

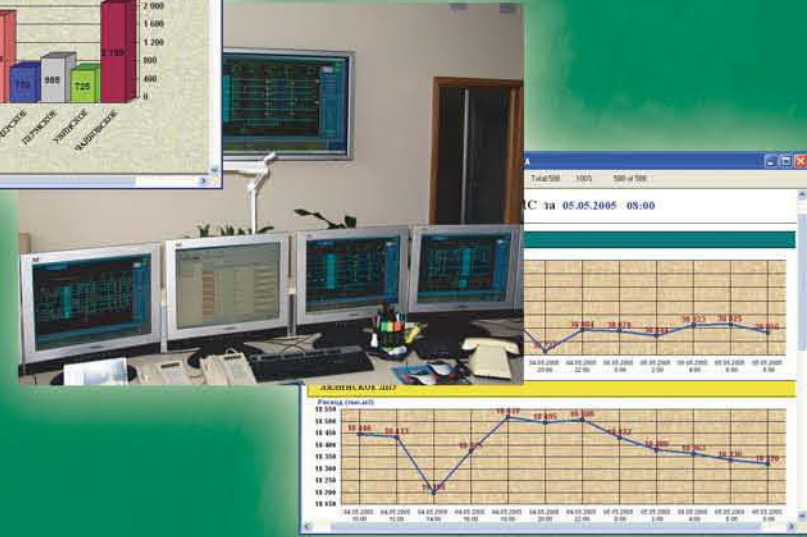
Installations

Main references include:

- Permtransgas multy-level control system
- Mezregiongas gas supply company
- Volgogradtransgas multy-level control system
- Tattransgas multy-level control system (under development)

ASODU Automated system for dispatching applications

(MES subsystem of SPURT platform for dispatching applications)



The effective and reliable solutions for SCADA systems of different industries with a continuous technological cycles

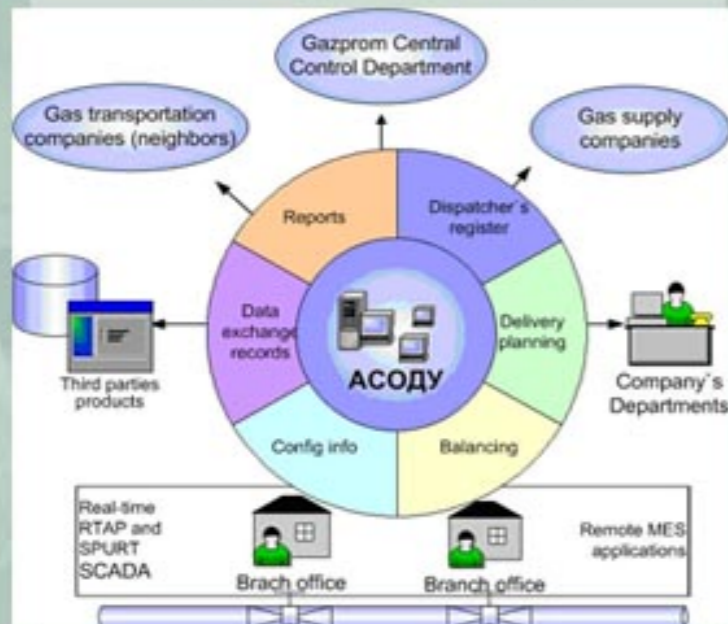
«ATLANTICTRANSGASSYSTEM»

Automated system for dispatching applications

ASODU is a subsystem of SPURT integrated platform and designed by AtlanticTransgasSys-tem. Main application industry is natural gas, but solutions and software utilities could be used and for another industries, for example, oil and refinery products transportation, water supply, electricity, utilities and others.

ASODU is a distributed multi-user system which should be considered as a Manufacturing Execution System (MES by ISO 95 terminology). Using the system, the company's employees of different department and different responsibility might perform their missions for processes planning, supervising and control. The working places are flexible placed and distributed across the company, even if the company cover hundreds and thousands square kilometers of territory and has a number of remote branches.

ASODU is one of infrequent MES system for industry with continuous processes of natural gas exploration, storing, transportation and distribution, while the most of MES systems are well-designed and implemented for batch or recipe production. The important thing is that ASODU as a part of SPURT is close integrated with real-time SCADA, that makes the product quite unique and high-powered.



Main ASODU functions:

- Data collection and recording – 1h, 2h or daily reported data for official dispatching re-ports and notes. Includes data collection from SCADA subsystem, remote ASODU or SCADA applications (SPURT or 3rd parties).
- Manual data input or correction (with obligatory tracing the history of data changes).
- Report (on formal official form) generation.
- Engineering and specialized calculations (depending of the industry).
- Analytic report generation and presentation in different forms.
- Data export to ERP and another systems.

| Склад | Тип | Величина | Величина | Величина |
|---------|-------|----------|----------|----------|
| Склад 1 | Тип 1 | 1000000 | 1000000 | 1000000 |
| Склад 2 | Тип 2 | 2000000 | 2000000 | 2000000 |
| Склад 3 | Тип 3 | 3000000 | 3000000 | 3000000 |
| Склад 4 | Тип 4 | 4000000 | 4000000 | 4000000 |
| Склад 5 | Тип 5 | 5000000 | 5000000 | 5000000 |

Month-deep planning of natural gas delivery (consider the owner of natural gas and type of delivery contract)

For example, for natural gas transportation SPURT solves following tasks:

- Collection, storing and processing of 1/2h and daily parameters about: key pressures, com-pressor stations modes, natural gas delivery, fuel gas consumption (for turbines of gas com-pressors), the quality of natural gas and chromatography results, environmental condition and so on – inputted manually or from SCADA and other systems,

| Склад | Тип | Величина | Величина | Величина |
|---------|-------|----------|----------|----------|
| Склад 1 | Тип 1 | 1000000 | 1000000 | 1000000 |
| Склад 2 | Тип 2 | 2000000 | 2000000 | 2000000 |
| Склад 3 | Тип 3 | 3000000 | 3000000 | 3000000 |
| Склад 4 | Тип 4 | 4000000 | 4000000 | 4000000 |
| Склад 5 | Тип 5 | 5000000 | 5000000 | 5000000 |

Natural gas delivery balancing

- Checking the authenticity of the data (the boundaries of value and so on).
- Operating with requests and plans of fuel gas and electric power consumption, recording of the facts of consumption.
- Operative (daily and monthly) balancing
- Producing formal acts (forms) about natural gas custody transfer between owners.
- Planning of natural gas transmitting and delivering, recording the volumes and parameters of shipped natural gas.

- Calculation of current natural gas stock in pipelines;
- Calculation of expenses for natural gas transportation ;
- Technological calculations for pipelines;
- Data presentation in form of tables or diagrams.
- Generation and printing of reported forms;
- Tracing of users access rights for different tasks and data.
- Working with passport data for transportation pipeline system.
- Data transferring to ERP and office applications, GIS and others.

| Модуль | Имя | Тип | Величина |
|----------|-------|-------|------------|
| Модуль 1 | Имя 1 | Тип 1 | Величина 1 |
| Модуль 2 | Имя 2 | Тип 2 | Величина 2 |
| Модуль 3 | Имя 3 | Тип 3 | Величина 3 |
| Модуль 4 | Имя 4 | Тип 4 | Величина 4 |
| Модуль 5 | Имя 5 | Тип 5 | Величина 5 |

Integration ASODU modules – provide the access for different modules and tasks according the access right

Main principles of ASODU software architecture

- ASODU has a module structure that allows to set up only selected modules.
- ASODU traces all steps of data "life circle": export/import, faults, mistakes and so on.
- Dialogs are on Russian and use natural language forms.

Software platform

- ASODU is based on ORACLE 9i and higher releases.
- Reports and dialog forms are implemented by web-technology or Crystal Report or Excel
- All reports are configurable.
- New reports and calculation modules can be easy added to the ASODU.

Key features of ASODU

- Server-client architecture with calculations performing on server
- Thin client with "modest" (small) requirements to hardware
- High level of routine actions automation.
- Templates for reports creation
- Openness for adding new calculation and application modules.
- Reliable, 24h * 365 days operation.
- Security and accesses controls



Transparency of the data model and possibility to find any data

Comfort and simplicity to use – Russian language dialogs is optimized for frequent operations.



Natural gas stock in pipeline system calculation and data presentation in graphic form