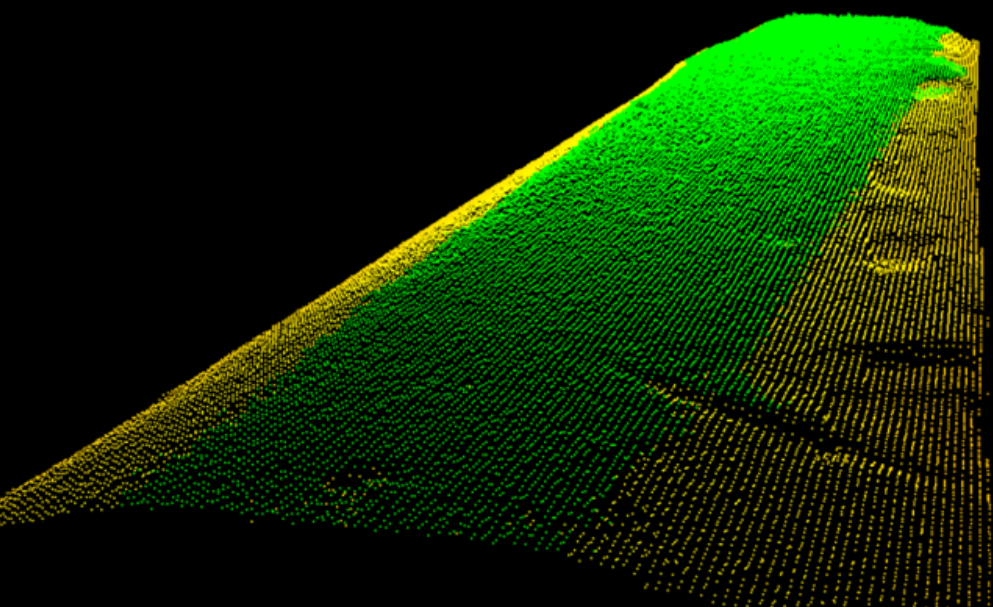
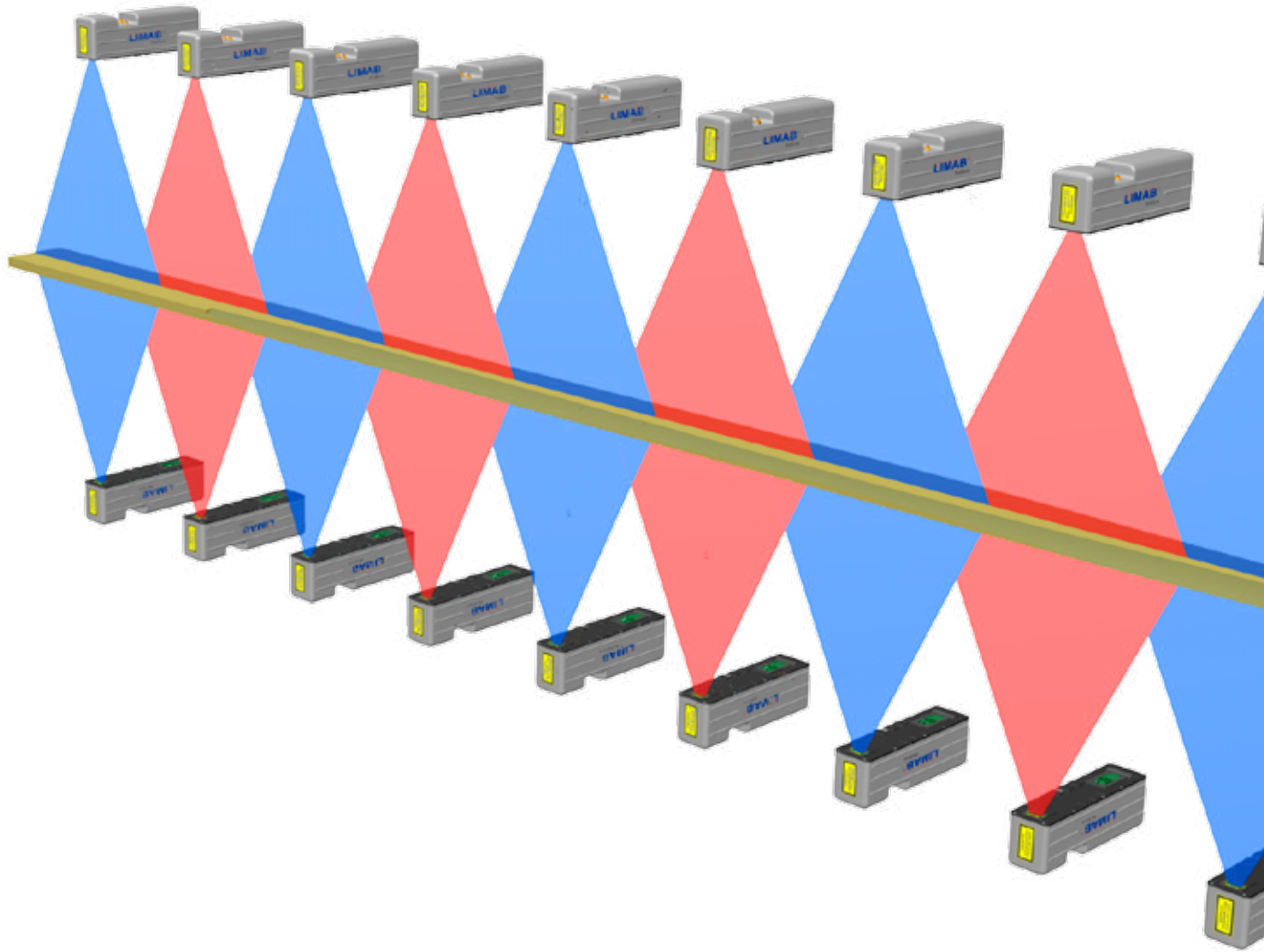


# BoardProfiler 3D



- *Optimization of cutting for trimmers*
- *Reject/turning before edgers*
- *Deformation and defect measurement*
- *Thickness and width measurement, multiple-tracks*



### Design for harsh conditions

LIMAB has many years experience in manufacturing and supplying precision laser measurement systems to ensure reliability of operation in harsh sawmill environment. Our sensors and products are produced and engineered in Gothenburg, Sweden, with knowledge to ensure the delivery of measurement systems with

high accuracy and quality with very low maintenance.

### Design for accuracy

The BoardProfiler is a complete stand alone system to measure board profile in transversal and lineal processes. The system incorporates LIMABs newly developed ProfiCura 600 sensor that measures every mm for the best accuracy at high speeds. LIMABs BoardProfiler 3D sensor delivers a profile scan of the board at a measurement

rate of 1000 profiles/second. The system is ideal for high-speed scanning of boards for optimization and grading applications in the harsh sawmill environment. The BoardProfiler 3D system can also be combined with ProfiCura 1D sensors for a more cost effective solution.

# Board Profiler 3D

## System hardware

LIMAB BoardProfiler 3D is a complete system for high definition scanning of boards on transversal conveyors providing high accuracy board measurement for grading/sorting or trim saw optimization. The system uses several ProfiCura 600 sensors that scan the board every mm along the length of the board. The system is a product of 25 years of know-how of manufacturing laser sensors and measuring systems for use in sawmills.

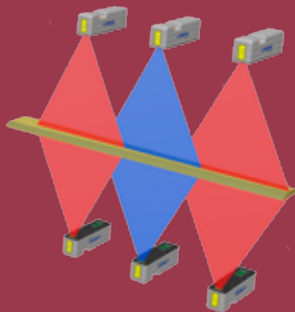
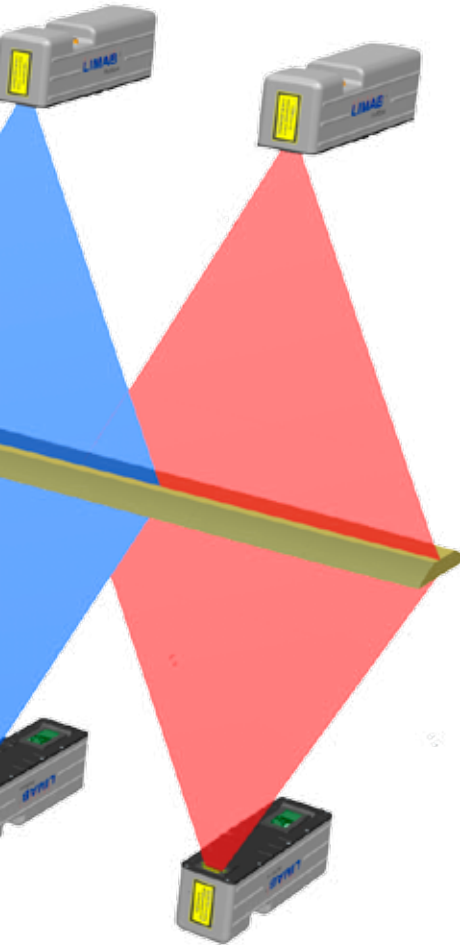
The scanning is done using ProfiCura sensors each one with a scan area of 600 mm. To scan a board of 4.2 m in length 7 sensors are needed both above and below the board. The sensors measure the board cross section every mm along its length. The lasers use the principle of optical laser triangulation and will measure any type of wood, green or dry. When boards pass by the lasers, the entire profile of the board is accurately determined. For each board the thickness, width, wane, crook, flatness, twist, cup and length are measured and displayed. The PC will log all measured data for archiving or displaying purposes.

## Software

The Windows based software provides 3D graphical presentation of the structure and crosscut profile of each board, for a complete and accurate optimization of cutting for trimmers, reject/turning before edgers, classification of thickness variations and deformation.

All defined quality grades and cutting rules are specified by the operator.

The software has been modular designed to make it easy for users to configure it to suit their particular application.



## BoardProfiler 3D – Versions for all applications

**Optimization for trimmers** - Calculates the optimum cutting position for each board based on customers specified rule tables.

**Reject/turning before edgers** - The BoardProfiler will determine which side of the board has wane so the board can be turned before the camera

**Deformation measurement** - The overall shape such as flat bow, side bow and twist will be determined and classified according to specified rule tables.

**Thickness and width sorting** - The overall dimensions of finished boards are accurately measured at multiple positions along the board length for quality assurance purposes.

## History and references

The BoardProfiler 3D is the 3rd generation board measurement system produced by LIMAB. The first system was delivered more than 20 years ago and since then has over 170 systems been supplied to the saw mill industry worldwide. The BoardProfiler is a high accuracy in-process non contact measurement system.

References: Ölmstad  
Träförädling, Swedwood

# Technical specifications

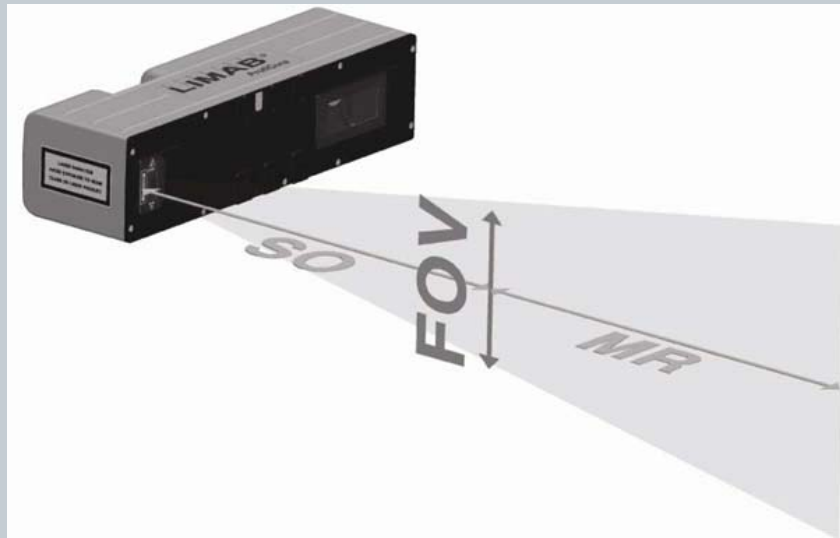
## Technical specification ProfiCura 600 sensor:

Measurement Range: 200 mm  
Stand off: 600 mm  
Field of View: 600 mm  
Resolution: 1/10 mm  
Measurement speed: 1000 profiles/s, 640 points/profile

Power supply: 18...36VDC  
Laser light source: 3B  
Laser power: < 200 mW  
Operating temperature: 0.. +40°C  
Protection class: IP65

## Benefits

- High speed accurate measurement
- High class sorting and classification
- Significant increase in yield
- Value optimisation of every mm of the board
- Reduction in the cost of planning, installation, commissioning and service.
- Raw data of last 50 boards automatically saved for analysis purposes.
- Unlimited numbers of boards numerical values can be stored on the computers hard disc.
- Ethernet network communication.



We reserve the right to introduce modifications without prior notice.



LIMAB has been working with laser technology for more than 30 years with thousands of installed lasers worldwide. We produce laser guide lights, lasers sensors and complete systems for dimensional and defect measurements in sawmills, panels production and steel mills. Headquarter and manufacturing are located in Gothenburg, Sweden. LIMAB has regional offices in USA, Germany, Finland, UK. In other parts of the world LIMAB is represented by local agents and partners or work directly from Sweden.



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