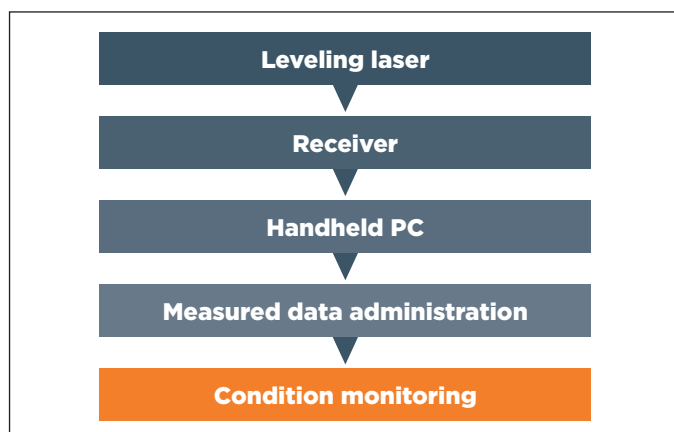


## OPAL FOR CONTINUOUS CASTING

### THE PROVEN DIMENSION IN OPTICAL ALIGNMENT OF SLAB CASTER

Optical measurement has been an established technology in industrial plant construction for years. Use of laser technology in particular is preferred because of its high measuring accuracy, which is achieved through precise control and evaluation of laser signals. This system is also of growing importance for quality assurance as well as repair and maintenance because of its ease of use.

Primetals Technologies, which has pioneered innovative processes, technologies and automation in the steel industry, now has a proven optical laser measuring system for segment alignment. OPAL (Optical ALignment) takes its place in the portfolio of existing mechatronic products for casting (for example OsciChecker and Mold Checker). The system fulfills a wide range of different customer requirements, such as measuring accuracy and ease of operation and handling. OPAL can be integrated in the maintenance of new or existing plants.



Opal system concept

#### YOUR CHALLENGE

Covering a wide range of steel grades and section sizes whilst ensuring maximum quality and equipment lifetimes demands high precision in the continuous casting strand guide system, especially the strand guide rollers. In order to be able to guarantee optimum roller position a quick and easy roller alignment system is required, which also helps reduce time and costs. A further requirement is an intelligent system for handling the recorded measurement data over the entire product life-cycle as the basis for Plant Condition Monitoring.

#### OUR SOLUTION

With OPAL, Primetals Technologies offers an integrated optical laser measuring system for the exact alignment of strand guide rollers. This achieves extremely high measuring accuracies even under the harshest operating conditions in steel plants. OPAL provides automated measurement and recording of the roller positions.

The data generated from the measurements allow a precise comparison between nominal and actual roller positions to be made. Recommendations are then provided for the shimming of each roller and strand guide module. The intuitive human-machine interface and the automated measuring process guarantee easy operation and reduced measuring times during maintenance. The OPAL software advises the necessary service and maintenance intervals for the system components.



Opal robust equipment case



Mobile HMI for Data Acquisition



Laser Receiver with wireless data transmission

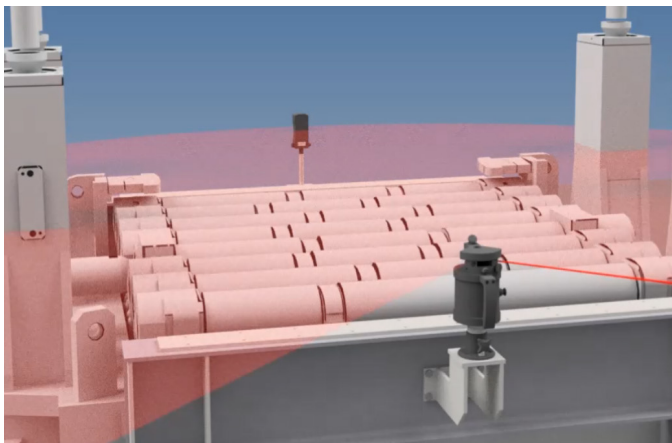
### SYSTEM CONCEPT

OPAL is based on a high-precision leveling laser that generates a horizontal laser plane in 3-dimensional space. This is used as reference for measuring the strand guide components. A laser receiver with integrated microcontroller records the measured values and passes them on to the control processor by wireless transmission. The measured data is automatically analyzed and saved by the OPAL software and a test report of the completed measurement is then generated automatically from this data, this ensures traceability at any time.

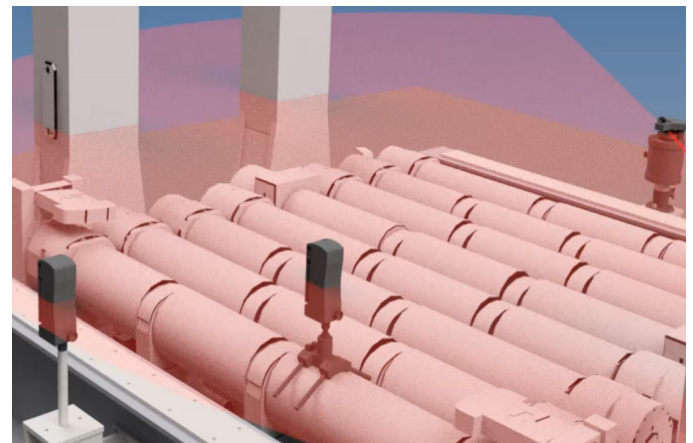
In addition to the measuring software, the system also has an intelligent measurement data management system which makes Plant Condition Monitoring possible. This allows the strand guide components to be monitored throughout the entire product life-cycle.

### MAIN BENEFITS

- Perfect roller positioning – thanks to high measuring accuracy
- Adapted for use in the steel plant environment
- Automated measuring process – guaranteed easy operation and reduced measuring times
- Can be integrated into new and existing plants – more than 50 references worldwide
- Electronic data management system – enables Plant Condition Monitoring



OPAL - easy to operate caster segment measuring system



**Primetals Technologies Austria GmbH**  
A joint venture of Mitsubishi Heavy Industries and partners

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