

The Association of Research Organizations

Members introduction

AVO

2017



The Association of Research Organizations AVO

AVO is the only organization in the Czech Republic representing applied research. Founded in 1993 AVO has more than 80 members (mainly SME's) with more than 8000 researchers.

AVO key role is to promote the Czech applied research, development and innovations on both national and international level and help to bring the R&D results into the business.



Asociace výzkumných organizací

The Association of Research Organizations

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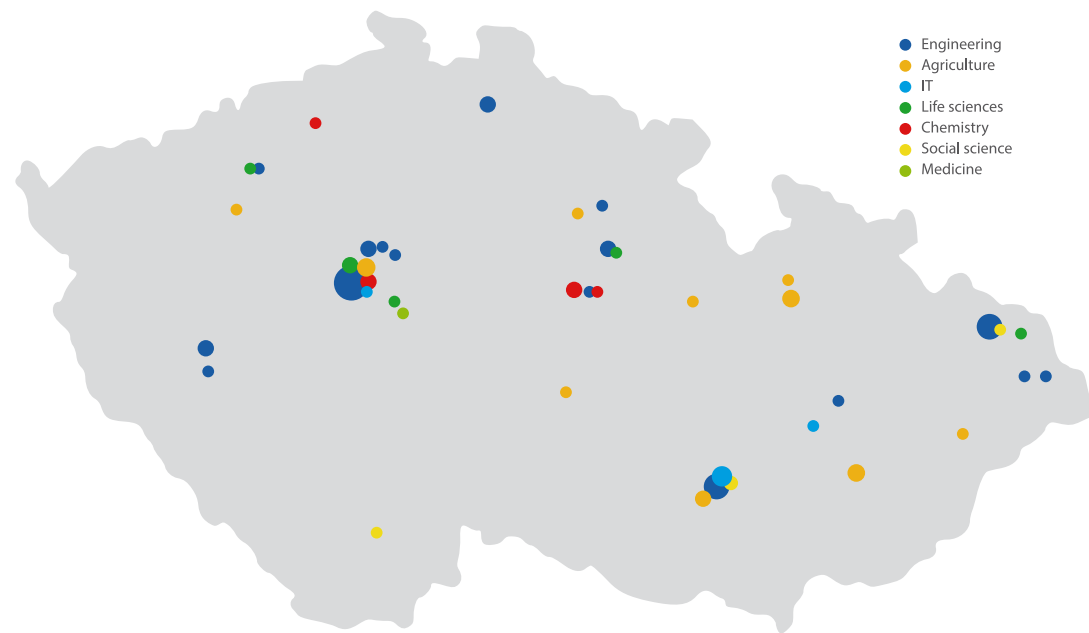
www.facebook.com/science2S

www.twitter.com/AVOtweetuje

www.youtube.com/AVOvidea



Map of AVO members in the Czech Republic



AVO members in alphabetical order

AGEL RESEARCH
 AEROSPACE RESEARCH AND TEST ESTABLISHMENT
 AGRICULTURAL RESEARCH INSTITUTE KROMĚŘÍŽ, LTD.
 AGRITEC, Research, Breeding and Services, Ltd.
 AGROTEST FYTO, Ltd.
 B & M InterNets, Ltd.
 BIC BRNO, spol. s r.o.
 BROWN COAL RESEARCH INSTITUTE a.s.
 CENTRE FOR ORGANIC CHEMISTRY LTD.
 CENTRE OF HYDRAULIC RESEARCH
 COMTES FHT a.s.
 DAIRY RESEARCH INSTITUTE Ltd.
 EUROGV s.r.o.
 FOOD RESEARCH INSTITUTE PRAGUE
 HOP RESEARCH INSTITUTE Co. Ltd.
 INOTEX Ltd.
 KATCHEM Ltd.
 MATERIAL & METALLURGICAL RESEARCH, Ltd.
 MEMBRAIN s.r.o.
 MILITARY RESEARCH INSTITUTE, STATE ENTERPRISE
 Network Security Monitoring Cluster, cooperative

OKSYSTEM s.r.o.
 OLTIS GROUP
 POTATO RESEARCH INSTITUTE HAVLÍČKŮV BROD, Ltd.
 PRIMA BILAVČÍK, s.r.o.
 RESEARCH CENTRE REZ
 RESEARCH INSTITUTE FOR BUILDING MATERIALS
 RESEARCH INSTITUTE OF FODDER CROPS, TROUBSKO, Ltd.
 RESEARCH INSTITUTE OF BREWING AND MALTING, Ltd.
 SVŮM joint stock company
 SVŮOM Ltd.
 SYNPO, a.s.
 TŘINECKÉ ŽELEZÁRNY, a.s.
 TÜV SÜD CZECH s.r.o.
 ÚJV ŘEŽ, a. s.
 UNIPETROL CENTRE OF RESEARCH AND EDUCATION, a.s.
 VUB Co. Ltd.
 VŮTS, a.s.
 VVÚÚ, a.s.
 VÝZKUMNÝ A ZKUŠEBNÍ ÚSTAV PLZEŇ s.r.o.
 VÝZKUMNÝ ÚSTAV ORGANICKÝCH SYNTÉZ a.s.

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AGEL Research is a member of AGEL Group, the largest private healthcare provider in Central and Eastern Europe. AGEL operates 11 hospitals, 6 health centers, a network of pharmacies, laboratories, and distribution companies, along with other specialized medical facilities. Every year, more than 170,000 patients and more than 2.5 million outpatients are treated, cared for, and hospitalized in the care of the AGEL Group.

AGEL Research represents a contact point for science, research, and innovation cooperation with AGEL Group. AGEL in this way also operates as an education and research institute in the fields of science and research.

AGEL's medical facilities provide exceptional services and offer the latest in medical instrumentation. Our statute for highly specialized care is carried and supported by a network of care centers and agencies.

With superior treatment results and a comprehensive administration of medical records, AGEL continues to experience increasing interest from both domestic and international patients.

COOPERATION:

We are looking for partners in the field of medical praxis, research and development.

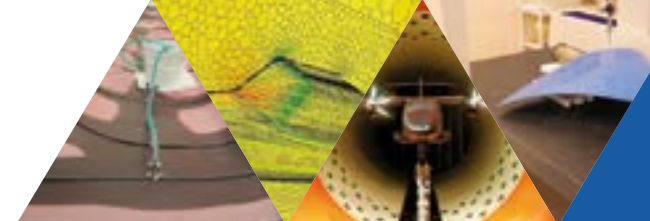


We offer:

- › Access to a diverse pool of patients and experts
- › Broad experience with clinical studies and H2020 projects
- › Ability to assist from research stage to market implementation
- › Own Health Information System – information about 2 000 000 patients in a real time
- › Possibility of trans-border cooperation with Czech or Slovak medical facilities

TRANSFER:

We are offering worldwide cooperation for medical organizations of all types. Our priority market is Central and Eastern Europe where we have built a strong position in local healthcare systems. We are looking for new partners in broad range of clinical and medical research fields (cardiology, oncology, gastroenterology, neurology, etc.).



Aerospace Research and Test Establishment VZLU is a national centre for research, development and testing in the field of aeronautic and space. The main mission of VZLU is to generate new knowledge, transfer it into industrial use and provide its partners with maximum support in the development of new products. The major multi-disciplinary fields are: aerodynamics, structure strength and durability, material corrosion engineering, composite materials and technologies and accredited testing. Employees exceed 250 of which more than one half are highly qualified and graduated.

VZLU participates in programs supporting R&D launched by the Czech Ministries and the Technology Agency CR. International cooperation in R&D is promoted on the basis of the EU Framework Programmes where VZLU has participated in nearly three dozens of international projects since 2001. VZLU is also focused on space programs supported by the European Space Agency (ESA).

COOPERATION:

AERODYNAMICS

- › R&D in applied external and internal aerodynamics, CFD calculations and simulation, optimization, flight mechanics, measurements in low speed and high speed wind tunnels, measurements of wind resistance of building structures, pedestrian wind comfort

STRUCTURE STRENGTH AND DURABILITY

- › R&D in strength of structure and structural durability, static, dynamic and fatigue test of structures, full scale testing of airframes, strength analysis and testing, modal analysis and GVT, NDT

PRODUCT ORIENTED ACTIVITIES

- › R&D for turbine engines, development of a/c propellers and industrial fans, aircraft engines and satellite scientific equipment, R&D of advanced composite structures, nanosatellites development and integration, mechanical and climatic resistance testing, fireproof testing & reliability analysis

MATERIALS AND TECHNOLOGIES

- › Material analysis and characteristics testing, R&D in corrosion resistance and surface protection, Composite structures for special purposes

TRANSFER:

VZLU ensures the transfer of knowledge from the laboratories to its practical application and at the same time fully endorses and supports the education of the next generation of engineers, researchers, and other technical experts.

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www.vukrom.cz



Agricultural Research Institute Kroměříž, Ltd., is an institution of applied agricultural research focused on conducting research projects, breeding cereals, authorized testing (GEP), providing advisory services in agriculture and other specialized services.

The Institute has been continuing activities of the Cereal Research Institute Kroměříž and developing the tradition of agricultural research in Moravia dating back to the second half of the 19th century. The Agricultural Research Institute Kroměříž, Ltd., is an organization of a holding type and founded the research company Agrotest Fyto, Ltd. (a research organization according to the Community Framework for State Aid for Research, Development and Innovations and the Act on the Support of Research, Experimental Development and Innovations (No. 130/2002 Coll.) and Agrotrial, Ltd. (focused especially on agricultural primary production).

The company guarantees high quality of provided services; the system of quality and environment control is certified according to standards ISO 9001 and ISO 14001 by the certification authority TÜV CZ.

COOPERATION:

Research activity includes nearly the whole area of plant production and is aimed especially on:

- › research on crop management practices, study of stand structure of crops, cereal growing guidelines,

- › study of diseases and designing complex systems of plant protection,
- › research on genetic and breeding methods for cereals, study and development of new genetic resources,
- › conservation and maintenance of a collection of genetic resources of cereals,
- › research on quality of cereals.

Advisory services

Accredited advisers provide customers, especially farmers and agricultural enterprises

Specialized services

- › Accredited tests to determine biological efficacy of plant protection products
- › Testing varieties and new breeding lines.

TRANSFER:

We offer our activities to Czech and foreign entities. We are experienced in conducting international research projects (e.g., EU research programmes, projects of bilateral cooperation) and providing services to foreign customers.

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AGRITEC, Research, Breeding and Services, Ltd. is a legal successor of former „Kaiser Wilhelm Institute für Bastfaserforschung“ founded in 1942. In its recent form AGRITEC has exist since 1993 (without any breakdown of activities since 1942). AGRITEC is a private company dealing with highly-qualified applied research, plant breeding and seed production of grain legumes (pea, faba bean, soybean, lupin, Phaseolus), industrial crops (fiber flax/linseed, hemp, winter rape), aromatic/spice plants (caraway). Agritec carries out a complex agrobiological research – plant genetics, plant physiology, phytopathology, agrotechnology, integrated plant protection, biotechnology and molecular biology. Agritec is responsible for maintenance of germplasm resources of grain legumes and fibre crops in the Czech Republic. Agritec is classified as an SME within the EU economic/business space. Thus, Agritec has a great experience with participation in international (mainly EU) projects – recently three projects: LEGATO, ABSTRESS, MULTIHEMP, and long-term experience with COST projects or bilateral projects (program KONTAKT).

COOPERATION:

We offer the cooperation in a „modern agriculture“ and „biotechnology“. Agritec combines both these fields, i.e. we develop biotechnological approaches immediately applied in the practical breeding. We use routinely methodology of doubled-haploid production via anther or microspore culture for shortening breeding cycle

of winter rape, flax or caraway which approach resulted in registered varieties. This methodology is under investigation in pea, hemp and poppy. We develop methodologies of transgenesis for pea (virus and insect resistance) and linseed (heavy metal tolerance and increased HM transport; phytoremediation). In both crops we have established the official field trials (with EU permission). We develop molecular DNA markers for marker-assisted selection. The main outputs are the registered varieties of pea, linseed, winter rape and caraway connected with breeder's seed production and sale of these varieties. Another outputs are methodologies for agricultural/breeding practice connected with every-day service/consultancy to farmers/breeders, and scientific publications (basic and applied research).

TRANSFER:

We offer our activities/products both to the Czech and foreign partners/customers:

- › Varieties of grain legumes (pea), industrial crops (linseed, winter rape), spice plants (caraway) – breeder's seeds ready for sale for growers/farmers
- › Methodologies of agrotechnology, integrated plant protection, doubled-haploids, marker-assisted selection
- › Cooperation in R&D national and international projects

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Agrotest Fyto, Ltd., is a research organization complying with conditions of the Community Framework for State Aid for Research, Development and Innovations and the Act on the Support of Research, Experimental Development and Innovations (No. 130/2002 Coll.). It is a subsidiary company of the Agricultural Research Institute Kroměříž, Ltd. Through its activity, it has been developing more than 60 years tradition of agricultural research in Kroměříž dating back to 1951.

Agrotest Fyto, Ltd., conducts projects of applied research and development in plant production. The research activities are complemented with providing specialized services, consulting and advisory activities.

Agrotest Fyto, Ltd., operates an accredited testing laboratory (accredited according to national standard EN ISO/IEC 17025:2005) focused on analyses of cereals and other field crops, feedstuffs, soil and relevant products.

The company Agrotest Fyto, Ltd., has been accredited to give basic courses for handling plant protection products according to Act No. 326/2004 Coll.

The system of quality and environment control is certified according to standards ISO 9001 and ISO 14001.

COOPERATION:

The main field of the activity of Agrotest Fyto, Ltd., is applied research and development in plant production,

historically focused on cereals and currently also on other crops.

We offer collaborative and contract research in the following areas:

- › Applied genetic and breeding research in cereals
- › Crop management practices
- › Plant protection
- › Cereal quality

Offered services:

- › Services of the accredited agricultural laboratory:
- › Services of the molecular and biological laboratory
- › Advisory services in plant protection
- › Specialized field experiments and tests (e.g., testing pesticide efficacy, varieties, new breeding lines, and others)
- › Lectures and consultations

TRANSFER:

We offer our activities to Czech and foreign entities. We are experienced in conducting international research projects (e.g., EU research programmes, projects of bilateral cooperation) and providing services to foreign customers.



B & M InterNets, Ltd. was established in 1992. In the beginning of its existence, our company had focused primarily on providing of hardware and comprehensive information systems, including management of computer networks. In the following years, the development of software applications, system integration and other IT services became our core activities. In the long term we are specialized in R&D of specialized applications and client software.

Some of our R&D projects:

- › R&D in the area of SW of facial recognition camera system,
- › R&D of SW for optimization of management and industrial processes by means of statistical modeling,
- › R&D of an online portal and useful tools for people with learning disabilities,
- › R&D of intelligent camera system for efficient monitoring and identification, etc.

We provide:

- › Development of new software applications,
- › Evaluation and optimization of various processes,
- › SW for training students with learning disabilities,
- › Camera system installation, etc.

COOPERATION:

The company is also active in international cooperation. It was involved in major European projects.

We cooperate with specialists from universities and companies worldwide very often.

Main collaborating partners:

- › BRNO UNIVERSITY OF TECHNOLOGY (Brno, Czech Republic),
- › MASARYK UNIVERSITY (Brno, Czech Republic),
- › LETIŠTĚ BRNO a.s. (Brno, Czech Republic),
- › Technion – Israel Institute of Technology (Haifa, Israel),
- › Indra Sistemas S.A. (Madrid, Spain),
- › Deep Blue Srl (Rome, Italy) and many more.

We offer:

- › Partnership / experience in R&D projects,
- › Technical cooperation,
- › Development cooperation,
- › Expertise in evaluation and optimization, e-Learning, multi-dimensional statistical modeling and simulation, etc.

TRANSFER:

The company has customers in both private and public sector. Its products are used in offices, schools and private companies in the field of waste management, industry, commerce, etc. Our customers are not only from the Czech Republic but also from other countries as well.

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BIC Brno is a business and innovation center which operates in the field of innovation for more than 20 years. Our activities in the area of „technology transfer“ create a bridge between research institutions and industry and help to transfer innovations into practice. Our goal is to support entrepreneurs in the creation of innovative projects by active advice, assistance, education or providing useful information. It means that we are able to support companies not only in the phase of strengthening their business potential, but also in the phase of searching for new innovative inputs and new research partners. We can identify the strong need of cooperation between business and academic environment in our everyday work.

COOPERATION:

We are interested in cooperation in the following areas:

- › International “Technology Transfer”
- › International R&D projects
- › Participation in projects of the Horizon 2020 Framework Programme
- › Exchange of experiences with representatives of innovation infrastructure
- › Services for small and medium-sized enterprises
- › Exchange of experience in the field of innovative education for SMEs

TRANSFER:

The main benefits of our organization are our specialization and our experience. As an intermediary entity in „technology transfer“ we are very close to both sides, research organizations (many of them are our long-term partners) and also to the industrial R&D companies. In our database we have more than 500 business partners (start-ups, SME's and also big companies). We have a lot of experience with creating dialogue and supporting cooperation between innovation actors. Moreover we know well all stakeholders in our region (innovative infrastructure, R&D institutions, universities, companies, local government and representatives).

Brown Coal Research Institute a.s. is the only research and engineering institution dedicated to the open-pit surface coal mining in the Czech Republic (vvh.vuhu.cz). The institute closely cooperates with all currently running open-pit mines in the North-Western Bohemian coal basin providing the broad spectrum of specialised supporting activities – expertise in geology, hydrogeology, geomechanics, technical diagnostics, design and construction of smaller mining technologies, certified laboratories focused on coal, solid fuels and all coal by-products. All these activities are carried out in close cooperation with the shareholders (mining companies), other research institution in the Czech Republic (public universities and Academy of Science) and with the producers of the mining technologies. The technicians, research workers and project managers are in daily contact with the mining practice on all these mines.

VUHU a.s. is a publisher of the specialised technical journal – Zpravodaj Hnědé uhlí, focused on the presentation of the research and development results.

COOPERATION:

Our research activities are focused on industrial research in the field of open pit mining of solid fuels and other mineral feedstock.

We offer:

- › engineering services related to the design of open

BROWN COAL RESEARCH INSTITUTE a.s.

pit mines,

- › analysis and expertise in geology, hydrogeology and geomechanics
- › geological and hydrogeological modelling
- › evaluation of stabilities and hazards of outer and inner mining spoils
- › study and conceptual design of remediated landscapes
- › technical diagnostics of mining technology
- › design and construction of small technologies for reduction of dust emissions at mining activities
- › accredited laboratory services focused on analysis of solid fuels, water, wastes and mineralogy
- › cooperation in research projects focused on all aspects of the open pit coal mining
- › services of Certification body No. 3066 for Products certification.

TRANSFER:

We offer our services worldwide, but our main activities are provided in the Europe. We cooperate on the research projects supported by the European Coal and Steel Research Fund with research institutions and universities nearly in all European countries.

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Centre for Organic Chemistry Ltd.

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COC is the research company, which main field of activity is R&D and technology transfer of sophisticated organic compounds suitable for microelectronics and other high-tech subject areas. The strategic target is to build the connections between basic research and applications and next to transfer the results into industrial realisations. COC has wide cooperation with institutes of Academy of Science of Czech Republic and Universities from all EU. The cooperation is realised into national as well as international research projects. Company is equipped by devices for laboratory research of synthesis, isolation, purification, material characterisation and next optimisation and up scaling for formulation of technology suitable for industrial scale. Up scaling apparatus consist from glass reaction vessels from 15 up to 100 l connected with appropriate isolation and purification techniques. COC offer cooperation with industrial partners during verification and transferring of new production technologies of organic compounds.

COOPERATION:

Organic electronics

- › R&D of new molecular organic materials and their oligomeric and polymeric analogues, organometallic compounds and hybrid materials suitable for high-tech. application, New monomers for conductive polymers, R&D of organic and composite hybrid semi-conductors, R&D of applications of the

new molecular systems for sensors, FET, RFID, PV, electrochromic devices, OLED etc., R&D of perspective organic molecules synthesis, R&D of organic and hybrid materials applications for microelectronics flexible systems.

Photosensitizers

- › R&D of photosensitizers, photosensitizers sensitive to VIS and UVA radiation, Organic photosensitizers having reactive groups for interconnection into polymeric matrix, Application of photosensitizers as antimicrobial and self-cleaning agents.

Surface finishing

- › UV absorbers and their water nano-dispersions, UV absorbers with reactive groups for interconnection into polymeric matrix suitable for application for cosmetics and varnishes, antistatic surface finishing by conductive polymers coating, hydrophobic surfaces with high weathering resistance.

TRANSFER:

COC R&D activities are focusing on introduction of new products for new dynamic markets of microelectronic systems based on organic and hybrid materials, antimicrobial and self-cleaning systems based on organic materials generated reactive oxygen forms and applications in the field of functional surfaces. Target market is EU.



The company has been established as a research organization whose main purpose is to realize basic research, applied research and experimental development on natural sciences and engineering, especially in the field of hydraulics and pumping equipment, and disseminate the results of research and development through teaching, publication or technology transfer.

COOPERATION:

- › Numerical modelling of HDI flow - hydrodynamic systems, internal flow
- › Numerical modelling of HDE flow - hydrodynamic external systems
- › The flow of hydromixtures
 - › HS 3F biphasic and triphasic hydromixtures of physical nature
 - › HS 3B hydromixtures of biochemical nature
- › Strength and dynamic problems of machines and rotor systems
- › Experimental research of hydraulic machines - laboratory testing, hydraulics laboratory
- › Experimental research in technologies
 - › hydraulics networks
 - › Biotechnology (generally „clean water“)
 - › Filtration systems

- › Training centre
 - › Basic courses in hydrodynamics
 - › Special courses (selected essays, targeted skills)
 - › Consultancy (objectively in the range HS 1-6)

TRANSFER:

- › VUT, ČVUT, UPOL
- › Skupina SIGMA (SIGMA GROUP a.s., SIGMA PUMPY HRANICE, s.r.o....)
- › ARMATURY Group a.s.
- › MSA a.s.
- › ELZACO spol. s r.o.
- › MemBrain, a.s.
- › ΔΡΑΚΟΣ - ΠΟΛΕΜΗΣ Α.Ε (DRAKOS - POLEMIS S.A.)
- › GOST TECHNOTECH
- › MEI Moskva

Centre of Hydraulic Research

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COMTES FHT a.s. is a privately-owned research organisation which offers a wide range of services in the field of metallic materials. The underlying premise of the organisation is that its success will depend upon our ability to increase the added value of state-of-the-art products and to develop new technologies. We strive to achieve this by supporting our industrial partners in applying the results of research and development.

The mission of COMTES FHT a.s. is to provide highly specialised services in the field of research and development of metallic materials. Its main focus is the development of new metallic materials and technologies for their processing. In terms of metal processing technologies, the organisation focuses on research into forming and heat treatment.

COOPERATION:

The services of COMTES FHT a.s.:

- › Metallurgical technologies
- › Materials characterization
- › Computer modelling
- › Mechanical testing and thermophysical measurement
- › Consultancy and training
- › Preparation and implementation of research and

investment projects

Target group

- › End users in various sectors of industry and engineering development offices
 - › Collaborative research partner
 - › Contract research client
 - › Engineering and laboratory services client
 - › Commercial contract client
- › Academies of sciences and higher education institutions
 - › Collaborative research partner
 - › Contract research client
 - › Client of research departments

TRANSFER:

We offer our services worldwide. Our priority markets include countries of the European Union, predominantly Germany and Austria. At present, we are also focusing on markets outside the EU.

The accreditation of our laboratories and our more than ten years of experience provide a guarantee of quality. We take an individual approach to each and every customer. Our development activities are steered rigorously towards specific industrial applications.

Dairy Research Institute (DRI) was established in 2002 as a research organisation according to Community framework 2006/C 323/01.

DRI is focused on research and development in milk and dairy products from farming to consumers. Actual topics are the influencing of milk composition, methods for the determination of chemical and microbiological parameters including the detection of falsification, changes in milk and dairy product during the manufacturing and storage, the processing of milk by low-capacity farmer technologies, classical dairy technologies as well as modern membrane technologies, hygiene and protection systems of dairy product quality and safety, the influence of particular milk and dairy product components on human nutrition and health, foods for persons with changed demands on nutrition or foods for special medical purposes, the use of waste products from dairy technologies for both food and non-food purposes, the use of lactic acid bacteria in other food technologies and biotechnologies and others.

COOPERATION:

Particular examples of topics solved in cooperation with dairy plants and farmers:

- › influencing of raw milk quality at farmers
- › composition and changes in raw milk microflora
- › calibration of infra-red instrumentation (MIR-FT)
- › control of hygiene at dairy plants

- › bacteriophages, their detection and elimination
- › antibiotic resistance
- › biopreservation and antimicrobial activity of lactic acid bacteria
- › modification and acceleration of cheese ripening
- › membrane technologies for increased yield and improved composition of final products
- › food safety, detection and elimination of food-borne pathogens
- › technological properties of probiotics and prebiotics and their effect on health
- › sterilized nutritionally defined foods
- › and others

In a Czech market, the most successful products developed in DRI are sterilized nutritionally defined foods for special medical purposes, kefir milk with an elevated content of vitamin B12, cream-curd dessert with probiotics, butter with improved spreading or fresh cheese with probiotics, etc.

TRANSFER:

DRI is open to collaboration, contacts and new topics. The target groups are:

- › industrial partners as users of results
- › research partners (institutes, universities, etc.)

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EuroGV company, Ltd. works at developing and integration of GIS, BIM, 3D applications, analyses of selected geodetic, photogrammetric and scanning technologies, developing of methodology, tools and systems for facility management, indoor navigation, energy industry, archeology, health service, police, army and risk management.

COOPERATION:

Common development of exquisite softwares, which completes and extends ourselves operated GIS, BIM, 3D applications.

TRANSFER:

Radiopharmaceuticals – currently we are focused on the State administration of EU countries, owners of large objects.



Organization's main programs are research and development activities in the field of nutritionally important food ingredients, recipes reformulation proposals and development of products with increased content of nutritionally important ingredients in preventive, positive sense (important components such as fiber, prebiotics and probiotics, antioxidants, etc.), or vice versa with a reduced content or elimination of nutritionally negative substances (allergens, salt, saturated fats, sugar, etc.), as well as improvement of food processing procedures from the start of production to final preparation, development of special food for the population with special food requirements (celiac disease, diabetes, obesity), research and development of analytical, control and evaluation methods for specific analysis, development and production of special measuring equipment or devices and food engineering (including nanotechnology).

COOPERATION:

- › Development of products for healthy and safe nutrition - foods with increased antioxidant activity, reduced sugar or salt content, increased content of n-3, n-6 polyunsaturated fatty acids, fiber, controlled energy contribution, polyphenols content, natural substitutes of chemical additives, recipes reformulation
- › Development of products for population groups

with special food requirements - food for people with allergies, celiac disease, diets, school meals, ready-to-cook food for fast preparation

- › Development of dietary supplements based on plant and microbial raw materials
- › Technological consultancy related to design and processing of new foods and meals formulations, recipes for healthy and special diets, nutritional supplements proposals, food and food ingredients treatment, mathematical modeling of processes
- › Development and testing of proposed production processes in pilot scale
- › Food raw materials and products analysis - sensoric evaluation, determination of basic nutrients, allergens, vitamins, antioxidant activity, glycemic index, nutritionally important substances, food counterfeiting detection, colorimetry, rheology
- › Consulting and advisory services

TRANSFER:

- › food production organizations staff
- › warehouse management and sales staff in the food industry
- › people interested in taking over the research results, contained in patents and utility models
- › people interested in business in the food industry
- › state institutions employees, endorsing the results

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Hop research has within Czech hop cultivation a long tradition and important position. The beginning of its activity can be shown since 1925, when agronomical research station was established specialized to hop issues. The main objective of it was not only hop breeding but hop protection against pests and diseases as well. Within hop cultivation technologies the research solved the reconstruction to wide-spacing planting of hop rootstock, progressive methods in hop cultivation, development in mechanization of hops harvesting and processing. A great deal of attention was devoted to quality of Czech hops and their utilization in brewing industry.

Hop Research Institute Co., Ltd. was established in 1992 by incorporation to business register and it is a successor of research and development activities of previous Hop Research Institute in Žatec.

Research activities

The scientific research base in Žatec includes:

- › Department of hop breeding
- › Department of hop chemistry
- › Department of hop biotechnology
- › Department of hop protection
- › Department of hop cultivation



Business activities

Hop Research Institute Co., Ltd. in addition to comprehensive hop research and development, which form the core of organization, is engaged in commercial activities. The most important business activities include:

- › Production and sale of hop rootstocks (only for Czech hop growers)
- › Production and sale of hops
- › Production and sale of Czech organic hops
- › Production and sale of crop production (mainly cereals)

COOPERATION:

In terms of solution of all research aspects of hops and their consequent utilization, we collaborate with rank of universities, institutes of AS CR, research and development institutes, breweries, agronomical and industry enterprises in CR and abroad.

TRANSFER:

Hop growers, end users in hop and beer industry and related branches are target group. We offer our activities and capacities worldwide with emphasis on the biggest customers of Czech hops (Japan, Europe, Russia, USA).



INOTEX Ltd (CZ) is a small private technological research, innovation and technology transfer company specialised in wet processing of textiles, (multi) functional textile developments using new processing methods. New developments are realised with full respect of environmental - cleaner production aspects and possibilities to use sustainable and renewable natural resources and bioprocesses. The key strategy of INOTEX is to support implementation of customised research and technological development results into the practice of companies by use of own small-lot production capacities (speciality chemicals – textile auxiliary agent production, low batch finishing and coating of textiles, special devices and instruments prototyping). INOTEX offer the full coloristic service to the world reputable dye producers (SUMITOMO, KISCO, ATUL, FARBCHEMIE BRAUN etc.) In the area of textile auxiliaries (TAA) transfer the TANATEX CHEMICALS, NICCA, LUBRIZOL products. It opens the possibility to shorten the procedure of implementation and dissemination of results. Member of CLUTEX – cluster for technical textiles. The CTTV-INOTEX - accredited Centre of Textile Technologies and Education operate within the INOTEX.

COOPERATION:

We offer:

- › Complex services related to the textile wet processing (finishing, dyeing, functionalization)

Starting by R&D and optimization of technologies till the pilot production

- › Development and small lot production of speciality (bio)chemicals – TAA
- › Emerging bio- and nano- tech for textiles
- › Technology transfer of efficient, cleaner production technologies and envi-systems
- › Specialized testing services of EN ISO 17025 accredited laboratory
- › Systematic support in innovation and sustainability projects, incl. coordination of national/international R&D programs (incl. ETP Textiles)
- › Small lot finishing, dyeing and functionalization of textiles

TRANSFER:

We offer our business worldwide. Priority markets are CZ and EU countries. Currently, we are trying to focus on extensional growth in India. We are open for the new partnership and external impulses coming from the R&D as well as users industrial spheres. We work intensively in ETP textile flagship expert teams.

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 E-mail: info@inotex.cz

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Katchem Ltd.
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www.katchem.cz



Company KATCHEM Ltd. is engaged in laboratory and pilot plant on-demand production of special chemicals. Main activities are focused in boron chemistry, namely research and development of boron neutron capture therapy (BNCT) agents for cancer treatment and production of isotopically labelled borohydrides. By increasing laboratory syntheses to a pilot scale, a wider variety of product uses become available. The company also develops and produces initiators and catalytic systems for anionic polymerization and copolymerization of lactams. Entire production and development takes place in modern and newly reconstructed facilities.

The company's team consists mainly of internationally recognized and experienced experts, awarded by many scientific awards and patents. At the same time, the company trains young scientific workers.

Among the customers there are many worldwide universities and companies, which use Katchem's products as starting compounds for further research and new material development.

The company is working on several projects programs, funded by the EU. In the last five years, the company participated in several international research projects. Main fields of possible cooperation (research and commercial activities for current or potential clients).

COOPERATION:

Company's Program

- › Laboratory scale production of special boron compounds
- › Transferring of laboratory syntheses to pilot-plant scale to enhance the possibilities of wide use of the products in industry and

The company also offers custom production of new special compounds, either by its own custom research, or by participating on a joint research project, where the company can either be a starting compound supplier, or a research partner.

TRANSFER:

- › Sales of licenses for the results of their research
- › Custom (contract) research and development
- › Partner Research and Development
- › Providing consulting , expert services

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At present the company MATERIAL & METALLURGICAL RESEARCH Ltd. is a research organization within the meaning of the regulation of the Commission of the European Union, General Block Exemption Regulation („GBER“) n. 651/2014 and communication from the Comission „Framework for state support of research, development and innovation“, Official Journal of the European Union 214/C 198/01 from June 27, 2014, both with validity from July 1, 2014.

MATERIAL & METALLURGICAL RESEARCH Ltd is owned by TRINECKÉ ŽELEZÁRNY, Inc.(90 per cent) and VSB-Technical University of Ostrava (10 per cent). This proprietary connection is unique in the Czech Republic and is implemented in practice the way from basic research through applied research and development to industrial application.

The basic mission and strategic plan of the company is to provide the research, development, technical and technological innovations and services in the field of metallurgy and materials engineering in order to contribute to increase the competitiveness of Czech industry.

MATERIAL & METALLURGICAL RESEARCH Ltd and VSB-Technical University of Ostrava are the only centers in the Moravian-performing comprehensive material and experimental research in the field of metallurgy and materials engineering. Experimental and production facilities are concentrated in the testing laboratory No.

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1300, accredited by the Czech Accreditation Inspection, non-accredited laboratories and pilot workshop.

COOPERATION:

- › research production and forming of steels,
- › research in the secondary metallurgy of steels,
- › research of advanced molding technology and controlled processes of forming,
- › numerical modeling of steel processes - liquid phase,
- › numerical and mathematical modeling tools, forging and drawing processes,
- › evaluation of conventional and unconventional material properties, chemical analysis and measurements of emissions testing in laboratory No. 1300 accredited by Czech Accreditation Inspection,
- › determination of creep characteristics of the material,
- › structural and phase analysis of metallic materials,
- › failure analysis of metallic materials,
- › production of ingot steel,
- › production of castings of gray cast iron alloy and special.

TRANSFER:

There has been bilateral cooperation with research centers in Belgium, Germany, Italy, Austria, China, France and the Netherlands.

MATERIAL & METALLURGICAL RESEARCH, Ltd.

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www.membrain.cz

MemBrain s.r.o is a research, engineering and technology company that focuses mainly on research and innovation activities in the field of membrane processes. MemBrain s.r.o was founded in October 2008. Since 2012, the company solves its R & D activities within the newly built Membrane Innovation Centre.

MemBrain is a part of the MEGA group. Besides commitments to support this group, the company focuses on independent research and commercial activities to other partners and customers outside the group.

The company has 56 employees, particularly with university or secondary education and thus form one of the largest and most compact research teams of researchers in the field of membrane processes and technologies with great perspective and potential for further development.

The main field of activities are membrane separation processes – liquid and gas separation:

- › Electrodialysis
- › Electrodeionization
- › Reverse osmosis
- › Nanofiltration
- › Ultrafiltration
- › Microfiltration
- › Membrane separation of gases



COOPERATION:

We focus our research activities on industrial research in the treatment of liquids and gases in order to invent a new membrane, module, equipment or technology.

We offer:

- › engineering services related to the design of membrane technology,
- › verifying the applicability of membrane processes in different applications in the form of laboratory and pilot tests,
- › sale of laboratory and pilot units and small-scale membrane technologies,
- › specialized services fully equipped laboratory technique for determining as the properties of membranes and membrane processes so individual studies.

We are active in the following segments:

- › Water and waste water
- › Food and beverages
- › Special applications for fine chemicals
- › Separation of gases

TRANSFER:

We offer our business worldwide. Priority markets are EU countries and Russia with supply of electrodialysis technology. We focus on all membrane processes.

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Military Research Institute (MRI), is state enterprise issued by Ministry of Defence that holds the character of a research institute.

It ensures fulfilment of strategic and other significant interests of the state in the field of defence and security, the development of capacities of the Army of the Czech Republic, armed forces and the Emergency System of the Czech Republic as well as it performs the activities of industrial and business nature to ensure supplies and services needed to guarantee the defence and safety of the Czech Republic and discharges liabilities based on the membership in NATO and the EU.

MRI performs research and experimental development assignments connected to higher innovations, mainly the technology of ground forces, materiel in the core fields of specialisation as are chemical, biological, radiological and nuclear protection and connected fields, such as chemical protection of the army, sensors, electronic warfare, camouflage and deception, special metal and non-metal materials, technology of surface protection, the system of quality and the technology of logistics and creation of military standards.

COOPERATION:

Military Chemistry:

- › R&D in the area of military chemistry and chemical material;
- › laboratory and in-field testing of new chemical

technology and material;

- › securing the implementation and delivery of chemical technology and material;
- › training of chemical experts in conditions of using the real chemical warfare agents.

Special Electronics and Camouflage:

- › R&D in special electronics, camouflage and deception areas;
- › new means of electronic warfare, camouflage and deception testing;
- › electronic warfare, camouflage and deception means implementation and delivery.

Material Engineering:

- › R&D in areas of materials and technologies of ballistic, explosion suppression and corrosion protection;
- › expert activity and testing of new military technology in areas of materials and technologies of ballistic, anti-mine and corrosion protection;
- › ensuring of implementation and delivery of ballistic, anti-mine and corrosion protection means.

TRANSFER:

MRI primarily focused on meeting the needs and requirements of the Army of the Czech Republic in the entire spectrum portfolio Institute. In particular, we cooperate with NATO and EU members states.

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State Enterprise**
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Network Security Monitoring Cluster, cooperative

Network Security Monitoring Cluster, cooperative

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info@nsmcluster.com

www.nsmcluster.com

Network Security Monitoring Cluster (NSMC) is a center of excellence, a knowledge platform uniting 20 Czech companies and experts in the field of cybersecurity. It was founded in 2010 and consists of both companies from the private sector and academic institutions. This allows NSMC to create an optimal combination of commercial and academic potential when putting expert methodologies and technologies into practice. We are also partnered with other associations and corporations focused on cybersecurity. Thanks to our excellent reputation, we have even found recognition among national institutions. We were allowed to participate in the formulation of the unique Act on Cyber Security and in its harmonization with EU regulations. We also participate in many project solutions in the area of security, business continuity and emergency management. The theoretical knowledge of the members of the cluster is supported by feedback from practice as well as our own know-how.

COOPERATION:

We offer:

- › Cooperation on international projects,
- › Our unique concept of active security and IT infrastructure reliability,
- › Cyber security education,
- › Best practice assessment,
- › Risk analysis,
- › BCMS,
- › ISMS,
- › Support of application research,
- › Advisory services,
- › Analysis, audits, recommendations

TRANSFER:

We offer our business worldwide. Priority markets are European countries, Russia, Vietnam.



OKsystem is a Czech software company that has been operating on the IT market since 1990. With a wide variety of expertise, knowledge and experience, we specialize in advanced custom software development for both the private and public sectors and can accommodate various business segments. In our diverse product portfolio you will find solutions addressing HR, Payroll, Document Management or secure communication platform.

COOPERATION:

OKsystem is focused in particular upon:

- › Custom software development: .NET, Java, PHP
- › Mobile application development: iOS, Android
- › Custom enterprise information system development
- › Product portfolio:
 - › OKbase – modular (light to robust) HR solution including payroll, HR management, attendance, catering and more.
 - › Babelnet – platform for secure (end to end encrypted) communication designed for enterprise
 - › OKdox – complex document management solution for businesses and enterprises
- › Authorized training and testing center for Cisco, SUSE, NetIQ and Microsoft

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OKsystem

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OLTIS Group is a renowned railway information technologies supplier since 1993 with unmatched expertise and, as such, holds a unique position on the European market. Its principal specialization is the supply of comprehensive products and services in the field of IT for transport and logistics with focus on extensive tailor-made solutions meeting the precise specifications of the users. The Company's vision encompasses sustained development, customer oriented approach, collaborative projects and international cooperation. OLTIS Group continuously follows the development and trends in railway transport and supports the interoperability. With its base in the Czech Republic, OLTIS Group has its own subsidiaries in Slovakia (OLTIS Slovakia), Poland (OLTIS Polska) and Hungary (OLTIS Hungaria)..

COOPERATION:

- The OLTIS Group offers information systems for:
- › Railway infrastructure managers
 - › Rail carriers
 - › Passenger transport
 - › Logistics and freight forwarding

We have a long experience in solving international research and development projects (EUREKA, 7th framework program Horizon 2020, Shift2Rail) within which we cooperate with several major international organizations as well as with local and foreign universities.

The portfolio of our activities also includes the following areas:

- › Membership in international and domestic organizations and cooperation with them
- › Active exhibitory participation at fairs in the Czech Republic and abroad
- › Organization of symposia and workshops
- › Consulting and publishing activities

In the research and development, we currently focus on the greatest possible involvement in international projects and cooperation with the academic and scientific community. We can also engage workers and students within internships at all our branches.

TRANSFER:

Our products are used by more than 1000 customers in 25 countries. These include railway companies, carriers and infrastructure managers, freight forwarders, shippers, forward agents, universities, international associations and organizations, etc. A key area for our customers is the implementation of technical specifications for interoperability in the railway transport, prescribed by the European Commission Regulation.



Potato Research Institute Havlíčkův Brod, Ltd. is a private research organization, especially engaged in research of potato and also other agricultural issues. It was founded in 1923 as State Potato Research Institutes. In next years, the name and organizational structures, in that the Institute was integrated, were changed several times. The activity was always directed to potato research, testing and later breeding, as well.

A substantial change was done in 1994, when the privatization was performed, and the Institute as a Ltd. is still active till now. The privatization had no effect on basic focus of the Institute. Services for users of research results were gradually extended and a portion of activities enabling development of financial resources for the Institute activity was increased.

The activity in potato research is implemented in the departments of growing technologies, pest and disease management, virology, genetic resources, experimental breeding and tissue cultures. The researchers cooperate with state agricultural institutions, research institutes from the Czech Republic and abroad, universities, breeding organizations and also with potato growers and processors. The activity is also focused on research, breeding and use of Jerusalem artichoke.

COOPERATION:

- › Research activities are offered and directed to potato and agricultural research (collaborative and

contract research)

- › Further, we offer technological and economic consultancy for growing and processing organizations and companies with agricultural business
- › Services of specialized laboratories are provided for state authorities, breeders, growers and potato processors
- › Services e.g. ELISA assays for seed potatoes, registration and demonstration trials with fertilizers and pesticides, in vitro potato propagation for breeders, ware potato sprout inhibition in storage etc. are provided for potato growers and companies active in this field.

TRANSFER:

Target group:

- › Users from agriculture and food industry
- › Academic institutions and universities
- › Partner research institutions
- › Partners of contract research

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www.metrologie.cz

PRIMA BILAVČÍK, s.r.o., is the independent supplier of length measuring equipment in the Czech Republic. Fusion of the two companies as Petr Bilavčík – PRIMA and PRIMA BILAVČÍK, s.r.o. have been sales of devices, area of providing services, reparation and mainly calibration of devices concentrated under the one company.

Since year 2003 we have been operating our own Accredited calibration laboratory no: 2318 where we provide accredited calibration for length, angle, temperature, pressure, humidity, weight and torque, electrical quantity, frequency, time.

Our main company philosophy is doing the business in the spirit of fair play which is based on openness, trust and long-term partnership cooperation with our clients as well as with our company team.

COOPERATION:

Related with progression of production digitization is often talked about Industry 4.0. or as about the fourth industrial revolution. Naturally this trend does not avoid our business field also. Even there starts to appear a new concept Quality 4.0.



To our clients we offer:

- › Instruments for measuring and metrology - agent of WERTH, FARO, HIMALAYA, ETALON, NANOFOCUS, OPTACOM, AICON, TESA, VISION, COORD3, STEINMEYER, DIAVITE, ASH, ALFA-SYS, ITP, HELIOS-PREISSER
- › Geometric quantity gauges, ranging from slide gauges up to multi sensor coordinate measuring machines, length gauges, measuring arms, contour measuring instruments
- › Laboratory of Computed Tomography (CT).
- › Accredited calibration laboratory - measuring of length, angle, temperature, moisture, pressure, weight, torque of force, electrical quantities
- › Accredited Training Centre of Metrology.

TRANSFER:

Area of our business is mainly central Europe, especially Czech Republic and Slovakia.



The research company Centrum výzkumu Řež s.r.o. (Research Centre Rez Ltd., hereinafter as CVR) was established on 9th of October 2002 as a 100% subsidiary of ÚJV Řež, a. s. The main mission of the company is research, development and innovations in power energy technologies, especially nuclear energy. The company uses unique experimental research infrastructure, in particular research reactors LVR-15 and LR-0 and technological loops. The significant development for CVR was a large project named SUSEN (SUStainable ENergy) realized in the years 2012 – 2015 under OP R&DI of European fund for regional development.

As of 1. 1. 2016 the number of employees of the CVR was 303 people.

COOPERATION:

In the previous years the key CVR activities were in the area of the fundamental and applied research and development at both research reactors LVR-15 and LR-0. Among other important activities belong participation in the international project „Jules Horowitz Reactor“ (research MTR reactor construction in France). Last but not least CVR is involved in many national and international research and development projects, in particular EC projects of 7th Frame, including having the role of the project coordinator.

CVR represents the Czech Republic since 2010 in the top body of European Energy Research Alliance (EERA), therefore directly involved in the implementation of the European strategic policy in energetic sector. The company is also a founder member of technology platform “Sustainable Energy of Czech Republic”.

TRANSFER:

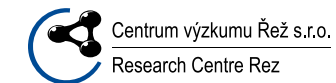
Radiopharmaceuticals – currently we are focused on the European markets, but we would also like to expand into the US.

For electro-technical industry requirements, in the nuclear reactor we can produce silicon with a high concentration of free electrons, therefore with a low electrical resistivity, so called NTD Si (Neutron Transmutation Doped Silicon). NTD Si is utilized mainly in the high voltage and power components manufacturing.

Within the project SUSEN we are open to discussions with all interested potential partners.

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RESEARCH INSTITUTE FOR BUILDING MATERIALS

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www.vustah.cz

Research institute for building materials is a Czech development organisation working in a sphere of building materials and related problematic. Our experimental activities are oriented to the sphere of:

- › inorganic bonded materials (lime, cement and others),
- › AAC, lightweight concrete, artificial aggregate production
- › concrete mixtures for specialized purposes
- › composite materials, burnt products
- › security of citizens and critical infrastructure, defence and national security, etc.

Significant activity is processing and incorporating of wastes (ashes and fly-ashes from coal combustion or fluid combustion and other industrial wastes) to the different types of building materials. Research activities mentioned above are solved in three research areas - Binding Systems, Composite Materials and Ecological Materials.

Research institute for building materials organizes International Conference ecology and new building materials and products, Cement quality, Lime seminar.

COOPERATION:

Research Institute for Building Materials offers cooperation in the area of research and development at

national and international level in the following spheres:

- › New building materials and products
- › Design and verification of new building materials and products with special properties
- › Production technology design of special building materials and products
- › Design of new test methods
- › Design of optimal production technologies of building materials for processing of industrial waste
- › Mechanical examination on concrete, composite materials, mortars, ceramics, thermal-insulating materials, aggregates
- › Verifying of additives and admixtures for building material production

Testing in accredited test laboratory ATElab.

TRANSFER:

R&D centre focusing on increasing the safety of citizens, protection of critical infrastructure, defence and national security, it associates 9 research and commercial organizations and therefore creates basis for new high quality materials and products development and their following application on the market both in the Czech Republic, and abroad.

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RESEARCH INSTITUTE OF FODDER CROPS, TROUBSKO, Ltd.

Research Institute for Fodder Crops, Ltd. Troubsko (RIFC) together with its subsidiary company named Agricultural Research, Ltd. Troubsko have more than a 60-year-long tradition. Both companies profile in area of applied agricultural research, mainly in the area of forage crops, landscape management and rearing of pollinators.

COOPERATION:

Portfolio of activities includes applied research in the area of agriculture, environment and food industry, breeding activities, consultancy and services. The company RIFC works within the regime of quality and environment management systems according to the standard ISO 9001: 2009 and ISO 14001: 2005. In the sphere of research the projects primarily focus on genetic-breeding and technology spheres. The institute covers a wide range of branches from molecular biology, genetics cross plant physiology and protection to branches connected with technological research, such as soil science, agricultural and agronomical practices and laboratory breeding of bumblebees.

The organization owns or co-owns 24 varieties, utility models or patents, both in the area of the food industry, gained through cooperation with other partners, and in the area of newly designed mixtures for different purposes of usage by farmers.

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The results of the research have recently received the award 'Golden Cob' five times and have been also awarded in the competition for the Prize of the Minister of Agriculture. The Czech Bumblebee became the winner of the competition 'Visionary 2014' and also the Project of Pollinators won the prize of 'TA Czech Republic' in category Usefulness of Solution and the 'Prize of the Future'.

TRANSFER:

The integral part of the activity is transfer of the results in the form of consulting supported by publishing certified methodologies, publication activities, workshops and field-days, participation in exhibitions, organising regular national and international conferences. The consulting activity together with cultivation of varieties, which arose as a result of genetic breeding work, is very important for practice.

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RESEARCH INSTITUTE OF BREWING AND MALTING, Ltd.

Research Institute of Brewing and Malting, Ltd.

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www.beerresearch.cz



Research Institute of Brewing and Malting (established 1887) is the only research institute in the Czech Republic, which is heavily involved in brewing and malting issues. It plays an important role in the development of modern techniques and technologies, which should at the same time increasing the efficiency and quality of production to preserve all the attributes of the Czech way of brewing and thus its specific characteristics. VÚPS provides its services to breeding organizations, businesses and agricultural producers purchase barely, malteries, breweries, producers of alcoholic and soft drinks as well as government authorities. In addressing research and development projects collaborates with many other research institutes and universities, and extends its activities even beyond the scope of malting and brewing. Part of the Institute's Research Sensory Center (RSC), in addition to research activities, provides customer services and carries out consumer tests of food.

COOPERATION:

- › solutions to joint research projects, development and innovation in brewing - malting and food industry
- › implementation of contract research according to the requirements industrial partners
- › analytical and microbiological service in accredited laboratories:
 - › basic and advanced qualitative parameters and content of contaminants in barley, malt, beer, its

raw materials and intermediate products, drinks and other food-stuffs

- › as an accredited body provides trainings, seminars, conferences
- › technological consultancy in the field of beer-malting industry, new product development
- › the main activities of RSC's assessment sensoric quality of new products and judge
- › the impact of new technologies on the sensory quality of beverages with an emphasis on beer, focuses on developing new methods for the determination of flavors

TRANSFER:

Within the research projects we cooperate with many research institutions in the Czech Republic and abroad (e.g. Spain, Great Britain, Slovenia). The target groups are users from malting and brewing industry in the Czech Republic as well as in Europe, Japan or Russia.

We are open to further cooperation to address new topics and establishing new contacts.

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SVÚM joint stock company

SVÚM as a joint stock company, ID: 25797000, addressed Tovární 2053, 250 88 Čelákovice was established on 1 January 1994 and that the privatization of the former National Research Institute of material in Prague. The institute was founded in the year 1949 as the Research Institute of materials and technology, in 1965 the name was changed to the National Research Institute for Materials (SVUM) with a registered trademark, and gradually developed into a leading center of research in the field of metallic materials, plastics and testing.

The company is a private research organization whose main activity is research and development of metals, polymers and composites and material properties testing in accredited laboratories. 1.1.2014 headquartered in VTP complex SVÚM Inc. in Čelákovice, Tovární 2053, 25088 Čelákovice.

COOPERATION:

Main activities:

- › Applied (R&D) of new alloys, technologies, material processing and metallurgical products from metals and their alloys; consultancy, expertise, supervision, analysis of components and tools
- › Testing (CIA accredited laboratory according to EN ISO 17025; Certificate from the General Electric Transportation – Aviation), tests of mechanical properties (static, impact and fatigue), metallurgical

analysis, chemical analysis, corrosion tests, tests at high temperatures (creep),

- › Welding - testing and certification of welding personnel and expert services. Technological procedures WPS, WPAR, WPQR, pWPS, inspection of steel structures, welding supervision and supervision.

- › Special technologies and manufacturing

Development and research activities and production focused in two departments:

- › Fluoroplastics department generates Nano covers for corrosion and wear-resistant thin coatings and manufacturing self-lubricating composite foil METALOPLAST®/METALOFLOX® and products of PTFE. The department is certified according to ISO 9001: 2000

- › The department of Magnets is focused on the production of high-performance permanent magnets.

TRANSFER:

Fatigue tests of railway axles and wheels at accredited laboratories in accordance with EN 13260, EN 13261 and EN 13262 standards.

Testing of pressure vessels - pipes by internal overpressure - static and dynamic fatigue tests.

SVÚM joint stock company

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www.svum.cz



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www.svuom.cz



SVÚOM Ltd. was founded in 1999 as the successor of State Research Institute for Materials Protection. SVÚOM Ltd. pursues basic and industrial research and development and implements research results within the fields of materials, products and production technologies from point of view of degradation, corrosion and corrosion protection. The SVÚOM Ltd. performs also consulting, testing, inspection, expert accounts, inclusive environmental ones, and other activities according to the demands of its clients.

The company has 25 employees, particularly with university or secondary education and thus form one of the largest and most compact research teams of researchers in the field of corrosion and corrosion protection.

The main field of activities are:

- › failures analysis of corrosion and coating
- › laboratory testing of corrosion resistance of materials and coatings
- › materials' analysis (SEM, EDX, FTIR, etc.)
- › inspection of materials and coatings' quality.

COOPERATION:

We focus our research activities on basic and industrial research in the field of corrosion and corrosion protection.

We offer:

- › engineering services related to the material and coating applications,
- › verifying the corrosion resistance of materials and coatings in different applications in the form of laboratory and field tests,
- › inspection of materials and coating quality at laboratories or at sites – expert reports,
- › specialized services fully equipped laboratory technique for determining of corrosion protective and other significant properties of materials and coatings.

We are active practically in all industrial segments where metallic materials are used.

TRANSFER:

SVÚOM offers its service worldwide, priority markets are EU countries. The part of SVÚOM Ltd. is certificated laboratory No. 1096 according to EN ISO/IEC 17 025. This laboratory performed accelerated corrosion tests and other tests of coating quality and offers this testing to industrial partners.

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SYNPO, a.s. is a commercially oriented, privately held R&D center which arose in 1992 from a government-owned research institute founded in 1952 which specialized in research and development of coatings and resins. Our products are new technologies based on applied polymer science. SYNPO's key activities are:

- › Contract R&D for commercial clients in a field of synthetic polymers, coatings, composites, adhesives and binders
 - › Manufacturing of coatings (Akrylmetal, Veromix, Zirafinol) for specialty applications
 - › Custom manufacturing/tolling of specialty polymers
 - › Development of new processes in our pilot plant
 - › Analytical services and testing in our accredited laboratories

SYNPO's clients are some of the world's biggest multinational chemical companies which outsource their highly specialized and mission oriented R&D projects to SYNPO. We also work with smaller Czech and European companies that have limited in-house R&D capabilities and benefit from the vast experience we have in these technologies and market segments.

From year 2000, SYNPO has a certified system management of quality ISO9001.

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COOPERATION:

Scientific and international cooperation – SYNPO is a leader in two formal Centers of competencies.

SYNPO has a joint R&D laboratory with University of Pardubice and some of our scientists have joint appointments at the University. SYNPO has some relatively unique capabilities. Our R&D activities are supported by fully accredited testing laboratories which can also work directly with some of our clients, who need their newly developed products tested and approved for various specific applications. Our fully equipped pilot plant allows us to make significant quantities of newly developed products, say several tons, for either application trials, or in some cases in highly specialized products, we make full commercial quantities. One of SYNPO's departments works closely with customers on the development of nanostructured polymers and polymers based on renewable raw materials.

TRANSFER:

SYNPO has extensive experience with companies in the EU, USA and Japan in introducing newly developed technologies into commercial practice.



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Třinecké železářny, situated in the town of Třinec, was established in 1839. In the course of nearly two hundred years of its existence, Třinecké železářny gradually developed into one of the most important metallurgical companies in the former Czechoslovakia, currently the Czech Republic.

Třinecké železářny produces approximately 2.5 million tonnes of steel annually in an integrated metallurgical cycle. This represents almost half of current total production of steel in the Czech Republic. The main product portfolio consists of long rolled products – wire rod, sections, special bar steel, drawn steel, rails, wide steel, seamless tubes and semis. Our products have been placed on the domestic market as well as bought by customers all over the world. More than half of the annual production of high-quality steel products bearing the trademark of three hammers in a circle has been directed to customers in more than 60 countries worldwide.

COOPERATION:

The field of research and development is mainly aimed at:

- › cost reduction regarding blast furnace coke, agglomerate and pig iron production,
- › continuously improvement of surface and internal

quality of semis, rails, bars and wire rod,

- › research and production of new, modified steel grades with improved utility values,
- › research and development in the field of hot treatment,
- › reduction of negative impacts on environment, secondary raw materials and waste disposal.

The projects are carried out as internal projects, with state or EU grants or in cooperation with subsidiaries, universities, Academy of Sciences or external companies.

TRANSFER:

Approximately half of our production is sold to domestic consumers mainly to the metallurgical secondary producers, engineering and automotive industry as well as to the building industry. Our project solutions are directed to final customers operating in industrial fields, development engineering and academic workplaces as well as to universities.



TÜV SÜD as a technical services provider operate in the TIC (Testing, Inspection, Certification) market. Its range of services embraces consultancy, inspection, tests and expert reports as well as certification and training. Our objectives are reliability, safety and quality, environmental protection and profitability. By providing these services, TÜV SÜD delivers competitive edge to its clients throughout the world. Founded in 1866 as a steam boiler inspection association, the TÜV SÜD Group has evolved into a global, future-oriented enterprise.

At present, more than 24,000 employees around the world (850 locations) are committed to optimizing technology, systems and know-how. In 2015, TÜV SÜD increased its consolidated revenue from EUR 2.06 billion to EUR 2.22 billion.

In the Czech Republic, TÜV SÜD has been operating since 1995, having nine offices in all regions (presented by TÜV SÜD Czech).

COOPERATION:

The range of TÜV SÜD services in the INDUSTRY Segment extends from support in ensuring the safe and reliable operation of industrial plants, buildings and infrastructure to testing of rolling stock, signalling systems and rail infrastructure. The TÜV SÜD experts in

the MOBILITY Segment provide vehicle inspection and exhaust tests and support manufacturers in automotive design and development and in applications for international approval of new models and components. The CERTIFICATION Segment tests products throughout the world to ensure their marketability and market entry and certifies management systems across all sectors of industry; TÜV SÜD further offers a wide range of training for staff in the industry, trade and public sectors.

TRANSFER:

As dedicated and responsible specialists with wide-ranging industry expertise, we develop made-to-measure solutions – for retail customers as well as for industry, trade and government. We have combined our services in the three segments INDUSTRY, MOBILITY and CERTIFICATION.

We are continuously developing our business model. The framework for this is provided by our customers and the markets in which we operate. As a basis for enhancing our forward-looking strategy, we constantly monitor key factors such as technological change or increasing consolidation in our markets.

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ÚJV Řež, a. s., provides a wide range of services – particularly applied research and engineering activities. The company is involved particularly in transfer of research and development projects into practice. ÚJV Řež is a sought-after contractor in fields like safety analyses, modeling, thermo-hydraulic calculations, analyses of severe accidents or inputs for technical changes in designs of nuclear power plants, designing in conventional and nuclear energy industries, including development of documentation for approval processes, LTO (long-term operation) projects, uprating of nuclear units and disposal of radioactive wastes etc. ÚJV Řež, a. s., also produces radiopharmaceuticals.

ÚJV Řež employs nearly 800 people (scientific authorities, technology specialists, as well as experienced people from production). ÚJV Řež, a. s. workplaces and laboratories are certified both at the national and international levels. It is the only organization in the Czech Republic offering certified liquidation of the so-called institutional waste from hospitals and industry. It participates in tens of projects abroad within EU, as well as in America, Asia and Eastern Europe.

COOPERATION:

ÚJV Řež, a. s., provides comprehensive services in applied research, development and innovations, particularly in utilization of nuclear energy and sources of ionizing radiation.

The research and development activities performed by ÚJV Řež, a. s. focus on the following fields:

- › support to operation of nuclear reactors of the existing NPPs,
- › small research reactors and generation IV reactors,
- › back-end of the nuclear cycle,
- › safety of operation of nuclear installations
- › investigation and testing of materials, surveillance specimen programs,
- › utilization of hydrogen in the energy industry,
- › renewable sources of energy,
- › accumulation and transmission of electric energy,
- › capture, transport and storage of carbon dioxide,
- › radiopharmaceuticals

TRANSFER:

Apart from the Czech Republic, the organization currently focuses on EU countries and Ukraine.

New markets: the priority of the regional expansion is to spread its activities to the markets in Turkey, Italy, Russia and other members of the Commonwealth of Independent States. From the viewpoint of products, ÚJV Řež, a. s. focuses on expansion of its services to other industries – chemical industry, gas engineering, utilization of hydrogen in transport, aviation industry.



Unipetrol Centre of Research and Education, a.s. (UniCRE) is the top research and education centre located in the Ústí region. It carries out applied and basic research in the field of industrial chemistry - inorganic chemistry at the workplace in Usti nad Labem and refinery and petrochemistry in Litvinov.

UniCRE is focused on:

- › Efficient and environmentally friendly production of fuels
- › Preparation of feedstocks for production of polymers
- › Sustainable use of renewable raw materials
- › Reduction of harmful emissions
- › Technologies for production and application of advanced inorganic materials

UniCRE cooperates with the application sector throughout the Czech Republic, collaborates with prestigious universities and also educates university students.

UniCRE is able to solve complex research tasks from working out literature and patent reviews, through laboratory and pilot testing, proposing the technology design and evaluating its economic benefit to carrying out the expert supervision of the outcome implementation.

COOPERATION:

UniCRE offers cooperation in research, development and technological/technical support to both domestic and foreign partners. The form of cooperation depends on the type and will of the partner – it can be a project with public support, commercial project based on contract of secrecy, one-off service or other form of partnership.

Cooperation offers are mainly derived from the basic orientation of our company, from the instrumental and technological equipment of laboratories and testing facilities.

As an example of provided services it is possible to mention:

- › Laboratory, pilot-scale and process research and development up to the phase of design document
- › Testing of catalysts and processes in real conditions and in long-term regime
- › Complex analytical services
- › Studies on various topics (technological, patent, technical-marketing, etc.)

TRANSFER:

UniCRE provides an open access to the part of its infrastructure for external specialists in the project CATPRO. It offers high-tech instrumentation, especially a bench-scale testing equipment.

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VUB Co. Ltd. in Ústí nad Orlicí, established in 1949, has been known in the textile world as a company with long-term experience and tradition in the field of textiles and textile machinery. At present it has been organized in the form of a private joint-stock company focused not only on the research and development but active also in the field of manufacture, trade and services.

Core business activities of VUB:

- › custom design, construction and manufacture of special and single-purpose machines and devices;
- › applied research and development of the technology and machines for the textile industry and textile machinery;
- › specialized textile production – technical textiles, protective garments.

Nowadays there are 75 members of the staff of the company. Special attention is paid to the quality. Since 2001 VUB has been ISO certified (ISO 9001, ISO 14001). Both management systems have been regularly audited and recertified.

COOPERATION:

Research and development of the technology for textile industry and machinery industry.

- › research and development of the machines and technology for spinning
- › research and development of manufacturing



technology of short staple blend yarns for garments and other applications (flame-retardant, antistatic, antimicrobial and other yarns for special textile applications, protective garments for fire fighters, medical applications, electronic industry etc.)

- › wearable electronics, smart textiles and textile products

Design and manufacture of special and single-purpose machines and devices

- › development, design, construction and manufacture of special and single-purpose machines and devices
- › improvement of technical level and operation of older machines and devices, their renovation and upgrading
- › manipulation lines, devices and instruments made in accordance with customers' requirements

Special textile production

- › manufacture, commercialization and deliveries of special textiles and protective garments CleverTex®
 - › antistatic ESD wear
 - › fire resistant functional underwear for fire fighters
 - › clothing for children - atopic eczema sufferers

TRANSFER:

We would like to cooperate with industrial partners and research organizations.



The company VÚTS, a.s., was founded in 1951. During its existence, it became well-known in global mechanical engineering especially with its unique invention of jet weaving method, many patents for open-end spinning, nonwovens production technology and a range of textile machines and other equipment. Since the mid-90s of the last century, our company diversifies its activities and special focus also on the outside of the textile industry, it strongly orientates itself on the area of machinery for the manufacturing industry. Its current principal activity is the implementation of research and development work aimed at the development of theoretical knowledge and its direct use in industrial applications. VÚTS, a.s., is a research organization with significant application potential and cutting-edge technology and instrumentation, it offers its industrial partners know-how and cooperation in upgrading and modernizing their product folio.

COOPERATION:

VÚTS, a.s., focuses on the research, development and manufacture of machinery for the manufacturing industry, especially in the field of machine tools, textile, printing, food, packaging and medical equipment. Moreover, VÚTS, a.s., is involved in the automation, development, design and construction of special single-purpose machines, manipulators, conveyors and test equipment mainly for automotive suppliers. The activity of VÚTS, a.s., is characterized by offering a comprehensive

set of services from research and development, via processing an engineering design up to realizing a complete technological complex. VÚTS, a.s., has its own production capabilities to provide prototypes and small-batch production of machine parts, machinery and equipment.

TRANSFER:

We offer our activities worldwide and our priority markets are the EU countries, Russia + CIS states. At present, however, we try to focus on:

- › increasing the performance and production parameters of machines and devices,
- › reducing energy consumption,
- › increasing the safety of machine operation, their reliability and service life,
- › ecological and ergonomic aspects (noise, comfort of operation),
- › connectivity and integrability of particular machines and devices into machine units,
- › automating manufacturing processes,
- › and shortening innovation cycles and cost optimization

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VVUÚ a.s. was established in 1952 as Institute of coal research whose original mission was dealing mainly the problems of safety and technologies, used in deep mines and heavy industry.

Gradually in the premises of the company in Ostrava-Radvanice there were build special testing mines and places for testing of fires, fuel explosions, dusts, gases and their characteristics. Later there were added special laboratories and testing rooms, connected with issues of explosiveness and flammability.

In 1992 the company was transformed into joint-stock company which has been successfully improving these branches:

- › Certification of products and conformity checking
- › Testing
- › Laboratories and measuring
- › Certification of management systems
- › Risk analysis of explosions and fires
- › Machinery manufacturing
- › Commercial, expert and engineering activities

COOPERATION:

- › Testing, AO 214, NB 1019
- › Product certification
- › Certification of management systems

- › Inspection activities
- › Machinery production
- › Commerce
- › Risk analysis
- › Training centre and norm distribution

Testing laboratory no. 1025, accredited by Czech Accreditation Institute, offers its services mainly to companies which are likely to experience industrial accidents, explosion or fire.

VVUÚ, a.s. disposes of facilities that is unique in the context of the Czech Republic and central Europe, e.g. testing mines and fire mine, explosion autoclave VA-20L and device for determination of minimum initial energy MIKE3 by Kühner company.

Risk analysis – complex services in ATEX implementation.

TRANSFER:

Target group – industrial production. Selected activities are offered worldwide, with accreditation we operate mostly in EU and associated states. The priority market is the Czech Republic, the Slovak Republic, Poland, and Germany. With respect to targeted marketing, the potential group is hence formed by other countries of Western Europe, Ukraine, Russia and Asia.



Výzkumný a zkušební ústav Plzeň s.r.o. (herein after referred to as VZÚ Plzeň) offers a wide range of services in the field of research and development and accredited testing.

It is able to solve complex research orders and projects comprising computer modelling of a problem, testing in accredited testing laboratories and performing measurements on products under the operational conditions. The accredited laboratories offer more than 250 test methods.

The Company is certified in compliance with ČSN EN ISO 9001:2009. Accredited Testing Laboratory and Accredited Calibrating Laboratory are accredited by CIA according to CSN EN ISO/IEC 17025:2005.

COOPERATION:

The most important activities of the Company are:

Research, development and testing focused on improving operational reliability and lifetime of power-producing equipment.

Complex solution of problems related to operational loading, reliability and lifetime of rail and road vehicles

Accredited tests and measurements for a wide range of customers

Calculations in the field of strength, dynamics, fatigue damage, crashworthiness, aerodynamics and

thermomechanics

Research, development and application of thermal spray coatings in both primary industry and renovation

VZÚ Plzeň has solved or is solving with his partners many industrial projects supported by institutions in ČR and EU, such as TA ČR (Technological Agency of the Czech Republic), GA ČR (Grant Agency of the Czech Republic), MPO ČR (Ministry of Industry and Trade of the Czech Republic), MŠMT ČR (Ministry of Education, Youth and Sports) etc. At present VZÚ Plzeň is solving 8 grant projects and thus participates in the support of developing new products and technologies.

Project of Competence Centre „Centre of Research and Experimental Development of Reliable Energy Production (CESEN)“ of the Technological Agency of the Czech Republic is the most important project solved at present. The project started in 2012 and is planned till 2019.

TRANSFER:

VZÚ Plzeň renders services to almost 400 customers from both the Czech Republic and abroad every year. R&D and testing is provided especially to this sectors: classical and nuclear power engineering, transport industry, metallurgy, heavy, mechanical and material engineering.



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VUOS is a Czech company primarily focused on production, research and development in the field of organic chemistry, and providing toxicology, ecotoxicology and analytical testing. VUOS can offer the whole sequence of relevant services – literature search, process development, laboratory syntheses, up-scaling processes, to pilot plant verification, toxicology testing and production from grams up to metric tons of the relevant products.

Highly qualified and professional personnel enable VUOS to implement greatly advanced processes and technologies to work for its customers, thorough knowledge, flexible equipment and state-of-the-art production lines.

VUOS testing facility provides services for REACH registration of industrial chemicals, testing of biocides, plant protection products, medical devices, pharmaceutical and cosmetics.

The combination of these abilities render VUOS the ideal partner for co-operation not only in R&D projects in the area of fine chemicals and intermediates and the production of chemical specialities but also a service provide for registration and quality control.

COOPERATION:

- › Catalytic hydrogenation
- › Phosgenation

- › Halogenation
- › Low temperature syntheses
- › Cross Couplings
- › General processes of organic chemistry
- › Wide range of aromates
- › Complete services for REACH – , literature search, data gap analysis, toxicology, ecotoxicology, identification of test substance, physico-chemical tests, dossier preparation
- › Toxicology, ecotoxicology and analytics for registration of biocides and agrochemicals
- › Biocompatibility testing and analytical control for medical devices
- › Non-clinical safety testing and analytics for pharmaceuticals
- › In vitro testing of cosmetics
- › Method development and validation
- › Stability studies

TRANSFER:

VUOS offers his products and services worldwide with its main focus on Europe.

- › Advanced intermediates
- › Fine chemicals
- › Pharmaceutical intermediates
- › Custom manufacturing



The Association of Research Organizations

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