



HIRSCHMANN

A **BELDEN** BRAND

World's largest coking plant produces with PROFIBUS and Ethernet.

Oil / Gas

Schwelgern near Düsseldorf is the home of the most modern coking plant in the world.



Here, the Schwelgern GmbH coking company belonging to the ThyssenKrupp Steel AG produces an annual 2.5 million tons of coke from coal for the neighboring large blast furnaces. The transformation takes place in a total of 140 of the world's largest coke furnaces

with a capacity of almost 80 tons of coal each. In addition to coke, gas, tar and other carbon materials are also produced from the coal. ABB is responsible for the automation and uses Hirschmann™ field bus and Ethernet components for the automation.



ABB

ThyssenKrupp Steel



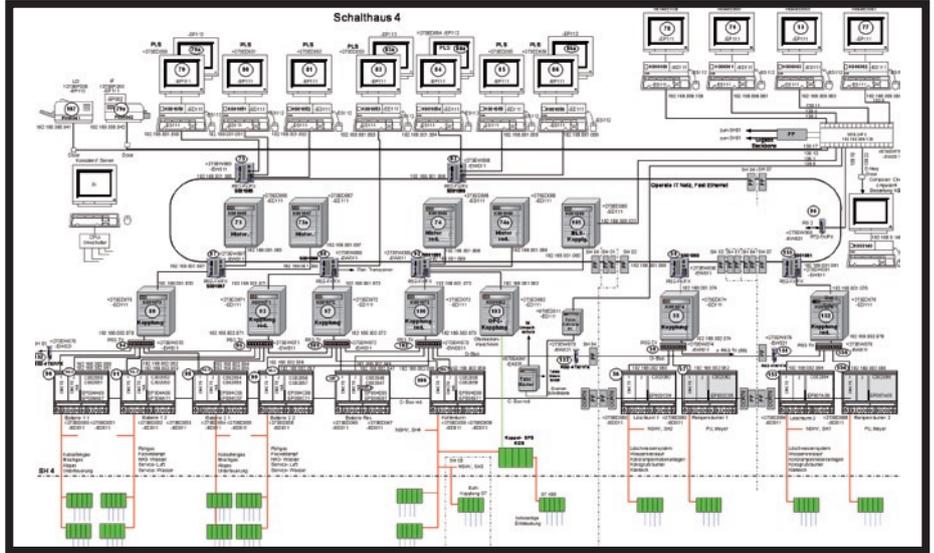
Remote I/O cabinet (details)



RS2 FX/FX



OZD PROFI 12



Project details

For the automation of the coking plant, ABB chose a consistent networking of the system. The continuous data flow stretches from the control level to every single sensor. The system therefore defines the current state of the art with its size and the implemented environmental equipment. The degree of automation allows a fully automatic, unmanned furnace operation. The data networks for PROFIBUS and Ethernet signals are designed redundantly for the necessary operational reliability and critical connections are made by fiber optic cables.

Project parameters

- Annual amount 2.5 million tons of coke
- Produce coke gas flow 155,000 m³/h
- 140 coke furnaces with 93m³ useful volume each
- 135 pressure processes / day
- approx. 100,000 data signals
- approx. 5,000 measuring points
- approx. 1,700 PROFIBUS users

Requirements

- Homogeneous data networking
- Gigabit Ethernet in the backbone
- Redundant Ethernet on the control level
- Redundant FOC-PROFIBUS networking on the process level

Solution

- Redundant rings on all levels
- Structured networking with PROFIBUS DP, Fast and Gigabit Ethernet
- FOC cabling for EMC safety
- 250 OZD Profi
- 22 RS 2 FX/FX
- 18 GES-24 FX
- 1 GRS 1403
- 2 MACH 3005

Why Hirschmann™?

- Universal product family
- Redundant design with fast HIPER-Rings
- Industry proven products