

# ENSECO

Building the World  
Powered by Safe, Affordable  
and Clean Energy



# Experts on Nuclear Power



# Attention to Quality and Detail

Some of our top references:

**Slovenské elektrárne, a. s.**

**ŠKODA PRAHA, a. s.**

**ŠKODA JS a. s. organizačná zložka**

**VUJE, a. s.**

**VÚEZ, a. s.**

**PPA CONTROLL, a. s.,**

**SAT Systémy automatizačnej techniky,  
spol. s r. o.**

**Siemens, s. r. o.**





# Top Quality Mechanical Engineers

- + Centrum pre vedu a výskum, s. r. o.
- + ENERGOMONT s. r. o.
- + Ing. PETER ČARNÝ – ABmerit, spoločnosť s ručením obmedzeným
- + INŽINIERSKE STAVBY, a. s.
- + Jadrová a vyrad'ovacia spoločnosť, a. s.
- + KLIMAK, s. r. o.
- + PPA ENERGO, s. r. o.
- + SES BOHEMIA ENGINEERING, a. s., Česká republika
- + UNI-MONT, montážne práce s. r. o.
- + ZAT, a. s., Česká republika
- + ŠKODA SLOVAKIA, a. s.

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# Project Management

We offer project management for all types of jobs from a simple delivery up to complex EPC contracts. Project managers work closely together, supported by the company management. When managing international projects, we can provide experts able to communicate in English.





**Development of a project organizational breakdown structure and assembling a work team**

**Planning and managing activities using Primavera**

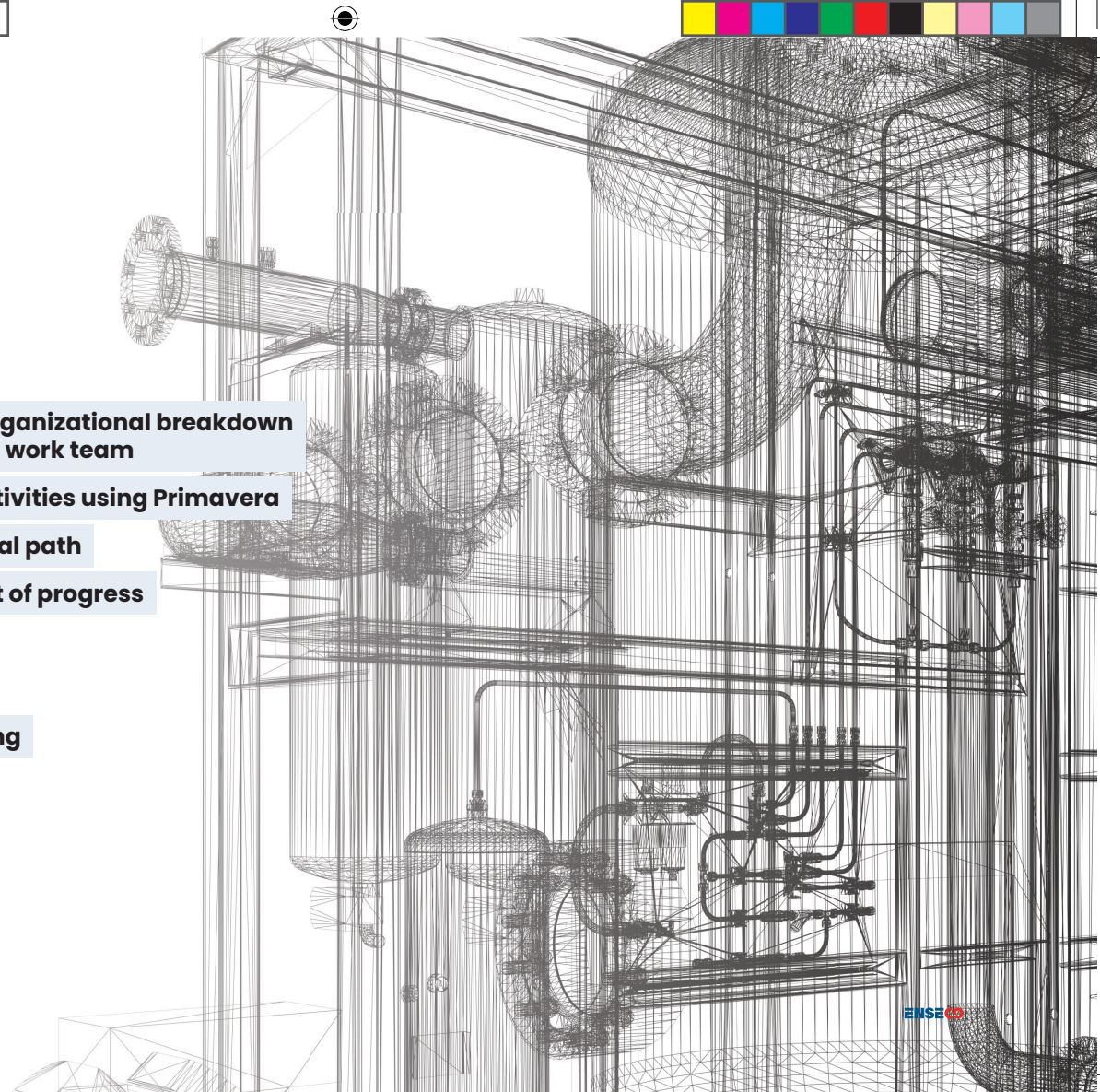
**Planning the project's critical path**

**Monitoring and assessment of progress**

**Quality control**

**Cost control**

**Administration and reporting**



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# Engineering

We will assist you with the decision-making process concerning your energy sector investments by preparing conceptual designs and feasibility studies.

- + Assessment of technical feasibility
- + Assessment of economic feasibility
- + Assessment of legal feasibility
- + Assessment of time required for the business plan







**We will prepare complete design documentation for all stages of the project (technological, electrical and I&C parts).**

**We prefer systematic and structured approach to our work.**

- + Documentation submitted with the application for issue of the urban planning decision, building permit, detailed design, as-built documentation and design changes
- + Technological part construction documentation
- + Calculations and analyses
- + 3D model using AutoCAD Plant 3D
- + Energy audit
- + Construction organization project
- + Occupational health and safety plan

- + Necessary permits, certificates and declarations for construction
- + Designer and technical supervision
- + Consulting and expert reports in energy sector

### **KP SAG – KRÁLOVOPOLSKÁ STRESS ANALYSIS GROUP s. r. o.**

Our portfolio of services is enhanced by KP SAG, our subsidiary, focusing on detailed designs, strength calculations and other analyses. Our new team is made up of skilled and experienced designers, mechanical engineers, structural engineers and engineering calculation specialists for fittings, pipes and steel structures.

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# Technical Preparation of Construction, Mounting, Machining and Installation Works

We provide technical and professional assistance with the preparation and execution of the project, all stages of design documentation and all relevant permits. We can assist you with finding a suitable manufacturer and provide all related activities. Our activities range from the technical preparation of construction and

installation to the actual installation and machining works. We can prepare a manufacturing schedule, as well as logic sequencing and coordination of individual works with links to functional and complex testing within the frame of applicable legislation and client's requirements.





**Services not only for energy sector**

**In-house fully equipped workshop**

**Technical preparation of construction**

**Assembly management and performance**

**Manufacture and installation of piping insulations**

**Valves – operation, maintenance, repairs of rotating machines**



- + Preparatory works are carried out at our in-house workshop
- + Our machines are operated by highly qualified employees
- + Manufacturing and installation of thermal insulations
- + We use top quality instruments and technological equipment

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# Manufacturing and installation of piping insulations

- + Complex sheet metal working services including surveying, bidding, consultancy, material supply and installation of sheet metal systems plus warranty and post-warranty service
- + Thermal insulation, cold insulation, HVAC distribution systems
- + We use the latest technology (MABI Bingo 16-Z EVO, MABI Logo, MABI 4B, MABI 4QS)
- + Sheet metal parts processing is done using METALLKRAFT® equipment and equipment procured from První hanácká BOW, spol. s r. o., Bři Švarcové, s. r. o., SEMET, s. r. o., etc.







# Valves – operation, maintenance, repairs of rotating machines

- + Preparation of sealing programmes, torque calculations, designing gaskets – NOVADISC 7
- + Manufacture of flat gaskets novaphit® MST up to  $\varnothing 1450$ , larger dimensions by waterjet cutting
- + Diagnostics of rotating machines, valves and bearing by certified workers, vibration diagnostics
- + Alignment, mounting of rotating machine frames, inspections of alignment
- + Reconditioning of mechanical seals, sealing faces of valves – planar and conical, gate valves, check valves, flanges
- + Repairs, reconditioning and maintenance of rotating machines and equipment, replacement of gaskets, oil and bearings
- + Technical support and expertise during commissioning of new and reconditioned rotating machines and equipment, trial run and functional tests



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# Quality Control

We control the performance and supplied material so that you get a top quality project or technology. In addition to works supervision and relevant inspections, we prepare complete quality documentation, starting with inspection and test plans, through WPS, WPQR, to classified equipment quality plans and accompanying technical documentation. Based on the certificates obtained by our inspection technicians, we are authorized to supervise manufacture and installation of pressure and gas equipment, as well as conduct pressure tests and revisions. We provide our services both in the EU, as well as in third countries, always in compliance with local standards and legislation.







**Execution, documentation,  
supervision**

**Certified welders**

**PMI using in-house  
spectrometer**

One of the core services is welding, where we adhere to national, European and international standards. We provide not only welding, but also complete welding documentation, welding supervision and all necessary testing of weld joints, equipment and structures. We are ready to provide our welding activities both as a part of a service package, as well as a separate service.

Positive Material Identification is performed by a mobile optical emission spectrometer (OES) that provides quick and accurate classification of materials and accurate analysis of chemical composition of metallic materials directly under operational conditions. Our employees have been specially trained for its operation.

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# Technological Systems Commissioning

System commissioning breathes life into the installed equipment. These activities can be carried out only by a narrowly specialized group of employees, capable of organizing the commissioning of these complex systems and making important technical decisions in the commissioning process. We know how to test and start up any technological system, regardless of whether it is a nuclear facility, non-nuclear power facility, or other

technological equipment. This phase contains development, management and execution of pressure test programmes, post-installation cleaning operation programmes, functional test programmes for technological units/systems across the professions.





# IT Services

Our IT services complete the entire work process. The idea takes shape of an application or a system in compliance with your requirements. We offer database systems operating experience, as well as consulting and finding optimal solutions. We provide these services also individually.

Programming is the final phase of development and assembly of the ordered technology, going hand in hand with the commissioning and supporting the control of all functional processes. Our clients appreciate that the IT part of their project is handled by the same company that planned, installed, tested and launched the project. Another indisputable advantage is time efficiency, as well as streamlined problem solving.

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# Main Project Mochovce Nuclear Power Plant

The project was executed based on the EPC contract at all stages (elaboration of detailed design documentation, procurement, installation and commissioning). ENSECO pipelines are installed across the entire nuclear island of Units 3 and 4 at Mochovce. This project is very close to our heart.







**We took part in five main nuclear power plant systems:**

**Primary Circuit Auxiliary Systems**

**Radioactive Waste Treatment System**

**Emergency Core Cooling and Spray Systems**

**Radioactive Waste Management**

**Radioactive Waste Disposal Systems**

**ENSECO**







# 5

## **Main systems**

Works involved 5 main elementary systems at all project stages.

# 40

## **Systems tested**

During commissioning, we have performed non-active testing of 40 technological systems.

# 500

## **Workers**

We have managed approximately 500 workers and another 250 workers under the management of our sub-contractors.

# 10722

## **Valves**

We have installed 10 722 valves and our work is visible in both units of the power plant.

# 9646

## **Pipelines**

We have installed a total of 9 646 pipelines in both units.

# 1509

## **Tons of installed materials**

We have procured, supplied and installed materials with the total weight of 1 509 tons.

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**28 t**

**Carbon**

Pipe fittings

**50 t**

**Carbon**

Pipes

**450 t**

**Carbon**

Platforms

**110 t**

**Carbon**

Valve remote control

**195 t**

**Stainless – 08CH18N10T**

Pipe fittings

**480 t**

**Stainless – 08CH18N10T**

Pipes

**80 t**

**Carbon**

Pipe and valve support

**26 t**

**Stainless – other**

Pipe fittings

**90 t**

**Stainless – other**

Pipes





+421/366 375 120

Human Resources

[job@enseco.sk](mailto:job@enseco.sk)



[info@enseco.sk](mailto:info@enseco.sk)



**Workplace Mochovce:**

ENSECO, a. s.

P. O. Box 10

935 39 Mochovce

Slovak Republic

Business and Contractual Relations

+421/366 375 400

[sales@enseco.sk](mailto:sales@enseco.sk)

Invoice Processing

[invoice@enseco.sk](mailto:invoice@enseco.sk)

**Registered Seat:**

ENSECO, a. s.

Hollého 10/1499

949 01 Nitra

Slovak Republic

