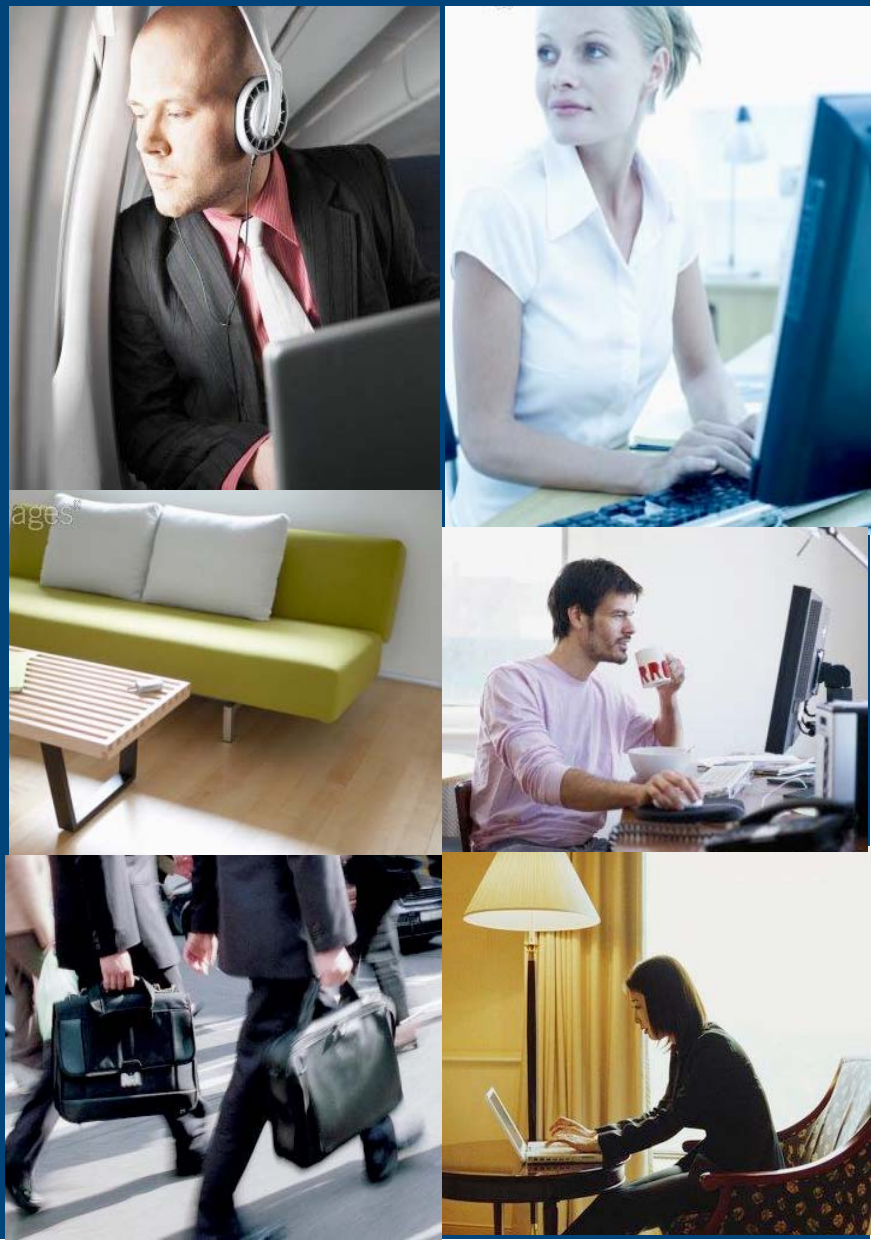
Sistemas de Trazabilidad para el sector Forestal

Martín de la Serna

la empresa



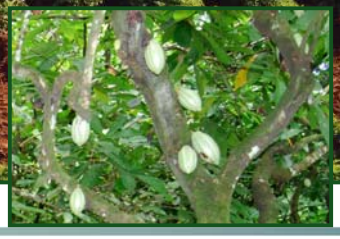
introduction to helveta

- founded in 2004
- corporate headquarters near Oxford, United Kingdom
- support offices in Malaysia, France, USA, and Indonesia.
- developed and deployed the unique software platform, CI World™:
  - chain of custody
  - asset tracking
    - process improvement
  - resource mapping

© 2007 Helveta Ltd
www.helveta.com

principal business segments

- forestry / timber
  - Forest Resources Mapping
  - Timber Chain of Custody
  - Process Control



- agribusiness / food
  - foodstuffs Chain of Custody
  - food Storage Management
  - Process Control

© 2007 Helveta Ltd
www.helveta.com

our partners

shareholders

OXFORD CAPITAL PARTNERS

closeventures

technology

SYBASE iAnywhere

intel

ORACLE

strategy and implementation

LSE

Timber Trade Federation

The Nature Conservancy

TIMBER TRADE FEDERATION RESPONSIBLE PURCHASING POLICY

TTF

TFT TROPICAL FOREST TRUST

Soil Association

© 2007 Helveta Ltd
www.helveta.com

our clients

Forest Peoples Programme
supporting forest peoples' rights

Perhutani

TROPICAL FOREST TRUST

Liberia Forest Initiative

FAUNA & FLORA International
Conserving wildlife since 1903

EUROPEAID CO-OPERATION OFFICE

Tjipta Group

MINISTRY OF FORESTRY INDONESIA

CED
CENTRE FOR ENVIRONMENT & DEVELOPMENT

USAID
FROM THE AMERICAN PEOPLE

PREMIUM SMITHFIELD MEATS

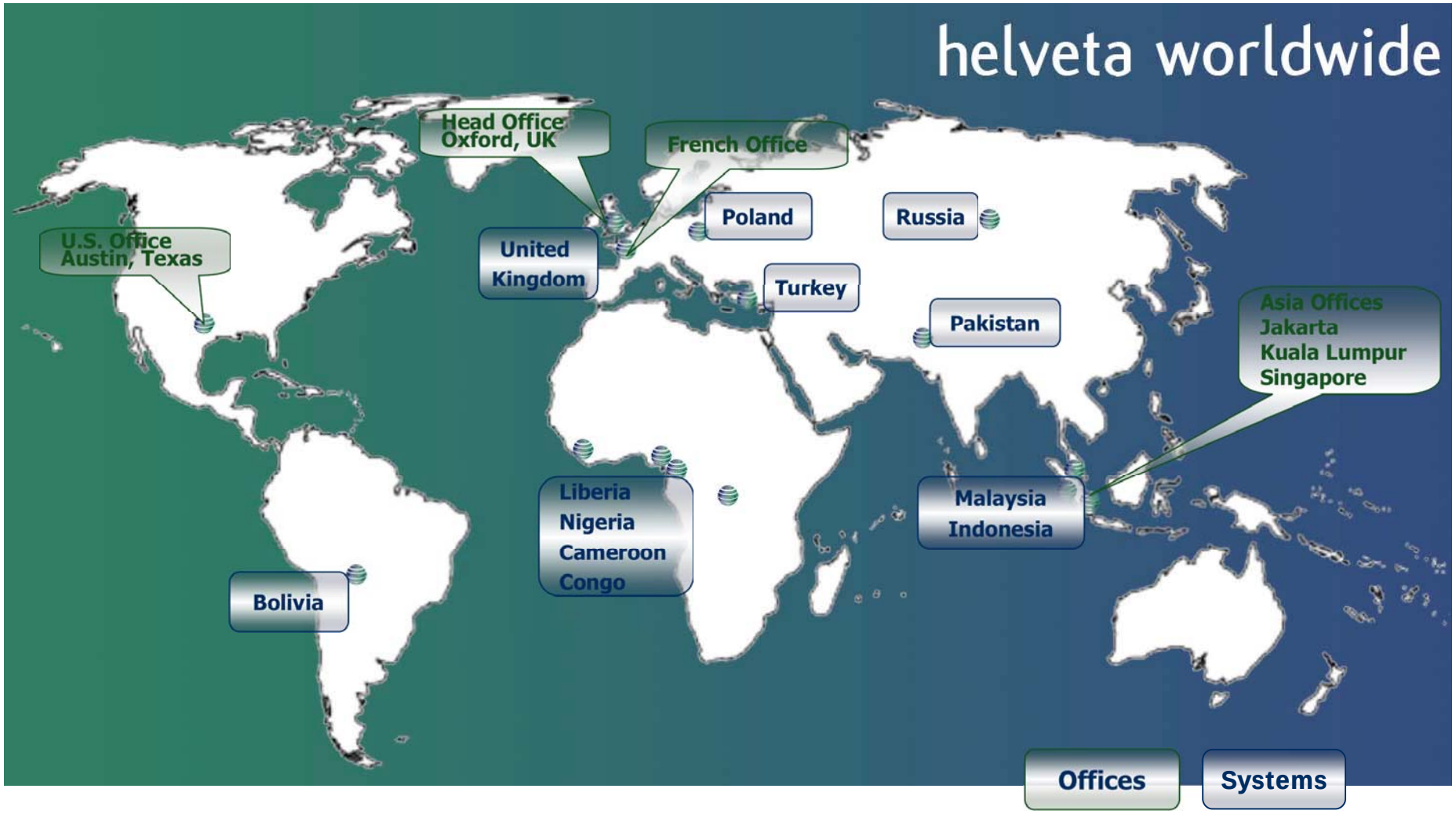
SUPERINTENDENCIA FORESTAL

Timber Group

PEPSICO

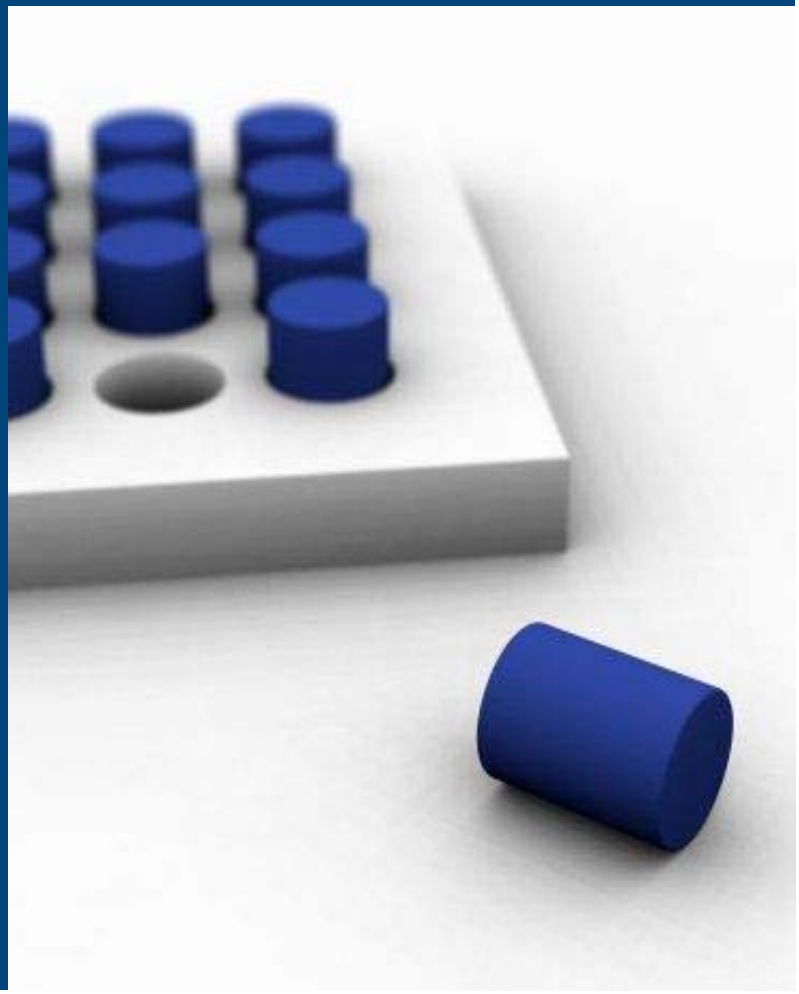
© 2007 Helveta Ltd
www.helveta.com

helveta worldwide



© 2007 Helveta Ltd
www.helveta.com

Solución para la Cadena de Custodia

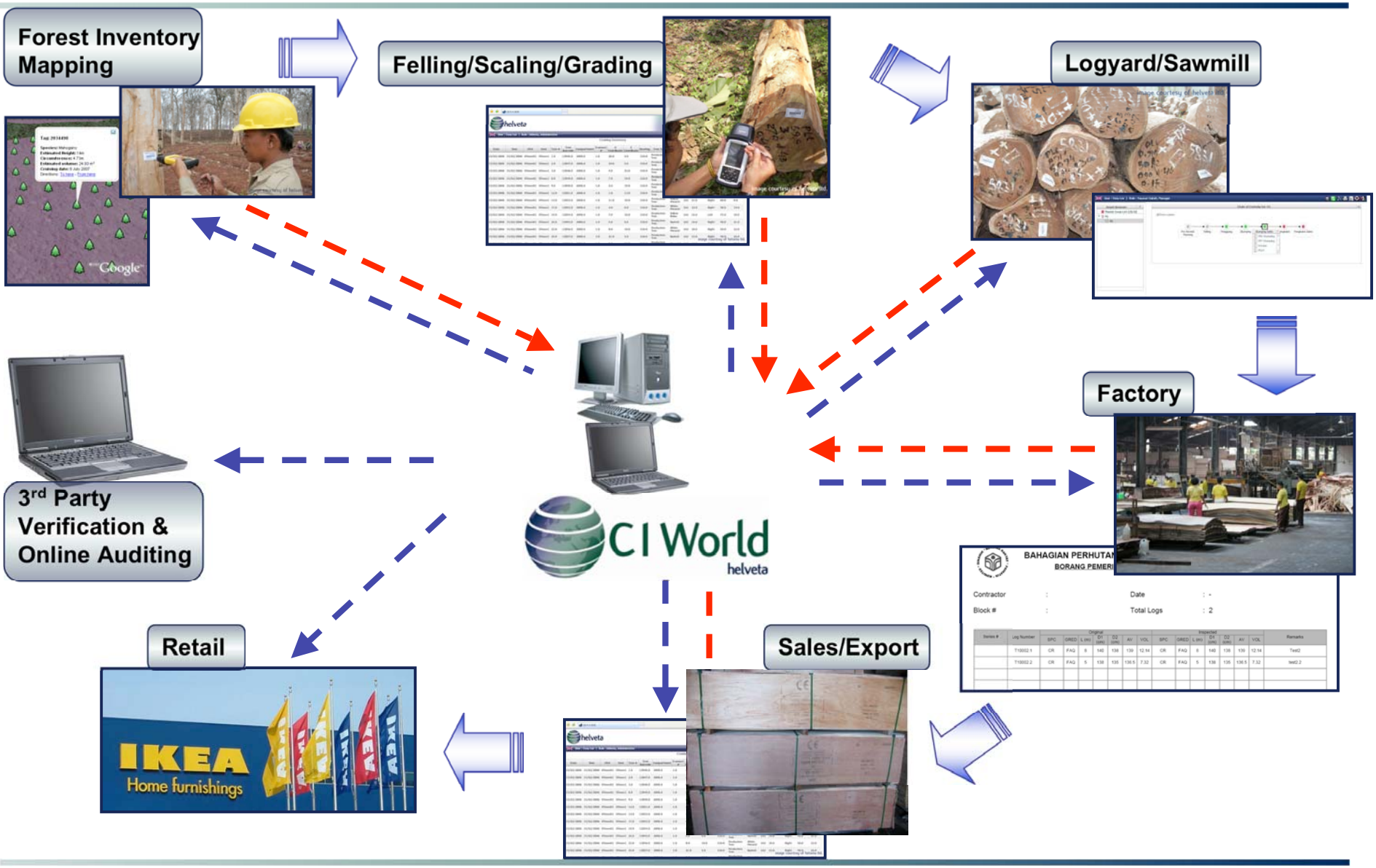


wood supply chain challenges

- wood origin verification, complete visibility of supply chain impossible with **paper based systems**.
- lacking back to stump traceability
- Inventory management difficult with extended supply chains
- recovery optimization
- legislative imperatives driving change:
  - EU initiatives: FLEGT, UK legislation
  - US initiatives: Lacey Act
- **MARKETS DRIVING CHANGE**

© 2007 Helveta Ltd
www.helveta.com

CI World™

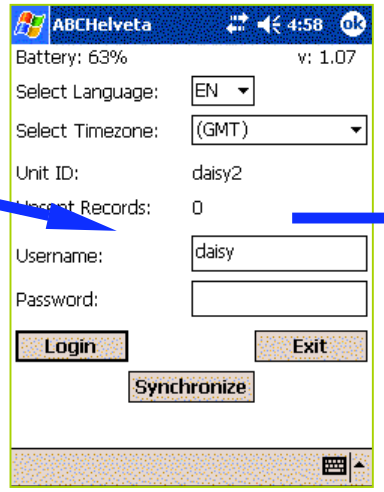


© 2007 Helveta Ltd
www.helveta.com

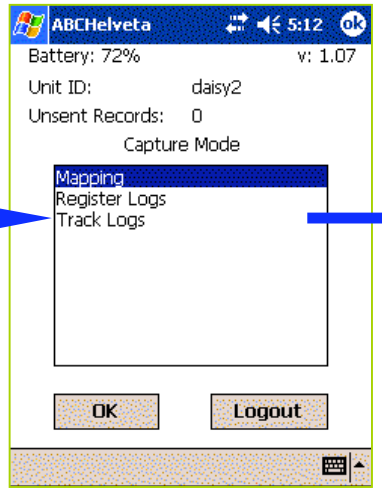
CI World™ handheld PDA

- ruggedised device (shockproof, waterproof) for field data collection at all points in the chain of custody.
- runs CI Mobile™ application on Windows™ Mobile platform

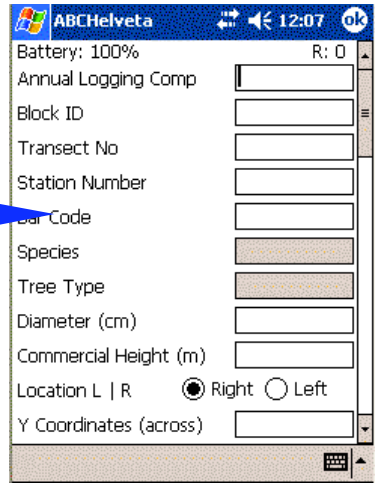
Integrated GPS, RFID reader, Barcode Scanner



- *login screen*



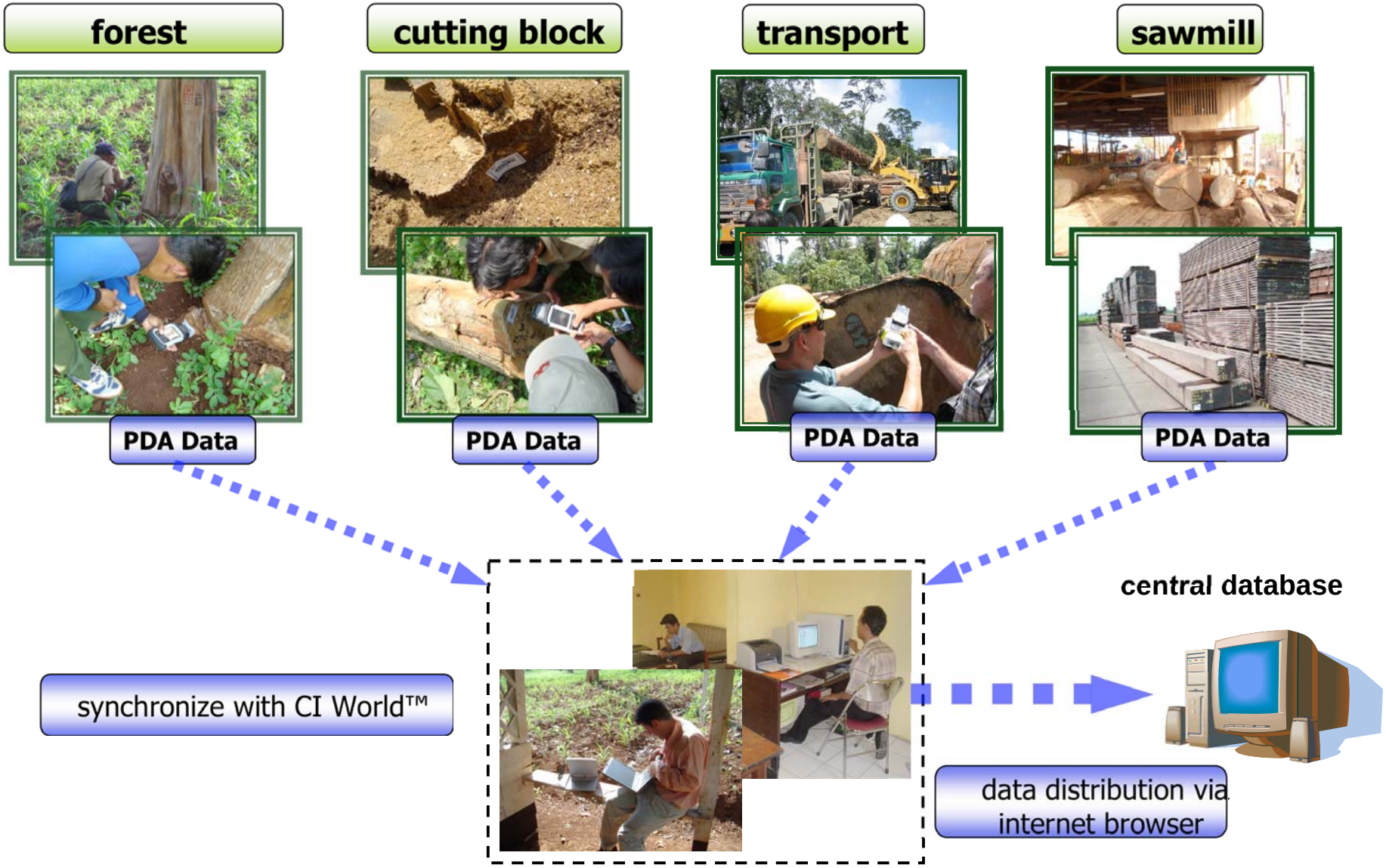
- *mode selection*



- *data collections*

© 2007 Helveta Ltd
www.helveta.com

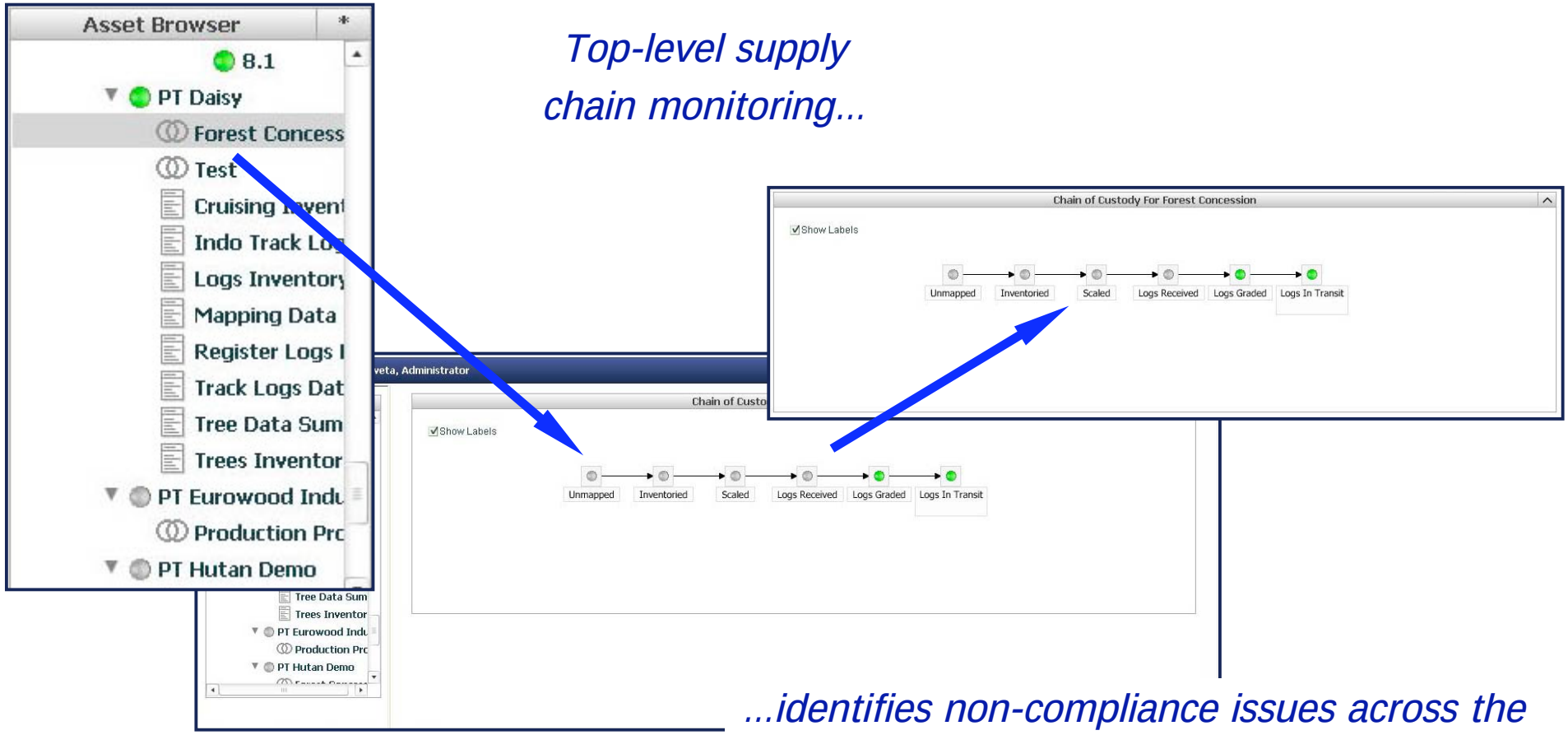
data capture and processing



© 2007 Helveta Ltd
www.helveta.com

reports

Forest supply chain reporting and traceability through *CI World™*:



Top-level supply chain monitoring...

...identifies non-compliance issues across the supply chain

© 2007 Helveta Ltd
www.helveta.com

custom reporting

Form : forest cruising Inventory

CI World helveta

User : Tony Lee | Role : Helveta, Administrator

Cruising Inventory

Date	PDA	User	Tree #	Tree Barcode	Compartment	Transect #	X Coordinate	Y Coordinate	Bearing	Tree Type	Species	Block #	Commercial Height	Location	Diameter (cm)	Stati Numb
27/09/2006	tftmon01	tftmon1	531.0	9060.0	2007.0	13.0	15.0	25.0	0.0	Production Tree	Majau	171	20.0	Left	100.0	2.0
27/09/2006	tftmon01	tftmon1	532.0	9066.0	2007.0	13.0	10.0	15.0	0.0	Production Tree	Majau	171	16.0	Left	55.0	3.0
27/09/2006	tftmon01	tftmon1	533.0	9656.0	2007.0	13.0	15.0	3.0	0.0	Production Tree	Majau	171	18.0	Left	70.0	4.0
27/09/2006	tftmon01	tftmon1	536.0	9067.0	2007.0	13.0	22.0	5.0	0.0	Production Tree	Majau	171	18.0	Right	80.0	5.0
27/09/2006	tftmon01	tftmon1	539.0	9070.0	2007.0	13.0	20.0	5.0	0.0	Production Tree	Marsolok	171	17.0	Right	65.0	7.0

Date	PDA	User	Tree #	Tree Barcode	Compartment	Transect #	X Coordinate	Y Coordinate	Bearing
27/09/2006	tftmon01	tftmon1	531.0	9060.0	2007.0	13.0	15.0	25.0	0.0
27/09/2006	tftmon01	tftmon1	532.0	9066.0	2007.0	13.0	10.0	15.0	0.0

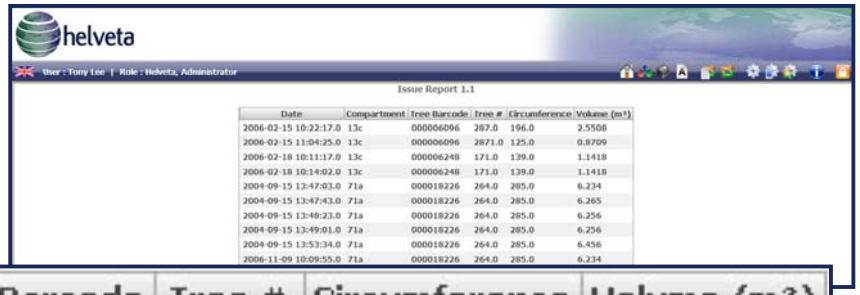
X Coordinate	Y Coordinate	Bearing	Tree Type	Species	Block #	Commercial Height	Location	Diameter (cm)	Stati Numb
15.0	25.0	0.0	Production Tree	Majau	171	20.0	Left	100.0	2.0
10.0	15.0	0.0	Production Tree	Majau	171	16.0	Left	55.0	3.0

© 2007 Helveta Ltd
www.helveta.com

customised rules engine

custom alerts configured to client requirements

- duplicate barcode
- change in tree species
- change in tree volume



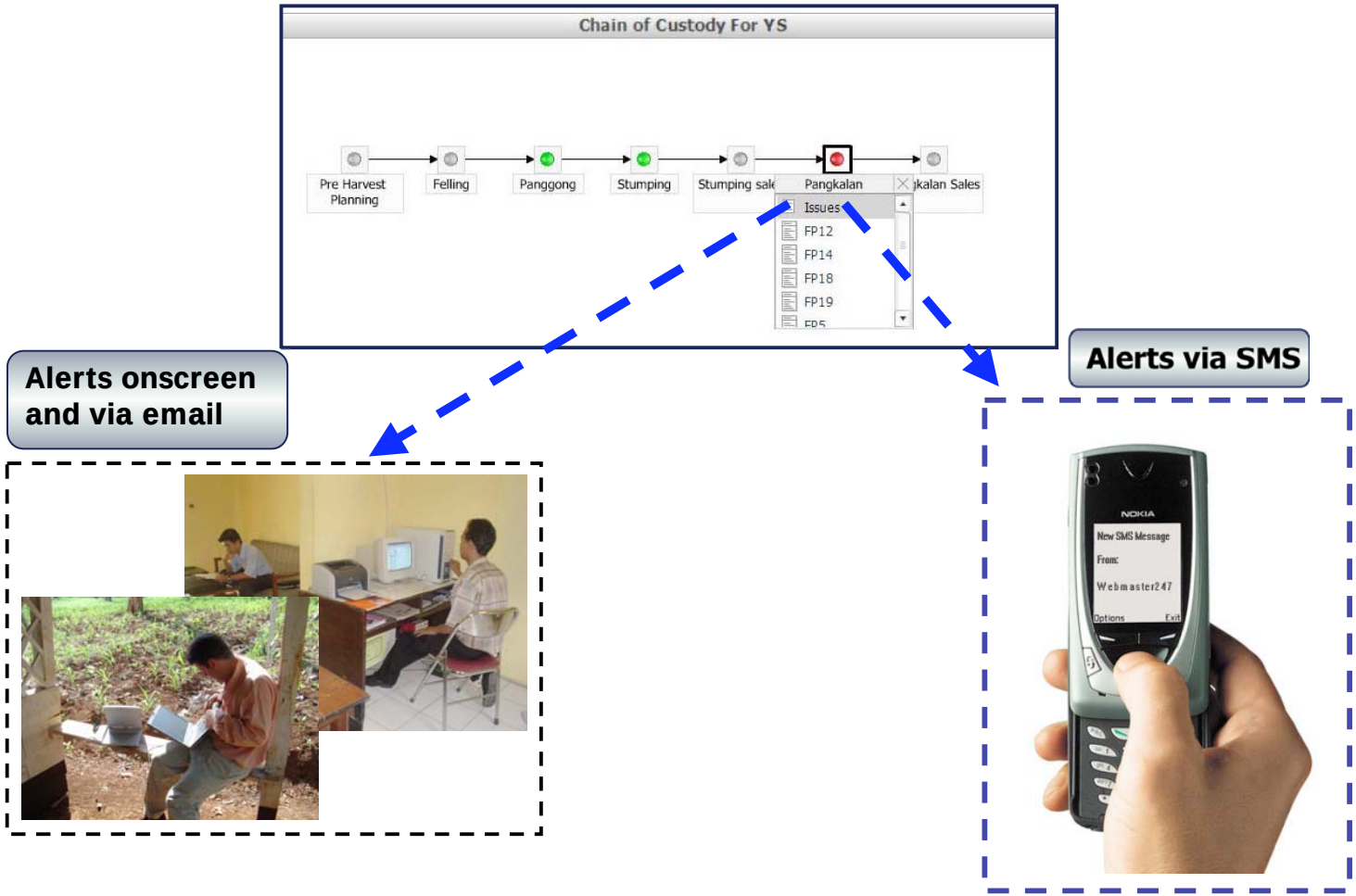
Compartment	Tree Barcode	Tree #	Circumference	Volume (m³)
13c	000006096	287.0	196.0	2.5508
13c	000006096	2871.0	125.0	0.8709
13c	000006248	171.0	139.0	1.1418
13c	000006248	171.0	139.0	1.1418

- stationary logs
- missing logs
- unrecorded logs entering the supply chain
- logs harvested outside designated cutting area

© 2007 Helveta Ltd
www.helveta.com

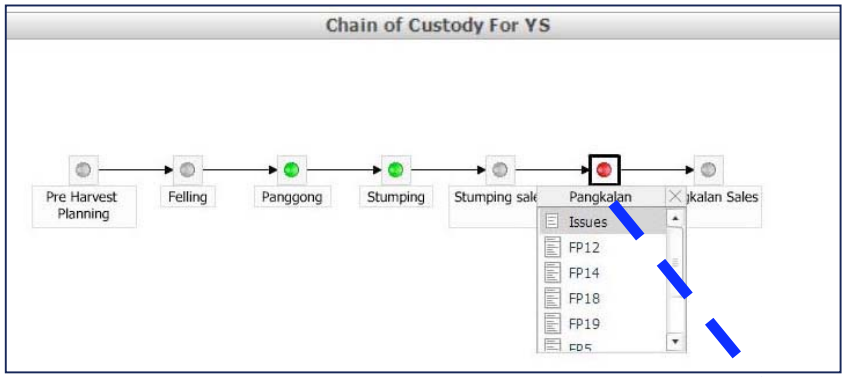
alerts

Alerting data anomalies and procedure compliance breach through *CI World™*:



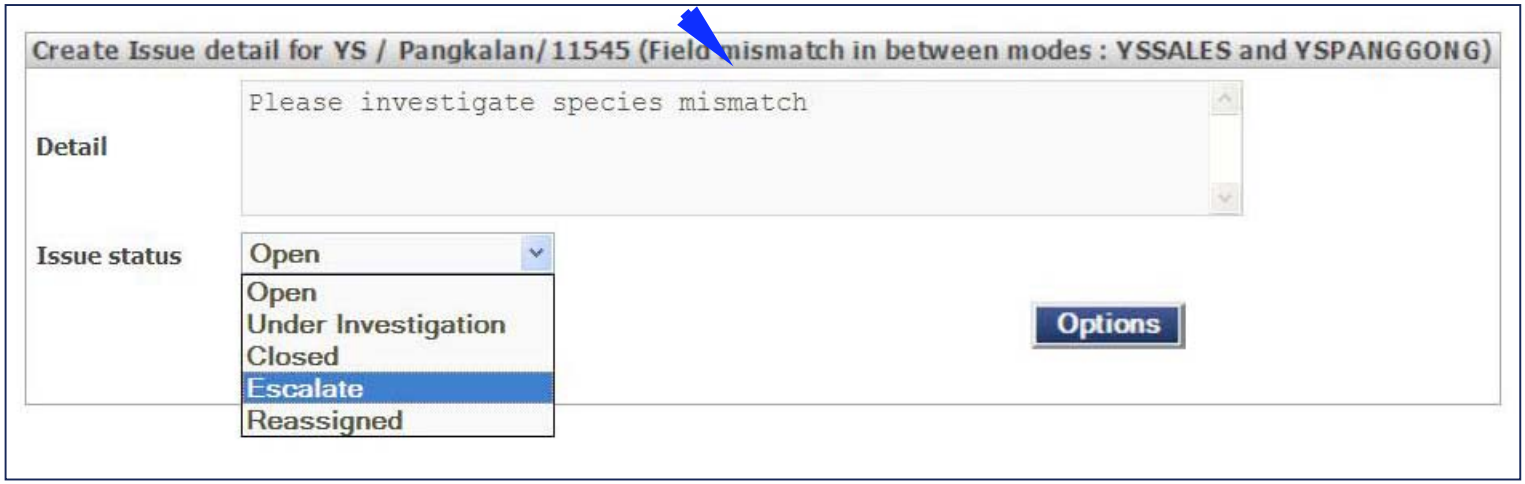
© 2007 Helveta Ltd
www.helveta.com

alerts – intervention tracking



- intervention tracking and online audit trail

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

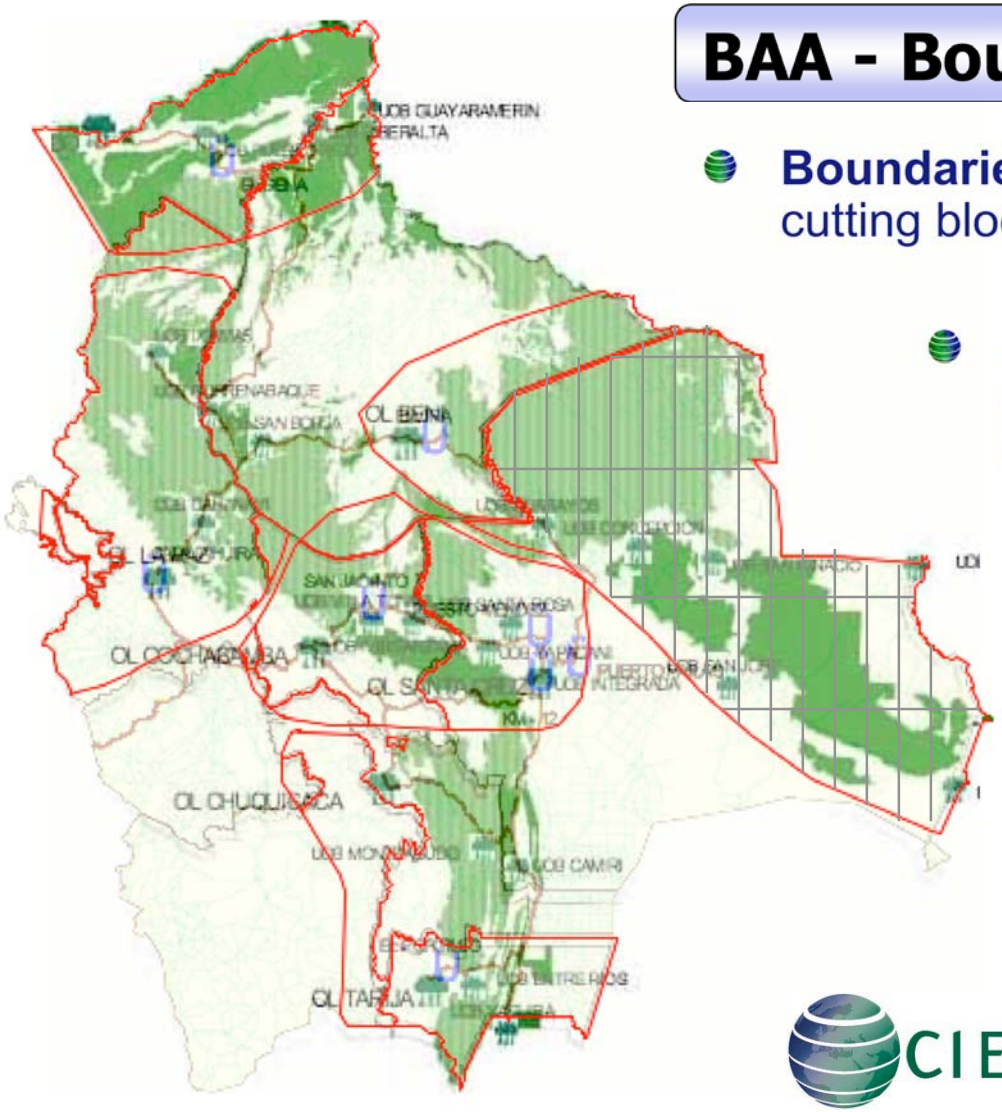


© 2007 Helveta Ltd
www.helveta.com

forest resource mapping solutions

www.helveta.com

mapping case study



BAA - Boundaries, Access, Assets

- **Boundaries** - mapping of concession areas, cutting blocks, coupe limits, community areas.
- **Access** - mapping of existing and planned roads, rivers, log staging, log ponds
- **Assets** - inventory and mapping of standing timber (species, size, etc.), forest community assets, fauna, landmarks.

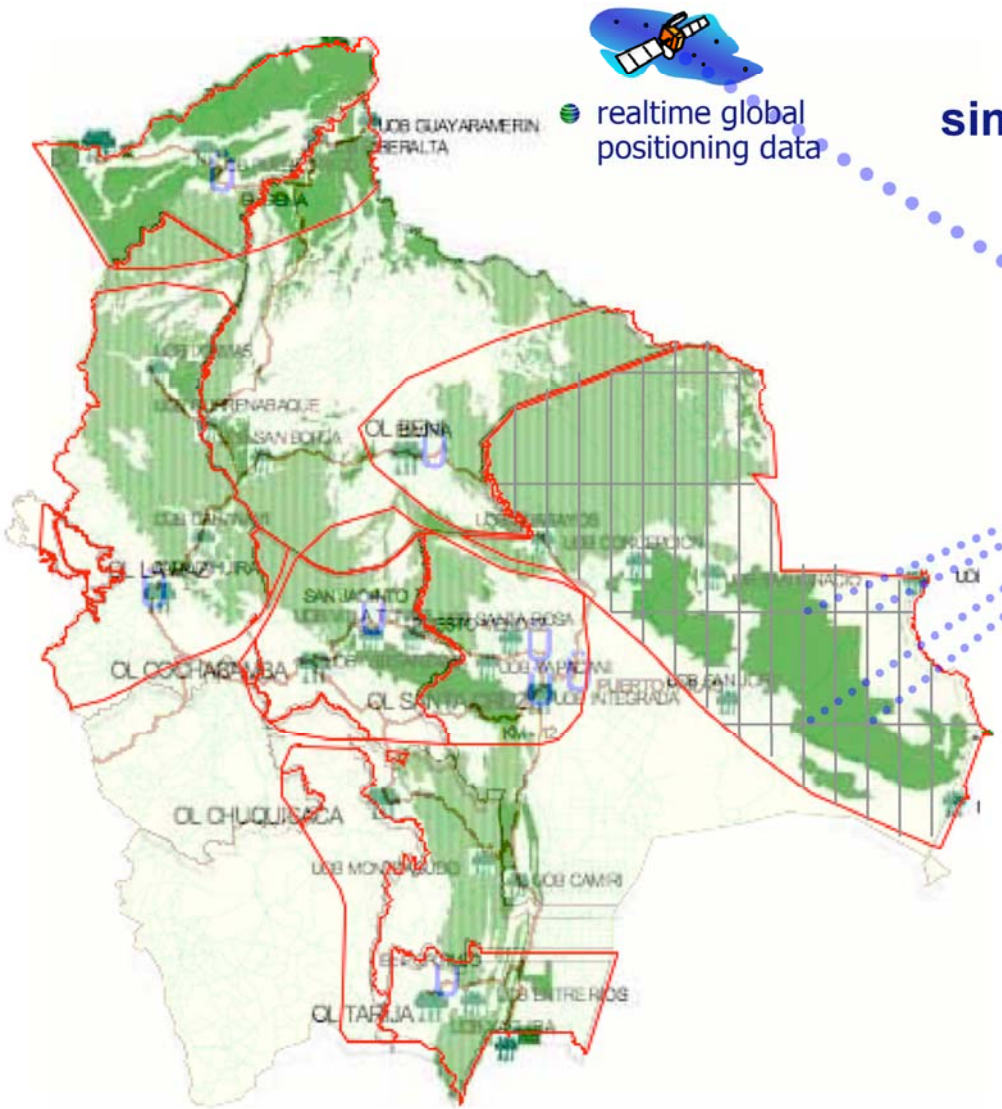
The Solution

CI Earth helveta

integrated forest resource mapping and planning utility.

© 2007 Helveta Ltd
www.helveta.com

mapping case study



realtime global positioning data

Data Capture

simple, efficient, customized field data capture

CI Earth handheld

- CI Earth™ field data automatically synchronizes with CI World™ databases

Reporting

CI World

© 2007 Helveta Ltd
www.helveta.com

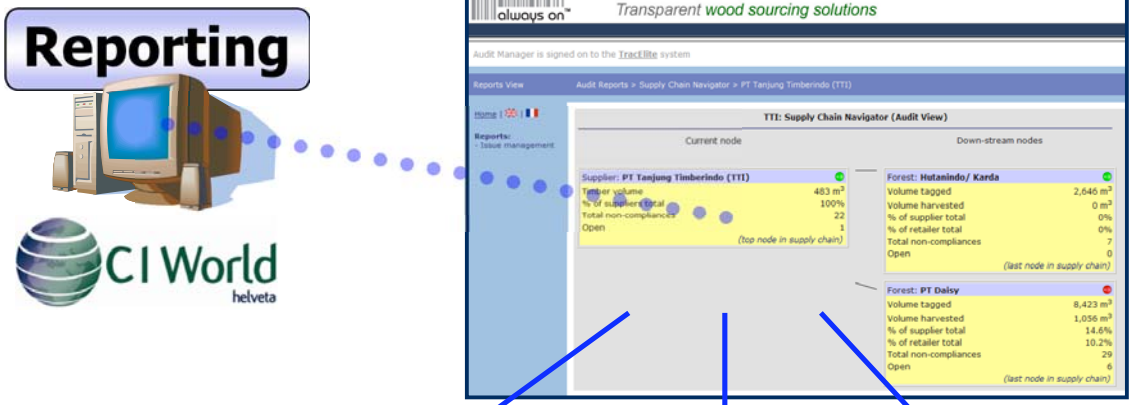
CI Earth demo

© 2007 Helveta Ltd
www.helveta.com

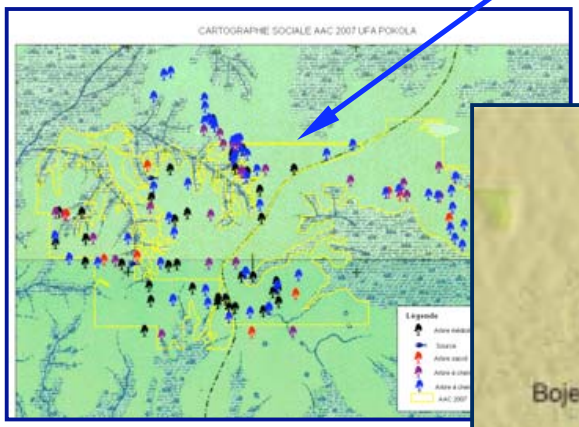
CI Earth demo

© 2007 Helveta Ltd
www.helveta.com

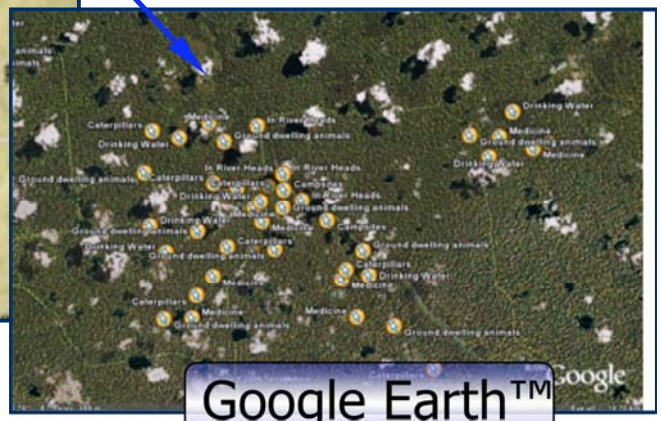
mapping output / physical maps



- rapid, accurate mapping of forest resources.
- automated physical output maps to GIS applications such as ArcView™, Google Earth™, etc.
- enables accelerated harvest planning, license application and renewal, pre-harvest tagging of timber stocks



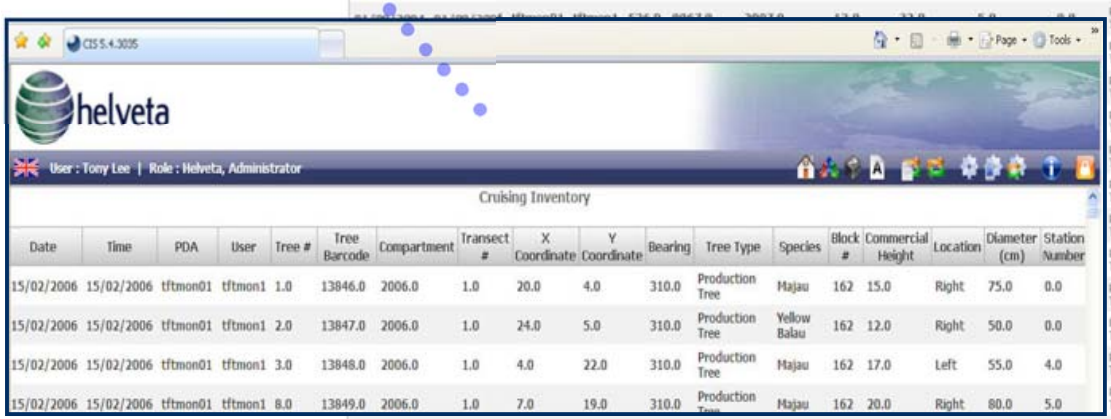
ArcView™



© 2007 Helveta Ltd
www.helveta.com

mapping output / reports

- flexible, configurable report outputs
- sort and report data by region, species, size, proximity to transport facilities
- link inventory planning to customer order backlog to optimize workflow.



Cruising Inventory

Date	Time	PDA	User	Tree #	Tree Barcode	Compartment	Transect #	X Coordinate	Y Coordinate	Bearing	Tree Type	Species	Block #	Commercial Height	Location	Diameter (cm)	Station Number
15/02/2006	15/02/2006	tftmon01	tftmon1	1.0	13846.0	2006.0	1.0	20.0	4.0	310.0	Production Tree	Majau	162	15.0	Right	75.0	0.0
15/02/2006	15/02/2006	tftmon01	tftmon1	2.0	13847.0	2006.0	1.0	24.0	5.0	310.0	Production Tree	Yellow Balau	162	12.0	Right	50.0	0.0
15/02/2006	15/02/2006	tftmon01	tftmon1	3.0	13848.0	2006.0	1.0	4.0	22.0	310.0	Production Tree	Majau	162	17.0	Left	55.0	4.0
15/02/2006	15/02/2006	tftmon01	tftmon1	8.0	13849.0	2006.0	1.0	7.0	19.0	310.0	Production Tree	Majau	162	20.0	Right	80.0	5.0
01/09/2004	01/09/2004	tftmon01	tftmon1	531.0	9060.0	2007.0	13.0	15.0	25.0	0.0	Production Tree	Majau	171	20.0	Left	100.0	2.0
01/09/2004	01/09/2004	tftmon01	tftmon1	532.0	9066.0	2007.0	13.0	10.0	15.0	0.0	Production Tree	Majau	171	16.0	Left	55.0	3.0
01/09/2004	01/09/2004	tftmon01	tftmon1	533.0	9656.0	2007.0	13.0	15.0	3.0	0.0	Production Tree	Majau	171	18.0	Left	70.0	4.0
											Production Tree	Majau	171	18.0	Right	80.0	5.0
											Production Tree	Marsolok	171	17.0	Right	65.0	7.0
											Production Tree	Yellow Meranti	171	18.0	Right	60.0	7.0
											Production Tree	Majau	171	17.0	Left	70.0	7.0
											Production Tree	Nyatoh	171	14.0	Left	55.0	8.0
											Production Tree	Majau	171	10.0	Right	75.0	10.0
											Production Tree	Gagil	171	15.0	Left	50.0	11.0
											Production Tree	Nyatoh	171	17.0	Right	70.0	12.0
											Production Tree	Yellow Meranti	171	14.0	Right	55.0	13.0
											Production Tree	Marsolok	171	14.0	Right	50.0	13.0
											Production Tree	Marsolok	171	17.0	Right	65.0	14.0
											Production Tree	Red Meranti	171	16.0	Right	50.0	19.0
01/09/2004	01/09/2004	tftmon01	tftmon1	570.0	9661.0	2007.0	13.0	5.0	20.0	0.0	Production Tree	Marsolok	171	16.0	Left	60.0	26.0
01/09/2004	01/09/2004	tftmon01	tftmon1	572.0	9662.0	2007.0	13.0	5.0	25.0	0.0	Production Tree	Nyatoh	171	13.0	Right	55.0	29.0
01/09/2004	01/09/2004	tftmon01	tftmon1	574.0	9216.0	2007.0	13.0	15.0	17.0	0.0	Production Tree	Majau	171	17.0	Right	70.0	30.0
01/09/2004	01/09/2004	tftmon01	tftmon1	581.0	9217.0	2007.0	13.0	15.0	1.0	0.0	Production Tree	Majau	171	16.0	Right	60.0	34.0
01/09/2004	01/09/2004	tftmon01	tftmon1	604.0	9663.0	2007.0	13.0	5.0	3.0	0.0	Production Tree	Yellow Balau	171	16.0	Right	60.0	48.0

© 2007 Helveta Ltd
www.helveta.com

benefits summary

- wood origin verification, complete visibility of supply chain impossible with paper based systems.
- configurable reporting and traceability for timber supply chains
- increased recovery in factory and forest
- access to premium markets
- regulatory supervision and control
- traceability from forest to consumer
- efficient resource mapping, planning, and management

© 2007 Helveta Ltd
www.helveta.com

Muchas Gracias