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

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FEC 2018, Rotorua, NZ
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 m³ including 6.5 Mm³ 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 m³ 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 presawing 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**
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 group) [2/3]

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

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

The operator reads the bar code...

...and processes to the log grading + set cross cutting instruction
Cross cutting

Entering the sawing process

« mitraille » detection & treatment

Storage in box per quality type and length

Tracability of beech logs (Lefebvre group) [3/3]
**Benefit 1:** reliable data available in real time with total transparency (& less effort in the field/at the office)

### Total volume (indicative)

<table>
<thead>
<tr>
<th>Dte Cubage</th>
<th>Log nb</th>
<th>N°Grume</th>
<th>Diam Milieu</th>
<th>Long Reelle</th>
<th>Diam Comm</th>
<th>Long Comm</th>
<th>Volume Comm</th>
<th>Qualite</th>
<th>Photo</th>
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</table>

Commercial volume grade B + C (for billing): 3,412 m³
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

<table>
<thead>
<tr>
<th>Average (cm) for the 10 lots sold at roadside</th>
<th>Average (cm) for the 7 lots sold on stump</th>
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<tbody>
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<td>0,397</td>
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<td>0,320</td>
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</tr>
<tr>
<td>0,369</td>
<td>0,375</td>
</tr>
</tbody>
</table>

→ Awareness of the chainsaw operators and the ONF crews 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?