Controlling and optimizing processes

Software for Utilities and Industry

PSI

Smart software for optimizing the flow of energy and materials

PSI is an independent software producer that has been a technological leader in process control and information systems since 1969.

The PSI Group develops software products for optimizing the flow of energy and materials for utilities and industry. They ensure sustainable energy supply, mobility and production by combining AI methods with industrially proven optimization methods. The innovative industry products are sold both directly and via the cloud-based PSI App Store.

Thus, PSI software ensures safe, efficient energy supply and optimized production and logistics processes worldwide. We guarantee maximum competitiveness, technological independence and investment security for our customers.

Reasons for choosing PSI software.

We provide outstanding software products for our customers, applying all our experience. We are continuously enhancing our standard solutions and adapting them to current requirements.

In the innovation process, PSI also uses the successful four-phase model for product development. PSI collaborates with industry-leading pilot customers and scientific institutions right from the initial phase to ensure customer benefit from the outset.

The PSI Group has been certified in line with the ISO 9001 quality standard since 1994. IT security certification in line with ISO 27001 has been in place throughout the Group since 2014.

Process optimization

PSI software incorporates experience gained over several decades in thousands of successful projects as well as engineering and business-management process expertise from the energy sector, the metal and automotive industries, logistics and transport.

Scalable in real-time

Our highly scalable, flexible and integrable software products are particularly suitable for large volumes. They enable real-time synchronous collection and processing of very large data volumes and simultaneous access of multiple users.

High availability

In line with application requirements, PSI delivers systems with availability of up to 99.999 percent, including for the extremely high availability of electricity grid management.

Investment security

As a technologically and commercially independent, leading-edge software manufacturer, PSI provides long-term investment security. We have been supplying our customers with regular updates, comprehensive services and maintenance. Ongoing enhancements of our software products in the form of security updates and functionality.

Powered by AI

PSI contributes significantly to pushing the use of Artificial Intelligence (AI) as a key technology in the industry. Thus, for decision support and optimization AI software has been integrated into a large number of PSI products for over two decades and has also been successfully used productively in customer projects.
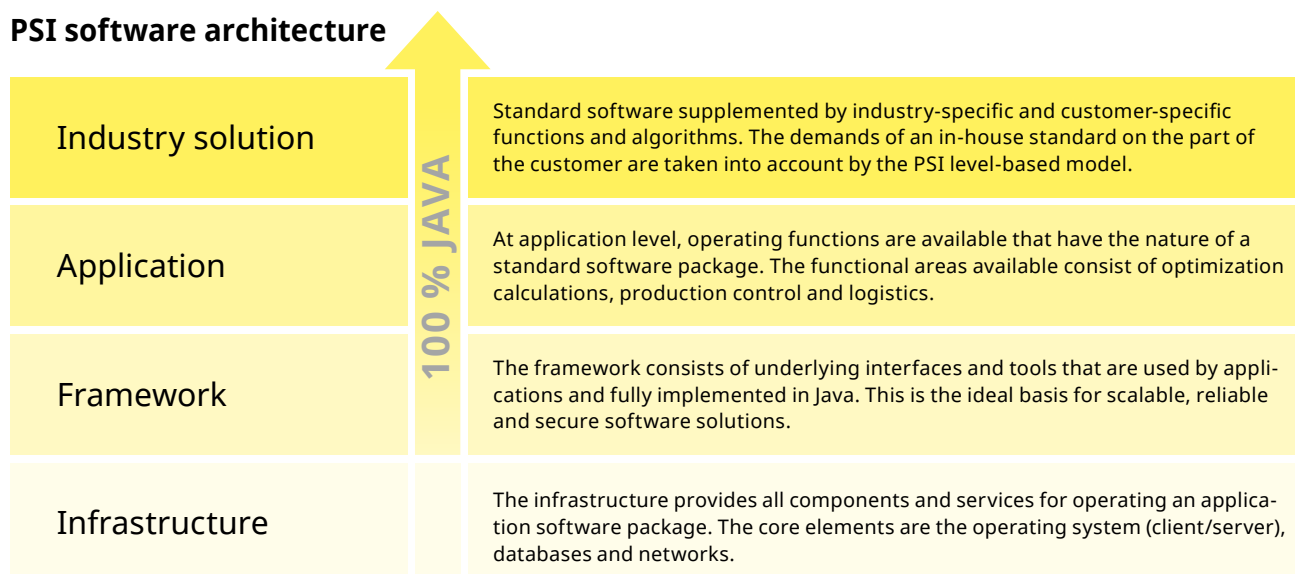
The strengths of our software architecture.

The PSI technology platform combines the best elements of over 50 years of software experience. The high-availability, scalable framework based on the latest Java technology forms the shared high-performance platform for all PSI products.

On the basis of model-driven software development, PSI applies global standards such as the Eclipse Modelling Framework (EMF) in order to achieve independence from technology cycles. Adaptations to essential customer requirements can be made quickly and flexibly through a modern user interface as well as numerous productivity improvements to the software.

With PSI-Click-Design complex changes to the interface structure and simple adjustments to menus, list and table dialogs can be made at run-time using drag & drop and saved in profiles. User-defined interfaces can thus be adapted to your individual requirements of workflows and operated via web, mobile and rich client using WORA technology.

PSI software architecture

|	100 % JAVA	
Industry solution		Standard software supplemented by industry-specific and customer-specific functions and algorithms. The demands of an in-house standard on the part of the customer are taken into account by the PSI level-based model.
Application		At application level, operating functions are available that have the nature of a standard software package. The functional areas available consist of optimization calculations, production control and logistics.
Framework		The framework consists of underlying interfaces and tools that are used by applications and fully implemented in Java. This is the ideal basis for scalable, reliable and secure software solutions.
Infrastructure		The infrastructure provides all components and services for operating an application software package. The core elements are the operating system (client/server), databases and networks.

Real-time and high availability

PSI solutions were developed for reliable real-time management and optimization of success-critical business processes.

+ High-availability cluster
+ High error tolerance
+ Redundant process interface
+ Business-critical 24/7 applications

User-friendly
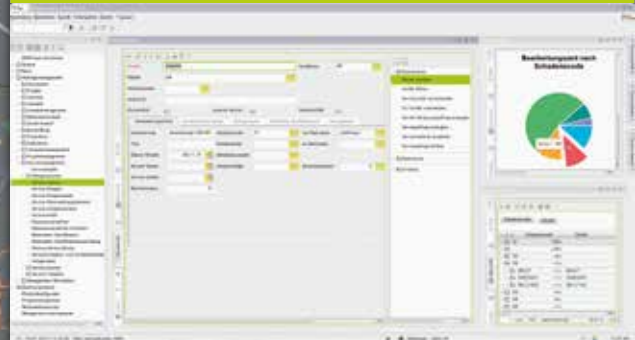
Modern, intuitive user interfaces help users to get used to the product quickly and get to grips with complex interdependences quickly.

+ Configurable, personalized displays
+ Support of mobile devices and innovative operating concepts
+ 2D/3D visualization of structures and interdependences such as systems and networks

State-of-the-art technology basis

PSI uses state-of-the-art software technology and applies global industry standards that guarantee future viability.

+ Multi-layer client-server architectures
+ Model-based architecture for simple adaptation and expansion with the Eclipse Modelling Framework (EMF)
+ Supports different operating systems and databases
+ Based on the latest Java technology

Options and functions

A wide range of functions are available as standard, and they can be supplemented by the open system architecture.

+ Workflow management through process models for high productivity
+ Extensive selection of interfaces and standard services
+ Integration of project-specific expansions without reconstruction of the system
+ Configurability with PSI Click Design

We ensure efficient energy supply.

PSI's highly available systems play a key role in the safe, environmentally friendly and efficient operation of power and gas grids, pipelines as well as heating, cooling and water networks and support energy trading.

6

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PSI develops smart control systems for companies in the energy industry for management of large supply networks. These high-availability control systems help to ensure safe, environmentally-friendly provision of energy. This makes them a key factor in achieving a successful energy transition.

Electricity and combined energies
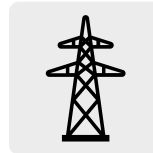
PSI control systems enable management of complex network structures and therefore support decentralized energy supply as well as the use of renewable energies.

+ Network control technology
+ Operational and failure management
+ Energy data and grid utilization management
+ Combined energy control systems
+ Catenary line control systems
+ Industrial energy networks
+ Intelligent Micro Grids

Gas, oil, water

Management of gas and oil pipelines involves extensive planning and simulation options.

+ Control systems for gas grids and pipelines
+ Gas, oil, product and water management systems
+ Planning, simulation forecasting
+ Monitoring of gas quality
+ Certified leak detection and location system

Energy trading and sales

PSI's integrated energy-business solutions support all trading, sales and planning processes.

+ Planning, analysis and optimization
+ Integrated energy trading and sales
+ Portfolio and risk management
+ Auditing of gas-metering systems
+ Allocation and invoicing
+ Optimal unit commitment
+ Intraday

We ensure mobility.

PSI develops and integrates control technology solutions for monitoring and controlling operational processes that contribute to punctual, low-emission and efficient public transportation.

Public transport

The control-system solution from PSI allows the control and monitoring of operations for companies in the public transport sector.

+ Operations-control technology (ITCS)
+ Dynamic passenger information
+ Depot management
+ Charging management

Innovative control technology for infrastructures ensures optimum, efficient processes. Consequently, passengers reach their destination safely and on time while enjoying top-quality service.

Rail transport

Solutions for public rail transport for efficient control of rail operations as well as automatic train dispatching and energy-optimized driving.

+ Train management
+ Depot management
+ Dynamic passenger information
+ Video management

Road traffic

Process-control solutions allow monitoring, control and maintenance of traffic telematic infrastructures such as road networks, tunnels and bridges.

+ Control systems for road traffic
+ Telematics and operations monitoring
+ Maintenance
+ Contract management
+ Traffic flow optimization

Our modern mobility solutions optimize traffic flows and thus protect the environment.

Airport logistics
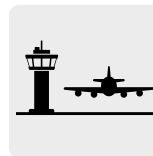
In the airport logistics sector, PSI provides software solutions for passenger and baggage handling for airports, airlines and ground handlers.

+ Efficient baggage-control system
+ Flight-plan management
+ Display system

Production & Logistics

We save resources.

PSI develops software products and customized solutions for production planning, specialized production controls and efficient logistics. The focus lies on optimizing resources and enhancing quality and efficiency.
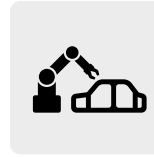
Metals, aluminium, copper

PSI develops integrated software solutions for production management in metal production and processing.

+ Metals supply-chain consulting
+ Planning and optimization
+ Production control
+ Process automation
+ Material logistics and transport optimization
+ Energy and quality management

Manufacturing industry

A comprehensive software range for production processes for discrete manufacturing from planning to machine level.

+ Production planning and control (ERP, MES)
+ Adaptive production control
+ Supply chain management (SCM)
+ Just-in-sequence production and supply (JIS)
+ Process control systems (JLS, APS)

Logistics and airport

Operators and users of logistics systems rely on PSI software solutions for management of complete logistics networks and in hubs.

+ Storage management systems
+ Multi-modal transport planning
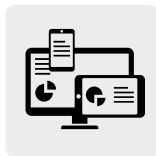+ Intraday transport optimization
+ Airport logistics

Resource extraction
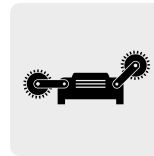
For coal mining, PSI process-control solutions for monitoring, control and maintenance of automated processes.

+ Control systems for resource extraction
+ Maintenance
+ Logistics

Optimization & AI

Software for optimum planning and control of business processes.

+ Multi-criteria optimization and decision-making software Qualicision
+ Machine learning and neural networks maintenance
+ Route and stock optimization
+ LP optimization for bottleneck machines
+ Analysis, numerics, stochastics and special optimization

+

Our software solutions combine industrial process knowledge with the entire range of Artificial Intelligence methods.

As an experienced Industry 4.0 product supplier, PSI works closely with leading partners from research and industry.

Comprehensive services worldwide.

To ensure smooth operation of our software products, PSI provides comprehensive services. As well as identifying, analysing and implementing technical requirements, our experienced project managers provide intensive support throughout the entire implementation process, in the migration of existing data and in the company-wide rollout. Professional training for users, programmers and partners guarantees safe application.

Our customers also benefit from regular updates and extensive maintenance. Ongoing enhancements of our software products in the form of updates and upgrades ensure optimum adaptation to future requirements.

+

Experienced employees provide long-term support for our customers, ensuring high-quality solutions.

+

Our network of system integrators, consultancy and implementation partners guarantees top-quality service worldwide.
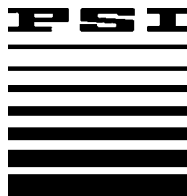
+

29 locations
in 17 countries.

With an extensive network of sales and service partners supplementing our own locations, we guarantee that our customers have experienced, professional contacts in their vicinity.

Germany map:
- Hamburg
- Hanover
- Berlin (head office)
- Dortmund
- Essen
- Düsseldorf
- Aachen
- Aschaffenburg
- Karlsruhe
- Stuttgart
- Munich

World map:
- Roskilde
- Karlstad
- Brussels
- Szczecin
- Posen
- Watford
- Traun
- Vienna
- Küsnacht
- Graz
- Affoltern
- Wil
- Pittsburgh
- Beijing
- Tokyo
- Shanghai
- Muscat
- Kolkata
- Bangkok
- Kuala Lumpur
- Rio de Janeiro

Over 50 years of software expertise.

Founding
1969

PSI Gesellschaft für Prozess-steuerungs- und Informations-systeme GmbH established in Berlin. First order from the steel industry.

→

Development
1976

First major successes as a software provider for the energy-supply sector.

→

Joint-stock corporation
1994

The company is converted into a joint-stock corporation.

→

Technology
2011

Start of rollout of the new PSI technology platform.

→

Acquisition
2014

PSI continues to extend its market leadership in production-management software for the metal industry.

→

Electromobility
2018

AI-based PSI software solutions for vehicle production and charging management support the accelerated growth of electromobility.

→

IPO

1998

IPO on 31 August.

Restructuring

2002

Generation shift in top management. PSI is restructured into a control-system enterprise.

Expansion

2004
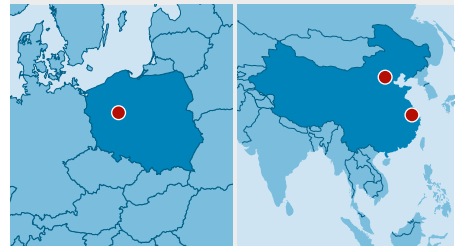
PSI establishes subsidiaries in Poland and China.

Anniversary

2019

PSI celebrates its 50th anniversary and thus half a century of process know-how.

Energy

2020

PSI acquires prognosis software provider Prognos Energy GmbH and the Swiss network planning software specialist NEPLAN AG.

Industrial Intelligence

2023

PSI records increasing demand for industrial AI solutions

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