

RFID to Enhance Environmental Protection & Sustainability

Ensuring Legality in the Tropical Timber Supply Chain

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Who am I

- Nigel Dore (nigel.dore@helveta.com)
- Chief Technology Officer of Helveta

What we do

- Helveta provides software solutions for resource mapping, asset tracking, chain of custody management and verification of legal origin to the forestry and agribusiness industries
- Head office near Oxford, England
- Develops the CI World software platform



Global deforestation and illegal logging are vast, unchecked problems and major contributors to greenhouse gas emissions

- 6m hectares of tropical forest are cleared annually
- Tropical deforestation accounts for 18% - 25% of total human-caused greenhouse gas emissions
- Illegal logging represents a significant contributor to deforestation – in some countries it is estimated to be up to 90%
- The World Bank estimates that the illegal timber trade costs governments US\$15 billion p.a. in lost assets, revenues and taxes



Session One



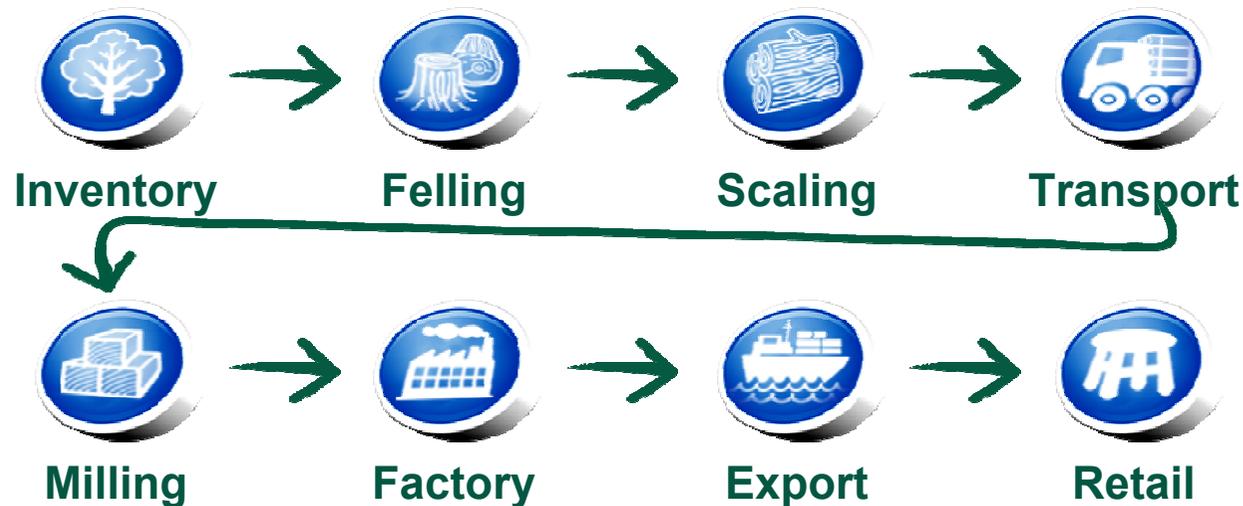
Strong regulatory drivers for change

- US Lacey Act amended in 2008 to make it illegal to import and trade in illegally harvested wood
- EC draft framework regulation released in 2008 with similar aims for the EU
- EU FLEGT initiative to establish Voluntary Partnership Agreements (VPAs) with producer nations to ensure that only legally harvested timber is imported
- An increasing number of countries are adopting "green" public procurement policies requiring timber and timber products to be from legal and sustainable sources



Technology is important to the solution

- Ensuring timber legality involves monitoring the chain of custody from “tree to table”
- Paper systems have proven ineffective and open to abuse
- Electronic systems can provide confidence and security
- RFID tags or barcodes are used for asset identification





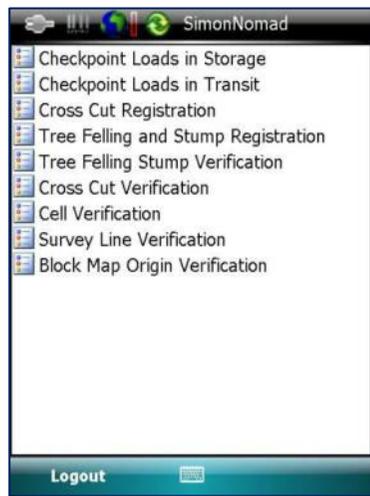
TREE INVENTORY STARTS WITH AFFIXING BARCODE OR
RFID DEVICE



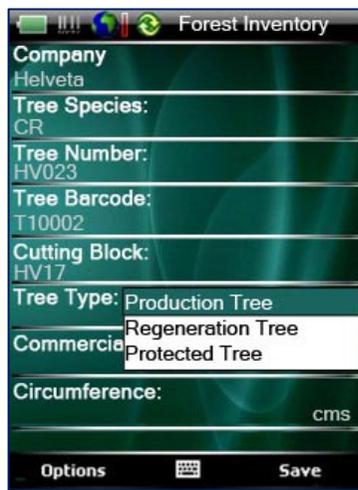
PDA WITH GPS



LOG-IN SCREEN



CAPTURE MODE
SELECTION



DATA ENTRY



INVENTORY DISPLAY

The chain of custody is defined and managed in the software



Data is collected from and reconciled across all control points. Issues are identified via reports

Or, alerted in real-time

SGS **LiberFor**
monitoring the Liberian Forest sector

Block Map and Stock Survey Error Check

Block Reference: TSCA2/J2 Owner TIN: 407954007
Company: Tappah Timber Co.

Enumerator: Sam Date Surveyed: 10/11/2008
Supervisor: Date:
HQ Data Entry Clerk: sbates Co/OS Entry Date: 10/29/2008

Check performed	Pass/Fail	Reason
TSC/FMC reference matches TIN	Pass	
All 4 corners and the entire area of the Block Map fit within the gross area of the Concession	Pass	
All Barcodes are correct	Fail	See list below
No Barcode duplicates on Stock Survey	Fail	See list below

TREE BARCODES IN ERROR

Barcode	Cell	Barcode Allocation		Barcode Type	Barcode Expired
		TIN	Concession		
04JH0A0R-4RLE	2.6	Unknown	Unknown	Unknown	Unknown
09634E06-2ZCP	4.8	Unknown	Unknown	Unknown	Unknown
09674E0C-FBPM	10.6	Unknown	Unknown	Unknown	Unknown
04C9WR14-746H	12.1	Unknown	Unknown	Unknown	Unknown
0CA4HL3V-NL7J	11.1	Unknown	Unknown	Unknown	Unknown
1570E3XL-27M0	6.4	Unknown	Unknown	Unknown	Unknown
157YEXXL-70BP	11.9	Unknown	Unknown	Unknown	Unknown
1580WRMN-XBBV	19.8	Unknown	Unknown	Unknown	Unknown

10/31/2008 LiberFor is operated by SGS Liberia on behalf of LiberFor, Kappa House, Elie Sateehy Compound, Sinkor, Monrovia, Liberia Page 1 of 20

ISSUE ID	Status	Summary	Date	Update by	Detail
11545	●	Field mismatch in between modes : YSSALES and YSPANGGONG	04/10/06 08:27	Species Mismatch (FieldChangeRule)	Field mismatch in between modes : YSSALES and YSPANGGONG. Log # L100003.1 references the following data : Species = 8 does not match : Species = 2

Issue investigation by inspectors in the field is controlled by workflow

Create Issue detail for YS / Pangkalan/11545 (Field mismatch in between modes : YSSALES and YSPANGGONG)

Detail: Please investigate species mismatch

Issue status: Open (dropdown menu)

Options: Open, Under Investigation, Closed, Escalate, Reassigned

Finally, legality or export certificates are issued

Liberia case study

- Forests cover 30% of Liberia
- Previously, up to 20% GDP from forestry
- Timber was a major contributor to 14 years of brutal civil war
- LiberFor – An online national wood tracking system is now in place



LiberFor - project timeline

- 2003 - End of civil war, UN Security Council ban on timber export
- 2006 - All former forest concessions cancelled, enactment of new forestry law
- 2007 - Contract for implementation of national chain of custody monitoring system for Liberian timber flows awarded to SGS & Helveta
- 2008 - Start of 5-year implementation project (\$1.6m USAID grant)
- 2009 - Legal harvesting begins - peaceful and legal benefits from forests start to flow to the Liberian people

Lessons learned from RFID pilots

- Difficult to locate suitable RFID tags – tags designed for timber pallets did not prove durable in tropical forest
- Limited read/write memory in cost effective tags limits innovation in RFID solutions
- The addition of an independent printed code on tags would ease handling issues and failed tag recovery
- Cost and lead times of RFID readers for handheld computers proved an issue
- Read range needs careful management when capturing details of individual logs

