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Natural Gas Distribution Network in Brasil.

Oil / Gas

Natural gas distribution network

The Northwest Region of São Paulo State, in the South of Brasil, is recognized as a leader in agricultural and related industries. In addition to orange juice production, this region has been also a worldwide leader in the production of sugar and alcohol. The additional energy demand is met through Thermoelectric Power Plants which stimulate demand for natural gas. A 575 km pipeline links this region with the main Bolivia-Brasil Gas Pipeline. Gas network management is realized by a High Speed Industrial Backbone.

GE Supply

UNICONTROL INTERNATIONAL

Local Area Network utilizing TCP/IP Standard

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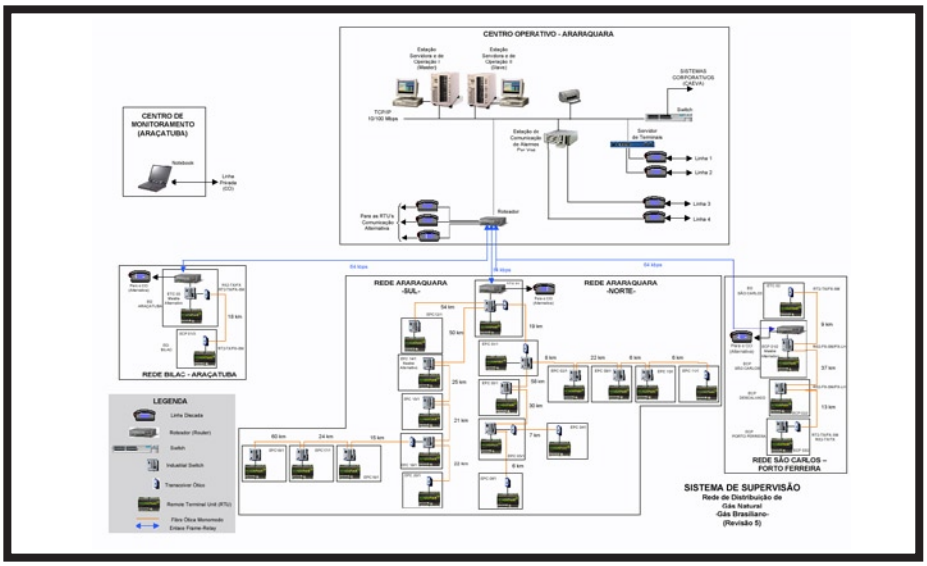

MACH 3002

RS2-FX/FX

Project details

A high level of technical integration and co-ordination is required for the successful deployment of this complex system. A Local Area Network utilizing TCP/IP Standard serves the requirements.

Project parameters

- Customer: Gas Brasiliano Distribuidora – Concessionária de Gás Canalizado Área Noroeste.
- Contract Period: Under development
- Contract Value: US$ 900.000
- Key Data:
  - 575 km distribution network
  - Redundant Server SCADA System
  - 24 Remote Terminal Units (RTU)
  - Alarm Announcing Server
  - Frame Relay and Fiber Optic Communication
  - Solar Panels Power Supply
  - High Speed Industrial Standard Backbone
  - RTU Ethernet TCP/IP standard protocol

Requirements

- Custom-built SCADA functionalities for gas network management
- Visual picture of system operation
- Process intervention through a graphic user interface (GUI) protocol
- User friendly, SCADA and automated maintenance tools.
- Integration Performance

Solution

- Network topology:
  - Gas distribution line to different locations
  - Singlemode connections up to 60 km
  - Connection of the gas distribution area to the Central Station with frame relay
- Devices used:
  - Hirschmann™ Rail Switches RS2-FX-SM/FX-SM, RS2-FX-SM/FX-LH, RS2-FX- LH/FX-LH
  - Hirschmann™ Rail Transceiver RT2-TX/FX-SM
  - Hirschmann™ Modular Gigabit Ethernet Switch MACH 3000 in Central Station
- 24 stations along the new pipeline to receive gas from the GASBOL pipeline, maintain flow rates, measure and control the physic characteristics of the gas
- Operator Control Center in Araraquara City
- Monitoring Center located in Araçatuba provides the regional team data and tools
- Redundant Real Time and Historical Data Server, Operator Stations and Alarm Server
- Client-Server and SQL standard data base to integrate the system with the Gas Brasiliano Corporate System
- Supervisory Control Software
- Public Frame Relay Technology
- Fibre optic cables (quasi-star configuration)
- Ethernet 100 mbps
- Telecommunication system redundancy
- Low power consumption RTUs for controlling and monitoring the stations and to manage communication to flow computers or even chromatographers.
- Solar Panels and large capacity batteries
- Alarm Announcing Server, automatically makes calls to the maintenance team

Why Hirschmann™?

- Redundancy concept with HIPER-Ring
- Homogeneous product family
- Industrial standard products