

## Improve production effectiveness Increased production & availability with reduced maintenance costs

ABB Full Service® improves plant and financial performance.

“Outsourcing maintenance services means we can focus on our principal area of operations, the cement business,” explained Meelis Einstein, the purchasing manager with Kunda Nordic Tsement. “It is also important that we can control the development of our maintenance costs, which we are better able to do in a long-term partnership.”



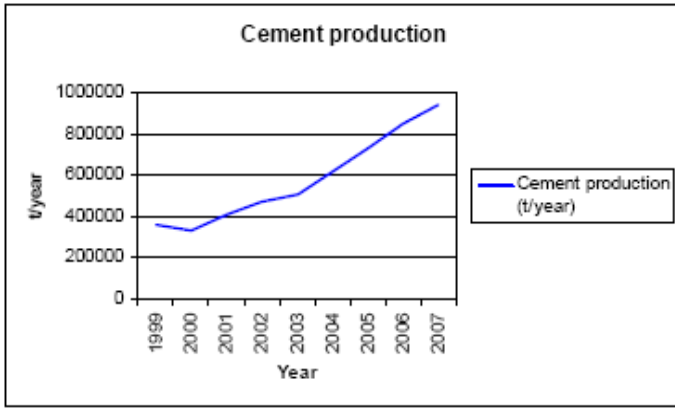
Renewing the chain zone inside of the kiln.

Kunda Nordic Tsement (KNT) is a company with 138 years of experience in cement production, and is located in Kunda, Estonia. Today, as a member of the international Heidelberg Cement Group, KNT produces construction cements, crushed limestone and offers port services to customers from both Estonia and abroad. The KNT site consists of three kiln lines, four cement mills, quarries and a port. The annual production volume is 1,043,000 tons of clinker and 936,200 tons of cement.

The partnership between ABB and Kunda Nordic Tsement (KNT) started in October 1998, when a Full Service agreement was signed. Since then, the contract has been renewed in 2001, 2005 and again in 2008. ABB's complete maintenance services contract (ABB Full Service®) scope includes analysis of the condition of all the machinery in the cement plant, as well as preventive maintenance, diagnostics, repairs, efficiency measures and continuous improvement activities. ABB is also participating in modernization, investment and automation projects.

Meelis Einstein says that Kunda Nordic Tsement has been very satisfied with the quality of the maintenance services offered by ABB. “Our partnership with ABB over the years has definitely been a success story, with the performance coefficient of the cement production machinery really having shot up over the last few years in particular,” he said.

During the successful partnership, significant improvements have been achieved e.g. in terms of increasing both the cement and clinker production and improving technical availability. At the same time, the cost effectiveness has also been improved.



Since the co-operation between ABB and Kunda Nordic Tsement started in 1998, the annual cement production at the site has increased by two and half times in 2007. The annual clinker production has also been doubled.

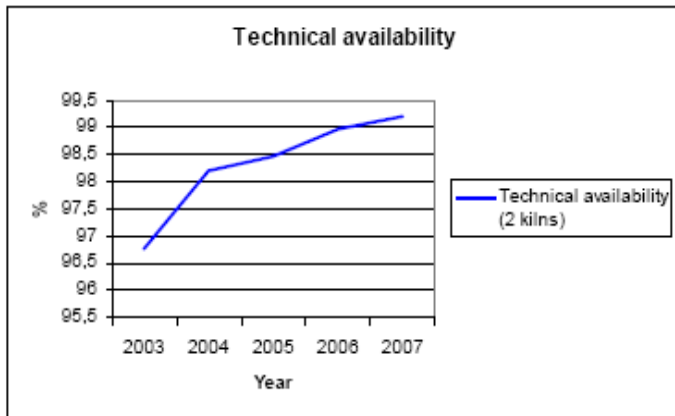
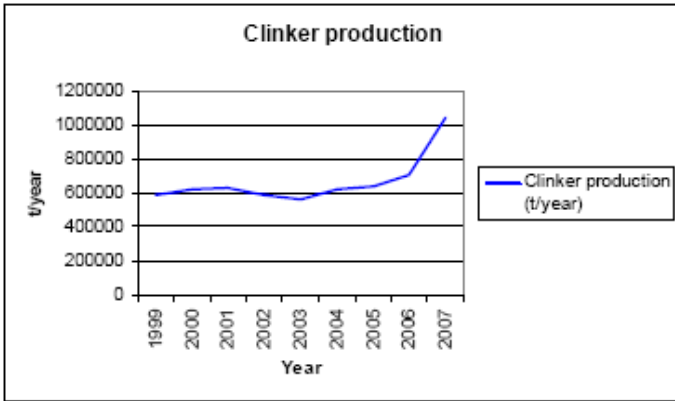
The technical availability figure being 96.77% in 2003 was already a significant improvement, but since then it has further improved to 99.20% in 2007, thanks to ABB's best maintenance practices applied at the site.

#### Benefits

- Significant increase in cement and clinker production efficiency
- Improvements of cost effectiveness in spare parts and maintenance costs
- Increase of technical availability up to almost 100%

#### Features

- Full mechanical, electrical and instrumental maintenance for production equipment, lifting equipment, cranes, quarry, port, IT maintenance, filters, spare parts and material management
- Computerized Maintenance Management System (CMMS), computerized control system for production lines (process analyzers, etc.)
- On-line analyzers
- ASTAT system for cranes



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