

## PSI AG at a glance

PSI develops and integrates software solutions and complete systems for utilities, manufacturers and infrastructure providers in telecommunications, traffic and safety. The company was founded in 1969 and currently employs 1,400 individuals in eleven German and eighteen international locations in Europe, Asia and North America. In financial year 2008 the Group achieved revenues of 128,9 million euros. The PSI AG is listed in the Prime Standard of the German stock exchange.

Net Sales 2008	128,9 million €
Equity	33,7 million €
Employees	1,400

In close cooperation with industry-leading pilot customers, PSI continuously invests in product innovations and the further development of existing software products. The Group enjoys close partnerships with internationally leading providers of basic IT technology as well as successful exporting partnerships with large plant providers and software producers.

In the energy sector, PSI develops turn-key solutions on-time and within budget for the transportation, distribution and management of oil, gas, water and electricity. In addition to developing state-of-the-art control systems, PSI offers interactive business applications such as real-time modeling, demand forecasting, leak detection and location, transaction management and optimization of business operations.

In Europe PSI is one of the leading independent solution providers for controlling and monitoring complex network infrastructures counting DONG A/S (Denmark), Snam Rete Gas S.p.A. (Italy), OAO Gazprom (Russia), OAO LUKOil (Russia), E.ON Ruhrgas AG (Germany), OMV AG (Austria) and Transalpine Oil Pipeline GmbH (Germany) among its customers.

As general contractor, PSIEnergy Oil & Gas delivers turn-key solutions consisting of

- State-of-the-art software
- Computer and peripheral hardware
- Telemetry control system
- Network and communication equipment

Over 450 highly qualified engineers, physicists and mathematicians are employed in our energy division, 140 dedicated to the Oil & Gas sectors.

It is PSI's strategic aim to ensure and improve continuously the quality of our systems. To further this PSI introduced a Quality Management System in 1994. This system was ISO 9001 certified by TÜV Bayern Sachsen in 1994 and is re-certified every three years.



## SCADA

PSI's SCADA is a standardized, highly available advanced energy control system for the control and supervision of:

- Gas transmission and storage
- Gas distribution and grid networks
- Crude and product pipelines
- Water distribution networks
- Electricity transport and distribution

PSI's technology is based on an open systems architecture with specialized application software modules for the control and monitoring of the production, transportation, storage and distribution of oil and gas in single or multi product pipelines. PSI's SCADA was developed and tested with a number of selected energy partners.

## Pipeline Management System

In addition to the normal SCADA functions, a diversity of higher-level functionalities optimize and control operation of the pipeline:

- Special procedures & technologies for detecting and locating leaks
- Planning system for the operation of oil pipelines and tank farms (unloading process, pumping processes and deliveries to the output terminal)
- Foresighted simulation for early identification of critical operational situations
- Batch tracking and pig tracking with transient real time simulation
- A training and test system based on real process situations
- Short and long term scheduling
- Energy optimization

## Gas Management System

Handles gas management functions such as dispatching planning (daily, weekly,...), contract handling, consumption forecast, simulation (concurrent, look-ahead, what-if), leak detection and localization, gas quality tracking and optimization could be added to the SCADA system on request. This functionality is totally integrated in the operation and visualization philosophy.

## Gas Transaction Management

The gas trading and transportation systems allow

- Gas trading with and without connection to a control system

- Manual and user defined automated usage of contracts. Dispatch prioritisation.
- Integrated delivery forecast for contracts
- Operation of gas transportation & 3rd party access
- Contractual & hydraulic validation of nomination
- Management and monitoring of contracts for gas trading, transportation & gas storage
- Free defined balancing & gas flow reconciliation
- Confirmation of capacity
- Sophisticated user definition as traders, pipeline operators or 3rd party.
- Storage management for physical and virtual storage

## Integrated Communication Center

The integration of data flows providing accurate and timely information in real-time with 100% accuracy, predictability and reliability.

- Web-based, E-mail, telex, fax & pagers
- Standard supported: Edigas, Tase.2, OPC, XML

## Billing System

- Data acquisition and validation
- Invoicing & penalties
- Combustible calculation
- Energy accounting
- Interface to standard ERP systems
- Gas flow reconciliation

### **PSI Aktiengesellschaft für Produkte und Systeme der Informationstechnologie**

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