



# Responsible Trade and Traceability Systems

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# Our Objectives...

**Our Commitment:** The advancement of legal, sustainable, and ethical trade in natural resources that has a positive impact on deforestation, rural livelihoods, and on working conditions.

**The Vehicle:** Implementation of standards and practices that result in responsible resource management and sustainable product and its dissemination through documented and trusted trade networks.

**Technologies:** Deployment of appropriate technologies that support responsible resource management, chain of custody and traceability.

# Responsible Trade and Traceability Components

## Compliance Management Program:

- Documentation of the legal (Government) and voluntary standards for sustainability - PCIV.
- Protocols for implementation of standards
- Due diligence of new entrants

## Auditing:

- Process of periodically verifying compliance.
- Certification processes for acknowledgement of compliance

## Chain of custody:

- Documentation of supply chain structure.
- Due diligence and auditing of documented sources.
- Labelling of compliant product.
- Chain of custody systems for tracking compliant product (traceability)

# Responsible Trade and Traceability Technologies

## Manual and semi-manual processes

- The large majority of responsible trade and traceability systems are either manual paper based systems or partially manual.
- These types of systems can be useful, but are often slow / unreactive, with significant compromises in transparency and traceability and costly.

## Automated processes

- The aim of most systems is to first automate the collection and processing of operational data and then overlay a digital monitoring and integrated multi-level compliance management system.
- Examples of current approaches include:
  - Resource mapping and land use change models
  - Source risk assessment modelling
  - Risk assessment at destination (ambulance at bottom of cliff approach)

Significant opportunities to improve support of sustainability and traceability through intelligent use of technology.

# Identification of Supply Chain



## Registration of supply chain participants

- Biggest challenge is to establish a complete network database of the supply chain, especially for registration of small growers.
- Mobile / web based applications are ideal for this:
  - Organized registration or Self registration
  - Incorporate KYC into registration
  - Incorporate resource capacity and mapping registration
  - Supplier commitments
- Maintenance through controlled supplier audit program.
- Reconcile certified areas against LUC monitoring.

# Due Diligence and Auditing Solutions



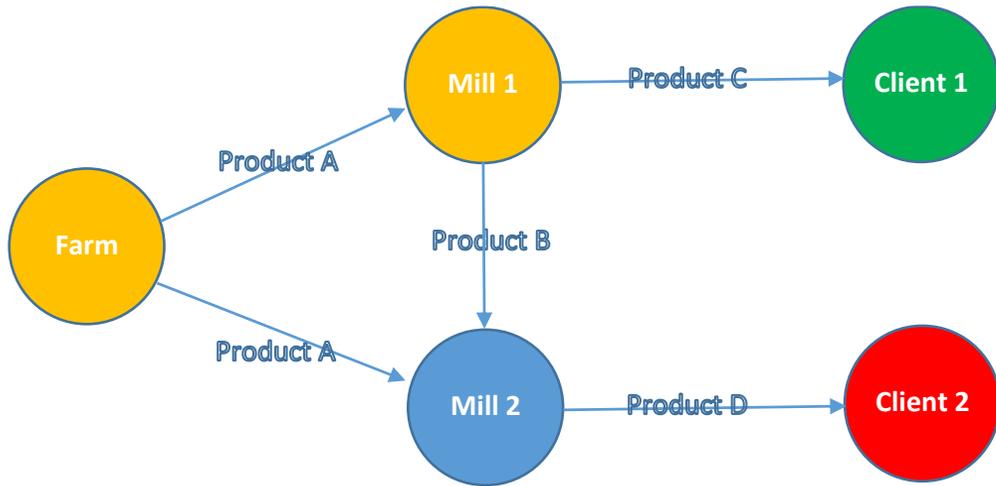
- Supplier due diligence and compliance management is a relatively complex and dynamic process.
- Technology can enable these activities using cloud based databases for audit design and administration and field data capture using mobile devices.

# Chain of Custody Data Capture Technologies



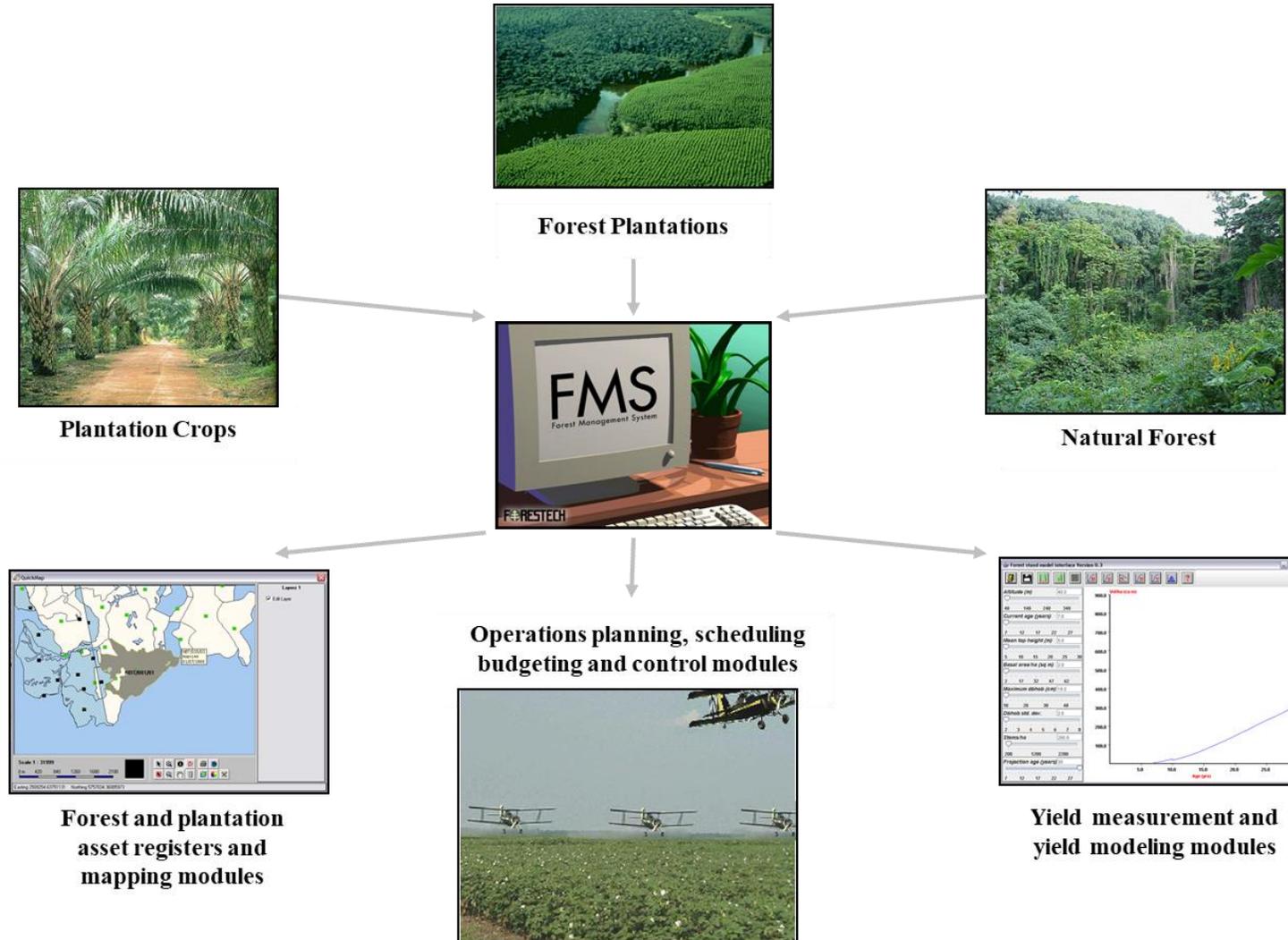
- All suppliers and sources can be identified through a unique digital ID, e.g. KTP.
- These can be registered in the logistics systems and identify if suppliers are certified producers.
- Digital registration of source supplies allows the reconciliation of delivered quantities against registered production capacities.

# Traceability

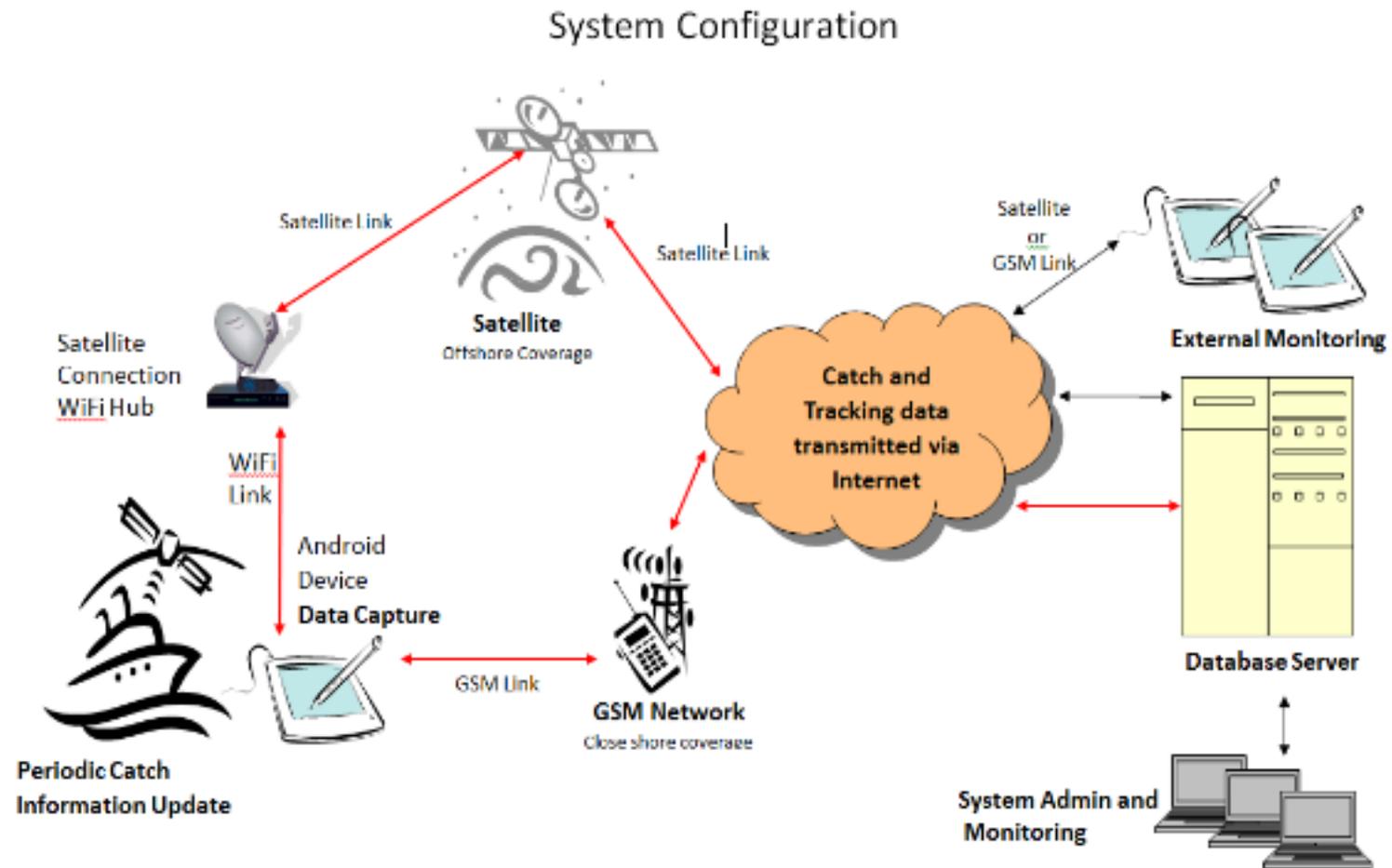


- The main key to implementing traceability is digital transformation across the supply chain.
- Digital data can be accessed in real time to support multi-level compliance management and reporting.
- Digital systems also enables data sharing and transparency.
- Data can be reported in real time to users according to their needs and rights to know – Dashboard approach.

# Plantation Management System



# Fisheries Management System



# Agri & Forestry Tracking System



Plantation Crop Harvesting



Transportation Management



Timber Harvesting



Stock Yards / Warehouses

Logistics planning, transportation and delivery, customer and contractor management modules



Stock scaling and grading, weighbridge, stock yard / warehouse, stock control modules



Field data collection and communications modules

