AUTOMATIC LOG SCALING AND LOG PROCESSING TECHNOLOGY

Norvin Laudon, CTO Springer-Microtec
CONTENT:

1. OVERVIEW

2. CURRENT STATUS OF AUTOMATIC SCALING IN CANADA

3. LOGEYE SCANNER DETAIL

4. LOGEYE: RECENT INSTALLATIONS

5. WHERE TO PUT IT: EG. STANDALONE SCALING STATION

6. CT.Log
**Benefits/Payback of Scanner Based Log Scaling**

- **Increased Accuracy for Payment (Increased Sampling)**
- **Scaling Scanner Also Allows Optimized Bucking by Value or Order (Improved Log Product)**
- **Traceability / Auditability / Consistency (Better Process Control)**
- **Improved Working Conditions for Scalers**
- **Reduction in Manual Scaling**
- **Reduction in Machinery (Loader Operation) – No need to spread loads**
Over 200 Log Scaling Scanners installed worldwide
-Vice-Chairman

- Roundwood committee founded 1972
- Scanner sub-committee since 2005

- Each province represented by Ministry Head Scaler
- Industry partners (sawmills)
- Manufacturers
MICROTEC LOGEYE

FIRST (AND ONLY) LEGAL-FOR-TRADE GOVERNMENT CERTIFIED LOG SCANNER APPROVED IN NORTH AMERICA

APPROVED: NOVEMBER 2015
FIRST BOOM FOR PAYMENT: JAN. 2016
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, GOVERNMENT APPROVED
- 4 OR 6 HEADS, 8-12 CAMERAS
- DUAL TRIANGULATION
- SYNCHRONIZED SCANNING @ 600Hz
LOGEYE

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

SCREENLOG

CALIBRATED COLOUR MEASUREMENT SYSTEM FOR MANUAL SCALING OF SPECIES/GRADE

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

![Screenlog Image with measurements and data]

www.springer-microtec.com
innovative wood processing solutions
LOGEYE

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

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

www.springer-microtec.com
innovative wood processing solutions
LOGEYE

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

TOMOLOG
High Speed X-ray
- Moisture Content
- Heavy Rot / Voids
- Knot Cluster Size
- Under Bark Shape
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

DiSHAPE  SCREENLOG  ViSCAN  TOMOLOG
LOGEYE: RECENT INSTALLATIONS...
Logeye – Interfor Acorn
– certified fully automatic volume measurement
WHERE TO PUT THE SCANNER:

SAWMILL? INLINE IN SAWLINE OR BUCKING LINE?

STANDALONE SCALING STATION?

CAN A STANDALONE SCALING STATION OFFER MORE THAN JUST SCALING? (i.e. MERCHANDISING/SORTING)
STANDALONE
SCALING / LOG PROCESSING STATION

VERSION A: BASIC
STANDALONE

SCALING / LOG PROCESSING

STATION EXAMPLE

HIGH SPEED OPTIMIZING,

GRADING, BUCKING & SORTING

www.springer-microtec.com

innovative wood processing solutions
HIGH SPEED OPTIMIZING, GRADING, BUCKING & SORTING
SCALING & LOG PROCESSING

• Unscrambling & Feeding
• Scanning
• Optimization
• Bucking
• Turning
• Sorting
SCALING & LOG PROCESSING

• Unscrambling & Feeding
• Scanning / Scaling
• Optimization
• Bucking
• Turning
• Sorting
SCALING & LOG PROCESSING

• Unscrambling & Feeding
• Scanning
• Optimization
• Bucking
• Turning
• Sorting
SCALING & LOG PROCESSING

- Unscrambling & Feeding
- Scanning
- Optimization
- Bucking
- Turning
- Sorting
SCALING & LOG PROCESSING

• Unscrambling & Feeding
• Scanning
• Optimization
• Bucking
• Turning
• Sorting

LOG TURNING (ORIENTATION)
SCALING & LOG PROCESSING

- Unscrambling & Feeding
- Scanning
- Optimization
- Bucking
- Turning
- Sorting
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

www.springer-microtec.com
innovative wood processing solutions
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
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
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
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
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
Virtual sawing and grading, to optimize for graded board value rather than volume
Fully automatic scaling:
High-performance Computer Tomography **CT. LOG**
THANK YOU FOR YOUR ATTENTION

Norvin.laudon@springer-microtec.com