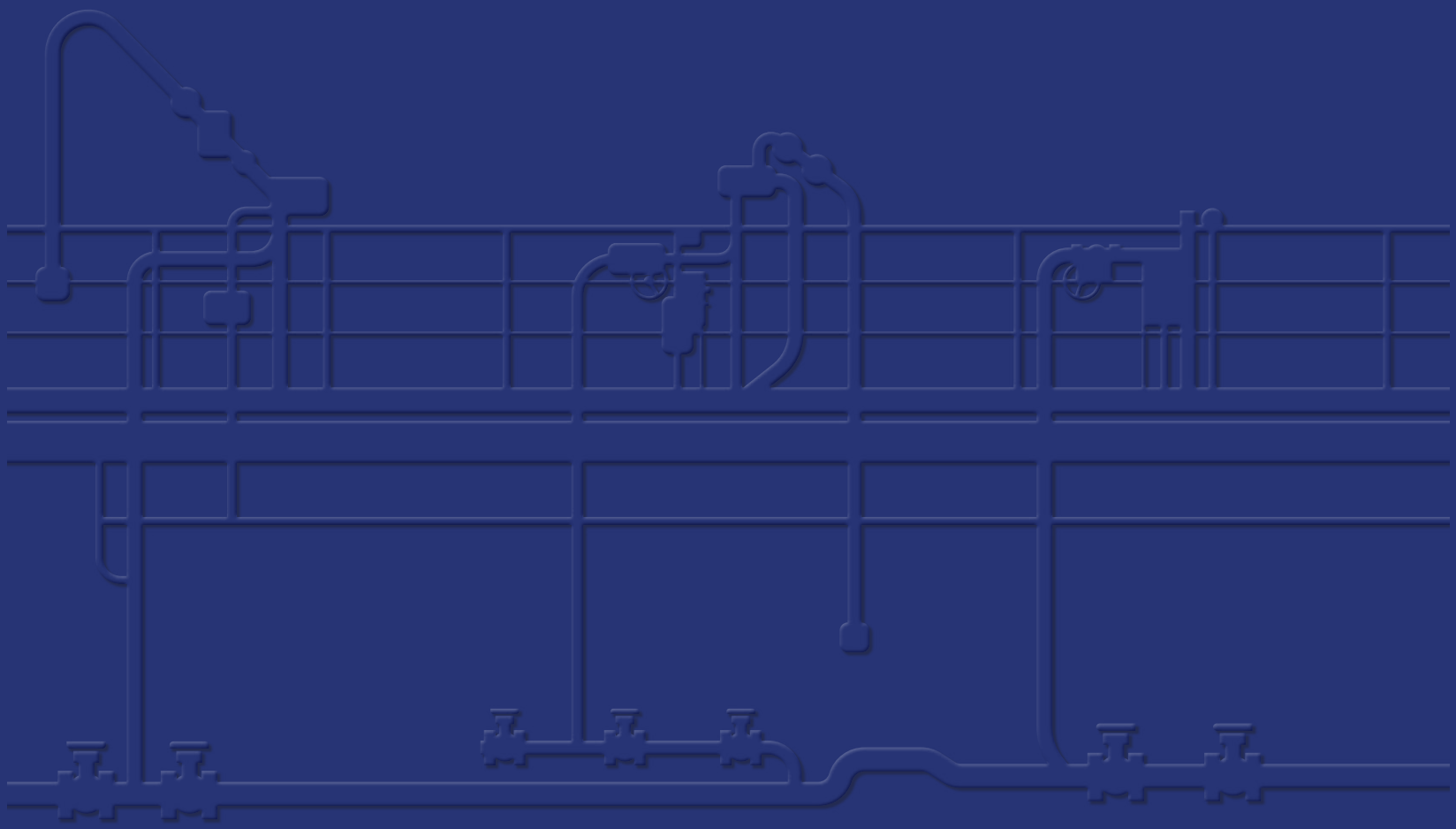
VCL GROUP, a.s.



Structure

VCL GROUP, a.s.
OSTRAVA, CZECH REPUBLIC

→ **VAE CONTROLS, s.r.o.**
OSTRAVA, CZECH REPUBLIC

→ **AUTEL, a.s.**
TŘINEC, CZECH REPUBLIC

→ **PIK, s.r.o.**
PŘEROV, CZECH REPUBLIC

→ **Elok-Opava spol. s r. o.**
OPAVA, CZECH REPUBLIC

→ **ttc, s.r.o.**
NITRA, SLOVAKIA

→ **AS CHEMOPRAG, a.s.**
PRAHA, CZECH REPUBLIC

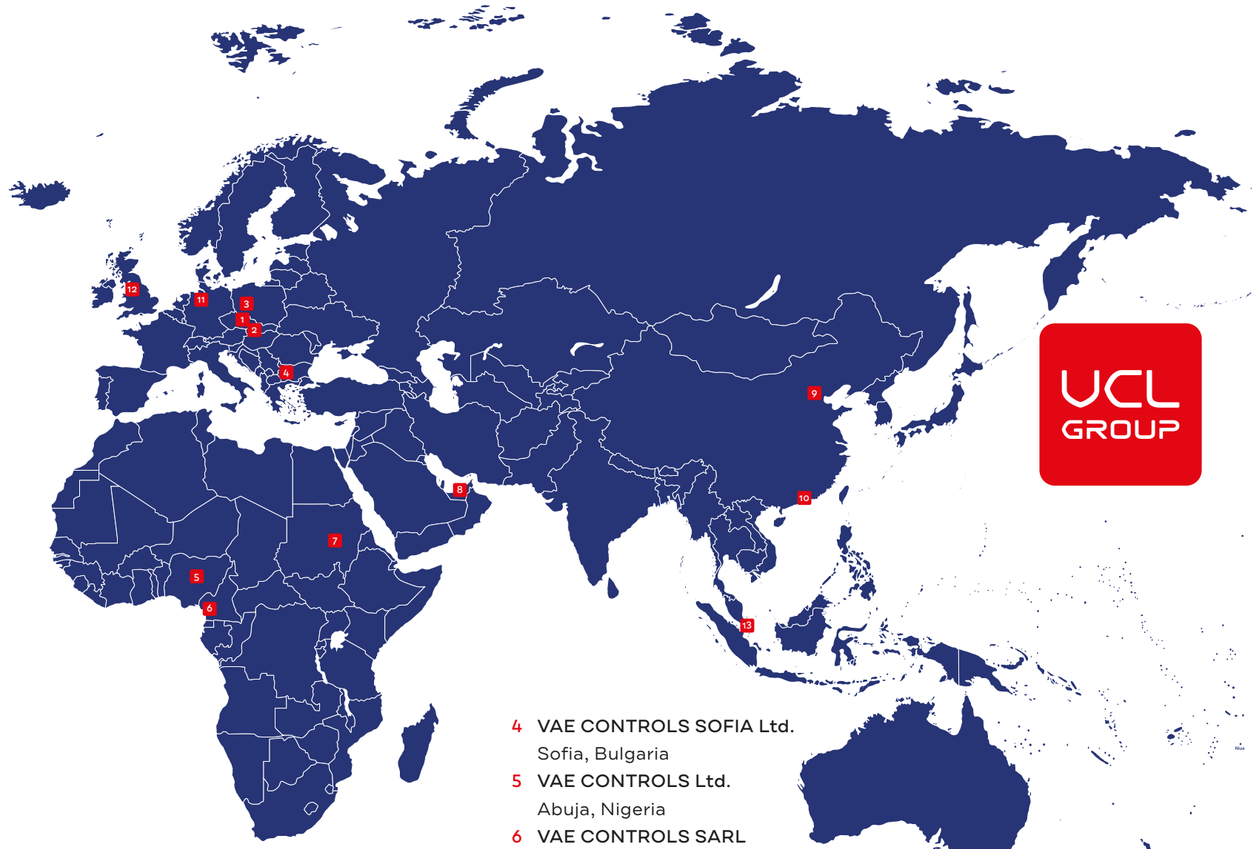
→ **VAE SPRINKLERS, s.r.o.**
OSTRAVA, CZECH REPUBLIC

→ **OCHI - INŽENÝRING, spol. s r.o.**
OSTRAVA, CZECH REPUBLIC

→ **PNEUKOM, spol. s r.o.**
OSTRAVA, CZECH REPUBLIC

AND OTHERS →

ALL AROUND THE WORLD:



1 **VAE CONTROLS, s.r.o.**
AUTEL, a.s.
AUTEL Industry, s.r.o.
PIK, s.r.o.
Elok-Opava spol. s r. o.
AS CHEMOPRAG, a.s.
VAE SPRINKLERS, s.r.o.
OCHI - INŽENÝRING, spol. s r.o.
PNEUKOM, spol. s r.o.
Czech Republic

2 **ttc, s.r.o.**
Nitra, Slovakia

3 **AUTEL Sp. z o.o.**
Ostrowiec Świętokrzyski, Poland

4 **VAE CONTROLS SOFIA Ltd.**
Sofia, Bulgaria

5 **VAE CONTROLS Ltd.**
Abuja, Nigeria

6 **VAE CONTROLS SARL**
Douala, Cameroon

7 **VAE CONTROLS Ltd.**
Khartoum, Sudan

8 **VAE LIMITED Ltd.**
Abu Dhabi, United Arab Emirates

9 **VAE Controls Bejing Co.Limited**
Bejing, China

10 **VAE CONTROLS Ltd.**
Hong Kong

11 **Elok-Ori Group GmbH**
Hille, Deutschland

12 **Elok UK Ltd.**
Lytham St. Annes, United Kingdom

13 **Elok-Asia Pte Ltd**
Singapore

VCL Group Activities

→ OIL & GAS
→ POWER GENERATION
→ WATER & WASTE WATER
→ ENVIRONMENT / HEALTH & SAFETY

Almost 400 highly qualified and motivated employees make us one of the biggest engineering group in the Czech Republic ■ Providing EPC delivery of sophisticated solutions for fuel depots, terminals and pipelines, energy distribution, water and waste, water, process industry ■ Based in the central Europe, delivering worldwide ■ VCL Group offer and deliver tailor-made solutions offering true customer satisfaction, with certification according to the latest relevant global standards ■ Certification according to the latest relevant global standards. ■

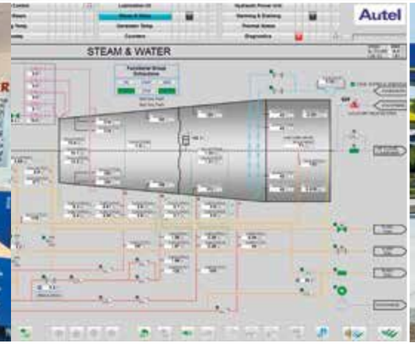
→ FEED and feasibility studies, along with HAZOP
→ Design, engineering and delivery of technological construction
→ EPC construction and re-construction of fuel depots, terminals and pipelines
→ Mechanical engineering + production
→ Electronics for explosive hazardous environment
→ Control, monitoring and leak detection systems for pipelines
→ ESD systems
→ Control software for local real time technological processes (and all levels of SIL integrated into system as defined)
→ Electrical technology assembly works
→ Industrial production of petro-chemistry equipment
→ Precision engineering
→ HV, MV & LV technological power and variable speed drive systems
→ Design, manufacture and install fixed firefighting systems
→ Supply and assembly of industrial compressor station units and their functional parts ■









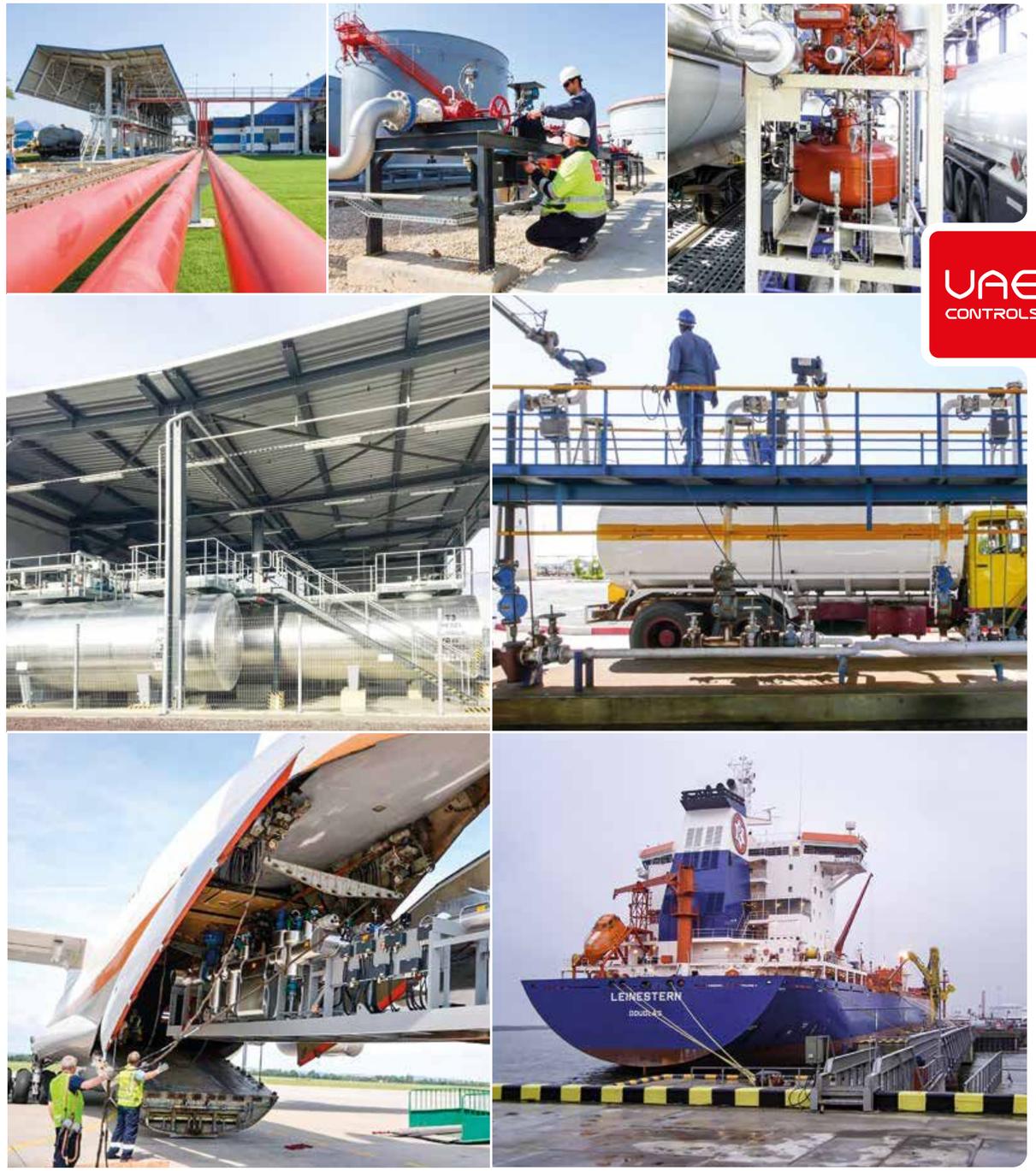





VAE CONTROLS, s.r.o.

We are very proud to be able to offer extensive experience that will ensure End User confidence of full detailed understanding of Specification and its Operational Requirements. We offer a resource of data base of many years of knowledge built up from both design, build & servicing to ensure customer satisfaction, ensured by a dedicated loyal workforce with a drive to build relationships built on genuine trust and respect, with that we hope we can build benefits to the End User through true “Life cycle” costs, Herein present to you the scope and capabilities of the VCL Group for your benefit and attention.
VAE CONTROLS is recognised as an industry leading expert involved with technologies and control systems for fuel depots and terminals, product pipelines, water utilities, water cleaning and treatment facilities.

We provide a full range of solutions, and interaction/interfaces between various technologies, in house electronic & software engineers, operational and cyber security, measurement, remote data transfer, environment protection, and the storage and transport of petroleum products. The reason our company has a leading position on the market place is that the customer is always in the centre of our attention. The investment we provide for the customer has long-term and significant importance and therefore the level of our services and deliveries must meet and indeed exceed expectations.
Our customers require professional and comprehensive services, reliability, flexible warranty and post-warranty service. Too ensure the highest standards are meet and retained continuously, we apply our own in house resources in carrying out all specialized projects, we are able to guarantee the highest quality of work, this ensures the customer true Life-Cycle benefits.
We build fuel depots or modernise existing ones, as well as repair and maintain them while ensuring their safe uninterrupted operation. We offer the full remit of engineering, from feasibility study, design of all stages, deliver control systems (in house), manufacture electrical and electronic equipment, build road, rail, marine, and airport terminals, metering skids, additive dosing systems, vapour recovery units, control and administration systems for fuel depots, oil pipelines, water treatment and sewage plants and for remote control of water networks.



1 Our range of projects are comprehensive: civil, technological, and electrical control. We put an emphasis on operation safety, environment protection, fire-protection measures, meeting international standards and product quality standards.

2 Important operations of fuel depots are product loading and unloading functions. They enable fully automated delivery of crude-oil, fuels and chemical products with the option of modular designed such as number of delivery points and safe flexible operations, from/to tankage, tank trucks and railcars, ships and pipelines.

3 The depots and terminals process control is fully automated, functionally monitored by a control room supervisors. The operation is provided by multi-functional system TAMAS® which covers field instrumentation, process control, SCADA & HMI, loading and unloading administration and ESD.

4 We design, assemble and deliver metering systems enabling accurate and precise measurement quantities of received and delivered crude oil, fuels and chemical products from/to tank trucks and railcars, ships and pipelines.

5 Our comprehensive scope of supply includes assemble and deliver of skid-based solutions, fully assembled and tested in factory (FAT), for quick and easy installation in remote and/or climatically demanding destinations. The skids consist of technology and metering components with auxiliary piping and cabling in a steel frame and thus enable easier and faster field installation than conventional solutions.

6 Design, fabrication and commissioning of skids for Diesel fuel measuring in a bunkering terminal for Alexela Sløvåg Bunkering Company Terminal, Norway.

7 A project covering design and deliver of high-end technology solutions for additive dosing and colouring agents for fuels at loading terminals, as well as drag reduction agent (DRA) dosing units for pipelines.

8 An example of the engineering, procurement and construction (EPC) activities: construction of a storage depot for gasoline, diesel and aviation fuel JET-A1 with storage capacity 100 000 m^3, tank truck and railcars terminal.

9 Our solutions are global: the control of product pipelines and their terminals in association with the storage technology and storage capacities. Our activities also include the specific field of the aviation fuels storage and handling.

10 We provide control and telemetry systems for water distribution and wastewater networks including control of potable water treatment plants and wastewater plants.

11 Central supervisory room of the water distribution network based on powerful SCADA SCX system. Optionally it enables as fully automated operation or distributed control of specific technology units. We put strong emphasis to reliability, operation and cyber security taking into consideration that water distribution form a part of national critical infrastructure.



12 Handling and metering of all aviation fuels require specific know-how and compliance with all international standards; ICAO, IATA and JIG. Our expertise we provide EPC projects in this field, e.g. at Vaclav Havel International Airport Prague.

13 Tank truck fuel loading terminal in Rijeka refinery for both light and heavy fuels, is the most modern in the west Balkan region. Besides the top-end technology it includes as well extensive installation of system TAMAS offering driver's self-service kiosks, traffic queue management and integration with weigh bridge system, SAP and other 3rd party customer systems.

14 Loading of pipeline metering skid into open-top containers. Skid mounted metering units are factory assembled and tested (FAT) and thus enabling faster and easier field installation/ commissioning and start-up. Each project is developed and delivered according to specific needs if the customer and its application.

15 Vapour recovery units form essential part of modern storage depots and Terminals in compliance with regulations mandated by country and by oil companies environmental policies. Their task is to reduce VOC (volatile organic compounds) and re-liquefy the vapours back to fuel, the side benefit is captured vapours re-liquefied increases operation profitability, and improves environment/air quality, in addition mitigates risk of carcinogenic intoxication of operators and public.

16 Modernisation of diesel handling and storage system for motor-driven fire pumps. Challenging job due to distant location and specific customer's demands. Beside others we provide firefighting system and filtration system for jet fuel to military airbase in Atlantic Ocean.

17 Security of our employees is priority, especially in regions where the safety and political situation is variable. Accommodation at guarded areas, secured convoys and military restrictions are necessary and highly demanding for our field engineers.

18 Our telemetry systems for monitoring and control of water and wastewater networks cover densely populated cities as well as large-scale urban areas. Reliable function of central control room is essential as well as integration with many 3rd party systems, e.g. GIS, modelling, leak detection etc.

19 Handling of military aviation fuels require application of highest quality solutions, fulfilling local and international military standards and high demands for rugged, reliability and enduring life cycle functionality. Besides others we provided construction of such depots in Sliac (Slovakia) and Lielvarde (Latvia).

20 EPC for a new operational terminal for tank truck loading and related technologies, including a new firefighting system, the project stared with a basic design migrating to a full detail design then approvals by customer transitioning to EPC.



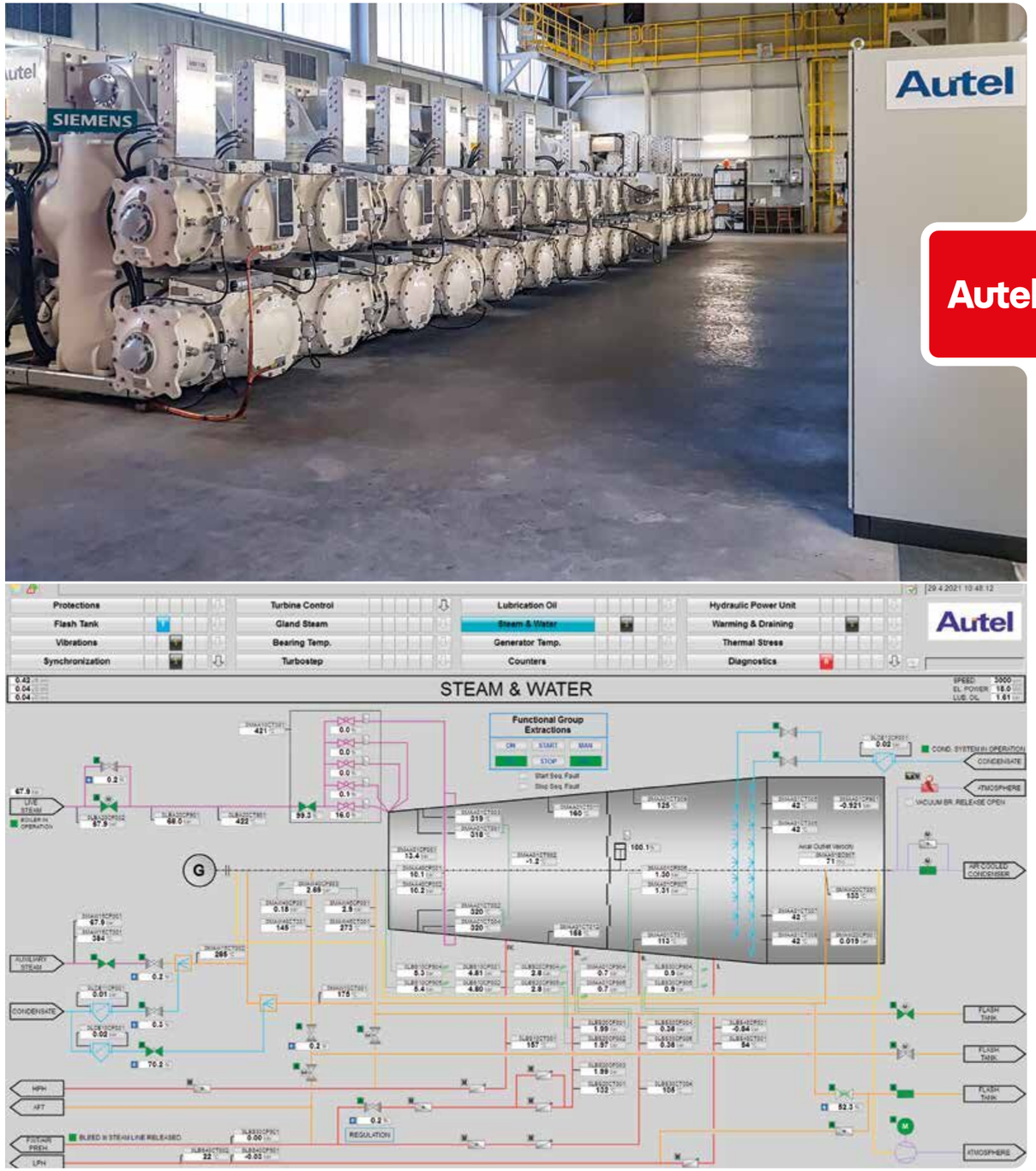
AUTEL, a.s.

→ COMPANY PROFILE

AUTEL is an integrated engineering and supply company providing reliable and flexible turn-key services and delivery of the state-of-the--art technology in the following fields:
→ MV, LV, MCC and variable speed drives
→ Field instrumentation
→ Basic level control systems
→ Manufacturing Execution Systems (MES).
Based on their application to various technologies, AUTEL offers the following broad range of engineering products:
→ from consulting, project management, project design, analysis and programming, sub-supply procurement,
→ through factory acceptance tests (FAT),
installation, cold and hot tests, operators training
→ to trial operation, the final acceptance
Test (SAT) and warranty with post hand over guarantee service.
The primary target and objective of AUTEL is to satisfy the customer's requirements in the fastest and most flexible way.
AUTEL participates in the civic life of its education and extra/curricular activities for the young.

→ MARKET SEGMENTS

AUTEL took root in the industrial world rather firmly. Company already has practical experience with industrial automation. To meet our customers' demands on process knowledge, our operation is focused on the following selected market segments:
→ **METALLURGY INDUSTRY** sinter plants, coke ovens, blast furnaces, BOF converters, secondary metallurgy, continuous casting machines, reheat furnaces, hot wire, rod and plate mills
→ **POWER PLANTS** boilers, fluidized bed boilers, Turbo-generators, compressors. Heating stations, MV and LV substations
→ **ENVIRONMENTAL INDUSTRY** waste water treatment plants, desulphurisation plants, incineration plants, air pollution measurement
→ **CHEMICAL INDUSTRY** ammonia plants, pyrolysis, HCl regeneration plants and oxygen separation devices
→ **PROCESSING INDUSTRY** calcite treatment stations, mixture preparation stations, milling plants, drying plants, and crushing plants
→ **PULP AND PAPER** (material preparation. Auxiliary drives)
→ **MES** Manufacturing Execution Systems
→ **SERVICE** Autel will provide full after service support (PPM) and guarantees of system functionality



1 Ecological upgrade and general renewal and of ZEVO Malešice Thermal Waste Treatment Plant.

2 Design & Documentation according to BASF Standards, Supply scope: instrumentation & process control, electrical engineering - motors, HV, MV, LV MCC panels, including transformers & motor control/ starters.

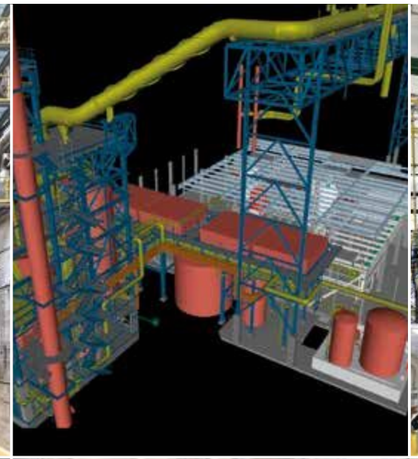
3 Detailed design, manufacture of control system Including: electrical components KS05 - Gas compressor station 05 Additional Scope: Delivery, installation of instrumentation, including cabling to the control system control system cabinets, project management and full post delievry documentation/as built.

4 Delivery of T4 110kV substation project, inclusive scope: Construction of substation, install, test and commissioning.
Customer: Energetika Třinec, a.s.
Time lines 2016 – 2019

5 Modernization of 110kV substation – From feasibility study through to contracted works under EPCC.
Customer: Borsodchem MCHZ Ostrava, s.r.o.
Time lines 2013 – 2016

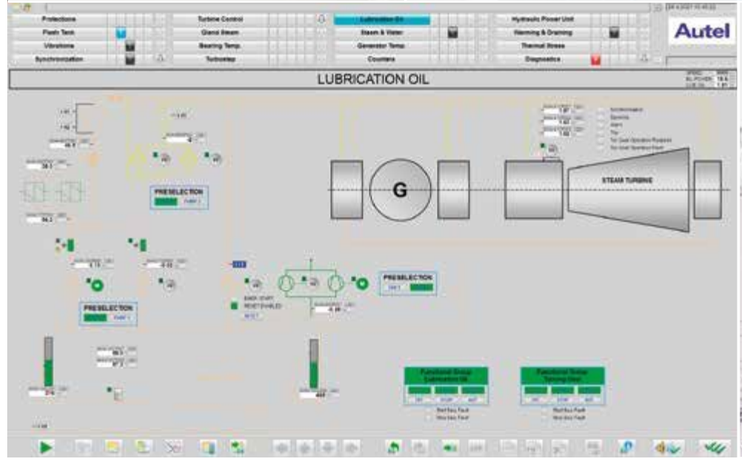
6 Istanbul EfW Scope - Delivery of control system PCS7, including project design, system programming, installation and commissioning.
Customer: Doosan Škoda Power, s.r.o.
Time lines 2018 – 2020

7 Manufacturing execution systems. Complete systems including scheduling and production control, energy information systems, with capabilities to integrate into the customers ERP for maximum production efficiencies.







PIK s.r.o.

PIK s.r.o. has been operating in Petrochemical industry for over 30 years, mainly in the downstream field of storage and operation with refined oil products.

From early phases of projects PIK offer Feasibility studies, Environmental impact studies, through FEED and preparation of project documentation for a whole range of project works, and if required engineering and consulting services, thereafter our capabilities extend into full production and installation, including technology elements examples: heavy-current, light-current distribution systems, and instrumentation; In addition PIK are highly experienced in engineering for service stations, plus maintenance. Currently we are delivering large storage containers systems, filling stations, railway and automobile intake/offtake including Dispensing as part of complex technology system deliverables for project construction. Production of pumping systems, measuring and additive (dosing) devices (in skids package) is also part of our production program. Our skids form a comprehensive modular solution, that has significant advantages for our technological parts manufacturers, and assist greatly the construction phase making both easier and faster and future operational/ servicing. For example recent significant overseas orders, in Slovakia, Poland, Latvia, Estonia, Bulgaria, Russian Federation, China, Sudan, South Sudan, Turkmenistan and other countries.

PIK Design activities

- **3D simulation and animation**
- **Engineering and consulting activities**
- **Design/Manufacturing full testing**
- **Filling stations maintenance (PPM)**
- **Global Experience and capabilities with all internal standards**







1 Deliverable of complete design documentation, engineering services and supply of tanks and complete piping systems.

2 Supply of complete design documentation, engineering services and fabrication of pipeline metering skid.

3 Elaboration of complete design documentation, engineering services and supply of complete JET fuel technology.

4 Turkmenbashi Elaboration of complete design documentation, engineering services and supply of 14pcs of jetty metering skids.

5 3D modelling of tank farm technology.

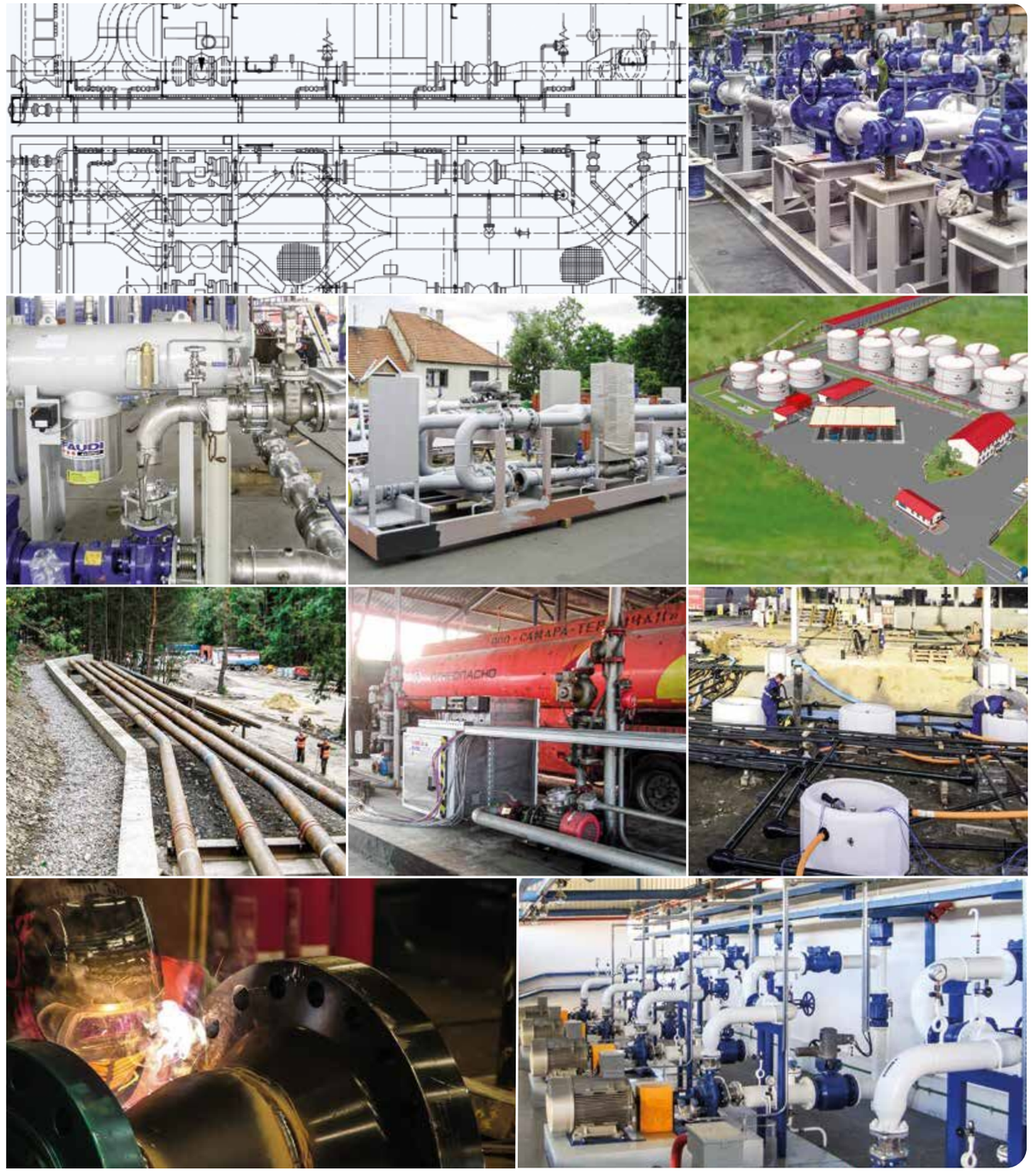
6 Elaboration of complete design documentation, engineering services and supply of complete underground pipeline.

7 EVA Container which is suitable for dosing of additive or colouring agent into light fuels. It is designed for outside installation in hazardous area.

8 Double wall plastic piping system of service station filling facility.

9 Assembling, welding of technology on site.

10 Fuel pumping facility.



Elok-Opava spol. s r. o.

Elok offers a unique industry benefit for your products and or indeed your problems, we provide a complete solution 'End to End'. Taking you the customers idea and delivering it into a real solution, both electronically and mechanically even down to detailing the correct hazardous area enclosure solution (Ex), and prototyping, testing to final certification and serial production.
"Liaising and coordinating throughout with you the Customer ensures deliverable of the correct solution".

All this we offer in-house with our own highly experienced loyal design teams, using the latest state of the art technologies and own workshops equipped with modern production equipment.
Elok-Opava as a company has over 30 years experience designing and manufacturing equipment to the highest quality and standards including for demanding hazardous areas and explosive atmospheres (Ex) with many long-term customers from various industries around the world.
Elok offer an extensive portfolio of industry hazardous and explosive environments and in accordance with ATEX, IECEx, CSA and UL, we have been designing and manufacturing and testing/certifying equipment for demanding hazardous areas and explosive atmospheres. Elok is forms an important member of VCL Group, the organisation affiliated companies, that thanks to their synergies offer a complete range of development, production and supply solutions for the petrochemical, water distribution and energy and environmental industries.

→ DESIGN - SOLUTION:

ELECTRONIC EQUIPMENT DESIGN
→ Equipment solutions for hazardous areas (Ex)
→ Key areas: wireless communication, batteries, sensors

MECHANICAL DESIGN
→ Expertise to design for hazardous areas (Ex) according to directives
→ Mechanical solutions for electrical equipment

EMC TESTING AND LABORATORY
→ EMC solutions for industrial, automotive and military all in-house

→ PRODUCTION:

PCB ASSEMBLY
→ PCB assembly (automatic, manual) for SMT and THT
→ Wave and Reflow Soldering

MECHANICAL PRODUCTION
→ Prototype and Series Production
→ Manufacturing flameproof and high IP enclosures

FINAL PRODUCT ASSEMBLY
→ Final assembly of electronic and mechanical parts
→ Completion with wiring, connectors and glands





1 AccuPlus™ is a liquid injector used to accurately and repeatable measure additives into a mainstream product such as gasoline, diesel, and heating oil. The flexible configuration allows single or multiple additives to be measured through a common meter using a manifold platform.

2 EGT Grounding tester - for accurate verification of correct grounding of tank trucks, railcars or transport bags to “true earth” to ensure transfer of liquids or powders is carried out safely.

3 ESPO camera system - camera system designed for installation in the explosive environment of highest risk Zone 0 for monitoring of internal part of the tanks/ pipelines and other technology in the petrochemical or hazardous industry environments.

4 DRV series motors - compact motors with power rating up to 50W for explosive environment Zone 1, with integrated control for robotic systems and single-purpose machines.

5 EVA 5 is suitable for dosing of additives or liquid colouring markers into the flow stream of fuels. The dosing is accurately and repeatable regulated according to the specific receipt and according to the fuel flow.

6 Manufacturing, assembling and testing of additive dosing unit. AccuPlus™ is a liquid injector used to accurately and repeatable measure additives into a mainstream product such as gasoline, diesel, and heating oil. The flexible configuration allows single or multiple additives to be measured through a common meter using a manifold platform.













ttc, s.r.o.

We are a system integrator in a field of automated process control with more than 20 years of international experience.

Our services cover the entire lifecycle of projects from initial concept ideas through too design and implementation, thereafter fully supported through the project life span with warranty, planned preventative maintenance and service support. We provide our services primarily in the oil and gas industry, power, water and chemical industry. We focus mainly on:

→ complex solutions in the field of control systems
→ development and implementation of our own in house system for the management of pipeline networks and high accuracy leak detection
→ consultancy in the area of control systems
→ customer support and maintenance

→ SOLUTIONS AND SERVICES

We provide co-operation and support to the End User through the complete project lifecycle from initial consultation phase, integration / implementation to a long-term support and after warranty maintenance to our customers.

→ PROCESS CONTROL

We have used our long term experience in the process control for many clients with mission critical requirements for which we have developed accurate, reliable solutions, these cover the transportation and storage of crude and refined products, as well as gas products, and solutions for the power industry. Our solutions are based on industrially standardised SCADA systems, DCS, PLC, certified types of actuators and field instrumentation of reputable tried and tested manufacturers.

→ LEAK DETECTION AND PIPELINE MANAGEMENT SYSTEM PIPEMAN

The result of our intensive development for several years and practical experience from pipeline network operation we have developed an In-House solution system of an integrity assurance and pipeline management system called PipeMan. PipeMan is comprehensive tried and tested software solution for all environments covering:

→ leak detection and accurate leak location
→ products transportation monitoring and planning
→ pipeline transportation balancing
→ hydraulic simulation of pipeline Networks





1 Installation of control and monitoring equipment on product tanks roof has to meet high safety standards in all respects. Regular maintenance and 24x7x365 service based on long term contracts is part of our scope.

2 We provide monitoring and control of supportive technology as well. Water management, waste water treatment are usually parts of tank farm solution. Information is integrated into tank farm management data.

3 Providing complex solution for pipeline and tank farm operations. Our operator and dispatching centres are equipped with SCADA system from worldwide known manufacturers with the addition of our state-of-the-art application software PipeMan, oriented to pipeline and tank farm operation.

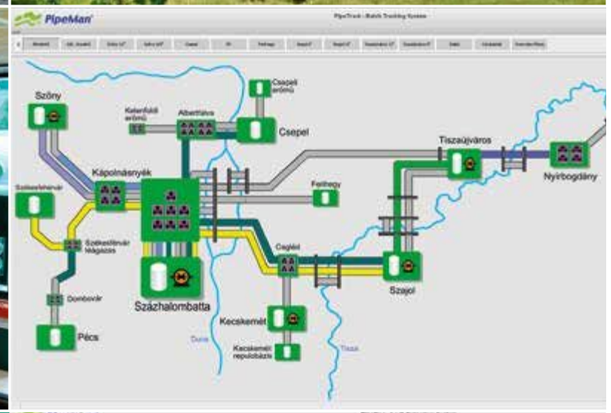
4 Large strategic tank farm for crude oil reserves, which is controlled by our system provides a key reference. Control systems for tank farms of similar size for fuel as well as for water can be found among our other references.

5 Typical detailed screen with all operational parameters necessary for the control process. Ability to change operation from remote to local, check for any unwanted situations are part of daily routine where SCADA with our PipeMan solution make operation easier. Leak detection system and its method.













AS Chemoprag a.s.

Provide comprehensive design and engineering services in all engineering disciplines, i.e. process, mechanical, electrical, measurement, control and civil engineering.
Engineering is carried out In-House by experienced employees who carry out all phases and disciplines of the project from feasibility through to detailed design and deliverables, all relevant documentation is prepared in line with scope of works.

Our capabilities extend to Construction of investment projects as The general contractor (EPC/EPCC or EPCM contractor) for turn-key projects, including start-up of operations. Equipment and Material deliverables and construction and erection works are secured by EPC or EPCM contracting procedure under the supervision and coordination of the company's project managers.
In addition we also offer and provide, close cooperation with research institutes, universities, science-research centres and patent holders, the capabilities for research technologies to transfer into full practical application of the research and instigate pilot projects in industrial applications.
AS CHEMOPRAG, a.s. is a member of the 'The Chemical Industry Association', and 'Association of Small and Medium Enterprises' These form a perfect fit of CHEMOPRAG membership of relevant Professional discipline organizations tied to its business model. The company is equipped in all design and engineering disciplines with all relevant authorizations and certifications necessary to provide design and engineering services in the construction of technological and building industrial investment projects.
References of AS CHEMOPRAG, a.s. were primarily formed by the chemical, pharmaceutical and food industries and including the storage of toxic and combustible materials, consumer light industry, public facilities and power plants, for investors acting both in Czech Republic and Internationally.
AS CHEMOPRAG, a.s provides services in Czech and English, both locally and Internationally with as an example cooperation in Europe, Asia (Saudi Arabia) and Africa (Egypt, JAR).



1 Comprehensive and complete design documentation, engineering services and EPC reconstruction of the industrial pharmaceutical production facility in Neratovice, Czech Republic and its transformation into laboratory production of active pharmaceutical ingredients - synthetic pros-taglandins according to the rules of good manufacturing practice.

2 Turn key for complete design documentation, engineering services and EPC construction of the industrial plant in Czech Republic.

3 Contracted for EPCM construction of the new plant for Biotechnological products production in Kouřim, Czech Republic, built according to standards for the pharmaceutical industry.

4 Elaboration of detail design documentation and EPC contracted services for a chemical mixing unit for the production of offset printing plates in Prostejov, Czech Republic.

5 EPCM from Front end and Detailed design documentation, to full engineering services of the new laboratory buildings for pharmaceutical analysis company in Prague, Czech Republic.

6 Inclusive elaboration of design Documentation and engineering services, with technical supervision of the construction of the new plant for non-woven textiles production in Cape Town, South Africa. After construction in Egypt this was second contract for PFNonwovens Company.

7 An extremely challenging and interesting engineering project from concept through detailed design and documentation to engineering services and EPCM construction of the bioethanol production technology from grain in the classic way designed to utilise an old sugar refining facility.

8 Provide a comprehensive detailed design and full RFQ tender documentation EIA, Services, first for planning Permit approvals then building permit procedures acceptance, finally into tender documentation, package under IPPC, for the New Waste Energy Plant in Chotíkov, Czech Republic.



VAE SPRINKLERS, s.r.o

IN the sphere of Fire protection and monitoring systems we provide our clients with comprehensive services and a wide range of Solutions that ensure safe protection in various environments.

→ REACTION OF THE FIRE FIGHTING SYSTEM CONCEPT

Concept is the first phase pre-design of our firefighting system solution, which precedes the detailed design and costing of the firefighting system. We carry this concept across all departments to ensure we find the best possible fire safety solution.

→ FIRE FIGHTING SYSTEM COSTING AND BUDGETS

Costing and budgeting forms an important element when developing a system. Our goal is to meet and work to ensure the customers' expectations are met, and their specific requirements, within their CAPEX

→ FIRE FIGHTING SYSTEM DESIGN

A successfully completed project is always backed by a well-prepared project documentation. We provide our clients with comprehensive fire safety engineering for facilities in accordance with Czech and EU legislation and VdS, NFPA and FM Global standards and Regulations.

→ FIRE FIGHTING SYSTEM INSTALLATION

VAE SPRINKLERS supplies and installs fixed firefighting systems.

→ FIRE FIGHTING SYSTEM REMODELLING

Firefighting system installation during operation post remodelling

→ INSPECTION, MAINTENANCE AND SERVICE CHECKS

We provide and monitor the entire process of delivery and installation of firefighting systems, and its subsequent commissioning for our clients. We have a maintenance department which, in the case of unexpected situations, is ready to respond 24 hours a day, 7 days a week, 365 days / year In addition we offer also Planned Preventative Maintenance (PPM) to ensure your investment is protected.

→ FIRE FIGHTING SYSTEM TRAINING

After putting the sprinkler system into operation, the operator must designate at least one responsible person for the operation and management of the sprinkler system, who will have defined responsibilities. ■



1 **Water Sprinkler System**
→ fixed / semi-fixed firefighting system
→ long service life
→ rapid response and the system blends aesthetically into the location
→ high prevention of consequential damages

Water fixed firefighting system are characterised by dual types, i.e. as wet and dry pre-action/reaction system.

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2 **Foam Sprinkler System**
→ prevents secondary recurring fire
→ also provides a cooling effect
→ extinguishes flammable liquids and plastics
→ containment of flammable vapours is reduced from release to atmosphere and further risk

Foam-based fixed fire fighting systems are usually designed to protect areas and technologies where flammable liquids or plastics are present. Foam systems are very often used in combination with sprinkler or powder firefighting systems.

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3 **Gas Sprinkler System**
→ no damage to property
→ no extinguishing residues
→ fast and efficient
→ versatile use

We recommend the use of a gas fire fighting system to protect areas where sensitive technologies or high-value equipment reside. It is a fast response and very efficient extinguishing system.



OCHI - INŽENÝRING, spol. s r.o.

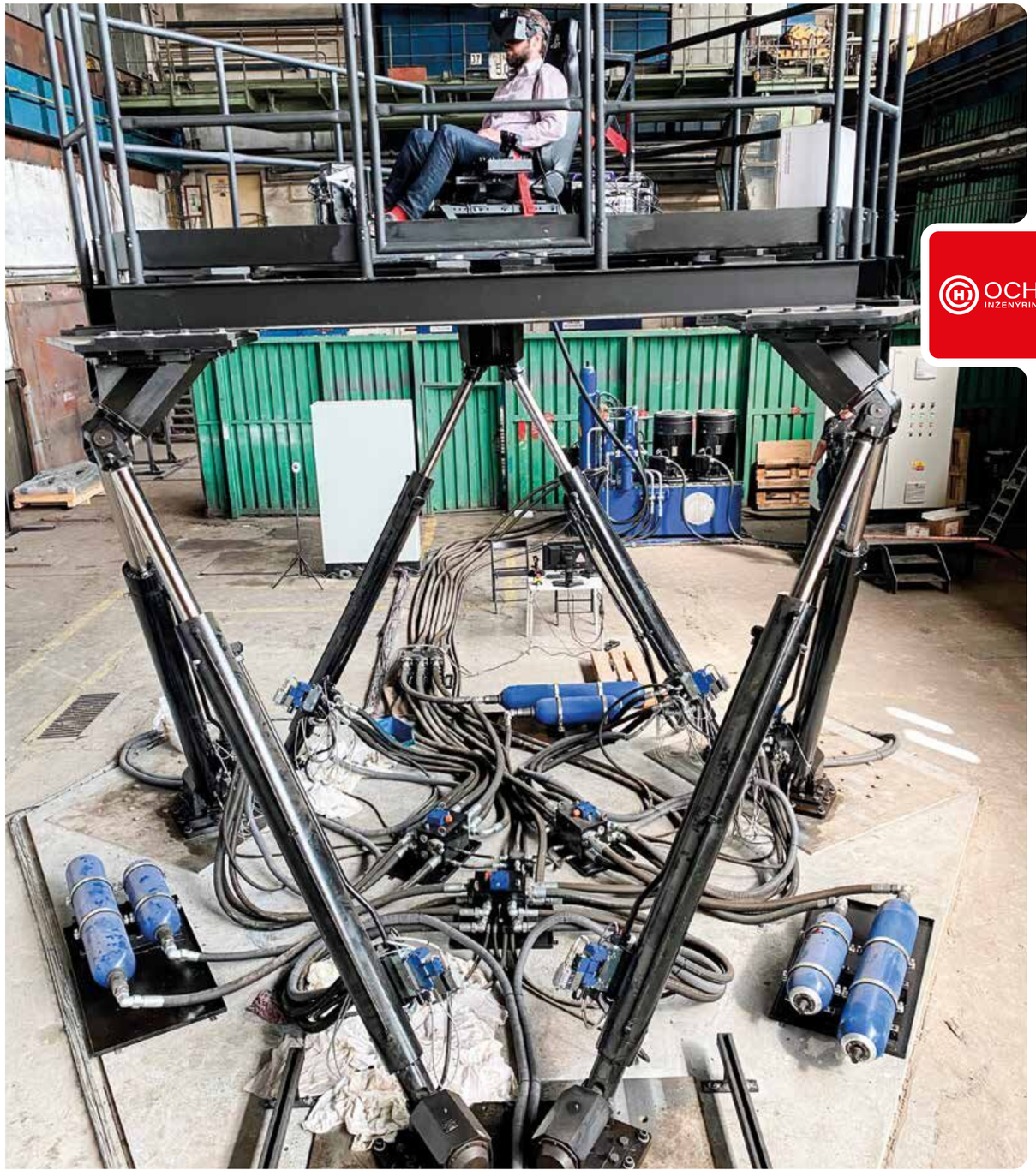
OCHI - INŽENÝRING, spol. s.r.o. is run engineering company established in 1992. Focused on the implementation of projects and final supply of industrial applications of hydraulic systems.

Own in-house technical know-how, especially in the field of drive technology for stage and theatre equipment, including local control electronic systems. Close co-operation with BOSCH REXROTH A.G., the world's leading manufacturer and supplier of hydraulic systems and components.
We offer a wide scope in the field of service, design, maintenance and overhaul of hydraulic systems. We provide a comprehensive range of services in the field of hydraulics such as consulting, analysis and modernization.
We are carrying out a complete modernization of the clamping fixture of the rail rails of the machine tool at our long-standing partner DT - vyhýbkárna a strojírna, a.s. The subject of delivery is complete project documentation of the clamping fixture, control hydraulics, hydraulic piping and control system. The fixture must meet demanding requirements for rail clamping strength and stability in order to achieve the most demanding machining parameters, our company was the only one that was able to convince the customer that we were able to achieve these requirements.

Our company carries out not only the design and construction work, but also the implementation of the entire project on a turnkey basis, including installation and commissioning at the customer's site.
The proposed type of clamping fixture includes 1000 m of complex hydraulic piping, sophisticated control systems and dozens of actuators and hydraulic cylinders and hydraulic motors that bring the tens of metres of clamping equipment to life.
Our decades of experience in hydraulics enable us to design and implement sophisticated equipment such as the one at DT - vyhýbkárna a strojírna, a.s.

Typical Examples:
→ End to end hydraulic solutions
→ Supply of hydraulics units for metallurgy and coke furnaces, mechanical engineering *mechatronics, cement works and theatre technologies
→ Development of Single-purpose machines tailored to client business
→ R&D of drive units and *mechatronics systems
→ Consulting, service and maintenance

*NOTE: mechatronics is the definition of engineering automation with mechanical, electrical with computer and software using Smart Technologies.



1 Revamp hydraulic units and system modernization of the heating furnace in ŽDB Drátovna, a.s.

2 Suchoj Superjet 100 aircraft flight simulator in Moscow Training Center. The simulator is powered by hydraulice cylinders delivering very real flight.

3 180 kW, and 1200 litres oil tank, operating at 250 bar pressure.

4 Hydraulic stage platform in the Prague congress centre.

5 Lufthansa Technik AG, European maintenance and repair facility located in Poland, a Hydraulic lift platform in EME Aero, designed and manufactured for 30t load capacity, and platform size 6mtrs x 10mtrs. The unit is designed and manufactured in compliance with ATEX Regulations.

6 A designed and fabricated hydraulic ‘single-purpose’ machine for a rail milling clamping jig in company DT - Výhybkárna a strojírna, a.s.

7 A new design of the rail milling clamping jig in 3D modelling significantly increased production time by eliminating daily maintenance and repair downtime. The machine is in compliance with highest safety workplace measures.



PNEUKOM, spol. s r.o.

PNEUKOM's provides a comprehensive range of services for compressor and pneumatic engineering systems and support, including detailed design, feasibility, manufacture, supply, install, test and support but not only...

They encompass entire "life cycle" of all equipment utilised In compressed air generation and operation. From concept through the design, delivery, installation and maintenance for entire lifetime up to the environmental friendly disposal of all equipment at the end of its operational lifetime or obsolescence. In all new detailed design and supply contracts as a matter of course we supply the state-of-the-art technology ensuring the customer Capex has genuine Life Cycle cost benefits.
The company was the first one in the Czech Republic to implement a certified integrated management system in accordance with strict international standards ČSN ISO 9001:2015 / ISO 14001:2015

→ PROJECTS → SUPPLIES
→ ASSEMBLIES → SERVICE

Compressor station
We supply key-ready compressor stations. We are representatives of manufacturers of compressor technology of Hertz.

Project activities
Elaboration of project documentation from the basic design up to complete project documentation. Projects
- construction part, technological part, compressed air and condensate distribution systems, air conditioning projects and electricity.

Supply and assembly of technological compressor station units and their parts
→ Screw compressors, piston compressors, high pressure compressors, low pressure compressors, boosters, blowers
→ Air driers of condensing type, adsorption type
→ Oil and water separators, condensate separators
→ Filters of mechanical impurities and pressure vessels
→ Compressed air distribution systems, made of steel, copper, plastic, stainless steel



1 Design, delivery and installation of a new compressor station for ČEZ Energetické služby, s.r.o.
The compressor station comprises four HERTZ HSC 315 D screw compressors including oil-water heat-exchanger for heat recovery. Two HERTZ HRD 190 condensate air dryers plus filters for compressed air treatment, and four OWAMAT 16 oil separators for condensate treatment were installed.

2 Design, delivery and installation of a new IHI DALGAKIRAN Turbo-compressor TRX 1600 Turbo-compressor with 1,600 kW power was installed at ENERGETIKA TŘINEC, a.s., a subsidiary of Třinecké železárny, a.s.
Complete with filtration unit and Hertz HRD1700 condensate dryer for compressed air treatment. Stainless Steel was used for interconnection between compressed air generation and treatment.

3 The Central Europe's largest nitrogen station was installed at ČSM Jih mine of OKD (mining company) for Veolia Energie ČR, a.s. Detailed Design, fabrication and installation of nitrogen station equipment, for which membrane technology was applied. Based on air passage through membranes where oxygen is separated and only nitrogen and noble gases pass through the membranes.

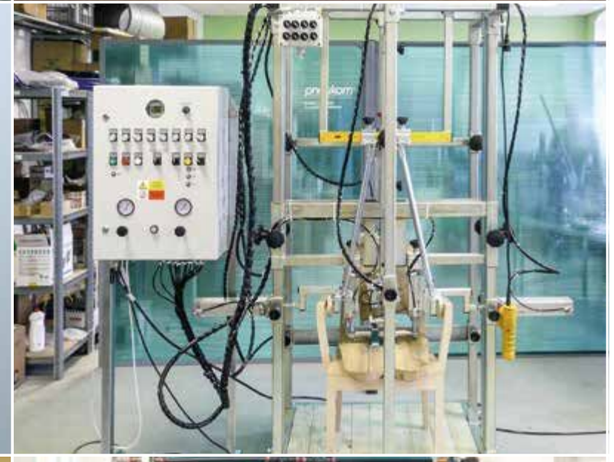
4 The designer of high end furniture TON a.s. contracted us to design, fabricate, install test and hand over a variable chair and furniture testing system to be used for standard and special tests by bending, static or cyclic load on furniture.

5 The company ČD Cargo, a.s. approached us to develop a functional test working system for remote control of train brake valves equipment DAKO brake valves.
The solution was a remote control configuration in compressor station to provide full test remote controlled via mobile phone SMS system to test fully functionality of the train brake system.

6 Vítkovice Cylinders a.s. contracted us for design, delivery and installation of pressure cylinder testing equipment This involved equipment for pressure Cylinder testing using gas mixture composed of nitrogen (95%) and helium (5%) at 250, 350, 500 and 1,000 bar pressure levels.
The station was designed to be mobile when not operationally pressurised for safety and flexibility.









The VCL Group Business Footprint







1993 1994 1997 1998 2000 2004 2005 2006 2007 2009 2012 2014 2016 2017 2018 2019 2020 2021

→ 1993 - VAE CONTROLS was founded by 4 colleges, as a small-business company and still today remains a private Czech company.

→ **1994** – VAE CONTROLS were the first integrator in Czech of control systems Dec Alpha.
→ **1997** – VAE CONTROLS was one of the first companies in Czech build fibre optic cable networks.
→ **1998** – VAE acquired the company Elok-Opava into the group.
→ **2000** – Company founded VAE CONTROLS SOFIA.
→ **2004** – Company formed VAE CONTROLS Beijing.
→ **2005** – Our most distant project – waterworks control system is in Ecuador.
→ **2005** – Acquisition of the company PIK into the VCL Group.
→ **2006** – Sedlnice depot built by VAE CONTROLS, this being the biggest fuel depot at the time of construction in Czech.
→ **2007** – Most of gasoline and diesel sold in central Europe contain biofuels and additives blended by VAE CONTROLS´ technology.

→ 2009 – Establishment of VCL GROUP.

→ **2012** – AUTEL became a part of the engineering company group VCL Group.
→ **2014** – AS CHEMOPRAG was integrated as part of the engineering group VCL Group.
→ **2016** – VAE CONTROLS provided Engineering experience for technical elements of design and delivery of technology and control system for the most modern fuel terminal in Dongguan, China.
→ **2017** – VAE CONTROLS was the first Czech company to provide EPC construction of fuel depot for NATO abroad.
→ **2018** – VAE SPRINKLERS became a part of the engineering group VCL Group.
→ **2018** – ttc became a part of the engineering group VCL Group.
→ **2019** – VAE CONTROLS under extreme tight customer deadlines executed the safely the fastest construction of tank truck loading terminal in Loukov, Czech Republic (start to final commissioning – 10 months).
→ **2019** – VAE CONTROLS are the biggest Czech exporter of engineering products into Sudan.
→ **2019** – OCHI-INŽENÝRING became a part of the engineering group VCL Group.
→ **2019** – PNEUKOM became a part of the engineering group VCL Group.
→ **2020** – An In-House development and manufacturing of safety EGT grounding system monitor is now a global market best seller.
→ **2020** – Due to customers urgency VAE were requested to carry out an accelerated short time farm project for procurement and installation of custody transfer meters on crude and products pipelines for NNPC.
→ **2021** – We VAE CONTROLS are a multilingual company, with in house language abilities in Arabic, Bulgarian, Chinese, Czech, English, French, German, Polish and Russian. ■

Premises of VCL Group holding



AS CHEMOPRAG, a.s.

PIK, s.r.o.



AUTEL, a.s.



Elok-Opava spol. s r. o.



VAE CONTROLS, s.r.o.



The following certificates guarantee high-quality solutions and reliable deliveries form key core VAE Group abilities:

→ we received the internationally certificated Quality Control System ISO 9001:2015, ISO 10006:2004, ISO 14001:2015, ISO 21500:2012, ISO 27001:2013, ISO 45001:2018, AQAP 2110, SCC. → we are certified by NATO and NBU for handling confidential information. → we possess the IECEx Certificate, the European Certificate ATEX (EU), and the American Certificate IEC (USA) for the equipment to be installed in explosion-risk environment. → we are a member of the IPMA (International Project Management Association). → we also have a number of professional and qualification certificates necessary for our development, production, design and service. ■

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