



European Strategic
Partnership in Photonics for
Health

30 Innovation Champions



For more information and to follow LASER-GO news visit: www.laser-go.eu



The selected companies
from BIOCAT



LASER-GO COMPANY PROFILE

IMPETUX

www.impetux.com

Description

The latest advances in **Mechanobiology** suggest that changes in cell mechanics can explain the development of different kind of diseases. It is known that cells interact with its surroundings through physical forces, key for processes like: stem cell differentiation, embryo morphogenesis or cell migration. To study and measure these mechanical properties it is a must to have access inside living tissues non invasively.

Competitive advantage

What sets us apart from any competition is our distinctive and patented technology for measuring forces and elastic properties inside cells and tissues non-invasively. The patented method we use to measure this kind of properties is completely independent on the medium and its properties, what turns the measurement done with such a method in a key objective and quantitative reference for any biological activity analysis.

Products

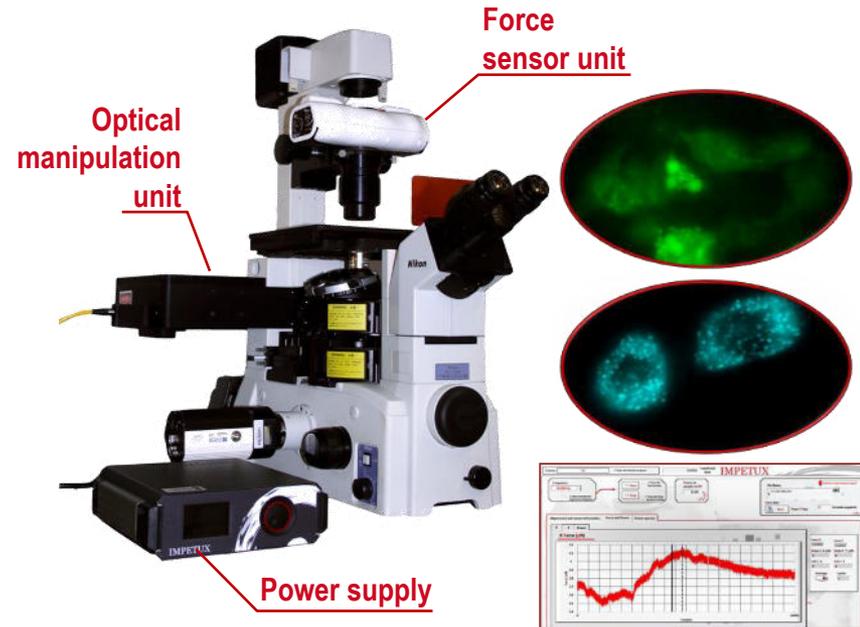
We offer laboratory equipment, a microscope accessory having: an infrared laser radiation source for the manipulation module (**Optical manipulation unit**), a detection system for measurements (**Force sensor unit**), a software for data processing and analysis, and control electronic modules. The complete set allows the **study of elastic properties, force and tension measurements, inside living tissues and cells non-invasively.**

News

<http://www.impetux.com/comunication/#news/>



OPTICAL TWEEZERS PLATFORM



LASER-GO COMPANY PROFILE

GALGO MEDICAL

www.galgomedical.com

GALGO
MEDICAL



Description

Galgo Medical SL is a Barcelona-based company that emerged from the Department of Information Technologies (DTIC) of the Universitat Pompeu Fabra (Barcelona, Spain). It was incorporated in July 2013 and co-founded by Luis Serra, Antoni Riu, Yves Martelli, Xavi Planes, Ignacio Larrabide, Hector Fernandez, and Ludovic Humbert. GALGO develops and commercializes post-processing medical imaging applications in the domains of neurovascular, osteoporosis and arrhythmia care.

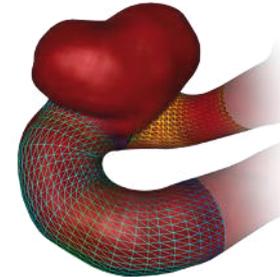
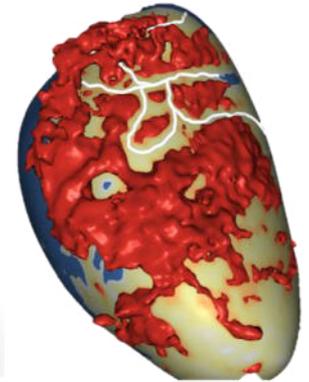
Competitive advantage

GALGO has filed 7 patents to protect core elements of its technology. GALGO products have been tested in leading hospitals in Europe, USA and Asia and they are currently being sold directly by GALGO or through leading medical device manufacturers

Products

Currently GALGO product portfolio include:

- ADAS-3D. Automatic Detection of Arrhythmic Substrate
- ANKYRAS. Revealing braided stent behavior
- 3D-Shaper. Assessment of the proximal femur and cortical thickness



Customer opinion

“The recent arrival of 3D MRI data with anatomical and functional unprecedented detail is revolutionizing the understanding of the heart infarction structure and its function. This will improve not only the ablation treatment, but also predicting the risk of sudden death for patients at risk, leading to better treatment.”

Dr Antonio Berruezo, co-inventors, electro-physiologist from the Hospital Clinic “

News

<https://www.galgomedical.com/en/news.html>

LASER-GO COMPANY PROFILE

MONOCROM

www.monocrom.com

Description

Monocrom is a global, consolidated company, manufacturer of low and high power diode lasers, solid state lasers and laser electronics. Monocrom contribution is especially relevant in the medical industry, mainly in the Ophthalmologic and Dermatological sectors. As an OEM company, Monocrom develops their products in close collaboration with equipment integrators and professionals from the medical industry. It has a solid experience in the development and production of diode lasers and diode-pumped solid state lasers modules, including optics, cooling hardware, mechanical housings and driver electronics.

Competitive advantage

- an ISO certified company with a commitment to the highest quality standards.
- own patented laser technology for mounting laser diode bars without soldering. The unique technology is exclusive from Monocrom and is proven to improve laser performance and solve the non desired "smile effect".
- Monocrom has demonstrated over the years its ability to adapt to their customers needs, offering a high degree of flexibility and versatility when it comes to integration issues.

Products: Monocrom has a wide portfolio of laser solutions for medical applications covering mainly:

- Dermatology
- Skin cancer treatment by Photodynamic therapy
- Refractive eye surgery
- Retinal scan



Customer opinion

"...we are also very happy to see that your zero defect statistics continues. Congratulations to a solid performance."

Urban Konradsson

News

<https://www.monocrom.com/en/blog-news>

LASER-GO COMPANY PROFILE

SENSOFAR

SENSOFAR

www.sensofar.com

Description

Sensofar Medical is a leading-edge technology division within the Sensofar group. Sensofar Medical provides dedicated inspection systems of implantable medical devices and components, including stents and heart valves.

Competitive advantage

Sensofar detects and classifies surface defects based on a customer-defined defect library and displays the position of each defect on a high-resolution unrolled image. Classification algorithms are easily trained from representative defect images stored in the library.

Products

Currently there are 5 products, one of them with applications in life sciences field:

- Q six

The Q six has been designed as a comprehensive solution for simplifying and streamlining stent assessment and approval. High-resolution imaging and 3D optical measurement allow for complete surface inspection of the stent structure, reducing errors, quality control costs and inspection time.



Customer opinion

“The outcome of my vascular interventions relies on the quality of the devices I implant to my patients. I feel safer knowing they have been carefully inspected using innovative technology like Q six”

Dr. Vincent Riambau. M.D., Ph.D. Professor and Chief of Vascular Surgery Division. CardioVascular Institute. Hospital Clínic of Barcelona. Source: webpage of Sensofar.

News

<https://www.sensofar.com/news/>

LASER-GO COMPANY PROFILE

TRANSMURAL BIOTECH

www.transmuralbiotech.com



Description

Transmural Biotech is a spin-off one of the most important groups of Fetal Medicine Research in Europe that develops innovative clinical products and services using disruptive medical technologies based on image diagnosis, analysis and processing for solving clinical needs on a non-invasive way, helping to reduce public health costs and improve personalized patient care.

Competitive advantage

Thanks to the research support and expertise, Transmural Biotech identifies unsolved clinical needs on the medical field and provides more reliable, fast, easy-to-use and non-invasive solutions for each of them based on the automatic analysis of the ultrasound image's texture.

Products

Currently there is 1 product:

- **quantusFLM** is the very first 100% non-invasive Fetal Lung Maturity test that predicts Neonatal Respiratory Morbidity risk within minutes through a worldwide easy-to-use web application with results as reliable as current test, without any discomfort or trouble for the baby or the mother.



Customer opinion

"We have recently start using quantusFLM in some of our patients and the experience, by far, is very positive. We believe that under certain circumstances, it is very interesting to know the level of the lung maturity, which is often a determining factor on choosing the timing to terminate the pregnancy. For us it is very easy to use because it requires a very standard image acquisition process and the turnaround of the results is incredible fast (we usually have the results within minutes.) It is so amazing that we don't need to analyze the amniotic fluid to determine the fetal lung maturity. We believe that It will become an essential tool for any center dedicated to the Fetal Medicine."

Dr.Guillermo Azumendi Perez, Centro Gutenberg Málaga Spain

<https://www.quantusflm.com/content/page/7/testimonials>

News

<http://www.transmuralbiotech.com/news/>



Contact BIOCAT

Roi Villar

Head of Internationalization

rvillar@biocat.cat





The selected companies
from HTS



LASER-GO COMPANY PROFILE

JOANNEUM RESEARCH
Forschungsgesellschaft mbH

www.joanneum.at/materials/

Description

JOANNEUM RESEARCH is one of the largest non-university research institutions in Austria. Its research institute MATERIALS has long-standing experience in managing a wide range of research cooperations, thus enabling the clients to successfully participate in national and international funded research projects.

Competitive advantage

Provides access to the latest technologies required for implementing innovative products and services, for example:

- Green Photonics and Electronics, Structured (biomimetic) surfaces
- Piezoelectric sensors and energy harvesters
- Large-scale production of organic layers (roll-to-roll, screen printing), (Optical) Chemo- and Biosensors
- Laser Production Technology, Aerosol and inkjet printing
- Laser and plasma-assisted vacuum deposition process

Products

Currently there is 1 product available :

- PyzoFlex® - The Intelligent Surface



News

<https://www.joanneum.at/en/materials/news/>

LASER-GO COMPANY PROFILE

Meteka GmbH

www.meteka.com



Description

METEKA GmbH is a leading provider of system solutions for the safe management of infectious waste from health care facilities, laboratories, research centres, and production plants.

Competitive advantages

With the MEDISTER HF-Waste Decontamination Devices infectious waste is sterilized on-site safely, quickly, and economically. The result is inactivated non-hazardous waste material.

The patented METEKA System ensures that infectious fluids, which may be generated either continuously or discontinuously, are sterilized in a fully automated manner. The entire process is carried out directly at the place of generation, e.g. in bio-tech or high-risk laboratories, veterinary medicine institutes, animal experimentation facilities or production plants

Products

Currently there are 2 products available:

- COQUINA – HF-Terminal Disinfection Technology
- MEDISTER – Continuous Flow Sterilization Device



LASER-GO COMPANY PROFILE

Ortner Reinraumtechnik GmbH

www.ortner-group.at

Description

As an international company with more than 20 years of experience, Ortner Reinraumtechnik GmbH operates under the motto of "cleanrooms unlimited". The range of services covers the planning, production and installation of intelligent storage and transport systems, the design and construction of various cleanroom components and sub-equipment and the planning and implementation of various general contractor projects for the electronics, food and pharmaceutical industries.

Competitive advantage

Photodynamic Disinfection is a natural reaction caused by light and the presence of a particular dye - the so-called photosensitiser. If the appropriate light wave strikes the clothing, the photosensitizer is automatically activated and generates highly reactive oxygen. The activated singlet oxygen is created directly on the microorganisms and destroys them by way of oxidation.

Products

Various products for decontamination available.

ortner
cleanrooms unlimited



News

<https://www.ortner-group.com/en/latest-information.php>

LASER-GO COMPANY PROFILE

Perception Park GmbH

www.perception-park.com

Description

Perception Park is your partner for high performance data processing of Hyperspectral data. Whether you want to process your data offline with highest efficiency or if you need an inline data processing solution, with the generic data processing products of Perception Park you are always perfectly equipped to implement your ideas.

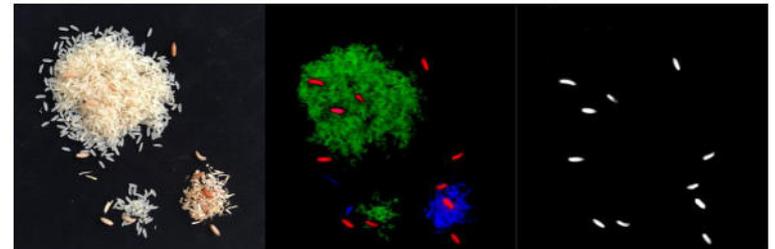
Competitive advantage

The Perception System is a generic, configurable data processing solution enabling the industrial use of hyperspectral cameras for high speed tasks like sorting in many industries like food processing, recycling, mining, pharmaceuticals and many more. By adapting a hyperspectral camera with a Perception System, Chemical Colour Imaging turns the camera system into an easy-to-understand and intuitive configurable “chemical colour camera”. The chemical colours reflect the molecular properties of the scanned objects.

Products

Currently there is 1 product available :

- Perception System



News

<https://www.perception-park.com/examples/>

LASER-GO COMPANY PROFILE

WILD GmbH

www.wild.at

Description

WILD is a worldwide leading technology partner for medical and technical optics – from idea to successful series product. The companies in the WILD group develop and manufacture systems and complete units for international market leaders and guarantee reliable processes throughout the entire product life cycle. WILD impresses with a high level of innovation, flexibility and distinct market and customer focus.

Competitive advantage

WILD is a system partner in the development and production of sophisticated components, optomechatronic systems and complete equipment. The solutions suggested by WILD provide shortest lead times, most-favourable cost structures, high innovation content, flexibility and pronounced market and customer proximity. Whether it is prototype construction, commencement of production or mass production. All processes are, of course, in compliance with the EN ISO 9001 as well as the EN ISO 13485 and the QSR.

Product

Various products in the fields of Life Sciences, Industry, Medical Devices

▼WILD



News

<https://www.wild.at/en/news-en/>



Contact HTS

Katharina Weizerl

Business Development

katharina.weizerl@human.technology.at





The selected companies
from LITEK™



LASER-GO COMPANY PROFILE

EKSMA OPTICS

www.eksmaoptics.com

Description

EKSMA OPTICS is a manufacturer and global supplier of precision optical components and optical systems for high power laser applications, laser media & nonlinear frequency conversion crystals, opto-mechanics, electro-optical Pockels cells with drivers and ultrafast pulse picking systems used in lasers and other optical instruments.

Competitive advantage

EKSMA OPTICS serves to provide flexible and technical solutions to varied laser components customers requirements, which can often be quite challenging and is most receptive to providing new products where necessary, meeting customer specific applications.

Products

Ultrafast BBO Pockels cells can be used in medical systems equipped with femtosecond lasers for laser pulse picking application.

Pockels cell are used to change the polarization state of light passing through it when a voltage is applied to the electrodes of electro-optic crystals such as BBO. When used in conjunction with polarizer, Pockels cells can be used as fast optical switches. Typical applications include Q-switching of the laser cavity, laser cavity dumping and coupling light into and from regenerative amplifiers.



PCB3D - full aperture

PCB3D-C - with ceramic aperture

News

<http://eksmaoptics.com/news/>

LASER-GO COMPANY PROFILE

EKSPLA

www.ekspla.com

Description

Innovative manufacturer of solid state and fiber lasers, systems and components from unique custom system to small OEM series. In-house R&D team and more than 25 years' experience enable to tailor products for specific applications and/or according to specific requirements.

Competitive advantage

Ekspla provide optimised/tailored solutions for specific requirements that enables to make customers unique product. Unlike of the shelf manufacturers, we at EKSPLA provide / offer close partnership / collaboration and our commitment that will help to create value to your (customers) clients.

Products

Currently there are 4 products with applications in life sciences field:

- PhotoSonus

Mobile high energy tunable laser system for photoacoustic imaging

- NT235

High energy tunable wavelength nanosecond laser



Pic. PhotoSonus series mobile high energy tunable laser system for photoacoustic imaging

Complete spectroscopy systems

SFG spectrometer

Sum Frequency Generation (SFG) spectrometer features powerful and versatile method for in-situ investigation of surfaces and interfaces.

CARS microspectrometer

System for Coherent anti-Stokes Raman scattering (CARS) spectroscopy

News

<http://ekspla.com/company-industry-news/>

LASER-GO COMPANY PROFILE

ELAS UAB

www.e-lasers.com



Description

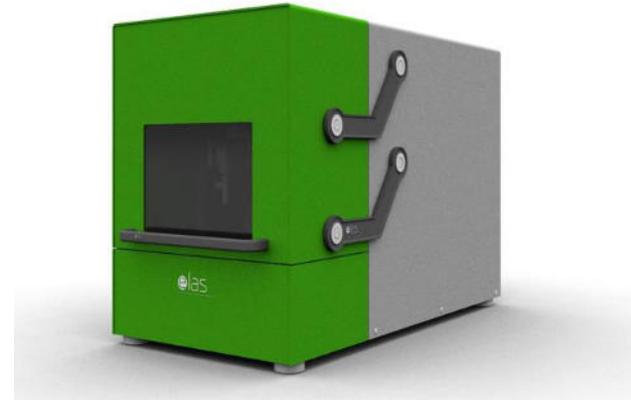
We design and manufacturer laser micromachining systems and solutions for industrial and scientific applications, serving the markets related to the production of medical devices, mobile devices, jewelry, designer watches.

Competitive advantage

Most compact and cost effective micromachining system powered by ultra fast lasers, tailored for specific applications in small batch production. Suitable for marking, ablation, cutting, drilling, surface structuring.

International projects:

<http://litek.lt/posts/laser-microfabrication-review/?lang=en>



Products

- **Laser workstations:** high performance picosecond highly customized micromachining systems
- **Solutions:** solutions for micromaching of silicon, SiC, sapphire, diamond, tungsten carbide, biological materials, biodegradable polymers, glasses, majority of metals, ferroelectric ceramics etc.

LASER-GO COMPANY PROFILE

FEMTIKA

www.femtika.lt



Description

Femtika is working in the area of femtosecond laser 3D micro-fabrication. Company's goal – to supply growing worldwide demands of available tools and technologies enabling hybrid 3D laser fabrication, with custom design components in micro- and submicro-scale.

Competitive advantage

Femtika is equipped with deep working knowledge in the femtosecond laser material processing. That allows company to investigate and develop new methods and applications of laser-based technologies.

Products

Laser Nanofactory – femtosecond laser hybrid micro-fabrication workstation. It combines two different technologies: additive and subtractive manufacturing.

Laser Nanofactory device can be used as a universal tool for manufacturing 3D objects with complex geometries of various materials and with high resolution.



Customer opinions

“We are collaborating with Femtika for the fabrication of micro-robots for medical purposes. With the experience of team members, ability to solve various problems on the fly and great technological solutions – we could not find better partner than Femtika”

Bertrand Duplat, CEO of Robeaute, Paris, France.

News

<https://www.linkedin.com/company/10254411/>

LASER-GO COMPANY PROFILE

FERENTIS

www.ferentis.eu

Description

JSC Ferentis is a research-intensive biomaterials and regenerative medicine company focused on in vitro tissue models and tissue repair product (implant) development.

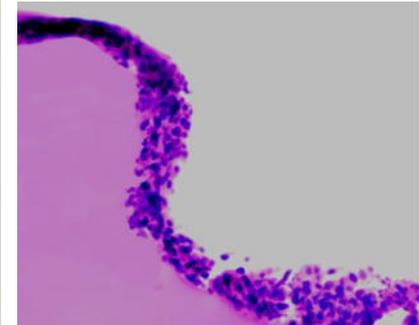
Competitive advantage

Ferentis proprietary technology is based on a unique biosynthetic hydrogel system, that has demonstrated clinically to promote regeneration of the corneal tissue. The scientists of Ferentis have been able to produce and patent a completely synthetic collagen substitute. Based on the recent success in animal trials, the team is currently collaborating with a number of research groups, physicians and companies to develop next generation solutions for regenerative medicine. Ferentis' biointeractive hydrogels are chemically crosslinked, self-supporting, transparent materials, based either on natural (e.g. recombinant) collagen or its 100% synthetic analogue- collagen mimetic peptides (CMPs). These materials are highly promising also for hybrid applications, including photonic structures, sensors and theranostics.

Products

Currently, there are available 3 in vitro product lines:

- Multiwell format-compatible cell culture substrates
- Tissue slice culture kit
- Microstructure-based scaffolds for 3D cell culture and tissues



Customer opinions

"You have a good team."

News

<http://www.ferentis.eu/en/news/>



Contact LITEK™

Julius Paužolis

Director

julius.pauzolis@litek.lt





The selected companies
from MEDICEN



LASER-GO COMPANY PROFILE

BIOAXIAL

www.bioaxial.com

Description

BioAxial develops and sells CODIM (Conical Diffraction Microscopy), a new technology for super-resolved fluorescence microscopy for extended imaging of live cells currently with a resolution of 100 nm. The modules manufactured by BioAxial can be adapted as an add-on to commercial microscopes. CODIM 100 is the fruit of a collaboration with Imagopole from Pasteur Institute.

Competitive advantage

CODIM is distinguished by the unique combination of several performance features : high performance super resolution multicolor imaging, seamless integration with confocal microscopy (example: New Nikon-BioAxial Super-Resolution Platform Offering 90 nm Resolution with Conventional Fluorophores), standard fluorescence microscopy sample preparation workflow, low photo-toxicity and photobleaching

Product

Currently there is 1 product available:

- CODIM100 for Live-cell super-resolution imaging (cell biology, developmental biology, host pathogens interaction). Works with any fluorescent sample without any special preparation and low phototoxicity



News

<http://www.bioaxial.com/latestnews/>

LASER-GO COMPANY PROFILE

IMAGINE EYES

www.imagine-eyes.com

Description

Imagine Eyes' instruments are powered by Adaptive Optics (AO) applied to ophthalmic imaging. By analyzing the human eye with unprecedented detail, this technology enable doctors to detect diseases earlier and better adapt treatments to patients.

Competitive advantage

Imagine Eyes has miniaturized adaptive optics while making it far less expensive, totally non-invasive, and compatible with the wide range of optical defects that can be found in human eyes. These medical devices integrate three main technology components: wide-measuring-range Shack-Hartmann wavefront sensor based on precision micro-optics arrays, large-stroke deformable mirror powered by patented electromagnetic actuation technology and software algorithms that automatically control the adaptive optics system's operation.

Products

Currently there are 2 products available :

- **rtx1™ Adaptive Optics Retinal Camera:** enables visualizing the living retina at the microscopic scale (few microns in size), it is an approved medical device in the European Union and in Japan.
- **AOkit™:** a complete set of AO components (mirao™ 52-e deformable mirror, haso™ 32-eye wavefront sensor, casao™ software) specially designed for use with living eyes.



Customer opinion

"For the first time, adaptive optics enables us to visualize retinal neurons – the photoreceptors- and offers totally new options to evaluate retinal therapies".

Pr. José Sahel, Hôpital des Quinze-Vingts, Paris.
Source: webpage of Imagine Eyes

News

<http://www.imagine-eyes.com/community/news/>

LASER-GO COMPANY PROFILE

LLTECH IMAGING

www.lltechimaging.com

Description

LLTech designs optical imaging system (Light-CT Scanner) to allow real-time cancer diagnosis in radiology suites, surgical suites and pathology labs. LLTech's optical technology is based on Full Field Optical Coherence Tomography (FFOCT), a technique that enables volumetric image capture on tissue samples at micron resolution in 3D.

Competitive advantage

LLTech anticipates the following benefits: better image quality (sole technique to offer axial resolution of 1 μm), speed (image capture on a 1 cm^2 region of tissue in 4 to 5 minutes, thereby enabling immediate quality control of biopsies), avoiding patient recall in the event of complex biopsies that require hospitalization and/or anesthesia, non-destructive technology that allows reuse of the biopsy, analysis can be carried out remotely, and ease of use (no calibration or complex set-up procedure is necessary).

Products

Currently there is 1 product available :

- The Light-CT Scanner is intended to acquire, store, retrieve, display, and transfer optical coherence tomography images of unsectioned excised surgical tissue for review by physicians to assist in forming a clinical judgment. The Light-CT Scanner is certified for research use only.



News

<http://www.lltechimaging.com/category/news-press/>

LASER-GO COMPANY PROFILE

MAUNA KEA TECHNOLOGIES

www.maunakeatech.com

Description

Mauna Kea Technologies provides Cellvizio, the first and only probe-based confocal laser endomicroscopy platform available to healthcare providers worldwide. Cellvizio generates optical biopsies using the world's smallest flexible microscope, providing clinicians with microscopic images of tissue instantaneously and in a minimally-invasive manner. Today Cellvizio is used in over 40 countries and 550 clinics worldwide.

Competitive advantages

Cellvizio technology is simple to use, with an intuitive interface. Cellvizio produces extremely high quality images delivered by advanced image processing. Confocal Miniprobes™ are inserted into the working channel of standard endoscopes. Various models of Confocal Miniprobes have been designed in time to meet the specific needs of different types of procedures. Cellvizio Images come from a very thin focal plane that is optically projected into the tissues.

Products

Currently there are 2 products available:

- “Cellvizio”
- “Cellvizio Lab” for *in vivo* preclinical imaging : “Cellvizio Dual Band” and dedicated confocal microprobes



Mauna Kea Technologies



Customer opinions

“Monitoring gastroesophageal reflux disease (GERD) is critical because Barrett’s esophagus is associated with increased risk of developing esophageal cancer...Probe-based Confocal Laser Endomicroscopy is considerably more sensitive, as demonstrated in this study, even when performed by novice users”

Paul A. Severson, MD, FACS, Co-Director, Minnesota Reflux and Heartburn Center. Source: webpage of Mauna Kea Technologies

News

<http://www.maunakeatech.com/en/news-events>

LASER-GO COMPANY PROFILE

PHASICS

www.phasicscorp.com

Description

Phasics offers a full range of measurement and imaging solutions based on an innovative high resolution wavefront sensing technology. They address the needs of laser engineers, lens manufacturers and cell biologists.

Competitive advantage

Quadriwave lateral shearing interferometry offers high resolution (4x more than Shack-Hartmann), achromaticity in the detector spectral range, direct measurement of diverging beam and no reference arm unlike classical interferometry.

Phasics introduces Quantitative Phase Imaging, relying on a camera-like instrument. It enables easy label-free imaging of specimens such as live cells, tissues or any other semi-transparent samples. It provides accurate measurement of valuable parameters (morphology, dry mass, density of individual cell...). It applies to cancer and stem cell research, drug screening, blood test... The smart instrument simply plugs to any optical setup for easy multimodality such as phase-fluorescence combination.

Products

- Solutions for laser measurement
- Solutions for lens metrology
- Quantitative Phase Imaging
- Wavefront imaging cameras



News

<http://phasicscorp.com/news-about-wavefront-analysis/>



Contact MEDICEN

Olivier Fontaine

International Affairs

ofontaine@medicen.org

medicen | innovation
PARIS REGION for
health





The selected companies
from OPTENCE



LASER-GO COMPANY PROFILE

DIOPTIC GmbH

www.dioptic.de/en/home/

Description

We develop custom optical metrology solutions in close co-operation with our customers. Our core competences are in the areas of optics design, measuring systems, LED-based light sources, data analysis, image processing, diffractive optics and interferometry. Our service portfolio spans optics development and development of inspection systems. Products we regularly provide are customer-specific infrared lenses, computer-generated holograms for asphere metrology, and the ARGOS surface inspection system.

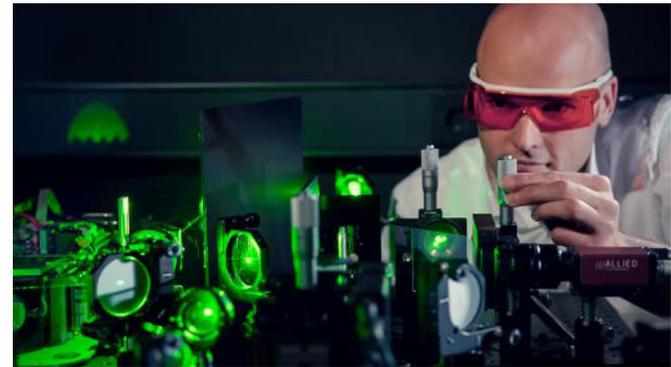
Competitive advantage

DIOPTIC researches and develops optical technologies, working for companies from both industry and science. From the very first draft idea to feasibility studies and their implementation into running processes all the way to technological support and in-house training, the company sees itself as a sparring partner for all issues concerning new technologies with light.

Products

- Optics design
- Custom Inspection Systems
- Diffractive Optics
- IR Lenses
- ARGOS: Inspection system for optical surfaces
- Software development

DIOPTIC



Custom Inspection System

News

<https://www.dioptic.de/en/latest-news>

LASER-GO COMPANY PROFILE

IMT – Masken und Teilungen AG

www.imtag.ch

Description

IMT has its roots in the microstructuring of metallic coatings on planar optical substrates. Our solutions are used in medical technology, Life sciences, biophotonics, sports optics and optical measurement technology.

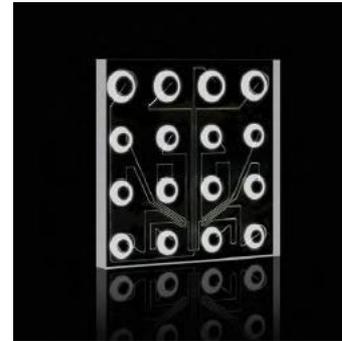
Competitive advantages

Development and high volume manufacturing. All processes under one roof. Fast prototyping.

In ophthalmology, excimer lasers (LASIK) are used to correct defective vision, whilst in dermatology ruby and Er:YAG lasers are used for tattoo removal and skin rejuvenation. We are proud to be able to offer a wide range of products for this challenging market.

Products

- Flow Cells for Life Science and microfluidics
- Apertures and spatial filters for endoscopy
- Optical filters (including structured interference filters)
- Elements for slit projection (3D measurement technology), eye diagnostics and for dermatological diagnostics and treatment
- Diffractive optical elements for beam manipulation
- Elements for mammography and radiology
- Calibration targets



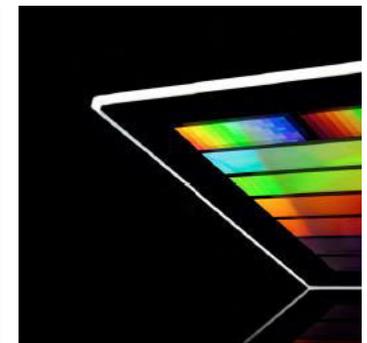
Microfluidic component



Reticle for optics



Calibration target



Structured filters

News

<https://www.imtag.ch/en/tech-updates/>

LASER-GO COMPANY PROFILE

Omicron-Laserage Laserprodukte GmbH

www.omicron-laser.de



Description

We develop and produce laser and LED light sources for companies around the globe. Customers come from areas as diverse as microlithography, 3-D printing, medicine and biotechnology etc. We offer them highly innovative products exactly tailored to their needs.

Competitive advantage

Modern medicine is no longer conceivable without laser and LED technology. Omicron develops and produces laser and LED systems for areas such as flow cytometry, laser-scanning-microscopy and endoscopy.

News

<http://www.omicron-laser.de/english/newspress.html>



Products

- **Lasers:** compact high performance, picosecond pulsed, CW
- **Light Engines:** multiwavelength solutions with up to 6 wavelengths
- **LED Sources:** intelligent LED modules, high power LED solutions
- **PDT Medical Laser Systems:** flexible solutions for cancer treatment

LASER-GO COMPANY PROFILE

Precitec Optronik GmbH

www.precitec-optronik.com

Description

We are a leading company in the medical eye tracking technology. Our development and production of embedded systems is located close to Frankfurt/Main, Germany. We offer customized, precise, and robust eye tracking solutions conform to medical regulatory requirements.

Competitive advantage

With increasing quality and individualization demand from patients and surgeons alike requirements for refractive eye surgery become more challenging. As a result, a highly versatile and robust eye tracking system is needed for high speed, low latency, and precise pupil movement detection in 6 dimensions.

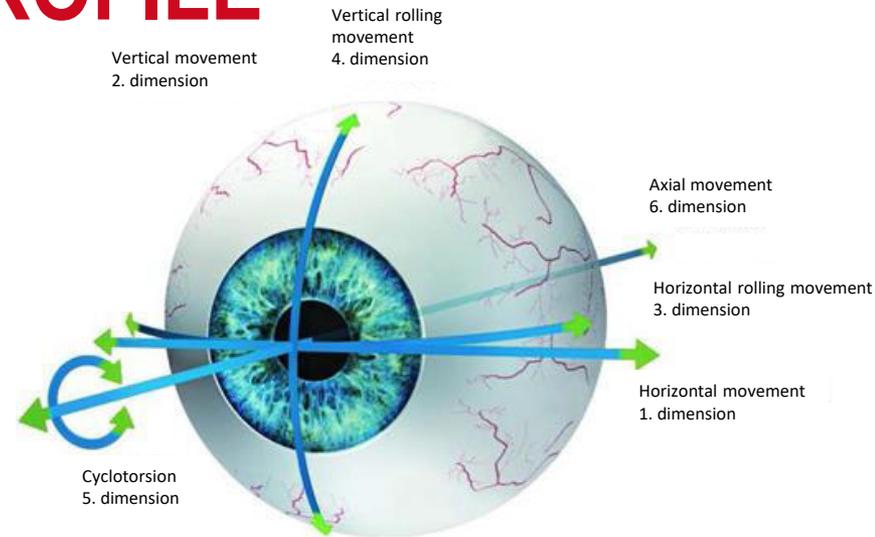
In addition, individual patient eyes can be recognized based on static and dynamic iris pattern matching. This permits to significantly improve the overall treatment quality and customer satisfaction.

Furthermore, all hardware, optics, and software are developed and manufactured in-house providing a major advantage to offer short reaction and lead times for custom requirements.

Products

3D & 6D Eye-Tracker

- High speed >1kHz
- Low latency <2ms
- Precise <50µm resolution



Tracking of eye movement in 6 dimensions

Market

- Long time market experience (30+ years)
- World wide market availability of 6D eye tracking solution since 2017
- Incorporated as standard eye tracking system by two major German medical eye surgery system providers

News

<http://www.precitec.de/nc/en/news/news/>

LASER-GO COMPANY PROFILE

Sensitec GmbH

www.sensitec.com

Description

We are a leading company in MagnetoResistive sensor technology and in the development and production of magnetic microsystems with sites in Lahnav and Mainz. We offer simple, durable, precise and dynamic path, angle, current and magnetic field sensor solutions.

Competitive advantage

With increasingly powerful, reliable and more compact electronics, it is possible to advance into new areas of medical and biotechnology. As a result, medical devices are becoming more accurate. Furthermore, pacemakers and defibrillators are becoming increasingly durable and reliable with the aid of modern sensors. Prostheses can be adjusted specifically for their application using electronic sensors and actuators. Point-of-care diagnostics is becoming possible as a result of new and faster methods so infections can be detected in the shortest possible time.

Products

- Sensors for Angle- & Length Measurement
- Sensors for Current and Magnetic Field Measurement
- Sensors for Magnetic Solutions
- Customized Development



Switch sensor in defibrillators



Length sensor in an ophthalmological device

Customer opinions

"Our IOL Master 500 biometer is used by ophthalmologists around the world to determine eye length and, hence, an IOL for cataract eyes and so will preserve the patient's eyesight. The magnetoresistive measurement system by Sensitec is measuring the movement of a prism in an interferometer for many years – with high precision and no field failures."

Ulrich Maiwald, Strategic Purchasing
Corporate Area Medical Technology , Carl Zeiss Meditec AG
Carl Zeiss Promenade 10, 07745 Jena, Germany

News

<https://www.sensitec.com/about-sensitec/news-events/news/>



Contact OPTENCE

Nina Yeoman

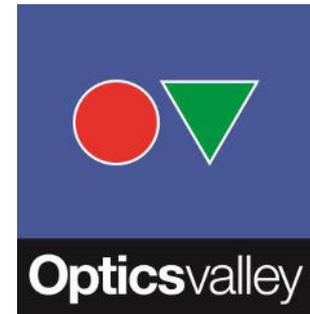
*Project Manager Technology
Transfer*

yeoman@optence.de





The selected companies
from OPTICSVALLEY



LASER-GO COMPANY PROFILE

DAMAE Medical

damaemedical.fr

Description

DAMAE Medical's mission is to put the great power of biophotonics at the service of opening new opportunities in medical imaging and diagnosis.

Competitive advantage

DAMAE Medical brings a unique answer to the public health issue of skin cancer, by developing a new approach to dermatological diagnosis through OCTAV®, a novel non-invasive imaging device, based on a groundbreaking optical technology, which allows for **immediate, non-invasive, in depth assessment of skin lesions.**

Products

The company has developed a groundbreaking technology called Line-field Confocal Optical Coherence Tomography (LC-OCT) resulting from 15+ years of cutting-edge research conducted by Pr. Arnaud Dubois, the CSO of DAMAE Medical, in the Charles Fabry Laboratory (CNRS, Institut d'Optique). The innovation strength is to combine the principles of **reflectance confocal microscopy (RCM) and optical coherence tomography (OCT).**



OCTAV



Customer opinions

"I have been using OCTAV, the device developed by DAMAE Medical, for almost a year now. I am impressed by the accuracy of the new technology, it is really a revolution! I am convinced that this will change the way we detect both carcinomas and melanomas at early stage."

Pr. Jean-Luc Perrot, Saint-Etienne Hospital, France

News

http://damaemedical.fr/w/?page_id=2191&lang=en



INNOVATION 2030
CONCOURS MONDIAL D'INNOVATION

LASER-GO COMPANY PROFILE



First Light Imaging

www.first-light.fr

Description

First Light Imaging (FLI) designs and manufactures high-end scientific cameras for visible and infrared spectra, based on EMCCD, e-APD and InGaAs sensors.

Emanating from French public research laboratories in astronomy (LAM, IPAG/CNRS), FLI is working with world leading companies, research institutes and universities.

Partnerships with French Laboratories for Biological research ongoing.

Competitive advantage

FLI offers the most advanced imaging solutions for extremely low light environment and real time applications, allowing very high frame rates and ultra low noise at the same time, in the visible and infrared (SWIR) spectra.

Made in France dual-use products, no ITAR restriction.

Products

- C-RED 2: a compact and smart scientific SWIR camera used for research, from astronomy to art inspection or biological imaging; 35 customers equipped in 6 months.
- C-RED One: an outstanding technology allowing the world's fastest frame rates and read out noise for a SWIR commercial camera, supported by H2020 SME Instrument, already mounted on the MIRC-X interferometry instrument.
- OCAM²: the fastest low light EMCCD camera, already at the heart of complex optics systems such as the SCExAO Subaru Telescope, or GranTeCan. A shuttered version allows laser pulsed applications or fluorescence microscopy.



SPIE Photonics West publication:

"C-RED One and C-RED2: SWIR high-performance cameras using Saphira e-APD and Snake InGaAs detectors"

Press release:

"Infrared Interferometry: First Light Imaging's C-RED One is looking at the sky!"

News

www.first-light.fr/news/

LASER-GO COMPANY PROFILE

iSonic Medical

www.isonic-medical.fr

Description

A clinical stage ophthalmological device company building precise, non-contact tonometers based on a novel vibration technology for measuring intraocular pressure or eye pressure (IOP)

Competitive advantage

Necessity to measure Eye pressure (IOP) simply and in all places of care to diagnose the illness early and urgent need for frequent measures in the home by self-measurement as is done with blood pressure

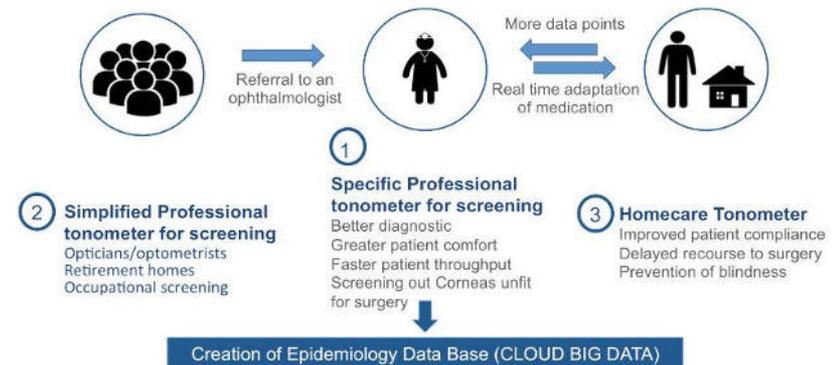
Products

Vibration Tonometry: A clinical stage ophthalmological device company building precise, non-contact tonometers based on a novel vibration technology for measuring intraocular pressure or eye pressure (IOP)



Better monitoring and understanding of glaucoma...

... to delay vision loss and reduce healthcare costs



Subcontractors and Partners

HOLO3, Westline electronics Device development
LAAS/CNRS Toulouse
Device development
LMDC, White-Tillet, Regulatory
E.N.S. P Jacquier
Laboratoire Kassler Brossel
APHP, Institut du glaucome, Public healthcare institutions

News

<http://www.isonic-medical.com/news---events.html>

LASER-GO COMPANY PROFILE

Neurallys

www.neurallys.com

Description

Neurallys is developing a very innovative connected medical device to improve the quality of life of patients suffering from hydrocephalus (having a shunt implanted) and provide the neurosurgeons with a new tool for aided-diagnosis and pathology follow-up, with health cost reduction objectives.

Competitive advantage

Neurallys is developing a fully ambulatory solution to measure the intracranial pressure, associated with a recording of the patients symptoms. The device allows the patients for self diagnosis and the data historic will be used by the neurosurgeons for a better follow-up of their patients.

Products

Neurallys develops a mini-invasive communicating medical device providing patients with the possibility of self-diagnosis in case of symptoms (headache, vomiting....) with a suspicion of malfunctioning of the shunt or of any issue related to intracranial pressure (over drainage situation....) increasing patient comfort and preventing exploratory surgeries.



Customer opinions

« High intracranial pressure situations due to shunt malfunction are not always visible using MRI and thus difficult to diagnose. The innovative device developed by Neurallus is a dream for all neurosurgeons »

Pr Philippe Cornu. Head of neurosurgery department Pitié Salpêtrière hospital - Paris

News

<http://neurallys.com/news-en/>

LASER-GO COMPANY PROFILE

WeeROC

www.weeroc.com

Description

WeeROC is a spin-off company from Omega laboratory (IN2P3/CNRS, french governmental agency for fundamental research in astrophysics, particle physics and nuclear physics). Weeroc designs and provides analogue and mixed ASICs for industry.

Competitive advantage

More channels, less room, less power budget, better performance... WeeROC designs customer specific read-out chips to help them achieve the upcoming technical breakthrough in the medical imaging field.

Products

Weeroc offers a complete family of programmable versatile read-out chip to meet your specification requirements.

Weeroc provides : off-the-shelf front-end ASIC (the ROC chip family) – customer-specific ASICs – Services, Audit, Expertise.



Publications

IEEE Nuclear Science Symposium and Medical Imaging Conference

Typical Workshop for Electronics in Particle Physics

PSMR conference presentation

NDIP conference

News

[https://www.weeroc.com/en/contact/conferences-calendar/year.listevents/2018/04/17/-](https://www.weeroc.com/en/contact/conferences-calendar/year.listevents/2018/04/17/)



Contact OPTICSVALLEY

Lola Courtillat

Project Manager

l.courtillat@opticsvalley.org



For more information and to follow LASER-GO news visit: www.laser-go.eu



Contact

Dr Linas Eriksonas

LASER-GO Project Coordinator

Linus.Eriksonas@litek.lt

+370-61410640

<https://www.linkedin.com/in/eriksonas/>

