

# AUTOMATIC LOG SCALING AND LOG PROCESSING TECHNOLOGY



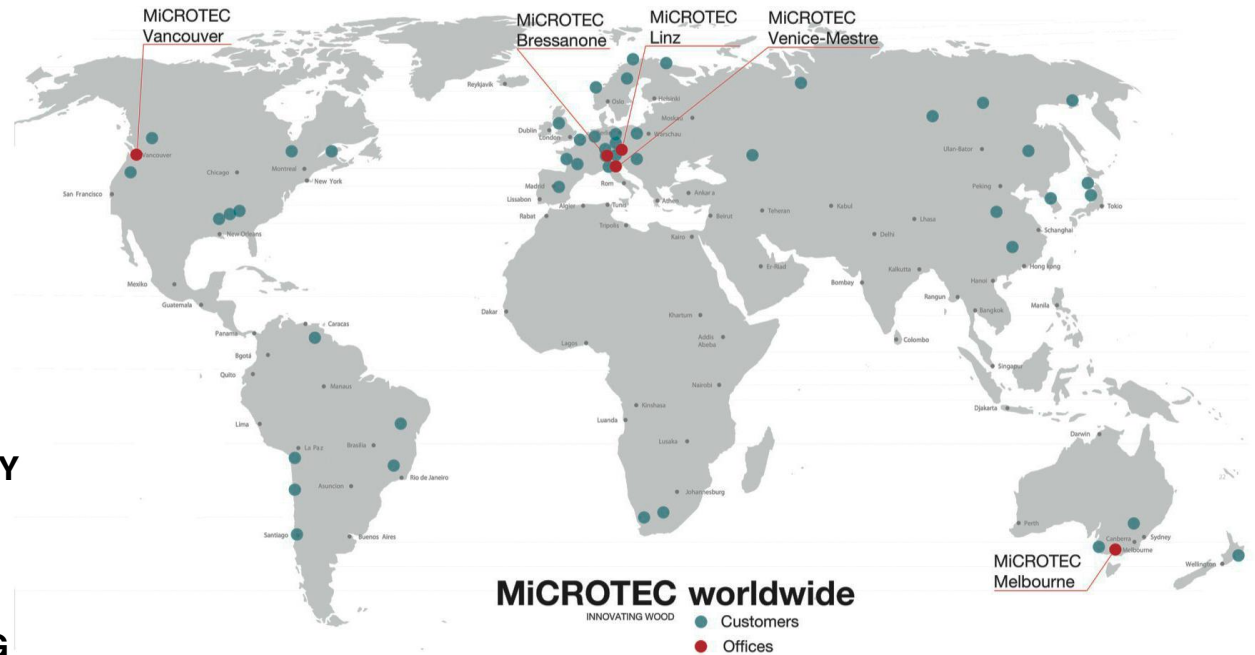
**LOGEYE**

## **CONTENT:**

- 1. COMPANY OVERVIEW**
- 2. CURRENT STATUS OF AUTOMATIC SCALING IN CANADA**
- 3. BENEFITS OF AUTOMATIC SCALING**
- 4. SCANNERS**
- 5. CONCEPT: STANDALONE SCALING STATION**

# SPRINGER-MICROTEC COMPANY OVERVIEW

- **FAMILY ENTERPRISE**
- **FOUNDED IN 1952**
- **MORE THAN 450 EMPLOYEES**
- **BIG FOCUS ON INNOVATION (15% OF TURNOVER IN R&D)**
- **SUPPLIER OF ALL COMPONENTS IN SAWMILLS, PLANERMILLS, SECONDARY MANUFACTURING**
- **ONE OF THE LARGEST WORLDWIDE SUPPLIERS OF TURNKEY LOG SORTING YARDS**



5 OFFICES WORLDWIDE  
 OVER 1500 ACTIVE CUSTOMERS  
 OVER 80 R&D PARTNERS

## SCALING IN CANADA

- **FEDERAL GOVERNMENT:** MEASUREMENT CANADA IS ACCEPTING APPLICATIONS FROM MANUFACTURERS TO TEST AND APPROVE 3D LOG SCANNERS FOR MEASUREMENT FOR TRADE
- **PROVINCIAL (BC):** THE MINISTRY IS ACCEPTING APPLICATIONS FROM LICENSEES TO OPERATE A LOG SCANNER FOR SCALING AS A PILOT PROJECT.
- **SPRINGER-MICROTEC:** IT IS OUR GOAL AS A COMPANY TO LEVERAGE OUR EXPERIENCE IN AUTOMATIC SCALING AND LOG PROCESSING TO HAVE OUR SCANNER APPROVED AND IN USE IN CANADA AS SOON AS POSSIBLE

## BENEFITS/PAYBACK OF SCANNER BASED LOG SCALING

- **INCREASED ACCURACY (VOLUME, SPECIES, GRADE)**
- **TRACEABILITY / AUDITABILITY (BETTER PROCESS CONTROL)**
- **IMPROVED WORKING CONDITIONS FOR SCALERS**
- **MORE EFFICIENT USE OF SCALERS**
- **REDUCTION IN MACHINERY (LOADER OPERATION)**

THE HEART OF THE LOG SCALING SYSTEM:

# SCANNING

***LOGEYE***

SEMI-AUTOMATIC

OR

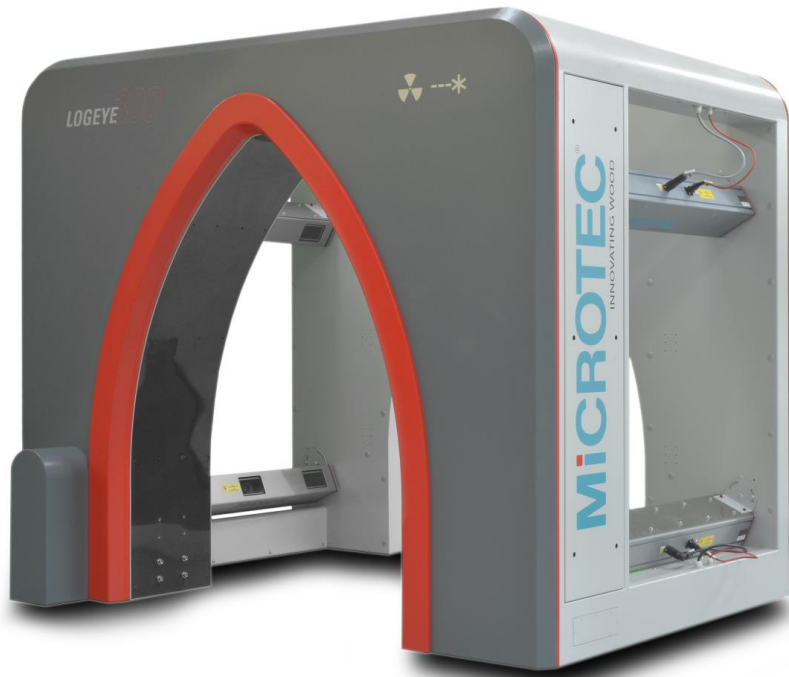
***CT.LOG***

FULLY AUTOMATIC

# LOGEYE

MICROTEC®

SPRINGER®



## MULTI-SENSOR QUALITY SCANNER FOR THE LOG & MERCHANDIZING YARD

### FEATURES:

- MULTI-SENSOR 3D SCANNING FOR TRUE SHAPE, DENSITY, COLOR AND QUALITY ANALYSIS
- AUTOMATIC SCALING & OPERATION CONTROL FOR THE LOG YARD
- FIRST STRENGTH GRADING SOLUTION FOR LOGS
- HIGH SPEED X-RAY SCANNING

# LOGEYE

- **3D: DiSHAPE**
- Colour: SCREENLOG
- Strength: ViSCAN
- X-ray: TOMOLOG

## DiSHAPE

AUTOMATIC VOLUME MEASUREMENT

- 4 HEADS
- DUAL TRIANGULATION
- SYNCHRONIZED SCANNING





# LOGEYE

- 3D: DiSHAPE
- Colour: **SCREENLOG**
- Strength: ViSCAN
- X-ray: TOMOLOG

## SCREENLOG

CALIBRATED COLOUR MEASUREMENT SYSTEM FOR MANUAL SCALING

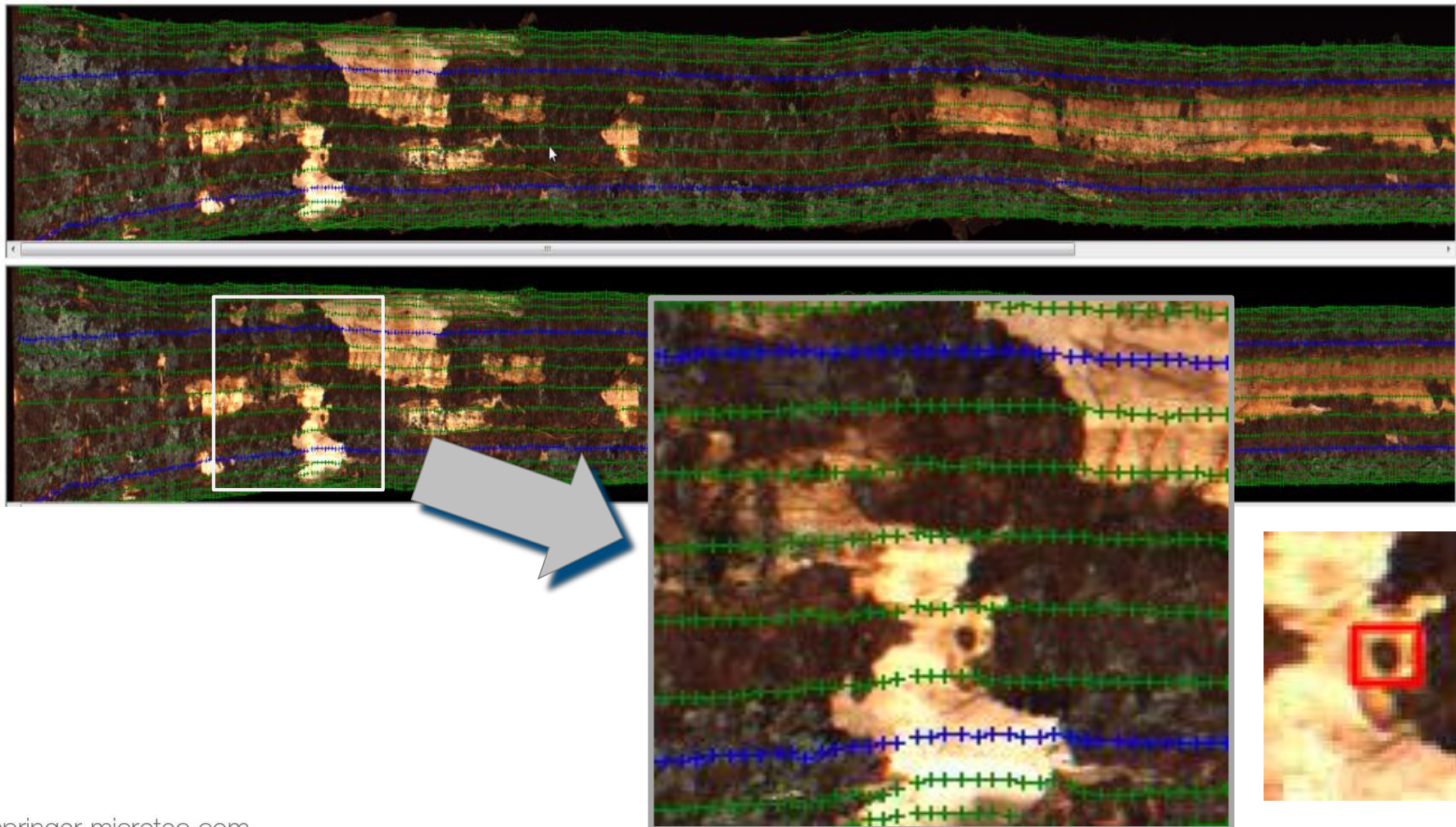
- AUDITABLE AND TRACEABLE
- ALL MEASUREMENTS AND IMAGES RECORDED IN DATABASE
- AUTOMATIC BARK DETECTION



# SCREENLOG

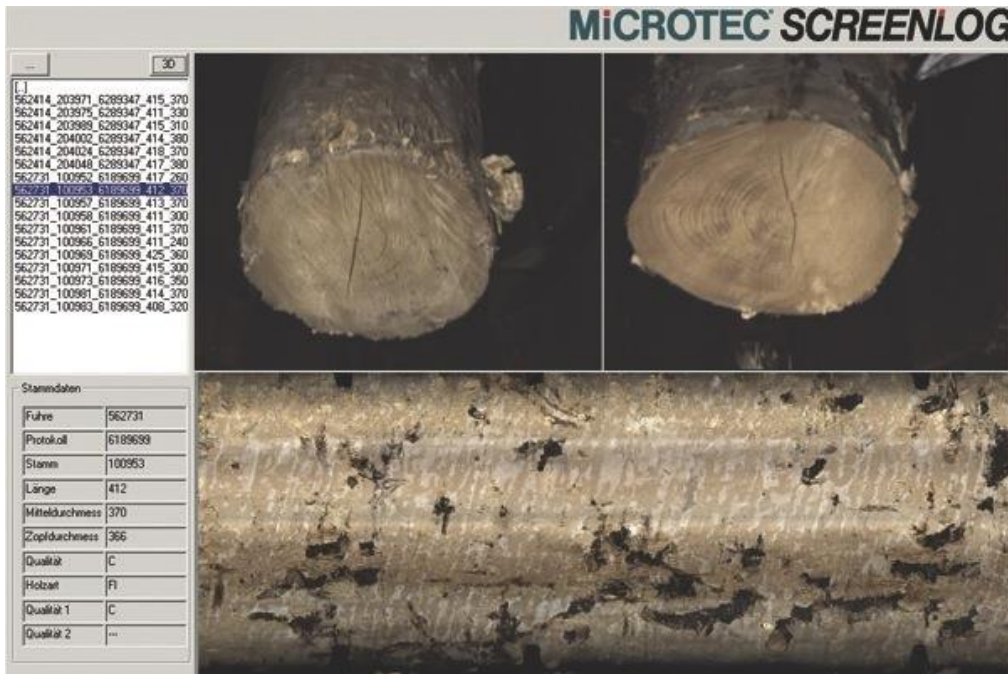
CALIBRATED COLOUR MEASUREMENT SYSTEM FOR  
MANUAL SCALING

AUDITABLE, TRACEABLE SCALING



# SCREENLOG

AUDITABLE, TRACEABLE SCALING

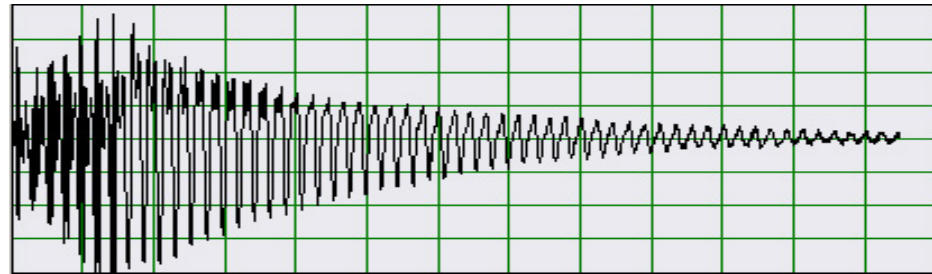


# LOGEYE

- 3D: DiSHAPE
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# ViSCAN

ANALYSIS OF VIBRATION INDUCED BY ACOUSTIC WAVES  
- MOE (MODULUS OF ELASTICITY) MEASUREMENT



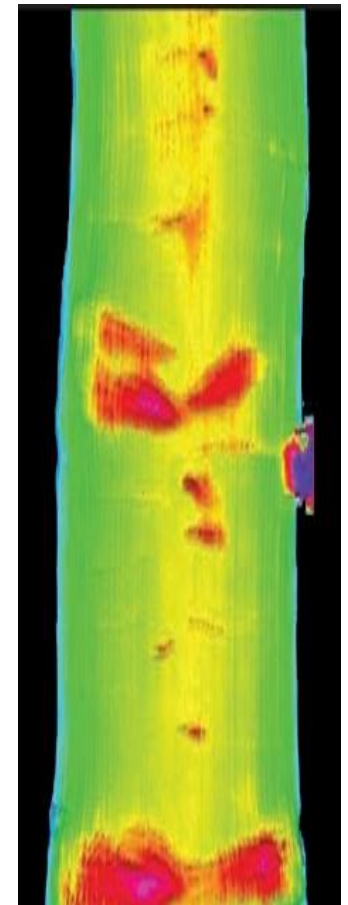
# LOGEYE

- 3D: DiSHAPE
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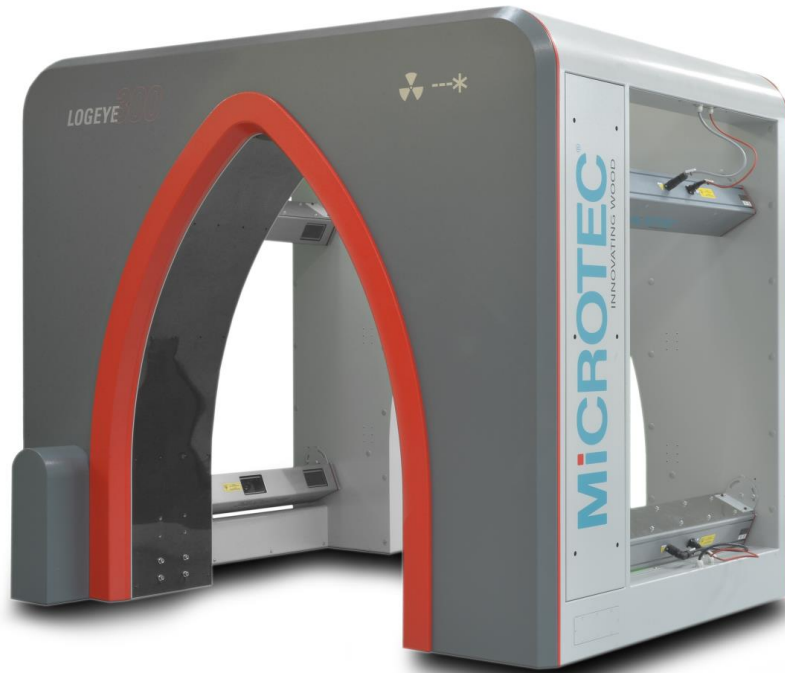
# TOMOLOG

HIGH SPEED X-RAY

- MOISTURE CONTENT
- HEAVY ROT / VOIDS
- KNOT CLUSTER SIZE
- UNDER BARK SHAPE



# LOGEYE



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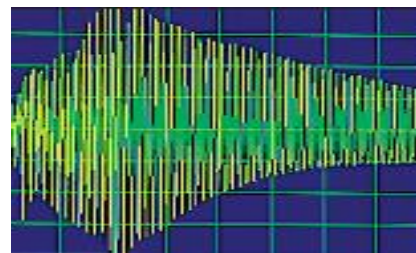
## DiSHAPE



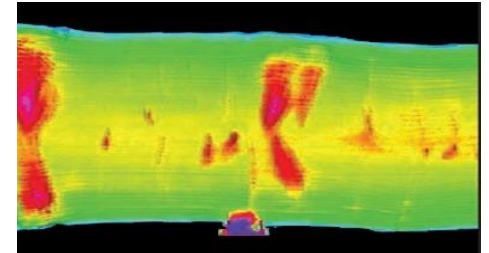
## SCREENLOG



## ViSCAN



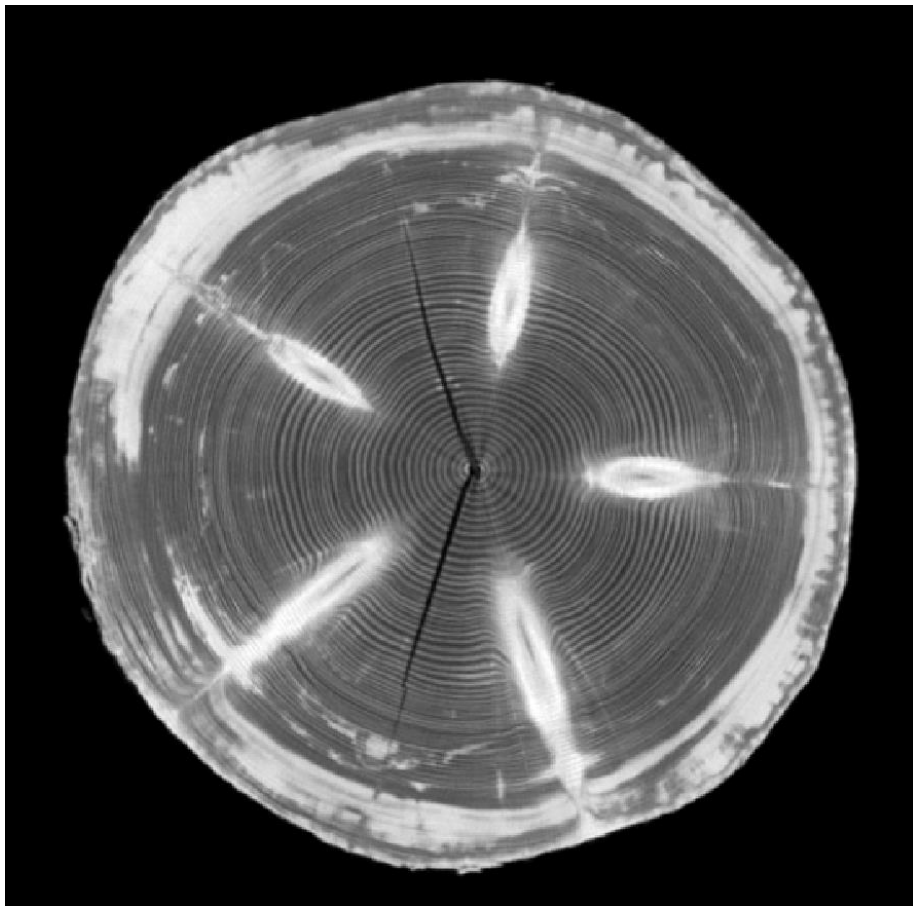
## TOMOLOG



**Fully automatic scaling:**

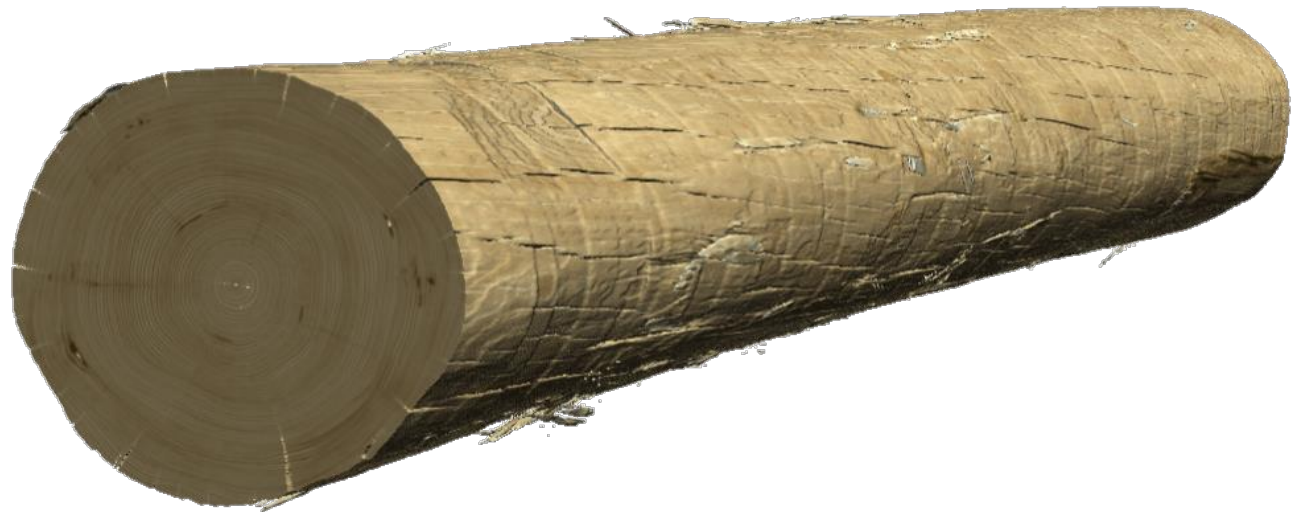
High-performance Computer Tomography

**CT.LOG**



## CT.Log Defects

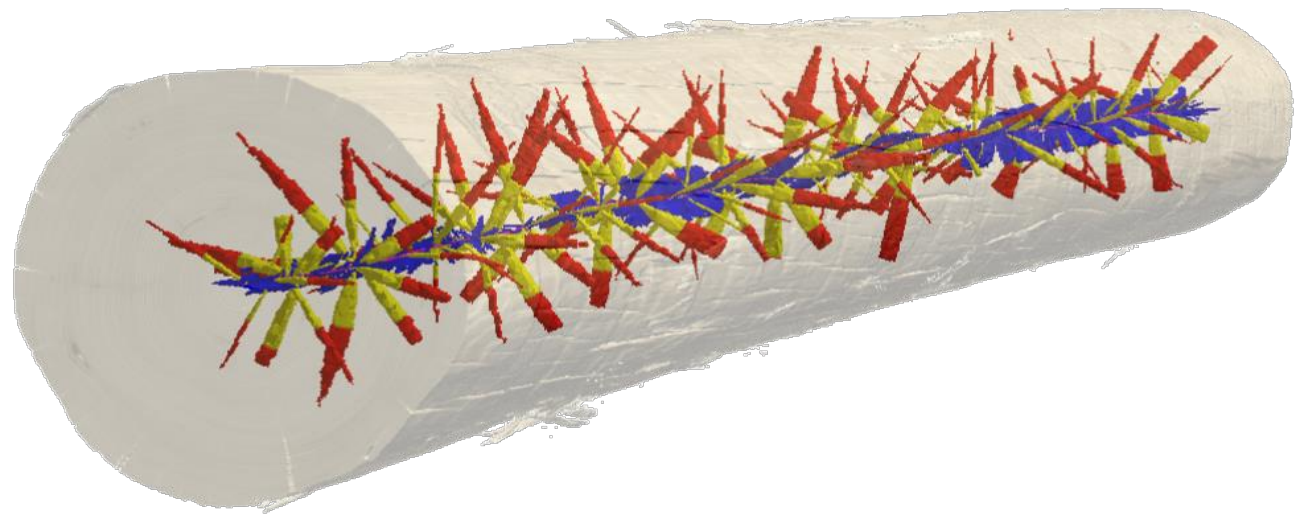
- Pith
- Sound Knots
- Dead Knots
- Splits
- Resin Pockets
- Specie recognition
- Metals / Stone /Ceramics
- Heavy rot
- Slope of grain
- Heartwood
- Under bark shape
- Green density
- Annual ring spacing
- Compression wood
- Bark enclosures





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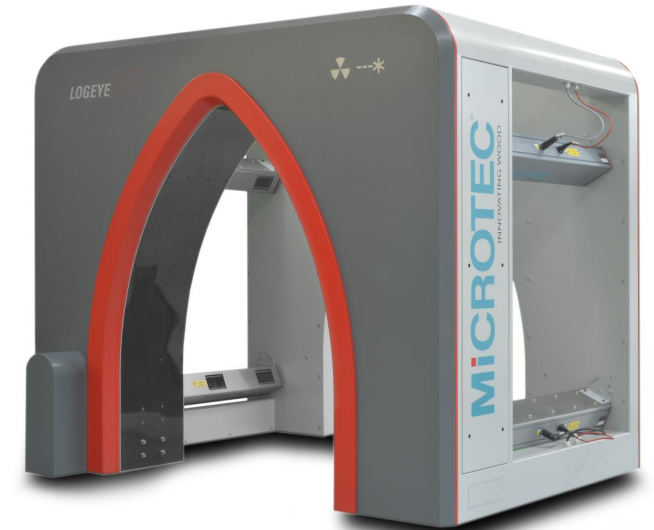


**WHERE TO PUT THE SCANNER:**

**INLINE IN SAWMILL?**

**STANDALONE SCALING STATION?**

**CAN A STANDALONE SCALING STATION  
OFFER MORE THAN JUST SCALING?  
(I.E. MERCHANDISING/SORTING)**



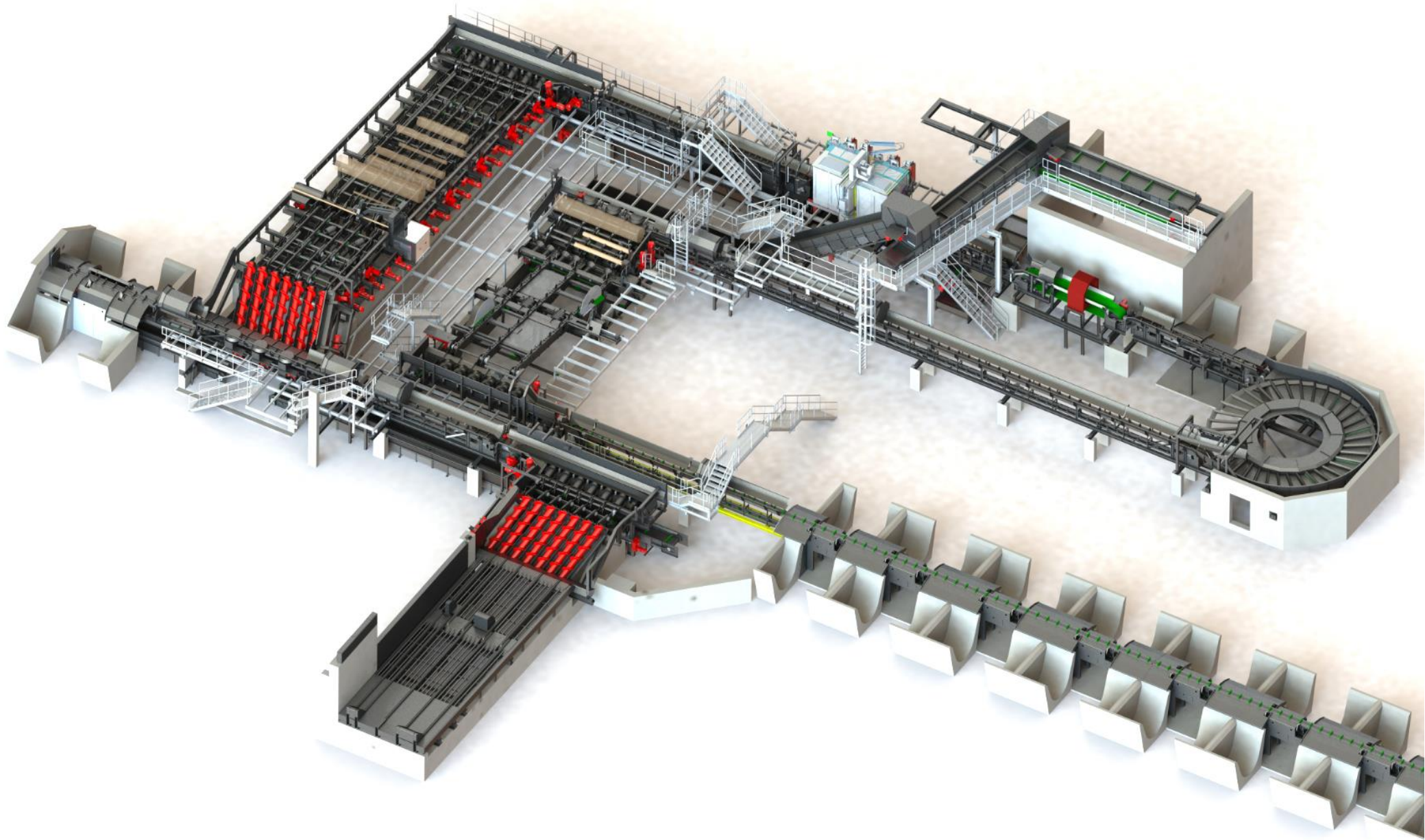
**LOGEYE**

**STANDALONE LOG SCALING SYSTEM:**

# **LOG PROCESSING**

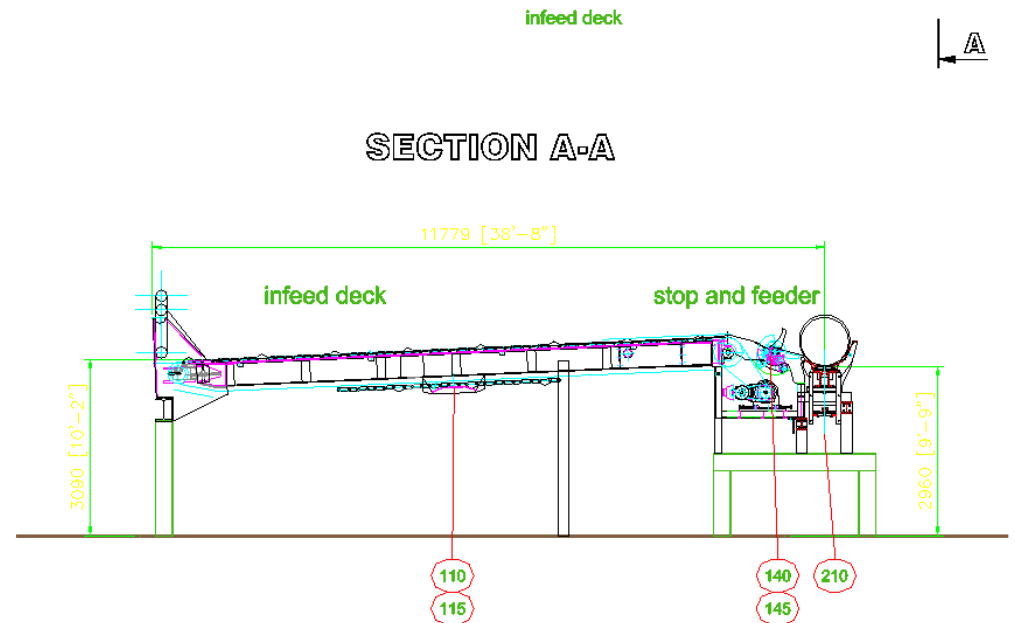
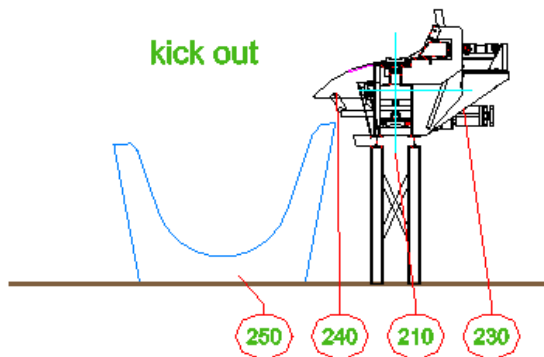
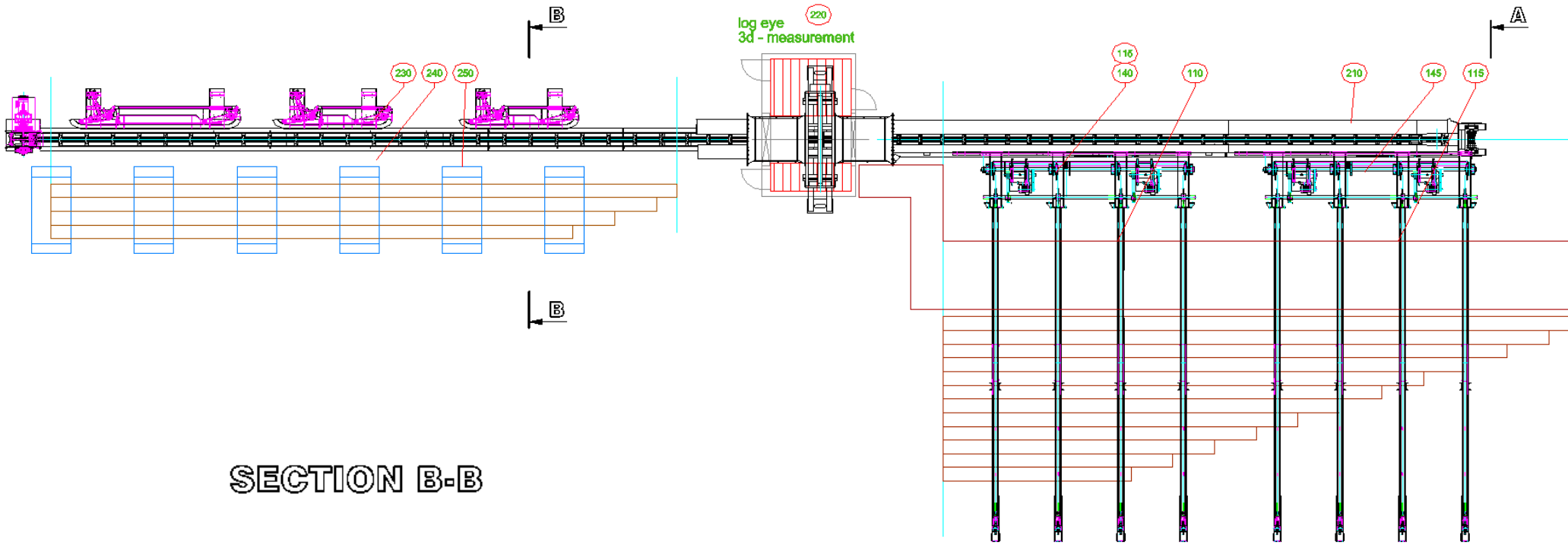
# LOG PROCESSING

SAMPLE



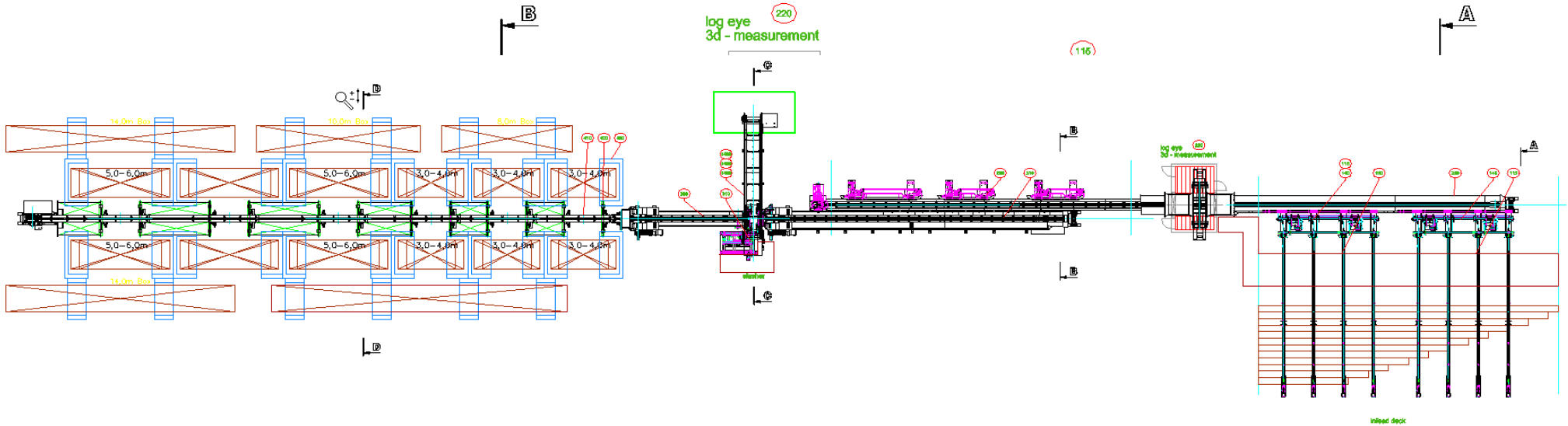
# STANDALONE SCALING / LOG PROCESSING STATION

## VERSION A: BASIC

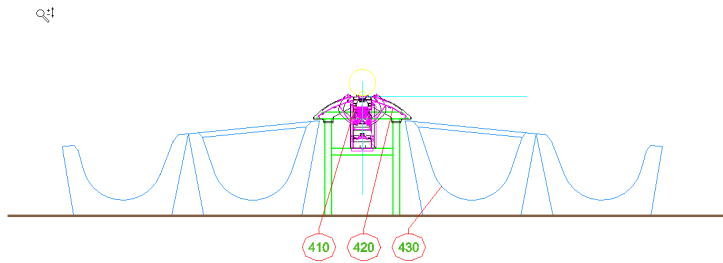


# STANDALONE SCALING / LOG PROCESSING STATION

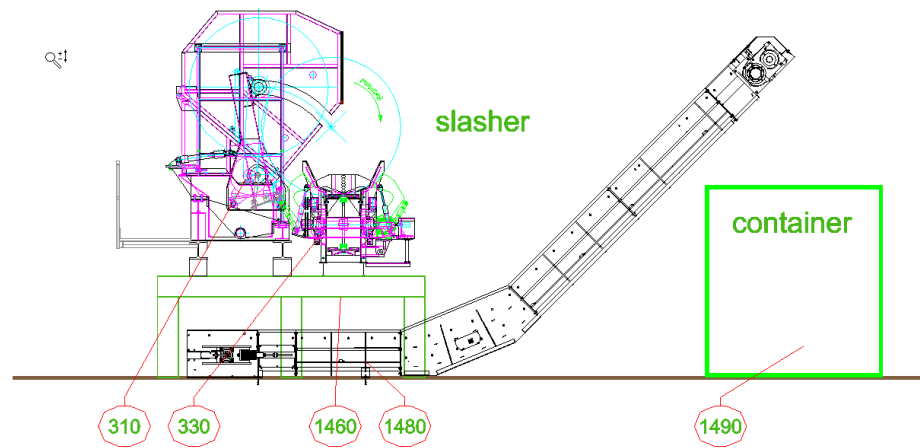
## VERSION B: OPTIMIZING, BUCKING & SORTING



SECTION D-D



SECTION C-C

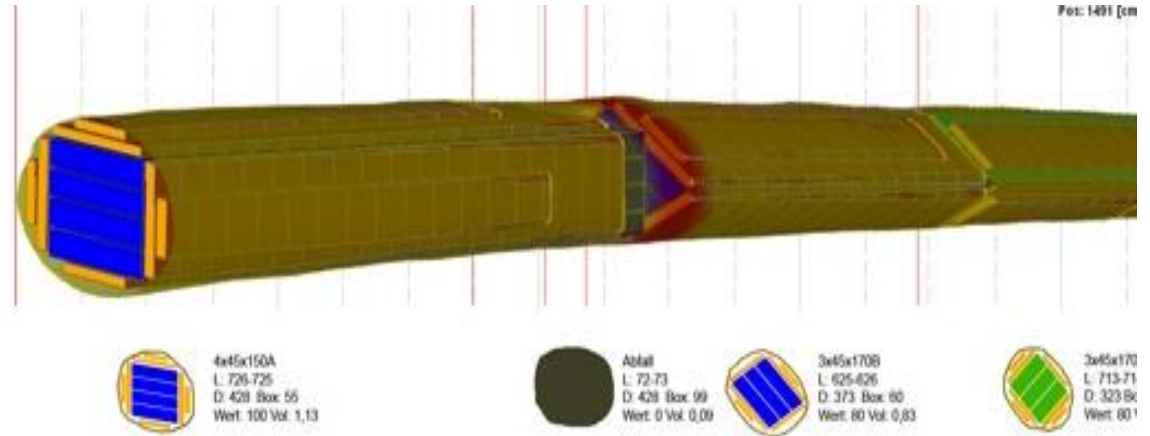




# MAXICUT

## OPTIMIZATION

- BUCKING
- SORTING
- PRIMARY & SECONDARY BREAKDOWN
- CURVE & STRAIGHT SAWING



Microtec: Optimierung

Stammdaten

Länge [mm]	5040
Zopf [mm]	246
Mitte [mm]	260
Stock [mm]	282
Qualität	0
MOE [N/mm <sup>2</sup> ]	0
Abholzigkeit [mm/m]	5
Krümmung [mm/m]	2
Volumen [m <sup>3</sup> ]	0,239
Rinde [m <sup>3</sup> ]	0,0244

Optimierung

Schnittbild	45x130x3
Ausbeute [%]	75,4
Schnittholzvolumen [m <sup>3</sup> ]	0,180
HW/SW [m <sup>3</sup> ]	0,088 0,093
Wert	18,04
Sägemehl [m <sup>3</sup> ]	0,0474
Hackgut [m <sup>3</sup> ]	0,0540
Zeit [s]	0,00
Eindrehwinkel [°]	0,0
Optimierzeit [ms]	662

Schicht: Aktiv  
Schichtführer: Müller  
Springer: Müller  
Beginn: 15:16  
Ende: 22:09  
Produktionszeit [h]: 0,00  
Stillstandszeit [h]: 0,06  
Stämme: 80  
Festmeter: 21,457  
Laufmeter: 403,100

Produktionsdaten

HW: 130x45	SW: 16 25
	18 38
	23

Ausbeute SW [%]: 24,04  
Ausbeute HW [%]: 42,37  
Ausbeute ges. [%]: 66,41

MICROTEC MAXICUT

18/04/2007 11:27:48

Produktion

HW:	213 x 46 39 9,222,5 x 46,0 39
SW VS:	17 23 38 17,0 22,6 39,5
SW NS:	17 23 17,0 22,6

Ohne HTK

Kommunikation DISHAPE ME1  
Kommunikation DISHAPE ME2  
Kommunikation DISHAPE ME4

Kommunikation SPS\_VS  
Kommunikation SPS\_NS  
Kommunikation SPS\_FS

Stamm vor ME2: 0  
Stamm vor ME3: 0  
Stamm vor ME4: 0  
Stamm in Quad VS: 0  
Stamm in Twin: 0

Stammenforderung

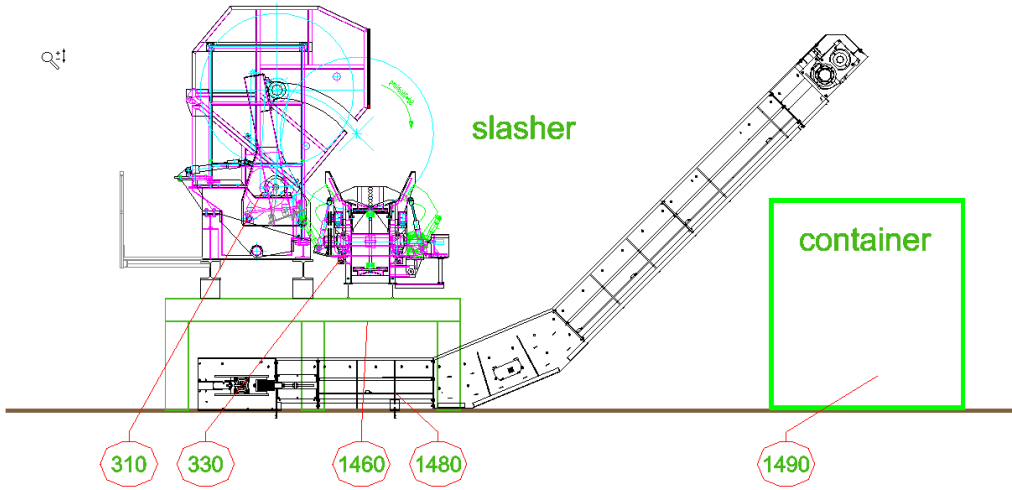
Länge [cm] 509  
Zopf [mm] 433 (382)  
Stock [mm] 486 (538)  
Abholzigkeit [mm/m] 15  
Krümmung [mm/m] 0,478 0,886  
Kubatur RH[m<sup>3</sup>] 0,5683  
Ausbeute(J1\_Nrpt) [%] 119,0  
SW Links [mm] 38 38 23  
SW Rechts [mm] 38 38 23  
Mödelbreite [mm] 213  
Wert [€] 155,97 6,12 34,27 196,36

3DF1 3DF2 SEND 76 72 3 F47 F48 78 F50 F51 141 F53 F54 F55 F56 F57 F58 F59 0

Typ	Nr	Beschreibung	Zeit	?	Ack	Prio
1						0
2						0
3						0
4						0

# BUCKING

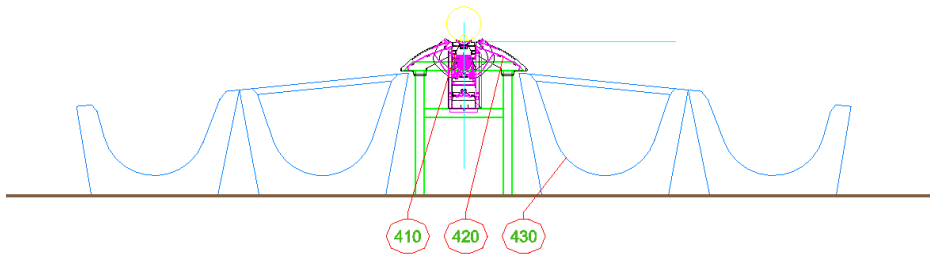
SECTION C-C



# SORTING

SECTION D-D

Q!



THANK YOU FOR YOUR ATTENTION!

NORVIN.LAUDON@SPRINGER-MICROTEC.COM

