

OT Industries introduction

**ATOMEX-Europe
Round Table JSC “Rusatom Service”:
Possibilities for
Cooperation in NPP Modernization**

Presentation by Róbert Németh VP Opreations, OT Industries

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Main services of OT Industries

Services

- 1 Design & Engineering
- 2 EPC Project Execution
- 3 Construction & construction management
- 4 Manufacturing

Key industries and facilities

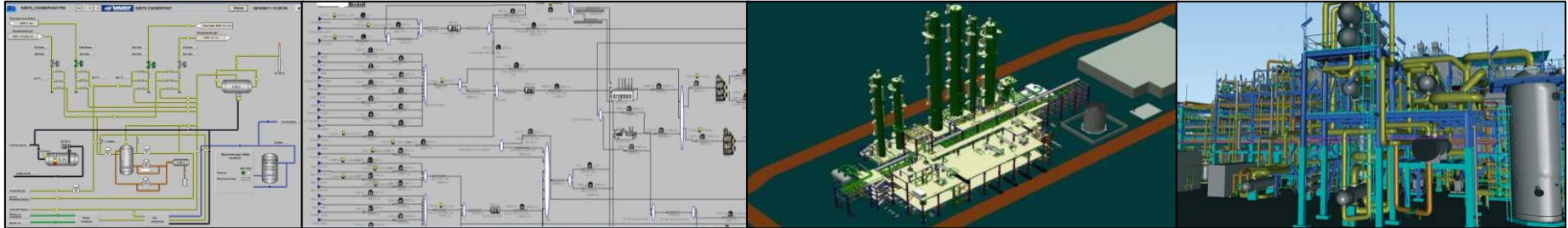
- Oil plants
- Gas plants
- Power plants and facilities
- Petrochemical plants
- Storage facilities
- Pipelines
- Valves
- Pressure vessels



OT Industries provides project management, engineering, manufacturing, procurement and construction services for chemical, petrochemical, O&G and energy industries

Engineering competences

1



Main services



- Feasibility studies
- Tender, bidding documentation
- Basic engineering design package
- Front-end engineering documentation
- Detailed engineering
- As-built documentation
- Authority permit applications, documentation
- Engineering supervision
- Engineering consultancy
- 3D laser scanning

Capacity



- Engineering staff of 150+ employees
- **300,000 hours/year**
- 30-50% additional capacity (subcontractor)

IT support



- More than 35 engineering softwares, including:
 - AVEVA PDMS
 - COADE
 - Ceasar II
 - Tekla
 - In-Tools
 - ASPEN
 - SoftBits
 - GE
 - Tool4S
 - INTERGRAPH PDS
 - Smart Plant

EPC project management competences

2



Capital resources

- Due to capital resources OT Industries is capable of executing EPC projects up to USD 500 million

Project execution staff

- 10 project managers
- 17 site managers
- 50-100 technology specialists
- 28 procurement specialists

Technology sourcing

- We have expertises in application of license processing

IT support

- MICROSOFT – Project Server
- SAP
- Autodesk – Navisworks
- Primavera



Construction & construction management competences

3



Capacities



- **Capacity**
 - Pipeline capacity **200 km/year** (up to 56", DN1400 mm)
- **Constructed pipelines**
 - **8,000+ km** O&G pipeline in the last 60 years
 - **1,000+ km** fiber optic cable in the last 60 years
 - **700+ km** O&G pipeline in the last 5 years
- **Constructed tank farms**
 - **40,000+ m3** tank farms in the last 3 years (2 x 20,000 m3)
- **Piping**
- **Maintenance**

Resources



- **Human**
 - 150 construction specialists
 - 70 welders
- **Equipment**
 - 36 pipe-laying cranes
 - 6 on field pipe-bending tractors
 - 21 welding tractors
 - 43 semi-automatic orbital welding machines
 - All other own equipment for pipelines up to 40", DN1000 mm (with subcontractors up to 56", DN1400)



Plant sizes



Workspace	Size (m2)
▪ Cutting	10,520
▪ Fitting	11,330
▪ Workshops	2,938
▪ Storage	3,000
▪ Total working space	27,788
▪ Total plant	30,000

Main products



- **Closing devices**
 - Ball valves
 - Wedge gate, parallel slab gate valves
 - Gate valves for transport pipelines
 - Wellhead assemblies and related gate valves
- **Vessels and Equipment**
 - Pressure vessels, tanks, reactors
 - Columns and towers
 - Filters and separators
 - Tubular devices
 - Heat exchangers
 - Flash-Lock, quick-release lock
 - Skid mounted technological units
 - Measuring steel structures
- **Pipe fitting products**

OT Industries affiliate – OT Energy Services



Capital projects

- Industrial automation
 - Field instrumentation
 - Regulation, control, security, and information systems
- Electrical and electronic systems and equipment
 - Power lines
 - HV/MV/LV* substations, transformer stations
- Supplies building operation technologies and systems

Power product optimization

- Process and technological analyses
- Process modeling and simulation
- Advanced data processing
- Mainly for power plants (nuclear, coal-fired, combined cycle), heating plants and heat supply systems, renewable energy sources

Industrial service





- Outsourced maintenance of regulation, control, security, information, and other systems in power and other industries
- Maintenance, routine repairs, inspections, and upgrades, including technical support for I&C systems, and electric power systems
- Servicing protective systems in buildings
- Measuring emissions

Relevant certificates

Based on the Quality Management systems of the OTI Group ABOS-1,-2,-3,-4T certificates was awarded by MVM Zrt.

- Building engineering and fire service systems
- Electric and control engineering
- Engineering and technological systems
- Engineering and construction of general buildings regarding the nuclear industry

Other relevant certificates confirming the competences of the OTI Group

- Health Safety and Environment 
- Pipeline construction 
- Manufacture of pressure vessels  



Target activities

Manufacturing

- Products of valve manufacturing
- Vessels and equipment (heat exchangers)

Construction

- Construction and repair of storage tanks
 - Manufacturing of steel pipe fittings
 - Installation of telecommunication cable networks
- Cathodic corrosion protection
- Quality control, material tests
 - Pipeline construction
 - Industrial piping

Engineering

- Feasibility studies
- Civil engineering
- Detailed engineering
- 3D piping engineering
- HVAC engineering
- Pressure vessels (separators, columns, heat exchangers, etc.) engineering
- Deterministic fire risk assessment studies
- Engineering documentation supervision, domestication
- Electrical instrumentation and automatization engineering (EIA)
 - Earthquake-resistance analyses
- Vibration analyses and protection
- Other technical services (hydraulics, heat balance, etc.)
- Technical engineering, permitting (engineering documents for authorities)

Back-up

Nuclear references – Engineering and EPC

Project details

Engineering references

- Expansion of 2 x 1000 MW of the N. Station, realization of general organization designs
- Preparation of a Fire Risk Assessment study for the whole territory of the N. Station
- Design and realization of earthquake-resistance reinforcements of the outside of sealed environment systems
- Detailed designs and implementation of rearranged re-cooling modules for earthquake accidents in the N. Station
- Preparation of Final Safety Reports (diesel generators and complete fire-protection of the N. Station)
- Extension of Nuclear Station's auxiliary building No. 2, design and realization of extension of storage capacity for liquid radioactive wastes
- Realization of technical designs for Part II. of the revamp of N. Station's HVAC system
- Implementation of Interim Storage of low and intermediate level radioactive solid waste between spans 7A-8 of the auxiliary building No. 1 of the N. Station
- Mechanical analysis of vibration sensors in sealed environment of blocks 1.-4.
- Realization of modifications and detailed designs to lower the impacts of high-amplitude breakages of the casings of blocks 1.-4.
- Design and construction of earthquake-resisting reinforcements for equipments in secondary cycle, pipelines and podiums of block 1-4 of Paks Nuclear Power Station
- Design and construction of storage capacity extension for liquid radioactive wastes
- Design and construction Architecture works for Phase 1 of Part III. of Interim Storage of Spent Fuel
- Rigidity calculation, fatigue analysis and thermal stratification tests on systems and system components – pumps and fittings – classified in safety level 1 and 2, as regulated by Safety Classification of Nuclear Systems and System Components

Selected references – Manufacturing

Project details

Manu- facturing refe- rences

- Ball valve and Gate valve – MVM PA Zrt.
- Pa Zrt. Cooling water reconstruction – MVM PAKS Nuclear Power Plant
- Ball valve – BOTAS Turkey
- Ball valve – Indet Insaat Turkey
- Ball valve – Novatek OAO. Russia
- Ball valve – Global tender Planilha 1. – Petrobras Co. Brasil
- Ball valve – Velan Gmbh. Germany
- Wellhead assembly – RAG Gmbh. Austria
- Gate valve – Provalve GmbH. Russia
- Ball valve – State Concern Türkmenigas Turkmenistan
- Ball valve – MOL MSZK
- Wellhead assembly Gate valve – N.I.O.C/N.I.S.O.C, Iran
- Pa Zrt. Cooling water reconstruction – MVM OVIT Zrt.
- Ball valve – Novatek Jurharinyeftegaz Russia
- PHGT, Ball valve – Beltransgaz OAO Belarus
- Ball valve-Novatek Tarkosaleneftegaz Russia
- PHGT/K Gate valve, Ball valve and Wedge Gate valve – Rostransmash Trade Russia
- Ball valve, wedge Gate valve, wellhead equipment, Gate valve, Pig launcher/receiver Tomszkgasprom Russia
- Fittings designed for high pressure and high temperature for conventional power plants
- Fittings designed for high pressure and high temperature for nuclear power plants

Qualifications

Engineering



- ABOS 1,2,3:
 - Mechanical
- ABOS 2,3:
 - Electrical and instrumentation
 - Buildings and structures
- ABOS 3:
 - HVAC and firefighting equipment
- ISO 9001:2008
- ISO 14001:2004
- BS OHSAS 18001:2007
- Radioaktív Hulladékokat Kezelő Közhasznú Nonprofit Korlátolt Felelősségű Társaság: Certified supplier

Construction



- ISO 9001; ISO 14001;
- MSZ EN ISO 3834-2
- 3/1998 IKIM (Fusion Welding)
- No. 9-3379-3/2010 Official License
- 3583/2/2010 Official Certificate
- PED 97/23/EC
- AD 2000 Merkblatt W0
- AD 2000 Merkblatt HP0
- MSZ EN ISO/IEC 17025 – Accreditation of Material Test Laboratory
- K980/1989 Test Laboratory License (MBH)
- 1655/2009 Qualification of Reinforce liron
- DVGW GW301
- SCC Safety Checklist for Contractors

Manufacturing



- ASME Section VIII. Div. 1."U" stamp
- ASME Section VIII. Div. 2."U2" stamp
- ISO 9001: 2008
- ISO14001: 2004
- PED
- API Spec 6A
- API Spec 6D
- API Spec 7-1
- AD-2000 Merkblatt HP 0
- Magisterial Certificate 3/1998. (I.12.) IKIM edict
- MSZ EN ISO 3834-2
- Magisterial Certificate 11/1994. (III. 25.) IKM edict
- DIN 18800-7, DIN 15018
- MSZ EN ISO/IEC 17025:2005
- Authority for Russia, Belarus
- GOST R