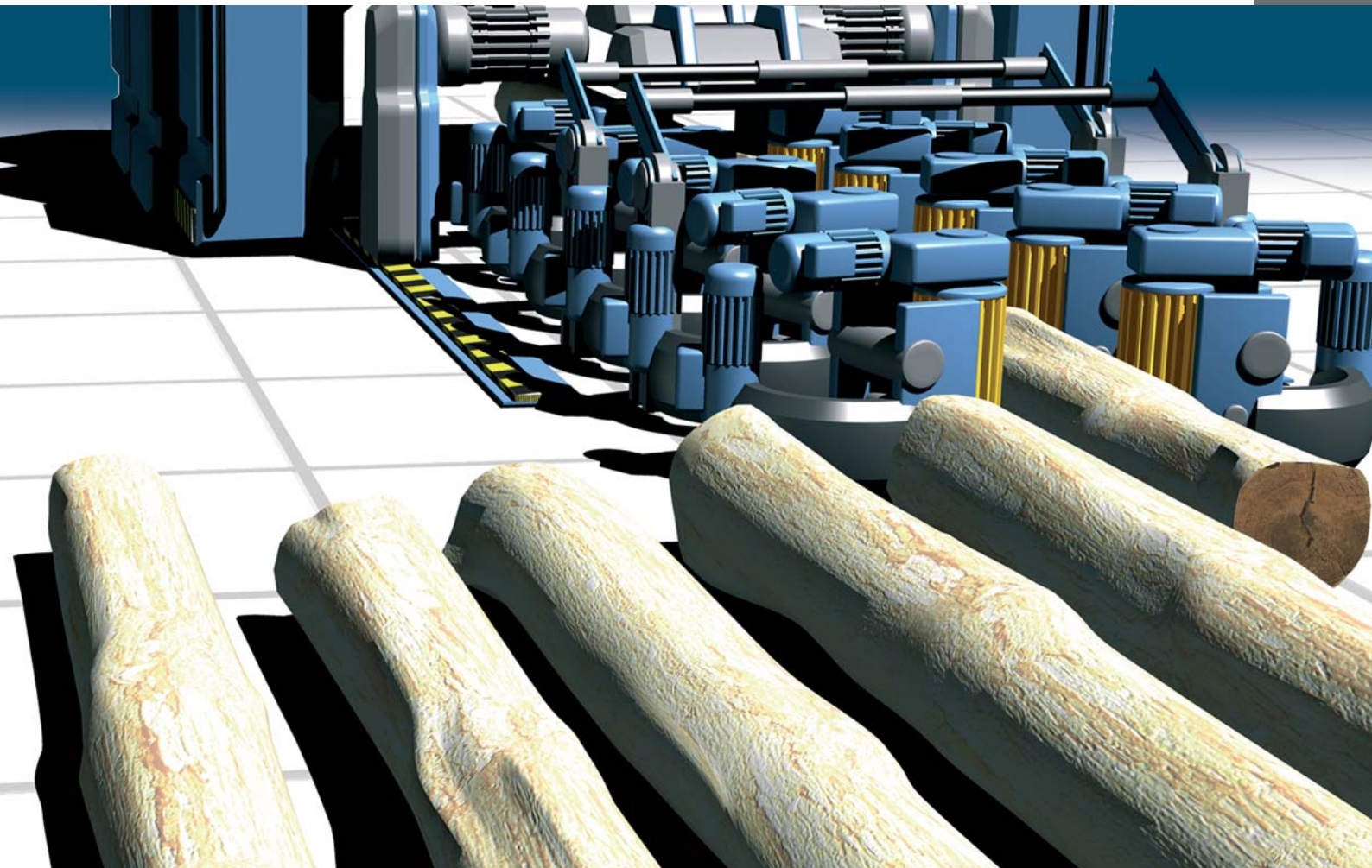


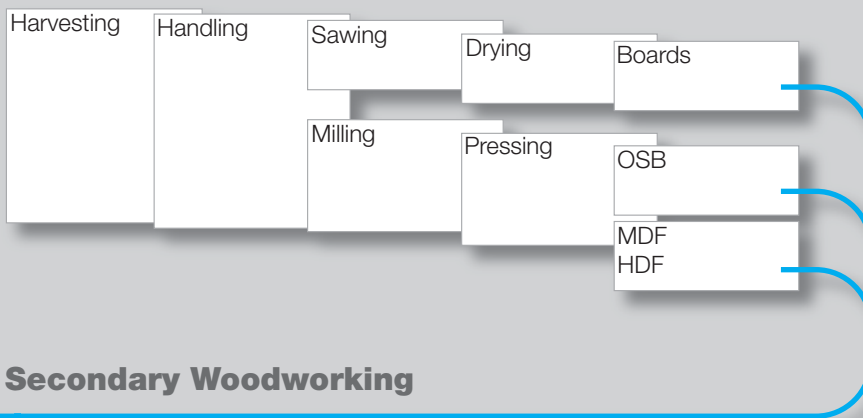
Your Partner for every Solution
... in the Wood Industry



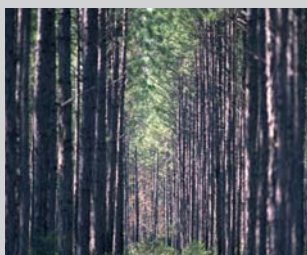
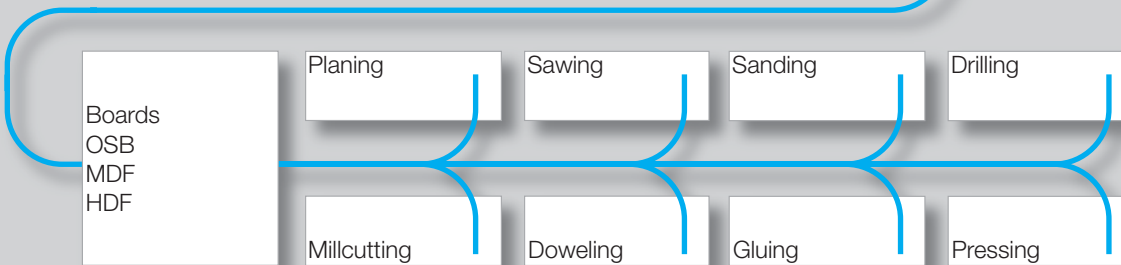
Wood is a versatile material requiring special handling. For this reason the wood industry places demands unlike those of any other branch of industry. Forestry and sawmill applications subject sensors to the harshest ambient conditions while requiring that they work flawlessly. Precise, intelligent sensors and transducer systems are used in wood processing machinery to make the finishing process more efficient and provide the highest level of quality. Balluff products work extremely reliably – both in sawmills and on wood finishing machinery. With the combination of ruggedness, accuracy and reliability, Balluff products meet the demands of the entire wood industry and provide innovative sensor technology for enabling fast, automated processes.

Your Partner for every Solution ... in the wood industry

Primary Woodworking



Secondary Woodworking



Production and profit goals are deciding factors from harvesting to the finished board. Downed machines due to component failure is simply not an option. Rugged sensors and transducers from Balluff have been specially designed for extreme conditions. Balluff products work with extreme reliability even under strong vibration and large temperature fluctuations in forestry or the sawmill industry. They are also highly precise and enable a high level of quality at high process speeds.



Primary Woodworking

Rugged and reliable



Micropulse transducers, profile and rod-style



Controlling cutting thickness on mobile sawmills using the BTL Micropulse transducer

Balluff transducers provide continuous position feedback for the saw and enable precise board thickness over the entire length, even in harsh conditions.

Advantages:

- Non-contacting, therefore wear- and maintenance-free
- Insensitive to vibration, temperature, contamination, moisture
- Absolute output signal, no homing necessary, after power loss



Hydraulic cylinder monitoring in debarking equipment with BTL Micropulse transducer

Debarking machinery subjects sensors to strong vibration. Transducers in hydraulic cylinders monitor the piston position of the feed unit. This allows logs of various sizes to be automatically accommodated.

Advantages:

- High protection rating for optimum reliability
- Rugged housing
- Direct signal processing or with separate processors for all control and closed-loop systems

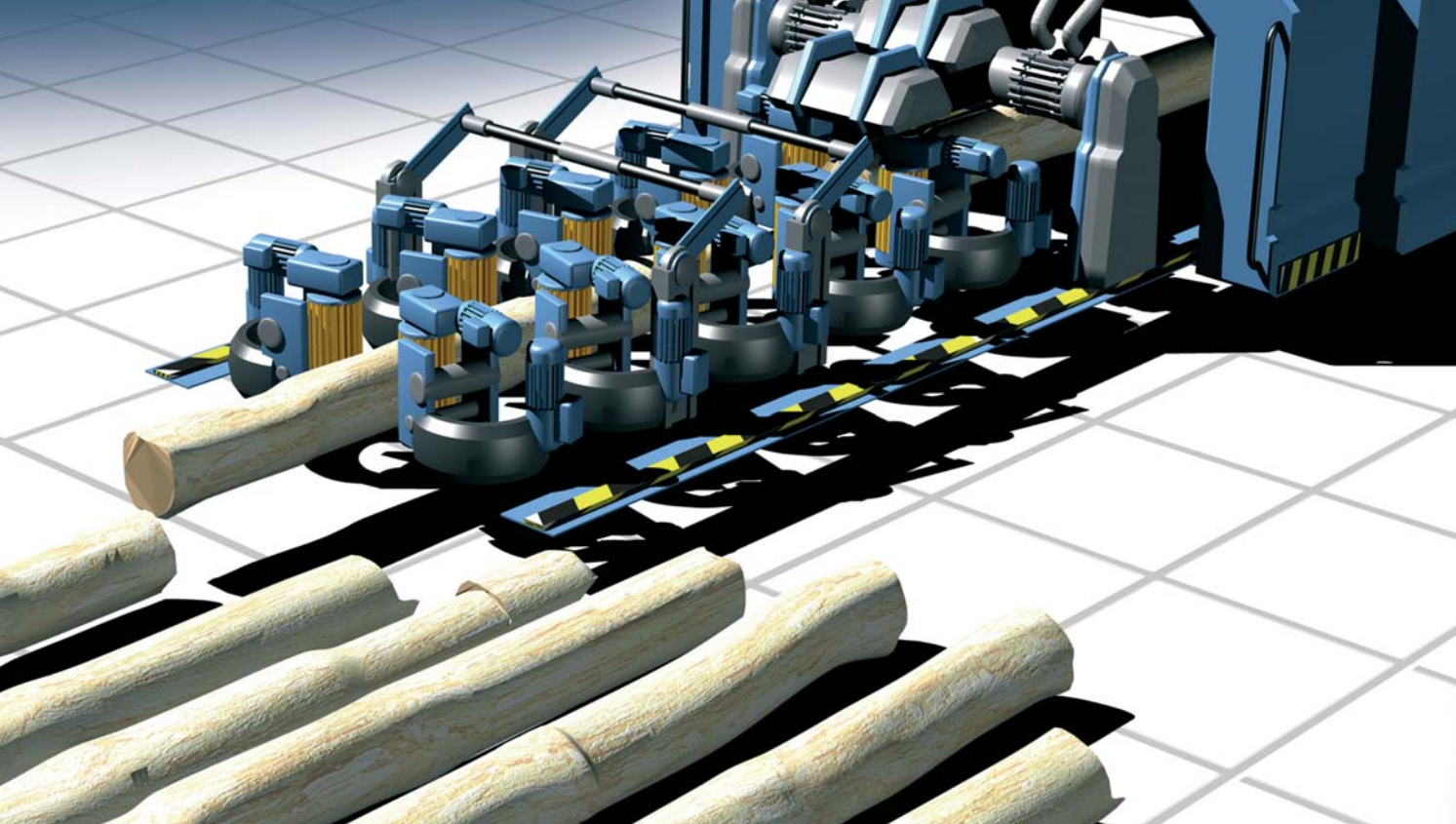


Log positioning in sawmills with BTL Micropulse transducer

In vertical band saws the log is guided to the desired board thickness after each successive cut. Balluff transducers are ideal for making these settings flexibly and at high speed.

Advantages:

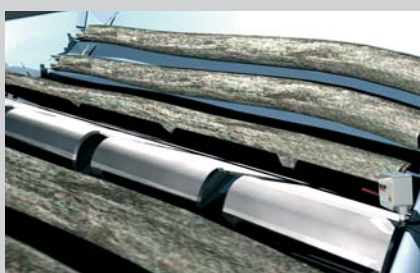
- Pressure-rated for integration in hydraulic cylinders
- High repeat accuracy
- Electronics head can be replaced if needed



Designing sensors for extreme conditions takes a lot of experience and know-how. Balluff offers high-tech solutions for any application from harvesting to manufacturing semifinished products.



Photoelectric distance sensors



Handling systems with BOS photoelectric sensors

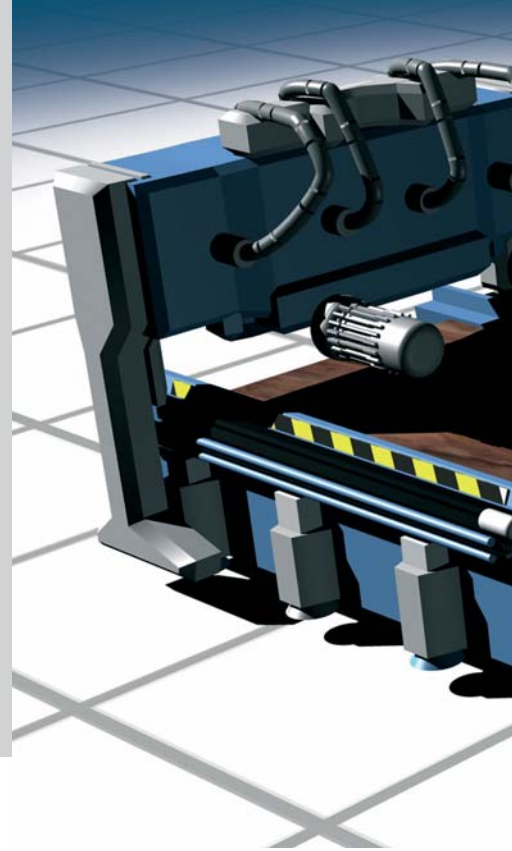
Photoelectric sensors are used in conveying systems, sorting equipment and infeed systems for ensuring smooth, rapid transport processes.

Advantages:

- Rugged metal housing for extreme conditions
- Unaffected by ambient light
- Simple, quick setup



High-performance sensors are used in modern woodworking machinery for precise position detection and displacement measurement. Here Balluff offers a variety of versatile systems: inductive and photoelectric sensors as well as transducers work without contact for wear-free operation. They accomplish their tasks reliably even in dusty environments. This combination of precision and reliability enables high production speed while helping to utilize the full potential of the machine. Intelligent sensors from Balluff ensure maximum throughput and raise machine efficiency.



Secondary Woodworking

Quality through precision



BML magnetic linear encoder systems



BTL Micropulse transducers



BES inductive sensors

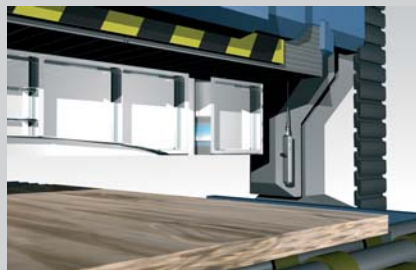


Panel divider sawing with BML magnetic linear encoder system

Panel divider saws require measuring the travel of the programmable pusher. In dusty environments the BML is ideally suited for taking over high-precision positioning tasks.

Advantages:

- Magnetic measuring system ideal for use in dusty environments
- Resolution to 1 μm , system accuracy to $\pm 10 \mu\text{m}$
- Rugged, non-contacting



Press with BTL Micropulse transducers

BTL transducers are used in presses for height feedback and monitoring the flatness of the press plate. The process is speeded up, product quality increased and premature wear is avoided.

Advantages:

- High resolution, accuracy, repeatability and linearity
- Various output signal options
- Suitable for flammable areas

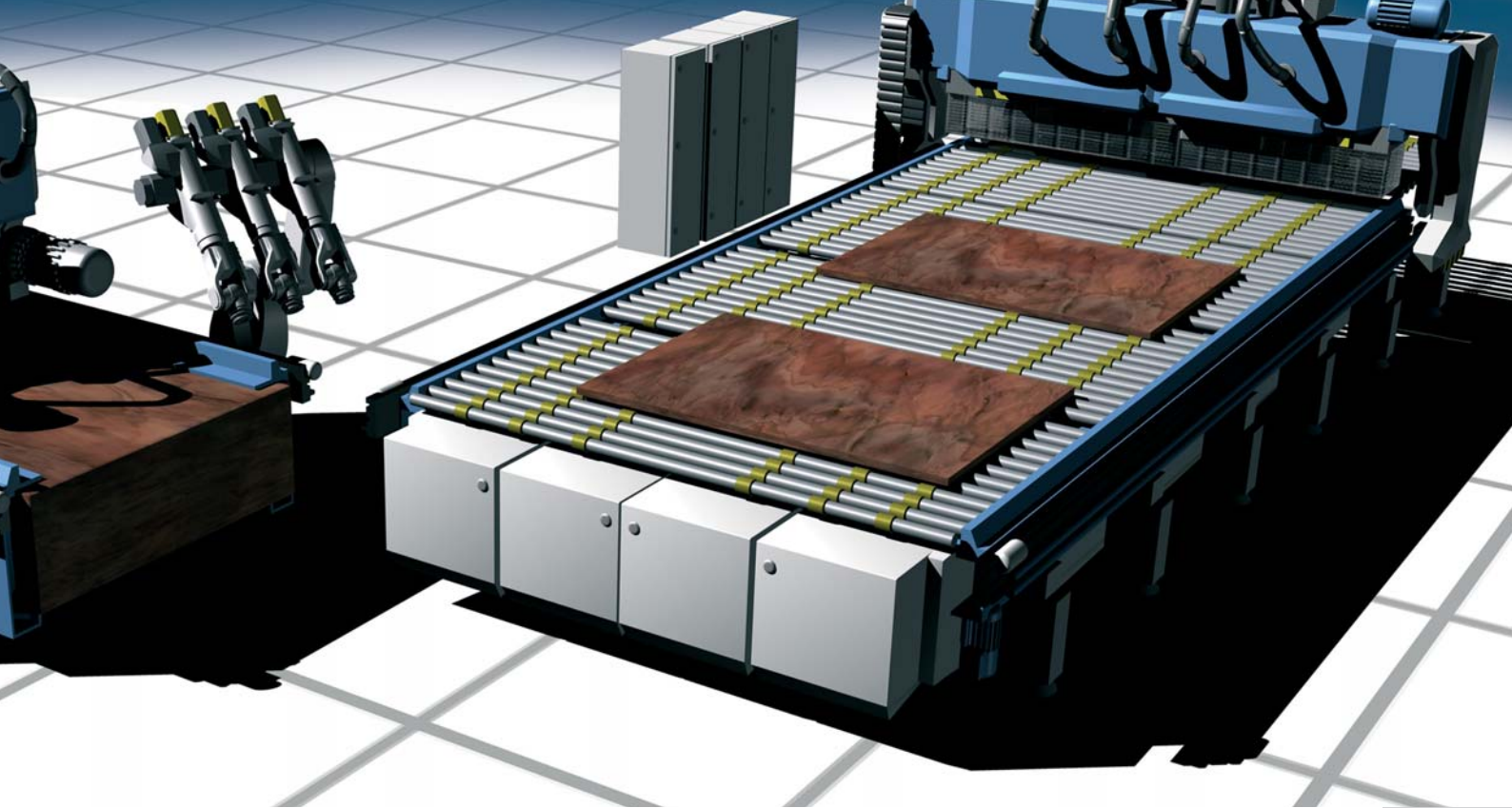


Position monitoring with BES inductive sensors

Inductive sensors monitor the position of machine members, detect faults and damage to tools. This makes them key components for the total automation of the machine.

Advantages:

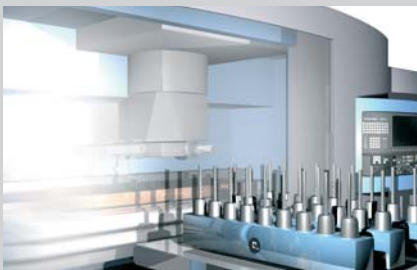
- Can be used in flammable areas
- Generous sensing distance
- Rugged housing



Dynamic production systems require high-end sensors for every automation task. Balluff products provide the highest precision at maximum process speed in the production of finished wood products.



BIS industrial RFID system



Tool identification with BIS M industrial RFID system

Identification of tools in modern wood-working machines is gaining increasing importance. By reading out the operating time, wear can be detected before the machine no longer provides the required quality. In addition, the tool is changed at the right point in time for sharpening.

Advantages:

- Rugged housing
- 8 mm read distance
- Fast data transmission



Balluff GmbH
Schurwaldstrasse 9
73765 Neuhausen a.d.F.
Germany
Phone +49 7158 173-0
Fax +49 7158 5010
balluff@balluff.de
■ www.balluff.com