

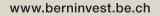
Small factory – big vision

LIVING/CULTURE/TOURISM

Five new, ambitious companies

introduce themselves

Smart Assistants – enhancing your holiday experience





Would you like your company and your products and services to feature in this prominent place?

Then get in touch at: info@berninvest.be.ch +41 31 633 41 20

We will be happy to provide you with more details. Bern Economic Development Agency





Content

COVER STORY Small factory – big vision	4–7
START-UP NaturLoop TEACHY Peerdom SurgeonsLab Swiss Cluster	8/9
PORTRAIT OF A CEO The home of precision	10/11
HIDDEN CHAMPION Meraxis: global player in the polymer industry	12/13
DIGITALIS Robots revive competitiveness of "Factory Switzerland"	14/15
LIVING / CULTURE / TOURISM Smart Assistants – enhancing your holiday experience	16–18
COMPETITION Tourist highlights in the Interlaken-Jungfrau Region	19
ADMINISTRATION FOR CITIZENS Feel free to ask the Digital Administration Secretariat	20
NEW ARRIVALS New arrivals in the Canton of Bern	21
#cantonofbern Hiking gems in the Bern region	22/23

Publication details

Publisher, concept and chief editor: Bern Economic Development Agency (BEDA), Münsterplatz 3a, P.O. Box, CH-3000 Bern 8, tel. +41 31 633 41 20 Internet: www.berninvest.be.ch Text: Marianne Dafflon, Beat Hausherr, Pirmin Schilliger, Michaela Schlegel Design: Casalini Werbeagentur, Bern Translation: Marianne Creola, lingua-communications, Thun Printed by: Haller + Jenzer AG, Burgdorf. Printed on FSC-certified paper. Circulation and publication method: "bernecapitalarea – magazine on business, science and living in the Canton of Bern, Switzerland" is published twice a year in German, French and English and has a circulation of 3,000 copies. Picture credits: PC HE-Arc (p. 1, p. 4–7), PC (p. 8/9), PC Sabato Microtec AG (p. 10/11), PC Swiss-Factory.Group (p. 14/15) PC Destinations Interlaken and the Jungfrau region (p. 16–19), PC (p. 21), People pictures PC (p. 10, p. 12–14, p. 17/18) Infographics: Meraxis (p. 13) All rights reserved. Articles and pictures may only be reproduced with the express consent of the publisher.



Dear reader,

Switzerland is one of the most innovative countries in the world. Whether we are at the forefront of every single innovation is not really the issue. What is more important is that we constantly improve and that industry embraces the most important trends. One particular area in which that applies is Industry 4.0 and digitalization. It is not easy to implement these innovations, particularly in traditional industries. So how can you reconcile tradition and innovation? In this issue, we asked institutes and companies in Bern how they are going about implementing Industry 4.0 and digitalization in a constructive way. The Canton of Bern supports and facilitates these projects – as an enabler, as a coaching partner and as a network partner.

In our cover story we introduce you to a project with revolutionary potential. How else would you describe a fully automated machine pool that fits on a shelf? This innovative device is currently being developed at HE-Arc in Saint-Imier. But it's not just about developing the machines, it's also about taking the project partners along on this journey into Industry 4.0 and digitalization and creating a sense of excitement about them in the region.

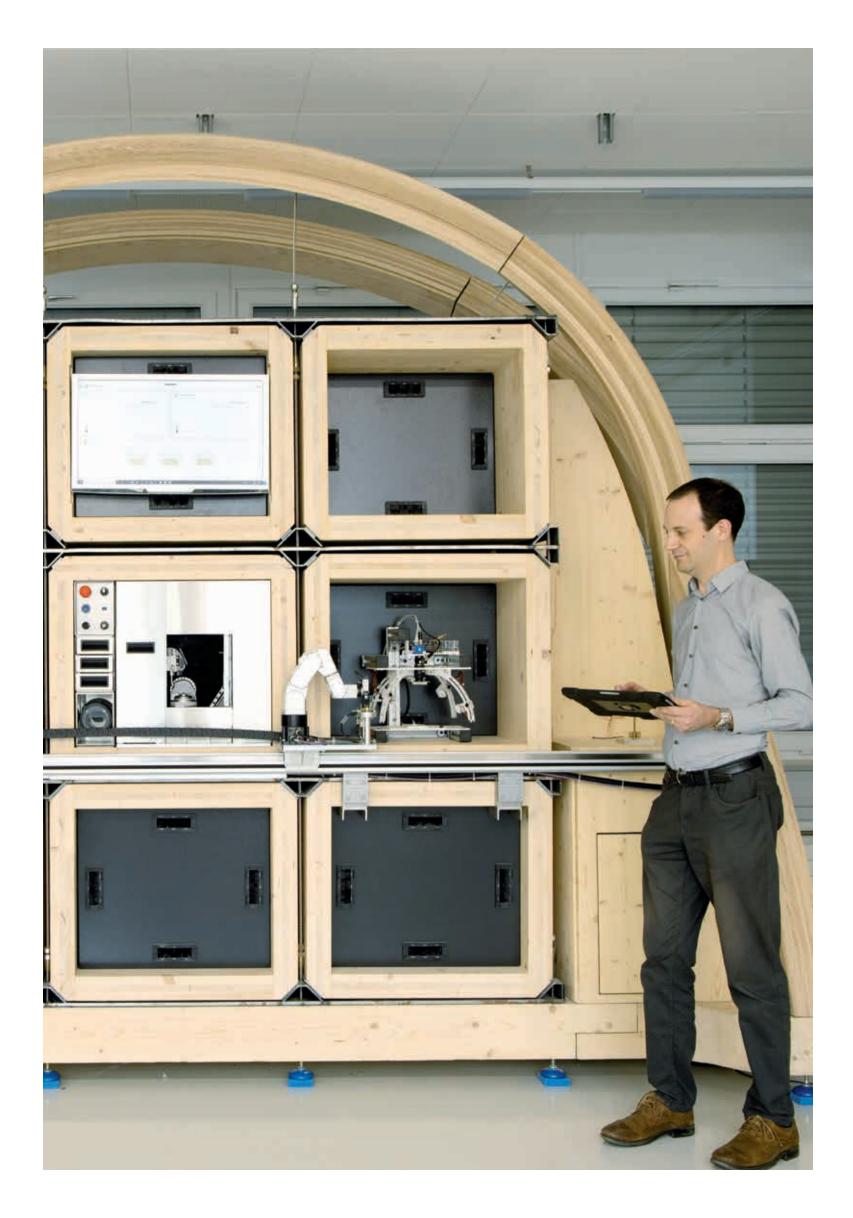
The SwissFactory.Group in Neuenegg already operates as a "dual factory." People do the work during the day, and then machines and robots take over at night. Although Hans Gattlen and his team are still in the launch phase, they are confident that they will be fully operational by the autumn. This is an example of entrepreneurship and Industry 4.0 in their purest form – right here in the Canton of Bern. And it perfectly complements the Swiss Smart Factory in Biel/Bienne.

In this issue we also feature another Hidden Champion: the international trading group Meraxis, headquartered in Muri near Bern, which is committed to digitalization and is something of a pioneer in its sector. According to CEO Dr. Stefan Girschik, digital solutions create transparency and efficiency. If you haven't heard of Meraxis yet, don't worry, just read on – that's the nature of a Hidden Champion.

Of course, digitalization is even permeating our dealings with the authorities: something we are discovering every day anew as the Canton of Bern's current hardship support program is implemented. However, this is not only about pandemic support measures but about important interfaces in the canton: the Digital Administration Office is responsible for implementing the Canton of Bern's Digital Administration Strategy 2019–2022 and is therefore the central point of contact for questions on digital administration in the canton. Find out what these questions are in the Administration for Citizens column.

Join us on a deep dive into digitalization and Industry 4.0 as we present this exciting topic from some unexpected angles. I hope you will find this issue a fascinating read.

Yours truly, Dr. Sebastian Friess Head Official, Office of Economic Affairs President, Bern Economic Development Agency



Small factory – big vision

An autonomous microfactory that custom manufactures products from raw materials using various processes and without human intervention while simultaneously carrying out quality assurance. A glimpse of a distant future, perhaps? But that future may no longer be all that far off, because the engineers at HE-Arc are already working on making it a reality today.

Switzerland - and especially the Jura region - is a stronghold when it comes to small components, be they for the watch industry or for medical technology. Up to now, however, these small parts have mainly been manufactured on huge machines that are massively energy-hungry, difficult to program, and all too often located abroad because of the high cost of manufacturing in Switzerland. So the engineers at HE-Arc posed themselves the question: Could we develop a small machine that saves energy and space and is agile and flexible? Professor Claude Jeannerat's team took up this challenge and presented the Micro5 at SIAMS 2016, the trade fair for future trends in the microtechnology industry. The Micro5 is a five-axis milling machine that is no bigger than a coffee machine and has power consumption measured in kilowatt hours rather than megawatt hours. Using artificial intelligence, it self-adjusts as soon as it identifies anomalies. A mini sensation, you could call it. The prototype was adopted by three different machine manufacturers who now have this product in their ranges.

From machine to MicroLean Lab

The Micro5 inspired the HE-Arc students to think about what might come next. Supposing things didn't stop with this one machine but several autonomous, building block-style micromachines were to be combined to form a microfactory? Like a smartphone with different apps. Professor Jeannerat was instantly all ears for this vision and the MicroLean Lab (MiLL) project was born. The idea behind the microfactory, the heart of the MiLL, is to turn raw materials into finished products such as main plates for the watch industry. The machines would interact autonomously and carry out quality assurance during the manufacturing process itself, thus minimizing or completely eliminating rejects. What's more, the factory would be so flexible that products could be tailor-made. Everything could be manufactured to order on site, and all at market prices. Huge warehouses, excess stocks, high energy costs, and long transport distances would be a thing of the past. Manufacturing would take place in Switzerland, thereby adding to the credibility and flexibility of manufacturing here. The microfactory would be of particular appeal to jewelry boutiques, watchmaking workshops, dental practices or even hospitals, for example.

Experimental center

But many of the building block technologies needed for the MiLL do not yet exist. And that's why the people in charge expressly refer to the MiLL as an experimental center where new technologies, implementation methods and ideas from the world of artificial intelligence and digitalization in Industry 4.0 are created and verified. In this respect, they are not alone: Research into automating manufacturing processes and interconnecting different machines is also being conducted at other research institutes such as the Swiss Smart Factory, with which the players at the MiLL liaise closely and share information. The special and unique feature of the MiLL is that it is designed to manufacture parts in the submillimeter range. This poses a whole new set of challenges for developers, because in these ranges experimentation takes precedence over calculations. This research in high-precision engineering and the development of a miniaturized machine park make the MiLL the only project of its kind anywhere in the world.

The next stages

The project is divided into several stages: integration of the building block technology, interconnection of the machines, and autonomization of the microfactory. By 2025, the MiLL should be far enough developed to be able to be used by industrial companies. As it progresses, the project will offer quick wins to keep its partners happy, such as developments for logistics or technologies for machines.

There are still quite a number of challenges to be overcome before the factory is completed, which a team consisting of HE-Arc researchers, university graduates, and 25 different partners from industry is currently working on. These people bring together a wide range of skillsets, with the MiLL incorporating mechanical engineering, watchmaking, MedTech, high precision, and Al. Like the building block technologies, they must all work together optimally to achieve their goal and make the project a success. We spoke to four of the key players and found out why the MiLL is revolutionary for them.



It all started with this: a 5-axle milling machine that's not much bigger than a standard coffee machine.





"My focus has always been on sustainability in manufacturing."

Professor Claude Jeannerat, Scientific Coordinator, MiLL

"You don't get far on your own."

Professor Nabil Ouerhani, Scientific Lead, MiLL, Interaction Technologies Research Group

The main driving force behind the Micro5 and therefore the MiLL is Professor Claude Jeannerat. For him, the MicroLean Lab serves two main purposes: digitalization and sustainability. It's the latter that is Jeannerat's particular passion. "My focus has always been on sustainability in manufacturing, even when that wasn't yet on any industry's radar." Nevertheless, HE-Arc and HES-SO offered him the opportunity to develop a program on sustainability in manufacturing. This gave rise to the Micro5, and now the MiLL experimental lab is the continuation of this idea. Today, the energy and space-saving aspect is attracting a lot of interest from industry – much to Jeannerat's delight. The second key aspect, digitalization, embodies the greatest transformation potential, Jeannerat believes, especially for the partners involved in the MiLL: "The MiLL enables the partners to acquire or expand competencies in this area." Digitalization is an area in which many Swiss companies still have some catching up to do: "In digitalization and autonomization, Swiss companies still have to find their niche."

For Jeannerat, two of the biggest challenges at this stage are the development of the artificial intelligence that will enable the machines installed in the MiLL to manufacture autonomously, and transit, or how components get from one block or machine to the next. "We are currently leaning toward multiple independent shuttles that can be controlled in a similar way to self-driving cars." This development

requires "a mix of new ideas and new technologies in robotics," Jeannerat concludes.

How the machines in the MiLL work together, communicate with each other, and are operated is the area of expertise of Professor Nabil Ouerhani and his team. The engineer specializes in communication and interaction between robots, machines, and humans. The biggest challenge for his specialist field at the moment is how to orchestrate the machines, which have to be flexible and agile. It helps that most modern-day machines are equipped with standardized software allowing them to connect to other machines. And that's something that wouldn't have been possible not so long ago, Ouerhani explains: "In terms of Industry 4.0, tool and machine manufacturers have realized that you don't get far on your own and that you need to be open to collaboration." The fact that Switzerland is not yet up there among the front runners in automation and digitalization doesn't worry him. "Switzerland is pursuing a bottom-up strategy - in quite a federal way. Instead of a major national strategy, as Germany has, for example, what we are seeing here is the emergence of guite a lot of regional and cantonal initiatives." Coupled with the instruments of the federal government, the country is well positioned and well equipped for change, he believes. Another aspect Ouerhani thinks could be of benefit to Switzerland is the fact that "transformations such as Industry 4.0 require new professions and skills to be taught. With

our dual education system and training and development institutions, Switzerland already has a highly effective lifelong learning system." This can provide the knowledge needed to enable people to operate the new technologies and facilitate interaction between humans and machines.



"A micromachine f

"A micromachine for Switzerland, the stronghold of micromachining."

Philippe Chavanne, Director, LASEA Switzerland SA

"Collaborations in the field of innovation are always particularly valuable as they broaden mental horizons and force us to rethink our processes."

> Pierre-André Bühler, CEO, DYB, member of the Swatch Group Management Board

Swatch Group is one of 25 industrial partners involved in the MiLL. Pierre-André Bühler is responsible for driving digitalization and Industry 4.0 forward at Swatch Group and is a partner to the MiLL. "The project covers all the aspects that interest us: Industry 4.0, digitalization, and sustainability." The Swatch Group is also already involved in the Micro5 project. "These kinds of collaborations in the innovation space are always particularly valuable as they broaden mental horizons and force us to rethink our processes," Bühler says adding that even if these projects are not necessarily financially viable, they would always be worthwhile because of the experience and skills gained. He finds the MiLL vision both fascinating and utopian at the same time: "The MiLL is a realistic concept in an evolution that we have not yet mastered. Whether the end result will ultimately look the way we envisage it today remains to be seen." Nevertheless, plenty of technologies and methods would emerge in the process that could already be integrated into conventional manufacturing today. The Swatch Group wants to make use of these to drive microautomation forward, use the data gathered digitally in a meaningful way, and avoid manufacturing errors. According to Bühler, a microfactory's potential lies primarily in the growing demand for small production runs and custom manufacturing at competitive prices: "The MiLL would enable the time from development to market to be shortened, especially in the high-end segment of the watch industry, bringing you much closer to the customer."

LASEA is a manufacturer of high-precision laser micromachining systems headquartered in Belgium. "After we saw the Micro5, we said to ourselves – halfjoking: 'Wouldn't it be wonderful to develop a MiniLASEA?'" says Philippe Chavanne, director of the subsidiary in Biel/Bienne. This wacky idea suddenly became very real when LASEA was asked to develop a microlaser for the MiLL. "LASEA had been supplying Switzerland for many years, so around four years ago we decided to set up a Swiss subsidiary to give us an even firmer foothold here. That's why we were immediately gripped by the idea of co-developing a micromachine for Switzerland, the stronghold of micromachining." And because space is at a premium in Switzerland, a small machine makes more sense, quite apart from the environmental aspect. But partners such as the engineers at the MiLL who have the microengineering skills are indispensable for developing a small machine, he points out: "So far, our experience is mainly in machines whose stability and precision are achieved by using granite or high-precision axes. Instead, we bring our expertise in optics to this project."

A second reason for this collaboration is the Industry 4.0 aspect. "Many of our Swiss customers are already using our automated solutions, and we are also involved in developing smart machines, which will only benefit from this collaboration." Although Chavanne doesn't think smart machines will dominate every aspect of manufacturing in the future, he is nevertheless aware that large customers in particular will demand machines that can operate automatically and without human intervention. For Chavanne, an autonomous factory on a microscale is "a visionary and revolutionary project that can only come to fruition here in this region."



Components will be moved from one machine to another on independent shuttles that move horizontally and vertically.



INNER WORKINGS Insights into the inner workings of the Micro5



NaturLoop

NaturLoop is a cleantech and materials science start-up. This spin-off from Bern University of Applied Sciences is currently launching its first product on the market: Cocoboard, a sustainable and affordable alternative to conventional particleboards and MDF. The boards are manufactured in the Philippines from the fibers of coconut husks – previously an unused waste product – with the aid of a turnkey manufacturing concept. The adhesive employed in the manufacturing process consists of natural tannin. The boards are used in the Philippines, where construction material for furniture or buildings is difficult to obtain. With its sustainable alternative, NaturLoop aims to reduce tropical deforestation.

The former research project was supported by the BRIDGE Proof of Concept funding program and also received start-up coaching from Innosuisse. In addition, NaturLoop won Venture Kick financial and entrepreneurial support in summer 2020 while also receiving funding from Switzerland Innovation Tech4Impact in the same year.



TEACHY

"We are successful because our students are successful." This is the credo of TEACHY, a start-up offering highly individualized tutoring. And this credo seems to work: Since its inception, TEACHY has won seven awards, including the EPFL Kickstart Accelerator Award.

TEACHY provides modern one-to-one tutoring as a supplement to regular school lessons. To ensure an optimal learning environment, all students are matched with tutors who are the best fit for their needs. The matchmaking system is based on expertise gained from over 30,000 lessons and the latest findings from educational research. With this approach, TEACHY is tapping into the trend of increasing individualization. Based on many years of experience, tutor recommendations and each student's individual needs. long-term learning programs are drawn up with the aim of achieving the learning objectives effectively and reliably. To complete its range of services, TEACHY provides a fully worry-free package for parents, including regular feedback on their children's progress.

TEACHY tutoring is available online throughout Switzerland and in face-to-face sessions in Bern. A further local base in Basel is planned.

Ideas, new technologies and inquiring minds constantly inspire new business ideas that give rise to start-ups. We present five examples in our start-up parade.

BREATH OF

FRESH AIR



Start-up stage

Product launch

The inventors

Michail Kyriazopoulos and Daniel Dinizo, two passionate, sustainability-focused wood technologists who can see the wood for the trees.

Biel/Bienne

www.naturloop.com

Start-up stage

Growth phase (expansion)

The inventors

Christian von Olnhausen, mathematician and tutor who, even as a twelve-year-old, was able to explain everything better than his teachers.

Bern

www.teachy.ch



Peerdom

What if a company was organized in a way that inspired its employees? And how can you develop an organizational structure that puts an end to bureaucracy and promotes entrepreneurship – in other words, one that encourages its staff to think and shape things in an entrepreneurial way? Bastiaan van Rooden pored over these questions and came up with a solution: Peerdom.

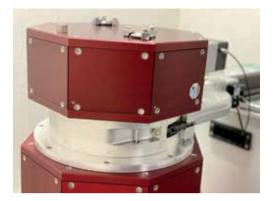
Peerdom is a program that allows you to map the complex interconnections of an organization of any size using highly simple visualizations. These maps go way beyond conventional organizational charts: they can be edited live from anywhere, and besides the organization's structure they show profiles of the staff along with their various roles and projects.

The interactive maps enable staff to find their way around their organization in the most effective way, get in touch with the right people, find decision-makers, and make quick, unbureaucratic decisions. With so many people now working from home, this is an important tool for promoting a virtual sense of togetherness and boosting productivity. Peerdom was conceived by Nothing, the Swiss Venture Lab based in Bern.

SurgeonsLab

SurgeonsLab is very much in the Bernese tradition of collaboration between engineers and physicians. The founders – Fredrick Joseph, MedTech scientist, and Dr. David Bervini, neurosurgeon – want nothing less than to reinvent neurosurgery: their unique 4D simulator is designed to revolutionize the way clinical procedures are tested, trained, and planned.

The simulator models the patient's anatomy, including blood, blood vessels, and pulse, one-to-one, enabling the interventions to be planned and practiced in real time and surgical training and performance values to be analyzed. This opens up completely new opportunities for training and further educating physicians and exponentially increases operating confidence and safety. What's more, there is no need to use human and animal models. The simulator has already received several awards, including the Ypsomed Innovation Award.



Swiss Cluster

A team of researchers and engineers from EMPA Thun and BFH have pooled their years of experience in materials science and engineering to develop systems and ideas that will produce the materials of the future. Developing better materials that can harness more energy, further miniaturize microelectronics, process data faster, or withstand greater temperatures and loads can take years of research and implementation.

Swiss Cluster wants to change that. They exploit their knowledge in thin-film coatings, vacuum technologies, and materials characterization to improve existing coating equipment and develop new ideas for optimizing research and production processes.

Swiss Cluster offers expertise in different coating technologies by providing unique thin-film deposition equipment and innovative components for both R&D and industrial manufacturing. They also provide technical and scientific services that enable new materials to be explored and transformed into products and technologies.

Start-up stage

Up and running

The inventors

Bastiaan van Rooden and a group of peers eager to explore cutting-edge forms of collaboration.

Bern

www.peerdom.org

Start-up stage

Up and running

The inventors

Fredrick Joseph, MedTech scientist, and Dr. David Bervini, neurosurgeon – two people who are taking brainstorming to the next level.

Bern

www.surgeonslab.com

Start-up stage

Products and services in use

The inventors

A team of innovative researchers and engineers.

Thun

www.swisscluster.com

The home of precision

"For me, the best way to look at a watch is under a microscope," says Marco Sabato (36). "That's how I recognize the true quality of the parts inside." Marco and his brother Mike (49) run Sabato Microtec AG in Biel/Bienne together as co-CEOs. Components made by their company can be found in many high-end watches. Their credo: precision, quality, and aesthetics are the key to success.

The guys at the helm

Like their father, Mike and Marco Sabato trained as polymechanics. Mike joined their father's business in 1999, followed by Marco in 2004. The arrival of the new generation saw a concerted effort to take the company to the next level. The brothers resolutely set about combining quality, precision, and aesthetics. Mike is the more impulsive of the two, while Marco tends to be calmer. "But we're not really that different, since we are both committed to achieving the same thing: satisfied customers who appreciate high-quality products," says Marco Sabato.

Cleanliness

"At Sabato Microtec AG, cleanliness literally starts on the floor. It's a deliberate part of how we operate. It allows us to work as dirt- and dust-free as possible in our workrooms. In a way it also pays homage to our products, which refine the quality of watches and tools or are made into jewelry. With cleanliness, we make quality and aesthetics visible."

Finishing touches

Mike keeps on looking for a solution until the impossible becomes feasible. "It's this persistent search for what is doable that characterizes our ethos: we are only satisfied once the workpiece matches up to our philosophy. And then everything has to be perfect, right down to the finishing touches, otherwise we aren't happy."





Aesthetics

Who would have guessed it? Sabato Microtec AG also makes jewelry. Mike, who is also CTO, has just made a piece for which he has applied for a patent. It's well known that form follows function, and there's no reason why it can't also be beautiful. "At Sabato Microtec AG we love aesthetics and special design. They embody the brilliance and excellence of our craftsmanship, combined with cutting-edge technology."

Quality

"We are passionate about quality. We achieve this high precision through the interaction of traditional craftsmanship and modern machinery. Our metrology lab carries out the interim and final inspections. But before our products leave us, they make a last stopover at the finishing department where, handled with gloves, they undergo another quality check under the microscope and are given the final hand finish."

Company culture

Since 2004, Sabato Microtec AG has grown from 5 to 22 employees. Changing lifestyles demand new, different working environments, and not just in coronavirus times. "Our employees can take a break when they actually need one. We have communal rooms with table tennis and music for everyone to enjoy and share. We are looking forward to being able to round off the week with a Friday evening barbecue and a chat – simply enjoying a relaxing evening together. Most of the staff have been with us for years, and some of them did their apprenticeships with us. Oh, and by the way, we only allow people to do more than ten hours of overtime with a valid reason only, and our workrooms are a very pleasant 22°C all year round."

The people

Sabato Microtec AG trains apprentices. In 2020, their only female apprentice completed her micromechanic apprenticeship with the accolade of best apprentice in Switzerland, and Levin, Mike's son, completed his as a polymechanic. Their workshop manager also did his apprenticeship at Sabato Microtec AG and went on to complete his engineering training course as best-in-year. Marco is responsible for HR and appreciates the fact that they can count on a long-standing, highly qualified workforce.

Meraxis: global player in the polymer industry

Innovative solutions for the polymer processing industry are part of the DNA of the international Meraxis group. This family-owned company was created in 2019 out of a merger between two Swiss companies with international reach, REHAU GmbH, headquartered in Muri near Bern, and MB Barter & Trading (Steinhausen, Zug). Since then, it has gone on to become one of the largest distributors in the industry. Meraxis focuses on digital and sustainable approaches and develops solutions for forward-looking uses of polymers.

Around 400 million tons of polymers are produced worldwide every year. We encounter them every day and value their versatile properties – they are malleable, resilient, non-breakable, and temperature-resistant – making them one of the most important materials in modern industrial manufacturing. Find out about Meraxis AG's role in the polymer industry in our interview with Jobst Wagner, Chairman of the Board of Directors and co-founder of Meraxis, and CEO Dr. Stefan Girschik.

What opportunities has the merger of the two family businesses brought about?

J.W.: We offer access to supply sources all over the world as well as a global logistics and partner network. This enables us to not only supply standard goods but also more complex, technical and, increasingly, recycled polymers in any desired quantity and quality. Added to this are decades of technical expertise in development and processing for a wide range of applications and industries. This combination delivers added value for our international customers and gives us a unique edge over our competitors.

Meraxis is more than just a distributor, then. How does your approach differ from that of your competitors?

S.G.: Unlike traditional distributors and traders, we see ourselves as a one-stop shop: we can supply our customers in the polymer processing industry with everything they need from a single source. Besides the right material, this also includes consulting tailored to the end product and the production process, as well as the necessary processing machines and tools. With the appropriate logistics and financing solution, we are able to offer a full service package of products and services. In addition, we are investing heavily in digital approaches in what is a fairly traditional industry, making us trailblazers in the sector. We want to handle the bulk of our sales via digital channels by 2025. Above all, digital solutions create transparency and efficiency in the still highly fragmented recyclate market and in global supply chains.

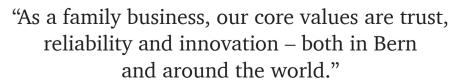
There are many different economic and political contexts that need to be considered in the global market. What do you have to pay particular attention to?

S.G.: We have to keep an eye on developments such as the trade war between China and the U.S., of course, as well as global volatilities. On top of that, people do business differently from country to country. Because we are represented at over 25 locations on almost all continents, we are familiar with the local rules of play you need to follow to succeed as a reliable partner.

Your headquarters are in Muri near Bern. How does being based in the Canton of Bern benefit you?

J.W.: We benefit from the generally good quality of living and the high level of innovation in Switzerland. Our people – we have almost 200 employees here – know that, too. We have been rooted here as a family business for decades. Bern, one of our two administrative bases in Switzerland, offers cultural diversity, a high recreational value, a family-friendly environment, good infrastructure, and excellent educational institutions such as the University of Bern. It's the ideal environment for our international and

multilingual workforce.





- CHF 2 billion turnover
- around 200 employees in Switzerland alone
- more than 25 locations worldwide
- 3,000 partners
- 10 000 partitut



Plastic and the environment is a highly charged subject in many ways. How do you handle this at Meraxis?

S.G.: For us, polymer processing and the circular economy go hand in hand. They are an essential part of our corporate strategy. Our focus is on supplementing conventional materials with recycling innovation in a useful way and systematically promoting a functioning circular economy. It is not the versatile material per se that presents a problem but rather its responsible use. We work closely with customers to develop innovative solutions, enabling us to come up with novel and sustainable packaging solutions for the food industry, edge bands made from recycled raw materials for furniture manufactur-

customer needs.

ers, or intelligent applications for the automotive industry, for example. And in all of this, our focus is on highvalue polymer applications – not single-use plastics.



"We combine the versatility of polymers with sustainability – through innovative ideas, our global team and a healthy dose of Swissness."

Robots revive competitiveness of "Factory Switzerland"

In the Dual Factory, the work is done by people during the day and machines and robots at night. The Neuenegg-based SwissFactory.Group is embracing this hybrid digital working model and is currently converting its production facilities to accommodate it. By doing so, the company expects to create new, additional opportunities for itself and for Switzerland as a manufacturing hub.



The robots carry out simpler tasks autonomously.

The SwissFactory.Group manufactures assemblies, components, and parts for a wide range of industries. It also operates as a contract manufacturer producing apparatus, equipment, and machinery. Its services include engineering, metal processing, assembly, surface treatment, and, increasingly, electronics and plastics. More and more of its customers are from high-tech industries as varied as MedTech, GreenTech, semiconductors, vacuum, optics, aerospace, and construction. For example, SwissFactory supplies a real estate company with a sliding partition system for movable walls in flexible living spaces.

Value Engineering 360°

SwissFactory is also a trusted engineering partner to Swiss industry when it comes to production engineering solutions. A key part of this arm of its business is what it describes as "Value Engineering 360°." The idea is to get the client thinking about industrialization as early as at the prototyping stage. "Many Swiss companies have plenty of development expertise but are often lacking in knowledge about the best and most efficient way to produce things," says Chairman of the Board Hans Gattlen.

SwissFactory operates in a market that is growing at an above-average pace due to the current trend for outsourcing. The contract manufacturer also comes in handy as a partner for companies who need to respond fast to unpredictable market developments.

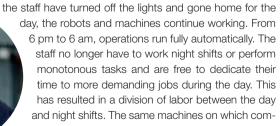
Nucleus of the Dual Factory

SwissFactory is currently undergoing a major process of digitalization. The most striking example of this journey into the future can be seen in production hall 4, which houses a Bystronic Xpert Pro bending machine. This machine is assisted by a robot that works fully autonomously at the press brake, changing grippers and bending tools without human intervention. Intelligent software optimizes the workflow. Component handling – supplying sheets and stacking bent parts – is also fully automated with the aid of sensors and electronics.

The Xpert Pro is more or less the nucleus of the Dual Factory. There are plans to convert other workspaces soon, so that they too will operate entirely without human power. "In fact, there is just one small but challenging step to be taken in many places before we achieve fully automated unmanned operation: and that is autonomous control of the individual workspaces," Gattlen explains.

Fully automated night shift

The way the Dual Factory works is as follows. In the evening, when



"We could probably build most apparatus, equipment and machines for the B2B market with no problems at all."



The machine pool in the Dual Factory has a complete range of equipment for processing highly complex metal parts.

plex components and parts are produced with human intervention during the day are used to produce simpler parts at night. The Dual Factory featuring this form of division of labor and organization is something completely new and unique in Switzerland. And that it has emerged in the Canton of Bern should come as no surprise, given that Bern is Switzerland's largest industrial canton. Swiss-Factory is particularly well connected in the canton's mechanical engineering sector. Virtually all the major manufacturers outsource manufacturing of parts, components, assemblies, and even entire products to Neuenegg and the company's other sites.

But which jobs are the ones that can best be done at night, and which are still better done during the day? "It would be illusory to try to automate everything. That would be too complex, especially as we are not setting out to build a smart factory but a dual system," Gattlen explains. SwissFactory wants to delegate the necessary triaging or decision-making to the computer. A digital filter will use algorithms to identify products and processes that are most suitable for the digital night shift in the Dual Factory. To control the processes, another system application is needed that continuously orchestrates, adjusts, and optimizes production. SwissFactory is working with IT solutions provider Misurio to achieve this.

"Factory Switzerland"

"At present we are still in the launch phase," Gattlen says. But he is confident that the Dual Factory will be up and running by the fall. SwissFactory will then in effect be able to operate two factories under one roof. This digital expansion will enable the company to make better use of its capacities and substantially reduce its production costs – Gattlen mentions a figure of "around 35 percent." The savings will mainly be in processing steps such as cutting, spot welding, stud welding, pressing in, bending, and punching. With its prices reduced, the company believes it will once again be competitive enough to win back orders for even the simplest components and parts.

What seems clear is that with its innovative approach and determination to grasp the opportunities digitalization has to offer, the SwissFactory.Group is completely redefining contract manufactur-

Facts & Figures

The SwissFactory.Group in Neuenegg is a leading Swiss contract manufacturer. At its three sites it has a comprehensive machinery pool handling almost all stages of metal processing. The company also offers contract manufacturing, which enables customers to outsource their entire supply chain management from manufacturing and assembly to after-sales service.

The SwissFactory.Group consists of seven subsidiaries: SwissFactory Engineering, Stoppani Contract Manufacturing, Stoppani Metal Systems, Bunorm Maschinenbau, EGRO Industrial Systems, ProtoShape 3D-Printing and Swiss-Factory Immobilien AG.

Three of the group companies emerged from the former Stoppani AG, which the then owner Karl Nicklaus sold to a group of Swiss private investors in November 2018. Nicklaus still owns a stake of around 10 percent in the company. SwissFactory.Group currently employs over 300 people and generated sales of around CHF 75 million in 2019.



SwissFactory also offers assembly in clean room conditions.

ing in Switzerland. Gattlen is convinced that their model will persuade companies to think twice before outsourcing to Eastern Europe. In fact, he is hopeful that lost orders could be attracted back to Switzerland. In other words: reindustrialization following decades of deindustrialization. "We have often lost out on large numbers of orders in the past simply because we lacked the courage to implement the necessary innovations and investments in production technology," Gattlen says. Thanks to the Dual Factory, he sees new opportunities both in simpler serial production and in contract manufacturing. So SwissFactory is not just a name but a declared commitment to reinvigorating the industrial ecosystem, or, as they put it, "We are Factory Switzerland!"

Smart Assistants – enhancing your holiday experience





Interlaken and the Jungfrau region are well on their way to becoming digital tourism destinations. This ambitious vision aims to optimally link visitors' exacting wants and needs with digital developments by tourism service providers.

At a quarter to one in the morning, the phone rings at the Pension Alpenruh guest house. "Hi! I'm Robin from Denver. I want to book a room." Luckily – for guests and hosts alike – that's getting to be something of a rarity in the age of email. But for Sonja, a biker, emails have long since dropped off the radar. She regularly books weekends away with friends, and for her, the only option is a booking platform that shows her immediately what is available, where, and at what price. This is now the go-to choice of Pension Alpenruh as well, not least because it allows them more flexibility in pricing to reflect demand.

Ensuring visitors enjoy their stay has always been a top priority for tourism service providers. These days, visitors appreciate and even expect the convenience of Smart Assistants that enable them to book online and via apps. Li Chen is a typical example of an active traveler whose requirements can prove challenging for tourism service providers. He wants to be able to check in on his smartphone on the train on the way there and have his digital guest card activated at the same time. When he rents sports equip-

ment, he pays by app: he never carries foreign currency. On his eGuestCard, he discovers the 50% discount voucher for the mountain railway and sets off straight away with great enthusiasm. But in his euphoria, he forgets to check the weather app and an afternoon thunderstorm thwarts his plans. Fortunately, his guest app tells him he can get discounted admission to a concert in three hours' time. Utopia? Pipe dream? We wanted to find out from the Interlaken and Jungfrau region tourist destinations how they are embracing the trend towards digitalization in tourism.

Digitalization also has upsides for service providers

Both tourist destinations have made it their stated aim to promote digitalization in their regions. For their own marketing departments and for tourism service providers in particular, they have created learning platforms such as interlaken.digital and the Pop-up Academy. Anyone involved in running holiday apartments, hotels, leisure facilities and restaurants can hone their skills on topics such as online pricing strategies, online sales, digital marketing, social media ads, and much more besides – a crucial step towards becoming a digital destination.

"Our workshops were extremely popular: we had well over 300 participants," says Pamela Gasser of Interlaken Tourism. The venture has even been given a little helping hand by the Coronavirus. "Some providers think now is the right time to take a step towards digitalization before foreign visitors start to return in strength," adds Marc Ungerer of Jungfrau Region Tourismus AG. Nevertheless, they are both aware that the many, highly diverse service providers in their tourism regions need time, convincing arguments, and support to adapt to digital requirements.

Not without my smartphone

Li Chen on the Harder ridge with the Bernese Oberland bathed in evening light in the background. Sonja with her friends on the terrace of the mountain restaurant in Mürren soaking up the atmosphere. Sending messages on WhatsApp, posting pictures on Instagram, paying bills using Twint, and accessing information by QR code: even on vacation, we are constantly getting out our smartphones and organizing our lives. Service providers can also profit from this – to the benefit of both sides.



"To succeed, we need to be found online."

Markus Bolliger, Head of Marketing, Interlaken Tourism



"Our aim is to boost convenience for the visitor."

Pamela Gasser, e-Marketing Manager, Interlaken Tourism



From SchweizMobil to weather apps to PeakFinder, there are plenty of digital ways to reach hikers, too.



Friend to friend - scenic pictures make their way round the world via Instagram, Pinterest, Facebook, TikTok and co.



"Our destination is well on its way to becoming a digital marketing organization."

> Marc Ungerer, Managing Director, Jungfrau Region Tourismus AG

"It's our job to attract visitors and we have to make sure people can find us," says Markus Bolliger of Interlaken Tourism. The ideal place to position yourself is where your visitors hang out, for example on social media such as Instagram, TikTok, Pinterest, and so on. Looking at beautiful pictures whets people's appetite for a break and builds engagement with the region. "We create opportunities to interact directly with visitors instead of communicating with them via tour operators," Pamela Gasser explains. "Holiday resorts and tourism providers can repost each other's posts. Achieving some degree of viral marketing works best with multiple channels," Marc Ungerer says. What is important is to get the quality right, react quickly and follow a strategy. Both destinations take social media seriously and have created new dedicated posts to handle it.

Digital guest card – the ideal companion

Guest cards with free services and discounts are offered in many places. If such offers are attractive enough, they can influence people's decisions on where to go on holiday. The destinations of Interlaken and Jungfrau Region are getting on board and are each launching their own digital guest card projects.

These should eventually offer substantial advantages over their paper counterparts, such as the ability to book or process discounted offers directly. But the biggest benefit is being able to interact with visitors via spontaneous direct feeds: from severe weather warnings to bad weather tips or information on local products. Apps of this kind also provide valuable marketing input on mobility behavior and actual offer take-ups. Li Chen will be one to welcome a development of this kind. In fact, a digital guest card is the only option for him. But he will only be happy if the app contains a wide range of offers. "Our aim is to offer a complete package. This will allow interactions that everyone can benefit from," Markus Bolliger says. The two destinations' projects are well under way, and it will be interesting to see what we will get on our smartphones one day.

An electronic reporting system to simplify administration

Visitor tax returns are based on guest check-in data. A standardized or fully electronic reporting system would make this process much more efficient. But setting up integrated electronic reporting systems of this type is particularly challenging in the tourism sector because of the need to convince the many different service providers – from large hotels to private individuals – of the benefits before they are willing to invest in interfaces for their own systems.

Tourist destinations not only have the task of convincing holidaymakers to visit their region but also of motivating local providers to take the step toward digitalization. "We can create awareness through social media; we have new ways to inform and interact. But in the end, we will only be a digital destination if our accommodation providers are fully integrated and digitally responsive," all three agree. "Finally, we would like to say a big thank-you to the Office of Economic Affairs. Initiatives such as this would never get off the ground without start-up funding from the New Regional Policy," Markus Bolliger concludes.

Competition: tourist highlights in the Interlaken-Jungfrau Region

First prize: two nights for two people at the historic 4* Hotel Interlaken in Interlaken

Relax in the opulent surroundings of one of Switzerland's most legendary hotels, following in the footsteps of the likes of the English poet Lord Byron and the German composer Felix Mendelssohn.

Discover traces of more than 600 years of history on a tour of the building while enjoying the comfort of a modern 4-star establishment.

Second prize: trip to the Jungfraujoch, Top of Europe

A steep ride on the Jungfrau railway takes you through a 7 km tunnel right up into the high Alpine world of glaciers. At the Top of Europe, at 3,454 m, you will be greeted by truly breathtaking scenery with a majestic backdrop of eternal snow. Admire the view from the Sphinx and Plateau viewing platforms and marvel at the magnificent ice sculptures in the lce Palace.

Third prize: trip to Schynige Platte, Top of Swiss Tradition

This journey on the historic 19th century Schynige Platte railway is an unforgettable experience. The route leads you through idyllic scenery with breathtaking views of the Eiger, Mönch and Jungfrau mountains. Near the restaurant there is an alpine botanical garden boasting a plethora of plant species.

Enjoy one of the most stunning mountain panoramas in the Alps and immerse yourself in the feeling of being on top of the world.







Competition question 1: Who said: "The very best machine is still useless without well-trained employees"?

_	
0	
2	

Competition question 2: What percentage of plastics in Switzerland is correctly disposed of and, where possible, recycled?

3

Competition question 3: Which close-up shows the Micro5, a five-axis CNC machine that is no bigger than a coffee machine?

Jobst Wagner
Marco Sabato
Hans Gattlen

99,3%		
81,9%		
76.5%		





The winner will be drawn by lots and notified in writing. Employees of the Office of Economic Affairs are excluded from entering the competition. The judges' decision is final. There is no cash alternative to the prize.

Enter the draw at www.berninvest.be.ch/chance or by postcard to the Bern Economic Development Agency, BCA Competition, Münsterplatz 3a, Postfach, 3000 Bern 8, Switzerland. The closing date for entries is **5 August 2021**.

Many congratulations to the winner of our competition in berncapitalarea 2/2020: Urs Schwab, Chutzenweg 3, 3296 Arch

Feel free to ask the **Digital Administration Secretariat**

In 2019, the Bernese government approved its Digital Administration Strategy for the canton of Bern 2019–2022. Since May 1, 2020, the Digital Administration Secretariat has been managing and coordinating the implementation of this strategy and has been the central point of contact for any digitalization issues in the cantonal administration.

Office head Roberto Capone reveals some of the most frequently asked questions.

Question: How far advanced is the Canton of Bern in terms of digitalization? What are your next steps towards digital administration?

.....

Answer: We're well on the way. We have been working on digitalizing our services for residents and businesses but also within the administration itself for some time now.

The Digital Administration Strategy requires our agency to systematically pursue the digitalization of our services by joining forces and leveraging synergies. We have produced a cantonal priority plan which sets out the digital priorities for the coming months. Once the priorities have been approved by the cantonal government, we will be rigorously implementing our digitalization plans.

Question: What services have already been digitalized? What official business can residents and businesses do online with a digital signature?

.....

Answer: We have eBau (electronic building applications), eUmzug (electronic registration and deregistration with the municipality in which you live), and TaxMe Online (electronic tax returns), to mention just a few examples. We are also publishing more data on an ongoing basis. This information is available for viewing on the statistics portal or on the relevant Ministry's web pages.

Question: What is BE-Login? Is it only open to private individuals or can businesses use it as well? If not, is this something you are planning on introducing (for example, to apply for Sunday or night work)?

BERN TOWN HALL

The Rathaus has been the political center of the Canton and City of Bern for more than 600 years.

Answer: BE-Login is the central access point for digital services in the Canton of Bern and is available to individuals and legal entities. Certain services are only available to individuals, however. The range of services is constantly being expanded, both for individuals and businesses.

Question: Will digitalization lead to cost savings, and could this impact on taxes, for example?

Answer: I can't say whether digitalization will lead to cost savings and thus to lower taxes.

Digitalization certainly creates more flexibility in dealings with the administration, as these services can be accessed from anywhere at any time. It also eliminates the disruption caused by switching between different media, which makes work processes simpler and more efficient on both sides.

> **Question:** Will online communication with the administration become mandatory? What about people who don't have internet access?

Answer: Digital primacy is enshrined in the Digital Administration Act, which is due to come into force at the beginning of 2022. In principle, this means that dealing with the authorities digitally will become mandatory. There will be transitional periods and alternative solutions for private individuals who don't have easy access to digital services.

The Digital Administration Secretariat manages and coordinates the implementation of the Canton of Bern's Digital Administration Strategy across the canton on behalf of the cantonal government. It is the central operational point of contact for all questions and requirements concerning digital administration for all internal and external stakeholders. The agency is responsible for implementing the digital transformation in the administration based on the strategy together with the Ministries, providing digitalization-related consulting and support services for the Ministries, the Chancellery, and the judicial authorities. It also handles tasks at the interfaces between the canton, the municipalities, and the federal government.

"Dealing with authorities digitally will be mandatory for businesses in the future."

New arrivals in the Canton of Bern

The Bern Economic Development Agency helps innovative international companies and undertakings to relocate and settle in the Canton of Bern – such as Aspect Structural Engineers and Manageld. Animal settlements can also occur from time to time.



Aspect Structural Engineers

This Canadian company designs projects of all kinds, ranging from large educational and recreational facilities to tall-wood towers, custom residential homes, multifamily and mixed-use developments, and inspiring art installations.

Aspect can be seen as the next generation of structural engineering: it is a blend of innovative strategies, experience, technical expertise, and modern project delivery methods.

With offices in Vancouver, Toronto, and, recently, Interlaken, they have acquired a unique network of international connections, experience and supply chain expertise that benefits their clients all over the world.

www.aspectengineers.com





Manageld

Manageld is a drones- and telecom-specialized fullservice management agency with a team of innovation-led individuals. In 2020 Manageld launched DroneTalks, an online platform to spread ideas and to educate in the drone ecosystem. The platform provides virtual interactive learning opportunities and online educational content for people from every discipline and culture who seek a deeper understanding of the drone ecosystem.

Manageld is based in London and has an office in Bern since 2020.

www.manageld.co.uk

Stockhorn ibex

Actually, this is more of a return than a new arrival. And it's actually less a company than an undertaking by the Friends of the Stockhorn in collaboration with the Hunting Inspectorate of the Canton of Bern. Since 2018, the Friends have been campaigning for the introduction – or rather, reintroduction – of ibex on the mountain.

Ibex were native to the Stockhorn area until they were almost hunted to extinction for their meat and horns. Populations have been painstakingly rebuilt over the past 100 years, and now these majestic animals are to return to the Stockhorn. Animals from different regions will be combined to form a new colony – delighting not only the Friends but all visitors to the Stockhorn. The legal pathway has already been cleared and the tax relief for the animals has been spoken. The first bucks are expected to move into their new "premises" in the coming year.

www.freunde-des-stockhorns.ch

#cantonofbern

Hiking gems in the Bern region

You're spoilt for choice here! We've picked a few insider tips to inspire hiking fans of all ages. There's bound to be one that suits you.

Circular walk: Meienberg - Lake Seeberg - Meienberg

LENGTH

7,1 km

WALKING TIME

ALTITUDE DIFFERENCE

DIFFICULTY Easy hiking trail

FITNESS LEVEL REQUIRED Basic The picturesque Lake Seeberg above Zweisimmen and the surrounding Alps are a wonderful hiking area. Along the trail around the Muntiggalm you will enjoy stunning views of Zweisimmen, towards Saanenmöser, the Rinderberg mountain and Sparenmoos.

A narrow path leads from the car park above Meienberg over a mountain ridge to the small pass, the Puur, above Lake Seeberg. From there, a winding path takes you straight down to the lake. On hot days, the lake is the perfect place for a refreshing dip to reinvigorate yourself for the next part of the hike.

The route then takes you to Alp Stierenberg. If you're lucky, you can catch sight of ibex along this part of the trail. The Stierenberg mountain inn makes a good stopping point for a well-earned drink. Then the trail runs down to Muntiggrabe, leads back up again to Eggmad, and finally takes you back to the starting point.

Bellelay - Tower of Moron - Malleray - Bévilard

LENGTH

17 km

WALKING TIME 5½ hrs

ALTITUDE DIFFERENCE 1800 m↓1050 m

DIFFICULTY Easy (walking trail)

FITNESS LEVEL REQUIRED Moderate Bellelay is a village steeped in history, known far and wide for its cheese and former monastery. Don't forget to allow enough time to visit the imposing abbey church before you set off on your hike.

Leaving the PostBus stop, follow the sign to Sornetan and from there towards Souboz. After walking along the southern flank of the Petit Val, you will reach the village of Souboz. Follow the trail past Combioz, an isolated house, towards the Moron summit.

As you round a bend in the path, the majestic Tower of Moron appears. The tower was designed by famous Swiss architect Mario Botta and built by more than 700 apprentice masons. Climb the tower to enjoy a magnificent view far beyond the first Jura mountain chain to the Alps beyond, from Säntis to Mont Blanc. From the tower, continue in the direction of Malleray-Bévilard.



Chemin de la Combe Grède, Saint-Imier - Nods

LENGTH

14 km

WALKING TIME

ALTITUDE DIFFERENCE 1900 m ↓820 m

DIFFICULTY Medium to difficult (mountain trail)

FITNESS LEVEL REQUIRED Advanced This hike starts at the train station in the watchmaking town of Saint-Imier. Follow the signs for Combe Grède and Chasseral. The path, which is well maintained and equipped with ladders at the steepest points, leads to Combe Grède, an impressive rocky crevice. In this nature reserve you will experience both tranquility and beauty, and a huge diversity of flora and fauna on top of it.

On the next section, which boasts a view of the Chasseral mountain, you can quench your thirst at the Métairie de Morat mountain inn. One last little effort and you'll find your reward: a breathtaking, unforgettable view from the mountain ridge. A pleasant hiking trail through pastures, woods and forests descends to Nods, from where you can return to Biel/Bienne by public transport.

Please note: The La Combe Grède mountain trail is a mountain hiking area. Ladders are provided at critical points.

Hiking tips – well prepared for the hike

Good planning and preparation

Good planning is the key to a successful day's hiking. Here are five tips to help you get the most out of your hike.

- 1. Be honest about your fitness level and experience and choose a hike and difficulty level that suits you.
- 2. Check out your route in advance. Make a note of any shortcuts, mountain huts and places nearby.
- Organize your equipment, clothing, food and drink you'll need based on the duration of the hike, the season, and the weather conditions.
- If you are going on a long mountain hike, let a friend or family member know exactly where you are going and roughly when you expect to be back.
- 5. Check the weather forecast again just before setting off.

Clothing

Synthetic or woolen underwear? Whichever you prefer is fine. Either way, make sure the fabric is breathable, moisture wicking and quick drying. Other essentials for your backpack are rain, sun and cold protection. Spare underwear can also be useful.

Footwear

Low walking shoes are fine for an easy trail on prepared paths. But if you're heading into the mountains you'll need firm, supportive high hiking boots with a non-slip, profiled sole. A specialist footwear store will be happy to advise you.

The right backpack

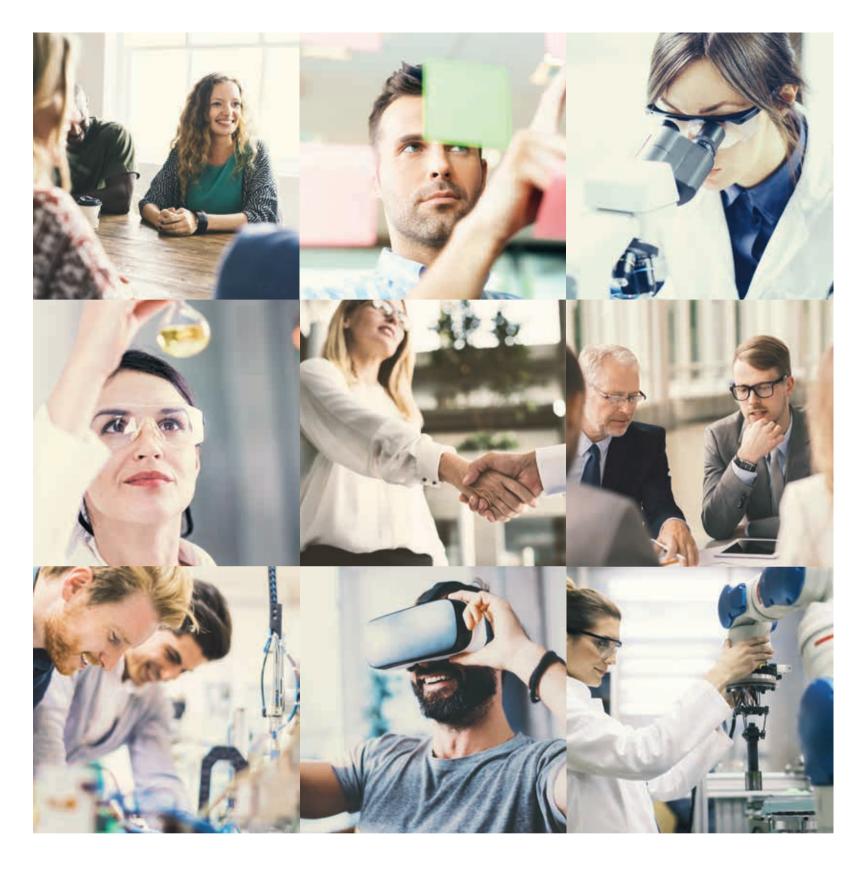
Choosing the right backpack is quite as important as choosing the right clothes: it must fit well and be comfortable to wear. Your backpack should be suitable for the length and difficulty of the hike.

Food and drink

Recommended fare for a hike are bread, fresh fruit, vegetables, and plenty to drink. A packet of sugar-free candies can cheer you up when the going gets tough. The best drinks for hiking are water and unsweetened herbal or fruit tea. You should drink at least 3 liters per day when out hiking. If your fluid intake is too low, you will find it hard to adapt to the altitude and your performance will suffer.

First aid kit

This should include blister and sticking plasters, a gauze bandage, wound ointment, iodine tincture/antiseptic, tweezers, and painkillers.



Your success is launched here!

In the Canton of Bern, innovative businesses deliver top performances, especially in medical, energy and environmental technologies, in the precision engineering industry, in ICT and in services. Our efforts to develop the Canton of Bern as a business location are also intended to pave the way to your success. If you are looking for a site or have financing questions, we are happy to help you. Are you planning a project? Contact us!

