

# Why with Helbling

We give you immediate access to a highly qualified and multidisciplinary team that supports your product development.

You reap the benefit of our extensive expertise in developing industrial and medical products. You can depend on a unique partner capable of managing all technical aspects of your product development with the highest efficiency.

We ensure that your product is developed and documented in line with the latest industrial and medical standards. We transfer full control and ownership of the design and intellectual property developed during the collaboration.

Helbling – your exclusive, independent contract engineering partner for industrial and medical product development.



# helbling

## Innovation is our driving force

Founded in 1963, Helbling Technik currently has more than 390 employees in Switzerland, Germany, USA and China.

Helbling Technik is part of the Helbling Group and functions as a long-term partner in its customers innovation network, under the motto "Innovation, together we do it". The company's engineers, IT experts and physicists use high-performance engineering tools, the latest infrastructure including laboratories, as well as high-quality professional approaches to generate new ideas, implement state-of-the-art technologies and develop successful new products.

## Contact

### Helbling Technik Bern AG

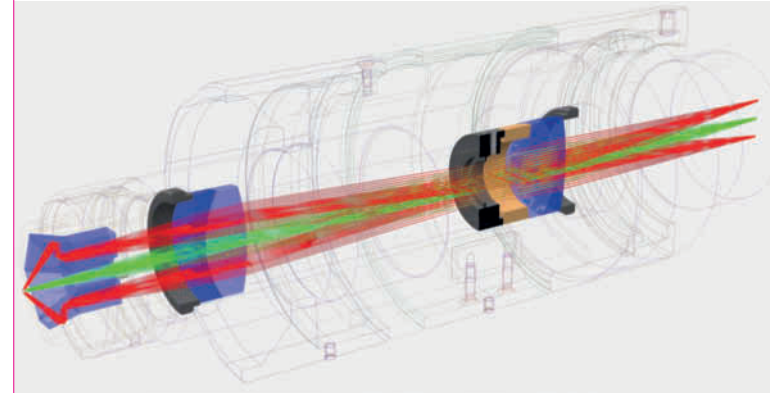
Stationsstrasse 12  
CH-3097 Liebefeld-Bern, Switzerland

[www.helbling.ch](http://www.helbling.ch)



**Stefan Troller**  
Head of Business Unit Optics  
stefan.troller@helbling.ch  
Phone +41 31 979 16 11

# helbling



## Optics

Do you need an application specific optical system? Do you want to integrate cutting edge optical technologies?

If there is no off-the-shelf solution available, then contact us today. Helbling has the answer!

**Helbling Technik**

Innovation, together we do it

# A broad spectrum of competencies and expertises

## Development of high-tech products integrating optical functionalities

Operating in a highly interdisciplinary environment, our team of engineers and scientists creates and designs complete optical devices and systems.

### Our competencies include:

- Imaging- and illumination optics
- Refractive- and diffractive optics
- Sequential and non-sequential raytracing
- Optical tolerance analysis
- Image processing
- Data science
- Optoelectronics design
- Optomechanics design
- Plastic- and micro-optics
- System integration
- Experimental design verification
- Design for manufacturing and assembly

Leverage our specific skills and technical experience to find the best solution for your product!



# A team combining creativity, technology and experience

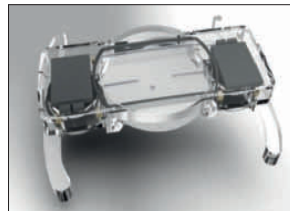
We offer optical systems development for a wide range of applications, including:

### Medical and ophthalmic equipment & devices

- Optical coherence tomography
- Biometry
- Fundus imaging
- Autorefraction
- Ocular implants
- Contact lenses
- Spectacle lenses (single vision and progressive)
- Spectroscopy
- Endoscopy
- Laser therapy

### Consumer and industrial equipment & devices

- Near-eye displays and AR devices
- Head-up displays
- Imaging systems
- LED illumination
- Gas sensing
- Quality inspection



Electro-active intra-ocular lens (IOL)



Adjustable reading glasses

# A professional infrastructure and laboratories



## Comprehensive set of engineering and scientific software packages for:

- Optical design
- Mechanical / micro-mechanical design
- Electronics (hardware/embedded software) design
- Fluidics design
- Multiphysics simulation

## Fully equipped laboratories for:

- Mechanical, electrical, optical, acoustic and system testing
- Metrology
- Modeling / prototype adjustment



Handheld device for skin cancer diagnosis



Autofocus module for DSLR camera

## Why with Helbling

We give you immediate access to a highly qualified and multidisciplinary team that supports your product development.

You reap the benefit of our extensive expertise in developing industrial and medical products. You can depend on a unique partner capable of managing all technical aspects of your product development with the highest efficiency.

We ensure that your product is developed and documented in line with the latest industrial and medical standards. We transfer full control and ownership of the design and intellectual property developed during the collaboration.

Helbling – your exclusive, independent contract engineering partner for industrial and medical product development.

helbling

### Innovation is our driving force

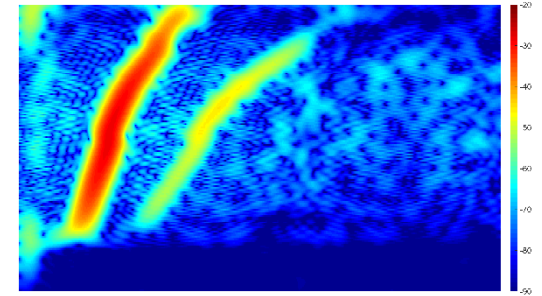
Founded in 1963, Helbling Technik currently has more than 330 employees in Switzerland, Germany, USA and China.

Helbling Technik is part of the Helbling Group and functions as a long-term partner in its customers innovation network, under the motto "Innovation, together we do it". The company's engineers, IT experts and physicists use high-performance engineering tools, the latest infrastructure including laboratories, as well as high-quality professional approaches to generate new ideas, implement state-of-the-art technologies and develop successful new products.

### Contact

**Helbling Technik Bern AG**  
Stationsstrasse 12  
CH-3097 Liebefeld-Bern, Switzerland

helbling



Time-frequency diagram of interferometry data

## Optical Data Science

Are you looking for an algorithm uniquely tailored to your optical system? Do you plan to benefit from cutting-edge data processing methods in your medical product?

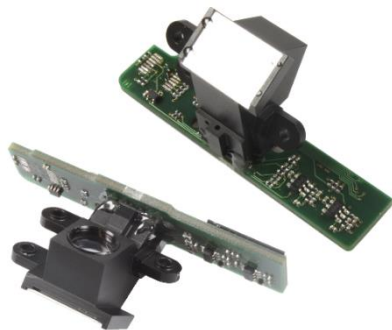
Benefit from Helbling's holistic approach for your data science challenges. Contact us today - Helbling has the answer!

## A broad spectrum of competences and expertise

### Our competences include:

- Signal and image processing
- Optical signal modelling
- Machine learning
- Simulation of measurement systems
- System engineering for optical measurement instruments
- MedTech standards and processes

Leverage our specific skills and technical experience to find the best solution for your product!



Autofocus module for DSLR camera

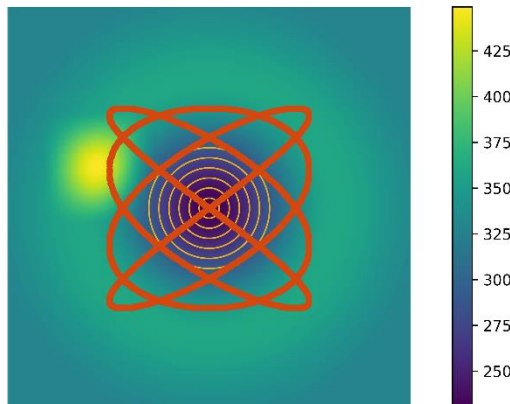
## A team combining creativity, technology and experience

### Development of high-tech products integrating smart algorithms

Our interdisciplinary team of engineers with core competences in data science and optics develops solutions for a wide range of applications.

### Industrial metrology and medical instrumentation

- Eye diagnostic, e.g. optical coherence tomography
- Auto-focus modules
- Quality inspection
- Augmented reality
- Physiological data processing
- Predictive medicine



Scanning of pathological retina

## A professional infrastructure and laboratories

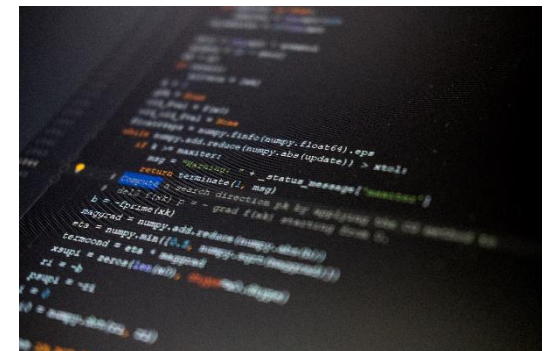
### Infrastructure pictures

### Comprehensive set of engineering and scientific software packages for:

- Algorithm development
- Optical design
- Electronics (hardware & embedded software)
- Mechanical / micro-mechanical design
- Multiphysics simulation

### Fully equipped laboratories for:

- Mechanical, electrical, optical, acoustic and system testing
- Metrology
- Modelling / prototype adjustment



Algorithms written with modern tools