint** – You can apply carbon footprint calculators to determine the total greenhouse gas emissions caused directly and indirectly by the product inputs you are consuming. By knowing the exact journey of each product reception, the platform can calculate the emissions resulting from every stage (production, transportation, processing).

**Data Sharing**

Our platform gives you control of your supply chain data with the ability to share selected information with your upstream and downstream business partners. At your request, we can create sub-accounts with restricted permissions on the data they can access and its format.

In addition to increasing your visibility and enabling traceability, our platform facilitates the engagement of stakeholders across your supply chains.

Many complex supply chains are characterized by the hourglass effect, where you have a large number of stakeholders at the start and at the end of the chain. Connecting these people and organizations and moving the information is a challenge.

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**PART 4 – GOING BEYOND VISIBILITY AND TRACEABILITY**

**COMMERCIAL CONSIDERATIONS**

- Credible information to address concerns on sourcing of raw materials
- Strengthen links with suppliers
- Improve supply security
- Data to inform supply chain investments
- Cost-efficient, large-scale solution

**SOCIAL AND ENVIRONMENTAL CONSIDERATIONS**

- Data to address a range of issues such as deforestation and labor conditions
- Enables users to design tailored programs and interventions
- Credible tool for assessing the impact of sustainability initiatives

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Engaging Raw Material Producers

OPTEL’s GeoTraceability platform includes a system for collecting data on smallholders and communities. This data could be linked to our traceability system, which tracks products from the smallholders along the supply chains. All information gathered (geo data and traceability data) is accessed and analyzed using our secure Web platform.

Engaging with smallholders through the platform will help you design intervention programs and build a household database encompassing all program beneficiaries, populate it with data and use it to design a tailored strategy to improve the livelihoods of smallholders. This dynamic and reliable database will facilitate program execution while assessing impact and engaging various stakeholders.

Any type of smallholder/household and land data can be collected, such as socioeconomic data, land title information, land characteristics, farming practices, factors affecting productivity (weather, pests and diseases, access to financial services, etc.), farm production and household revenues.

Capacity-building activities, such as training, farm visits, inputs and credit distribution, can also be recorded. Any relevant transaction involving smallholders and households is also easy to capture.

For more information, contact us at: info@optelgroup.com