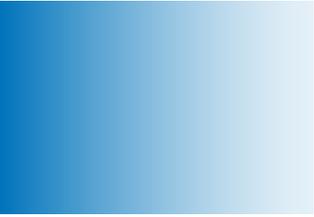
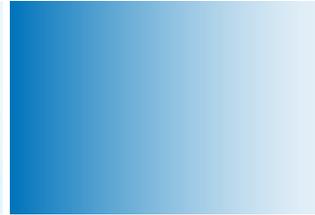


helbling



**Valuable through Innovation**  
Company Portrait and  
Business Year 2019

# Highlights 2019

## At a glance



### Sustainability – Today’s growing climate awareness is creating tomorrow’s opportunities

The Helbling Group is committed to sustainability in all its business units.

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### Synthetic fuels for the traffic of tomorrow

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### Nestlé: Customizable healthy beverages

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### SBB: IoT platform for elevators and escalators



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### RONAL: Pioneering in production planning



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### District heating supply in Zurich City



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### Light curing: Device performance in new spheres



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### Company merger: Hawa Sliding Solutions



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### Energy concept for the Lengg area



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The company portrait appears in German and English. The German version is always authoritative.

Visit our website to find out more about us and our services.

# Climate protection and sustainability

## Obligation and opportunity

### Dear Readers,

The pace at which climate awareness has increased over the past two years, among the general population as well as in the political, business and finance worlds, is one of the most remarkable phenomena of our times. Characterized in part by a growing willingness to do without, this rise in climate awareness is especially apparent in the air travel sector. More and more families, for example, are opting not to fly to their holiday destinations – often due to pressure from their children. And German parliamentarians across almost all parties have agreed to introduce a law to lower CO<sub>2</sub> emissions – a law that includes an aviation tax on flight tickets. Another area palpably affected by rising climate awareness is innovations. All around the world we see enormous sums being invested in new technologies that seek to make flying cleaner, at some point even climate neutral.



**Dr. Christian Péclat**  
President of the Board  
CEO



**Marcel Fäh**  
Member of the Board  
CFO

Among the players in this field is the ETH spin-off Synhelion, whose pioneering technologies convert sunlight and air into a liquid fuel. This is many times more climate-friendly than fossil fuels and compatible with conventional turbines and engines. Helbling supports Synhelion on the challenging path of bringing this technology from the laboratory to the market (see page 10).

It is obvious that CO<sub>2</sub>-neutral and renewable energy sources as well as novel energy storage solutions are not only crucial for climate-friendly mobility but also for sustainable development in general. No less important, however, is the need for higher energy and resource efficiency, especially for the time until renewable energies become available in sufficient quantities (and cost-effective).

There are numerous areas of the economy and points along the value chain at which greater energy and resource efficiency can be achieved, among them purchasing, production, the products themselves, delivery methods and service provision.

With its broad range of services, the Helbling Group can help companies improve their energy and resource efficiency across all such points on the value chain. It can also optimize the energy usage not only of industrial buildings and the building technology therein, but also of entire production plants, and advise companies on how to develop products according to the principle of eco-design. Eco-design-based products use less energy, are made of less material, have a longer lifespan, and are easier to repair and recycle.

The need for better sustainability is not just a fad; rather, it is set to become increasingly important, impacting progress across all areas. Companies keen to remain competitive therefore need to view sustainability as not just an obligation, but also an opportunity.

On behalf of the Helbling Group partners

Dr. Christian Péclat

Marcel Fäh

## Key figures

# 554

## Employees

In 2019, the number of full-time equivalents increased slightly from 546 to 554. The number of employees at the end of 2019 was 597 which represents an average employment level of 93 percent. Helbling employs 534 professionals, 5 trainees and an average of 15 interns and working students.

# 114.5

## Revenue (in CHF million)

The Helbling Group achieved a good result in 2019 despite a slight decline (2.6 percent) about half of which can be attributed to currency effects. Other factors were the on-schedule completion of various major projects and a fall in the volume of third-party services purchased.

# 37 %

## Foreign revenue

The proportion of foreign revenue fell marginally in 2019. Almost half of that revenue was generated by the Helbling locations in Germany and the US, with the remaining amount achieved through service exports from Switzerland to 19 countries.

# 460

## Customers

The Helbling Group's customers include large corporations, small and medium-sized enterprises and, increasingly, start-ups. Most of them are from across the manufacturing industry, some from the service and public sectors.

# 9.4

## Cash flow (in CHF million)

The Helbling Group's successful business activities also generated a high operating cash flow in 2019. It will enable the Group to continue financing all investments from its own resources.

# 2.9

## Investment (in CHF million)

After the extensive investments of previous years in the further development of services and the expansion of the infrastructure at the various locations, investments in 2019 were directed at specific renovations, laboratory facilities, training and quality assurance.

# 1963

## Founding year

Helbling has gained a wealth of experience from thousands of projects over almost six decades. This, combined with cutting-edge research and technologies, is the basis on which Helbling's engineers and consultants develop their innovative products and solutions, always in close collaboration with the clients.

# 31

## Partners

The Helbling Group currently has 31 managing partners and around 260 employees who also participate in the Company via participation certificates. This tried-and-tested participation model ensures an organic succession arrangement for Helbling.

# >60 %

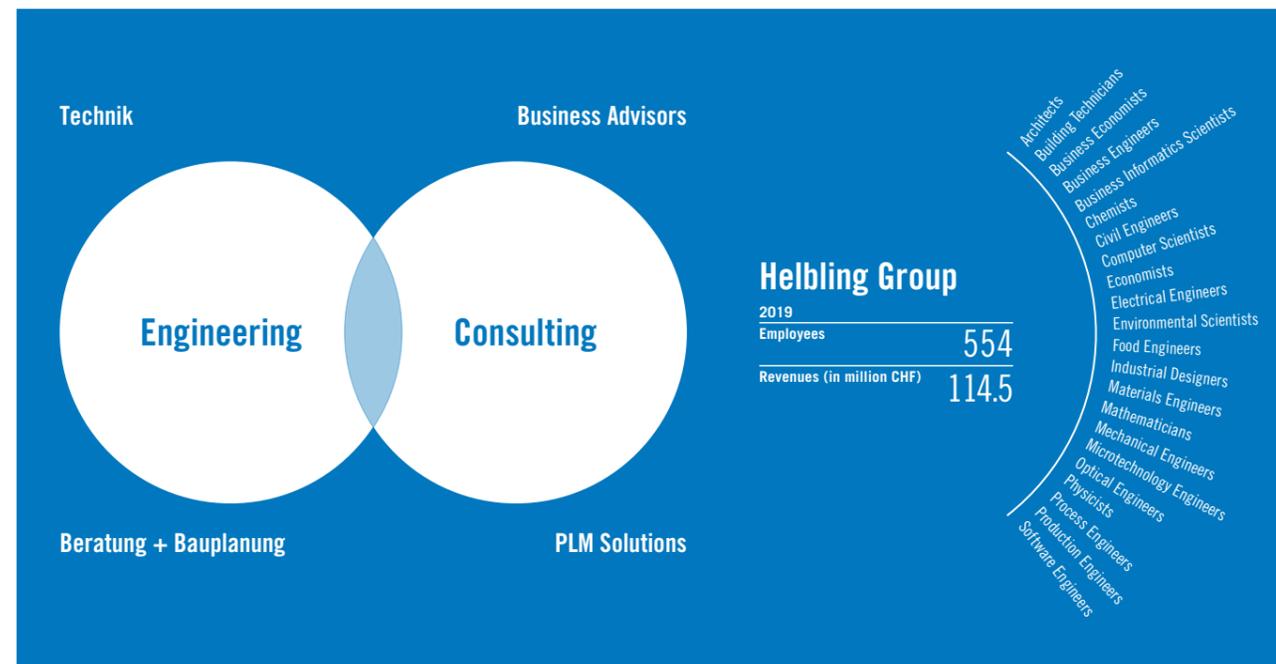
## Equity ratio

Helbling's sustainable and stable development is based not least on rock-solid financing. Thanks to its high equity ratio without interest-bearing debt, Helbling also has a top rating among banks for privately held SMEs.

# Helbling Group

## Valuable through Innovation

The Helbling Group has its headquarters and several subsidiaries in Switzerland, is represented through companies in Germany, USA and China and has worldwide project experience.



### About us

The Helbling Group was founded in 1963 and is owned by its 31 managing partners. The internationally active engineering and consulting firm employs some 530 professionals in four business divisions focused on innovation / product development, management consulting, mergers & acquisitions, restructuring, information technology, real estate, energy and infrastructure.

### Our industry expertise

- High-tech industry semiconductors / electronics, microtechnology, automation / robotics, medical technology, machinery / apparatus
- Automotive industry / supplier
- Transport / traffic / aerospace
- Processing industry, pharmaceuticals, biotechnology, chemical industry, food industry
- Trading Financial services
- IT / telecommunications
- Energy industry
- Infrastructure / public sector

### Our values

#### We are part of our world

We recognize our integration in a society and within a complex environmental system, and accept, that as a company and as an individual, we bear certain responsibilities.

#### Employees make markets

We integrate a variety of mentalities, cultures and nationalities. We encourage diversity and difference, as a good mix of employees is key to our overall performance.

#### Clients are our livelihood

We meet our clients' needs for success and security with advice, project management, development services and implementation.

# Numerous successful client projects in 2019

## Continuing specialization drive in 2020

With sales of CHF 114.5 million, the Helbling Group achieved a good result in the 2019 financial year. Around half of the slight decline (2.6 percent) on the previous year was due to currency effects. The remaining decline is principally attributable to the on-schedule completion of several large orders and to the launch of major new projects, the results of which will only be reflected in the sales figures for subsequent periods.

The past financial year saw us execute numerous exciting projects for clients from a wide range of industries. Details in this regard are provided on the following pages. In addition to our collaboration with large corporations and SMEs from the manufacturing industry and clients from the service and public, we also support several start-ups. This customer segment has become much more important and will become even more important in the future as investments in promising start-ups continue to increase. Indeed, the start-ups we work with are already key suppliers of innovation to companies from the pharmaceutical and medtech industries. From a certain stage of development onwards, many start-ups are dependent on external know-how, for example in quality assurance, compliance with regulatory requirements, the development of prototypes or the improvement of processes. Helbling Technik with its various services is very well positioned to provide start-ups with effective support in all of these areas.

Helbling's business activities in the US developed positively last year, with our latest location in San Diego able to execute important projects in the field of instruments and robotics for clients from the Southern Californian medtech industry. Our location in Cambridge near Boston, which focuses on laboratory systems and equipment for administering medication, also enjoyed business growth.

In 2019, the proportion of clients who were supported jointly by several Helbling divisions, in some cases even by all four, increased significantly. Helbling PLM Solutions was involved particularly often in such interdisciplinary projects due to its expertise in the field of product lifecycle management – which in turn is of elemental importance within the context of digitalization and therefore key to most companies.

With its wide range of services, our Beratung + Bauplanung division again benefited last year from the fact that there is still a lot of building activity in Switzerland's public and private sectors, with underground construction, infrastructure development and building construction services all in high demand. The Business Advisors division also enjoyed a good year in Switzerland, focusing on strategic and operational excellence projects, in particular process optimization through digitalization.

These positive developments led employee numbers to rise slightly again in 2019, from 546 to 554 full-time equivalents. Although the fluctuation rate of 10.06 percent was slightly lower than in 2018, it still shows how sought-after Helbling employees – and especially our software engineers - are on the job market. Thanks to our good reputation as an employer and our high profile at technical colleges, universities and universities of applied science, we have consistently succeeded in replacing departing staff members with new talent and experienced professionals.

Quality assurance through induction and training of new employees is of the utmost importance to us. This is very much in keeping with our overarching strategic objective of continually expanding and deepening our in-house expertise – be it technological know-how, management competencies or process skills – across all company divisions. Digitalization is a common theme in this regard, generating new products and services and transforming processes and business models.

By accelerating our acquisition of specialized expertise, we are positioning ourselves as a service provider that not only supplies its clients with manpower, but also assesses the task at hand to then provide just the right combination of expertise and experience with which to tackle it.

# Sustainability – Today’s growing climate awareness is creating tomorrow’s opportunities

Sustainability plays an important role within the Helbling Group and in our strategic orientation. After all, as British historian and explorer Robin Swan once said, “The greatest threat to our planet is the belief that someone else will save it.”

- 1 **System engineering by Helbling Technik** for Energy Vault’s gravity-based and economically advantageous energy storage system that is not dependent on topological or special geological conditions.
- 2 **Maintenance Cloud Software application for sustainably developed and produced e-bikes.**  
Client: FLYER AG, Huttwil
- 3 **Empa Energie Areal, Efficient expansion of the recooling capacity to 3MW.** (2 hybrid recoolers with a capacity of 1.5 MW each)  
Client: Empa Dübendorf, Property Management



1



2



3

## Our understanding of sustainability

The Helbling Group is committed to support sustainable corporate development and promoting services with an increased sustainability focus. We understand that we, both as a company and as employees, must assume responsibility for the society and the complex environmental system within which we operate. After all, our business success depends not only on the success of our clients, but also on the existence of a sustainably healthy environment and resource availability.

Our strong sense of commitment to sustainability therefore runs deep across all divisions of the Helbling Group. With our interdisciplinary approach and broad range of services, we have been making important contributions to improved sustainability for decades and are today optimally equipped to tackle future projects.

## Helbling takes its responsibility seriously

Our sustainability activities are focused on three areas. We support clients from the **sustainability sector** by providing them with products and services in

the fields of **energy, mobility and efficiency**. These include production and test equipment for the solar industry, innovative energy storage solutions, measures to extend the lifespan of transportation equipment, and agro-robotic solutions that dramatically reduce the use of herbicide.

**Sustainable design**  
Innovation and development of sustainable products and systems



**Sustainable processes**  
Optimization of processes, infrastructures and organizations with regard to sustainability

**Support for the sustainability industry**  
Support of customers in the sustainability sectors energy, mobility and efficiency

Another of our focal areas is **sustainable design**. Here we work in line with the circular economy model to **innovate and develop** sustainable products and systems for clients from all kinds of sectors. Among these products are the toilet systems developed for the “Reinvent the Toilet Challenge” initiated by the

Bill & Melinda Gates Foundation, highly efficient electric powder presses, cutting-edge vacuum insulation technologies and digitally controlled heating, ventilation and air conditioning systems.

Our third area of focus is **sustainable processes**. Our work here involves optimizing **processes, infrastructures and organizations** to make them more sustainable. So we come up with ways of optimizing energy consumption in the processing industry, develop energy network solutions and sustainability concepts for the building services and engineering sectors, and improve the sustainability of company activities and those companies’ process chains.

## Company commitment

The Helbling Group is also committed to promoting sustainable behavior among its staff and management. To this end, we invest in employee training and awareness-raising measures with a focus on such sustainability topics as ecodesign, ecobalance, life cycle thinking, durability, total cost considerations, reparability and recyclability. And to reduce the environmental impact of our business activities,

we set ourselves and actively pursue environmental goals. The environment management system that we set up for this purpose is compliant with ISO14001.

## Looking to the future

The current debates surrounding sustainability, the environment and the climate have given rise to an urgent and rapidly growing need for innovations and new developments among clients from all industries, and therefore also on the part of Helbling. Today, (short-term) profitability is still given higher priority than environmental protection. Nevertheless, product sustainability is an increasingly important factor in consumers’ purchase decisions. Moreover, activities that promote sustainability are becoming more and more appealing to employees, especially those belonging to younger generations, who are keen to engage in meaningful activities.

We will therefore continue to expand our contributions in the area of sustainability in all divisions of the Helbling Group so that we can continue to fulfill our responsibility for the environment in the future.

# Synheliion – Fuels made from sunlight and air

Synthetic fuels from sunlight and air could make traffic much more sustainable in the future. ETH Zurich spin-off Synheliion is set on bringing this technology to market, and is receiving support in this regard from Helbling Technik.



System with solar tower, heliostats and receiver in focus

With this project, Synheliion seeks to replace fossil fuels with truly viable, drop-in fuels low in CO<sub>2</sub>. Known as “Synfuels”, these new fuels are fully compatible with the current global fuel infrastructure and emit 50 to 100 percent less CO<sub>2</sub> than fossil fuels. To create them, Synheliion combines state-of-the-art solar tower systems with its own high-temperature thermochemical processes.

These synthetic fuels deriving from renewable energies are particularly suitable for reducing CO<sub>2</sub> emissions in the shipping and aviation sectors. They also facilitate the efficient interim storage of energy over longer periods. In addition to improving the energy efficiency of production and energy conversion efficiency, “Synfuels” also seek to improve economic efficiency.

## Out of the laboratory and into industry

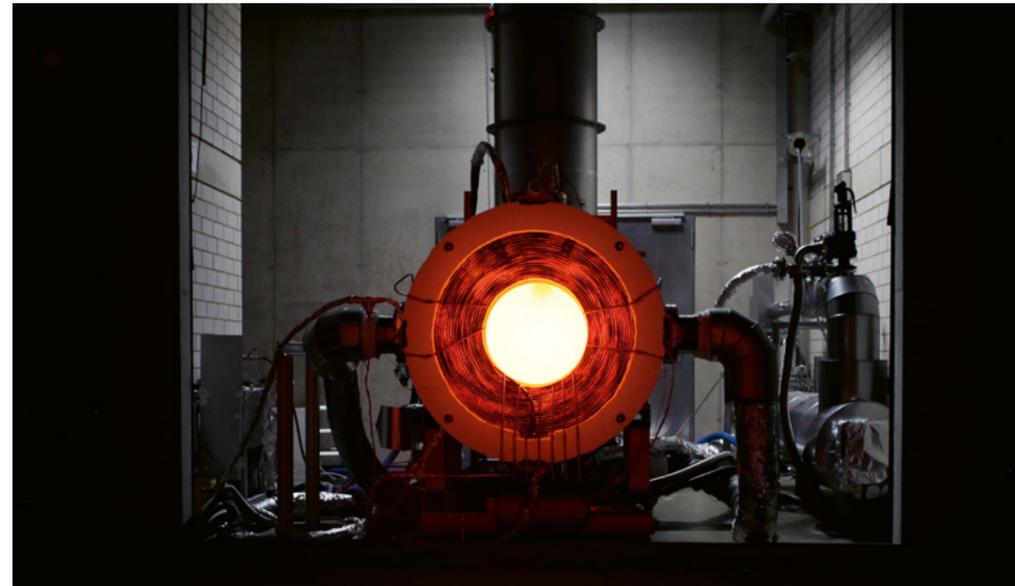
Synheliion now wants to bring its technologies onto the market. The aviation sector, in particular, is set to continue to rely on combustible fuels, liquid fuels still being one of the most energy-rich energy sources. “They contain twenty to sixty times more energy than

batteries,” explains Gianluca Ambrosetti, Director (CEO) of Synheliion. “Batteries able to provide as much energy as kerosene would be much too heavy.”

Synheliion is therefore leaving the ETH Zurich laboratory with a view to gradually integrating the technology onto the market as a product and business idea, and eventually manufacturing it on an industrial scale. A solar plant one square kilometer in size could produce up to 200,000 liters of kerosene per day. This means, in theory at least, that one tenth of Swiss territory would cover the kerosene requirements of the entire aviation industry. The first large plant is slated to begin operations in 2025. It would produce 50 million liters of fuel per year and reduce the corresponding CO<sub>2</sub> emissions by 50 percent. In this way, Synheliion intends to make a significant contribution to reducing global CO<sub>2</sub> emissions.

## Helbling Technik draws on its wealth of experience

When taking things from the laboratory to the market, you need strong partners from the industrial sector. Helbling Technik regularly provides its support to spin-



Test of the 200 kW pilot plant using artificial sunlight, at the DLR Synlight center in Jülich

off projects from the research field, helping with aspects such as system integration and scaling. We have a lot of experience in driving the ideation phase (early phase of product development, where many things are still unclear) and with regard to the industrial environment. We put this expertise at Synheliion’s disposal. We also assist in ensuring that the interdisciplinary collaboration between researchers and engineers is perfectly coordinated, as a project with this level of system complexity necessitates. These are the diverse ways in which Helbling Technik contributes toward creating a sustainably energy supply.

## Results / Achievements

The pilot phase test of a 200 kW system conducted under the world’s largest artificial sun at the research center DLR Synlight in Jülich was successful, creating an excellent basis for further development.



Thomas Hodel, El. Ing. HTL, Head of Ideation, Partner, Helbling Technik, Zurich, Switzerland

**“Synheliion and Helbling Technik are bringing together the best of research and engineering and, in doing so, exploring new technical frontiers.”**

*When it came to the interdisciplinary tasks involved in the system integration and scaling processes, Helbling Technik was able to avail of an experienced team of engineers from numerous specialist areas. Due to the project’s complexity, optimum coordination, communication and cooperation between the Synheliion researchers and the Helbling Technik team were essential.*

# Nestlé's NESQINO Q-Cup – Customizable healthy beverages

Launched in early 2020 in China, the NESQINO Q-Cup is the first system available in the market to prepare customizable healthy beverages. This new product line offers a solution for busy consumers seeking a healthy lifestyle, with a wide range of tasty and fully natural beverages.



**Ludovic Dovat**, PhD NUS - MSc EPFL, Head of Development "Smart Nutrition Systems", Helbling Technik Wil AG

**“NESQINO is the new ritual for everyday wellness. In all our recipes, we’ve used a selection of natural ingredients that are known to do you good (including superfoods and probiotics), to create delicious customizable beverages.”**

**Trevor Clayton**, Head of Dairy Strategy Business Unit, Nestlé

*At the peak of the activities, the Helbling team consisted of 9 team members, including development and test engineers, specialists in Design for Manufacturing and Assembly (DFMA), Computational Fluid Dynamics (CFD) and DOE, and a project manager. Being able to work efficiently with many activities in parallel was key to meet the very tight timeline without compromising the product quality.*



## Overview

A NESQINO beverage is made by combining a base (milk, fruits or cereals), a superfood sachet and water. The beverage is prepared in the Q-Cup which includes a heating and mixing system. The beverages can be prepared either ambient or warm, and the user is able to adapt the temperature to her/his own taste through a smartphone app.

## Our Contribution

Helbling has been mandated by Nestlé for the concept, development, and industrialization of the Q-Cup and its docking station. Some of the key challenges successfully tackled by the team during the whole project were the hygiene and ability to clean the system, its cost-effectiveness, and its premium look and feel. In addition, the team designed and optimized the mixing device based on non-stationary CFD simulations and extensive tests using the design-of-experiment (DOE) approach. The very short time-to-market has been made possible through a close and dynamic collaboration of all project partners.

## Results/Achievements

The Q-Cup has been successfully launched in early 2020. It provides together with the NESQINO products a unique user experience for natural healthy beverages.



# SBB – IoT platform for elevators and escalators

For SBB, Helbling Technik developed an IoT platform for connecting elevators and escalators using the cloud. This provides the basis for transparent communication of the availability of customer-critical infrastructure, which SBB is obliged to do under the Disability Equality Act from 2023.



**André Wangler**, Dipl. El.-Ing. ETH, Head of Digitalization and Smart Factory, Helbling Technik, Aarau, Switzerland

**“Thanks to our pragmatic, comprehensive approach, we were able to lay the foundations for a long-term partnership with SBB in the field of digitalization.”**

## Overview

SBB operates numerous elevators and escalators. In this project, SBB wanted the operating data of these installations to be collected in a cloud, with the various operating states visualized in a uniform manner. The resulting platform transmits installation data to the cloud via a gateway, with fleet data from the respective manufacturers also integrated into the system via manufacturer interfaces.

## Our Contribution

SBB commissioned Helbling with the task of developing and implementing the various functionalities of the IoT platform, namely data acquisition, installation management and data evaluation in the cloud, and status queries and the interpretation and visualization of the data via a web application. For this purpose, the facilities are managed in an Amazon cloud and the received data is entered into a generic data model in an easily maintainable, highly scalable framework, notifications are generated and made available to other systems. The platform also features a uniform dashboard, which shows the real-time operating status and utilization of each installation.

## Results / Achievements

The SBB IoT platform measures the key performance indicators (KPI) of the lifts and escalators. The availability of the systems is visualized in real time and forwarded to third-party systems for further processing.

*This exciting project was executed over a short period of time by an interdisciplinary project team which together was able to provide all the communicative and technical skills needed by the project in the areas of requirements engineering, hardware evaluation, embedded and cloud software development, system architecture, UI design and web development. Indeed, across all of these areas it was essential that the team always has its finger on the pulse of technological developments.*

# Ivoclar Vivadent – “Bluephase PowerCure” and “Bluephase G4”

The intelligent polymerization units “Bluephase PowerCure” and “Bluephase G4” facilitate shorter exposure times, greater safety and monitored application precision when it comes to light curing dental materials.



**Magnus Alfredsson**, Dipl. Masch. Ing., Head of Development, Medical & Lab Systems, Helbling Technik, Wil, Switzerland

**“The team has taken device performance to the next level.”**

*Helbling Technik developed the products in close cooperation with the client, compiling comprehensive ISO 13485-compliant documentation throughout the entire development process. The core team of five people was supported by experts in optical efficiency, thermal management, usability, and system integration. The resulting patent applications show the high innovative strength of the team.*



## Overview

Helbling Technik has developed the new platform of Bluephase LED polymerization units for Ivoclar Vivadent. What makes this platform so unique is the fact that it comprises a new optic concept, an automatic assistance system and an effective user interface.

## Our Contribution

The device’s built-in reflection sensor technology enables it to detect incorrect application (movement of the light guide during curing) and discreetly alert the user accordingly by means of vibration. It also automatically adjusts exposure time and, where incorrect application has occurred, aborts the process. Its simple screen format ensures clarity, efficiency and hygiene, and displays only information relevant to the user. Its wireless battery charging function provides additional ease of use. Software tools developed by Helbling Technik enable users to access and analyze error logs and runtime data relevant to development and production processes.

## Results / Achievements

The manufacturing costs were maintained, despite the high complexity, of the process, the transfer of production from Asia to Europe, and the tripling of device performance. The product’s successful market launch was reflected in numerous product awards.

# RONAL – Pioneering production planning concept

Helbling Business Advisors is helping RONAL GROUP, the world’s leading manufacturer and supplier of alloy wheels for passenger cars and commercial vehicles, to implement a pioneering concept for production planning at its international production plants.



**Sascha Paxian**, Dipl.-Wirt.-Ing. (FH), Director, Helbling Business Advisors, Dusseldorf, Germany

**“The Helbling Business Advisors team boasts an outstanding level of technical expertise. Its efforts to advance our planning processes have done our company an enormous service.”**

## Overview

RONAL produces over 21 million wheels per year at its 13 production sites on three continents. This project aimed to further develop, harmonize and increase the efficiency and performance of the company’s existing production planning methods, and to prepare for the introduction of pioneering software.

## Our Contribution

The project comprised three phases: the rough project phase, which included strategic alignment work; the detailed concept phase, with piloting for purposes of concept verification; and the software selection and implementation phase. Helbling Business Advisors assisted a team of experts from different business divisions and production sites in developing concepts for future production planning methods, piloting and optimizing the concept and selecting the software. This assistance consisted primarily in conducting analyses, developing supply chain methods, the content of the concept and implementing workshops with experts from the different business divisions and production sites.

## Results / Achievements

The project participants succeeded in jointly developing and approving the concept, the strategic direction to be taken (focusing on production and planning), and a new KPI system. The pilot phase is currently in full swing.

**Christian Leuthold**, Head of SCM Planning at RONAL GROUP

*Tackling the complex production processes and technological particularities, as well as the varying conditions from plant to plant, necessitated a comprehensive range of expertise, spanning such areas as production strategy and optimization, planning methods, production IT and flow optimization. The experienced, interdisciplinary Helbling Team (comprising experts for production, planning, lean manufacturing and factory planning) and the RONAL team complemented each other perfectly.*

# Hawa Sliding Solutions – “Project Plus+ – Growing Together”

Hawa Sliding Solutions was formed in collaboration with Helbling Business Advisors and as the result of a merger. The project received the ASCO Award 2019 for the best consulting project in Switzerland.



**Jürgen Klingenstein**, Dipl.-Wirt.-Ing.,  
Director, Helbling Business Advisors,  
Zurich, Switzerland

**“It was a pleasure to see how quickly a very successful cooperation was established with the owners, the Board of Directors, the two CEOs and the entire management team.”**

*Taking into account the company's remit and the different services required, Helbling Business Advisors availed of its broad and diverse pool of experts to primarily cover the areas of change and transformation management, strategy & organization, marketing, sales, customer service, supply chain management, operations and IT. It then deployed up to 5 consultants to work on the project, depending on the respective project phase and intensity of the tasks.*



## Overview

Hawa Sliding Solutions is an international family-run company with around 250 employees. It specializes in manufacturing sliding solutions for use in construction and furniture. The company arose from the Hawa and EKU companies, which were merged in the project. The aim was to generate synergies and growth.

## Our Contribution

Helbling Business Advisors helped to implement the project in three main phases, beginning in the final quarter of 2015 and ending around mid-2018. The first phase involved assessing the project's feasibility and developing a vision for the joint company to present to its owners and Administrative Board. The decision to implement the project was made at the end of 2015. The phase that then followed in 2016 involved reorganizing the company's structure, implementing a joint ERP solution and developing detailed synergy and growth concepts. The third phase then began in 2017 and involved implementing the various measures.

## Results / Achievements

Significant synergies were achieved, especially in sales, customer service, administration, IT and purchasing. Growth was initiated in Asia, the USA, Northern Europe, the direct processing of industrial clients and through product and service innovation.

# Expansion of the Zurich city district heating supply – Client representation and site management

On behalf of ERZ Entsorgung + Recycling Zurich, Helbling Beratung + Bauplanung is acting as client representative and site manager for this complex inner-city infrastructure project for structural and civil engineering.



**Cornel Grad**, Dipl. Bauing. ETH,  
Competence Manager, Helbling Beratung  
+ Bauplanung, Zurich, Switzerland

**“Playing such a sustainable role in helping the City of Zurich achieve its energy policy objectives is extremely satisfying.”**

## Overview

This project involves the building of a three-kilometer-long connecting line and new energy center between the Hagenholz waste incineration plant and Zurich-West. Its purpose is to enable Zurich to continue supplying district heating after the decommissioning of the Josefstrasse waste incineration plant, and to connect additional areas to the district heating system.

## Our Contribution

Building owner representation

- Representation and advice of ERZ in all construction matters
- Establishment and management of project and contract controlling (costs, dates, services) for the entire project
- Reporting on project status, deadlines, costs, quality and risks
- Preparation work for higher-level decision-making
- Assignment and management of contractors
- Coordination of planners, authorities and third parties across all areas of construction
- Examination of all technical documents in the field of construction
- Senior site management & Top site management
- Monitoring of the conformity of structures and installations with the contract
- Management of the construction supervisors
- Schedule and cost monitoring

## Results / Achievements

The interaction of client representatives, planners and contractors as well as proactive site communication are the keys to success. The project is in the middle of execution, with completion planned for 2023.

*Helbling Beratung + Bauplanung has two appointed representatives of the construction project owner. They are Cornel Grad (civil engineering) and Markus Rausch (industrial building construction), both of whom have been deeply involved in the project for five years. Together they boast many years of experience in various roles within public sector construction projects – experience with which they contribute significantly to the success of the project.*

# Energy concept for area development Lengg, Zurich – Consulting & Engineering

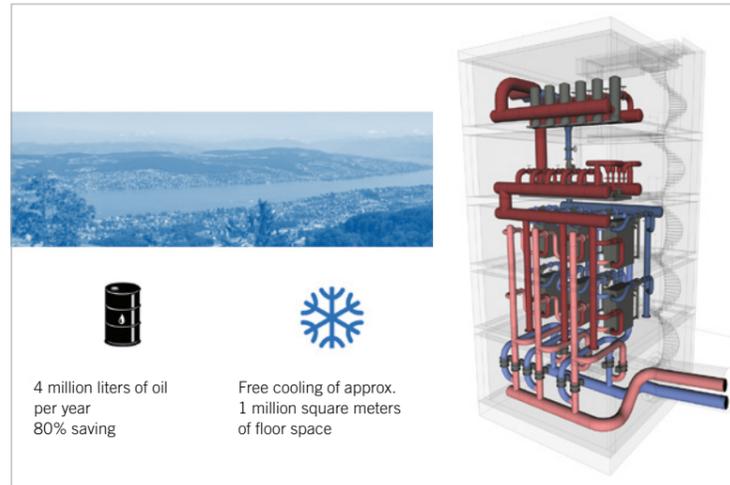
Zurich's Lengg area is among the largest workplace clusters in the Swiss health sector. Helbling Beratung + Bauplanung was tasked with developing a sustainable concept for supplying the entire complex with energy.



**Dr. Christian Bürgin**, Dr. sc. Ing. ETH, MAS Energy Engineer FH, Senior Project Manager, Helbling Beratung + Bauplanung, Zurich, Switzerland

**“It is a fantastic opportunity to save 4 million liters of oil equivalent with a sustainable system and thus contribute to the energy turnaround.”**

*A Helbling Beratung + Bauplanung team led the study and coordinated all underground construction specialists involved. Its members jointly developed a compelling, sustainable solution that now provides a solid basis for further planning and implementation measures.*



## Overview

In order to be able to develop the site over the medium and long term, the respective canton authorities, the city of Zurich, the municipality of Zollikon and local institutions joined forces to conduct a site analysis. Helbling Beratung + Bauplanung was tasked with performing in-depth evaluations and conducting a study into the available alternatives.

## Our Contribution

The study concluded that, when it came to meeting the criteria for generating heat and cold, using the lake water as heat source and heatsink was the best method available. To this end, pipelines were set up running from Lake Zurich to the institutions' heating and cooling centers via a pump station on the lake shore. Increasing the heat to the required temperature level is achieved through heat pumps. Cooling is achieved through "freecooling". The "lake water utilization" option was subsequently evaluated in a feasibility study that examined technical feasibility, scope for obtaining official approval and economic efficiency.

## Results / Achievements

The parties who commissioned the study have since joined forces to create the association "Verein Gesundheitscluster Lengg" (VGL). The project is to be implemented using the contracting process. Participating in this process will be Helbling Beratung + Bauplanung and the pertinent partners. In this way Helbling Beratung + Bauplanung hopes to continue playing a role in promoting the sustainable supply of energy.

# Humbel Zahnräder AG – PLM as a Service

Helbling PLM Solutions supports Humbel Zahnräder AG in introducing the development platform 3DEXPERIENCE® in the cloud, and thus facilitating future-oriented and innovative development across all locations.



**Philipp Gmür**, Computer Science and Mechanical Engineer, Team Leader, Helbling PLM Solutions, Zurich, Switzerland

**“Thanks to the introduction of 3DEXPERIENCE® on Cloud, we were able to facilitate cross-national collaboration in a very short period of time.”**

*The Helbling PLM Solutions project team consisted exclusively of application consultants, who worked closely with the client to determine how to define and implement the work methodology and configure the system. With 3DEXPERIENCE® on Cloud as "PLM as a Service", the server infrastructure and its installation is guaranteed by the software manufacturer Dassault Systèmes.*

## Overview

Humbel Zahnräder AG is a long-established, industry-leading Swiss company and center of excellence as regards the development and production of innovative gear technology. Through introducing 3DEXPERIENCE® on Cloud, Humbel was seeking to outsource IT infrastructure and thus focus more on its core competencies.

## Our Contribution

Helbling PLM Solutions provided Humbel with intensive support and advisory services during its introduction of 3DEXPERIENCE® on Cloud. Today a total of ten people in three countries (Switzerland, Czech Republic, Romania) work with the platform. For this initial phase, Humbel is working with the basic CAD documentation management feature and the collaboration functionality. The cloud solution is extremely flexible, allowing for additional roles and apps to be activated at the click of a button and not requiring any additional installation work. It also offers free, automated system updates conducted on weekends only so as to avoid any disturbance to operations.

## Results / Achievements

The productive use of 3DEXPERIENCE® on Cloud could be started after about two months of preparation time. The platform was accessible after just a few hours, and subsequently configured according to the clients' needs and usage concepts.



## Helbling Technik – Innovation, together we do it

We are a partner for independent R&D development services, from the idea to the market-ready product. We support our clients in close cooperation to achieve competitive advantage and entrepreneurial added value through strategic innovations.

### Main areas of technical expertise

- Ideation & product innovation
- Mechanic construction
- Mechatronics, automation & robotics
- Electronics, firmware & software
- Optics
- Measurement & sensory technology
- Signal & image processing
- Data analytics, algorithms & artificial intelligence
- Microtechnologies & MEMS
- Thermodynamics, fluidics, acoustics
- Modeling, calculation & simulation
- Plastics technology
- Plant planning & production optimization

### Main sectors

- Home & office appliances & equipment
- Automation & mechanical engineering
- Medical technology
- Laboratory diagnostics
- Electromechanical devices & tools
- Transportation
- Energy
- Services & the public sector
- Smart infrastructure in building technology, mobility & IoT

The demand for innovation continues unabated around the world. Technological progress, internationalization, the interconnection of markets, more and more regulatory obligations, cost pressure and expectations in terms of sustainability are placing ever more demands on products. In these circumstances, our clients need to be able to realize their technological and product innovation projects in collaboration with external R&D development service providers. At seven locations in Switzerland, Germany, the USA and China, 42 specialized, business-driven development teams work together to execute interdisciplinary projects from a single source, beginning with the idea development phase and seeing things right through to series production.

Helbling Technik's business model, wealth of experience in building and maintaining successful partnerships, and professional design and laboratory infrastructure are what set the company apart. We are deeply motivated by the idea of successful products, satisfied clients, and employees who enjoy their work. In this regard, we attach equal importance to innovative strength, executional competence, reliability and discretion. We carefully combine our proven development and project management methods with agile approaches to meet the increasing demands for flexibility. We simultaneously ensure high performance and adherence to deadlines and costs.

## Helbling Business Advisors – Your experts for corporate finance, strategy, operations, and digitalization

We advise companies on matters of key strategic and operational importance and on effective ways of future-proofing their businesses. Based on our comprehensive consulting expertise, we develop solution concepts that sustainably improve the competitiveness and profitability of our clients.

### Strategy & Operations

#### Strategy

- Strategy & organization
- Marketing & sales
- Performance management
- Transformation & change management

#### Operational Excellence

- Supply chain, production, lean manufacturing, logistics
- Process & cost optimization
- Product Lifecycle Management
- Digitalization & Industry 4.0

### Corporate Finance

#### Restructuring

- Reorganization expertises & business plan plausibility checks
- Expert reports on restructuring measures & business plan plausibility checks
- Liquidity planning & management
- Business planning & Financial modeling

#### Mergers & Acquisitions

- Acquisition & sale of companies
- Succession planning & solutions
- Management buy-outs & buy-ins
- Due diligence & company valuation

### Strategy, Operational Excellence & Digital Transformation

Through our services reviewing and redesigning company strategies and organizational structures, we help our clients achieve differentiated competitive positions and generate profitable growth. Our services in the field of operational excellence not only consistently reduce costs, they also boost effectiveness and efficiency, particularly in procurement, production, supply chain management, and in other indirect areas. Our digital solutions invariably focus on delivering client value. Because only then can we optimize our technology in line with our clients' requirements and facilitate maximum ease of use. This in turn requires us to combine our process expertise with innovative IT & Industry 4.0 solutions. In this way, we help our clients to proactively use digitization for their own benefit.

### Corporate Finance (Restructuring, Mergers & Acquisitions)

We develop effective strategic realignment and future-proofing concepts, and assist our clients in consistently implementing the corresponding measures and/or introducing new business and management models. Our M&A experts boast a winning combination of transaction experience, industry expertise and creativity, which in turn enables them to achieve true execution excellence. As a partner of Corporate Finance International, we also perform global transactions and have access to investors around the world.



## Helbling Beratung + Bauplanung – Your partner for real estate, industrial and infrastructure projects

We lead complex real estate, industrial and infrastructure projects to success. Energy-related services round off our portfolio. Our almost 50 employees stand for interdisciplinarity, objectivity and the creation of client benefits.

### Services

- Energy concepts for clients from the real estate and industry sectors
- Building services engineering, general planning, BIM coordination for real estate and industrial clients
- Project definition, master plan / feasibility study, market and location analysis, architectural competition and study contract, evaluation and transaction for real estate and industrial clients
- Project management for construction project owners, representation of construction project owners, user and operator representation for clients from the real estate, industrial and infrastructure sectors
- Client consulting and support, BIM consulting, studies, compiling expert reports and guidelines in an executive capacity for real estate and infrastructure clients
- Status analysis / technical due diligence for real estate and industrial clients

Our world is the project business in the sphere of buildings and facilities owned by public and private owners from a vast range of sectors. With our experience and competences we are able to transform complex tasks into sustainable solutions in a high quality and specific way. The broad experience background of our employees builds the basis for our services, which we provide close to the decision-makers – both in advising and representing clients and in comprehensive planning and consulting in the field of energy and building services engineering. We also provide our clients with competent support in the development of sites and locations.

Helbling Beratung + Bauplanung acts as an independent company. This ensures that our clients have access to a wide range of expertise, objectivity and an unrestricted focus on their needs and thus freedom of action. We provide our services working in partnership with our clients. This enables us to focus fully on their respective buildings and plant facilities, and to then achieve convincing results with signature characteristics.



## Helbling PLM Solutions – Your partner for the digital innovations process

IT solutions for innovation and interdepartmental collaboration within companies: We offer our clients consulting competence, implementation expertise and integration services, drawing on the broad and in-depth knowledge of our employees.

### PLM Consulting

- Project management
- Coaching
- Expert reports, audits & analyses
- Organizational consulting
- Process optimization
- Methods / solution concepts
- IT architecture / infrastructure

### PLM Solutions

Product-based concept development and implementation:

- 3DEXPERIENCE® platform (on-site / in-cloud)
- CATIA
- ENOVIA
- SIMULIA
- DELMIA
- SmarTeam

### PLM Service

- Training seminars
- Support (on-site & via hotline)
- Company-specific additional development work
- CAM post-processors
- Outsourcing of system management

### Product Lifecycle Management

We are a leading provider of product lifecycle management services and software solutions. We seek to facilitate collaboration that is interdisciplinary, cross-location, efficient and clear, from the product development phase through to production. The demands of digitalization, IoT and Industry 4.0 remain high. Over the past fiscal year, our specialists successfully designed, configured and commissioned corresponding solutions for numerous well-known customers.

A large proportion of these projects was based on the pioneering 3DEXPERIENCE® platform. Developed by our partner Dassault Systèmes, we played a leading role in the system's implementation. Our clients include companies from the high-tech, aerospace, vehicle construction and mobility industries, as well as from the mechanical engineering and plant engineering and construction sectors. With many of them we maintain long-term partnerships. The cooperation is characterized by personal care and close working relations. In addition to consulting, sales and solution adaptations, this includes above all ongoing support in operations.

# Global Spectrum of Experience

## Our Locations



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**Helbling Group**

Valuable through Innovation