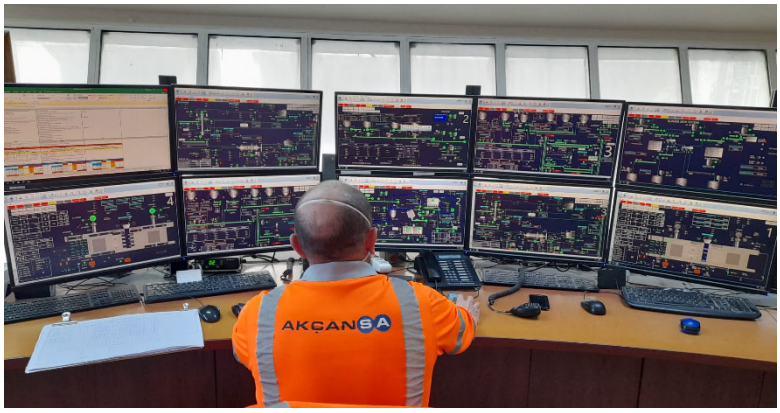
Complete Kiln Line of Heidelberg Akcansa Ladik Plant – Turn Key Basis Electrical and Automation System

Heidelberg Akcansa Ladik Plant is integrated cement and kiln production plant established in 1984 in Samsun and acquired by Akcansa Heidelberg in 2007. The plant has 1MTon/year cement and 650kTon/year klinker production capacity. Before the automation and electrical modernization project implemented, there were no automation system but conventional relay logic. Pacpro scope of supply included turn key basis automation systems, LV Distribution Panels, MCC supply, VFD&Soft Starter package as well as Design and Project Management.

Automation system is based on FLSmidth ECS DCS system and Siemens S7-400 based PLC and ET200M I/Os with Hot Swap structure for individual PLC system for each production facility over ProfiNet network, software licenses and IT supply. Total I/O counts are, DI:6200, DO:2400, AI:1024, AO:300. Besides automation system, Low Voltage Switchgears, Main Distribution Panels, MCC panels, VFD & Soft Starter package (100+ units) also included in the Pacpro scope of supply.



Customer Requirements

Implementation of new automation and LVS/MCC system works has to be completed in four weeks and in phases according to the plant production schedule. The customer requested a reliable, proven, state-of-the-art solution for the brown field project.

It was also requested that the process control system should be open for future capacity increases as well as group Oracle database from the SCADA and Historian system.

Solution Design

As the “Design and Project Management” are also under the responsibility of Pacpro, the design and implementation of the project was successfully completed in accordance with the planned schedule.

Pacpro Project Management responsibility were including and not limited with followings;

Design and deployment of DCS system: Simatic S7-400 and FLSmidth ECS Supervisory Control Center

Utilizing standard Process Libraries

Virtual Server architecture with ESXi Hypervisor and VMWare based solution

Electrical Distribution and LVS/MCC Panel Projects

Detailed Cable Layout and Cross Section Calculations

Programming, Commissioning and Start up

Customer Benefits

The customer's primary expectations were to reach sustainable production capacity, availability, minimum downtime and quality targets in their production with a reliable system based on the latest technology as well as open for future developments and 3rd party platforms like enterprise software, laboratory systems etc.

The Simatic S7-400 & FLSmidth ECS Supervisory control center based process control system enables to integrate different systems (like field instruments, VFD/Soft Starters, LVS Panels, MCCs, third party controllers for SNCR (NOx emission reduction system), Boilers, Kratzer, waste water treatment systems, some machinery with dedicated controllers etc) as well as group Oracle system via LAN & WAN. Thanks to ESXi Hypervisor and VMWare based solution for Virtual Server architecture, it is possible to quickly resolve the problems that may occur in the servers or clients and make it operational again in a very short time.

Hot Swap feature of PLC systems allows users to removal and insertion of I/O modules under power.

When the project completed in phases, Kiln production lines, Cooler system, Cement Mills, Raw Mills, Coal Mills, Silos and Transfer Systems, SNCR Systems, Kratzers were fully automatized with integrated architecture.

Technology / Application

- S7-400, ET200M Process Control System
- I/O modules with Hot Swap feature
- FLSmidth ECS Advanced Supervisory Control Center DCS
- Virtual Server architecture with ESXi Hypervisor and VMWare based solution for
- LVS & MCC systems
- Industrial Communications (ProfiNet, ProfiBus)
- SCALANCE Managable Switches
- AC Drives / VFD and Soft Starter Units

Partner Industry Focus

Cement and Minerals Industry Solutions

Complete Kiln Line

Cement Mills, Raw Mills, Coal Mills, Crushers

Material Handling

Benefits Arguments

Integrated Architecture Based on Simatic S7-400 PLC & FLSmidth ECS DCS System

Production Targets

Quality Targets

Flexible production

Availibity

Customer Information

Please Contact Pacpro