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AUTOMATION TECHNOLOGY **ENGINEERING** INDUSTRIAL TRADE INDUSTRIAL SERVICE TECHNICS

REFERENCE //Modernisation of an overburden conveyor installation // ThyssenKrupp GmbH / Lafarge Cement UK

CLIENT:

ThyssenKrupp
Fördertechnik GmbH
ThyssenKrupp Allee 1
45143 Essen

PROJECT COMPLETED BY:

Blumenbecker
Engineering GmbH & Co. KG
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COMMISSION:

Replacement of electrical equipment
on a conveyor system

Execution: 2008
Location: Dunbar, UK

RETROFIT FOR THE **ENGINEERING SECTOR**

Braunschweig-based Blumenbecker Engineering GmbH & Co. KG specialises in system integrations for complex automation projects in the field of industry, logistics and environmental technology. The company's services range from the automation of production plants to robotics, visualisation and industrial IT through to the construction of switchgear and commissioning for clients the world over. Main areas of experience also include cost-effective partial and full retrofits to machines operating in the bulk materials industry.

THYSSENKRUPPGMBH / LAFARGE CEMENT

ThyssenKrupp Fördertechnik machines, equipment and systems are used all over the world at opencast mines and storage depots, at port terminals and coal-fired power stations and in stone and limestone quarries, where they are employed for mineral and raw materials extraction and processing and for product handling and transport.

Lafarge Cement UK operates 8 cement production plants and has a market share of about 50 percent, making it the country's largest cement producer. The company produces more than six million tonnes of cement a year.

THE COMMISSION

Cement producers Lafarge operate a widely spread raw-materials extraction facility at Dunbar in Scotland. The rock waste produced during the mineral processing stage is transported back to the extraction point on a transport system whose stacker boom alone has a width span of some 145 m.

The commission required the replacement of electrical equipment on several machines serving a conveyor system for site reclamation and recultivation. One of the most demanding challenges involved the synchronisation of the various caterpillar drives, which would ensure uniform and reliable operation of these giant machines and their full coordination and interaction.

PROJECT SCOPE

- synchronisation of different crawler drives to provide coordinated interaction
- complex PLC programming and adapted drive parametrisation
- delivery of high-comfort operator cabs, a remote control system and associated surveillance cameras
- MS switchgear
- MS motors

MECHANICAL DATA:

- conveyor output: 2800 t/h
- travel speed: 0 ... 5 m/min
- travel drive: hydraulic
- total conveyor length: > 200 m
- total weight: > 1000 t

ELECTRICAL DATA:

- power supply: 3.3 kV
- operating voltage: 415 V
- power feed: 1300 kW

PLC CONTROL SYSTEM:

- supplied by: Siemens
- PLC type: 3 x S7-315
- inputs: 840 digital/analogue
- outputs: 300 digital/analogue
- user interface: 3 x OP 177
- operation: local and video-supported remote control