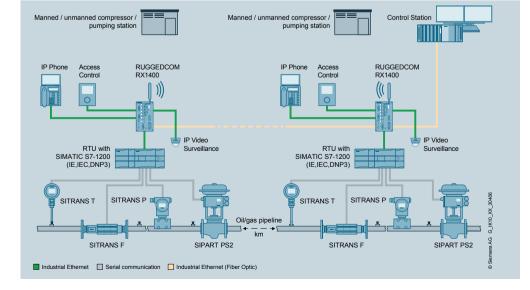# SIEMENS
Ingenuity for life

Redundant wired and wireless data transmission along gas or oil pipelines

Transport of oil and gas through pipelines is monitored with process instrumentation for safety reasons. Pipelines are often used in areas where it is difficult to connect to an existing communication infrastructure. They can also be located in places with extreme environmental conditions, for example, in explosive atmospheres, with wide ranging temperatures and high degrees of humidity. Connectivity to a control center is achieved with fiber optic cabling or a wireless modem.

Advantages

- Reliable and secure communication (integrated firewall, IPSec/VPN) for end-to-end data availability along the pipeline

- Increased availability and efficiency: dual SIM cards for backup wireless network access

- Reduction of HSSE incidents without compromising production targets

- Remote access to distant facilities and locations to enable control and monitoring from a central location and reduce the need to dispatch technical experts on site, thereby permitting OPEX savings

- SFPs for long range connectivity with fiber optics up to 100 km

- Wide operating temperature range (-40 °C to +85 °C)

Products used for this application

- **Industrial Ethernet switches – RUGGEDCOM**
  Highly reliable and specifically designed for use in harsh environments: our RUGGEDCOM industrial Ethernet switches.

- **Remote networks – SCALANCE M**
  Choice of routers: the SCALANCE M product range includes mobile wireless routers as well as routers for wired communication.

- **Process instrumentation**
  Our comprehensive process instrumentation portfolio offers best-in-class transmitters for the widest range of applications.

- **Automation – PLCs**
  The SIMATIC range of controllers comprises basic, advanced, distributed and software controllers offering impressive scalability and integration of their functions.

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