Swiss Startup Guide 2017

From the Idea to a Successful Company

9th Edition

Cover Stories
20 Startups on the Way to Success

www.swiss-startup-guide.ch

20 Startups on the Way to Success

Advanon AG

Simple solution to cashflow management

TEAM ADVANON

The Zurich-based start-up Advanon is the leading platform for online billing in Switzerland and Germany

Advanon is a fast-growing fintech start-up founded in 2015 in Zurich by three entrepreneurs – Phil Lojacono, Stijn Pieper und Philip Kornmann – who met while working at Google. Advanon's mission is to make financing for SMEs and start-ups fast and easy, in order that businesses can grow at their full potential. The two-sided platform connects investors and SMEs: SMEs can upload their outstanding accounts receivables and get liquidity within 24 hours, while investors can choose to finance them and profit from a high ROI.

In detail, it works like this: the business selects one or more invoices that it would like to have financed (preferably with a longer payment term) and submits it to Advanon with its financing proposal. As soon as an investor has been found, the required sum is transferred to the firm's account, usually within 24 hours.

The advantages compared with traditional factoring are the short time period of only one to two days for approval, a simple and transparent price model, and a stable customer relationship as the accounting management is not passed on.

Advanon now has important strategic partnerships with several Swiss banks, including Hypothekarbank Lenzburg and Basellandschaftliche Kantonalbank, and with Swisscom, the biggest telecom provider in Switzerland. In Germany, a pilot has been running with Deutsche Bank since April 2017. After a very successful first year, Advanon closed its second financing round in January at CHF 3.5 million.

Advanon AG | Zurich, Berlin | founded in March 2015 | Financial services | Generated capital: Total equity funding CHF 3.9 million in two rounds; most recent funding CHF 3.5 million Series A on 10 January 2017 | Supported by: VI Partners, Eric Sarasin, Partners Group, b-to-v Partners, swisscom ventures, Stefan Heitmann, QDN Partners

www.advanon.com

Advertima AG

The experience management system

TEAM ADVERTIMA

Approximately 86% of the information we receive every day is of no interest. Advertima wants to change this with the help of artificial intelligence

Advertima wants to create an AI that understands people in their surroundings and delivers the perfect personalised experience to attract their attention, impart valuable information and make them happy.

In this days and age, people are used to dealing with the flood of irrelevant information they encounter every waking minute. To reach them , they need to be approached proactively with consistent and personalised interactions in the real world. If this is achieved, annoying advertisements can be replaced with positive experiences. In early 2016, Advertima set out to achieve exactly that. Using the newest advances in computer vision and deep learning, the mission is to enable any device to read its surroundings. In a matter of milliseconds, features such as age, gender, stance and eye contact are analysed and the perfect reaction chosen. This reaction can be a personalised clip on a screen, the right music and light settings to create a specific mood, or complex interactions with interactive apps.

The fast growing team of 40 international experts from 25 different countries work together in the main office in St. Gallen and the satellite office in Berlin. Forthcoming projects include anonymised recognition and retargeting of people, and the AI-supported automation of experience creation based on emotional responses – all with the goal of closing the last real-world gap in the customer journey.

Advertima AG | St. Gallen | founded in 2016 | SaaS | Generated capital: CHF 4.8 million Series A | Supported by: Startfeld, Nvidia Inception, IBM Global Entrepreneur

www.advertima.com

BestMile

A Platform to empower the Future of Mobility

TEAM BESTMILE

BestMile is a technology company commercialising the 1st cloud platform allowing for the intelligent operation of autonomous vehicle fleets.

BestMile's innovative platform enables autonomous vehicles to work together as a fleet and allows mobility providers to deploy, operate and scale autonomous mobility services. Using cutting-edge algorithms, the platform seamlessly matches supply and demand, handles planning and scheduling, automated dispatching, real-time dynamic routing, ride-sharing and energy management.

Benefits of autonomous mobility don't lie solely in autonomous vehicles, but mostly in what they can offer when they are operated & managed collectively in an integrated ecosystem.

Vehicles need to be operated and optimised as a fleet, answering real-time demand or adhering to a schedule while adapting to networks disruptions. How efficiently autonomous mobility services are deployed and optimised is crucial and will directly impact the speed and level of adoption of autonomous vehicles worldwide. BestMile tackles successfully this challenge and, to this day, is providing the only platform for mobility services catering to autonomous vehicles specificities and full potential to enable deployment, operation and optimisation of autonomous mobility services and their integration in today's transportation ecosystem.

BestMile is currently closing a funding round and the next step is to scale the team international and strengthen its technological lead. The company will exhibit at ITS World Congress in Montreal. Founded in 2014 by Raphael Gindrat (CEO) and Anne Mellano (VP of Operations EMEA), the scale-up has 3 offices in Lausanne, San Francisco and London. The team now counts 30 employees.

BestMile SA | Lausanne, San Francisco, London | founded in 2014 | Industry: Autonomous mobility, software | Supported by: CTI, Innovaud, Venturelab, Platinn, Genilem, Switzerland Global Enterprise, Alp ICT

www.bestmile.com

Coat-X

World tightest implantable multilayer thin films

ANDREAS HOGG

Coat-X has developed world tightest biocompatible multilayer coating to protect all kinds of devices against humidity & corrosion.

Coat-X, a Swiss company in La Chaux-de-Fonds, is a leading solution provider for critical impermeability issues. It provides an innovative encapsulation technology using ultrathin layers to protect electronics, sensors, or implantable devices against corrosion caused by harsh environmental conditions. The impermeability of the coating works also for aggressive liquids like solvents, acids or gases and can be applied in many industrial sectors like the watchmaking field, electronics, smart wearable devices, aerospace or automotive.

The protection of electronics, sensors, microsystems or implantable devices against physicochemical influences from the environment represents a major challenge. Coat-X has developed a technology using ultrathin multilayers unique worldwide for its excellent hermeticity & minimal volume while keeping costs at a competitive level. In addition to the packaging of conventional electronics, this technology allows the creation of ultra-flexible circuits.

Born during a collaboration project between the company Johnson & Johnson & the HE-Arc in Neuchâtel, the goal was to avoid the conventional metal or glass encapsulation by a thin film of several micro-meters in order to miniaturize active implants and thereby provide less invasive medical interventions. The potential of this technology was the motivator of the founders Andreas Hogg, Yanik Tardy & Eric Nagles to create the company.

The next steps for award winning Coat-X will be the progressive increase of the production capacity and the finalization of the ISO 13485 certification for medical devices.

Coat-X SA | 2300 La Chaux-de-Fonds | founded 2016 | Micro Technology and Medical Devices | Generated Capital: several mio | Supported by Neode, CTI Startup, Finergence, He-Arc, Platinn | Prix Neode 2015, BCN 2016, IMD Startup Competition 2017

www.coat-x.com

Dicronis

DICRONIS
towards diagnostic microneedles

Dicronis develops the first solution for lymphatic activity tracking

TEAM DICRONIS

Dicronis is developing an elegant yet simple solution allowing millions of patients to diagnose earlier a complication of cancer therapies.

We strongly believe that patients who overcame cancer have undergone enough pain and suffering. Nevertheless, they might be subject to a side effect of cancer therapies thereafter, not fatal but chronic and progressive, called lymphedema. It is characterized by an accumulation of lymph in a limb due to the malfunctioning of the lymphatic system, responsible for the uptake of fluids from the peripheral tissues. This leads to skin infections, pain and both a physical and a psychological discomfort. Luckily, lymphedema is not an incurable disease: some treatments already exist. However, it has been widely shown that an early employment of these measures is crucial. Current available diagnostics are obsolete and rely on the disease's symptomatic manifestation.

Dicronis is an ETH-based startup striving at helping patients diagnosing the disease at its earliest possible stage, when the fluids have not accumulated yet. Our patented technology comprises a microneedles patch for delivery of a fluorescent agent, and the monitoring of its disappearance rate from the skin via a wearable detector. Sharing the data with the treating physician will ensure the best monitoring. Owing to its ease-of-use and painless delivery, it is a home-based solution, carrying the advantage of a more frequent and cost-effective disease monitoring and therefore ensuring a better management.

Patrizia Marschalkova, CEO at Dicronis, has valid know-how on the technology, which she significantly contributed to develop. With his hands-on experience in the translation of a complex pharmaceutical formulation from the lab to clinic, Jovan Jancev is overtaking further R&D activities. Their strong scientific background is balanced by the business and management skills hold by Fabrizio Esposito and Attilio Baggerman.

Dicronis | Zürich | not founded yet | Medtech/pharma | Generated capital: ~ kCHF 300 | Supported by: Venture Kick

www.dicronis.com

ecoRobotix

ecorobotix

A smart weeding robot for a sustainable agriculture

AURELIEN DEMAUREX, CEO & CO-FOUNDER

ecoRobotix designs autonomous robots for agriculture. Its 1st development is a novel solar-powered robot for low herbicide precision weeding.

To support a growing population, the world needs to produce food smarter and in a more sustainable way. Using ecoRobotix autonomous robots in weeding leads to more than 30% costs reduction while using 95% less chemicals. Hundreds of farmers have already expressed an interest in buying their machine, in a potential market of millions of robots worldwide.

Modern agriculture heavily relies on chemical weeding, resulting in too high chemical residues in water, soils and crops. Although these levels represent a serious risk for human health and biodiversity, decreasing herbicide quantities result in inefficient weeding, and massive crop losses.

Enter ecoRobotix smart weeding robot. Instead of depositing herbicide everywhere, the startup's robot detects the position of the weeds, recognizes the difference between weed and crop, and deposits a microdoses of herbicide only on the weeds. Since the machine is fully autonomous, thanks to onboard production of energy from solar panels, it can navigate by its own and scan an entire field. It is also inherently safe thanks to its low weight and speed. With its low acquisition cost, robust design easy to repair, ecoRobotix smart weeder enables soil preservation by strongly reducing herbicide usage.

Employing 12 people in Yverdon, ecoRobotix has successfully conducted tests with pilot project partners in Europe. The agtech company is focusing its efforts on the industrialization of the product and the beginning of sales on key European markets. It is also working towards the completion of its Series B to further boost its growth.

ecoRobotix Ltd | Yverdon-les-Bains | founded in 2011 | AgTech | Generated Capital: CHF 3 mio | Supported by: CTI Startup, FIT, Platinn, Innovaud, Canton de Vaud, Swiss Gov., Agroscope, Y-Parc | Swisscom Challenge Winner 2017

www.ecrobotix.com

Fashwell

Image recognition solutions for fashion retailers and brands

TEAM FASHWELL

With image analysis software, Fashwell finds the fashion items that users see on social media

Most fashionistas know it well: You see a piece of clothing and you have to have it – immediately. But what's the brand? And where can you buy it? Fashwell's image recognition software can help. It recognises clothes, shoes, accessories – and soon also furniture and design objects.

With the aid of deep learning algorithms for image analysis, Fashwell finds the exact match or a similar item and links to a shop where this new must-have item can be bought. Visual search acts like a personal shopper who can find the exact products you are looking for.

Customers want an online shopping experience that is comparable to in-store, so Fashwell offers personalisation solutions specifically for eCommerce retailers. The customer uploads an image or screenshot to the retailer's app or website, the image is scanned and the products detected. The software then offers the same or a similar product. If you like something, you can put it into the shopping cart and buy it. The whole process happens within seconds. Fashwell's three founders, Matthias Dantone, Lukas Bossard and Michael Emmersberger, are particularly pleased, seeing that six months ago they won Zalando as a customer. Their software is now integrated in the Zalando app as a visual search tool. Today's shoppers prefer a wide selection, personal advice and of course suggestions for a whole outfit. Visual search offers everything: a personalised shopping experience, product discovery as well as speedy and easy checkout.

And that is just the beginning of deep learning. In the future, this exciting and versatile technology will be used in social media, customer analysis and personalised advertising.

Fashwell AG | Zurich | founded in August 2014 | Deep Learning Image Recognition | Generated capital: Two investment rounds (2015, 2017) from M1, Zalando and other undisclosed investors | Supported by: ETH, CTI, Venture Kick, Venture Challenge

www.tech.fashwell.com

IDUN HealthTech

Probably the best electrodes for body monitoring

TEAM IDUN HEALTH

IDUN HealthTech develops soft dry-stretchable electrodes for comfortable and continuous monitoring

Body monitoring is important for an overview of general health, but conventional electrodes have known disadvantages. The electrolyte gel can cause skin irritation and degraded signal quality. Professional athletes and those who play sports use 'wearables', but these are vulnerable to motion artifacts and do not work well under water.

The two founders of IDUN HealthTech, Séverine Chardonnens and Simon Bachmann, and their team wanted to change this and have developed flexible electrodes for ECG, EMG and EEG. The benefit of their dry-stretchable biopotential electrodes is comfortable, comprehensive monitoring in any environment. These innovative electrodes provide clinical signal quality, without electrolyte gel, based on a soft material and a unique surface structure. They follow every body movement, are suitable for long-term monitoring and sports activities, and are even water-resistant.

Users are no longer restricted in their freedom of movement and do not have to worry about the maintenance and hygiene of the electrodes. The electrodes are infinitely adjustable and can be used up to several months depending on the intensity of use, and are therefore extremely cost-effective.

The trend in medical surveillance is towards the all-in-one patch solution. The IDUN HealthTech electrode is suited to this growing market perfectly, as it can be integrated easily into existing modular monitoring systems.

IDUN HealthTech is in talks with companies in the sports performance monitoring sector, such as Polar and Suunto, to help them improve the quality of their wearables. The Zurich start-up is therefore well prepared for the future.

IDUN HealthTech AG | Zurich | founded in September 2017 | Health-monitoring electrodes for medicine and sport | Generated capital: CHF 150,000 | Supported by: Swiss Startup Factory, ETH Zürich, Redbull Mediahouse

www.idunhealthtch.com

Lambda Health System

Swiss Haptic Robotics for Walk Rehabilitation

TEAM
LAMBDA

Lambda is a swiss medtech company developing solutions to democratize advanced robotic assistance for the rehabilitation of the locomotor system.

Lambda Health System fights stroke consequences. Every year in Europe, half a million more people are in need of rehabilitation. Manual mobilization is always the most efficient technique but the therapists are not able to repeat the movement enough times.
Lambda is a medtech company with expertise in haptic robotics applied to rehabilitation of the walk. It brings to the hospitals a simple to use system able to learn and replicate a personalized movement applied by a therapist on the legs of patients.
The company combines the expertise of the therapist with the strength and the precision of robotics in a simple manner. With the learning mode, the startup introduces an all-new way to interact with medical robots. The therapist can teach a movement to the device by applying it directly on the legs of the patient. The therapy becomes perfectly personalized for the patient.
The startup is currently producing a pre-series robot to start product demonstrations at the end of 2017. The CE mark is the current challenge and the last step before sales. Lambda will also launch new clinical trials next year. To strengthen sales in Switzerland and accelerate the expansion in Europe, it is looking for CHF 1.6 Mio in Round A funding. In parallel, the company continues the development of VR applications for its product.
Lambda Health System is a spin-off of the CHUV and the HES-SO in the canton of Vaud. The startup was founded in 2015 by 6 co-founders: Aurélien Fauquex & Yannick Charrotton, with 4 other recognized experts and doctors in Robotic or Rehabilitation.

Lambda Health System SA | Swiss Technopôle Y-Parc – Yverdon-les-Bains | founded in 2015 | Medtech | Generated Capital : Supports and awards : 1M, Seed round 750K | Supported by: CTI startup, Y-Parc, FIT, Canton de Vaud, Genilem, Venture Kick

www.lhs-sa.ch

Lunaphore

A platform to revolutionize tissue diagnostics

TEAM
LUNAPHORE

Lunaphore has developed a disruptive tumor analysis platform performing immunohistochemistry based on a microfluidic technology.

Lunaphore, a medtech spin-off from the EPFL, has developed an innovative tissue diagnostic platform, primarily for analysis of tumors. The platform is based on a microfluidic chip that allows fine-tuning of such diagnostic assays, and increases their speed and accuracy.
Called Microfluidic Tissue Processor (MTP), the startup's technology has been developed at EPFL for more than 6 years. MTP increases the speed and accuracy of basic processes required to implement diagnostic assays on tissue samples like solid tumors. The 1st application is on searching signatures of certain proteins in tumor tissues. The procedure is known as immunohistochemical analysis. A set of clinical studies, conducted with 76 breast cancer patients, has showed that Lunaphore's platform can perform such analysis within minutes when compared to hours for current standards, a speed allowing doctors to perform tumor analysis during surgery to prevent reoperation. Furthermore, the obtained diagnostic results are 90% more accurate than methods used in a state-of-the art pathology laboratory. The company has already a few prototypes being tested in collaboration with key opinion leaders and players in the field.
The tissue diagnostics market that Lunaphore is aiming at is worth a few billions and is growing fast. Market researches show that the increasing age in population and the high number of new biomarkers that are being discovered will generate an even larger market with a higher growth rate. Founded in 2014, the scale-up ranked this year among Switzerland's 10 best ventures in the Top 100.

Lunaphore Technologies SA | Lausanne, Vaud | founded in 2014 | IVD/Medtech | Generated Capital: CHF 10M | Supported by Innovaud, FIT, SPECo, Venture-lab, CTI, EPFL, SystemsX, Eurostars | Prizes: Venture Kick, PERL, IMD, Science4Life, >>Venture>>

www.lunaphore.com

Lymphatica

Relieving the burden of chronic Lymphedema

TEAM LYMPHATICA

Lymphatica Medtech SA is a spin-off company from EPFL & CHUV focusing on implantable medical technology solutions for lymphatic diseases.

Lymphatica has designed & developed a novel medical device for long-term treatment of chronic lymphedema, a highly disabling chronic disease, most frequently arising as a consequence of cancer treatment.

More than 100 million people are struggling worldwide with lymphedema, but no effective therapy exists. Lymphatica's product, LymphoDrain, aims to be the 1st effective treatment by re-establishing lymphatic flow, therefore removing the source of all lymphedema issues. LymphoDrain consists in a subcutaneous implant composed of a micropump connected to a catheter that actively transports the accumulated fluid to the peritoneal cavity, continuously."

The startup has filed 2 patents to protect their technology, which is based on the combination of drainage catheters and an innovative implantable magnetic micropump, which does not contain any electronics or battery, but it is externally controlled by a wearable device. The implant is subcutaneous and as such it is of minimal or no discomfort for the patient, while involving a minimally invasive procedure for its implantation. The advantage over existing technologies is the definitive replacement of the lymphatic function. The patient will not need any additional treatment and will be able to forget about its disease: no more compression garments, physiotherapy, aesthetic disability, or social & psychological distress.

The founders, Marco Pisano & Valentina Triacca, are now working on the first-in-human implantation of the device, foreseen in July 2018. Moreover, they have opened their 1st round of investment necessary to meet the objective.

Lymphatica Medtech SA | Ecublens, Vaud | founded in 2017 | MedTech | Generated Capital: 50K founders equity, 400K in grants & prizes | Supported by CHUV, EPFL, VentureKick, MassChallenge, Innovation Forum, FIT, CTI, Venture

www.lymphatica.ch

Mirrakoi

Revolutionary Augmented CAD for next generation digital design

TEAM MIRRAKOI

Mirrakoi has invented augmented CAD, a powerful technology that simulates real-world physical contact during the 3D digital modeling process.

Mirrakoi has invented augmented CAD, a powerful technology for computer-aided design. The EPFL spin-off provides software that simulates real-world physical contact during the 3D digital modeling process. It enables unprecedented efficiency, precision & the acceleration of the interactive design process for CAD & computer-aided engineering (CAE). Several U.S. patents & a PCT application have been filed to protect the technology.

The demand for 3D digital models has never been higher. Today's architects, manufacturers, and engineers use digital 3D representations to design, build and manufacture products. This has resulted in a rising need for 3D geometric software modeling kernels.

Currently, world-leading geometric software kernels impose strict limitations on how a user can interact with the 3D digital object - such as a surface or volume - during the modeling process. These inconveniences are primarily due to the limited mathematical models that existing commercially available kernels deploy. Complex CAD and CAE remain tedious and time-consuming tasks, requiring highly skilled and trained experts.

Mirrakoi provides software for augmented CAD and CAE. Its 3D geometric kernel offers unsurpassed interaction functionality with 3D digital objects during the shape modeling process. Its technology enables a superior modeling experience that results in reduced labor, time and challenges that are encountered in today's CAD and CAE processes. Mirrakoi technology is the outcome of fundamental mathematical research established over a period equivalent to more than 10 man-years.

Mirrakoi | Lausanne | founded in 2017 | Software, CAD, CAE | Generated Capital: undisclosed | Additional Awards: SNF-Bridge Grant, Innogrant, Venture Top 25 Business Plan, Enable Grant

www.mirrakoi.com

Nextep

NEXTEP

Innovative liners to help amputees walk without pain

TEAM NEXTEP

Nextep has developed a highly automated production system to provide lower-cost custom-made liners to help amputees walk without pain.

Currently only 10% of amputees in Switzerland have access to custom liners. The others use standardized form liners. As each stump is different, the use of standardized shape socks does not take into account the different sensitivities of the stump areas (bone, adipose, tendon, muscular, scars, etc.), turning walks often into painful experiences.

Custom-made liners help to prevent this problem. Unfortunately, their price is extremely high, more than the double of standard costs. This is mainly due to the manufacturing process, largely manual.

Nextep wishes to offer custom liners at prices comparable to current standardized ones. To achieve this, the startup has developed a highly automated production system consisting of a 3D scanner that acquires the shape of the stump and local stiffness of the tissue, a software to design the liner and commercial proprietary 3d printing machines to produce the silicone socks.

Nextep package creates value for several actors. Insurances can cover the prescription of systems of much better quality for their customers at similar or even lower cost, thus reducing overall public health costs. Prosthetists can provide the best solutions to their patients for a standard price, while seeing their profits flourish (estimated at 200% for profits related to liners). They also gain a significant competitive advantage over prosthetists who do not offer this solution. Last but not least, amputees benefit from a perfectly adapted liner, drastically increasing their comfort, their mobility on a daily basis, and thus their overall quality of life.

Nextep | Lausanne | founded in 2017 | Medtech | Generated Capital: 200 kCHF | Supported by Innogrant Heig-vd, FitGrant, CTI Startup, MassChallenge, Venture Kick Genilem, Venture, Starmac

www.nextep3d.ch

Optimo Medical AG

Optimeyes

Patient-specific pre-operative simulation

TEAM OPTIMO MEDICAL

Optimeyes is a software that simulates surgical eye procedures and can perform clinical trials virtually

Almost half of the European population has defective sight – not only short-sightedness or far-sightedness, but also corneal curvature and degenerative symptoms such as cataracts. Today, cataract operations are a medical standard, but they are still a major challenge for the surgeon, since more and more patients request astigmatism treatment along with the cataract surgery, in order to get rid of their glasses.

In eye surgery, fractions of a millimetre are decisive in the success of a procedure and whether it provides an optimal result or irreparable damage.

With its software, the team of Optimo Medical under Harald Studer has succeeded in simulating the physical intervention for each eye individually in advance. This allows an accurate assessment of how the real intervention will affect the patient's eye. Patient-specific data is fed into the software and the operation is carried out virtually; on a clone of the patients individual eye – all important parameters can be optimised in such a way that the full vision can then be restored in the planned operation. The important features are intervention parameters, such as the optical zone of the surgical field, and the length and depth of the cut, as measured by personal patient data (e.g. age, dioptre, astigmatism, corneal properties). Currently, the focus is on corneal and cataract operations, but the team will extend its work to lens surgery and repair of zonal fibres, retina, and thus simulation of the entire eye. The software structure is designed in such a way that it can be used for operation planning or installed as a simulation framework in laser and/or tomography devices.

The first version of the Optimeyes software will soon be CE certified and will enter the European market this fall. The company expects their product to be FDA certified with a year.

Optimo Medical AG | Biel | founded in September 2015 | Pay-per-use | Supported by: Integrated Scientific Services AG, ANSYS Inc, Netrics Hosting AG

www.optimo-medical.com

Plair SA

Reinventing Airborne Allergen & Environmental Monitoring

TEAM PLAIR

Plair has developed award-winning Rapid-E, a new, easy way to count allergens – automatically, more rapidly and precisely than ever before.

Over 150 million EU citizens suffer from hay fever and asthma, which cost to healthcare up to CHF 50bn each year. The prevalence to pollen-induced respiratory allergy allergic reaction constantly increases. Estimated by the European Federation of Asthma and Allergy Associations (EFA), by 2025 more than 50% of all Europeans will suffer from allergy, with no age, social or geographical distinction.

Current allergen detection in the air (pollen & fungal spore) requires manual analysis under a microscope, which means data are only delivered in 2 to 8 days. For this reason, there are poor precision of pollen forecast, no true real-time alert for allergic patients, high risk of hospitalization for asthmatic patients inducing high medical costs.

Based on proprietary, patented laser-sensing technology from research and development at the University of Geneva, Rapid-E detects and counts numerous airborne particles simultaneously and rapidly – pollen, fungal spores, air pollution, and even bacteria. It offers revolutionary performance, high sensitivity, and a broad range of detection, opening many applications in environmental monitoring. Precise information provided by Plair can help cities more quickly determine and manage the sources of pollution through the monitoring of air quality, and even address environmental problems related to agriculture.

Plair has installed successfully multiple stations of Rapid-E connected detectors in Switzerland, but also in some other European countries. The next step for the startup will be to increase the number of deployed stations.

Plair SA | Geneva | founded in 2014 | Engineering, Environmental monitoring | Generated Capital: n/a | Supported by: Fongit, CTI Startup, Venture Kick, Platinn, IMD

ProtonMail

Ensuring eMail Privacy from Switzerland

DR. ANDY YEN

Geneva headquartered ProtonMail has grown into a global leader in online security, becoming the world's largest secure email provider.

ProtonMail, and more recently ProtonVPN, are services provided by Proton Technologies AG, one of the fastest growing startups in Switzerland. ProtonMail is the world's largest encrypted email service, with over 3 million users in 150 countries.

ProtonMail takes a new approach towards data protection. Because of the end-to-end encryption it uses, Proton Technologies is the first cloud email provider who actually cannot read the emails of its customers, so customer can have both the cost savings and convenience of the cloud, while keeping their privacy. This also protects customer data in the event of a data breach, because hackers cannot steal from us data that we ourselves don't have access to.

Employing today 40 people spread out in offices around the world, the company was created by a group of CERN scientists as a side project developed in their spare time. At the time, they wanted specifically to see if it was possible to add end-to-end encryption to email in a way that would be easy enough for anybody to use. Online privacy and security are increasingly important in the digital age. Continuing to develop new technologies for data protection represents a top priority for the company.

Email is just one of the many digital tools that individuals and businesses rely upon today. The team believes that ProtonMail's philosophy of security and privacy in conjunction with usability can also be relevant across a much wider product portfolio. In the future, the company can imagine moving into chat, file storage, file sharing, and other online business productivity tools.

Proton Technologies AG | Geneva, Switzerland | founded in 2014 | Information Technology | Supported by CTI Startup & FONGIT

www.plair.ch

https://protonmail.com

SmartRidr

The first child car seat to fit into a pocket

TEAM
SMARTRIDR

The SmartRidr pocket-sized compact and portable child's car seat also meets the highest safety requirements

Our changing mobility behaviour presents us with new challenges. Every family with small children knows the problem of travel: you already have tons of luggage to carry and then there is the bulky child car seat. Or just think of car sharing or car rental: the large child seat permanently installed in your own car is much too bulky for the new mobility.

The SmartRidr team, with the two founders Andy Macaluso and Daniel Schläpfer and together with specialists from the field of accident research and biomechanics, has developed a safe addition to the conventional child car seat. It has to be as simple, small and safe as possible – with of course safety at the top of the list. Its solution for the road can be folded up and stored in a cover the size of a spectacle case, so it will fit perfectly into any small space. Tests have shown that the SmartRidr pocket fulfils all required safety and child protection standards.

The start-up, which was founded in Boppelsen (canton Zurich) at the beginning of 2017, began its first seed financing in the summer and has already agreed several strategic partnerships, including with one of the leading child seat manufacturers. Now preparations can be made for further product development and market entry.

SmartRidr AG | Boppelsen, ZH | founded in 2017 | Interdisciplinary, smart mobility | Generated capital: seed round closed | Supported by: Economic Promotion AR

www.smartridr.com

Vigilitech

Contact-independent monitoring system for small animals

TEAM
VIGILITECH

Vigilitech has revolutionised animal monitoring of vital signs with a wireless system

Cutting-edge medicine is increasingly in demand not only for humans but also for animals. However, the preconditions for this are often particularly difficult in small animals, not only due to their small size but also their dense fur coat. Marc Zünd, neuroscientist and CEO of Vigilitech, wanted to use his interdisciplinary team to explore new ways of monitoring vital functions. They have developed an ingenious system to monitor small animals in research or during surgical procedures.

The core innovation consists of a new technology that is able to determine physiological vital parameters, such as cardiac and respiratory frequencies. It is completely contactless and position-independent; the animal is simply placed on a pad equipped with sensors. A specially developed app enables the data to be sent via Bluetooth to a smartphone, tablet or a computer. All values obtained can be synchronised, analysed, and shared with others via the Vigilitech cloud. Vigilitech handles the complete data management, analysis and hosting.

Originally, the development was designed for research in order to use the information obtained quickly, easily and securely. The tests with small animals have been so promising that interest now extends beyond the application with animals.

The team can easily foresee applications in the clinic or practice to monitor the vital signs of patients, but they also see great potential for the new technology in everyday life and leisure activities. Thus, it is not surprising that Zünd says: "Our vision is to develop simple and safe monitoring devices for human application based on our experience."

Vigilitech AG | Heiden, AR | founded in October 2016 | life sciences, biotech, ICT | Generated capital: prize money and grants, CHF170,000 | Supported by: Venturekick, Startfeld, CTI & Transferkolleg, Volkswirtschaftsstiftung, Wirtschaftsförderung AR

www.vigilitech.com

WEAVR

Virtual reality solution for real estate, business and leisure

TEAM WEAVR

With WEAVR you can immerse yourself in virtual reality whenever you wish. Whether business or leisure, the possibilities are almost endless.

Virtual reality is becoming increasingly important in today's world and can help many people to visualise things more easily. The real estate market is such an example: the customer would like to see as much detail as possible, the time of the agent is limited and one can not always be on site in person. The Zurich start-up WEAVR has a solution for this. A platform where real estate agents can offer virtual tours that make the prospective buyer feel as though they are really there. The client is connected to the provider by means of a headset while they walk through the property and can communicate with them as if they were in the same room. But not only the business world can benefit from virtual reality; other categories include travel, nature, events. If you like to travel, you can get inspiration in advance or experience nature at home. If you are planning an event, you can check the location and its possibilities virtually beforehand.

It could not be simpler: download the app, put the headset on and watch the story created by the community – or, of course, invent your own world.

People have always invented stories, recorded memories and shared experiences. Today, it has reached a new dimension with WEAVR and virtual reality. CEO and founder Miguel Rodriguez and his team can be proud of it.

WEAVR AG | Zürich | founded in: January 2017 | Virtual reality solutions for business | Generated capital: CHF 150,000 | Supported by: Goldbach Group, Microsoft Azure, datalog.ai, bitforge, Swiss Startup Factory

Wingtra AG

A professional drone for surveying and research

TEAM WINGTRA

Zurich start-up Wingtra offers a professional drone with a wide range and high user-friendliness for aerial data surveying.

The supply of drones has become huge and confusing. In the meantime, the Wingtra team, which has grown to 30 employees around the three founders, Basil Weibel, Elias Kleimann and Maximilian Boosfeld, sets new standards for flying robots and has developed a highly professional drone for use in land surveying, research and conservation. In contrast to conventional drones, WingtraOne is a combination of aircraft and helicopter in its flight behaviour. It can take off and land vertically just like an helicopter, but fly just as efficiently as a plane. With a flight time of almost an hour, it can stay air-borne three times longer than standard drones.

Another plus is the good user-friendliness: flight training or previous knowledge is not required. With its navigation software WingtraPilot, the preparation for deployment amounts to only five minutes. At the push of a button, the drone then completes its flight from start to landing autonomously.

A weight-saving design ensures high load carrying capacity, which means that the best cameras can be installed for optimum picture quality. And it also scores points in security: thanks to laser sensors, the drone always sets down in a vertical precision landing, thus eliminating the possibility of a crash landing.

That Wingtra is on the right track with this concept is demonstrated by the fact that the first sales partners were acquired in the US and China shortly after launch of the drone. Further countries will follow soon.

Wingtra AG | Zürich | founded in 2014 |Unmanned aerial robots | Generated capital: Seed CHF3.1 million (Wyss Zürich, Gerbert Rüf Stiftung, private investors) and current undisclosed financing round | Supported by: Wyss Zürich

https://weavr.space

www.wingtra.com

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