

SIXNET[®]

APPLICATION STORY

Contact Information

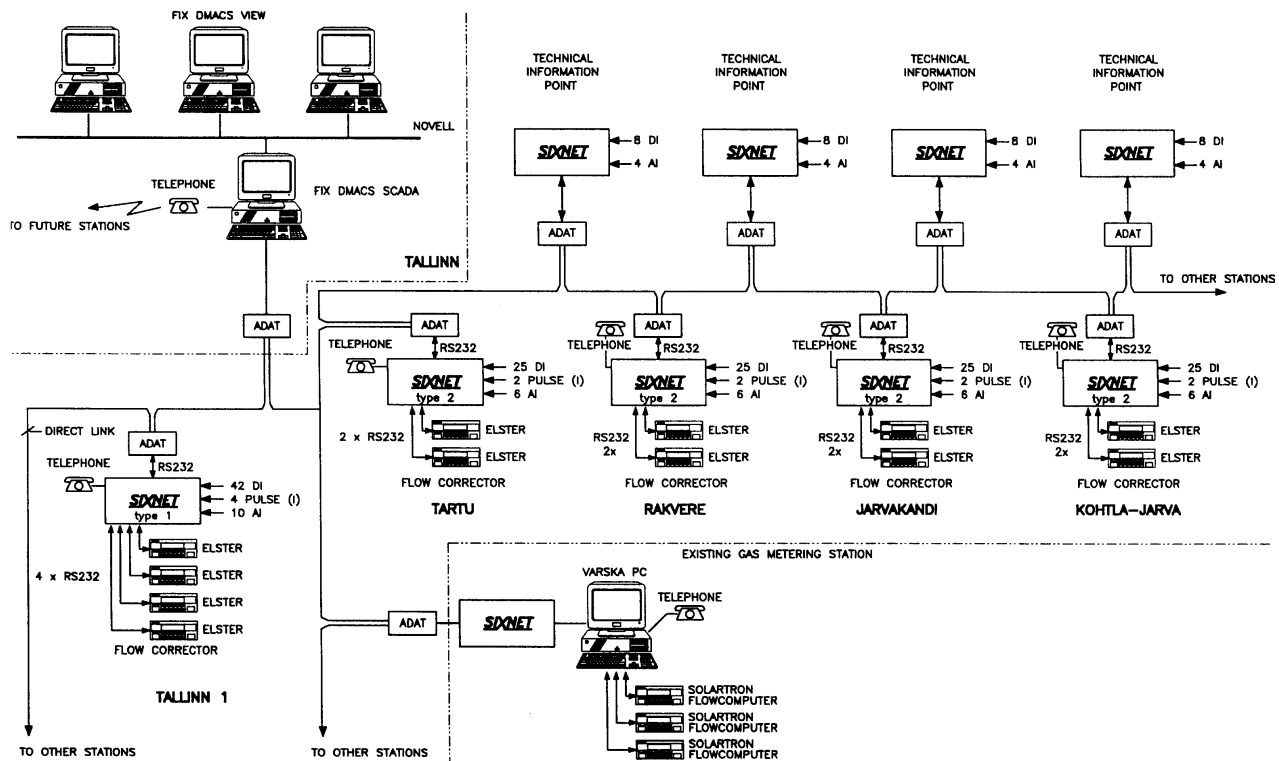
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Gas Pipeline Custody Transfer Across Estonia

The gas distribution and transfer network across Estonia monitors and reports gas flow over standard telephone lines.

SYSTEM OVERVIEW

The Eesti Gaas pipeline network travels across Estonia for both domestic energy usage and for export to Russia. The nationwide system requires flow measurement, datalogging, communication and reporting which is handled by a SIXNET system reporting into Intellution Fix software. This system was originally installed using SIXNET IOMUX RTUs has now been upgraded to include SIXTRAK "I/O for Windows."



This diagram shows the configuration of Eesti Gaas' remote control system

At each flow measurement station, Elster Flow Correctors and Solartron Flow Computers measure the gas flow and report it to the SIXNET IOMUX RTU over a serial cable. A special secure "ADAT" communications protocol is used to send the information over a telephone line to the central station in

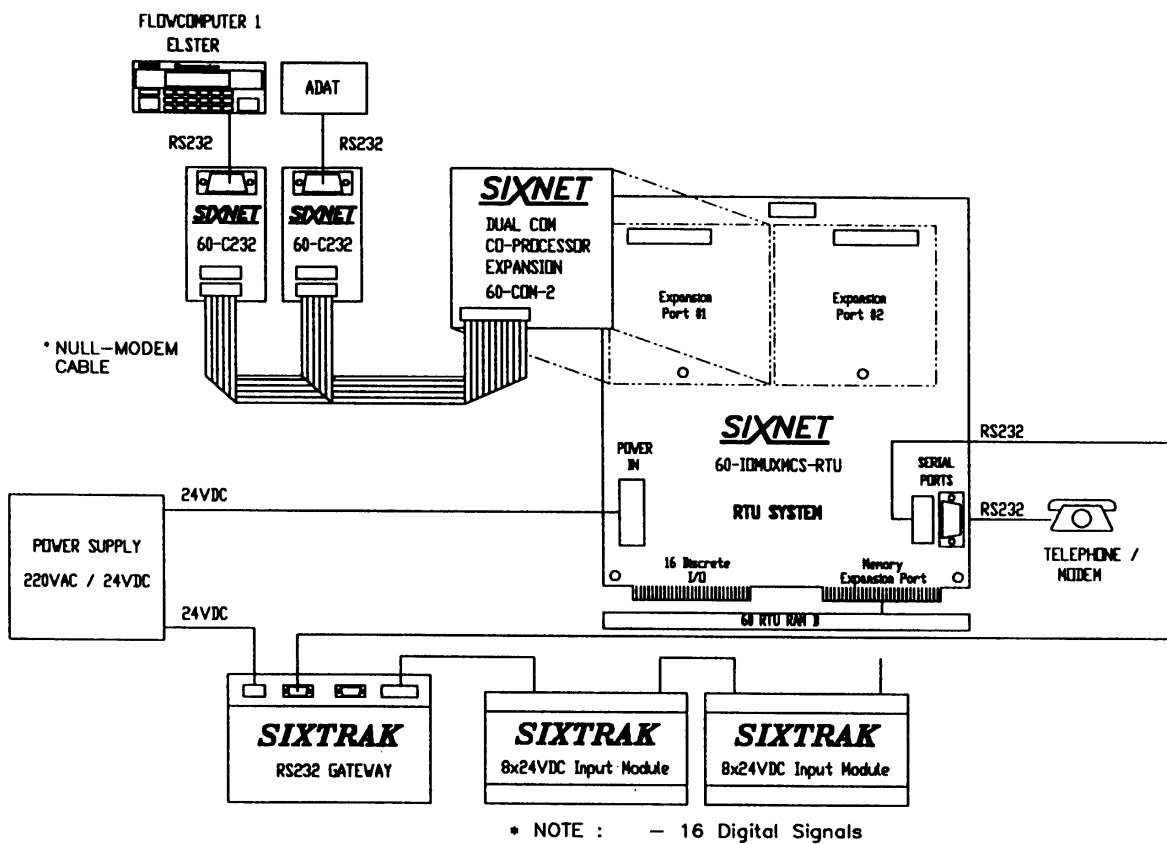
Tallinn. Both the flow meters and the ADAT protocols are programmed into the IOMUX RTU using the C language.

Problem: The nationwide gas delivery system in Estonia needed updating for faster and more modern communications.

Solution: The SIXNET IOMUX system was upgraded to include SIXTRAK I/O for Windows

The original system included ten measurement stations. Some stations perform custody transfer of gas leaving Estonia for Russia. Several of the measurement stations report usage by large gas customers. Plans call for periodic upgrades and expansion to other sites within Estonia.

Recently, these systems were upgraded to include additional I/O by connecting a SIXTRAK gateway with both a discrete and analog input module in each station. The SIXTRAK gateway instantly connected to the existing IOMUX RTU using peer I/O moves because both the SIXTRAK and IOMUX use the identical SIXNET protocol. Now each station is expandable to 1024 I/O and has a Windows PC connection through the SIXTRAK gateway's Plant Floor RS232 port.



This diagram shows the components in the new station configurations.

SYSTEM COMPONENTS

Each measurement station includes:

- 60-IOMUX-MCS-RTU programmed in SCIL (SIXNET C Industrial Language)
- 60-COM-2 communication co-processor with (2) 60-C232 extra RS232 serial ports
- ST-GT-232-02N SIXTRAK I/O gateway
- (2) ST-DI-024-08F digital input module.