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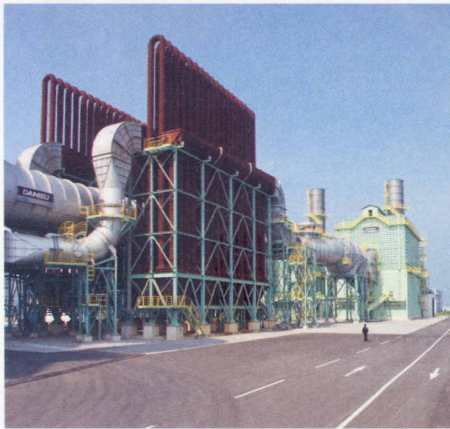
# MPT

## INTERNATIONAL

2  
April  
2012



**Tokyo Steel 420t DC EAF meltshop: competitive production and environmental protection**



**Cover photo:**

Danieli Environment fume treatment plant installed at the 2.6 million t/year meltshop of Tokyo Steel, Japan

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# MPT

INTERNATIONAL

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A. Hannewald

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## Topical theme

T. Adachi, R. Sellan

### 54 The jumbo size 420 t EAF at Tokyo Steel, Japan

With a designed yearly production of 2.6 million t, Tokyo Steel operates the world's largest twin DC electric arc furnace ever built. The design is representative of the recent market trend, which has led steel producers to focus more and more on the increase in meltshop productivity and efficiency for flat products, while ensuring high quality of the steel produced.

## Company profile

### 40 The new Outokumpu – a global giant in stainless steel production

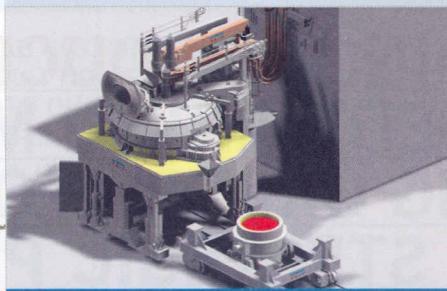
The combination of Outokumpu and Inoxum, the stainless steel segment of ThyssenKrupp, will create a global giant in stainless steel. The combined entity would have had annualized sales of €11.8 billion and approximately 19,000 employees.

### 46 Interview with Mika Seitovirta, CEO Outokumpu

## Innovation

### 86 New electric arc furnace for DRI melting

Siemens has developed an EAF especially for the use of DRI (direct reduced iron). It is designed for a continuous melting process as electrical energy input and DRI are supplied during tapping.



Productivity shall increase by 15% with a 150-ton furnace

## Steelmaking

### 50 Talleres y Aceros, Mexico, to build a complete, new type compact steel plant

The Mexican steelmaker will erect a new compact steelmaking plant with a capacity of 1.2 million t/a of steel for its Ixtaczoquitlan site. The heart of the plant is a Simetal EAF Quantum electric arc furnace – designed to reduce the specific conversion cost for the production of liquid steel by around 20 percent.

L. Toivonen, M. Åbacka

### 64 Electrode control system offers substantially higher productivity

An advanced electrode control system offers reduced specific energy consumption in EAFs. The system is easy to install in parallel without need of production interruptions. It was recently tested in a 120 MVA furnace of a Finnish steel mill with good results.

D. Tembergen, R. Dittrich

### 68 Steelmaking of microalloyed high-strength and HIC resistant line-pipe steels

Different process routes and plant concepts can be applied for producing high-strength line-pipe steel grades. The various metallurgical capabilities of these routes are compared here.

## Continuous casting

### 78 Operational experience with a newly designed mould in at Třinecké Železárny

The Invex mould is a new tubular mould concept to replace the traditional plate-type moulds. The article summarizes the experience with the new mould gained during three years of production on a five-strand bloom caster.

## Automation

G. Bavestrelli

### 88 Roll loaders for the fully automated roll shop

The level of automation in steel mills is increasing, but the focus is shifting towards better integration of heterogeneous machinery into a complete system that functions as if it were coordinated by a single "mind".

## Surface treatment

C. Waga

### 96 German-Russian coil coating partnership

BASF Coatings and Novolipetsk Steel (NLMK) celebrate 20 years of successful cooperation. Novolipetsk Steel is used to be among the first users when BASF launches new products.

## Maintenance

### 100 Synthetic lubricants to increase productivity and reduce downtime

Four steel companies have benefited from introducing the synthetic Mobilith SHC 460 grease into their operations. An enhanced lineup of multi-purpose oils delivers a service life up to six times longer than competitive mineral oils.

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