

PIPELINE, NATURAL GAS MONITORING & CONTROL

THE CUSTOMER

Distributor of natural gas in Germany.

THE APPLICATION

All gas pipes have a number of measuring and control points at various sections of the pipe. TSAT 2000 is providing communication between these measuring and control points and the central control facilities. The system is divided into 10 sub-networks. This configuration is handled by TSAT, which is providing group addressing with the corresponding ports at the central control facilities.

THE INTERFACE AND THE EQUIPMENT

Centrally the hub is connected to an ABB (ASEA BROWN & BOWERY) and an ATLAS front-end system. In the field, at the monitoring and control points, remote terminal units of ABB type RTU 200/210 is used. The protocol used is RP 570/571 in polling modus. Both centrally and remote the equipment is connected to TSAT 2000 using RS232 standard interface.

FACT SUMMARY:

Application	Remote monitoring and control gas pipeline based on ABB S.P.I.D.E.R.
Network	5 Central TSAT HUB and 120 sites with Remote Terminals
Interface	RS 232
Application protocol	Proprietary ABB, RP 570/571. Group addressing.
Application interface	1.200, E,8,1
Speed Satellite Link	1.200 bps
Average package size	10 bytes
Message size	>250 bytes
Response time requirement	Less than 3 minutes total cycle time for polling all remote stations.
Uptime per day	BER < 10E-8 for minimum 99% of the time
Antenna mount	Standard wall and post/mast mount
Temperature environment	Germany
Wind environment	Germany
Humidity environment	Germany
Implementation	October 1993 – 99
Location	Germany
Satellite	DFS Kopernikus
Service Provider	VSAT Satellitenkommunikation GmbH