



BISMARC

Process Monitoring & Control System

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Application

- SCADA
- Automatic control and management of industrial process
- Observation (monitoring) tasks
- Telemetry
- M2M and IoT
- Pipeline control
- Energy monitoring



Functions

- Data collection
- Signal processing and calculations
- Deflection processing and signaling
- Application tasks
- Data archiving
- Protocols and reports
- Technology process visualization
- Remote control of devices



Utilities

- Windows or Linux operating system /User may choose which system to use/
- “Client-server” architecture
- TCP/IP communication protocol
- Data collection modules
- SQL and in-memory noSQL databases
- Data presentation



System Architecture

- Redundant central servers BISMARC®:
 - Data collection and processing
 - Data archive
 - Client query operation
- Ethernet network
- Workstations for data representation and process control:
 - Server access via TCP/IP and HTTPS
 - BISMARC® Plant Inspector® software
 - BISMARC® Web Browser Based UI
 - BISMARC® Mobile Based UI
- Decentralized architecture
- Ethernet network
- Workstations (client/server IP):
 - Data collection and processing
 - Data archive
 - BISMARC® Plant Inspector® software for data presentation
 - BISMARC® Web Client for easy to use no configuration required operations



System Functions

- Different data types and subtypes
- Parameter processing:
 - Calculation of parameter values
 - Parameter quality value assignment
 - Monitoring of deviations from emergency limits
 - Signaling
 - Archiving
- Report generation subsystem
- Recording emergency alarms
- User control subsystem



Data Acquisition

- Processes BISMARC® server
- TCP/IP communication protocol
- Integrated interface for RTP controllers
- Interfaces RS 232/485, OPC, for Modbus devices
- Interfaces for REST and IoT devices
- Possibility to adapt any protocol:
- Data transfer environmental converters
- BISMARC® data collection system API



Long Term Data Storage

- DBVS PostgreSQL
- Storage of system parameter description
- Storage of software configuration
- Storage of long-term archive

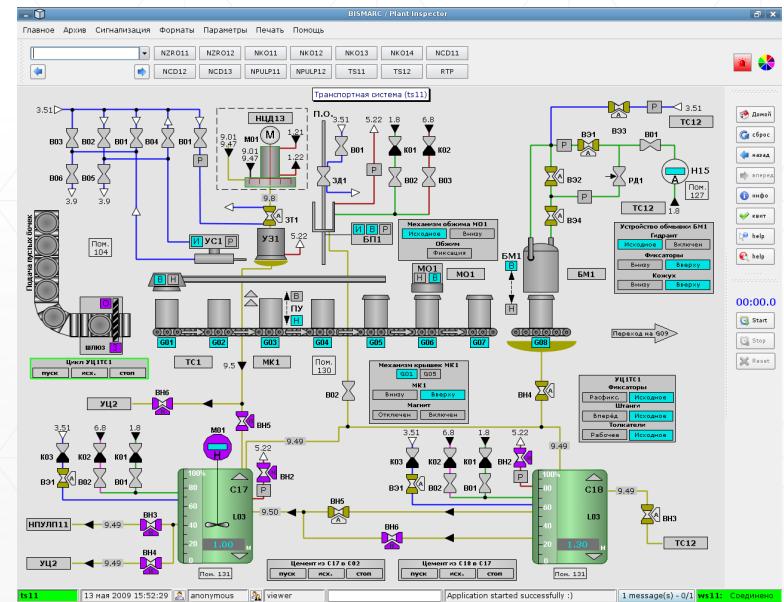
Real Time Storage

- Real-time database
 - Apache Cassandra
 - Stored in server memory and Cross servers
 - Quick data access
 - Storage of system configuration
 - Storage of instantaneous parameter values
 - Storage of transient archive
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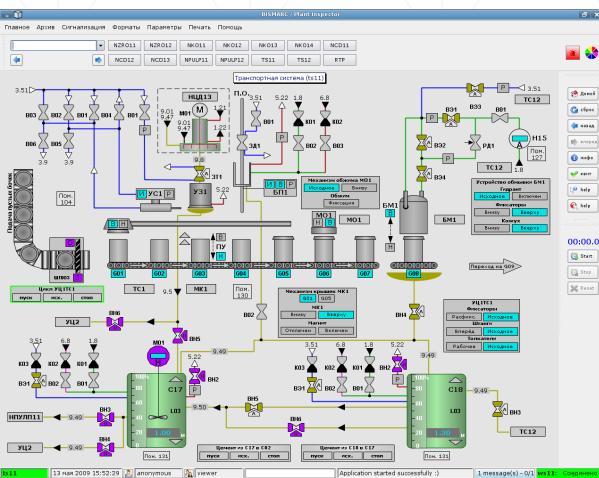
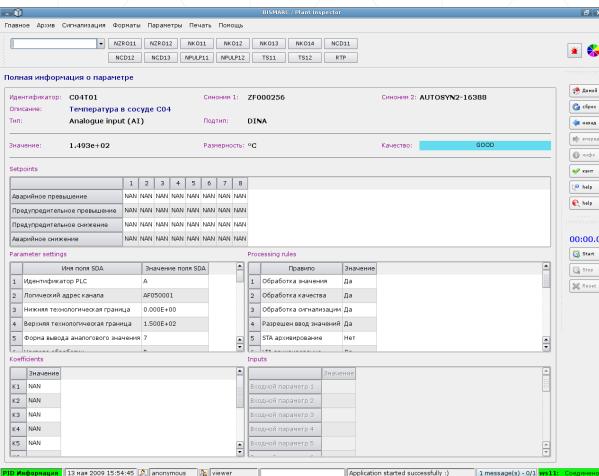
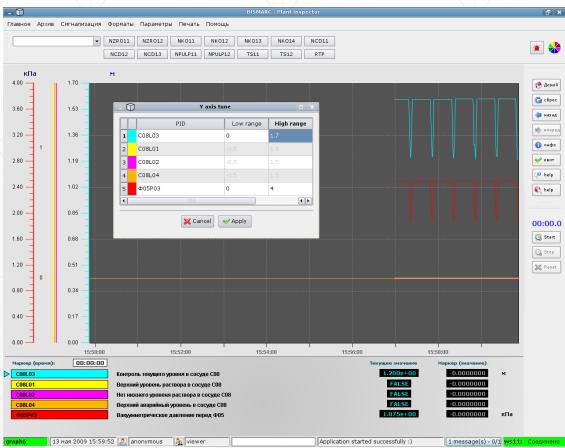
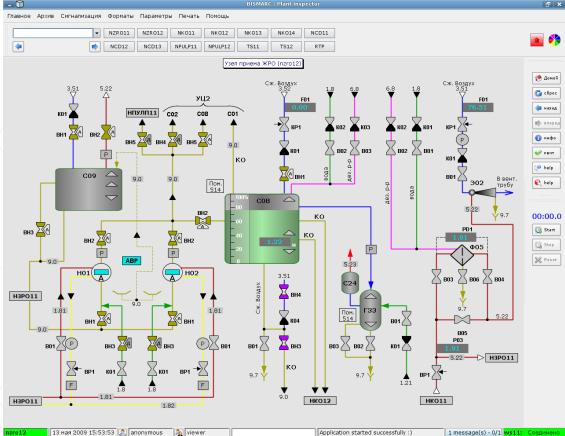
Classic Data Presentation Software



- Data representation at workstation
- Plant Inspector® client software
- Multilanguage User Interface
- Graphic Visualisation

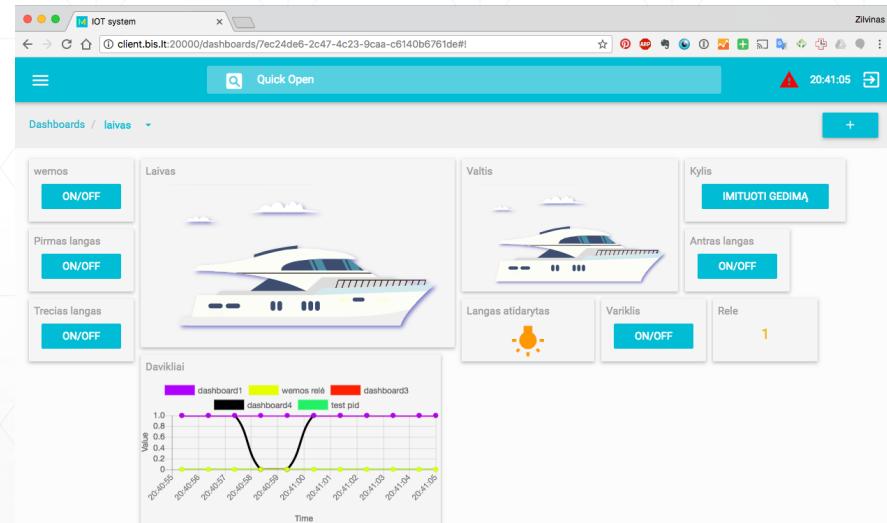


Classic Data Presentation Software

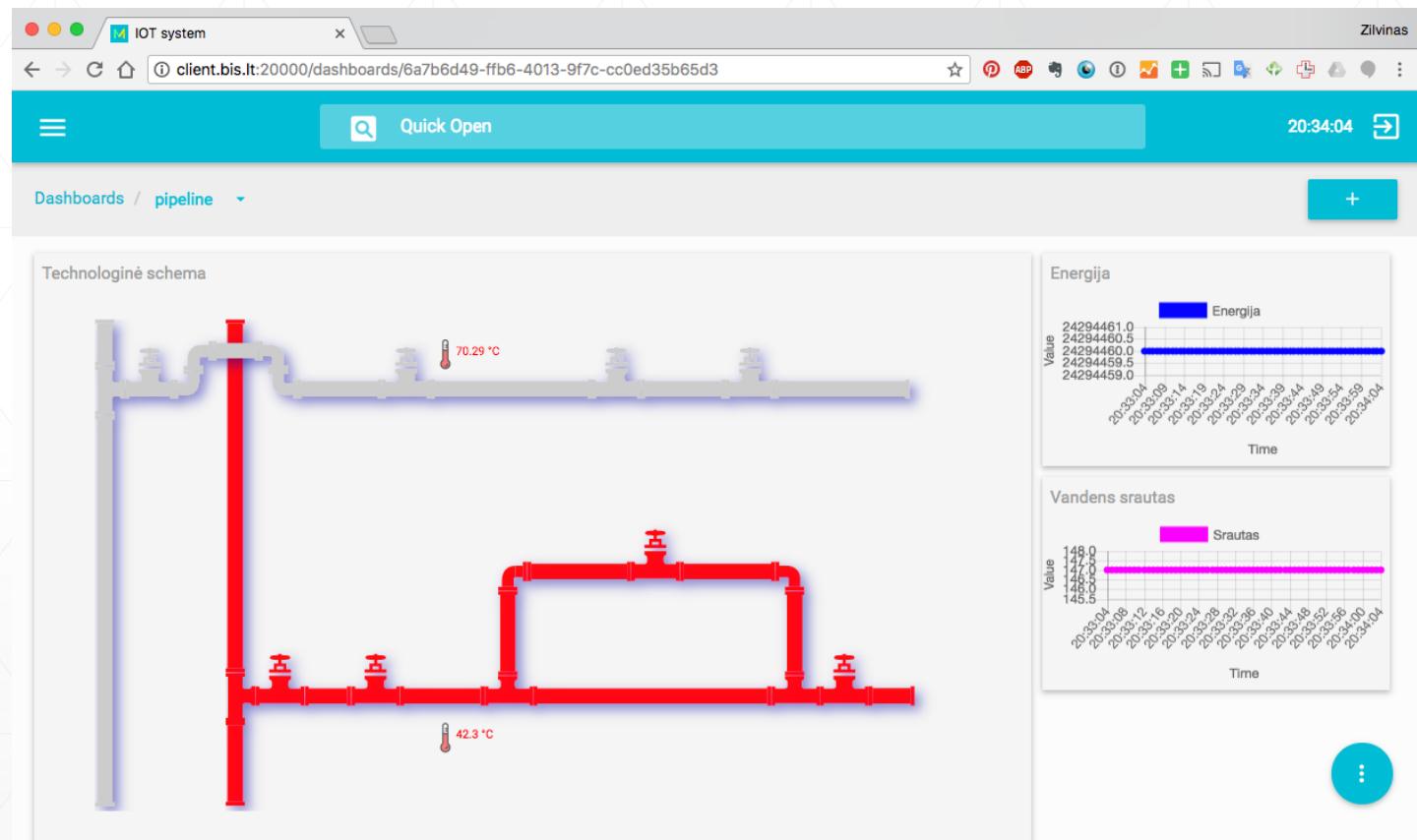


Modern Browser Based Data Presentation Software

- Data presentation at workstation
- Data presentation on mobile devices
- No installation required
- Multilanguage User Interface
- Graphical visualization
- Support for complex graphical objects
- HTML5 support
- SVG Support
- Preferred for 21st century solutions!



Modern Interface samples



Sample components

