PROLOGIC+
Optimisation Automation
A flexible partner
for your success

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Founded in 1993 by Mr. Stéphane Morin, Prologic+ Inc. exclusively dedicated its first years to research and development of specialized products for the lumber industry. The company now has over twenty-five employees and is specialized in optimization and automation for the lumber industry. Our head office is located in Saint-Georges de Beauce 100 km southeast of Quebec City and 40 km northwest of the beautiful mixed forests of the state of Maine in the US.

Prologic+ has always focused its efforts on products of advanced technology and impeccable quality while keeping a philosophy of flawless service. Thanks to its success, Prologic+ has quickly become recognized and respected in the industry.

> “By working as team with you, we will assist you in attaining maximum quality, output and efficiency in all your wood transformation factories.”

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“Our satisfied customers became our best salesmen and the success of our company began.”

Knowing that every lumber factory is unique and that it is very important to listen to our customers’ needs, our objective is to offer products and services tailored to each of them. In fact, one of our strengths is our ability to find solutions to the challenges that our customers have.

Thanks to a team of highly qualified and dedicated engineers and technicians and the boldness of its two leaders, Mr. Stephane Morin and Mr. Maxime Turcotte, the company has earned an enviable reputation in the industry. Years dedicated to research and development, the quality of our products and the seriousness of our company has given us the ability to provide fast response to customers who require a high level of service. Our satisfied customers became our best salesmen and the success of our company began.

One of the biggest problems in today’s sawmills is the growing complexity of scanning and optimizing systems. Simplifying those systems is not always easy and can sometimes be achieved by compromising the performance. Prologic+ has been working hard for several years to develop software that is user-friendly, improves performance and that meets customer needs.

After many years building our own sensors that had excellent reliability and performance, company management decided to stop building sensors. Instead, we now integrate sensors from well-known companies specialized in optics, such as Hermary Opto Electronics and LMI Technologies, in order to focus on what’s important for us, **the wood transformation process and understanding our customers’ specific requests.**

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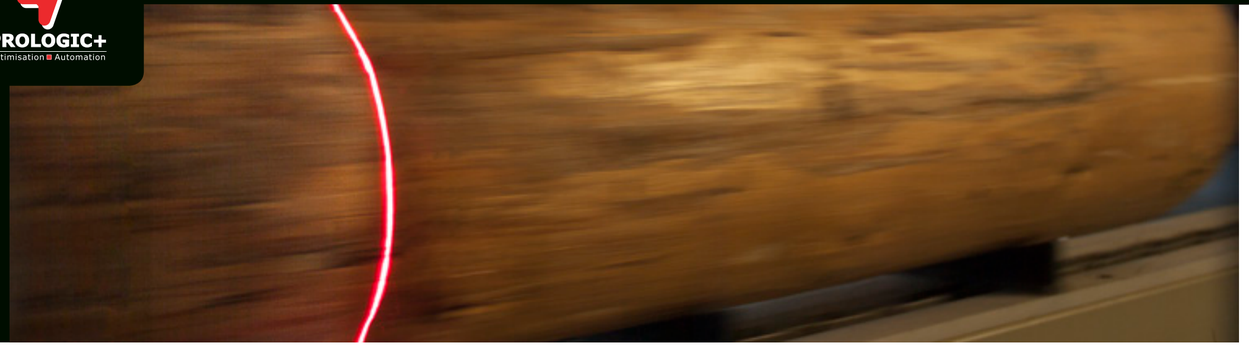

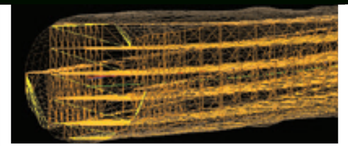

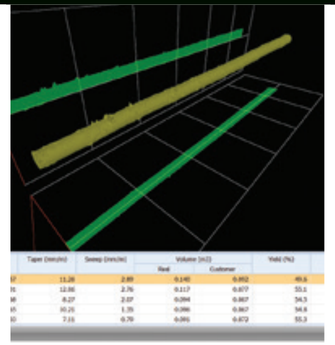

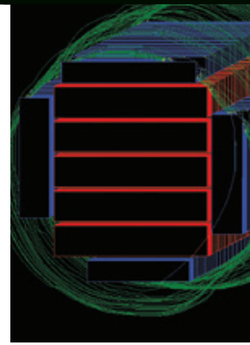

Prologic+ True Shape and 3D Scanners

1 ProLogSorter

with optimization

The **True Shape ProLogSorter** is used to maximize log fiber from the very beginning of the sawing process. Depending on the log diet and on the mechanical feeding conveyor, the ProLogSorter comes with 3 or 4 sensors. Each of them can be equipped with 2 cameras for a total of 6 to 8 cameras per scanner to read a "True Shape" profile for logs. Each sensor is factory calibrated, providing a fast and efficient way to change sensors when needed. No more laser and camera alignments. Fast, easy and user-friendly calibration.

This innovative product scans logs then sends the logs shape to the optimization software OptiSim® with advanced algorithms which calculates saw patterns into multiple true shape profiles for proper bin destination.

APPLICATIONS

- Log Yard Sorting Scanner
- Log Scaling (with international certifications)
- Bucking systems

TYPE

- Linear
    - True Shape

SPECIFICATIONS*

Diameter accuracy: ± 1.3 mm (± 0.051")
Length accuracy at 200 m/min (~ 650'/min): ± 1 cm (± 0.394")
True Shape optimization: 4 or 8 cameras
Profile resolution: 3 mm (0.118")
Reading frequency: 250, 500, 1000 Hertz
Scanning interval at 200 m/min (~ 650'/min): 2.54 cm (1")
Field of view: 600 mm (~ 24")
Operating temperature (without heating device): 0 °C to 50 °C (32 °F to 122 °F)

CHARACTERISTICS

- Possibility of accepting inputs to change the log destination:
    - From other scanning systems, e.g. X-ray scanners
    - From operator's console, grades, species can be inputted
- Analysing tools to validate solutions
- Online and offline simulator
- Possibility of scanning over bark for automatic thickness measurement of unbarked log
- Possibility of adding bark and ice correction factors to change bin destination and adjust or correct the log volume and diameter
- Pattern sorting, no lookup tables; the optimizer mathematically tries all the breakdown patterns on a geometrical representation of logs
- Every log characteristic and every optimizer parameter are analysed during the mathematical computation when trying to fit all the sawing patterns:
    - Diameters
    - Taper
    - Sweep
    - Crook (local sweep)
    - Ovality
    - Wane rules
    - Product prices
    - Optimal volume
- Volume calculations:
    - Real log volume
    - Customer volume

*Specifications may vary according to sensor model.

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Prologic+ True Shape and 3D Scanners

2 ProLogSorter

without optimization

The **3D ProLogSorter** is used to maximize log fiber from the very beginning of the sawing process. Depending on the log diet and on the mechanical feeding conveyor, the ProLogSorter comes with 3 or 4 sensors. Each of them can be equipped with 2 cameras for a total of 6 to 8 cameras per scanner to read a “3D” (Elliptical) profile for logs. Each sensor is factory calibrated, providing a fast and efficient way to change sensors when needed. No more laser and camera alignments. Fast, easy and user-friendly calibrations.

This innovative product scans logs then sends the selected log diameter to a lookup table for proper bin destination.

APPLICATIONS

- Log Yard Sorting Scanner
- Log Scaling (with international certifications)
- Bucking systems

TYPE

- Linear
    - 3D (Elliptical)

SPECIFICATIONS*

Diameter accuracy: ± 1.3 mm (± 0.051”)
Length accuracy at 200 m/min (~ 650’/min): ± 1 cm (± 0.394”)
Profile resolution: 3 mm (0.118”)
Reading frequency: 250, 500, 1000 Hertz
Scanning interval at 200 m/min (~ 650’/min): 2.54 cm (1”)
Field of view: 600 mm (~ 24”)
Operating temperature (without heating device):
0 °C to 50 °C (32 °F to 122 °F)

DEFECTS DETECTED

- Bumpiness
- Nodal swelling
- Butt flare detection, log source detection, butt log, center log or top log

CHARACTERISTICS

- Possibility of accepting inputs to change the log destination:
    - From other scanning systems, e.g. X-ray scanners
    - From operator’s grading console
- Possibility of scanning over bark for automatic thickness measurement of unbarked log
- Possibility of adding bark and ice correction factors to change bin destination and adjust or correct the log volume and diameter
- Selected diameter sorting associated with lookup tables
- System can sort according to multiple criteria such as:
    - Selected diameter
        - SED, LED or center diameter
        - Possibility of customizing the selected diameter
    - Length
    - Taper
    - Ovality
    - Local and global sweeps
    - Species
    - Inputs (grades or species) from operator’s console
- User can also set thresholds to generate alarms according to some specific log criteria to eject or reject logs
- Volume calculations:
    - Real log volume
    - Customer volume

*Specifications may vary according to sensor model.

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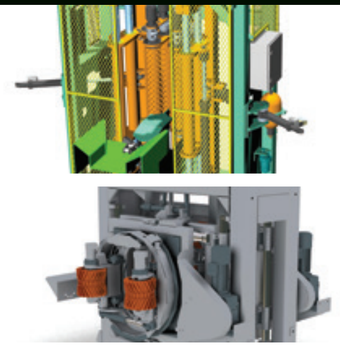

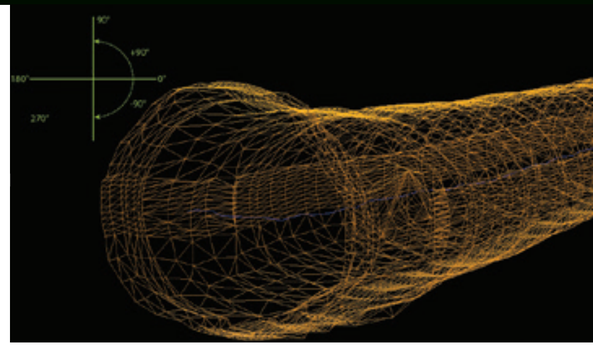

Prologic+ True Shape and 3D Scanners

3 ProLogTurner

Primary Scanners

The **ProLogTurner** is a linear scanner, equipped with 3 to 4 sensors. Each sensor can be equipped with 2 cameras for a total of up to 8 cameras per scanner to read a "3D" profile for logs. Each sensor's components are factory calibrated, providing a fast and efficient way to change sensors when needed. No more laser and camera alignments. Fast, easy and user-friendly calibration.

With advanced algorithms, the logs are turned to the optimal position before being processed.

APPLICATIONS

- Log Turner (SIS type rotors, HewSaw's Log-In 1R, 2R)

TYPE

- Linear
  - 3D (Elliptical)

SPECIFICATIONS*

Diameter accuracy: ± 1.3 mm (± 0.051")
Length accuracy at 200 m/min (~ 650'/min): ± 1 cm (± 0.394")
Profile resolution: 3 mm (0.118")
Reading frequency: 250, 500, 1000 Hertz
Scanning interval at 200 m/min (~ 650'/min): 2.54 cm (1")
Field of view: 600 mm (~ 24")
Operating temperature (without heating device): 0 °C to 50 °C (32 °F to 122 °F)

CHARACTERISTICS

- Possibility of RCS adding-on feature (rotation correction system)
- History of 1000 previous logs or cants with complete geometrical information available at all times
- Complete sets of Web reports accessible from any Web browser (MySQL database and exportation to Excel)
- One unique computer to manage all Prologic+ system reports

*Specifications may vary according to sensor model.

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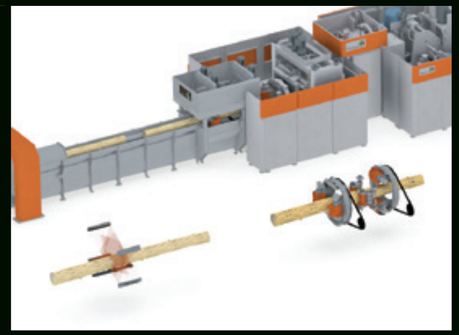
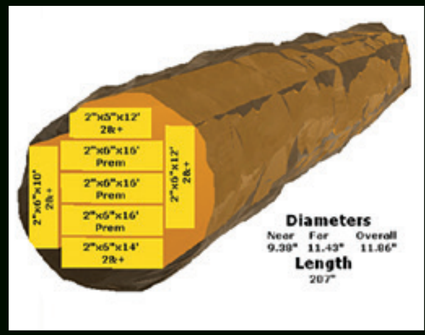




Prologic+ True Shape and 3D Scanners

4 ProLogScanner

Primary and Secondary Breakdown Scanners

The **ProLogScanner** is a linear scanner, equipped with 3 to 4 sensors. Each sensor can be equipped with 2 cameras for a total of 6 to 8 cameras per scanner to read a “3D” or a “TrueShape” profile for log or cant. Each sensor’s components are factory calibrated, providing a fast and efficient way to change sensors when needed. No more laser and camera alignments. Fast, easy and user-friendly calibration.

The log or cant model generated is then sent to an optimizer software program to apply the best cutting pattern solution based on a predefined set of parameters.

APPLICATIONS

- Primary breakdown sawing lines:
  - Canter Twin, Canter Quad
  - Small log machines with profilers (single pass systems e.g. HewSaw)
  - Multi-breakdown lines
- Secondary breakdown:
  - Gang Edger/Bull Edger/Canter Bull
  - Multi-breakdown lines

TYPE

- Linear
  - 3D (Elliptical)
  - True Shape

SPECIFICATIONS*

Diameter accuracy: ± 1.3 mm (± 0.051”)
Length accuracy at 200 m/min (~ 650’/min): ± 1 cm (± 0.394”)
True Shape optimization: < 0.5 s
Profile resolution: 3 mm (0.118”)
Reading frequency: 250, 500, 1000 Hertz
Scanning interval at 200 m/min (~ 650’/min): 2.54 cm (1”)
Field of view: 600 mm (~ 24”)
Operating temperature (without heating device): 0 °C to 50 °C (32 °F to 122 °F)

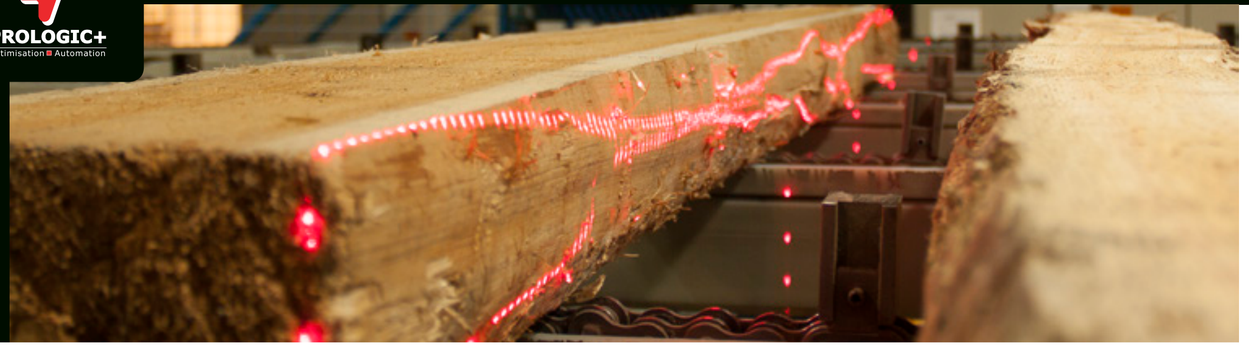
*Specifications may vary according to sensor model.

DEFECTS DETECTED

- Local and global sweeps
- Taper
- Nodal swelling
- Bumpiness
- Top, middle or butt log

CHARACTERISTICS

- Optimize log or cant fiber by considering multiple parameters such as product dimensions, wane rules, prices and breakdown patterns, etc.
- Handle the CCS (controlled curve sawing) (decide how much sweep you want)
- Log or cant history with complete geometrical and solution information for the last 1000 specimens
- Complete sets of Web reports (production summary, downtimes, etc.):
  - Consult reports: by shift, run, batch, daily, weekly, annually or according to a specific period
  - Archived reports
  - Database uses MySQL and exportation to Excel available
- Combine all machine center reports into one computer
- Simulation tools and Web reports (offline and online simulator available)



Prologic+ Transversal Scanners

5 ProTrimmer/ProEdger

Our **transversal scanners** are equipped with several sensors each located on the top and bottom of a scanner frame, providing a differential thickness reading for best accuracy. The geometrical (3D) and 2D vision model of boards, cants or flitches are sent to an advanced optimizer to provide the best solution according to a predefined set of parameters.

Each sensor's components are factory calibrated, providing a fast and efficient way to change sensors when needed. No more laser and camera alignments. Fast, easy and user-friendly calibration.

APPLICATIONS

- Trimmer
- Edger
- Bull/Edger

TYPE

- Transversal
    - 3D (Geometrical)
    - With visions (decay, knots, splits) optional

SPECIFICATIONS*

Scan density (Z): 9.53 mm (0.375")
Operating speed: up to 200 lugs/min
Thickness accuracy: ± 0.254 mm (± 0.010")
Width accuracy: ± 0.79 mm (~± 0.030")
Length accuracy: ± 9.525 mm (± 0.375")
Operating temperature: 0 °C to 50 °C (32 °F to 122 °F)

CHARACTERISTICS

- Wane and skip (normal, central and ends)
- Possibility of accepting different inputs from the operator console (species, grades, custom trims, etc.) or from another system e.g. moisture meter systems or MSR systems
- Hole, twist, crook and bow treatment
- 3 optimizing modes (by piece, by volume and by price/m^3)
- Solution analyzer to understand the optimizer choice
- Complete sets of Web reports (MySQL database and exportation to Excel)
- Offline and online simulations
- Automatically save pieces according to specific criteria
- Simulation reports available

*Specifications may vary according to sensor model.

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