

FOUNDATION Fieldbus

Kalkitech's offerings

FOUNDATION Fieldbus

FOUNDATION Fieldbus is the modern plant automation architecture which is increasingly becoming important in the process industries. It replaces the traditional 4-20 mA platform and use all digital technology for data acquisition and control. In FOUNDATION Fieldbus, process control is becoming more efficiently distributed to the field devices and the automation assets get more attention by efficient monitoring provided by the technology.

Most of the DCS manufacturers are now supporting FOUNDATION Fieldbus along with their proprietary systems and with other conventional systems. Manufacturing industries, Refineries, E&P industries, Petrochemicals are using DCS for the plant automation. More and more of these industries are shifting towards to the FOUNDATION Fieldbus. An ARC study says by 2011, \$2279 million will be FF market.

Applicable Standards

- ISA S50.02: Fieldbus Standard for Use in Industrial Control Systems
- IEC 61158: Industrial communication networks – Fieldbus specifications
- IEC 61131-3: PLC programming languages
- IEC 61804: Function Block Applications in Control Systems

Kalkitech's offerings to the FF market

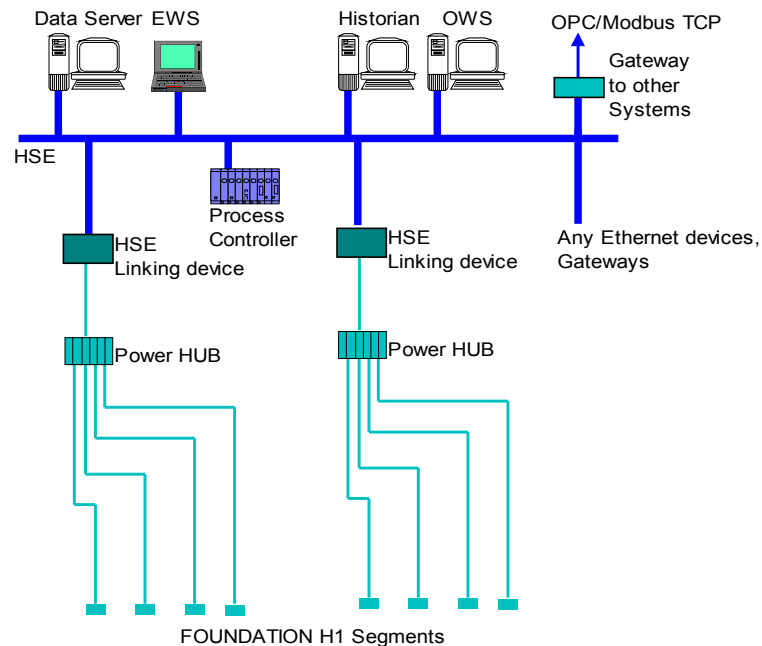
1. Process Control System (PCS)

Process Control System (PCS) for small and medium sized process, utility plants in oil and gas industries where DCS is expensive but a distributed control requirement exists.

General functional features of the PCS

- FOUNDATION Fieldbus based open architecture.
- FOUNDATION HSE on Industrial Ethernet.
- Multiple H1 segments interfaced to HSE
- PLC/IEC61131 control programs for integrated control.
- Interface to other systems like DCS, SCADA, MIS, ERP
- Interface to Non-fieldbus devices- PLC, drives, Field instruments.

System Architecture



PCS has FieldConnex from Pepperl+Fuchs for connecting field devices to the system. FieldConnex is a comprehensive infrastructure for FOUNDATION Fieldbus H1. It comprises of Power supplies, Fieldbus Power hubs, the trunks, Fieldbarrier, Segment protector and process interfaces. Each H1 segment has diagnostic module for advanced diagnostics and maintenance.

An Industrial Ethernet LAN forms the physical link for the FOUNDATION HSE. H1/HSE linking devices connect the H1 segments to Ethernet. At HSE level, Data servers, engineering stations, and operator workstations are provided.

A PLC based process controller executes control logic for all integrated supervisory control of the process.

Process Data server, operator workstation and historian are built on GE Fanuc Intelligent platforms.

2. Fieldbus Consulting services

Designing of H1 segments is a task for the automation engineers, which they need to do carefully. They have to plan, design, validate and document the Fieldbus segments in such a way that data updation, control loop performance etc. are optimized for the best performance of the process.

We provide consulting services for FOUNDATION fieldbus implementation projects. We design the H1 segments for the customers process automation system optimizing cost and performance, we assist in component selection and configuration of the network.

Our commissioning team take up installation and configuration of fieldbus segments, generate device description files, program the fieldbus devices and fine tune the link schedules for the best time performance.

The HSE can be built both redundant and non-redundant. Our engineering and commissioning team undertake design of the network, installation, configuration and commissioning of the HSE network and HSE devices.

Control logic development for the PLC and graphic development for the workstations are also undertaken by the engineering and commissioning team.

Kalkitech's consulting services helps the customer in migration projects, pilot projects and modification and improvement projects.