FERROTRON
A MINTEQ DIVISION

scantrol®

The Link between the LaCam® high density measurement system and the gunning robots

Scantrol® system – A complete solution for complex problems

The LaCam® laser based profile measuring system, as well as the MINSCAN® robotic maintenance equipment for electric arc furnaces and other Minteq manipulators for vessels, ladles etc., have substantially improved the refractory maintenance of metallurgical vessels. Our new Scantrol® control module now combines these measuring and maintenance units to provide you with a fully automated process, which is much more accurate, rapid and safe than conventional refractory maintenance practices.

- **Scantrol® system – Time saving through automation**

  The aim of our development efforts has been to produce a fully automatic measuring and maintenance system for refractory linings. This has been achieved. The none-productive periods of the vessels are considerably reduced with our automatic maintenance system. The Scantrol® system ensures a smooth, failure free continuous maintenance process including an accurate and rapid measurement by laser through to an optimised robotic maintenance of the interior walls of the vessel. Time savings that can be converted into increased productivity.

- **Scantrol® system – Efficiency by precision**

  The Scantrol® system identifies and precisely measures damage to and wear of the refractory by laser. The system then rapidly processes data analysis and maintenance planning giving a detailed and accurate assessment. The advanced technology of our robotics allows that the required measurements are then immediately translated into the required maintenance package to ensure the robotics apply a precise amount of repair material accurately. This process avoids unnecessary and time-consuming refractory maintenance.

- **Scantrol® system – Intelligent cost reduction**

  The use of the Scantrol® system has been shown to both significantly reduce refractory consumption and increase the availability of the facility to be maintained. This occurs as a result of the computerside system providing exact measurements of wear and hence maintenance requirement. The Scantrol® system is uniquely efficient: a new pre-calculation function optimises the maintenance process.

- **Scantrol® system – A pioneer for a safe working sphere**

  The Scantrol® system ensures improved safety and reduced workload since the steelworker is not required for hazardous inspection and maintenance tasks and so is available for other duties. Even at temperatures of 1,700 Centigrade – where no man could work – the Scantrol® system will fulfil its tasks accurately and effectively.

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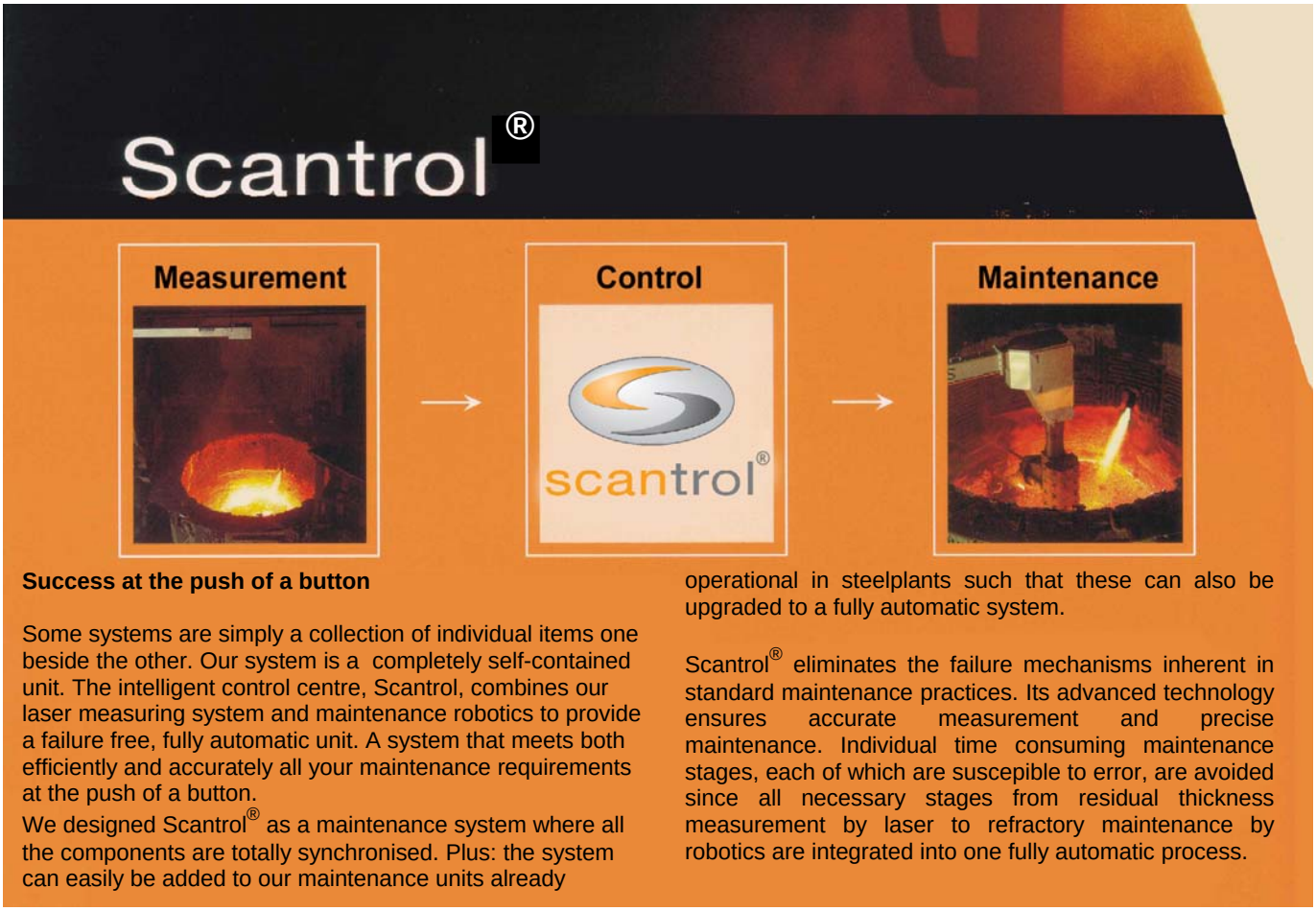

Success at the push of a button

Some systems are simply a collection of individual items one beside the other. Our system is a completely self-contained unit. The intelligent control centre, Scantrol, combines our laser measuring system and maintenance robotics to provide a failure free, fully automatic unit. A system that meets both efficiently and accurately all your maintenance requirements at the push of a button.

We designed Scantrol® as a maintenance system where all the components are totally synchronised. Plus: the system can easily be added to our maintenance units already operational in steelplants such that these can also be upgraded to a fully automatic system.

Scantrol® eliminates the failure mechanisms inherent in standard maintenance practices. Its advanced technology ensures accurate measurement and precise maintenance. Individual time consuming maintenance stages, each of which are suscepible to error, are avoided since all necessary stages from residual thickness measurement by laser to refractory maintenance by robotics are integrated into one fully automatic process.

Optimized maintenance practice

What are the capabilities of the Scantrol® system?

With a fully automatic process, the Scantrol® system applies the correct repair material to the correct place with the required amount, taking into consideration the high wear areas. In addition, the maintenance process can be flexibly adjusted by an operator if the current furnace situation requires this. This option allows the operator to easily and quickly control the automatic maintenance process.

The Scantrol® control system acts preventatively by maintaining a constant residual refractory thickness. The strategy for the automatic maintenance is to achieve accurate repair, cost effectively.

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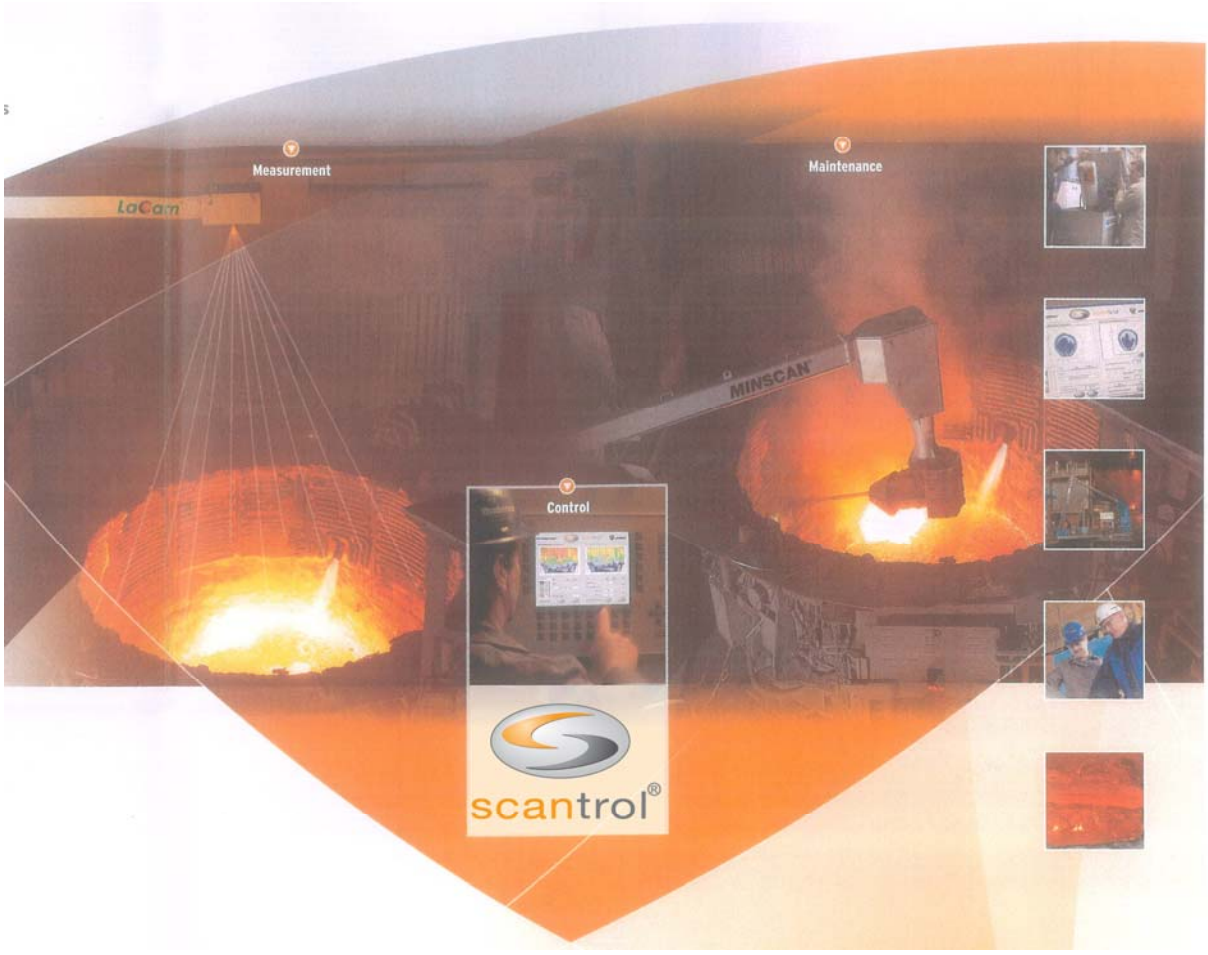
Improvement of production via the Scantrol® system - EAF



The Scantrol® system combines the benefit offered by individual, high performance components as a single maintenance system.
Systems Benefit:

- fully automatic refractory maintenance
- simple and easy maintenance sequences
- high speed automatic processes
- safe and documented operation
- optimized and reduced refractory consumption
- relieves personnel of heavy and hazardous work

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- productivity increase due to higher furnace output

Ladle life extension and availability

The **MINTEQ** measuring and maintenance system for ladles combines high-grade refractory products, fast and accurate measurements by LaCam® laser scanners and high productive maintenance manipulators.

MINTEQ products combined with our professional service enable our customers to minimize consumption and gunning occurences which results in advanced productivity.

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Superior maintenance gunning system:

Material Benefit
- precise application
- optimized durability
- high performance slag resistance
- reduced gunning applications
- increased productivity

Systems Benefit
- high speed application
- remote controlled application
- fixed installed or mobile lasers
- LaCam® measurements
- The Scantrol® control module

File: M-FE-30-PDF-Scantrol.doc Update: 9/2009

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