# Tracing timber logs from the forest to the sawmill: a specific French case ?

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# Agenda

1. **Context & problematic**

2. **How tracability has been implemented with beech logs [Lefebvre sawmill]**

3. **Benefits & further expectations**

# The ONF (Office National des Forêts)

- All public forests in France (State and communities)
- Forest management (4,6 + 6,4 million hectares overseas: French Guiana)
- Forest products sales – wood: 14 Millions $m^3$ including 6,5 $Mm^3$ of timber for sawmills

→ ONF is the n°1 wood-supplier in France:

35% of the spruce-fir timber
80% of the beech timber

# ONF selling timber

- Different delivery modes:
  - Trees on stump
  - Logs delivered at road side
  - Logs delivered at the mill gate

- 2 alternatives for fixing the price and to process the billing:
  - Global price for the whole lot (only for delivery on stump or at road side)
  - Specific price for each product unit → need of measuring the exact volume in $m^3$ or tons / species x timber quality grade A B C D x diameter class

# Measuring timber (for billing)

**Traditionnal method:** Done at roadside, contradictory between the seller and the buyer, with tape and calipers (length & mid diameter measures for each grade)

→ **Evolution:** More and more frequently done at the mill by 3D scanners (regularly checked and certified by a third party) and operators

**? How to ensure data are reliable, when transportation or/and storage have been operated between the delivery and the measuring+grading operations?**

Example:

- 300 logs delivered to the customer at roadside.
  Estimated volume : 300 m3 Estimated value : 30 000 €
- What if ? … the feedback from the sawmill 2 months later (or up to 6 in case of pre-sawing storage at the mill log yard) reports 290 logs only for 300 m3, or 305 logs for 250 m3 only ???

→ **Controlling forest/mill data and error detection = a time and energy consuming process**

# Tracability of beech logs (Lefebvre froup) [1/3]

1. **In the forest: logs are tagged by a bar code ID and the IDs are entered in the mill ERP**
2. **When arriving at the saw mill, logs are either directly unloaded on the deck for measuring+scaling, or are directed to a short time storage.**
3. **In any case, ID is read and checked into the ERP system (stock management)**


# Tracability of beech logs (Lefebvre froup) [2/3]

**The log is scanned (total+commercial length & crossed diameters)**

**The operator reads the bar code…**


**…and processes to the log grading + set cross cutting instruction**

**Data related to the log are recorded in the ERP mill and are accessible to ONF through a webplatform**

# Tracability of beech logs (Lefebvre froup) [3/3]

Office National des Forêts

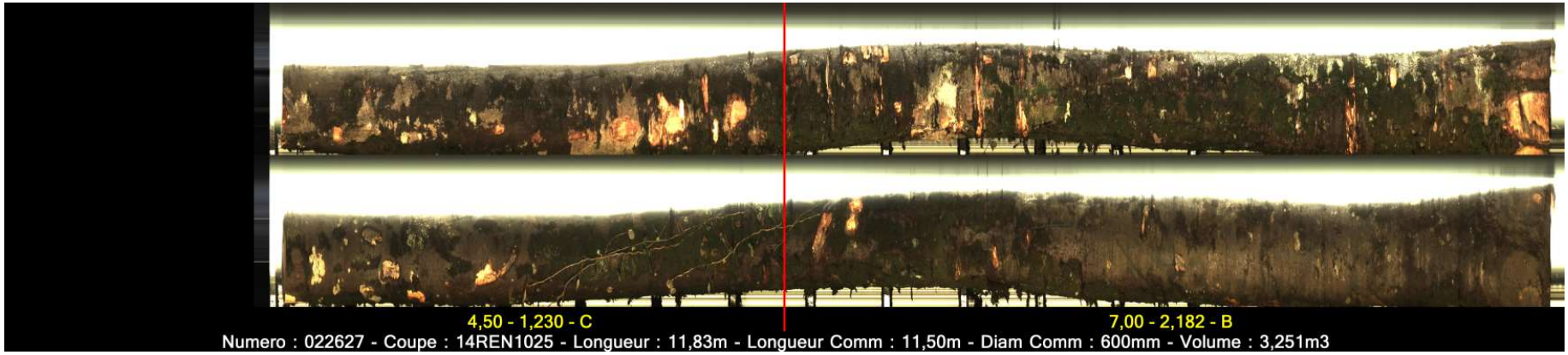
**Cross cutting**


**« mitraille » detection & treatment**

**Storage in box per quality type and lentgh**

**Entering the sawing process**

# Benefit 1: reliable data available in real time with total transparency (& less effort in the field/at the office)



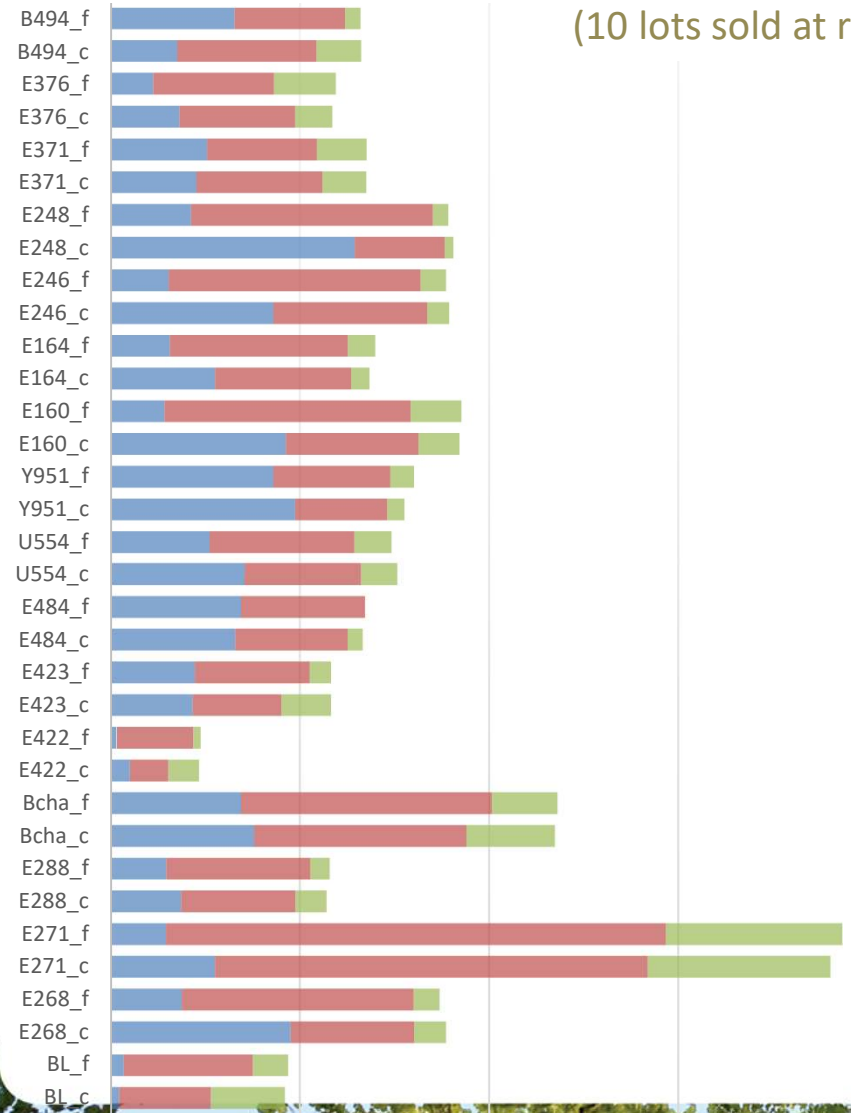

Total volume (indicative)

| Dte Cubage | Log nb N°Grume | Diam Milieu | Long Reelle | Diam Comm | Long Comm | Volume Comm | Qualite | Photo | Coupe | Log section nb N°Billon |
|---|---|---|---|---|---|---|---|---|---|---|
| 13/02/2014 11:29 | 22627 | 60,75 | 11,83 | 60 | 11,5 | 3,251 | | Oui | 14REN1025 | |
| 13/02/2014 11:29 | 22627 | 64,95 | 7 | 63 | 7 | 2,182 | B | Oui | 14REN1025 | 022627-1 |
| 13/02/2014 11:29 | 22627 | 59,5 | 4,83 | 59 | 4,5 | 1,23 | C | Oui | 14REN1025 | 022627-2 |

Commercial volume grade B + C (for billing): 3,412 $m^3$

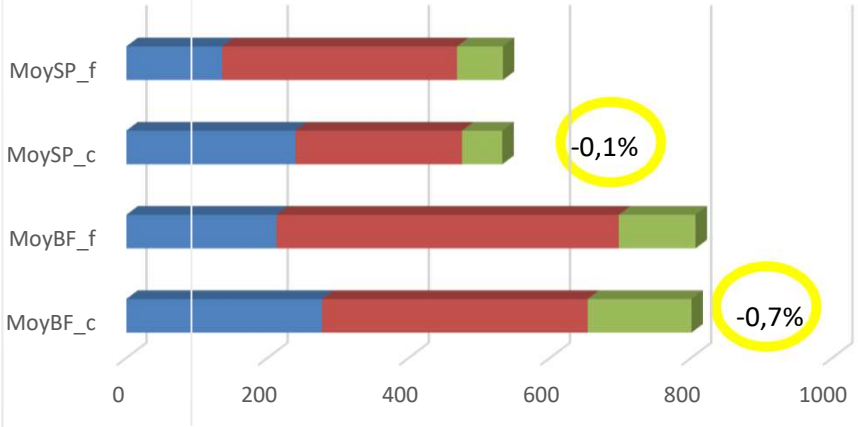
# Benefit 2: easy control between Forest/mill data

(based on samples of a minimum of 30 logs/lot)



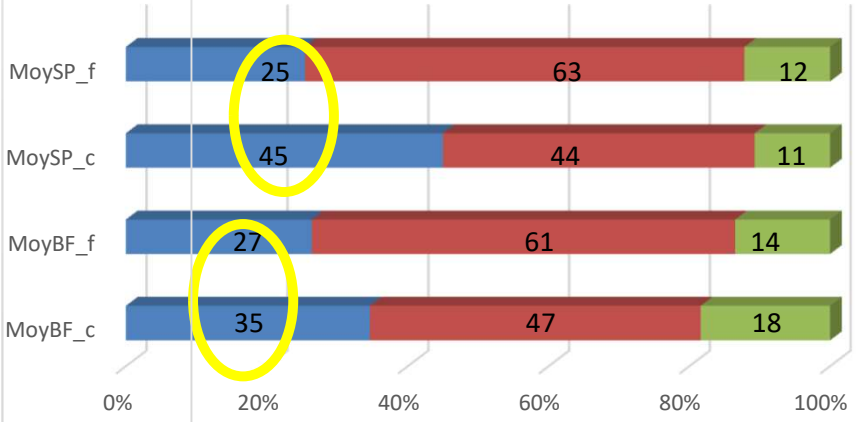

## Reliable volume data

(10 lots sold at roadside ; 7 lots sod on stump)




## A more favourable sorting at the mill

(% B C D quality)



# Benefit 3: forest work quality monitoring = overlength control

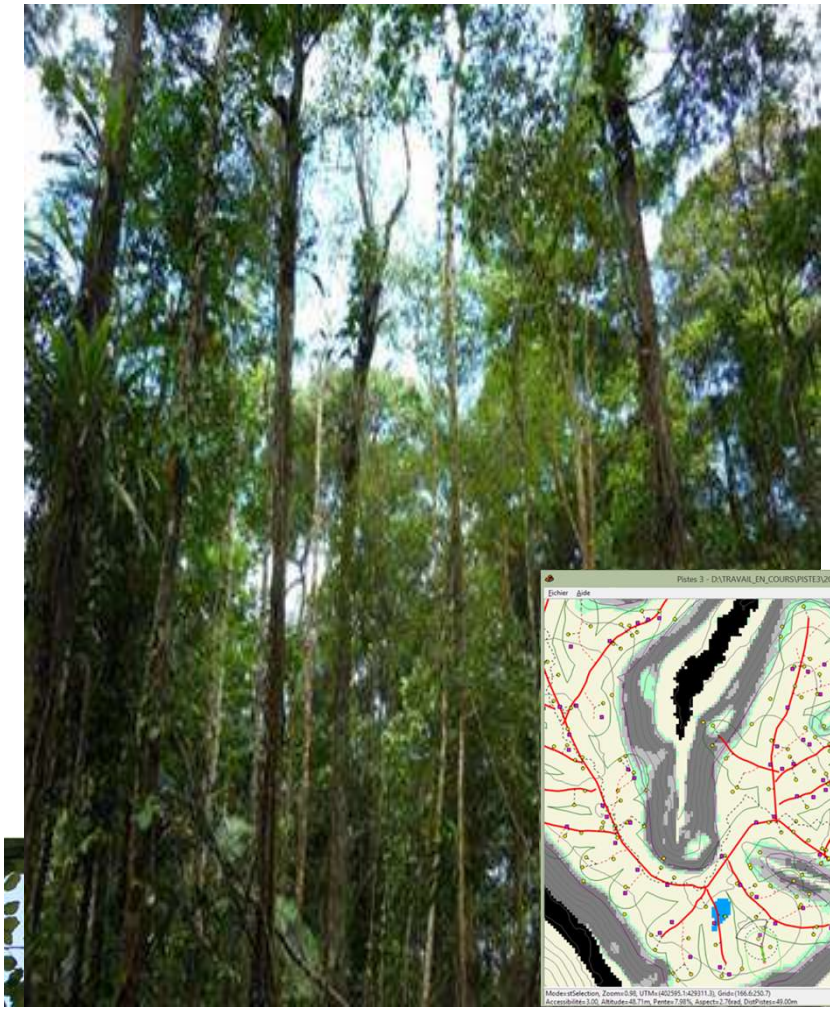
| Average (cm) for the 10 lots sold at roadside |
|---|
| 0,357 |
| 0,397 |
| 0,365 |
| 0,378 |
| 0,413 |
| 0,387 |
| 0,369 |
| 0,333 |
| 0,371 |
| 0,320 |
| 0,369 |

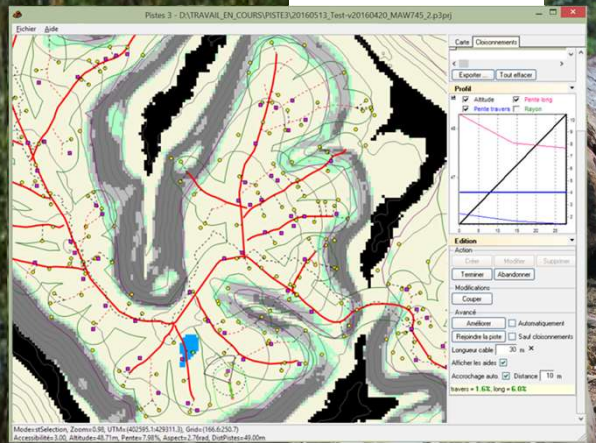
| Average (cm) for the 7 lots sold on stump |
|---|
| 0,388 |
| 0,354 |
| 0,362 |
| 0,386 |
| 0,403 |
| 0,388 |
| 0,345 |
| 0,375 |

→ **Awareness of the chainsaw operators and th e ONFcrews on the field /fiber and value loss**

# Further expectations [1/2]

ID on the standing tree (+ GPS coordinates) and a follow up from this stage to the mill scaling (ex: Grench Guiana, Alp mountains)



# Further expectations [2/2]

- Alternative technologies to bar codes, for a higher speed reading at the sawmill (e.g. softwoods)

- Evolution from specific B2B IT systems towards standardized data transfer protocol (emobois or papinet standards) and a web platform, for all the stakeholders (forest owners, loggers, haulage companies, mills)

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# Questions ? Solutions ?

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