



Berne Economic Development Agency



Medical Technology Cluster

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Facts and figures: medical technology in Switzerland

Switzerland has a great tradition in medical technology which holds significant future potential. The added value chain is well structured and highly integrated. Basic and applied research is carried out in Switzerland at the very highest level. Switzerland is home to suppliers, manufacturers, and international sales organizations as well as national and international clients. Swissmedic's **efficient system of registration and certification** helps bring new products to the market and facilitates quick product launches.

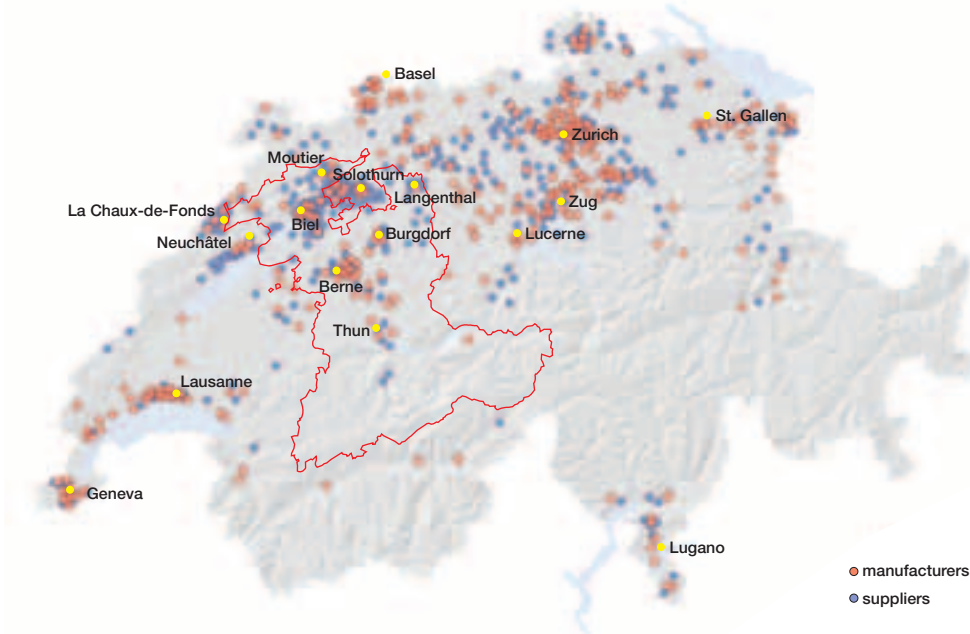
Thanks to Switzerland's cultural and linguistic diversity, the country is used by many companies as a test market for medical technology products. **Research and development** is one particular focal area. Manufacturers and vendors of medical technology products invest on average **11 percent of their turnover** in innovation.

Facts and figures

- Approx. 1,100 companies involved in medical technology (manufacturing, supply, trading, services)
- Approx. 49,000 employees (1.4% of workforce)
- Annual turnover: CHF 22.9 billion
- Share of exports: 70%
- Export countries: Europe, Asia, USA, Russia, Latin America
- Annual growth rate: 11%
(Source: Swiss Medtech Report 2010)

What is medical technology?

Medical technology products are nonmetabolic products, instruments, devices or diagnostic equipment which help to prevent diseases and/or improve quality of life.



Distribution of manufacturers and suppliers of medical technology products in Switzerland

In total about 750 companies (source: SMTI 2010 Medical Cluster, Roland Berger, Deloitte). Manufacturers and suppliers of medical technology are concentrated in the regions of Berne, Geneva/Lausanne, Neuchâtel, Biel-Solothurn and Zurich.



YPSOMED
SELFCARE SOLUTIONS

Dr. h. c. Willy Michel, Chairman of the Board of Directors

"Switzerland is a first-class location for development and production for companies engaged in medical technology thanks to the availability of highly qualified, multilingual engineers and skilled workers from universities, and because it actively promotes technology and know-how transfer, e.g. within the framework of CTI projects."



Facts and figures: medical technology in the Canton of Berne

Medical technology is a key area of the precision engineering industry in Berne. The long tradition of the watchmaking and clockmaking industry in the Canton of Berne has boosted its **know-how in precision manufacturing** and is an **important advantage for the successful development of the medical technology sector**.

There are approx. **280 medical technology companies** operating in the Canton of Berne, primarily as manufacturers and suppliers. In the last years the number of employees in the medical technology industry grew by 20%. These companies employ approx. **7,000 people** in the Canton of Berne. Companies such as Medtronic, Haag-Streit, Ypsomed, Straumann, Greatbatch Medical, Ziemer Group, Bien-Air, Dräger Medical Schweiz AG, Staar Surgical and Bernafon offer attractive jobs. Companies including Stryker, Mathys Medizintechnik and Johnson & Johnson Medical are also located near the Canton of Berne.

Pharmaceutical and biotech companies such as Crucell, Galenica, GlaxoSmithKline and Kimberly-Clark are also based in the Canton of Berne. **CSL Behring** is a global leader specializing in the manufacture of plasma products and employs more than **1,000 people** in Berne.

The Inselspital in Berne is the most important university hospital in Switzerland and plays a central role in this sector. There are also numerous other healthcare facilities such as regional hospitals, private clinics, rehabilitation centers and laboratories in the Canton of Berne, and the main regulatory authorities for the medical technology industry are located in Berne.



Medical technology in Berne – facts and figures

- Approx. 280 medical technology companies, approx. 175 of which are manufacturers and suppliers
- Employing approx. 7,000 people (excluding health care)
- Turnover of approx. CHF 2.7 billion
- Share of exports: 70%
- Main target countries for exports: EU countries (Germany, France, Italy, UK, the Netherlands, Belgium, Spain), USA, China, Japan, Korea, Australia, India (Source: Swiss Medtech Report 2010)

Expertise in medical technology in Berne

Manufacturers

- Electromechanical devices
- Hospital aids
- Disposable items
- Reusable instruments
- Dental technology
- Rehabilitation aids
- Diagnostic and beam therapy equipment
- Ophthalmology
- Anaesthesia and breathing systems
- In-vitro diagnostics
- Active implants

Suppliers

- Components, assemblies, systems, finished products
- Metal processing
- Plastics processing
- Measurement/control
- Machines / automatic equipment
- Surface technology
- Electronics
- Rapid Prototyping



 **straumann**

Frank Mengis, Senior Vice President, Global Production

“One of the key attractions of the region for us as a manufacturer of medical devices is the high level of expertise in precision engineering and technology. ‘Made in the heartland of Swiss quality precision engineering’ is a distinction that adds value to our products throughout the world. This and the fact that the government departments take an enterprising approach to businesses make Villeret in the Canton of Berne an excellent location for us today and in the future.”



 **HAAG-STREIT INTERNATIONAL**
Tradition and Innovation

Walter Inäbnit, Chairman of the Board of Directors

“Berne is the ideal size for working successfully in various networks. On the one hand this includes the Medical Cluster that was established in Berne, and on the other the University of Berne and the Berne University of Applied Sciences, which permit excellent and straightforward collaboration. The Inselspital University Hospital is another strong partner for research and development. These are the key reasons why Haag-Streit chose to locate its headquarters for its activities dating back more than 150 years in Berne.”

Leading companies in the Canton of Berne

The Canton of Berne is one of the leading regions for medical technology companies in Switzerland. To illustrate this, we take a look at selected companies that operate in the various medical technology disciplines in the Canton of Berne (not an exhaustive list).

Bernafon, Berne



Global leading supplier of innovative hearing systems for the hard of hearing. Research and development, marketing, finance and management are all based in Berne.

www.bernafon.ch

Haag-Streit, Berne



Manufacturer of medical technology instruments and devices for use in ophthalmology, microsurgery and pneumology.

www.haag-streit.com

Medtronic, Münchenbuchsee



A global leading provider in the areas of heart diseases, neurological disorders, vascular diseases and diabetes. Swiss customer service and technical advice for all Medtronic products and treatments are based in Berne.

www.medtronic.ch

Dräger Medical Schweiz AG, Liebefeld-Berne



Leading Swiss company manufacturing products and systems used in the area of acute medicine. Dräger also plans and installs central gas supply systems for hospitals and offers associated services.

www.draeger.com

Bien-Air, Biel



Global leader in the manufacture of dental medicine systems, e.g. systems for manufacturers of dental units as well as instruments and desktop equipment for end users.

www.bienair.ch

SDI Surgical Device International, Brügg



Manufacturer of titanium operating instruments for ophthalmics.

www.sdigmbh.ch

Staar Surgical, Nidau



Staar is engaged in three areas of ophthalmology: grey and green star surgery and refractive surgery, the most important area for the company. The company develops, manufactures and markets refractive implants (implantable contact lenses) which improve the patient's sight in the -2 to -20 diopter range. This is a segment in which Staar is a global market leader. Staar's international headquarters are in Nidau (Biel) in the Canton of Berne.

www.staar.com

Straumann, Villeret



A global leader in the area of implant-aided and restorative dental prostheses and oral tissue regeneration. Its main production site is in Villeret, where it manufactures components of the Straumann dental implant system for export all over the world.

www.straumann.ch

Schaerer Medical AG, Münsingen



Leading international manufacturer of individual medical technology concepts and solutions that are gentle on the patient. Developed in close cooperation with medical partners, its product portfolio ranges from mobile operating tables to medical accessories to special products for all surgical disciplines and fields of application.

www.schaerermedical.ch

Ypsomed, Burgdorf



Leading independent developer and manufacturer of injection pens and pen needles for diabetes, growth hormone or infertility treatment specific to individual client needs.

www.ypsomed.ch

Ziemer Group, Port



The Ziemer group is engaged in research, development and production. Its activities are focused on ophthalmics as well as cornea and glaucoma diagnostics.

www.ziemergroup.com

Greatbatch Medical, Orvin



The company is active in the development, production and marketing of surgical instruments and implants for orthopedics and traumatology. It particularly produces acetabular reamers, surgical screws and plates as well as sterilization trays.

www.greatbatch.com



Technology transfer

The Canton of Berne is home to the Medical Cluster, which promotes networking between companies, technology transfer and continuing professional development. The research being performed here boosts innovation and competitiveness at the very highest level.

Medical Cluster



The Medical Cluster, a network organization for medical technology companies, was set up in the Canton of Berne in 1997. It brings together manufacturers, suppliers, service providers, and R&D companies along the entire medical technology added-value chain. The Medical Cluster operates in the whole of Switzerland and also welcomes foreign companies. Today, the association numbers more than 300 members from all over Switzerland and abroad, although Bernese companies still make up the majority. Its work is focused on activities such as

- promotion of the innovation process along the research-production-market added-value chain
- knowledge and technology transfer optimization
- provision of forums of encounter and exchange for the industry
- support for innovative young companies
- training and continuing professional development in medical technology and medical IT

The Medical Cluster and the Medtech Switzerland export platform work closely together to promote exports on behalf of the Swiss medical technology industry.

www.medical-cluster.ch / www.medtech-switzerland.com

Competence Center for Medical Technology



The Competence Center for Medical Technology (CCMT) serves the Medical Cluster, the University of Berne and the Berne University of Applied Sciences as a hub for **professional technology transfer between universities and industry**. The CCMT establishes partnerships between university hospitals, research and development institutions and industry with the aim of bringing new product innovations to a successful conclusion. The CCMT's services are **free of charge** to medical technology companies. Its partners are public and private sector research and development institutions of universities, universities of applied sciences, the health care sector and private sector non-profit institutions. The Medical Cluster and the CCMT work closely together and are both based in Berne.

www.ccmtech.ch

Commission for Technology and Innovation

The Commission for Technology and Innovation (CTI) provides funding for R&D projects developed between companies and universities. CTI founded the national **Initiative CTI Medtech**. This initiative sees itself as an information platform and hub for bringing together potential partners from industry and research in joint ventures and joint projects. The objective is to not only improve products and manufacturing processes but also to integrate new technologies into product development. Each year CTI presents the **CTI Medtech Award** for prominent work in this field in Berne.

www.kti.admin.ch

Unitetra



Unitetra is the **technology transfer organization** of the Universities of Berne, Zurich and Basel. Its services support those engaged in research in cooperation arrangements with the private sector or private and public sector institutions.

www.unitetra.ch

innoBE



innoBE acts as an intermediary for technology transfer between companies and universities. It offers **free initial advice** to start-ups and SMEs on setting up companies and innovation management. innoBE advises and assists companies in the planning and implementation of **innovation projects** throughout the entire innovation process.

www.innoBE.ch



medical cluster 

Rubino Mordasini,
President Medical Cluster

"With strong roots in Berne, the Medical Cluster is currently rapidly developing into the national cluster association with an international reputation."



competence center for
medical technology
ccmt 

Uwe E. Jocham, CSL Behring,
President CCMT

"Our aim is to promote and drive forward innovation by creating a network between academic and commercial activities."



Research and development

Numerous leading research institutions are based in the Canton of Berne and the neighboring regions. The focus of these institutions' research is on various medical technology disciplines and other medical areas.

Berne Inselspital University Hospital

The Canton of Berne is home to one of Switzerland's leading university hospitals with an international reputation: the **Inselspital**. Employing around 7,000 people, with 37 institutes, medical technology equipment worth approx. CHF 200 million and key **interdisciplinary research activities**, the Inselspital is a significant factor in the economy of the Canton. **It has a service agreement for research and teaching with the University of Berne** for training approx. 400 undergraduates per year and training and continuing professional development for approx. 500 assistant doctors per year, as well as for research projects. The joint areas of focus for the research conducted by the Inselspital and University include:

- coronary and circulatory diseases
- neurological diseases
- locomotor system
- tumor treatments
- transplantation therapies

The Inselspital also provides highly specialized services in the area of **leading edge medicine**. In this context it concentrates on **cardiovascular medicine** and **neurology**. In the cardiovascular field the Inselspital works closely with the Basel University Hospital.

www.insel.ch
www.medizin.unibe.ch

ARTORG Center for Biomedical Engineering Research

The University of Berne's Artificial Organ (ARTORG) Center for Biomedical Engineering Research brings together several of the uni-

versity's core competences in the field of medical technology and is a research hub for the whole university. The center's activities include interdisciplinary R&D and teaching focusing specifically on medical technology to support diseased or damaged organs. On the basis of close cooperation between clinicians, engineers, industrial partners and other Swiss technology institutions, visionaries and practitioners work together to develop technical solutions for the medicine of tomorrow.

www.artorg.unibe.ch

Institute for Surgical Technology and Biomechanics

The Institute for Surgical Technology and Biomechanics (ISTB) continues the vision of the internationally renowned surgeon and deceased founder of the ISTB, Maurice E. Müller. Surgeons, researchers, engineers and companies work closely together at the ISTB on **basic and applied research into the prevention and treatment of disease** – working from the cell level to the whole locomotor system.

www.istb.unibe.ch

Theodor Kocher Institute

The Theodor Kocher Institute is part of the medical, natural science and veterinary medicine faculty of the University of Berne. The Institute was established and its initial research activities financed thanks to the award of the **Nobel Prize to Theodor Kocher**. The Institute conducts research into immune cell migration, vascular morphogenesis, and platelet biology focusing on the blood-brain barrier. It is divided into various research groups that work closely together.

www.tki.unibe.ch

Berne University of Applied Sciences

The core areas of expertise of the Berne University of Applied Sciences (BUAS) Engineering and Information Technology in medical

technology are in **Signal and Image Processing, Computer Perception and Virtual Reality, Optical Coherence Tomography (OCT), Sensors, Microelectronics and MEMS, Biomedical Engineering, Development of Miniaturized Systems and Rehabilitation Engineering**. Key importance is attached to the medical applications in the R&D conducted by the BUAS Engineering and IT. All projects are based on intensive collaboration between medical practitioners, engineers and IT specialists. At the Institute for Human Centered Engineering (HuCE), for example, projects have been implemented in collaboration with industrial partners like Exalos AG and Acrostak AG. More information on the projects:

ti.bfh.ch/med
forschung.ti.bfh.ch/huce
forschung.ti.bfh.ch/irpt

Swiss Center for Electronics and Microtechnology, Neuchâtel

The Swiss Center for Electronics and Microtechnology (CSEM), the most important microtechnology institute in Switzerland, is engaged in applied research, product development, prototype development and small series manufacturing, as well as technology consulting. CSEM conducts research and development primarily in the areas of **micro- and nanotechnology, microelectronics, system engineering, microrobotics, photonics and ICT**. CSEM offers its services to industrial clients. It also develops its own commercial activities, either in conjunction with existing companies or through the formation of **spin-offs** or **start-ups**. CSEM's aim is to further develop Switzerland as a high-tech business location.

www.csem.ch



Education

University of Berne

In addition to human, veterinary and dental medicine, the medical faculty of the University of Berne also offers courses for degree programs in:

- **Master and PhD in Biomedical Engineering**
(in close collaboration with Berne University of Applied Sciences)
www.bioeng.master.unibe.ch
- **Master and PhD in Biomedical Sciences**
www.medizin.unibe.ch/content/studium/studiengaenge/biomedical_sciences

Berne University of Applied Sciences



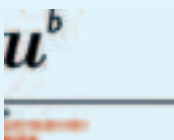
The Berne University of Applied Sciences (BUAS) Engineering and Information Technology offers both Bachelors and Masters degree programs as well as on-the-job further training:

- Bachelor of Microtechnology, specializing in medical technology
- Master of Biomedical Engineering from the University of Berne (in close collaboration with the Berne University of Applied Sciences)
- Diploma of Advanced Studies in Medical Technology Management
- Master of Advanced Studies in Medical Technology Management
www.ti.bfh.ch/med



Dr. Rudolf Gerber, Dean

"We conduct education and research at the interface between medicine, technology and IT."



Prof. Martin Täuber, Dean

"Research into new methods and applications in medical technology is a central pillar of the University of Berne's work, which it pursues in close cooperation with the Inselspital. Our new research building provides us with an outstanding infrastructure for this work."

Government bodies and organizations

Fasmed, umbrella organization of the Swiss medical technology trading and industry organizations



Based in Berne, Fasmed provides its members with a comprehensive **service of information and advice** on fundamental, economic, political and legal issues and standard matters concerning the sector. The aim is to maintain a high-quality supply of economic and socially acceptable **medical and nursing care services**.
www.fasmed.ch

Swissmedic



Swissmedic is the central Swiss **monitoring authority for medicines**. As a central government institution under public law based in Berne, it is responsible for its own organization and operational management and has its own budget. Swissmedic is part of the Swiss Department of Internal Affairs. The Swiss legislation on medicines forms the basis for Swissmedic's activities. The **Swiss Medicines Act** and the first executive ordinances came into force on January 1, 2002, the date on which Swissmedic came into being. Swissmedic now has over 280 employees.

Swiss Institute for Intellectual Property



The Swiss Institute for Intellectual Property in Berne is a **contact point for industrial property rights** (brand names, patents and designs) in Switzerland and in part for the corresponding international registrations. It considers national applications for registration, and issues and administers industrial property rights. These sovereign tasks are regulated by special legislation relating to intangible property rights (brand name protection, patent and design law).

www.ige.ch



Trade fairs and networking

Medical Cluster events

The Medical Cluster organizes visits to medical technology and pharmaceutical companies. These Morning Talks open up the doors of leading companies and give the participants the opportunity to talk directly to their executives. Theme-based seminars like the Meet-the-Expert events provide support for and inform medical technology companies on a range of management-related areas.

www.medical-cluster.ch

Biomedical Engineering Day

Biomedical Engineering Day is a Career Day organized by the University of Berne in collaboration with the Berne University of Applied Sciences. It offers medical technology companies an opportunity to meet highly qualified undergrads and postgrads in person and present themselves as attractive employers. The Medical Cluster Awards are presented annually at the Biomedical Engineering Day.

www.bme.master.unibe.ch > events

mediSIAMS

mediSIAMS, an international trade fair for medical technology companies, is held over four days every two years in Moutier BE.

www.mediSIAMS.ch

CTI Medtech Event

The annual Medtech Event of the Commission for Technology and Innovation (CTI) is a forum for Swiss medical technology experts working in research, production, distribution and services. Besides being an ideal opportunity for networking, it is the platform for awarding the CTI Swiss Medtech Awards for nominated projects.

www.ctimedtechevent.ch

Berne Cluster Day

The annual Berne Cluster Day is an information and networking platform for technology companies working in innovation and knowledge and technology transfer. This event is an ideal opportunity for companies to showcase themselves and to build up collaboration and business opportunities.

www.berneinvest.com > About us > Events

World Medtech Forum Lucerne

The World Medtech Forum Lucerne, consisting of a congress, trade fair and meetings, brings together the comprehensive and first-class expertise of the Swiss supply industry, science and research and their sponsoring organizations.

www.medtech-forum.ch/medtech_messe

Our services

The **Berne Economic Development Agency (BEDA)** will provide you with free support and assistance in your search for a location and for setting up your business in the Canton of Berne.

- Conducting individual evaluation visits
- Granting tax relief and other financial benefits
- Procurement of grants for research and development activities
- Support in search for a location and procuring real estate and land
- Information on and clarification of questions relating to work and residence permits, social security matters, building permits, etc.

In order to make your start in the Canton of Berne straightforward we provide you with useful contacts for

- government bodies and federal agencies
- education institutions
- sector and cluster organizations
- financial service providers and risk capital
- advisers and solicitors
- other corporate networks

The BEDA is a one-stop shop for companies wishing to relocate to and expand in the Canton of Berne.

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