

MEDICAL EQUIPMENT



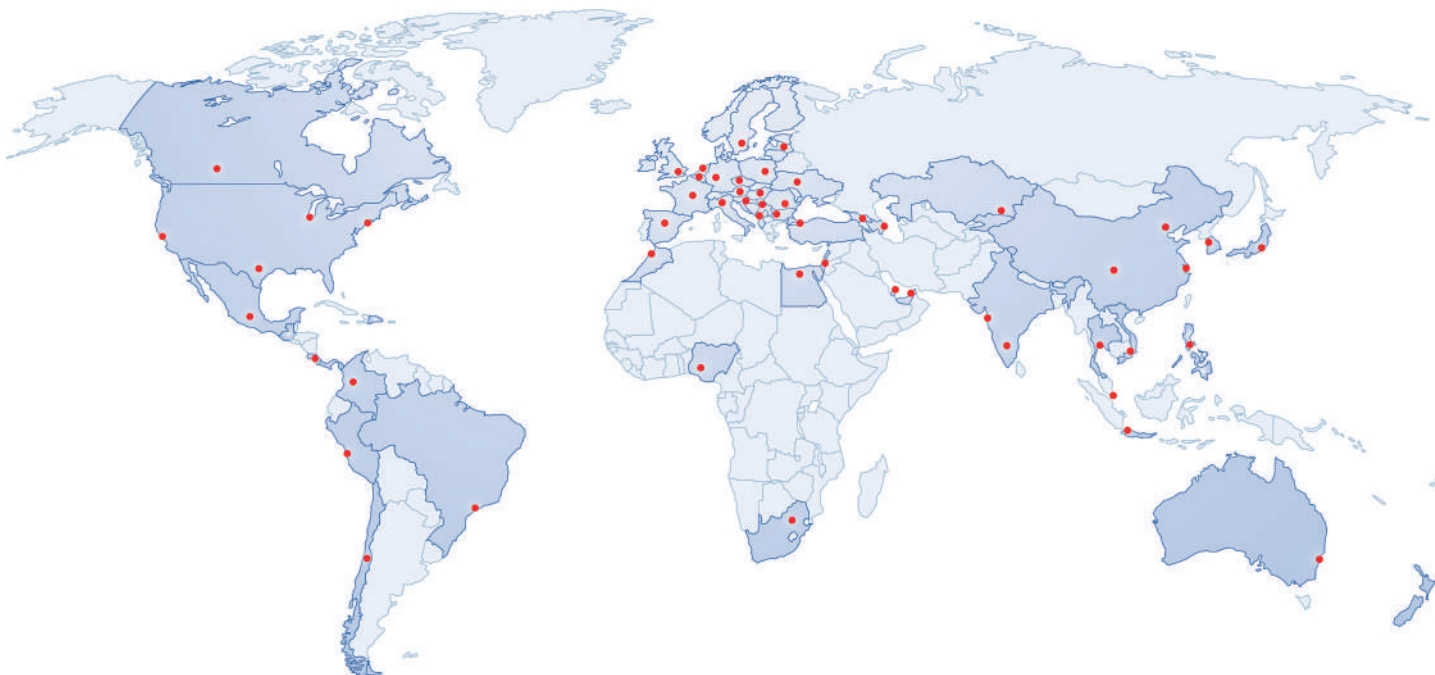


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CzechTrade is proud to present the Czech medical equipment industry sector guide.

If you are looking for a supplier in the Czech Republic, CzechTrade will be delighted to assist you in order to find new manufacturing/ service partners, professional organisations and interest groups.



CzechTrade operates in almost 60 countries worldwide.

CzechTrade is a government trade promotion agency of the Czech Republic focusing on developing international trade and cooperation between Czech and foreign businesses. CzechTrade works with Czech companies to facilitate their success on international markets.

The goal of this brochure is to inform interested foreigners about the field of medical equipment production in the Czech Republic. Take the companies listed in this brochure as a sample listing, which will help you to formulate a better picture of the specific field. If you are interested in more information, please contact: ***supplier@czechtrade.cz***

CzechTrade

YOUR BUSINESS PARTNER IN THE CZECH REPUBLIC

Foreign companies contact CzechTrade when looking for new reliable partners in the Czech Republic. CzechTrade foreign office network together with its sourcing team will identify potential suppliers based on your requirements:

- ⊙ initial consultation by phone/email/in person
- ⊙ provision of a basic overview of a special sector
- ⊙ compilation of a contact list of companies interested in cooperation
- ⊙ eventual facilitation of meetings with Czech companies, so-called Sourcing Days

Other services:

- ⊙ access to verified Czech suppliers
- ⊙ assistance with language support
- ⊙ presentation of Czech companies at foreign trade shows
- ⊙ preparation of business missions to the Czech Republic
- ⊙ providing online database Czech Exporters Directory

<http://exporters.czechtrade.cz>



**Information and contacts
for individual foreign offices
can be found at**
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DID YOU KNOW?

CzechTrade has an extensive network of foreign offices in almost 60 countries on 5 continents. With their scope of activities, the foreign offices' network covers Europe from Scandinavia to the Balkans, Eastern Europe and the CIS, Africa from Sub-Saharan Africa to South Africa, major Asian regions, the American continents from Canada to Latin America, and Australia.

STATISTICS ON HEALTH PRODUCTS IN THE CZECH REPUBLIC

The manufacture of medical technology has strong growth potential in the Czech Republic, in particular due to the increasing demand from abroad. It is driven by the ageing population and the world-wide growth of healthcare and related technologies. The demand for medical technology has also been growing due to the increasing involvement of the

private sector in healthcare, the growing middle class as well as healthcare availability.

Last but not least, the situation surrounding the global Covid-19 pandemic has highlighted the importance of this sector, and a lot of Czech companies came up with new interesting and important solutions.



CZECH COMPANIES OFFER A WIDE RANGE OF MEDICAL DEVICES

Czech companies, often world-wide renowned brands, mainly specialise in the manufacture of high-tech products with outstanding processing, high quality and a unique design. In terms of exports, particularly microscopes and optics (the high quality of technology), tools and textiles (innovative materials), furniture (patented solutions and design) and rehabilitation aids play the most important role.

MEDICAL TECHNOLOGY IN NUMBERS*

12,000

Employing about 12,000 persons

25

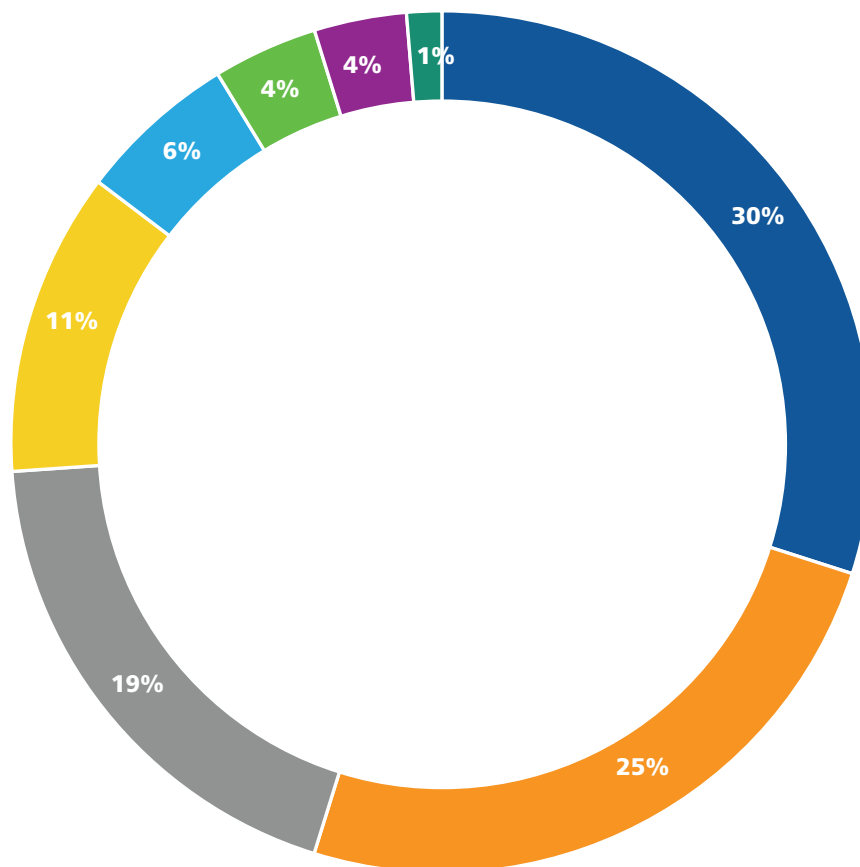
Turnover of CZK 25 billion

60%

60% of production is exported

*Members of the Association of Manufacturers and Suppliers of Medical Devices
Source: Association of Manufacturers and Suppliers of Medical Devices
Average exchange rates (2020): 1 EUR: 26.444 CZK; 1 USD: 23.196 CZK

EXPORT OF MEDICAL SUPPLIES IN 2020*



Source: The Czech Statistical Office; Cross-border movements, of goods by commodities and countries, HS 6 codes; according to the Tariff classification of medical material in connection with COVID-19 to the HS nomenclature (prepared by WCO and WHO) except 5603 and 8703)

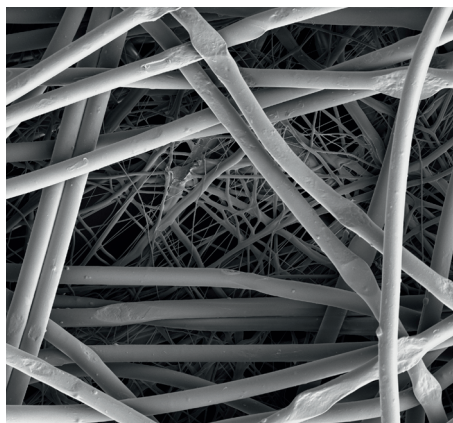
- Disinfectants and sterilisation devices
- Protective clothing and similar articles
- Others (medical furniture, glass for laboratories, tents, oxygen bottles, decontamination chambers, etc.)
- Other medical consumables (gauze, bandages, syringes, medical oxygen, X-ray films, etc.)
- Other medical devices and equipment (ultrasonic machines, laryngoscopes, stethoscopes, electrocardiographs, etc.)
- Oxygen therapy equipment
- Test kits and apparatus used in diagnostic testing
- Vehicles (except 8703)

2 INNOVATION, TECHNOLOGIES AND DESIGN

With the onset of the global pandemic and as part of the solution to the fight against Covid-19, a number of Czech companies have developed new solutions or have been offering their innovative products and technologies.

The Czech company Alatyř has developed Desinfog – a new type of disinfection which combines dry mist fire extinguishing technology with nanoparticle-based disinfection. This method makes it possible to disinfect public spaces, shops, public transport vehicles, and other places where a large number of people gather.

Nanofibre masks meeting the criteria of the highest protection class, FFP3, have been developed, manufactured and certified by PARDAM NANO4FIBERS s.r.o. These masks are without valves, made from nanofibres and are reusable. The masks are unique because they contain nanofibres produced by centrifugal spinning technology and, thanks to the exceptional breathability of the material used, there is no need for exhalation valves.



Avec Chem, a Czech manufacturer of respiratory protective devices, has obtained a patent for a unique design for a half-mask with filters also in breathing chambers. This unique protective mask with double-sided filtration eliminates the risk of users spreading respiratory diseases by 99.99%. The company has been manufacturing respiratory protective equipment for almost 25 years.

As part of coronavirus testing, Czech researchers have developed a new self-sampling method that will allow people to painlessly do PCR tests at home. These are gargling PCR tests for Covid-19 which were developed



by the scientists from the Institute of Molecular and Translational Medicine of the Medical Faculty of Palacký University in Olomouc, the Czech Republic, and from AUMED a.s. and IntellMed, s.r.o. This unique Gargtest method addresses the downsides of traditional PCR tests – discomfort during sampling and the need to visit a sampling point. With this test, all you have to do is to order your test kit and just take a sample by gargling. The test kit is delivered and taken away by courier.

The Czech company Bioinova has started production of coronavirus (Covid-19) test kits. These test kits can be used both for the nasopharyngeal sampling method and for oral or saliva sampling methods, which means these tests should be cheaper and gentler for patients, and they are also faster. Use of these tests has been authorised by the State Institute for Drug Control.

INNOVATION

The degree of innovation of Czech products in the field of medical technology has been skyrocketing recently. For example, LINET (manufacturer of hospital beds) has been among the most innovative companies comparable to such brands as Ferrari or Coca-Cola. The majority of this company's production is exported to over a hundred countries around the globe. BMT Medical Technology mainly deals with the research and production of sterilising devices. It has already been awarded three patents in this field serving for the protection of devised procedures and solutions.

ELLA-CS has successfully patented a biodegradable stent. In addition, it has been awarded a number of both Czech and global patents, thanks to which it is represented in more than 70 countries

around the world. Likewise, ProSpon is also an important player. Due to the intense cooperation with universities, colleges and research institutes, the company has succeeded abroad with such patents as the non-invasive growing knee-joint prosthesis intended for children. These efforts have resulted in the fact that the company currently exports 50% of its production to the EU and the whole world.

In addition, MEDIN, which specialises in the production and research of medical instruments in particular for surgery, stomatology, traumatology and orthopaedy is a 100% Czech-owned manufacturing company. The company offers over 22,000 products and exports more than half of its production. The company also collaborates with leading Czech universities in the field of medical equipment research. These as well as many other companies



are members of the Association of Manufacturers and Suppliers of Medical Devices, bringing together more than 100 companies doing business in this field in the Czech Republic.



Association of Manufacturers and Suppliers of Medical Devices

The association mainly focuses on the development of the sector. It encourages companies to increase the innovativeness of their products, in which three main elements are encountered: research aimed at achieving high technical parameters; a design that helps sell the products and quality, which means product reliability.

All companies which are members of the association declare the high quality of their production and services. The association aims at supporting the expansion of all members both on the Czech and global markets.

www.avdzp.cz/home.html

New substances

Czech scientists invented a new effective substance for healing very extensive wounds. The research leading to the development of the medical agent HemaGel began in the first half of the 1990s. The existence of HemaGel came from the discovery and development of hydrophilic polymers based on poly (2-hydroxyethyl methacrylate). The discovery invented by Prof. Wichterle and his team, which in the 1960s enabled the launch of soft contact lenses, thus forms the basis of HemaGel.

KNOW-HOW & CZECH INVENTIONS

The reasons why Czech technologies are sophisticated include the long-term tradition in the field of research and development. There are Czech patents that have not been surpassed yet.

4 blood groups were classified by Jan Janský in 1907. Jan Janský is considered to be the first who made the classification of blood into the four types (A, B, AB, 0) of the ABO blood group system. Janský's classification remains in use today. Janský was also a supporter of voluntary blood donations.

Contact lenses invented by Otto Wichterle in 1961. He produced the first four hydrogel contact lenses on a home-made device that he built using a Mercur building kit for children, a bicycle dynamo of his son and a bell transformer. He invented a new method of producing lenses using a centrifugal casting procedure. In 1965, the National Patent Development Corporation (NPDC) bought the American rights to produce the lenses and then sublicensed the rights to Bausch & Lomb which started to manufacture them in the USA. The lenses are now used by more than 100 million people all over the world.



Nanotechnology

Nanospider is based on a revolutionary invention called the Roller Electrospinning system developed in 2003 by Prof. Oldřich Jirsák from the Technical University in Liberec. This method is now known under the name Nanospider from the Elmarco Company in Liberec, and this unique technology enables the industrial production of nonwoven textiles formed by nanofibres – fibres with a diameter of 20 to 500 nm. Elmarco has produced different types of nanofibres since 2006 – one of these nanofibres is NANOSPIDER AntimicrobeWeb™ that is used for the removal of physical or biological impurities from inhaled or exhaled air. AntimicrobeWeb was tested in American Nelson Laboratories in Salt Lake City, where it was found that the efficacy of virus capture is greater than 99.9%.

Currently, innovations come as a result of the more efficient interrelationship between the research and the private sector.

CIIRC

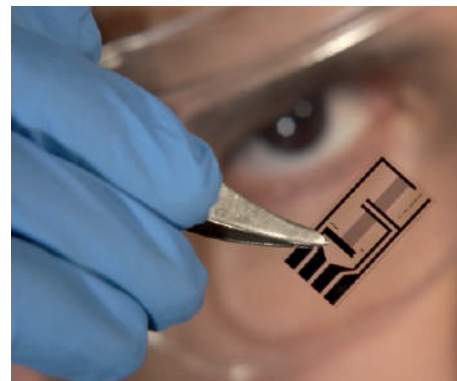
The Czech Institute of Informatics, Robotics and Cybernetics mainly deals with research and offering services in the field of biomedicine and assistive technology (representation and modelling cardiologic data, smart ICT technologies for medical diagnostics and rehabilitation, artificial intelligence tools for the analysis and modelling of biochemical and physiological data, telemedicine solutions, personal healthcare systems).
CIIRC, www.ciirc.cvut.cz

World unique inventions from Liberec

The Technical University of Liberec boasts numerous world inventions and unique devices, namely nanofibres to mention the most important invention: currently the research teams are also working on the more efficient use of nanotechnologies in the field of medical technologies. Blood-vessel substitutes made of nanomaterials are worth a mention. In addition, research in the field of mechatronics is also important: an alternative to the bionic hand was recently presented there; which is approximately ten times cheaper compared to competing products. Technical University of Liberec, www.nano.tul.cz

DID YOU KNOW?

The cardiac defibrillator and the electron microscope were two Czech inventions that were awarded gold medals at the Brussels EXPO in 1958.



Nanologix is a Czech innovative company engaged in research and development in the field of personal protective equipment, especially breathing masks and half-masks with a common inspiratory and expiratory opening. The main objective is the production and further innovation and development of exclusive products for “front line” customers (armed forces, police, firefighters and other rescue units, medics, veterinarians, workers in nuclear energy, petrochemicals, mining, forestry, transport, construction, etc.)

The production process includes, for example, the processing of polymer materials, but also highly sophisticated technology of squeezing filter materials based on microglass fibres of cellulose or nanofibres (particle capture 99.999 percent of microparticles: liquid aerosol mist, gaseous aerosol vapour, microorganisms, bacteria, viruses, etc.)

NANOLOGIX corporation s.r.o.
www.nanologix.eu



The company Grade Medical is a leading Czech manufacturer of innovative medical devices for advanced wound care. They focus on improving their own capacities – intelligent production lines for the production of nanofibres and the application of nanoparticles. The StopBac dressing range is one of their key products. Thanks to the application of nanotechnology-based around silver cations, it provides an exceptionally strong antimicrobial effect and consequent excellent wound care results.

GRADE MEDICAL

www.grademed.eu



The company EGO Zlín, spol. s r.o. is a significant manufacturer and supplier of a comprehensive system of biological protection, logistics and decontamination systems as well as devices for emergency medicine or long-term care.

In 2020, the company developed a unique product in order to increase the safety of a neonatal patient

during transport in an incubator. This vacuum fixation device enables safe and comfortable stabilisation of the child. It ensures immediate access to the child's torso and can also be used for transfer outside the incubator. The product has been certified according to valid European requirements.

EGO Zlín, spol. s r.o.

www.egozlin.cz

3 HOSPITAL EQUIPMENT

The portfolio of medical products and technologies in which Czech manufacturers specialise is so wide that it allows for the turnkey implementation of entire medical facilities. There are several companies dealing with such complex deliveries in the Czech Republic, including VAMED, the European leader in this field. Those Czech products that are based on innovations, superior technologies and unique design are the most successful ones. Hospitals around the globe are equipped with the sophisticated LINET furniture and beds, and EGO Zlin products protect patients against dangerous infections; also, products manufactured by BORCAD have gained lots of awards in the field of design worldwide; armies rely on VAREL field hospitals in case of disasters.

TURNKEY HOSPITALS

Czech companies have been successful in the participation in deliveries within complex healthcare contracts and exports of turnkey hospitals. We can mention hospitals in Laos, Papua New Guinea and Ghana as examples of such projects. Within

these projects, Czech companies have cooperated under the umbrella of VAMED Health Project CZ, the VAMED subsidiary. These contracts differ from others due to the fact that dozens of subcontractors – medical technology manufacturers, medical equipment manufacturers, suppliers of furniture as well as design companies – cooperate there – namely LINET (manufacturer of hospital beds), AUDY (producer of rehabilitation equipment), MZ Liberec (a producer of medical gas distribution systems), KLARO (manufacturer of handling carts), TSE (manufacturer of incubators), MEDIN (manufacturer of medical instruments and implants) etc. Costs for these projects amount to billions of Czech crowns, and the major part was implemented by Czech companies – for example within the project of the delivery of the hospital in Papua New Guinea the expenses amounted to CZK 2.3 billion, including CZK 1.3 billion covered by Czech companies. We can also mention the construction of a hospital in the Gabon capital, Libreville. The Czech subsidiary VAMED Health Projects CZ participated in this contract with a delivery in the



amount of EUR 28 million. Other Czech companies participated in it as well. In addition to turnkey hospitals, Czech companies also participate in other projects. For example, LINET supports the development of new hospitals in Ghana. The progressive approach, with an emphasis on quality and longevity of the equipment, is completely in line with the LINET philosophy. The first shipment from LINET® was sent in 2013, and today the number of beds delivered to Ghana, in cooperation with their partner company, has reached two thousand products.

Current projects of Czech medical equipment suppliers also include for example the construction of a new hospital on the Caribbean island of Trinidad and the construction of 12 hospitals in Ghana. Both projects are covered by VAMED Health Project CZ.

Complex turnkey deliveries of healthcare facilities

BLOCK focuses on the provision of complex services in the field of the project preparation, production, construction and consequent service of capital equipment with sophisticated technologies and a high-quality environment (clean premises). In the healthcare sector, the company specialises in the delivery of the following functional “turnkey” units: operating rooms, central sterilising, autopsy rooms, intensive care units, X-Ray workplaces, medical laboratories, preparation of cytostatic, complete hospitals, tissue centers, PET centers, IVF clinics. Currently, BLOCK through its seven branches, implements contracts in the Czech Republic as well as in Eastern Europe, Russia, Northern Africa and the Middle East. BLOCK, www.blockcrs.com

VAMED Mediterra Group offers high quality medical care in the whole range of modern medicine. It is a member of the multinational group VAMED, which is one of the leading European players in the complete management of medical and spa facilities. VAMED operates more than 600 implemented projects in 70 countries of the world relying on its 30-year tradition. In addition, it connects professionals in the field of medicine and is also able, due to its know-how and experiences, to offer services in the field of operative management – development of projects, consulting and engineering activity and project and construction management. VAMED Mediterra, www.vamed-mediterra.cz

OPERATING ROOM EQUIPMENT

Czech production is renowned both due to its quality and variability enabling the complete equipping of operating rooms with products from the Czech Republic. Compared to competing products, they excel due to reasonable prices, a long service life and the quality of design and material – for example in the case of instrumentation carts and metal furniture. Other benefits of Czech products include the intensive development and tailor-made solutions. As an example, we can mention the research, development and manufacture of highly specific products in the field of lighting. Moreover, the development and the maximum comfort for the end customer is another example of the added value of Czech production. This often results in unique technical solutions such as operating rooms for the third millennium.





Field hospitals

VARIEL deals with the research, development, design, engineering and production of special military containers (sanitary cell, sanitary cells for patients, kitchen and canteen, drinking water tanks, septic tanks as well as cooling, storage, laboratory, command, accommodation, medical, telescopic, ballistic and NBC resistant containers, etc.). Thanks to unique technologies and know-how the company exports its products to countries around the globe.

VARIEL, www.variel.cz

Tailor-made production of metal furniture for healthcare

KOVONAX is a modern manufacturing company with a stable position on the market of metal furniture, the surface treatment of metals and metal working activity. It produces metal furniture: especially chairs, rotating seats, armchairs, benches, deck chairs, dining and conference tables, clinical and day care beds as well as medical accessories. It implements the tailor-made production of metal furniture for healthcare, laboratories, the education sector, institutions, hotels, restaurants and the military. You can come across KOVONAX products in a number of towns and cities in the Czech Republic, Slovakia, other EU countries, Russia, Ukraine as well as remote destinations in Africa and the Middle East.

KOVONAX, www.kovonax.cz

METALLIC FURNITURE FOR OPERATING ROOMS

Czech companies are able to deliver a complete assortment of stainless steel and other metallic furniture and equipment, and not only for operating rooms.

Tent system

EGO Zlín offers products and systems to provide for short-term and long-term shelters in field conditions, for humanitarian purposes or systems for crisis situations with the occurrence of a high number of injured or dead. EGO Zlín, www.egozlin.cz



The emphasis placed on cooperation with experts in healthcare is characteristic for the complete range of products manufactured by Klaro, which have recently been in increasing demand, and not only by EU countries. In addition to the wide range of products, the company offers medical carts and equipment personalised according to the needs of clients. Currently, clients can choose from more than 800 types of trolleys, which can be mutually combined and extended with accessories. The company also sells its products to important foreign companies such as UAB Limeta in Lithuania, Panon Trade in Croatia, VAMED ENGINEERING in Austria, MedicSteel in the Netherlands or LINDBRANDT in Denmark.

Klaro, www.klaro.cz



OPERATING ROOMS

The Czech Republic also specialises in the development, design and production of operation, intervention and transportation desks. Czech producers are often leaders of their categories both within Europe and globally, and they export most of their products abroad. BORCAD Medical, the company



acquired by LINET in 2016, established its success in development and superior design, which was demonstrated by its 2011 Red Dot award for the GRACIE gynaecological room or versatile multifunctional chair Pura. Linet Ave 2 birthing bed received the most prestigious annual design award, the 2017 Red Dot Award.

Since 2016, BORCAD Medical has also been part of the LINET Group. The company complements LINET Group's product lines with a high-end niche portfolio that includes birthing beds, gynaecological chairs, dialysis chairs, and transport chairs. In obstetrics and gynaecology, the company is one of the world's leading companies, shown by its successful sales worldwide as well as by a series of designer awards (such as the Red Dot Design). Former Borcad Medical is sharing the worldwide distribution network of LINET, meaning export to more than 120 countries. During the last couple of last years,

LINET product range of gynaecological, birthing, and one-day care succeeded in entering new markets and increasing sales, especially in the US and the Middle East. LINET products meet the demands of high functionality, intuitive operation, a high level of safety as well as the most stringent hygiene standards required from medical devices by the most demanding customers. Thanks to the unique solutions, the company ranks among the most innovative companies in the industry. LINET Group, www.linnet.com/en/borcad-medical

Thanks to the favourable quality and price ratio, these operating tables are among the best-selling in the Czech Republic and are also building their position on foreign, namely European markets.

RAMED, www.ramed.cz

High quality and innovations are also characteristic for the MÁLEK family company, which offers a wide assortment of instrument tables and specialised UNI tables, transportation wheelchairs etc.

MÁLEK & SPOL. s.r.o.,

www.zdravotnickynabytek.cz

Medical deck-chairs, tables, armchairs and chairs of the Golem brand are synonymous with solid and stable design, superior styling and elaborated functions verified by many years of development. The good production quality, thoughtful styling of Golem deck-chairs and desks, the verified functionality and favourable prices help this manufacturer to enter mature

A wide assortment of stainless steel equipment both for operating rooms and consulting rooms, hospital warehouses etc. is offered by JIVA Jiráček.

JIVA Jiráček,

www.jiva.cz

TECHNOLOGY IN OPERATING ROOMS

The current trend is the application of innovations in the field of ICT to the whole life cycle of hospitals and operating rooms to eliminate risks to the maximum extent and at the same time to increase work efficiency and data mining.

foreign markets and maintain its position there. Currently, RQL exports around 70% of its production abroad, mainly to Italy, Spain, Portugal, France, Slovakia, Poland, Austria, Croatia, Serbia, Bosnia and Hercegovina, Ukraine, Lithuania, Latvia, Romania, Bulgaria, Saudi Arabia, Russia, UAE, Israel, Thailand, etc.

RQL, www.golemtable.com

BLOCK deals with complex projects in which the quality of the medical equipment and the efficiency of new technologies is combined to the maximum extent. Their BLOCK® Surgical operating rooms are built in operating rooms, surgery rooms, hybrid operating rooms and their rear facilities. These are complex systems, which comply with the strictest requirements in premises with emphasis placed on the high quality of the environment (so-called clean premises). For healthcare units, BLOCK supplies necessary technologies and internal equipment to be able to offer clients a fully equipped and fully operational operating room and its anteroom. Therefore, the supply may include surgical light, operating tables, surgical and anaesthesiological stands, multifunctional panels, complex digitalisation of rooms, cameras and monitors for surgical lamps, built-in display and medical monitors, stainless steel equipment, dustproof cabinets, working lines, apothecaries etc.

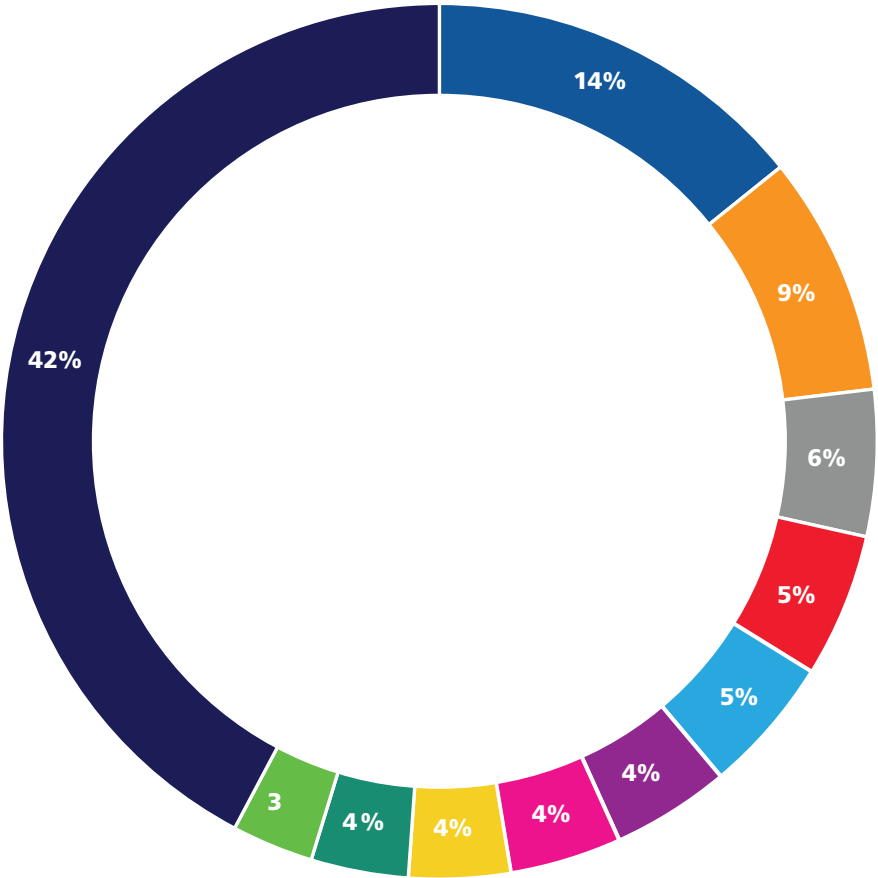
BLOCK,

www.blockcrs.com

MEDICAL FURNITURE

In the field of medical furniture, Czech manufacturers offer a wide portfolio of products excelling in innovations and connections with modern technologies allowing for the streamlining of hospital operation and making it more efficient. This is also true for LINET, which is one of the leading world innovators; this has also been recently confirmed by the A.T. Kearney consulting company, which organises the Best Innovator competition in 20 countries, evaluating companies according to the quality of the innovation management. The most important ones are mentioned in the book called *Masters of Innovation*, where LINET is presented next to other internationally famous brands. The unique styling is another feature of Czech products. We can mention the luxury equipment of hospitals, which in the functionalist style, uses superior materials offered by KOVONAX. Another successful Czech furniture manufacturer with versatile furniture range in all healthcare and social care facilities is PROFIL NABYTEK, a.s.

EXPORTS OF MEDICAL FURNITURE FROM THE CZECH REPUBLIC IN 2020 BY COUNTRY



Source: The Czech Statistical Office, Cross-border movements of goods

DID YOU KNOW?

Czech medical furniture is exported worldwide.

- Germany
- USA
- France
- United Kingdom
- Italy
- Romania
- Spain
- Poland
- Brazil
- Saudi Arabia
- Others

LINET is the world's third largest producer of hospital and nursing care beds. Over the past 20 years, LINET has experienced exceptional growth and successfully expanded into foreign markets. The holding LINET Group SE, which was established in 2011 through a merger with the German hospital bed producer WiBo, manufactures over 100 thousand beds per year, exports its products to more than 120 countries, and has subsidiaries in 20 countries. The company also produces a wide range of accessories such as anti-decubitus mattresses, mobility and hospital furniture. LINET has firmly established itself as a leader in the complex medical technology

market thanks to two key areas of emphasis: technological innovation and design. LINET regularly introduces products and services with innovative features that reduce the degree of physical exertion required of caregivers as well as increase patient comfort and safety. An example of such innovation is the company's combination with the smart SafetyMonitor system. Using integrated technology, including patient weight sensors, the system monitors the bed's safety parameters, such as patient presence, to prevent an oncoming risk situation or to trigger an alarm when a patient is in danger. LINET, www.linnet.com

Luxury and design in healthcare – functionalism from the Czech Republic with over a hundred years of tradition in the production of curved wood metal furniture, Slezákovy závody is one of the unique and traditional Czech brands. KOVONAX has recently proudly re-established the Slezákovy závody premium brand, which brings the functionalist furniture of the elegant line and the high-quality design to the current world and healthcare. KOVONAX, Slezákovy závody, www.slezakovy Zavody.cz





DOMKAT is a company focused on the development and production of hydraulic jack elevators for tiltable furniture under the MEDACT production brand. Due to its reliability and technical parameters, it is especially applied in the production of height-adjustable hospital beds and in special modification also bariatric, transport and massage deckchairs, bathroom lifts, armchairs and instrumental tables, where it is not possible to use electric drives. Since the start of production, the MEDACT bed, seat and table lifts have been successful in markets throughout Europe, in the Far East and North America.

DOMKAT, www.domkat.cz

Variable equipment for tailor-made consulting rooms

The company Zdravopro s.r.o. has long been involved with the production of medical equipment, such as gynaecological armchairs, veterinary tables and other equipment for consulting rooms. It also offers tailor-made equipment for consulting rooms. The products are mainly intended for rehabilitation facilities, gynaecological consulting rooms and veterinary consulting rooms. The company also provides

maintenance services. The company further offers medical aids and rehabilitation equipment – such as walkers for the disabled and seniors, crutches, bathroom handrails, bathroom and bath extensions and many other aids and devices to facilitate the overall mobility and the general rehabilitation.

Zdravopro s.r.o.,
www.zdravopro.com



More and more emphasis has recently been placed on the equipping of hospitals with functional and reliable furniture, which simplifies and also increases the safety of collective and individual catering. This field also has Czech representatives, whose solutions have been successful in many countries all over the world.

Hospital furniture

Complete hospital furnishings involve all premises including entrance areas, receptions, waiting rooms, common areas, examination and doctor's offices, nurse and patient wards, laboratories, offices and background of the staff. The furniture is undergoing a series of tests and trials in accordance with Czech and EU standards. Using the latest modelling software, technological equipment and

production processes, they are able to offer modern concepts of interiors to meet the requirements of individual hospital workplaces. Great care is taken on maximum functionality, mechanical, chemical and waterproof resistance and easy care. Hygienic and health safety is standard.

PROFIL NÁBYTEK,
www.profil-nabytek.cz





ABNER manufactures professional stainless steel devices for catering operations, mainly in hospitals, schools, centres for seniors and institutes of social care for the distribution and output of meals. The company product range includes output and transport carts (neutral, heated, cooled), handling carts, collecting carts, Thermoline tableting systems and Active Tray: passive and active, as well as stainless steel furniture. The company has been active in this field since 1993 and exports its products to 30 countries all over the world.

ABNER, www.abner.cz

Luxury and functional turnkey interior designs

KOVONAX implements the custom manufacture of metal furniture for medical facilities and laboratories and more around the world – in the European Union, Russia, Ukraine and more remote destinations in Africa and the Middle East.

KOVONAX, www.kovonax.cz



The unique modular design system offers thousands of modifications for special beds

PROMA REHA is a family-owned Czech company with more than thirty years of tradition. The company's products are manufactured from start to finish in one production plant, and about 10% of employees work in the design and development department. Products that are able

to compete worldwide with their quality and technology are exported to 70 countries. We focus on TOP quality medical beds, especially – CCU, ICU, but also standard hospital beds. We produce unique bariatric products, especially TITAN bariatric beds and other medical equipment. PROMA REHA, www.promareha.cz



CLEAN PREMISES AND AIR-CONDITIONING

Czech companies offer complex solutions for laboratory and clean premises.

The technological units feature global quality and functionality with inbuilt modern elements. The design of clean premises enables the complete overview of the quality of air, temperature, sterility and overpressure, which are vital functions especially in the field of operating rooms. In addition, the elaborated air-conditioning systems comply with the latest environmental trends, allowing for the very efficient operation of laboratories and other specialised hospital premises. For example, BLOCK presents the so-called thinkingLAB® system, which provides the monitoring and control of the air-conditioning environment in the whole laboratory.

In all its projects, BLOCK uses its long-term experience with design, implementation and the maintenance of clean premises and medical operations. With supplies of investment or functional units, it uses the expert knowledge of employees, the quality of the production of modular systems for clean premises, furniture or some technologies (insulators, decontamination chambers, etc.), the know-how of its own technologists, validation engineers, designers and implementers of medical technology and equipment. The company also cooperates with established architects, high-quality suppliers of medical technologies and important construction companies. Their systems of inbuilt medical premises are highly variable and flexible thus allowing the establishment of modern technologies and modification of premises to the latest medical trends. Their main benefits include the high speed of installation, modularity and flexibility as well as the fact that they are easy to clean and have long-term reliability.

BLOCK, www.blockcrs.com

Complex provision of clean premises from engineering to turnkey delivery

CRAC is an engineering company, which cooperates with investors in all phases of the investment projects, from the phase of the preparation of the investment plan, to the project preparation and providing engineering supplier services, or turnkey deliveries.

CRAC,

www.crac.cz



Distribution of medicinal gases

MZ Liberec is a private enterprise with 60 years of experience in manufacturing gas distribution systems intended for medical facilities.

Its complete scope includes turnkey projects as well as individual supplies comprising of gas source stations, infrastructure, and terminal units already in 50 countries worldwide. MZ Liberec provides its own R&D, design, manufacturing, construction, and PP services while

complying with international technical and legislative standards.

MZ Liberec,

www.mzliberec.cz

4 ELECTRONICS AND ICT IN HEALTHCARE

Czech electronics have a good reputation in the world and a strong position on foreign markets especially thanks to sub deliveries for the automotive industry. The intense research and the highly-specialised production is a benefit of Czech electronics and ICT in general for the healthcare sector. Currently, modern medicine cannot exist without top technologies and computers including data administration, hospital information systems, strong telemedicine development and the utilisation of robots in sophisticated procedures such as surgeries. Czech manufacturers have much to offer in all of these areas.



Examples of blending the technological know-how developed in the automotive industry, and its use in medicine include TSE. This company combines the technological know-how it applies in the production of electronic parts for the automotive industry with intense research in the field of medical technology. The company is the only manufacturer and exporter of incubators in the Czech Republic and one of the world's four leading companies in this segment.



TSE specialises in the production of neonatal equipment such as stationary incubators, transport incubators and phototherapy lamps. The latest line of stationary infant incubators "Shelly" is designed for intermediate as well as intensive care. It provides a protective and comfortable environment for the smallest patients and enables staff to be one step ahead of their demanding needs. The phototherapy unit "Lilly" using LED technology corresponds to the latest trends in the treatment of hyperbilirubinemia. It combines highly effective treatment with economical operation thanks to the long life of LEDs. A more than 50-year tradition in electronic manufacturing, its own development and production plus qualified staff ensure the high quality of our products, which are exported to countries all around the world.

TSE, www.tse.cz

ICT

The development of specialised software and hardware combined with innovations and the consequent maintenance service is a benefit of ZPT Vigantice, which has successfully established itself on foreign markets thanks to the electronically controlled systems and microprocessor applications. CODACO has developed unique communication systems it exports to lots of countries of the world, including Azerbaijan, Chile, Vietnam, Dubai as well as a number of other world territories. STAPRO has been marketing products covering key processes of the medical equipment in the field of patient care placing a strong emphasis on the collection and effective use of all information submitted to the user – i.e. all clinical processes of medical equipment, including supplements, operating room

management and central sterilisation. It offers a comprehensive solution in the field of the logistics of medicines and medical material with the possibility of making records for individual patients. The solution also includes the comprehensive coverage of the catering operation.

The Czech company Satomar has developed BeiCam thermal imagers, which are able to automatically and immediately identify people with high temperatures. These thermal imagers use data processing in the cloud via artificial intelligence. They can be employed to check people with high temperatures and so help employers, institutions and businesses prevent the entry of sick people. They are suitable for placement in corridors through which people routinely pass.

A NEW COMPUTER PROGRAM TO HELP PEOPLE WITH VOICE LOSS

Czech scientists have developed a computer program that gives people back their voice. The project was supported by the Technology Agency of the Czech Republic; cooperating on the project were scientists from the NTIS Research Center of the Faculty of Applied Sciences of the UWB, employees of the CertiCon and SpeechTecha software companies, and staff at the Department of Otorhinolaryngology and Head and Neck Surgery of the First Faculty of Medicine, Charles University in Prague, as well as at the Motol University Hospital. The program is intended to help, for example, cancer patients who have to have their vocal cords removed. The application allows their voice to be recorded and saved before the medical intervention. The patient must record at least 500 sentences for successful reconstruction. The patient's voice is automatically saved and a data file is created which can then be used on a computer, mobile phone, or tablet, which then communicates using the application. A text is written onto the device and the program will read it in the person's own voice.



Leading supplier of software and services for hospitals and other healthcare providers in Central European markets

STAPRO since the foundation in 1990 belongs to leading suppliers of software and services for hospitals and other healthcare providers in Central European markets.

The company develops software for all healthcare areas – both medical software (hospital information systems and laboratory systems) and non-medical software (management information systems, boarding systems, store logistics, and many others). They supply comprehensive solutions based on their own products supplemented with all related services, including the long-term support and outsourcing of medical information systems. Their systems make work more efficient for doctors, nurses, medical facility management and ensure enhanced safety for patients. Their expert consulting services enable healthcare providers to efficiently control the quality of reporting, secure medical documentation and efficient management of contractual relations with health insurance companies. Currently, they cover 204 hospitals and 452 laboratories with more than 72 thousand users.

During last 3 year they expand into the Lithuanian market. Together with or partner Limeta they install

the laboratory information system OpenLIMS in 6 laboratory chains and 7 separated laboratories.

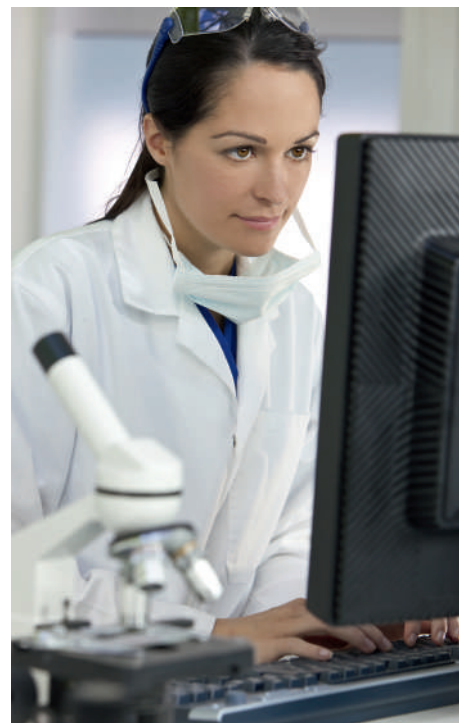
OpenLIMS is a new generation of the laboratory information management system, equipped with open architecture. In addition to the standard laboratory function they can also supply specialised modules such as microbiology, blood bank, transfusion dept. and storage. The statistical and financial part of the system offer strong tool to evaluate financial output to laboratory management.

OpenLIMS enables communication with all types of analysers and can easily define the communication interface with external systems (HIS). The system has important operational modules accessible via its webpage for online laboratory examination ordering, result-viewing and storeroom exchange.

OpenLIMS supports language modification and enables easy module customisation according to any specific legislation.

Software is directly connected to Stapro HelpDesk and can be constantly monitored from the remote center in Stapro.

STAPRO, www.stapro.eu



The main production program of the company represents the product line MediCall – nurse call communication and signaling systems for healthcare institutions and the social sphere. A new model line MDC V03 IP system is based on IP technology. The main advantages of the system are modern technology, high operating reliability, a variable modular system, simple and intuitive operation, easy installation, upgrade and servicing, a high level of user comfort and a favourable price. Vigantice systems operate in hundreds of hospitals in the Czech Republic, in Slovakia, Russia, Belarus, Kazakhstan, Georgia and Poland.

ZPT Vigantice,
www.zptvigantice.cz

One of the main subjects of CODACO activity is the area of communication systems for healthcare. The company currently offers an integrated range of communication and signaling devices intended for hospitals, sanitariums, social care institutes and similar facilities. This unique and comprehensive program which has been developed ensures reliable communication between clients and personnel. From calling equipment in surgeries and nurse-patient signaling systems, right up to an integrated and comfortable communication system for inpatient wards of medical facilities.

CODACO,
www.codaco.cz



E-HEALTH AND TELEMEDICINE

Advanced Medical Solutions develops, produces and implements telemedical solutions for the early and non-invasive diagnostics of patients suffering from chronic diseases with a specific focus on the quality of perfusion mainly with diabetic patients or other patient groups with risk factors for the cardiovascular system. To this purpose, the company proposes the following main solutions:

- 1) Early and non-invasive diagnostics of the quality of perfusion in limbs (arterial and venous function) with the detection of patients in early enough stages when the alterations are still reversible, and it is possible to apply more

sensitive, non-invasive and more cost-effective therapies

- 2) Monitoring of patients in their natural environment with the aim of therapeutic procedure optimisation and the improvement of the overall patient prognosis
- 3) Integrated system including sonograph – complete solution for centres focused on vascular diagnostics.

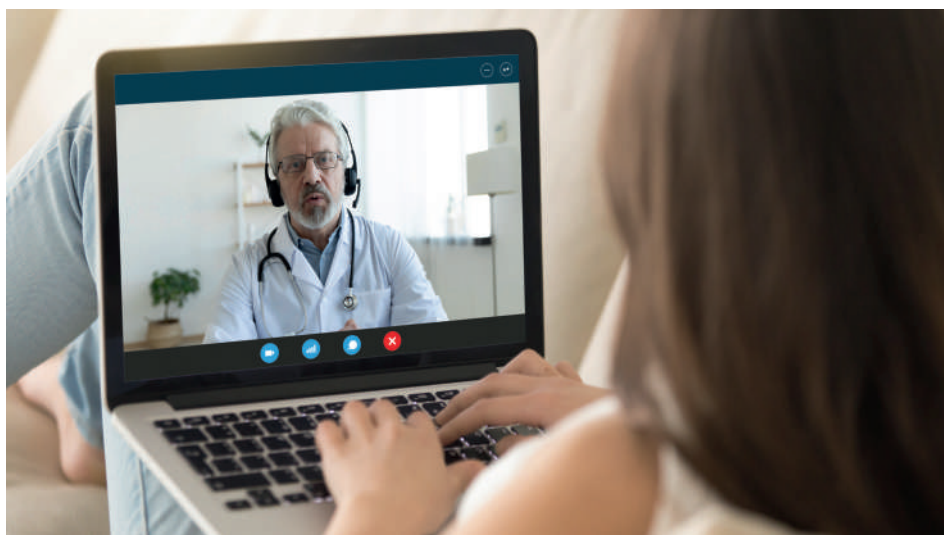
The company currently has clients not only in Europe but also in remote areas in Brasil, India and Africa where the system operated by a nurse with the remote support of expert doctors.

The supply is comprised of the devices, software and the support of experienced doctors who are vascular experts.

Advanced Medical Solutions,
www.amsolutions.cz



The Czech Institute of Informatics, Robotics and Cybernetics conducts research and also offers services in the field of biomedicine and assistive technology (representation and modelling of cardiologic data, smart ICT technologies for medical diagnostics and rehabilitation, artificial intelligence tools for the analysis and modelling of biochemical and physiological data, IT solutions for telemedicine and personal healthcare systems). CIIRC, **www.ciirc.cvut.cz**



ROBOTICS

Karel Čapek, the famous Czech writer, came up with the word “robot” and medical technologies also have much to offer in the field of the development of robotic systems. The research and development potential together with using new technologies in practice – this is the recently established Czech Institute for Informatics, Robotics and Cybernetics, which cooperates with companies such as Airbus or the U.S. Department of Defense.



ROBOTSYSTEM is a highly creative research and implementation company specialising in breakthrough project solutions in the field of service robotics and mechatronics – focusing on Industry 4.0, Smart Cities, breakthrough medical multifunctional treatment rehabilitation and transport multirobots (ROBOCOUCHAR, SMART WALKER, ROBOSTRETCHER), physiotherapy mobile robots for telemedical processes, in order to support life without assistance and simultaneously transport immobile persons by using an autopilot. Furthermore, it also focuses on fully robotised workstations in the field of nuclear energy, as well as research and implementation of insular energy centers based on RES.

ROBOTSYSTEM,
www.robotsystem.cz

5 EMERGENCY MEDICINE

CRISIS SITUATIONS

Rescue teams from the whole world know the Czech brand EGO Zlín, which specialises in medical systems used in crisis situations, in particular in cases of Ebola, SARS and bird flu epidemics as well as in solving other global disasters or diseases.

Science in practice

The EGO Zlín development centre in cooperation with Tomáš Baťa University in Zlín present an ambulance intended for the transport of persons with highly infectious diseases, as an immediate response to the global situation caused both by the occurrence of highly infectious diseases and dangerous epidemics and the escalating refugee crisis increasing the risk of a possible spread of dangerous infections.

EGO Zlín is an important manufacturer and supplier of systems helping in crisis situations. The business activities of the company mainly focus on deliveries of products to clients in the state sector, namely hospitals and their infectious departments or emergency departments, healthcare rescue services, firefighting teams, police, military medical or logistic units, units of CBRN protection, hygienic stations, regional and municipal crisis departments,

government material reserves, humanitarian organisations etc. Its strategy is not limited to the sales of products; it also provides methodological help in solving particular crisis situations at particular places. Products and systems have been delivered to customers in over 30 countries of the world including EU countries, Saudi Arabia, Japan, South Korea, Canada, Taiwan, etc. EGO Zlín, www.egozlin.cz



System of biological protection

Products and systems providing protection in the case of the presence of dangerous microorganisms in the environment (highly dangerous or virulent diseases). It includes personal protection equipment for adults and children, transport trains for infected persons and hospitalisation and insulating chambers including decontamination.



Decontamination system

Products and systems for immediate decontamination and the hygienic cleansing of persons, equipment or technology in field conditions.



Emergency system

Products used in urgent medicine, such as devices for the immobilisation of patients (vacuum fixation splints or mattresses, vacuum-compression loinclths, children retention systems for stretchers), various types of transport rescue devices or rescue bags, backpacks and suitcases developed according to the newest needs and standards.



SPECIAL VEHICLES AND AMBULANCES

Czech companies manufacture fully equipped ambulances both for domestic and foreign customers. The Czech offer is also exceptional thanks to the development and production of special vehicles responding to current issues. These, for example, include vehicles intended for mass disasters, vehicles for the transport of highly infectious patients or mobile laboratories. By combining superior technologies with good quality and at competitive prices, Czech vehicles are well-known around the world.



Lighting and acoustic alarm technology

HOLOMÝ is the leading Czech producer of lighting and acoustic alerting technologies for special vehicles (electronic sirens, lighting sets, beacons, direction alleys, working lighting fixtures or for example alerting lighting fixtures using modern LED technologies). The development, comprehensive production base and the more than 75-year tradition of electronic production are the guarantee of high quality and competitiveness of products and services, which address customers in more than twenty countries in the world. HOLOMY, www.holomy.cz



Special ambulances

SICAR has got its own manufacturing premises with a capacity of approximately 500 ambulance vehicles a year; SICAR delivers vehicles for example to Germany, Austria, Switzerland, Slovakia, Syria, Norway, Vietnam, Albania, Romania, the Netherlands, the United Kingdom and so on. Production meets the requirements of ISO quality and all European norms. SICAR, www.sicar.cz



Transport of patients with highly infectious diseases

EGO Zlín presented a special ambulance intended for the transport of patients with highly infectious diseases. The ambulance is equipped with a bio-bag, in which the patient is isolated. Nevertheless, at the same time, the doctor can administer medicines to the patient and monitor his/her condition during the journey. The biobag also allows for breathing assistance and infusions without endangering people in the vicinity of the infected patient. There is also decontamination equipment, protection suits for staff and other things in the ambulance car.

EGO Zlín, www.egozlin.cz



MEDICAL INSTRUMENTS, TECHNOLOGY AND OTHER EQUIPMENT

BIOSTER is a manufacturer of a wide assortment of health and medical devices, from a unique product line of hemostats and a product called Traumastem for the treatment of acute and chronic wounds, to special field dressing material and a first aid kit program. The company has been collaborating with several academic workplaces on a long-term basis and focuses a lot of attention on its own research development and the continuous innovation of products. It was the first to introduce the modern-day Traumastem Biodress dressing, which is made of cotton-based oxidised cellulose for the treatment of acute and chronic wounds. BIOSTER also provides radiation sterilisation services. The Bioster product portfolio contains hemostats, the treatment of chronic wounds, special military dressing material, a first aid and rescue program, car first aid kits, other medical material, radiation sterilisation and other services. BIOSTER, www.bioster.eu



Beds and stretchers for integrated rescue systems are offered by the traditional Czech manufacturer of KOVONAX bent metal furniture. Its product range includes innovative anti-decubitus beds and mattresses, folding beds and stretchers or military beds and cots. KOVONAX, www.kovonax.cz



6 DIAGNOSTICS



INNOVATION

Diagnostic and measuring devices for the field of prosthetics

ING corporation is a supplier of the odometer device. This is a diagnostic device for the examination of sarapes patients. It serves for the direct observation and evaluation of a loaded foot for measuring heel valgosity and varosity values, using the goniometric gauge and to determine the length of the foot using the integrated scale in the supporting glass plate of the device. The inbuilt lamp lighting is intended for highlighting the observed plantograph. To archive the plantograph, the possibility of a photographic record can be used.

ING corporation,
www.ingcorporation.cz

Tailor-made production and innovations

LabMediaServis is a dynamically developing company that focuses on producing and distributing culture media, blood derivatives MIC sets, and diagnostic sets for human and veterinary medicine. The company's key attributes are high quality, price and reliability. The company is becoming popular among its customers as well as with experts and cooperates with universities and research institutes (Masaryk University – Faculty of Medicine Brno, University of Veterinary and Pharmaceutical Sciences in Brno, Veterinary Research Institute Brno, Institute for State Control of Veterinary Biologicals and Medicines). It is currently expanding abroad.

LabMediaServis,
www.labmediaservis.cz

DIAGNOSTICS IN VITRO

The enormous development and improvement of medical, treatment methods and the general care for patients would be impossible without the same big qualitative and quantitative leap of the whole area of medical devices of in vitro diagnostics. These play a very important role in the personalisation of medicine and in the future may even more significantly contribute to increasing the quality of medical care in combination with a more effective use of available sources. According to global statistics, in vitro diagnostics actively participates in 70% of decision making on further treatment.

Czech Association of Producers and Suppliers of In Vitro Diagnostics bring together the Czech manufacturers of diagnostic materials, who are among the best.
CZEDMA, www.czedma.cz

IMAGING DIAGNOSTIC TECHNOLOGIES

The production of the most innovative diagnostic devices has gained its importance on the Czech market, and Czech companies have been expanding abroad where they have established themselves successfully.

X-RAY

Czech companies deliver X-Ray systems and accessories in the form of tailor-made products, which is also their competitive advantage. These systems boast high quality and a long working life.



FOMA BOHEMIA remains one of the last traditional manufacturers of photosensitive material in the world. The whole factory's complex is placed in the Czech Republic. FOMA BOHEMIA has been a producer of black and white photo materials since 1921. FOMA BOHEMIA produces products designed for the medical field. It is an experienced manufacturer of intraoral and extraoral X-ray

films by DENTIX used in dental radiography. A very important product line of FOMA BOHEMIA is its own film system for non-destructive testing including all speed ranges of NDT films INDUX/ FOMADUX. In addition, FOMA BOHEMIA manufactures special films and other materials for different user purposes. In the group of special materials, you will find personal monitoring films, aerial photography films, fingerprint lifters

for criminal investigation, leader films, tachograph papers, etc. FOMA BOHEMIA exports their products to more than 90 countries. They have clients in the EU, USA, Iran, China, South Korea, India, Philippines and others. Since 1996, FOMA BOHEMIA has implemented a quality system according to the EN ISO 9001. FOMA BOHEMIA,
www.foma.eu

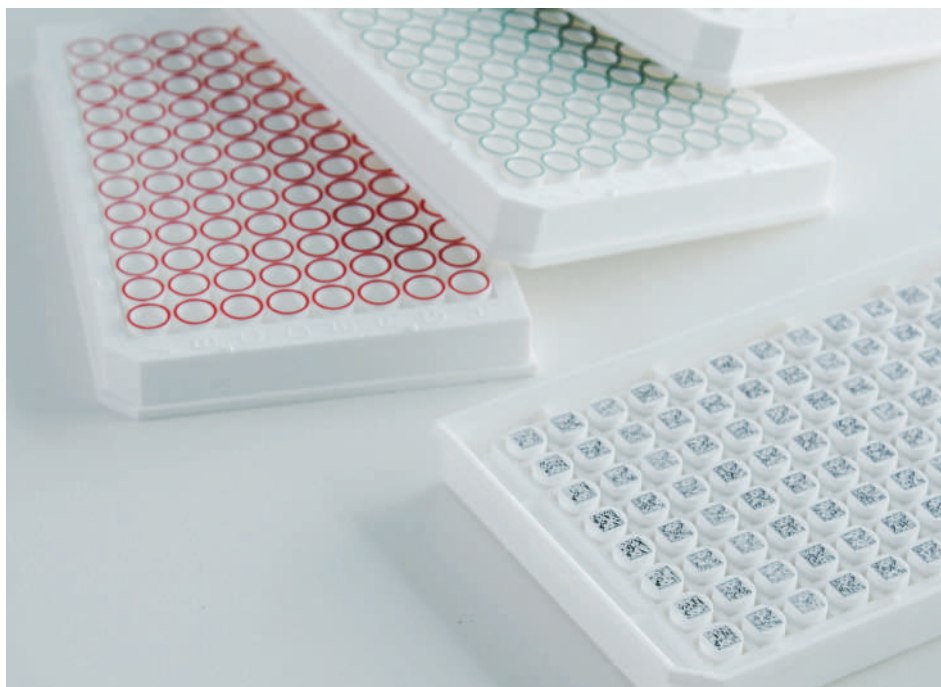
DID YOU KNOW?

Polarography was invented by Jaroslav Heyrovský in 1922. Polarography is an instrumental method of chemical analysis used for qualitative and quantitative determinations of reducible or oxidable substances. It now has many useful applications in chemical analysis. Polarographic techniques can be used in analyses to determine the presence of vitamins, alkaloids, hormones, and colouring agents in various substances. Consequently, it plays a vital role in the food-processing industry, toxicology reports, the analysis of drugs and pharmaceuticals, and in the determination of the presence of residual herbicides and pesticides in foods and other substances. Heyrovský was awarded the Nobel Prize in Chemistry in 1959.

TestLine Clinical Diagnostics was founded in 1993. During their more than 25 years in the business, they have become one of the leading players on the IVD market with a wide portfolio of their own products and services. They take an innovative approach based on long-term experience. The focus of their portfolio is the ELISA and BLOT methods. The results of their development efforts in the field of laboratory automation is the popular SmartELISA kits and their own Microblot-Array multiplex solution.

TestLine Clinical Diagnostics s.r.o.

<https://www.testlinecd.com/>



7 REHABILITATION AND PHYSIOTHERAPY



Rehabilitation and physiotherapy have had a long tradition in the Czech Republic also due to numerous spas and thermals that can be found in our land, which ensures that Czech companies have become leading companies in this field. In particular, BTL is a world-renowned company, which has succeeded thanks to its unique technologies. Dozens of other Czech manufacturers cover the complete portfolio in the production and development of rehabilitation and locomotion aids.



The most innovative technologies in the field of orthotics

The most innovative technologies in the field of orthotics: The research and development of ING corporation focuses on the application of modern digital technologies (3D scanning, CAD design, CNC machining, 3D printing,

bio-mechanic movement analyses), advanced materials (carbon composites, silicone materials) and clinical-technical procedures in orthotics and prosthetics. The company results have been applied in Ortopedická protetika Frýdek-Místek, which was established in 2010 from the clinical division of ING corporation. The company conducts its research and development projects together with important university, clinical and

industrial partners both from the Czech Republic and abroad. In the field of production, sales and the distribution of medical devices, it has been cooperating with leading domestic and foreign companies in the fields of orthotics and prosthetics.

ING corporation,
www.ingcorporation.cz

LOCOMOTION AIDS

The only manufacturer of unique locomotion aids in the Czech Republic

ERILENS is engaged in the production of locomotion aids such as forearm crutches, auxiliary crutches, walking sticks and other medical devices. The company places strong emphasis on the quality, functional properties and design of its products. Therefore, its experienced research and production team works according to the current trends and requirements of users. Currently, ERILENS is one of the leading distributors on the domestic market. It exports a significant part of its production. ERILENS, www.erilens.com



REHABILITATION AND COMPENSATION AIDS

The most innovative fitness equipment with a wide range of adjustability for particular exercises enables a very efficient and timely returning of a person to mobility. The rehabilitation devices and aids offer a wide range of uses from professional care in treatment facilities, at rehabilitation centres as well as during the treatment of the long-term sick and at home care.



Rehabilitation and compensation aids to more than 40 foreign markets

Since 1994, Patron Bohemia has been engaged with the production and distribution of health aids as well as the comprehensive care of disabled people at the same time. Thanks to unique solutions and the added value in the form of customised solutions (the majority of production is done on the basis of customer requirements) this Czech company is currently among the

leading European companies. It has two production divisions including one focusing on the production of baby strollers and the other one producing rehabilitation aids. Its products include children's rehabilitation strollers, mechanical and electric carts, staircase climbers and ramps, compensation aids for bathrooms and restrooms, walking aids, anti-decubitus seats and mattresses, bands and orthosis and other products. Patron Bohemia, www.patron.eu

AUDY is another world-renowned, important producer of rehabilitation aids; its range of products includes the anti-decubitus program, rehabilitation aids and deck chairs, as well as hygienic and rehabilitation bathtubs, transport and elevating equipment etc.
AUDY, www.audy.eu

COMPENSATION AIDS

During the production of compensation aids, Czech companies mainly place an emphasis on client comfort and the high functionality of the product. The range of products includes wheelchairs, bathroom aids or for example day care deck chairs.



DID YOU KNOW?

Vojta Diagnostics and Therapy (the principles of reflex locomotion) was developed by Prof. Dr. Václav Vojta, a famous Czech neurologist and paediatric neurologist, between 1950 and 1970. Based on studies of the treatment of children with cerebral palsy, some specific reflex points were identified – thanks to them it is possible to stimulate the human body to certain inborn movements (to crawl and turn). At the same time, this method activates major muscle groups and the diaphragm, and helps to achieve deep breathing, positive stimulation of nervous centres and total improvement of mental activity. The first focus of the method was used for children up to 4 years. Then it was also spread with success to adults. Today the courses of Vojta therapy are held in many countries.

VITAPUR is a Czech manufacturer largely focusing on innovations and the quality of materials in the field of aids for providing professional and home care. Under the VITAPUR brand, products for professional and home care are developed and produced, including: hygienic bedding (bed sheets, mattress pads, bed pads, etc.), positioning and stabilising devices, anti-decubitus devices, anatomic

pillows and other products. The aim is to provide users with fully-fledged functional products, meaning solutions with no compromise which are 100% reliable. Therefore, they develop their own constructions and designs, and they use and combine special functional breathable but impermeable materials with modern technologies for connecting them. VITAPUR, www.vitapur.cz

PHYSIOTHERAPY

Czech products specialised for use in the field of physical therapy boast modern design and high-quality equipment of each product. In this field, the Czech market offers a complete range of products for magnetotherapy, ultrasound, electrotherapy, etc.

One of the Parabel divisions specialises in the development, design, production and maintenance of medical products according to customer wishes. Its added value is the ability to prepare and produce an optimum offer for tailor-made products for the client, where Parabel takes over the complete contract implementation from the inquiry to the delivery to the place of destination. Currently, the company is for example engaged in the development of a rehabilitation system enabling efficient locomotion therapy performed in rehabilitation centres or at home. All types of medical products are made in compliance with European regulations and are CE certified as most products are intended for export.

Parabel,
www.parabel.cz



EMBITRON® is a recognised producer and supplier of medical devices for physiotherapy, medical rehabilitation and other medical fields.

Over the more than twenty years of its operation, EMBITRON® has become one of the major suppliers of equipment for the treatment

of musculoskeletal and blood circulation disorders, stagnant metabolism and trophical changes in limbs, thereby contributing to significantly improving the quality of life of patients suffering from a given disease.

EMBITRON, **www.embitron.cz**

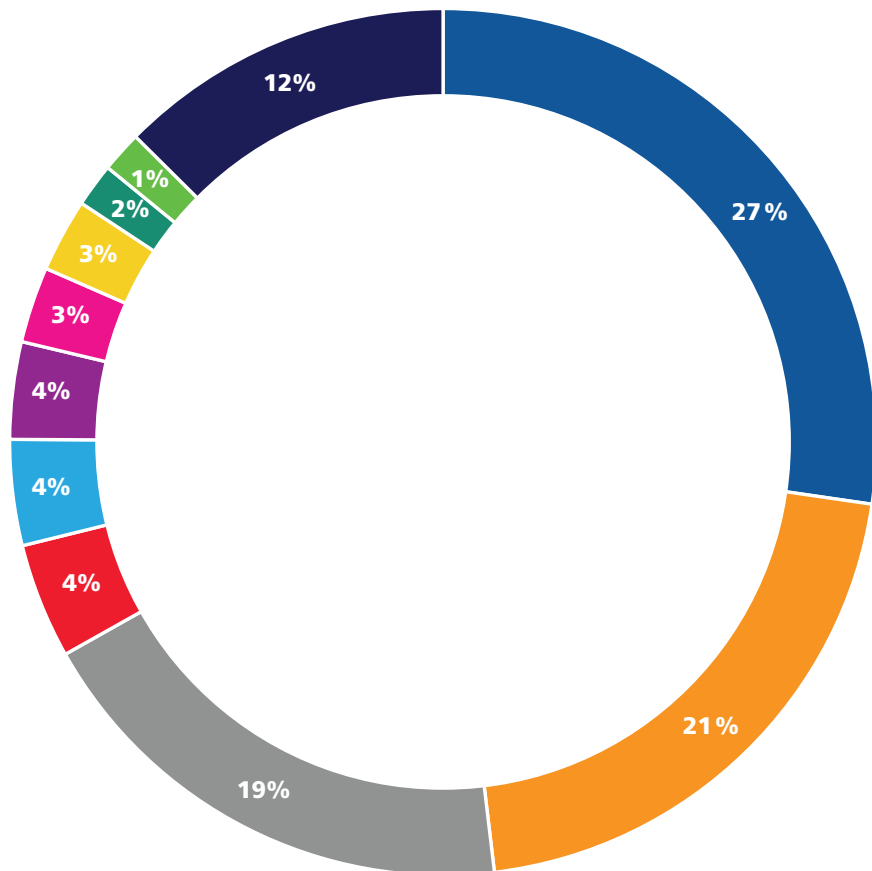
8 OPTICS

The Czech Republic is competitive on a world-class level in the field of the development and production of optical devices. This area is currently experiencing very rapid development, with the Czech Republic being one of the centres investing a lot in the research and improvement of the world of optics. For example, the technological agency supports the ALFA program, which focuses on the preparation of the system of methods for the production of multi-layer optical systems. These can be used for example in security optical devices.

Czech optics are exported to the whole world



EXPORTS OF MICROSCOPES FROM THE CZECH REPUBLIC IN 2020 BY COUNTRY



Source: The Czech Statistical Office; Cross-border movements, of goods by commodities and countries, HS 4: 9012

- Netherlands
- China (Peoples Republic of)
- United States of America
- Germany
- United Kingdom
- Japan
- Taiwan
- South Korea
- France
- Russian Federation
- Others

Meomed is one of the four companies in the world to especially deal with the production of X-ray amplifiers of images for X-ray devices of the C-arc type

It has four basic products in its portfolio

The X-ray image amplifier is a key element in the imaging chain of the X-ray device enabling the minimising of the intensity of radiation. Therefore, the X-ray device is used in demanding operations, examinations and diagnostics of patients. The requirements placed on cleanliness, sharpness and the resolution of the final image are of course high, to which the production premises and technological procedures and company equipment correspond. The imaging unit (chain) is a complete X-ray imaging unit intended specifically for healthcare. This chain consists of the X-ray image amplifier, an X-ray lens and integrated CCD camera. X-ray radiation beams are transferred in the X-ray amplifier to visible light beams carrying the required information and furthermore an optical chain consisting of the X-ray lens and the CCD camera transferred to the PC. Thus, these are not classical X-ray images; it is online imaging using a low dose of X-ray. The industrial X-ray detector is an

industrial digital X-ray detector, which transfers the X-rays to a 3D image in the PC. This product is supplied to producers of industrial X-ray emitters. In the first place, it is used for the non-destructive inspection of products, such as wheel discs, turbine blades etc., where there is a strict inspection of the perfect internal integrity of the checked product. This product is taken over from the licence owner, i.e. the Fraunhofer Institute with its registered office in Munich. The Meomed product has a high resolution, quick image online processing, very long service life and permanent operation, which makes it suitable also for flow production.

Parts for the medical laboratory diagnostics are mechanical components equipped with electronics, which are completed in Meomed and supplied to customers. It consequently builds them into the final product, i.e. diagnostic devices enabling mass analyses of blood and tissue samples etc.

Meomed, www.meomed.cz

DID YOU KNOW?

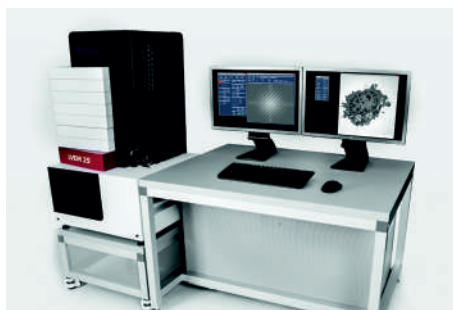
Czech optics were already successful in past centuries. The invention of soft contact lenses by the Czech researcher and scientist Otto Wichterle in 1965 was a historical moment in the world's history.



World unique products

DELONG INSTRUMENTS products are used in biological applications, histology, pathology, and diagnostics, material science, and nanotechnology. The LVEM25 revolutionises electron microscopy by also offering ease of use and accessibility to non-expert users. The activities of the company are comprised of research, development and fabrication in a field of unique solutions of electron-optical devices, electron guns, and low voltage electron microscopes. The main product in this area is the transmission electron microscope (TEM) LVEM 25. This versatile TEM is small in contrast to traditional electron microscopes, easy to operate and can be placed in any standard laboratory setting without any need for a dark room or cooling water. It combines the TEM and STEM modes. It operates with low accelerating voltage (25 kV) which brings enhanced contrast on light elements. Imaging of samples both with and without staining is possible.

DELONG INSTRUMENTS,
www.dicomps.com



The multimodal holographic microscope was developed by a research team led by Radim Chmelík in the Czech Republic

The microscope is now patented on the European, American and Eurasian markets. The technology is exceptional because just an H light bulb is needed for lighting (in previous types of commercially available microscopes in which live cells can be watched, it is necessary to use a laser or laser diode, which has undesirable effects – the resulting image may not be clear, and it is often spoiled by ripples or stripes). This new technology enables biologists and physicians to watch live cells without contrast influencing the behaviour and properties of the cells. The holder of the licence for the commercial production is Tescan Orsay Holding.

DID YOU KNOW?

Professor Armin Delong (Czech scientist and world-renowned physicist) introduced the first electron microscope into production already in 1949. At that time, only five countries in the world achieved it. Prof. Eng. Armin Delong and his colleagues developed a desk transmission electron microscope and introduced it into production in Tesla Brno in 1955. This desk electron microscope was very successful and in 1958 won a gold medal at the World Exhibition at the Brussels Expo 58. Prof. Delong was the founder of electron microscopy in former Czechoslovakia.

9 TEXTILES

Companies specialising in medical textiles, clothing and bed clothes are also represented in the Czech Republic. The companies use high quality materials for production such as Nylon 6.6, Lycra®, microfibre or CLIPSO material.

NANO MEDICAL is engaged in the development and production of nanofibre textiles for the healthcare, cosmetics and filtration segments. It specialises in the production of medical masks with maximum filtration efficiency, filters for masks, and also patches containing chitosan, an active substance with a nanofibre structure that prevents infection. The company is especially famous for developing the effective material AntiMicrobe Web R, which captures 99.9% of viruses and bacteria and has very high breathability.

ARIES is an important Czech company, which has been successfully growing for 25 years thanks to its own research and the use of the best materials, even on foreign markets. The production is divided into health compression goods and socks for diabetics (Avicenum), sports compression products (ROYAL BAY®) and fashion hosiery with health

benefits (ARIES Intelligent Body Care). Customers appreciate not only the design of the products – such as flat loose fit tops, fine toes, top-grade laces, and comfortable materials (microfibre, cotton) – but also other health benefits of our products, including Sanitized® antimicrobial silver.

ARIES, www.aries.eu





Research and development has also been crucial for ORTEX. ORTEX is a Czech family company, a producer and distributor of series production braces and bandages. Its program is based on the development, series production and sales of braces for postoperative, conservative treatment and rehabilitation of damaged joints and ligaments. In its development, the company has been steadily cooperating with clinics in the Czech Republic and also with respective institutions abroad and all the products have clinical certificates. ORTEX, www.ortexzlin.cz



RESPILON® is a Czech company operating on the international market, which has been engaged in research and development of nanofibre products since 2013. Its mission is to make innovative use of the specific properties of nanofibres for a better and healthier life. In its current portfolio, it has nanofibre respiratory protection products (extremely light RespiPro respirators that fit perfectly on the face and R-Shield neck gaiter, which it launched in 2018 in response to the needs of immunocompromised patients), nanofibre window screens and door screens, nanofibre functional membranes for sports, outdoor clothing and cosmetic masks. RESPILON Group s.r.o., www.respilon.com

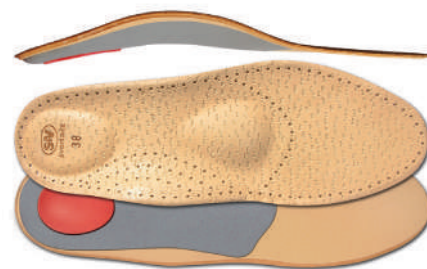




The company CLINITEX is a Czech producer and distributor of medical clothes and clothing suitable for the healthcare environment, surgical gowns and bedlinen with close up at renting the textile to the industrial laundries market and the end consumption. Its clothing range is a result of long-time experience, constant progress and precise testing of used materials and its components, including the cut performance and also the ability of the clothing to withstand demanding maintenance processes. Main commodities of CLINITEX production include medical clothes

and textile; reusable surgical gowns, clothes and drapes for clean air rooms used as medical devices for patients, hospital staff and equipment according to EN 13795+A1; functional clothes with high visibility for paramedics according to EN ISO 20471; incontinence pads and absorbent aids as medical devices; rental linen and textiles for commercial laundries and the rental system; patient clothing; bedlinen and textiles for the healthcare system and the hotel environment. CLINITEX, www.clinitex.cz

Orthopaedic shoes: Svorto.cz has been engaged in the production of orthopaedic shoes for a long time – actually since the World War II period. The main activity of the company is the production and distribution of orthopaedic, sports and series insoles. Furthermore, the company focuses on the production and distribution of orthopaedic aids, insoles, orthopaedic insoles, healthcare liners specifically intended for flatfeet, heel spurs, correctors, heels, bandages, hearts, gel inserts, anti-slippery inserts, heels, massage gel and silicone inserts. The company's product range also includes semi-products for orthotics and accessories for healthy and comfortable walking. The products are distributed to most healthcare facilities and apothecaries in the Czech Republic. A part of the production is exported to several European and other countries. Svorto.cz, www.svorto.com





ERGON is an important player on the medical textiles market; it is the leading producer of orthopaedic shoes in the Czech Republic dating back to 1918, which means it is a company with a long-term tradition in this branch.

ERGON, www.ergon.cz



Dina-Hitex is a producer and developer of single use surgical drapes, sterile surgical sets and procedural packs, protective clothing, surgical gowns and face masks. They are on the market since 1992.

Their core business is a production of highly specialised surgical drapes and customised procedure packs

which are developed according to the customers' needs.

DINA-HITEX Barrier system was developed to minimise the risk of infection during surgery, to improve comfort of patients and work efficiency of staff in surgical theatres.

DINA-HITEX,

<https://www.dina-hitex.com/en/>

10 IMPLANTS AND IMPLANTABLE DEVICES

The production of implants, namely those for bone surgery, has had a long tradition in the Czech Republic dating back to the 20th century. Currently, Czech companies produce endoprosthesis, internal backbone and external fixators as well as individual oncological prostheses of all parts of bones and joints of the human body. The quality of these products is at a global level and that is why a significant portion of them are exported. Czech companies have been intensifying their research and development and specialising their production, thanks to which they are able to respond to the most specific requirements from abroad, to offer unique solutions unmatched abroad such as in the case of the development and production of stents. Unlike competing multinational corporations, Czech companies are able to better satisfy tailor-made requirements and, thanks to their own production, Czech producers are able to quickly and precisely respond to the requirements of doctors.



Uniquely patented traumatology implants

Traumatology implants and tools developed by MEDIN are intended for surgical treatment. The product range namely includes nails, plates, bone screws, external fixators and small implants. All products are developed and produced in the Czech Republic in compliance with the certified procedures, impact on the quality and the customer requirements. Patented

products form an important part of the product range, namely the calcaneal nail C-NAIL and pelvic plate OMEGA. The heel nail C-NAIL by MEDIN has been awarded in the Czech innovation competition in the innovative company category. It has been developed in cooperation with the traumatology workplace of the Pardubice Regional Hospital and the accident department of the University Hospital Carl Gustav Carus in Dresden.

MEDIN, www.medin.eu

DID YOU KNOW?

BEZNOSKA is also able to print a tailor-made joint prosthesis in the 3D printing machine for individual clients. The 3D scanning and print technology is also used in development and production in the field of orthosis and prosthetics by the ING corporation.

DID YOU KNOW?

The biodegradable stent produced by the Czech company ELLA-CS is inserted into damaged tissue, where unlike previously used metal stents, it disintegrates. It is quite unique even in global terms. Stents are inserted into the oesophagus, colon, small intestine or biliary tract. ELLA-CS has a number of Czech and international patents and has been represented in almost 70 countries of the world, where it cooperates with leading experts, professional workplaces, doctors and hospitals.

Implant systems and regenerative solutions

LASAK focuses on the development and manufacture of innovative healthcare products, particularly bone regeneration materials and dental and spinal implants used in dental and maxillofacial surgery, orthopaedics and neurosurgery. The company was established 1991 in Prague, Czech Republic. LASAK has developed a new surface treatment of titanium which exhibits unique properties enabling faster, safer and more predictable implant

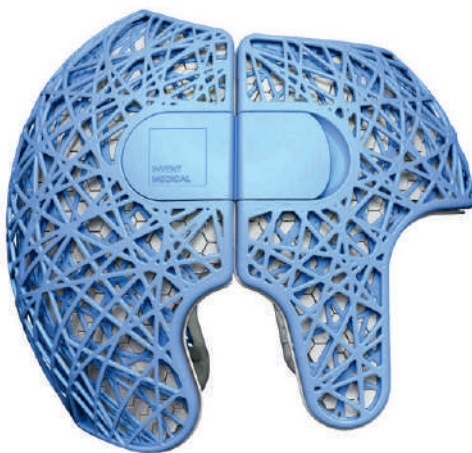
healing. The first hydrophilic, bioactive surface was launched to the European market by LASAK in 2000. Based on more than 20 years of experience and following the latest trends in implantology, LASAK launched a new dental implant system, BioniQ, in 2013. LASAK produces several types of advanced bioactive materials for bone regeneration, under the brands, PORESORB-TCP and OssaBase-HA. LASAK products are appreciated in many countries worldwide, in Western as well as in Eastern Europe, Scandinavia, Southern Asia etc. LASAK, www.lasak.com



Utilisation of Direct Digital Manufacturing advanced technology

Invent Medical Group is a high-tech medicine start-up with its registered office in Ostrava. The company focuses on the utilisation of the synergy of Direct Digital Manufacturing advanced technology (3D scanning, computer modelling and 3D printing) and integrated systems for online diagnostics with tailor-made orthotic and prosthetic aids. The company's objective is product innovation (smart products), innovation of processes (a fully

digital process) and business model innovation (the global application of order made products and services) in orthotics and prosthetics. The company is also building its own interdisciplinary innovation incubator (Innovation Lab) in cooperation with academic, clinical and industrial partners from the Czech Republic and abroad. Invent Medical Group, www.inventmedical.com



The most innovative technologies in prosthetics

The research and development of the ING corporation is focused on the application of modern digital technologies (3D scanning, CAD design, CNC machining, 3D printing, biomechanical movement analyses) of advanced materials (carbon composites, silicon materials) and clinical-technical procedures in orthotics and prosthetics. The company results are also applied in Ortopedická protetika Frýdek-Místek, which was established in 2010 from the clinical division of ING corporation. The company is involved in research and development projects together with important university, clinical and industrial partners both from the Czech Republic and abroad. In the field of sales and distribution of medical devices, it has cooperated with leading domestic and foreign companies active in the fields of orthotics and prosthetics. ING corporation, www.ingcorporation.cz

Orthopaedic implants and instruments

BEZNOSKA manufactures orthopaedic implants and instruments. The company is also dedicating a huge amount of its time and resources to the research and development of a new range of products. A separate line of BEZNOSKA's production is targeted on custom-made replacements. This is a highly-specialised area of activity requiring the application of CT/MRI. The implants thus made are designated for patients with extreme

damage (congenital, tumorous etc.) to a joint, where customised implants are the only chance how to solve the patient's problem. The whole procedure – from preparation through manufacture to the surgical performance itself – is realised in close collaboration with the designers and attending physicians. BEZNOSKA, www.beznoska.com, www.oncologicalimplants.com



Development and production of tools and implants for orthopaedy, surgery and traumatology

ProSpon deals with the development, production and distribution of orthopaedic and traumatology implants, tools and other medical devices. In addition, it has recently extended its product range with the complete assortment of orthopaedic implants. Due to the intense cooperation with universities and research institutes, the company has succeeded abroad thanks to such patents as the patent for the non-invasive growing replacement of the knee joint intended for children. Thanks to this, the company currently exports 50% of its production to EU countries and the whole world.

ProSpon, www.prospon.cz

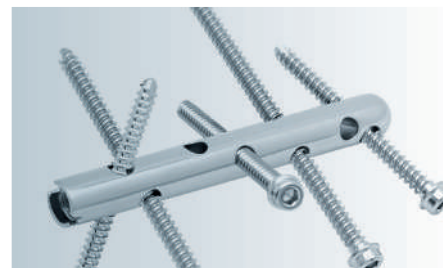
Research and manufacturing of stents

ELLA-CS is dedicated to the research and manufacturing of stents for the gastrointestinal tract and for airways. The ELLA-CS portfolio covers worldwide unique medical devices, such as: Biodegradable Stent, enabling the new treatment of oesophageal benign refractory strictures; Danis Stent, designed for the stopping of acute oesophageal variceal bleeding; and Extractor, the original device for easy and atraumatic extraction of nitinol oesophageal ELLA-CS stents. Except for the standard product line, the company offers custom-

made braided stents to suit each patient. The company is a holder of prestigious awards and follows the principles of good manufacturing practice according to the Czech and European standards. ELLA-CS, www.ellacs.eu



11 OTHER MEDICAL TECHNOLOGIES



One of the largest European manufacturers of medical instruments is based in the Czech Republic

MEDIN is a Czech company with its head office in Nové Město na Moravě. It focuses on the production and distribution of medical instruments and implants. The company's tradition started with the production of dental instruments over seventy years ago. Currently, the portfolio is comprised of four main product groups – traumatology, surgery, orthopaedics, and dentistry. MEDIN ranks amongst the largest European manufacturers of medical instruments in terms of the product range. Over one half of the turnover results from export, in particular to European countries, Latin America and the Near East. In addition to strategic business partners, the company has two subsidiaries – in Russia and in Slovakia. The development of the company's products includes

close cooperation with recognised Czech and foreign physicians as the products' users and customers, as well as with research employees at recognised universities. The result of this collaboration is new unique products, such as calcaneal nail C-NAIL and pelvic plate OMEGA, furthermore an innovative line of products in the field of traumatology, surgery and traumatology. In 2014, the company won the Czech innovation competition in the category of Innovative Company. The award is connected with the calcaneal nail C-NAIL. In addition to its own high quality research and development base, the crucial prerequisite of the company's innovative approach and successful application of the products within the demanding market conditions is the ability to provide high quality auxiliary services. The services the company

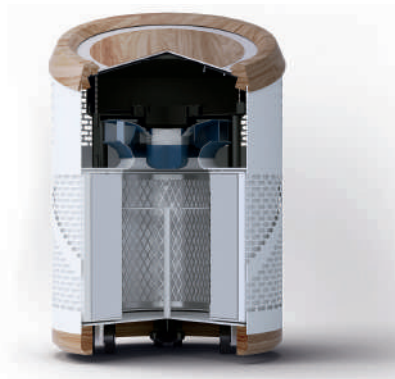
focuses on successfully include the provision of professional training, practical workshops, and seminars, particularly for young physicians and other employees within medicine. Such education takes place within the lifelong education of employees in medicine by means of teaching the surgical procedures with new or innovative company products. Professional seminars are given by leading and highly esteemed physicians within traumatology, orthopaedics, and surgery. The company managed to commence a successful and long lasting cooperation with them. The training is performed in the newly constructed training centre directly on the MEDIN premises.

MEDIN,

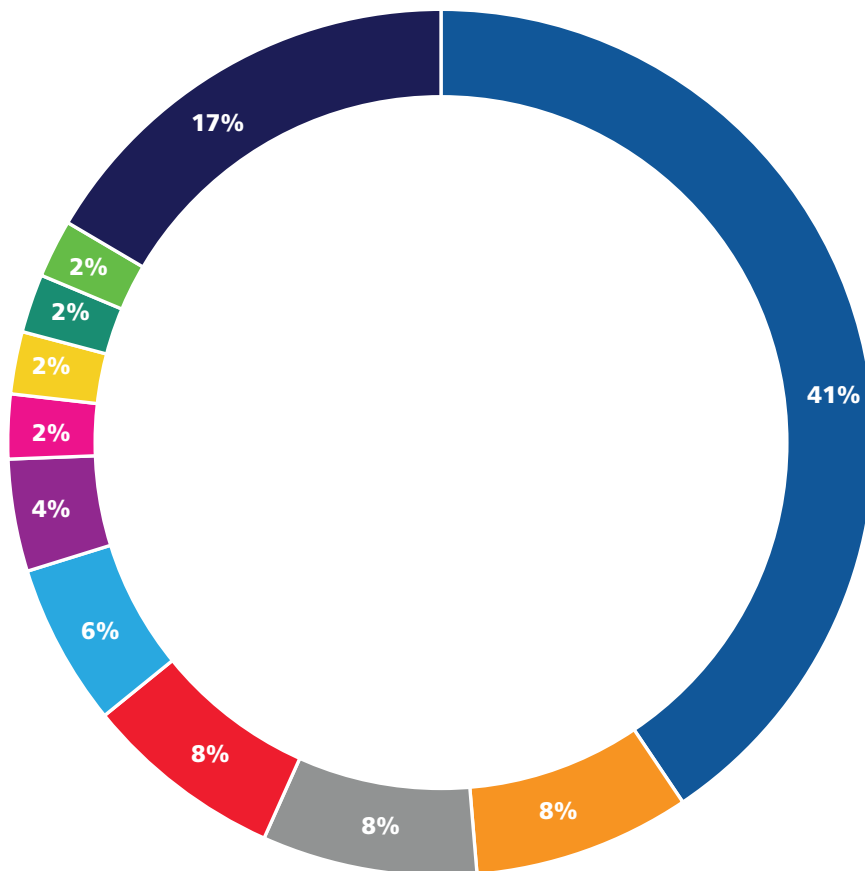
www.medin.eu



SENSE Vital Air, s.r.o. has developed the Sense Antiviro + air purifier which is designed for air filtration in interiors up to 120 m². The technology works with special, extremely effective ULPA filters that can completely filter out viruses. The air purifier is designed for the current coronavirus situation, it is also an ideal solution for absorbing airborne contaminants such as dust, pollen, mites, mold, smog, soot, cigarette smoke, viruses and bacteria.



EXPORTS OF MEDICAL, SURGERY AND STOMATOLOGY DEVICES FROM THE CZECH REPUBLIC IN 2020 BY COUNTRY



Source: The Czech Statistical Office; Cross-border movements, of goods by commodities and countries, HS 4: 9018

- Germany
- China
- Netherlands
- Poland
- Slovakia
- Italy
- Belgium
- Switzerland
- France
- Sweden
- Others

Anaesthetic and sucrose apparatus known for their quality around the world

CHEIRON is a leading company in the development, production, import, distribution, export and service of medical equipment, and it is well known in more than 55 countries. The company's product portfolio consists of product lines of international award winning electrical suction units VICTORIA, portable suction units DYNAMIC, QUICK VAC TRANSPORT, a complete range of jet suction sets and accessories, aerosol and oxygen therapy devices. The company's policy focuses especially on high quality and the 100% safety of the delivered products and services. To ensure maximum availability of products and services, CHEIRON is creating a powerful network of international distributors worldwide. CHEIRON, www.cheiron.eu



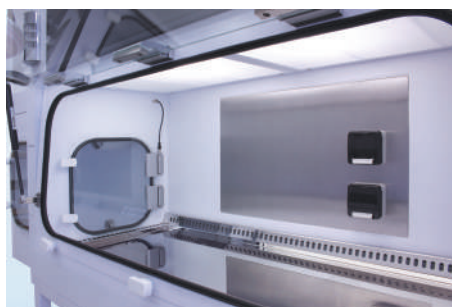
A laboratory isolator suitable for BSL 3 provides a high degree of protection for personnel working with the most hazardous materials. Additionally, due to its "A" class cleanliness and laminar airflow, product protection is also ensured. This isolator can be used in pharmacies or hospitals for preparation (dilution and dosing) of cytostatics as well as in laboratories for work with any dangerous and

biological materials.

This isolator is equipped with a Siemens Simatic electronic control system. The system is used to control, manage and regulate all operating and emergency conditions. System control is via a colour touch panel which features all control buttons and displays, process data and fault messages.

BLOCK Technology a.s.

www.blocktechnology.eu





Innovative electrosurgery units and cryosurgical systems

Speciální Medicínská Technologie is a producer of cryosurgical and electrosurgical devices and accessories with its own development and maintenance support. The products are suitable for most medical fields such as: dermatology, ophthalmology, surgery, ORL, gynaecology, stomatology, endoscopy, veterinary medicine, etc. The innovative electrosurgery unit is SMT BM M PF, allowing for operations both in endoscopy and open surgery. In addition, the cryosurgical system SMT KCH 450 AMD serves for the effective treatment of malignant tumours. Speciální Medicínská Technologie regularly exhibits at international fairs such as MEDICA, Arab Health and the Indonesian Hospital Expo. Thanks to this, the company successfully exports its products to more than 50 countries in the world. Speciální Medicínská Technologie, www.smt-praha.com

In-house development of dental sets

CHIRASTAR KDT has developed and produces its own KADET turbine extensions and dental sets under the registered brand BOHEMIA. It currently produces sets carried by an armchair, stationary with upper and lower hose distribution as well as sets for orthodontics and maxillofacial surgery. Since 2005, the company has been producing in its own plant, and thanks to the

increasing production volume, it has managed to keep the prices of sets very low, which has been increasing the demand for its products on the market. Exports form a very important part of company business activities. Products are certified on the Czech market, in the EU as well as in Russia, Belarus, Indonesia and Saudi Arabia. Chirastar KDT, www.chirastar.com





Research and development in the field of radiotherapy

The product portfolio of UJP PRAHA in this area is based on the radiotherapeutic irradiator TERABALT, the X-ray simulator TERASIX intended for the exact planning of radiotherapy and the TPS planning system guaranteeing sophisticated support for the treatment of patients by irradiation. The Polish subsidiary UJP Hitec Systems completes the range of irradiating technology intended for medical purposes and the radiotherapeutic equipment which works on the principle of linear acceleration. An important part of the company is the research, development and service in the material area.

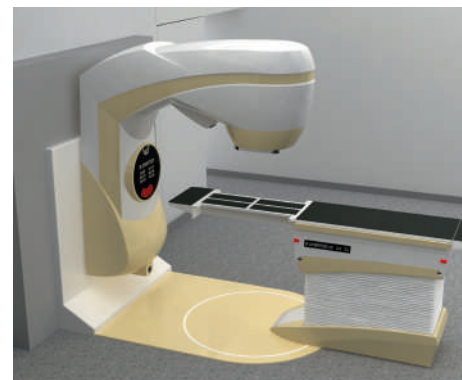
UJP PRAHA, www.ujp.cz

BMT Medical Technology develops, produces, sells and services medical, laboratory and pharmaceutical technology

BMT Medical Technology s.r.o., a member of the famous MMM Group, develops, produces, sells and services medical, laboratory and pharmaceutical technology. Mainly steam, hot-air and low-temperature sterilisers for use in hospitals, clinics, ambulances, mainly in CSSD and TSSU. They also produce washing disinfectors, laboratory drying ovens and incubators and stainless steel furniture.

BMT Medical Technology s.r.o.

www.sterilizers-bmt.com



12 ASSOCIATIONS

Association of Manufacturers and Suppliers of Medical Devices

www.avdzp.cz/home.html

Currently, the association mainly focuses on the development of the sector and supports the innovations of the products and services of its members. The association places an emphasis on research leading to achieving high technical parameters. The association also places an emphasis on the importance of design, which helps in selling products, and on quality as an indicator of the product reliability.

CzechMed – The Czech Association of Suppliers of Medical Devices

www.czechmed.cz

CzechMed, the Czech Association of suppliers of medical devices was established in 1998 as an interest group of legal entities. The association CzechMed focuses on increasing the share of expenses for medical devices and technologies in total medical costs as it considers them crucial for the progress in medicine and the guarantee of improving healthcare (diagnostics and treatment of diseases, extending and improving the quality of the patient's life).

Czechma – Czech Association of suppliers of “in vitro” medical devices CZEDMA

www.czedma.cz

The association was established in 2001 as an interest grouping of legal entities. The goal of the association is to enable its members to deliver to the market such products which guarantee the highest medical quality, the most effective health protection and the most effective diagnostics. The association encourages a high ethical standard in the field of in vitro medical devices, it provides information for healthcare staff and participates in proposing processes and expertise in issues related to medical technology devices including harmonisation with the EU principles.

13

CONTACTS

ABNER, **www.abner.cz**

ABNER manufactures stainless steel devices for catering operations, mainly in hospitals, senior centres and social care institutions for the distribution of meals.

ACOND a.s., **www.acond.com**

Manufacturer of high quality heat pumps at reasonable prices with aftercare services.

Advanced Medical Solutions, **www.amsolutions.cz**

Advanced Medical Solutions focuses on telemedical solutions for the early and non-invasive diagnostics of patients suffering from chronic diseases with the specific focus on the quality of perfusion mainly with diabetic patients or other patient groups with risk factors for cardiovascular system.

ARIES, **www.aries.eu**

The production of Aries is divided into health compression goods and socks for diabetics (Avicenum), sports compression products (ROYAL BAY®) and fashion hosiery with health benefits (ARIES Intelligent Body Care).

AUDY, **www.audy.eu**

AUDY is a world-renowned important producer of rehabilitation aids; its range of products includes an anti-decubitus program, rehabilitation aids and deck chairs, as well as hygienic and rehabilitation bathtubs, transport and elevation equipment.



BEZNOSKA, **www.beznoska.com**

BEZNOSKA manufactures orthopaedic implants and instruments. The implants made this way are intended for patients with extreme damage (congenital, tumorous etc.) to a joint, where customised implants are the only chance how to address the patient's problem.

BIOSTER, **www.bioster.eu**

BIOSTER is a manufacturer of a wide assortment of health and medical devices, from a unique product line of hemostats and a product called Traumastem for the treatment of acute and chronic wounds, to special field dressing material and a first aid kit program.

BLOCK, **www.blockcrs.com**

BLOCK focuses on the provision of complex services in the field of the project preparation, production, construction and consequent service of capital equipment with sophisticated technologies and a high quality environment (clean premises).

BMT Medical Technology s.r.o., **www.sterilizers-bmt.com**

BMT Medical Technology develops, produces, sells and services medical, laboratory and pharmaceutical technology. Mainly steam, hot-air and low-temperature sterilisers for use in hospitals, clinics, ambulances, mainly in CSSD and TSSU.

BORCAD MEDICAL, **www.linnet.com/en/borcad-medical**

BORCAD Medical Company focuses on the production of birthing beds, gynaecological chairs and other multifunctional

and specialised chairs. In obstetrics and gynaecology, the company is one of the world's leading companies, which is evidenced by its successful sales worldwide as well as a series of designer awards.

CLINITEX, www.clinitex.cz

CLINITEX is a producer and distributor of medical clothes and clothing suitable for the healthcare environment, surgical gowns and bedlinen with close up at renting the textile to the industrial laundries market and the end consumption.

CODACO, www.codaco.cz

CODACO activity is developed in the area of communication systems for healthcare. The company offers an integrated range of communication and signaling devices intended for hospitals, sanitariums, social care institutions and similar facilities.

CRAC, www.crac.cz

CRAC is an engineering company, which cooperates with investors in all phases of the projects, from the phase of the preparation of the investment plan, to the project preparation and providing engineering supplier services, or turnkey deliveries.

DELONG INSTRUMENTS, www.dicomps.com

DELONG INSTRUMENTS products are used in biological applications, histology, pathology, and diagnostics, material science, and nanotechnology. The company's main focus is in a field of unique solutions of electron-optical devices, electron guns, and low voltage electron microscopes.

DINA - HITEX, www.dina-hitex.com

DINA - HITEX is one of the leading producers and distributors of medical materials in the Czech Republic – it mainly specialises in the development and production of expendable supplies made of non-woven textiles.

DOMKAT, www.domkat.cz

DOMKAT focuses on the development and manufacture of hydraulic jacks. Their products are incorporated in those of the manufacturers of high-quality medical beds, chairs, surgical (MAYO) tables, bath jacks for bathrooms, veterinary examination tables and bariatric beds.

EGO Zlín, spol. s r.o., www.egozlin.cz

The company EGO Zlín, spol. s r.o. is a significant manufacturer and supplier of a comprehensive system of biological protection, logistics and decontamination systems as well as devices for emergency medicine or long-term care.

ELLA-CS, www.ellacs.eu

ELLA-CS is dedicated to the research and manufacturing of stents for the gastrointestinal tract and airways. The ELLA-CS portfolio covers worldwide unique medical devices, such as: Biodegradable Stent, Danis Stent, and Extractor. Except for the standard product line, the company offers custom made stents.

EMBITRON, www.embitron.cz

EMBITRON is a producer and supplier of medical devices for physiotherapy, medical rehabilitation, and other medical fields. EMBITRON has equipment for the treatment of musculoskeletal and blood circulation disorders, stagnant metabolism and trophical changes in limbs.

ERGON, www.ergon.cz

ERGON is an important player on the medical textiles market; it is the leading producer of orthopaedic shoes in the Czech Republic dating back to 1918.

ERILENS, www.erilens.com

ERILENS is engaged in the production of mobility aids such as forearm crutches, auxiliary crutches, walking sticks and other medical materials. The company places strong emphasis on the quality, functional properties and design of its products.

FOMA BOHEMIA, www.foma.eu

FOMA BOHEMIA is an experienced manufacturer of intraoral and extraoral X-ray films DENTIX used in dental radiography. A very important production line of FOMA BOHEMIA is its own film system for non-destructive testing including all speed ranges of NDT films INDUX/ FOMADUX.

GRADE MEDICAL, www.grademed.cz/en

Grade Medical is a manufacturer of innovative medical devices for advanced wound care. They focus on improving their own capacities – intelligent production lines for the production of nanofibres and the application of nanoparticles.

HOLOMY, www.holomy.cz

HOLOMY is the leading Czech producer of lighting and acoustic alerting technologies for special vehicles (electronic sirens, lighting sets, beacons, direction alleys, working lighting fixtures or for example alerting lighting fixtures using modern LED technologies).

CHEIRON, www.cheiron.eu

CHEIRON's product portfolio consists of product lines of electrical suction units VICTORIA, portable suction units DYNAMIC, QUICK VAC TRANSPORT, a complete range of jet suction sets and accessories, aerosol and oxygen therapy devices.

Chirastar KDT, www.chirastar.com

CHIRASTAR KDT has developed and produces its own KADET turbine extensions and dental sets under the registered brand BOHEMIA. It currently produces sets carried by an armchair, stationary with upper and lower hose distribution as well as sets for orthodontics and maxillofacial surgery.

ING corporation, www.ingcorporation.cz

The research and development of ING corporation focuses on the application of modern digital technologies (3D scanning, CAD design, CNC machining, 3D printing, bio-mechanic

movement analyses), advanced materials (carbon composites, silicone materials) and clinical-technical procedures in orthotics and prosthetics.

Invent Medical Group, www.inventmedical.com

Invent Medical Group is a high-tech medicine start-up with the main focus on the utilisation of the synergy of Direct Digital Manufacturing advanced technology (3D scanning, computer modelling and 3D printing) and integrated systems for online diagnostics with tailor-made orthotic and prosthetic aids.

JIVA Jirá, www.jiva.cz

A wide assortment of stainless steel equipment both for operating rooms and consulting rooms, hospital warehouses, etc. is offered by JIVA Jirá.

Klaro, www.klaro.cz

An emphasis placed on cooperation with experts in healthcare characterises the complete range of products manufactured by Klaro. In addition to the wide range of products, the company offers healthcare carts and equipment personalised according to the needs of clients.

KOVONAX, www.kovonax.cz

KOVONAX is a manufacturing company on the market of metal furniture, the surface treatment of metals and metal working activity. It produces metal furniture: especially chairs, rotating seats, armchairs, benches, deck chairs, dining and conference tables, clinical and day care beds as well as medical accessories.

KOVONAX, Slezákovy závody, www.slezakovyzavody.cz

With over one hundred years of tradition of the production of the curved wood metal furniture, Slezákovy závody is one of the unique and traditional Czech brands. KOVONAX re-established the Slezákovy závody premium brand, which brings the functionalist furniture of the elegant line and the high-quality design to the current world and healthcare.

LabMediaServis, **www.labmediaservis.cz**

LabMediaServis is a company which focuses on producing and distributing culture media, blood derivatives, MIC sets, and diagnostic sets for human and veterinary medicine. The company's key attributes are high quality, price and reliability.

LASAK, **www.lasak.com**

LASAK focuses on the development and manufacture of innovative healthcare products, particularly bone regeneration materials and dental and spinal implants used in dental and maxillofacial surgery, orthopaedics and neurosurgery.

LINET, **www.linnet.com**

LINET is the world's third largest producer of hospital and nursing care beds. LINET Group SE, which was established in 2011, merged with the German hospital beds producer WiBo. The company also produces a wide range of accessories such as anti-decubitus mattresses, mobiliary and hospital furniture.

MEDIN, **www.medin.eu**

Traumatology implants and tools developed by MEDIN are intended for surgical treatment. The product range namely includes nails, plates, bone screws, external fixators and small implants. All products are developed and produced locally in compliance with the certified procedures.

Meomed, **www.meomed.cz**

Meomed is a manufacturer of a wide range of medical devices and equipment for industrial applications used primarily in the field of radiology and non-destructive testing, but also in many other industries. It is also one of the four companies in the world to especially deal with the production of X-ray amplifiers of images for X-ray devices of the C-arc type.

MÁLEK & SPOL. s.r.o., **www.zdravotnictkynabytek.cz**

High quality and innovations are characteristic for the MÁLEK family company, which offers a wide assortment of instrumental desks and specialised UNI desks, transportation wheelchairs, etc.

MZ Liberec, **www.mzliberec.cz**

MZ Liberec is a company with 60 years of experience in manufacturing gas distribution systems intended for medical facilities. Its complete scope includes turnkey projects as well as individual supplies comprising of gas source stations, infrastructure, and terminal units.

NANOLOGIX corporation s.r.o., **www.nanologix.eu**

A company engaged in research and development in the field of personal protective equipment, especially breathing masks and half-masks with a common inspiratory and expiratory opening.

ORTEX, **www.ortexzlin.cz**

ORTEX is a producer and distributor of series production braces and bandages. Its program is based on the development, series production and sales of braces for postoperative, conservative treatment and rehabilitation of damaged joints and ligaments.

Patron Bohemia, **www.patron.eu**

Patron Bohemia has been engaged with the production and distribution of health aids as well as the comprehensive care of the handicapped person. It has two production divisions including one focusing on the production of baby strollers and the other one producing rehabilitation aids.

Parabel, **www.parabel.cz**

One Parabel division specialises in the development, design, production and maintenance of medical products according to customer wishes. Its added value is the ability to prepare an optimum offer of tailor-made products for the client, where Parabel takes over the complete contract implementation.

PROFIL NÁBYTEK, www.profil-nabytek.cz

The company offers complete hospital furnishings, which is undergoing a series of tests and trials in accordance with EU standards. Using of the latest modelling software, technological equipment and production processes enables the company to offer modern interior concepts to meet the requirements of hospital workplaces.

PROMA REHA, www.promareha.cz

PROMA REHA is a company that focuses on TOP quality medical beds, especially – CCU, ICU, but also standard hospital beds. They produce unique bariatric products, especially TITAN bariatric beds and other medical equipment.

ProSpon, www.prospon.cz

ProSpon deals with the development, production and distribution of orthopaedic and traumatology implants, tools and other medical devices. It has recently extended its product range with a complete assortment of orthopaedic implants.

RAMED, www.ramed.cz

Thanks to the favourable quality and price ratio, the operating tables from RAMED are among the best-selling in the Czech Republic and are also building their position on foreign, namely European markets.

RESPILON Group s.r.o., www.respilon.com

RESPILON is a company engaged in nanofibre products. In its portfolio, it has nanofibre respiratory protection products and R-Shield neck gaiter, nanofibre window screens and door screens, nanofibre functional membranes for sports and outdoor clothing.

ROBOTSYSTEM,, www.robotsystem.cz

ROBOTSYSTEM is a company specialising in breakthrough project solutions in the field of service robotics and mechatronics – focusing on Industry 4.0, Smart Cities, breakthrough medical multifunctional treatment rehabilitation and transport multirobots, to support life without assistance and simultaneously to transport immobile persons using an autopilot.

RQL, www.golemtable.com

Medical deck-chairs, tables, armchairs and chairs under the Golem brand are synonymous with solid design, superior styling and elaborate functions confirmed by many years of development. Their standard is good production quality, thoughtful styling of Golem deck-chairs and tables and verified functionality at favourable prices.

SICAR, www.sicar.cz

SICAR has got its own manufacturing premises with a capacity of approximately 500 ambulances a year. The production meets the requirements of ISO quality and all European norms.

STAPRO, www.stapro.eu

STAPRO is a supplier of software and services for hospitals and other healthcare providers. The company develops software for all healthcare areas – both medical software (hospital information systems and laboratory systems) and non-medical software (management information systems, boarding systems, warehouse logistics, and many others).

Speciální Medicínská Technologie, www.smt-praha.com

A producer of cryosurgical and electrosurgical devices and accessories with its own development and maintenance support. The products are suitable for most medical fields such as: dermatology, ophthalmology, surgery, ORL, gynaecology, stomatology, endoscopy, veterinary medicine etc.

Svorto.cz, **www.svorto.com**

Svorto.cz has been engaged in the production of orthopaedic shoes. The main activity of the company is the production and distribution of orthopaedic, sports and series insoles. Furthermore, the company focuses on the production of orthopaedic aids of all types.

TestLine Clinical Diagnostics s.r.o., **www.testlinecd.com**

The focus of The TestLine Clinical Diagnostics portfolio are ELISA and BLOT methods. The results of their development efforts in the field of laboratory automation are the popular SmartELISA kits and their own Microblot-Array multiplex solution.

TSE, **www.tse.cz**

TSE specialises in the production of neonatal equipment such as stationary incubators, transport incubators and phototherapy lamps. The latest line of stationary infant incubators "Shelly" is designed for intermediate as well as intensive care.

UJP PRAHA, **www.ujp.cz**

The product portfolio of UJP PRAHA in this area is based on the radiotherapeutic irradiator TERABALT, the X-ray simulator TERASIX intended for the exact planning of radiotherapy and the TPS planning system guaranteeing sophisticated support for the treatment of patients by irradiation.

VAMED Mediterra, **www.vamed-mediterra.cz**

VAMED Mediterra Group offers high quality medical care over the whole range of modern medicine. It is a member of the multinational group VAMED, which is one of the leading European players in the complete management of medical and spa facilities.

VARIEL, **www.variel.cz**

VARIEL handles the production of special military containers (sanitary cell, sanitary cells for patients, kitchen and canteen, drinking water tanks, septic tanks as well as cooling, storage, laboratory, commander, accommodation, medical, telescopic, ballistic and NBC resistant containers etc.).

VITAPUR, **www.vitapur.cz**

VITAPUR is a manufacturer focusing on innovations and the quality of materials that are used for professional and home care, and their portfolio includes hygienic bedding (bed sheets, mattress pads, bed pads, etc.), positioning and stabilising devices, anti-decubitus devices, anatomic pillows and other products.

Zdravopro s.r.o., **www.zdravopro.com**

The company's Zdravopro products are mainly intended for rehabilitation facilities, gynaecological consulting rooms and veterinary consulting rooms. The company also provides maintenance services and further offers medical aids and rehabilitation equipment.

ZPT Vigantice, **www.zptvigantice.cz**

The main production program of the company is represented by the product line MediCall – nurse call communication and signaling systems for healthcare institutions and the social sphere. Vigantice systems work in hundreds of hospitals in the Czech Republic and also other countries.



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