

A person in a small boat using a long pole to fish in a body of water.

**Electronic Traceability and Market Access for Agricultural Trade Facilitation**

## **Electronic traceability: the theory** (part 3 of 4)

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## The agenda

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- Traceability concepts
- Stakeholder views
- Why is traceability important?
- Traceability principles
- Implementing traceability
- Stakeholder benefits of electronic traceability
- Additional materials
  - Types of traceability systems

## Local trade communities

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- In a typical rural community
  - Buyers and sellers know each other
  - Farmers grow and sell their goods to local outlets and communities
  - People buy food locally
  - Food is available, food is affordable, food is fresh

## Supply chains

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- Supply chains bring new challenges
    - Keeping products “fresh” for longer
    - Knowing what happened during production
    - Knowing what happened during transport and storage
- Keeping track of where products came from
  - Keeping track of where products went
  - Being able to quickly find out where products are and taking relevant action if there is a problem

## Each food producer is unique!

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- Implementing traceability means:
  - changes to operational procedures,
  - additional records and disciplines,
  - and there could be extra costs.
- Management of companies producing and handling food must understand what traceability is and why it is important.
- Implementing traceability is not a quick one-step process! Management and staff at all levels must commit to ongoing improvements.
- Management must decide on traceability scope and priorities. This might be driven by and/or might affect trading partners.

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- *Additional materials*
  - *Types of traceability systems*

## Traceability

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- Traceability requires a food business to ...
  1. Know what traceable products were received from whom, one step back
  2. Know what happened to traceable products under control of the business
  3. Know what traceable products were sent to whom, one step forward
  4. Respond to product alerts, withdrawals and recalls by using recorded information to recreate what happened
  5. Keep vital records on the above for [x number of] years.

## Different aspects of traceability

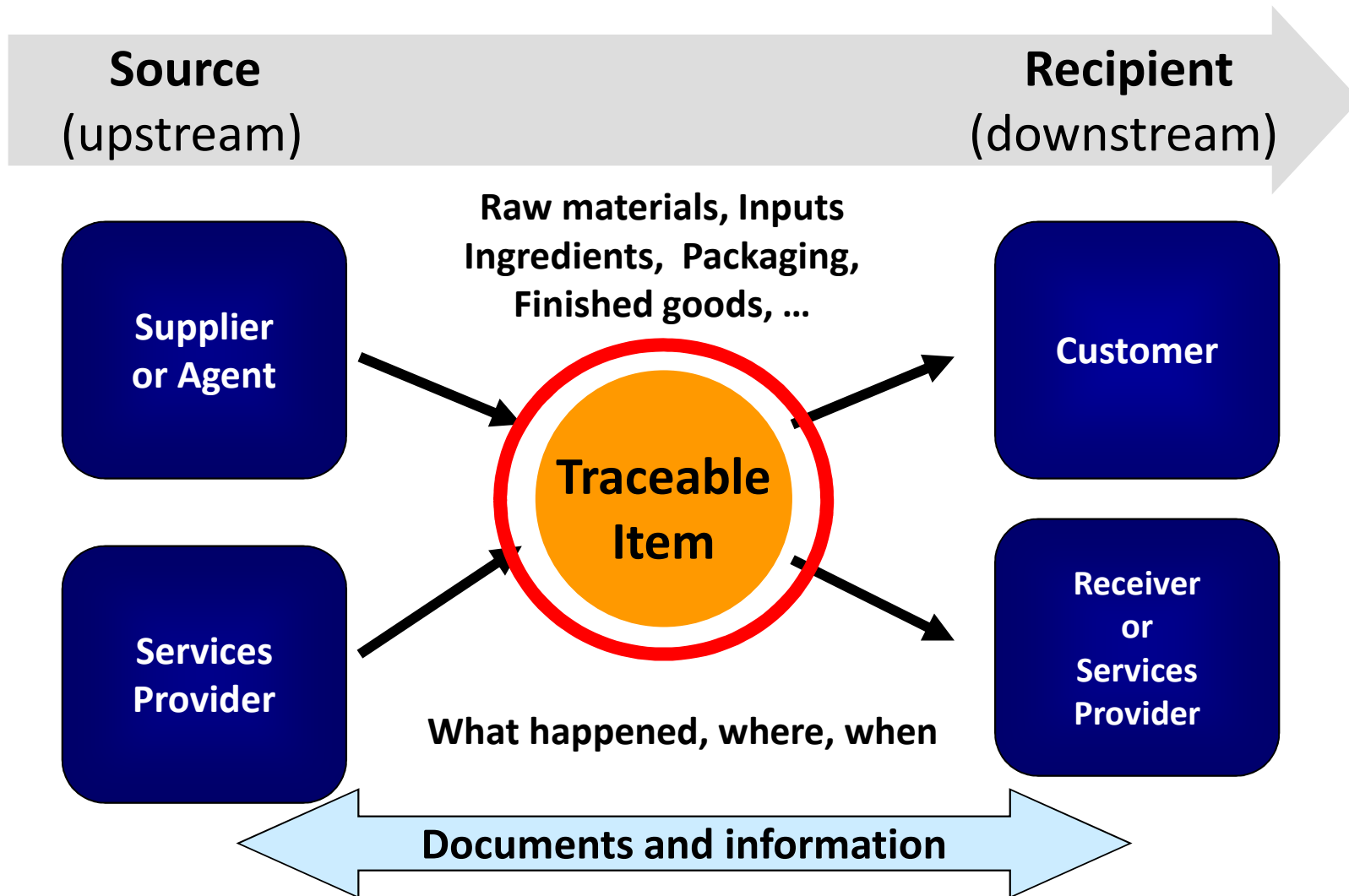
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- External traceability
- Internal traceability
- Supply chain traceability
- Chain of custody
- Vital records
- Unique identities



- External traceability
  - the business processes that occur between trading partners and the information/data exchanged to execute traceability.

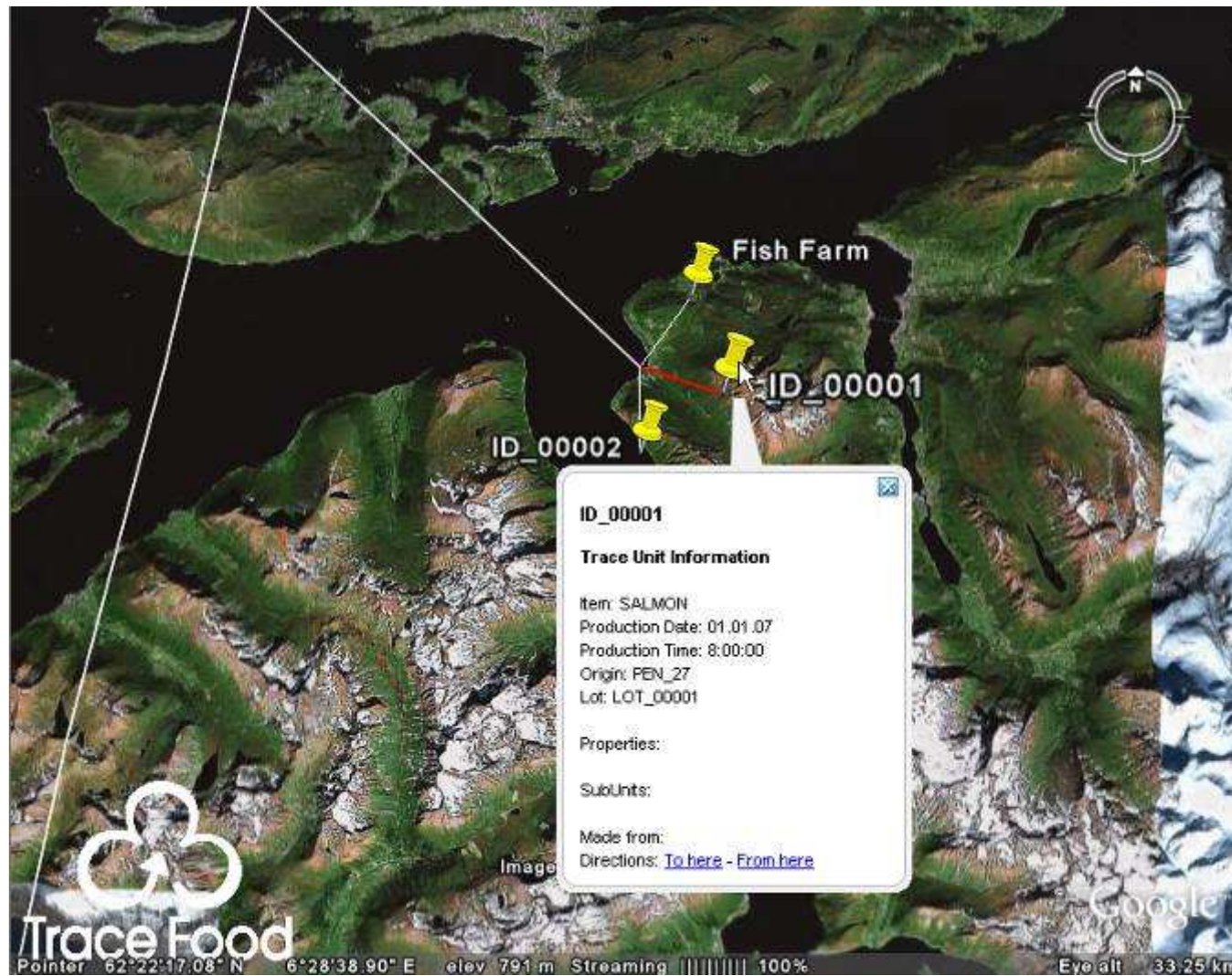
## External traceability



***One step back <-----> One step forwards***

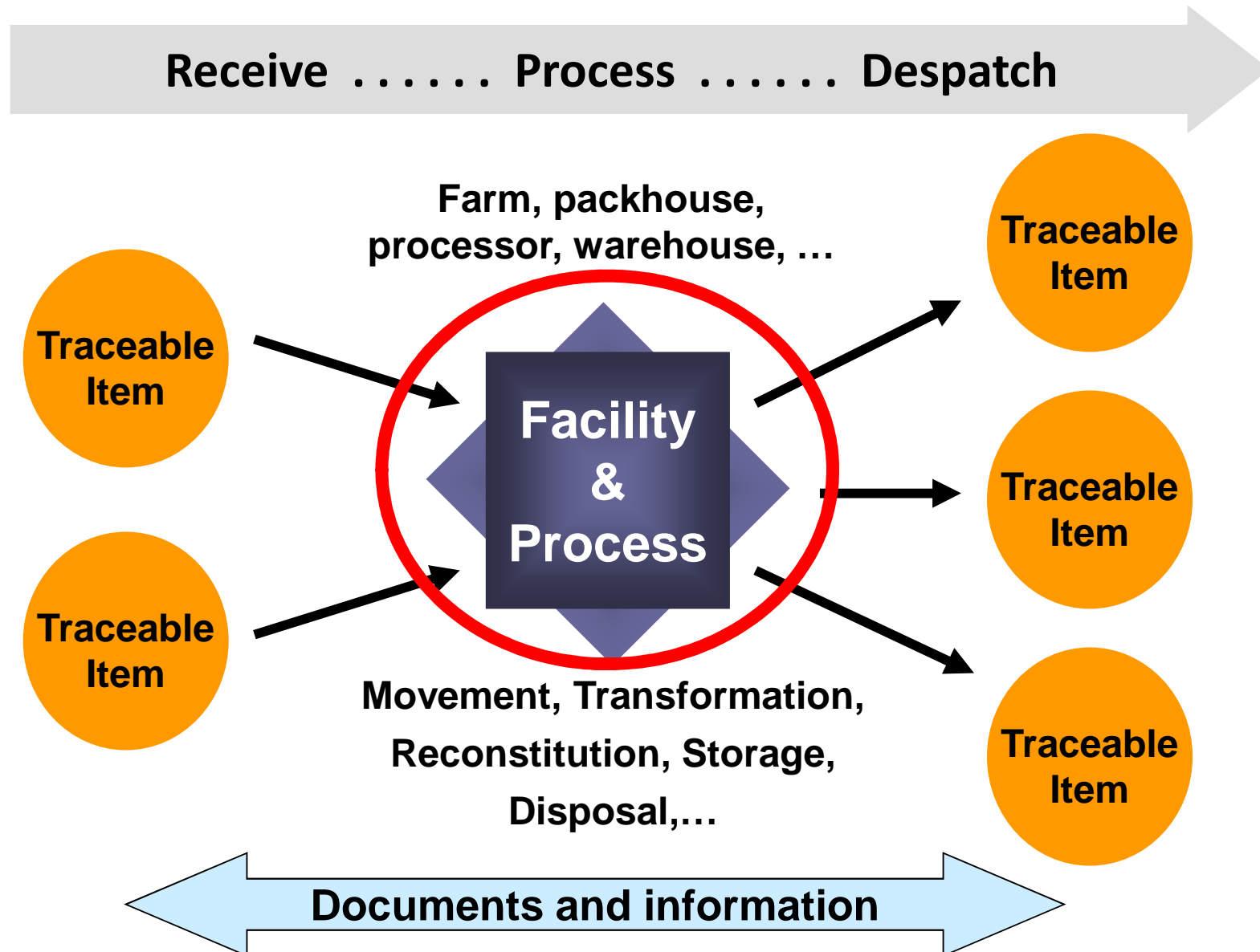
## External traceability

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- External traceability
  - the business processes that occur between trading partners and the information/data exchanged to execute traceability.
- Internal traceability
  - the proprietary data and business processes a company uses within its own span of operations to execute traceability.

## Internal traceability



## Documenting transformations

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**Record all transformations that a trade unit (TU) experiences, e.g. conversion, split, merge or process.**

- 1. Define the Trade Unit in the business under examination.**
- 2. Record IDs of received Trade Units (raw materials and/or ingredients)**
  - If the received Trade Unit has a unique ID, record it.
  - Else allocate one to it.
- 3. Record the ID of the Trade Units that go into the production, and give all produced Trade Units a unique ID. These IDs shall be linked to a production batch.**
  - Where possible and relevant, it is recommended to record the fraction (%) and/or the net weight of each Trade Unit that goes into production.
- 4. Record the ID of all Trade Units dispatched**



# Transformations

Transformation information per received unit

Received unit ID 11

Produced unit ID	%	kg
21	100	5000

Received unit ID 12

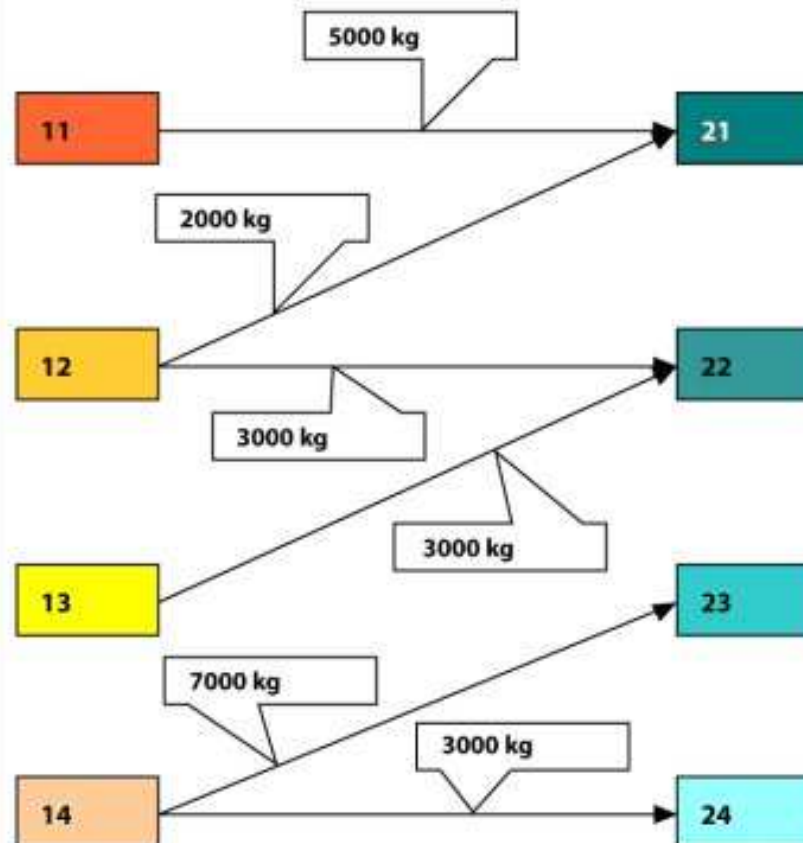
Produced unit ID	%	kg
21	40	2000
22	60	3000

Received unit ID 13

Produced unit ID	%	kg
22	100	3000

Received unit ID 14

Produced unit ID	%	kg
23	70	7000
24	30	3000



Transformation information per delivered unit

Delivered unit ID 21

Received unit ID	%	kg
11	71	5000
12	29	2000

Delivered unit ID 22

Received unit ID	%	kg
12	50	3000
13	50	3000

Delivered unit ID 23

Received unit ID	%	kg
14	100	7000

Delivered unit ID 24

Received unit ID	%	kg
14	100	3000

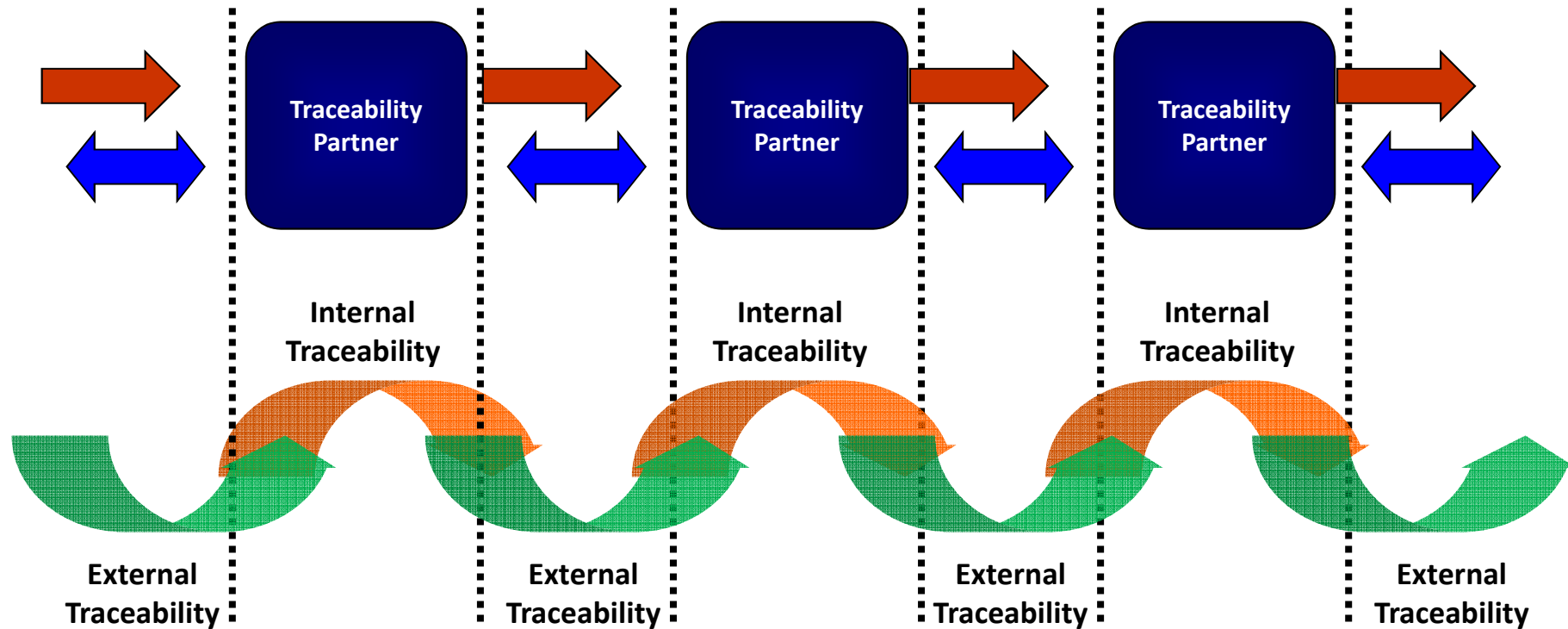
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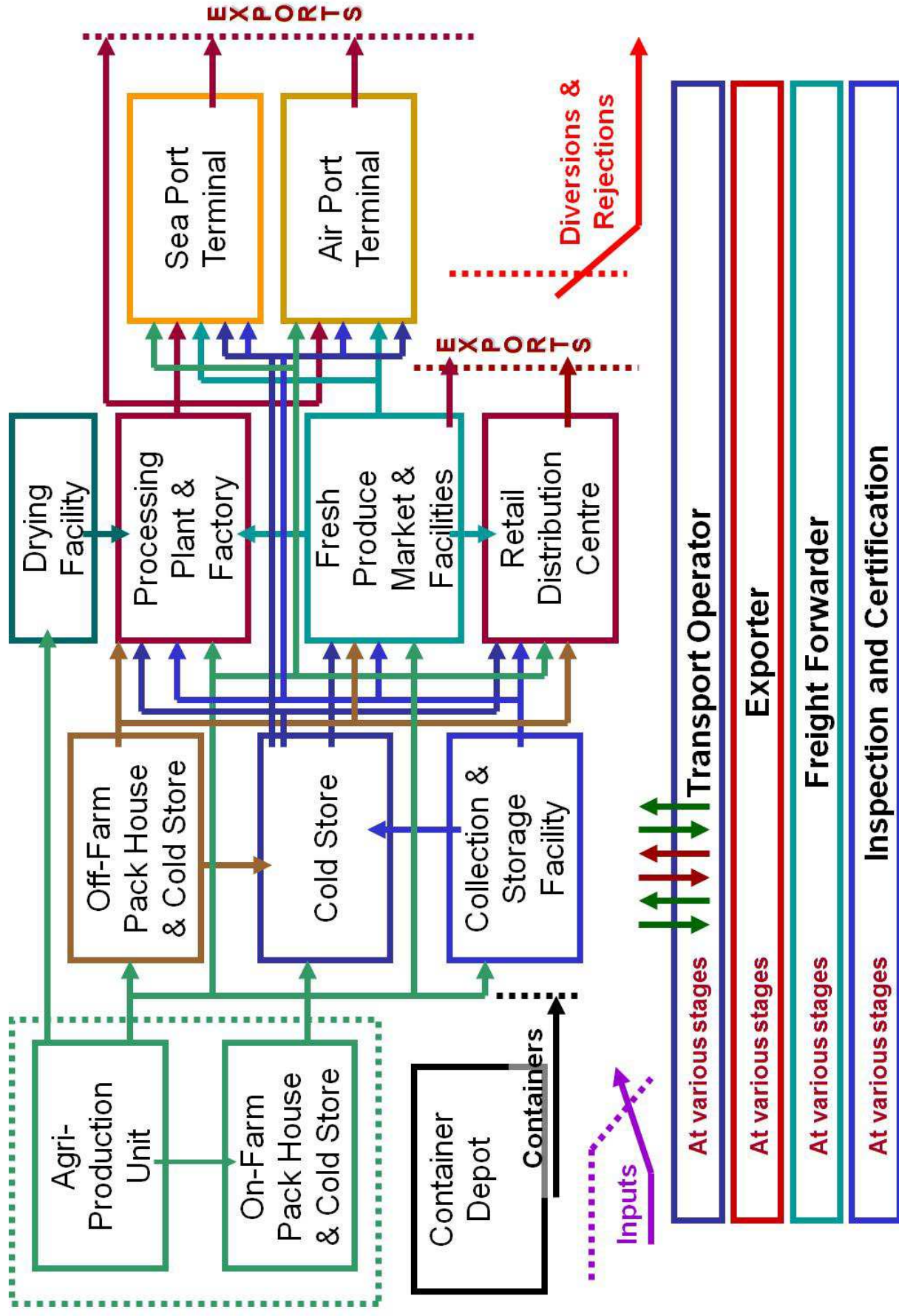


- External traceability
  - the business processes that occur between trading partners and the information/data exchanged to execute traceability.
- Internal traceability
  - the proprietary data and business processes a company uses within its own span of operations to execute traceability.
- Supply chain traceability
  - the ability to follow a product as it moves through the supply chain and to recreate the journey and events from the records.

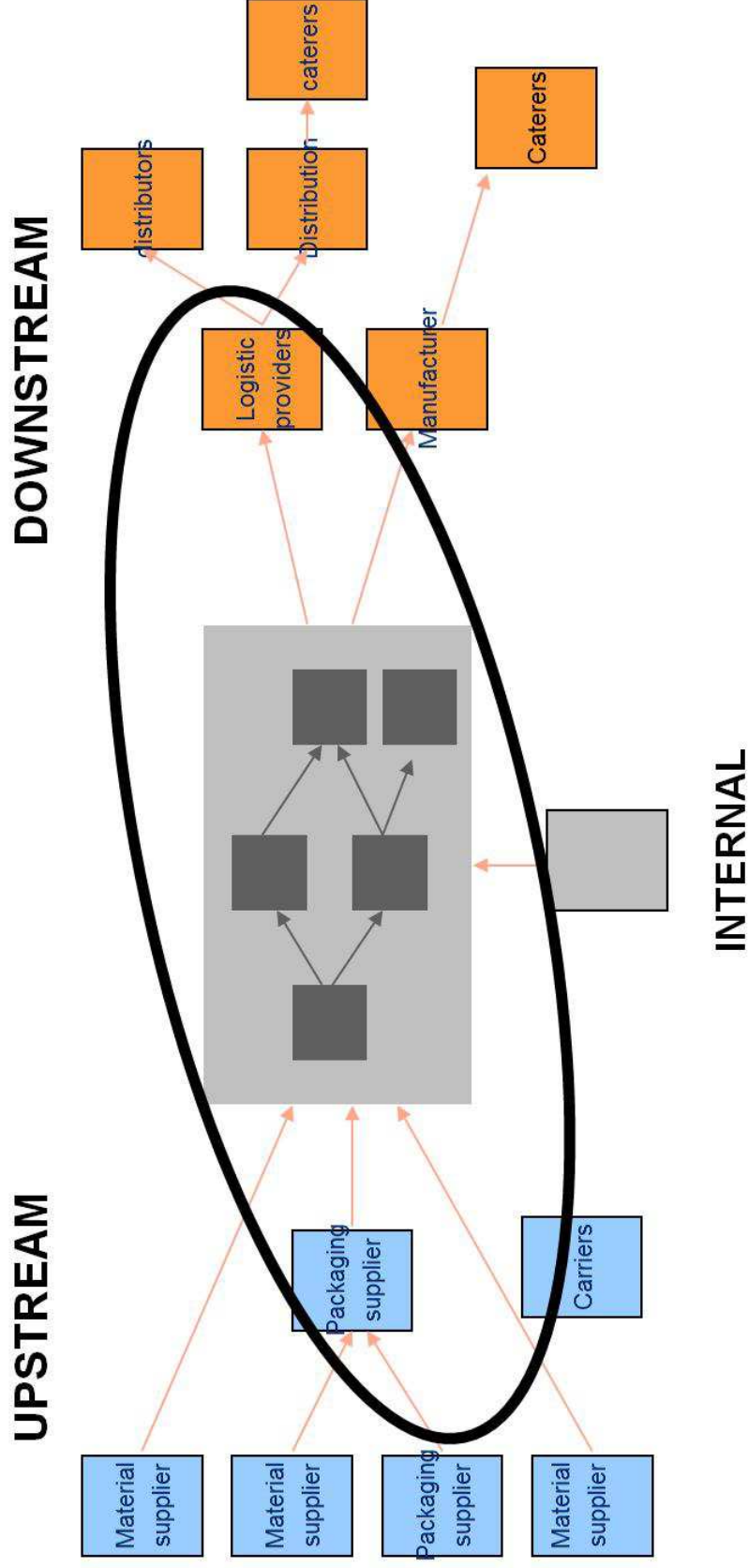
# Supply chain traceability



# *A supply chain has many role-players...*



***There are interdependencies between role-players in the supply chain...***







## Different aspects of traceability

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- Chain of custody (CoC)
  - the path taken by raw materials, processed materials, finished products, and co-products ...
  - from the crop harvesting site to the user ...
  - through each stage of processing, transformation, manufacturing, storage and transport along the supply chain, ...
  - where progress to the next stage of the supply chain involves a change of legal or physical control of the materials or the products.

## Different aspects of traceability

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- Vital records
  - the minimum records required to achieve a particular outcome

## Different aspects of traceability

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- Vital records
  - the minimum records required to achieve a particular outcome
- Identify the product, its components and packaging
- Identify locations where the product is produced, processed, stored and handled
- Identify treatments, processes and transformations
- Record movements
- Record time
- Record parties
- Think a chain – one step back / one step forward



## Unique identification - some definitions

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- Production Unit is any location or facility that produces products
- Trade Unit is any item that is priced, or sold, or ordered, or invoiced at any point in any supply chain
- Logistic Unit (LU) is an item of any composition established for transport and/or storage that needs to be managed through the supply chain.
- Batch/Lot number is the reference to products that undergo common processes

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## Continued in part 4

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