austria wirtschaftsservice **aws**
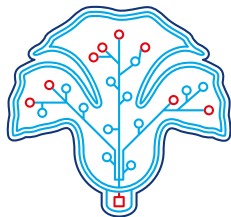
aws Seedfinancing

Projects supported in
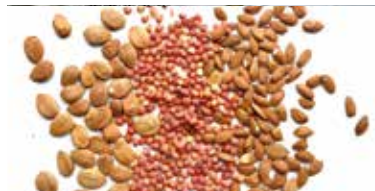2019

HUMAN CENTRIC AI

I AM THE SIGN OF YOUR IDENTITY

I AM SIGND

A·M·B

Who would have thought it possible that the global economic situation could change so quickly and so dramatically? In January 2020, the results of the "Austrian Startup Monitor" showed a consistently positive picture of the Austrian startup situation. Yet even in crisis-ridden covid-19 times, startups are and will remain important pillars of the economy, because they secure jobs, are active in innovative and novel technological areas and can adapt to new challenges much faster. Startups create the markets of tomorrow and are a dynamic factor for the business location. It will therefore be the ongoing task of my ministry to give innovative ideas and courageous founders the space they need to realise their visions. The Federal Ministry for Digital and Economic Affairs will thus continue to support companies emerging from unconventional, technologically advanced research and development projects by startup initiatives such as the PreSeed and Seedfinancing Programmes.

© BMDW/Christian Lendl

Margarete Schramböck
Federal Minister for Digital and
Economic Affairs

Startups have become an integral part of Austria's corporate landscape. They bring radically new ideas to the market and thus significantly contribute to the dynamic development of our economy. The investments of today will be the highly innovative companies of tomorrow. In this context, aws Seedfinancing has been a "fertiliser" for enterprises that offer high potential for innovation and good prospects for the future.

As minister in charge of climate protection, I am particularly pleased that many of the startups supported by aws have been able to assert themselves on the market in an economically sustainable way through courage, creativity and their entrepreneurial spirit. I am also delighted to see that they have significantly contributed to achieving environmental and climate targets through their work on green technologies. Especially as we are emerging from the covid-19 crisis, we want to consolidate this development and lay the foundation for many more green tech companies.

© BKA/Andy Wenzel

Leonore Gewessler
Federal Minister for Climate Action, Environment, Energy, Mobility, Innovation and Technology

austria wirtschaftsservice **aws**

The obvious becomes even clearer when times become challenging: it is the innovative power of Austrian entrepreneurs, which is called upon to strengthen Austria as a business location in the long term. However, precisely these companies find it difficult to get funds for their innovative approaches, not only in the wake of the covid-19 crisis. Hence, aws accompanies and supports them on their way to entrepreneurship and helps cushion the commercial risk. Our aws PreSeed and aws Seedfinancing programmes are central pillars of support extended to deep tech startups. They provide technology-oriented companies with important initial funding in their planning and growth phases. aws also backs innovative ideas by offering advice and assistance in the search for investors and cooperation partners. We believe in creative people and their visions. On the following pages, we present the exciting projects we were able to support in 2019.
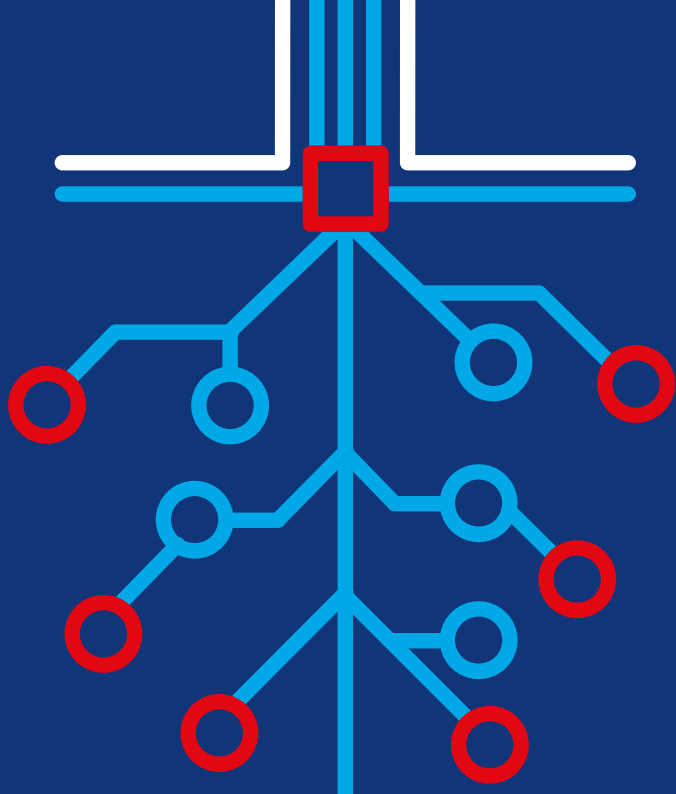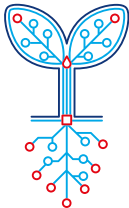
Edeltraud Stiftinger
Managing Director, aws

Bernhard Sagmeister
Managing Director, aws

aws PreSeed

aws supports high-tech enterprises in their pre-founding stage.

In order to make an innovative idea marketable, an enterprise needs a viable, ambitious business concept as a sound basis on which to set up a company. aws PreSeed helps to fund costs arising during the early phase of foundation. Our special focus is on digitalisation, ICT, physical sciences (chiefly clean and quantum technologies) and life sciences.

aws PreSeed finances costs incurred by doing scientific work for and preparing the commercial utilisation of an innovative project. Such costs include expenses for studies and concepts, consumables and human resources. The maximum grant is € 200,000. It is paid out in performance-related tranches based on a milestone concept. Repayment terms normally range from 18 to 24 months.

www.preseed.at
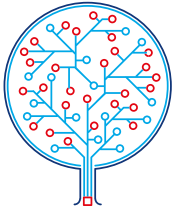
aws Seedfinancing

aws accompanies high-tech enterprises throughout their founding and company building phases. It supports all kinds of high-tech businesses, spinoffs of universities and non-university research institutions. The focus is on digitalisation, ICT, physical sciences (chiefly clean and quantum technologies) and life sciences.

Building up an internationally competitive enterprise takes knowhow, courage and capital. aws Seedfinancing aims to bridge the funding gap between the idea for a product and its marketability. The programme supports investments for founding and market development, external consulting services and resources. In addition, startups are given individualised assistance. The maximum grant is € 800,000, repayable subject to conditions. Repayment, at terms of up to twelve years, is made from profits earned or upon the sale or IPO of the company.

www.seedfinancing.at
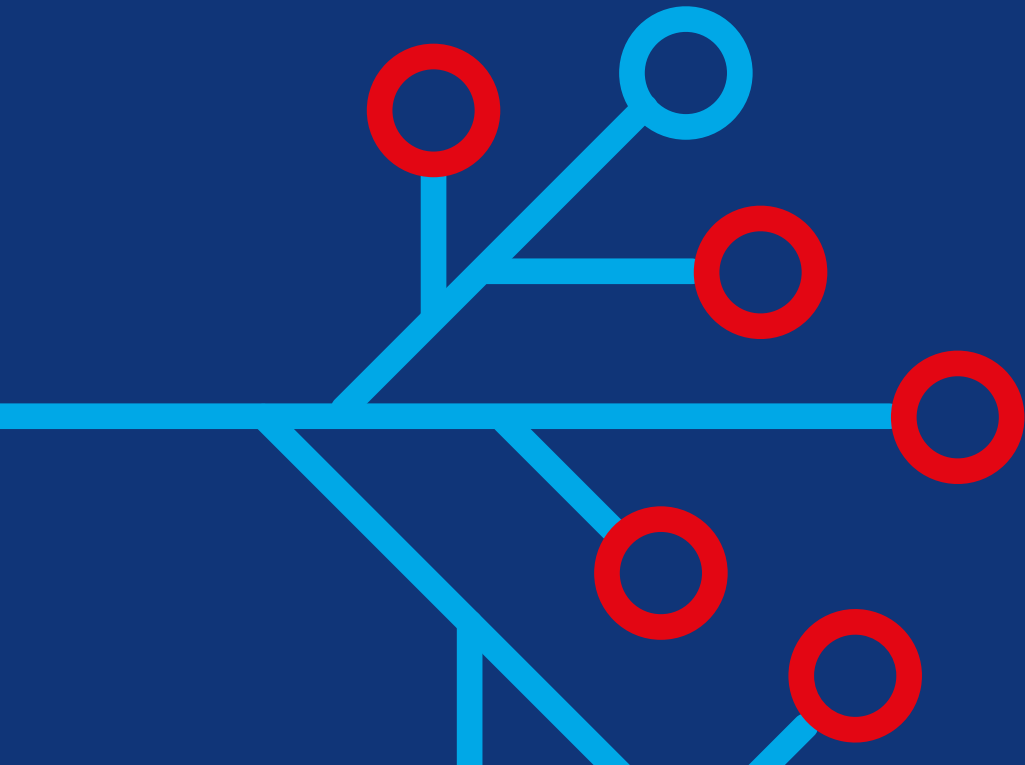
Information and Communication Technology

AMB technology

The startup domiciled in Linz offers a recognition software for cameras and smartphones that digitally takes and maps people's measurements, thus permitting the fashion industry to manufacture custom-fit clothing.

Founder Anna Maria Brunnhof from Linz is convinced that we still suffer from a dearth of digital information about human body measurements. This constitutes a problem for all industries that have not yet been able to fully digitalise their products and processes relating to the human body. Among them are industrial manufacturers who want people and machines to interact safely and efficiently without excessive safeguards, or physicians, avatar developers who want physically correct body models for their virtual representations, or fashion manufacturers who wish for correct global measurements to achieve more efficiency and size fitting accuracy.

© Marco Prenninger

It is the latter group that AMB technology targets with its product: using standard 2D video technology, the TrueSize app measures human bodies to an accuracy of just a few millimetres. Hence, any video-capable camera (from webcams to smartphone cams) can take the measurements of the companies' customers with great precision and map them digitally. This helps customers to find the right size and provides manufacturers with a correct dataset of human body measurements as a basis for worldwide production.

AMB GmbH
Hafenstraße 47–51, A-4020 Linz

Founded in 2019
Founder: Anna Maria Brunnhofer (CEO)

amb-technology.ai, www.truesize.org

HUMAN CENTRIC AI

We believe Products
and Industries should
be built around People
for their Efficiency
and Safety.

A·M·B

www.amb-technology.ai

A globally applicable size chart

The global TrueSizes are automatically kept up to date – a globally applicable size chart is being developed. As the number of datasets grows, the information on sizes becomes more and more accurate.

Great demand

Having started out in fashion design and the creative industry, Anna Maria Brunnhofer worked as a strategy and technology consultant for many years and developed a keen interest in computer vision. Her studies showed that while there is a lack of intelligent ways to digitally view humans there is a great demand for measured data of the human body. AMB technology now works with a team of experts in computer vision, machine learning, computer science, mobile computing and three-dimensional graphics as well as with experts specialising in strategy, fashion and technology.

Artificial Researcher

artificialresearcher.com

A Viennese startup has developed an interdisciplinary approach for AI text mining technologies that speeds up access to information, making knowledge more easily available to businesses, scientists and private individuals.

Artificial Researcher is developing novel text mining technologies that make it easier for businesses and scientists to locate knowledge. Jointly with her sisters Jenny and Nina and research partner Florina Piroi, founder Linda Andersson draws on advanced artificial intelligence and machine learning that combine language elements and technology. The software is used for patent retrieval, scientific research work and chatbots. Dynamic recipes are one example of the text mining app's consumer-oriented services. The technology of the Viennese startup saves time for its users and improves the quality of the supplied information, which is specifically tailored to their needs.

aws PreSeed

Convincing prototype

Artificial Researcher's text mining app links scientific communities and makes research knowledge available on a broader basis. Retrieval of information needed for scholarly publishing often requires expensive subscriptions, so that access to global research results tends to be a privilege of financially strong institutions. The team around Linda Andersson has launched "Artificial Researcher in Open Access" (AR-OpenAccess), a prototype project tailored to the needs of less affluent professionals, researchers and students that can be

© Nina Andersson, Florina Piroi

Artificial Researcher

Artificial Researcher IT GmbH
Floragasse 7, A-1040 Vienna

Founded in 2018
Founders: Linda Andersson, Florina Piroi, Jenny Andersson, Nina Andersson

artificialresearcher.com

accessed for an affordable subscription fee. The software solution autonomously determines the users' information requirements and presents them with the content they need. Owing to the introduction of the Artificial Researcher demo version, the innovative text mining solution has meanwhile become available in universities and libraries around the globe.

On the verge of entering the market
Artificial Researcher currently operates two prototypes ("Artificial Researcher in Science" and "Artificial Researcher in Open Access"), which are designed to establish novel knowledge management systems in the technology and research communities. In addition, the Austrian-Swedish data experts offer consulting services for real-world AI text mining applications by their business partners.

GoEssential

goessential.com

The Salzburg-based startup is developing an AI-supported software which searches videos, texts and audios, marking sections that are important for the user.

GoEssential separates the wheat from the chaff, performing what founder Christian Kleinferchner calls "essentialising": when faced with digital content such as videos, texts or audios, users are directed to bits and pieces that are really relevant for them. Currently GoEssential operates a cloud platform through which customers (content providers as well as users) instruct GoEssential's experts to go over content for its relevance and create summaries with the help of special software. Essential passages are marked for the user who can then home in on them. This cuts down a 45-minute video lecture to a 5-minute summary. Kleinferchner is currently taking

GoEssential to its next level: using self-learning software, GoEssential will analyse and summarise (i.e. essentialise) content automatically, i.e. without human assistance. Initially the software will be used for videos, with digital texts and audios to follow in the next development phase.

Optimised information uptake

On a day-to-day basis, digital content is still absorbed in the traditional manner: users need to watch the whole video or read the whole text

even though only a fraction may be of relevance to them. This takes a lot of time and users miss out on opportunities to obtain or pass on knowledge. GoEssential presents a solution that "essentialises" the content of videos, texts and audios, helping users to concentrate on and remember what really matters. The enterprise is currently developing a cloud platform (Software as a Service) which serves as a market place for preparing and marketing prioritised contents. The platform already supports videos and

© Christian Kleinferchner

GoEssential

GoEssential GmbH
Mayrwiesstraße 20, A-5300 Hallwang bei Salzburg

Founded in 2020
Management: Christian Kleinferchner

goessential.com

will soon be able to "essentialise" texts (web pages, e-books and pdf files) and audios/podcasts.

Target groups for quality content
GoEssential aims at publishers, content providers and channels that provide qualified digital content. Users are offered specific functions for video solutions such as conference video content, webinars and training sessions for customers and teams, and the processing of YouTube content. Moreover, the company intends to access new markets for audios (podcasts), HTML texts (web pages, news and newspaper content, business information) and e-books.

i4SEE TECH

www.i4see.tech

The IT company in Graz is developing a software solution based on augmented intelligence, which optimises both maintenance and operation of wind turbines by analysing previous operating data.

The startup, founded in 2019, uses previous operating data of wind turbines to make predictive recommendations for inspection, repair and optimising routines. By using augmented intelligence (not to be confused with artificial intelligence processes), founder Christopher Gray intends to create new standards for operating wind turbine fleets that generate renewable energy, since these energy generation technologies require novel and highly digitalised monitoring and maintenance. For companies that still use conventional maintenance routines this transition constitutes a challenge in the short run. However, Gray is convinced that "predictive maintenance" will strengthen

wind energy as a low-cost and competitive method of energy generation.

New business fields

i4SEE TECH is about to extend the range of applications for its software. Thanks to the modular structure, the new method can be introduced step by step. In the future, the data obtained from the augmented intelligence-based analysis will be made available not just via centralised, cloud-based computer resources, but also through distributed networks and edge-computing systems. This also makes the company's

i4SEE
TECH

i4SEE TECH GmbH
Zinzendorfgasse 23, A-8010 Graz

Founded in 2019
Management: Christopher Gray

www.i4see.tech

analytical software "edge-ready" and highly flexible with a view to application options.

Renewables as target sector
The young company plans to offer its solutions to other technologies in the field of renewables, including solar energy and battery storage systems. In the energy industry, the self-learning data analysis software developed by i4SEE TECH can be activated quickly, and used at large scale and low cost. Hence, the software is a major step towards making the generation and distribution of renewable energy sufficiently cheap to ensure its successful use at normal market conditions.

Legitary

Legitary, a Vienna startup, analyses the retrieval data of music streaming services to improve transparency in royalty accounting.

Legitary has developed a new machine learning method that automatically detects anomalies in music streaming sales figures. The algorithm identifies unreported streams and potential fake streams. Such data are significant for the revenues of artists and music labels alike: the royalties they are paid from streaming services such as Spotify, YouTube, Deezer or Apple Music depend on the number of plays. Irregularities abound, but Legitary quickly puts the facts on the table: for the first time, typically expensive audits become affordable for the great majority of artists. With its approach, Legitary sets a new quality standard for billing streaming data and for more fairness and transparency in the music industry.

How it all started

Cofounder Günter Loibl has been active in the music industry for more than 20 years.

At a trade show, an auditor reported on the problems caused by the growing amount of data in music streaming, and

Günter Loibl set out to find a scientific method for solving the problem. Nermina Mumic, CEO and data scientist, and Peter Filzmoser (CTO and professor at Vienna's University of Technology) turned the idea into a business plan. Jointly they implemented their project, supported by the Austrian Research Promotion Agency, establishing Legitary as a university spinoff.

Exploding market

In recent years, the market for music streaming has experienced an explosive

Legitary GmbH
Floragasse 7, A-1040 Vienna

Founded in 2019
Founding team: Peter Filzmoser (CTO), Nermina Mumic (CEO), Günter Loibl

www.legitary.com

expansion. In 2019, three billion streams were registered per day just in the United States. The sheer volume of data fuels the risk of faulty invoicing and undetected fraud. Currently there are several million-dollar suits pending with regard to incorrect streaming figures. So far, disputes have been referred to auditors whose expert opinions are solely based on experience, estimates and projections, which yield unsatisfactory results. Legitary's algorithm is set to eliminate the grave deficiencies for the benefit of artists and producers.

New target groups

In the near future, Legitary will be used not only in the music-streaming business, but also by videostreaming and gaming services, which, in the long term, will open up a market that is seven times as large. The first steps in this direction are currently being made.

Monkee

www.monkee.rocks

The financial app developed by Monkee, a Tyrolean enterprise, helps people save money by digitally "nudging" them to consistently implement their savings plans and in this way balance their consumption and savings.

True wellbeing requires financial health. On this reasoning, the Tyrolean startup Monkee wants to foster individuals' considered handling of money and reintroduce the concept of saving in everyday life without seriously curbing consumption. The Monkee financial coach combines gamification, behavioural design and machine learning, all to help users to put aside money towards specific goals.

Strategy of small steps

The financial coach sends digital "nudges" to users to help them save more regularly for specific purposes. "Nudges" are reminders, facts, feedback or simply the question: "Hey Martin, how about setting aside another

© Monkee

couple of euros for your holiday?" Each interaction improves the app's knowledge of how and when such nudges need to be sent to individual users in order to increase the chance that they keep on saving.

Available in Google Play and App Store

The basic version of the Monkee app has been available for iOS and Android since the summer of 2019. The circle of users is growing by the day. They all use Monkee to save towards a particular goal and thus actively do something for their financial

Monkee GmbH
Gartenweg 30e, A-6063 Rum

Founded in 2019
Management Christian Schneider, Martin Granig,
Jean-Yves Bitterlich

www.monkee.rocks

health. So far, Monkee users are already saving for goals worth € 48 million. Monkee intends to reach out to ever more potential users and extend its app by features that cover other aspects of financial health.

Balancing consumption and savings
Monkee was founded by Christian Schneider (COO) and Martin Granig (CEO) in 2019. Soon after, Jean-Yves Bitterlich joined the management as its CTO. The three managers are convinced that the savings sector lacks innovation, while the consumer industry has successfully introduced

novelties such as one-click shopping and personalised advertising. Monkee wants to restore a healthy balance between savings and consumption.

Naboto

www.naboto.com

The AI-supported software created by the Viennese company optimises appointment scheduling in physicians' surgeries. It detects no-shows before they occur and automatically re-assigns free time slots.

Scheduling appointments in a surgery is an underappreciated management task. Improperly done, it may cause serious revenue losses and avoidable stress from long waits. Naboto's time slot management system is based on a self-learning software which allows for an individual patient's likelihood to miss out on an appointment as much as for variations in the duration of treatment and seasonal fluctuations (such as occur due to flu epidemics). Appointments booked both online and offline are handled by the Naboto calendar and are used to optimise the surgery's time management and to prevent no-shows.

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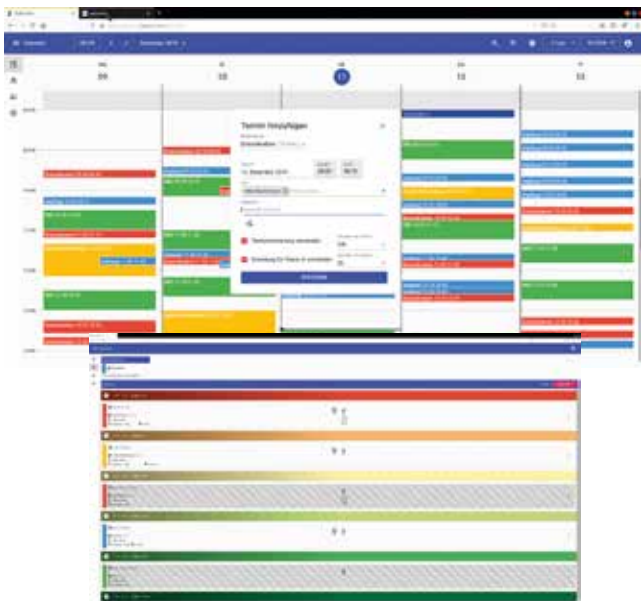
A health centre in Vienna figures that it loses fees from no-shows to the tune of € 15,000 per month. Added to this are excessive waits in the surgeries due to a rigid schedule of appointments. Longer working hours and a greater administrative input are expensive and impact negatively on the rate of satisfaction among patients when they are forced to undergo overlong waits.

Naboto adjusts to the surgery's needs

The Naboto solution can be easily

NABO*t*O

Naboto Software GmbH
Trazerberggasse 79, A-1130 Vienna

Founded in 2018
Management: Lukas Krafft von Dellmensingen

www.naboto.com

adjusted to the surgery's needs. It allows presettings for the period patients can be reasonably expected to wait and the level of overtime hours permitted. In addition, it considers walk-in patients who are in pain or need emergency treatment. Patients who make an appointment online are informed in realtime of delays or unexpected vacancies. Moreover, they may put themselves on an electronic waiting list to be notified of slots that have become free at short notice. All these options minimise waiting times and accelerate the surgery's throughput.

Nearer to the market
Following a beta test period, the product is planned to be launched and fine-tuned in 2020. At present, the company has set up collaborations with organisations of the Austrian health system, such as the Federation of Austrian Social Insurance Institutions, various IT and service agencies of the Austrian social insurance institutions and Uniqua, a private insurer. The Naboto homepage offers potential customers a free trial month for the software.

P.SYS

The bed monitor developed by Villach-based P.SYS assists carers by a sensor-supported software that distinguishes between patients' normal sleep behaviour and justified alarm symptoms.

The bed monitor is the right product at the right place at the right time: the Carinthian startup P.SYS offers the first marketable product that lightens the burden of carers during night shifts thanks to a self-learning health monitor. Due to its advanced sensing technology, the system can precisely distinguish between genuine emergencies and false alarms. It makes the work of carers easier, reduces the number of regular rounds to check in on patients and allows them to attend to real emergencies more quickly.

Sensors underneath the bed
The system developed by founders Bart

Scholte van Mast and Elise van Harxen works with sensors that are placed underneath the bed and connected to a local analyser. The patient in the bed does not notice anything; the system needs no maintenance, continuously adapts to the user and requires no interaction with the patient or carer. The broad range of sensors already available allows placing them underneath beds with legs and beds with castors.

aws PreSeed

Standard and deviation

The self-learning system autonomously creates an individualised model that describes the patient's normal behaviour. It compares newly obtained data to the model and identifies exemptions. If an emergency occurs, it sends an alarm. A central monitor enables the carer to make virtual rounds without disturbing the patient's sleep as would be the case when physically checking in on them. In exceptional situations and emergencies, the carer can nevertheless respond much more quickly. The bed monitor is

© www.foto-kabath.at

P.SYS caring systems GmbH (currently being established)
Gritschacher Straße 27, A-9500 Villach

Founded in 2020
Founding team: Bart Scholte van Mast, Elise van Harxen

www.psysengineering.com

suitable for use as stand-alone solution or as module of the Detect & Connect system that combines it with modules designed for the patient's living room.

For institutional and non-institutional nursing care
The bed monitor is geared to institutional nursing homes, where some pilot projects have already been implemented. The Detect & Connect system is targeted at private home care. Starting from a personal family situation, Bart Scholte van Mast and Elise van Harxen intend P.SYS to move towards active assisted living, and see P.SYS as an enabler of self-determined life in old age.

SignD

signd.id

The company domiciled in Vienna is marketing an identity verification procedure for digital online registration ("onboarding") without media disruption, which is accepted by public authorities.

A validated identity is frequently a prerequisite for using digital products and services. The Viennese company

SignD has developed a reliable solution that promises users and businesses better handling and more safety in onboarding procedures. The creation of founder Bernhard Reiterer offers companies and consumers an identity verification procedure that is accepted by public authorities, fully digital and carried out without media disruption. Up until now, web-based onboarding has typically been delayed by analog identity verification procedures such as the exchange of signatures or confirmations delivered by snail mail,

I AM THE SIGN OF
YOUR IDENTITY

I AM SIGND

© signd.id

resulting in the loss of much business. SignD has eliminated this hurdle for businesses and consumers alike.

Many target sectors

Financial services, telecoms, transport, tourism, entertainment, gaming and e-sports are natural targets. Consumers also benefit from significantly accelerated onboarding procedures while keeping track of the whereabouts of their personal data. SignD provides seamless transitions that comply with the most stringent

SignD Identity GmbH
Dr.-Karl-Lueger-Platz 5, A-1010 Vienna

Founded in 2019
Founder: Bernhard Reiterer

signd.id

criteria in terms of security and regulations.

Benefits for all
So far, SignD has been active in more than 200 countries and regions, providing identity verification for over 7,000 types of official documents. The company is currently developing a consistent framework to deliver conformity and compliance for digital online access. Examples include "Know your Customer" processes, prevention of money laundering and screening of politically exposed individuals. As the solutions can be combined at will, SignD has a practically unlimited target group in the online business.

Mostly AI

mostly.ai

Mostly AI offers software solutions to anonymise big data so they can be processed in compliance with data privacy laws.

The AI-based software approach pursued by Mostly AI from Vienna enables companies and organisations to automatically generate statistically representative synthetic customer data. It is used to provide GDPR-compliant data for testing and development purposes, for analysis and evaluation, and for training machine-learning algorithms.

Enabling data forwarding
Using generative AI, the software learns to recognise patterns and linkages based on existing datasets and, drawing on this, to generate an artificial population of newly created ("synthetised") data records. The content of the data remains untouched but is fully anonymised, and is thus no longer governed by the strictures of data

© Mostly AI/Alexandra Ebert

privacy laws with regard to forwarding and processing.

Banks, insurers, government authorities

The target groups are businesses that keep personal data records such as banks, insurers or telecom providers. Other potential customers are government operations and institutions. These organisations are generally ruled by highly restrictive regulations regarding the processing and exchange of data, and they are the parties that benefit most and most directly from synthesising

Mostly AI Solutions MP GmbH
Hegelgasse 21/3, A-1010 Vienna

Founded in 2017
Founders: Roland Boubela, Klaudius Kalcher, Michael Platzer

mostly.ai

their data for their digital transformation and innovation projects.

Team of data scientists

The company was founded by three data scientists who were quick to recognise the limitations of existing anonymisation methods. They used the experience gained from AI research to advance the development of novel approaches.

Many uses

The solution created by Mostly AI has already been successfully field-tested in Europe and in the United States. In a next step, the software is to be rolled out for a large group of target customers. It is suitable for ongoing use in businesses and as a web-based service (Software as a Service).

Ondewo

www.ondewo.com

Ondewo offers an all-in-one solution for AI-automated corporate communication. The self-learning software covers speech to text, natural language processing (NLP) and text to speech.

The Viennese company is developing an AI-based solution for real language communication between humans and machines. Advantages of Ondewo's solution are the industry-leading speech transcription, the high degree of automation in context-sensitive dialogues, the easy adaptability by non-technicians and the operational reliability ensured by high levels of data protection and data security. Examples of Ondewo-based products include routing and automation of telephone calls, emails and text messages as well as voice control of applications, websites, machines and robots.

Automated communication

Ondewo's AI has an innovative edge in

© Studio Huger

understanding natural human language and in the automation of context-sensitive conversation. The Ondewo platform for "natural language understanding" (NLU) thus understands the content of human conversations. Hence, the NLU solution can autonomously exchange information with customers, suppliers and employees on the phone, by email and via text messages.

Efficient processes

Ondewo's AI solution reduces the staff's workload and optimises work processes. Compared to other state-of-the art solutions,

ONDEWO

Ondewo GmbH
Neubaugasse 21/2/29, A-1070 Vienna

Founded in 2017
Founders: Andreas S. Rath, Alexander Schult

www.ondewo.com

it permits enterprises to achieve greater savings. Ondewo wants to be an all-in-one AI solution that covers the entire life cycle of high-quality digitalised and automated communication within a corporate network.

Expanding the licensing business
The two founders Andreas S. Rath and Alexander Schult collaborated, inter alia, in projects run by the management consulting firm McKinsey & Company. In mid-2019, they successfully managed to launch cooperations with major customers in Germany. The company's current focus is on expanding its licensing business and partner networks in Austria, Germany and Switzerland.

Prewave

www.prewave.ai

The Vienna-based company is developing a software-supported risk management tool that uses social media data and news reports to automatically identify and predict emerging threats to corporations.

At present, the world witnesses just how fragile the web of globalisation has become. Disruptions in supply chains cause enormous damage. The Viennese startup Prewave has worked for years to detect such sources of danger. Founder Lisa Smith and her team are developing a technology that uses data from social media to automatically identify risks and warn against them. After all, the outbreak of a mysterious disease in Wuhan, strikes in the ports of Mumbai or traffic restrictions in Tyrol quickly find their way onto online networks.

Prewave's software specialises in searching data from Twitter, YouTube and local news

sources for indications of potential risks to businesses and making predictions. This is done by combining natural language processing and machine learning: the startup's algorithms are trained in different national languages and then learn by themselves. The "Prewave Prediction Engine" uses this method to generate

© Prewave GmbH

information that is processed into warnings about imminent risk events.

Retrospective risk measurement

The startup offers a sustainability screening which permits its customers to check their suppliers or investment projects for environmental and social risks during the past ten years. Moreover, firms can get information about current events via an ongoing monitoring programme. The startup's clientele includes major automobile manufacturers, logistics groups, banks and shipping companies in Europe. Prewave's

Prewave GmbH
Floragasse 7, A-1040 Vienna

Founded in 2017
Management: Lisa Smith, Harald Nitschinger

www.prewave.ai

next step is to increasingly include the deeper levels of supply chains in its analysis, namely suppliers and raw material producers.

Strikes in Indonesia
In her doctoral thesis submitted to the Institute of Software Technology and Interactive Systems at Vienna's University of Technology, Lisa Smith investigated new data sources for the detection of risks in supply chains. During several stays in Indonesia she observed events such as port strikes and unrest and analysed how they were presented in Indonesian social media. Back in Europe, she developed the prototype for the technology. Jointly with her co-founder Harald Nitschinger, she turned her results into a business plan, founded a startup and developed Prewave into a global supply chain intelligence platform.

proactivaudio

The Vienna-based startup has developed an algorithm for suppressing echo and noise, which is used to improve the audio quality in telephone conversations, video conferences and hands-free talking systems.

When two or more participants in telephone conversations or video conferences talk simultaneously ("double talk"), the result is frequently adverse echoes or reverberations. Current approaches aim to catch double talk when it occurs and reinforce echo cancellation. In contrast, proactivaudio acts before reverberations or echoes are actually generated. The business, founded in 2017 by an Austrian-Spanish team, developed an algorithm, meanwhile patented, to improve the audio quality by eliminating the cause of the echo in double talk. When this technology is used, crosstalk frequently occurring in telephone calls and video conferences is a thing of the past.

ANDROID
SAMSUNG GALAXY TAB 3 • INTRINSYC OPEN-Q 624A

No echo
proactivaudio employs a technique

based on machine learning that does
not require any offline training. As a

© proactivaudio

result, the system is highly flexible and totally immune to noise. The software created by the Vienna startup can be integrated in all currently used audio hardware systems, which opens up a large number of applications, ranging from smartphones and tablets to conference systems and hands-free car kits. Voices sound more natural and clearer. Moreover, the software is open to unexpected uses: a Vienna enterprise is using the proactivaudio algorithm in its dictating machines. Tests have shown that the performance offered by

proactiv**audio**

proactivaudio GmbH
High Tech Campus, Gutheil-Schoder-Gasse 8–12,
A-1100 Vienna

Founded in 2017
Management: Hans-Peter Mutzel, Barbara Kieslinger,
Luis Weruaga

www.proactivaudio.com

proactivaudio is substantially better than any audio technology offered by the major digital companies.

Further patents in the pipeline
Having obtained some initial funding and a winning slot in the "Ones to Watch" category of the European Business Awards for 2019, the young entrepreneurs received an investment promise from aws. They plan to file another patent for audio signal processing this year in order to extend their product portfolio.

No tinned voices any more
Austrian project manager Barbara Kieslinger and Spanish Chief Executive Officer Luis Weruaga started their mission in 2017, adding Hans-Peter Mutzel to their team as partner and sales expert in 2018. The latter's network accesses cooperation opportunities with global groups in Europe and in Silicon Valley.

Snapscreen

www.snapscreen.com

The ClipShare app developed by the Viennese technology company Snapscreen lets users share specific scenes shown on TV via social media.

The Vienna-based company Snapscreen has developed a software that allows viewers to share individual scenes of TV programmes or video content. In this way, a scene such as a goal or a foul in a soccer match can be made to go viral in the user's WhatsApp group. And this is how it works: a TV station or streaming service integrates the software called ClipShare into its app or website and makes it available to its customers as a new feature. So far, TV viewers have not been able to pick particularly interesting scenes from a TV programme and share them with their friends via social media.

How it works

With ClipShare, TV viewers point the camera of their smartphone or tablet to a TV set. Snapscreen's image recognition software

identifies the programme and instantly sends a clip of the current TV show to their mobile device in broadcast quality. Users then rewind to the scene they want to share and mark the beginning and end of the clip. They can add a personal message to the clips before they share them via social media and messenger services. That's all it takes to share TV content nowadays.

Why broadcasters love ClipShare
TV stations, streaming services and rights holders widen their reach as their content is also distributed via other media. Due to peer-to-peer sharing, the clips' opening rate is almost 100%. Broadcasters generate TV-supporting content that spreads virally via social media channels – without additional advertising expenses. As a bonus, Snapscreen provides detailed analytical data.

From Vienna to Silicon Valley and back
Snapscreen was founded in Vienna in 2015; the visual-search-AI technology was also developed there. The founding team – consisting of Thomas Willomitzer, Markus Rumler, Matthias Grieder and Dmitry

© Snapscreen GmbH

Nikolaev – has extensive experience with startups: companies such as the online music database last.fm, the online and mobile payment service Jumio and the internet telephony service Jajah were all either co-founded and/or managed in leading positions by members of the Snapscreen founding team.

snapscreen

Snapscreen Application GmbH
Mariahilfer Straße 93/24, A-1060 Vienna

Founded in 2015
Management: Thomas Willomitzer

www.snapscreen.com

subdron

subdron is developing an automated navigation software for submarine drones which take reproducible 3D scans of hulls and underwater structures at much lower cost than was previously possible.

With traditional methods, the digital survey of offshore shallow-water zones, hulls or underwater structures (dams, piers or foundations of wind power stations) is very time- and cost-intensive. At present, remote-controlled diving robots or manual sight checks are used. From an economic point of view, a major hurdle is the high investment cost, especially for underwater navigation.

Current underwater navigation systems are typically designed for long dives, but founder Thomas Vonach from Vorarlberg is opting for a low-cost drone solution that combines high

© subdron

accuracy with short and near-surface dives. As an added bonus, his approach minimises risks: human divers are prone to accidents in murky docks or when exposed to drifts around underwater structures.

Optimised routing of the drone

The Western Austrian startup uses its own navigation software developed in-house that works with a three-dimensional scanner developed by a Fraunhofer Institute. The special arrangement of sensors ensures that
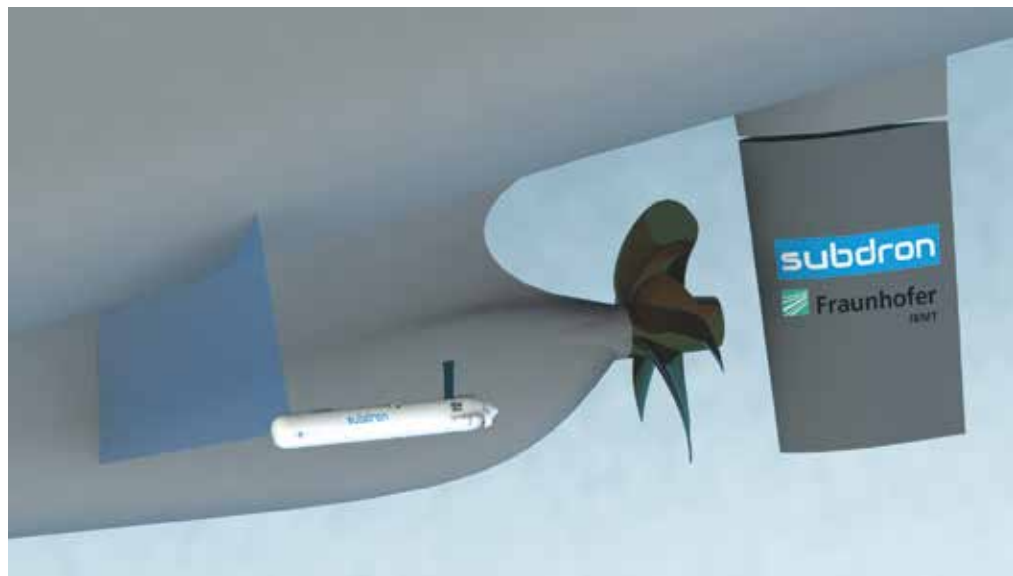
subdron GmbH
Bundesstraße 56, A-6923 Lauterach

Founded in 2018
Management: Thomas Vonach

www.subdron.com

the distance to objects is continuously measured. A subdron algorithm uses these sensor data to calculate the route required to examine the hull.

Distinctly lower process costs

It takes just one person to launch the drone. Using the automated software, the drone scans the hull or pier without the need for presettings, until it has fully covered the target. Altogether, the subdron package yields a digital image of the underwater object. The data may then be analysed and compared during detailed postprocessing – another advantage over current underwater inspection methods.
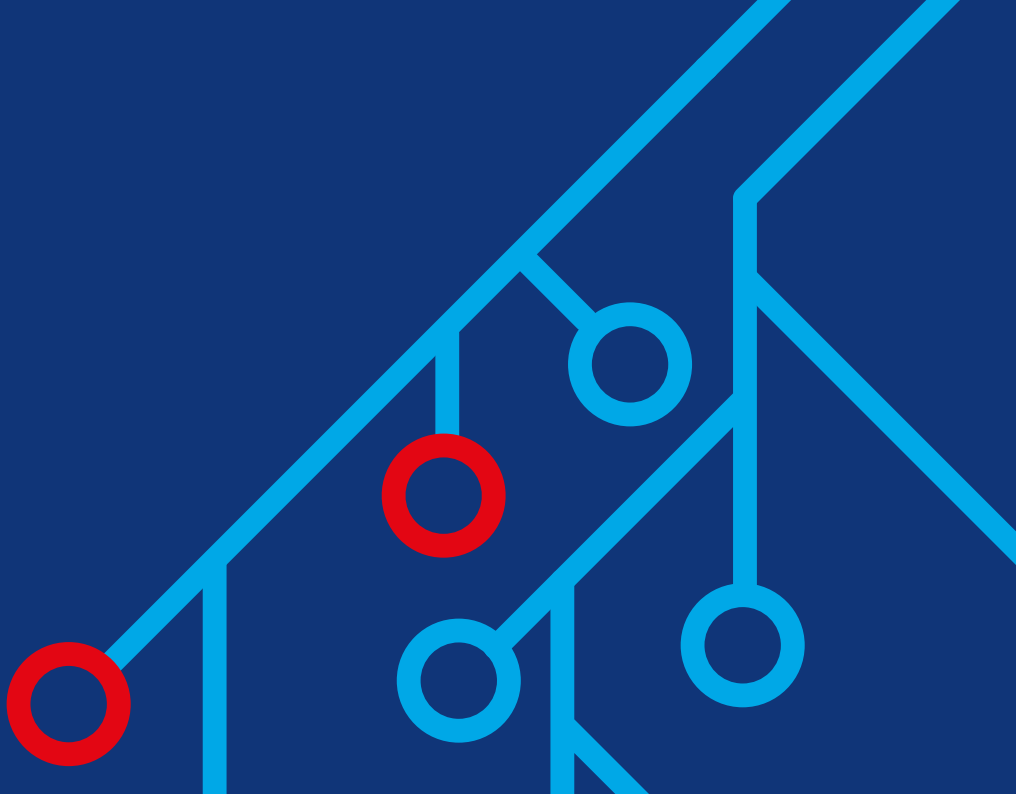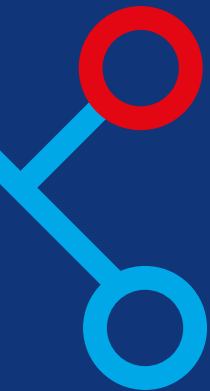
Physical Sciences

BirdShades

The startup domiciled at Leoben uses UV technology to develop a transparent high-tech window film that is visible to birds only, thereby saving innumerable animals from death.

The idea underlying the foundation of BirdShades came from a glass-panelled passage at the University of Graz. Day after day, members of the Institute of

Biology picked up birds that had died from crashing into the transparent glass wall. This induced biologists Bettina Kain and Dominique Waddoup to set up their BirdShades startup: they developed a film that warns birds off the deadly obstacle through UV technology but is invisible to the human eye. Collision with glass panels such as windows, façades, wind and noise barriers is a major hazard for birds. Currently marketed sheeting impairs glass transparency and limits the light reaching the inside of buildings. The film made by BirdShades protects birds

© Foto Freisinger

without affecting the aesthetic and optical appearance of glass panes.

Growing pressure on building operators

Building owners have come under ever greater pressure to bird-proof the glass surfaces of their structures. When checking new buildings, officers of the Environmental Protection Agency accord particular attention to the effects of glass surfaces on birds. The founders of BirdShades expect this trend to lead to legal standards such as are already in place in the United States.

BirdShades Innovations GmbH
Peter-Tunner-Straße 19, A-8700 Leoben

Founded in 2019
Founders: Bettina Kain, Dominique Waddoup

www.birdshades.com

UV technology to make the invisible visible

The patentable BirdShades technology is based on the birds' capacity to see UV light. BirdShades is developing transparent UV-active components that are incorporated in a film in a specific pattern. These components are stimulated by sunlight and exploit physiological and behavioural traits of different bird families. As the avian creatures detect the low-wavelength stimuli, they can avoid the otherwise invisible glass panes.

Highly effective and transparent

The BirdShades innovation does not impair the translucence of the glass surface. The film is fully transparent and highly effective against bird strikes. A self-adhesive coating permits quick and easy application to all glass surfaces.

Kern Tec

The startup located at Krems focuses on a technology to split and sort fruit stones which are then processed into protein flour, edible and cosmetic oils or substitutes for microplastics.

For the juice industry the kernels in apricots, plums and cherries are pure waste. Yet their high content of oil and protein makes them a valuable resource. Fruit stones can be processed into edible and cosmetic oils, protein flour and milk substitute in drinks and snacks. The hard shell is a natural substitute for microplastics. Founders Michael Beitl and Luca Fichtinger have developed a processing and logistics chain that turns seeds and their shells into a precious raw material.

From waste to resource

In Europe stone fruits (apricots, cherries, peaches and plums) are typically appreciated for their pulp only, yielding some 550,000 tons of kernels per year as a

© Kern Tec GmbH

by-product which is thrown away or, at best, incinerated for heating purposes. What has so far been considered waste nevertheless harbours valuable raw materials which Kern Tec intends to utilise industrially.

A special type of brainstorming

In line with the local custom it began at a wine tavern where the founders attended the regulars' table of fruit growers and theorised about various agricultural topics. Initially a vinous idea, the notion developed into a business concept and was implemented on an industrial scale within

Kern Tec GmbH
Magnesitstraße 1, A-3500 Krems

Founded in 2019
Management: Michael Beitl, Luca Fichtinger

www.kern-tec.com

just two years. Today, the production is in full swing.

Prussic acid as a business obstacle

Using fruit stones as a raw material was not possible in Europe for as long as there was no economically sensible technical solution for splitting and sorting them. The main problem was the prussic acid contained in the kernels which was the key reason for treating them as waste.

Kern Tec developed two methods for splitting, sorting and detoxing the pits.

The splitting process has already been implemented industrially. In 2019, Kern Tec processed more than 200 tons of stones, selling them in the markets for cosmetic and eating oils. Developing the detox system to an industrial scale opens new markets for utilising these regional raw materials.

Lambda Wärmepumpen

www.lambda-wp.at

The company from Brixen is developing and producing highly efficient heat pumps utilising a novel process that involves natural cooling agents.

Lambda Wärmepumpen from Tyrol has substantially increased the efficacy of heat pump technology. Based on its 3K process developed in-house, it has overcome technical restrictions, thereby raising the yield of environmental heat from air, water and soil by increasing the heat transition four to six times over the current standard. The result: much lower energy requirements and reduced operating costs.

Improving on tried and tested processes

In writing their master thesis, founders Florian Entleitner and Florian Fuchs came across a concept that greatly improves thermal transition in heat pump evaporators. The technology had never been used in actual practice as it did not guarantee stable

© Lambda Wärmepumpen

operation, a shortcoming that was remedied by the founders thanks to their new process and specially developed controlling concept. This marked the beginning of the 3K process. Tests made by an independent institute confirmed that the process cuts annual energy consumption by 26% compared to current top models of energy efficiency category A+++, with an attendant reduction of operating costs.

Use of natural cooling agents

The 3K process makes it easier to use propane, a natural and climate-friendly

LAMBDA Wärmepumpen

Lambda Wärmepumpen GmbH
Brixentaler Straße 10, A-6364 Brixen im Thale

Founded in 2019
Management: Florian Entleitner, Florian Fuchs

www.lambda-wp.at

cooling agent. Consequently, the Tyrolean startup reduces the greenhouse potential of a cooling agent filling for heat pumps from 13 tons to just 3 kilograms of CO_2 equivalents.

Suitable for refurbishment projects and existing buildings

Given the considerable reduction of energy consumption, the founders perceive a major market potential in refurbishment projects. Up to now, it has been assumed that installing heat pumps in existing buildings does not make economic sense, because older houses typically require higher intake temperatures which result in uneconomically high electricity consumption when traditional methods are used. Thanks to the 3K process of Lambda Wärmepumpen in combination with optimised operation, it is now possible, for the first time, to offer ecologically and economically useful solutions to this market segment.

Luxinergy

luxinergy.com

Luxinergy, a startup based at Leoben, is developing 3D printers which produce individually customised orthopaedic devices using novel materials.

Kind to the skin, transparent and flexible: these are the salient characteristics of the orthopaedic supports and fixatives (orthoses) produced by Luxinergy. They are special in that they are made from a novel light-cured resin which is custom-shaped for each patient and shows excellent thermal and mechanical properties. The material is well tolerated by humans.

The orthoses are moulded in a high-quality large-format 3D printer. The Luxinergy printer is designed for the industrial production of orthopaedic devices additively generated from biocompatible resins. Two modern projectors with WQXGA resolution (2,560 × 1,600 pixels) ensure a

© Luxinergy

large space for construction and reproducible results for the printed components. With this combination the founders aim to raise the personalised production of orthoses to a new level.

Innovative thrust for medical engineering

The target group specifically addressed by the Styrian company are firms that make or prescribe orthopaedic devices. These include businesses specialising in orthopaedic technology as well as

Luxinergy GmbH
Peter-Tunner-Straße 19, A-8700 Leoben

Founded in 2019
Management: Thomas Grießer, Matthias Edler, Thomas Rockenbauer

luxinergy.com

medical facilities such as hospitals and rehab clinics.

A successful mixture
The founding team consists of two industrial chemists (Thomas Grießer, Matthias Edler), a mechanical engineer (Thomas Rockenbauer) and two orthotists (Alexander Kerkoc, Maximilian Kerkoc). Following their successful market entry, the next milestone is the rapid development of the novel material. Luxinergy plans to make its technology available for new

applications in order to open up further business segments.

MicroResonant

A novel operating mode developed by MicroResonant greatly enhances the accuracy and speed of sensors. The method is used for monitoring and controlling machines.

The operating properties shown by lubricating and hydraulic oils are considered a valid source for assessing the condition of a machine. Oils are the "life-blood" of a system. Analysing them helps identify problems in machine parts that cannot be detected by a regular inspection. However, the quality of the data furnished by conventional monitoring tools is still very poor.

With its fluidFox sensor technology, MicroResonant, a startup from Linz, has closed the gap in online condition monitoring. fluidFox monitors oil viscosity with great precision and measures the oil moisture and additional parameters such as permittivity, conductivity and density. Thanks

to the integrated active temperature control it is also possible to quickly determine the

temperature curves of these parameters. The redundancy generated by the mass of

© MicroResonant

data is used to permanently check the data's consistency, resulting in a high degree of reliability and measuring accuracy.

Oil as a status indicator

Oil viscosity is a key functional parameter in mechanical engineering. Any deviation from its normal value indicates a greater degree of wear. Ultimately this may cause the lubrication to fail and the machine to break down completely ("engine trouble on the motorway"). Online sensors have so far been unable to determine the viscosity of lube oils with sufficient repetitive

MicroResonant OG
Franz-Kain-Weg 37, A-4040 Linz

Founded in 2015
Founders: Thomas Gahleitner (CEO), Alexander Niedermayer (CTO)

www.micro-resonant.at

accuracy and long-term stability. fluidFox by MicroResonant intends to reliably close this monitoring gap.

Founders' narrative
The scientific basis for the business idea was established at the Institute for Microelectronics and Microsensors at Johannes Kepler University in Linz. Founder Alexander Niedermeyer developed a fully autonomous resonance analyser to monitor crystal growth experiments designed for use on board the International Space Station (ISS). Having successfully completed his thesis project, he joined forces with Thomas Gahleitner to establish a business with the aim of bringing the technology to industrial use.

UGP materials

A spinoff of Vienna's University of Technology, UGP materials has developed an environmentally friendly non-toxic method to make highly stable synthetics for use in high-end applications of the mobility industry.

UGP materials is a startup from Vienna which aims to make industrial production of high-performance synthetics more ecological by its "hydrothermal polymerisation" (HTP) technology to reduce the burden on the environment and enhance the production quality of synthetics and other materials. The HTP process, developed at Vienna's University of Technology and patented by founder Miriam M. Unterlass, greatly improves the ecological balance of manufacturing highly stable synthetics such as are used in the automotive and aviation industries. In the long-term, UGP materials wants to extend the hydrothermal process to other types of materials and thus make the chemical industry "greener".

HYDROTHERMAL CRYSTALLIZATION

hot spring

ocean

water reservoir
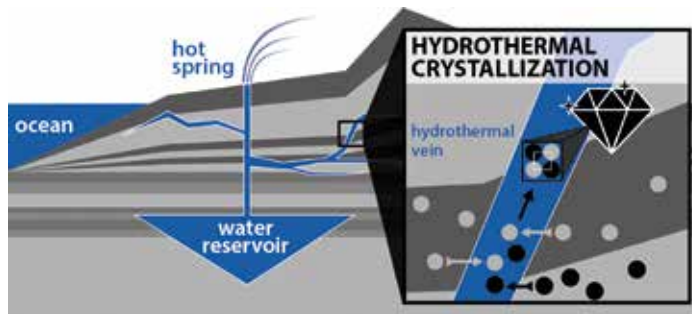
hydrothermal vein

HYDROTHERMAL POLYMERIZATION (HTP)
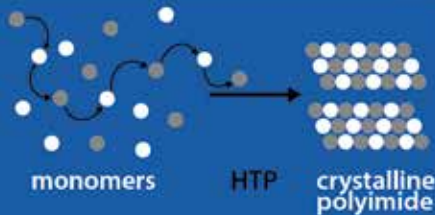
monomers — HTP → crystalline polyimide — morphology of CRYS*

10 µm

© UGP materials

© UGP materials
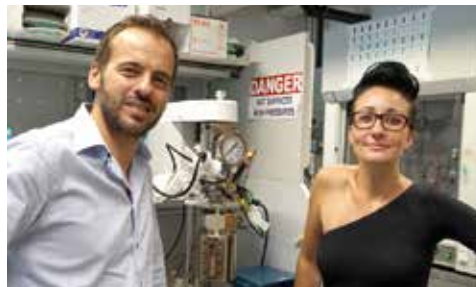
No toxic additives and catalysts

By using hydrothermal polymerisation, polymers can be produced in water, a method that does without the use of toxic solutions and catalysts. The first fully developed product, CRYS, is a highly crystalline polyimide, which has extraordinary properties in chemical, mechanical and thermal terms: it is heat-resistant up to 700°C, chemically non-soluble, and mechanically highly stable due to its crystalline structure. CRYS is excellent as a filler for composite materials in the high-end field. It is

UGP materials GmbH
Floragasse 7, 7th Floor, A-1040 Vienna

Founded in 2019
Management: Dietmar Gombotz, Miriam M. Unterlass

www.ugp-materials.com

targeted at manufacturers of composite materials as current and potential customers.

Test series and joint ventures
In the current stage, founders Miriam M. Unterlass and Dietmar Gombotz are looking for suitable market niches. At present, the team is carrying out initial testing with standard composites. In 2020, the company aims to enter joint ventures with three to five partners in order to test CRYS in practical applications and to scale up production.

Moreover, it is building up capacities for running expanded composite test series.

ACTVR

The Vienna-based startup is developing an omnidirectional treadmill which opens up new movement scenarios in a confined space. The founders aim at virtual reality applications in gaming centres and fitness studios.

Up to now, treadmills have only moved in two directions: forwards and backwards. These are typically all the options available to users. Viennese founders Elmar and Ernst Rudelstorfer intend to expand the locomotive scenarios by another dimension and extend them to the entire horizontal level. Their multidirectional treadmill permits not only forward and backward movements, but also movements to the left and right, or diagonally – i.e. in all directions. This is of great importance for a virtual reality experience because it enables visual impressions to be implemented physically. Among their target customers, the father-and-son team focuses on the

gaming sector, both professional and private, but also sees opportunities in the area of training equipment for emergency crews (simulation) and in the fitness market.

Development status
The treadmill draws on a technology, patented by the founders, which enables users to walk in any horizontal direction. The device consists of several small units that roll on fixed rails for movements in the first spatial direction. The force applied by the (continuous)

© Frank Helmrich

belts fitted to the units is responsible for movements in the second spatial direction. Consequently, it is possible to move in any direction at this level by combining the two main directions. In order to ensure smooth movement, the rotations of the belts are continuously synchronised by contrate gears fitted to the unit drives.

A challenge well met

The beginning tells it all: the founder of a competing business once stated in an interview that there would never be

ACTVR

ACTVR GmbH
Attemsgasse 45/2/16, A-1220 Vienna

Founded in 2020
Founders: Elmar Rudelstorfer, Ernst Rudelstorfer

a low-cost treadmill that allows users to walk in all directions. Father and son Rudelstorfer took up the challenge and sat down to the drawing board to see how they could make it work.

Market opener
The result is now ready for the market: there is no comparable omnidirectional product on the market. Available devices are usually of the exercise pen type which fails to provide a natural walking experience and allows only limited movement. The founders are convinced that the feel offered by the ACTVR treadmill is vastly superior to that exuded by an exercise pen.

GreenBrakes

The Styrian engineering enterprise is developing electromechanical brakes that do without hydraulics or pneumatics. Manufactured at low cost, the brakes can be used in all vehicles, from golf carts to SUVs and heavy-duty trucks.

A resident of Hartberg/Styria, GreenBrakes produces prototypes of electromechanical brakes that can be fitted in all types of vehicles – from passenger cars to farm machines, trailers, bikes and special-purpose vehicles. Thanks to the technology, which is protected by nine patents, brakes have gone digital. Their software covers numerous requirements. Their efficiency and compactness provide a cutting edge to electric mobility, and particularly to autonomous driving – the future markets of mobility.

Greater safety

Automatic emergency braking systems are about to become standard features in cars.

They are indispensable for autonomously driven cars. GreenBrakes start the braking action earlier than any hydraulic system – simply a fact of physics. The effect of the quicker response is dramatic: when emergency braking down from 50 km/h, a car fitted with GreenBrakes has already come to standstill while a car fitted with conventional brakes still travels at a speed of at least 20 km/h.

Substantially better environmental compatibility

Vehicles fitted with GreenBrakes technology on average emit 6 grammes less in CO_2 per kilometre than other vehicles with disc brakes. Given the maximum of 96 grammes of CO_2 per kilometre permitted in the EU, this makes for considerable savings for fleet operators. Moreover, GreenBrakes emit up to 30% less fine dust particles from the brake linings because they actively lift the brake calliper from the disc ("zero drag"), thereby eliminating any residual drag. Another advantage for the environment: unlike hydraulic brakes, GreenBrakes work without the toxic brake fluid, accumulating to the tune of 100 million litres just in the EU,

© GreenBrakes

which needs to be disposed of. This helps fleet operators save on costs for toxic waste disposal.

Industrial scale

By the end of 2022, GreenBrakes' first customer will have its large fleet of trailers fitted with GreenBrakes and take them to the road in the United States.

GreenBrakes GmbH
Am Ökopark 1, A-8230 Hartberg

Founded in 2018
Founders: Marcel Alper, Michael Putz

www.greenbrakes.com

UpNano

A spinoff of Vienna's University of Technology, UpNano has devised a high-resolution 3D printing method for the efficient serial production of microcomponents. The technology can be used for bioprinting and the production of precision components for the industry.

Already when studying at Vienna's University of Technology, the team of founders collected by Bernhard Küenburg investigated a high-resolution 3D printing method that is suitable for cellular and tissue applications. Today, UpNano offers a method for printing, at unprecedented speed, parts that are small enough to fit onto the point of a pencil. When working with cells, biocompatibility and speed are basic prerequisites which confronted the founders with a large number of challenges.

The new dimension in 3D printing
UpNano's patented method significantly

© UpNano GmbH

reduces processing times at a constantly high rate of resolution. The throughput rates achieved are unique in the high-resolution printer market, opening up new approaches to cell research. The system's edge in terms of speed, combined with the use of optimised biocompatible materials, makes it possible to print with live cells (so-called bioprinting) and enables the sterile production of support structures for tissue regeneration. The cells can be admixed to the material before printing or sited on the finished component.

UpNano GmbH
Modecenterstraße 22/D36, A-1030 Vienna

Founded in 2018
Management: Bernhard Küenburg

www.upnano.at

Industrial application

The team's scientific success excited the industry's interest, which in turn spawned the idea of commercial exploitation. After all, the ongoing trend towards miniaturisation has produced ever smaller and more effective products over the years. In order to keep up with this development, the industry needs efficient and economical production methods. Conventional tool-based methods such as microinjection moulding typically are not sufficient to implement the ever smaller tolerance requirements and/or complex shapes of the components.

High-resolution 3D printers provide the required resolution but are not economical due to their low throughput rate. The NanoOne desktop 3D printer is the first system on the market that makes the production of high-resolution microcomponents economical for batch sizes starting from 1. In addition to biocompatible applications, the system can be used in electronics, micromechanics and microoptics.

usePAT

www.usepat.com

With the soniccatch method developed by usePAT it is possible to measure particles in liquids directly in-line to obtain production data for Industry 4.0 processes in real time.

Enterprises need to document their production processes down to the smallest detail. Certification bodies and regulatory authorities demand ever more and increasingly accurate information on the processes used. With soniccatch, Vienna-based usePAT, a spinoff of Vienna's University of Technology, has developed an add-on that makes it easier for a range of probes to analyse a wide variety of particles in liquids in-line and in real time. Particles are trapped by ultrasound and fed to the probes for analysis. As a result, users can do without cumbersome sampling and its attendant disadvantages (costs, delays, etc.).

A second add-on newly developed by usePAT is known as sonicwipe: again using

© usePAT

ultrasonic technology, the process cleans measuring probes and ensures that they deliver accurate results. Probes no longer need to be removed for maintenance.

Real-time data for Industry 4.0

Industry 4.0 processes, production optimation and other digital developments all very much depend on real-time data; and the market for them is growing, a trend that usePAT (with PAT short for Process Analytics Technology) intends to capture: founders Georg Heinz and Stefan Radel target their add-ons at industrial users such

USEPAT

accurate measuring solutions

usePAT GmbH
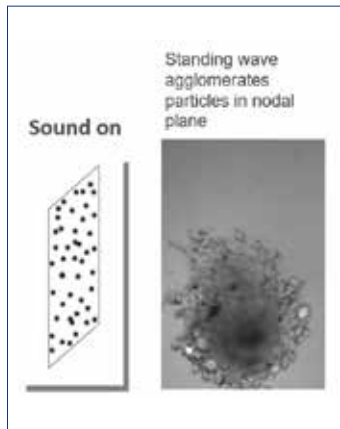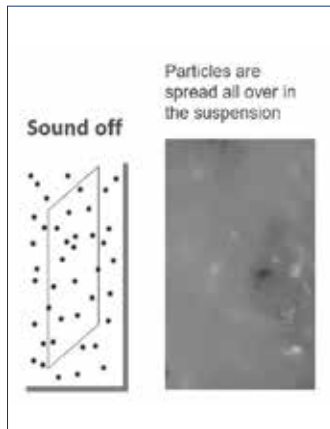Penzinger Straße 80/4, A-1140 Vienna
(office: Floragasse 7, A-1040 Vienna)

Founded in 2018
Management: Stefan Radel, Georg Heinz,
Christoph Gasser, Stefan Tauber

www.usepat.com

Sound off — Particles are spread all over in the suspension

Sound on — Standing wave agglomerates particles in nodal plane

© usePAT

as the pharmaceutical industry, the food and beverage industry, biotech production, life sciences, waste water engineering, the petrochemical industry, the metal-working industry (refrigerating and lubricating agents) as well as producers of probes. For the latter, the combination with soniccatch by usePAT is particularly interesting because it facilitates new applications which, in turn, address entirely new customer groups.
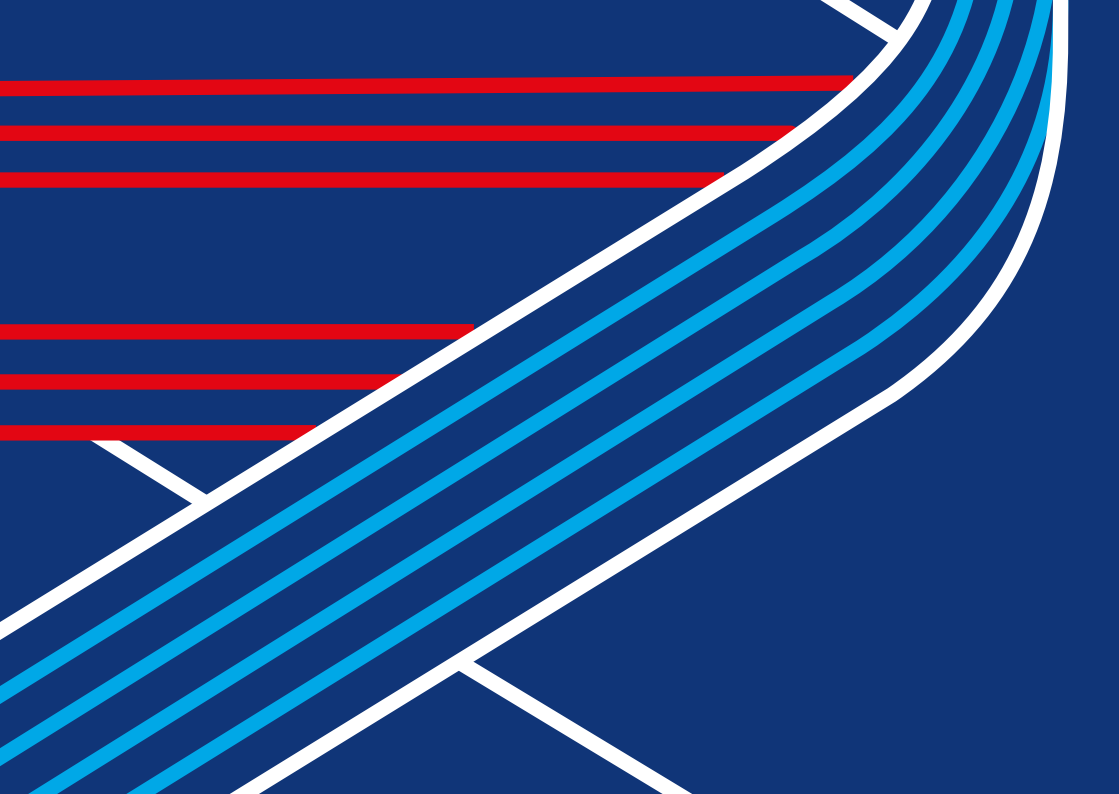
Rapid marketability
soniccatch and sonicwipe open up completely new ways of process control.

The market is very interested in the novel solutions and scaling has already started in the German-speaking region. A team of 22 staff is envisaged to be in place by 2022.
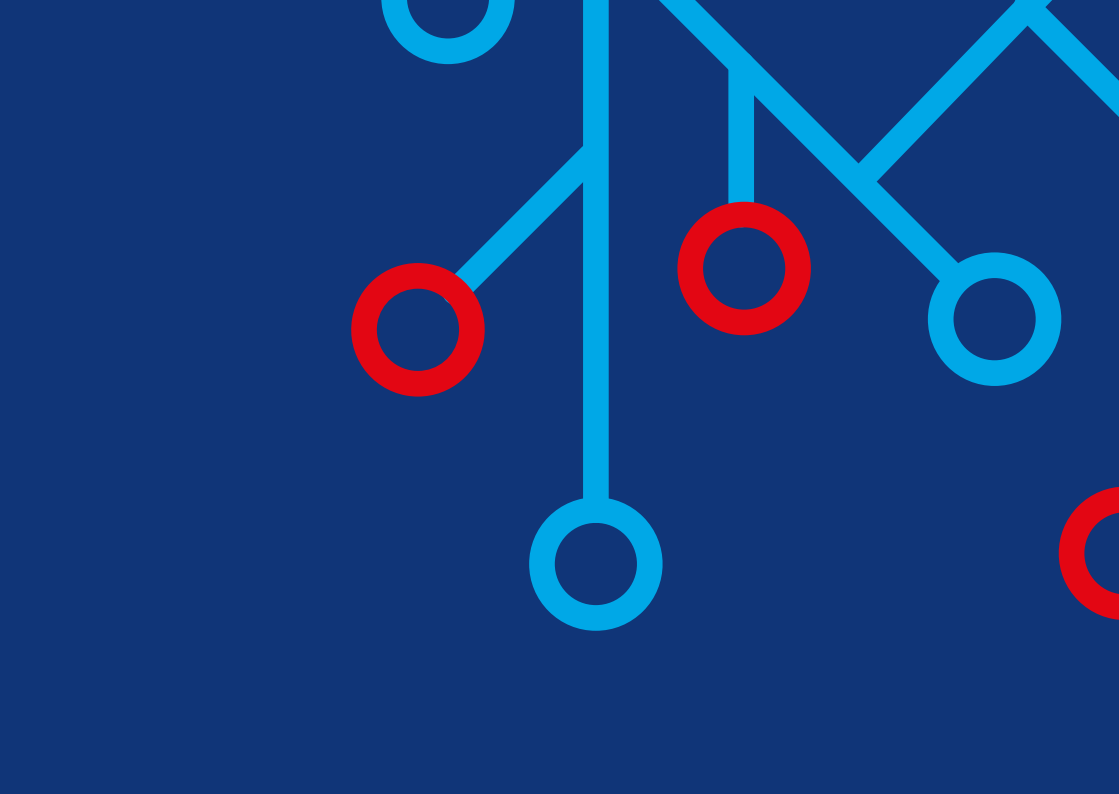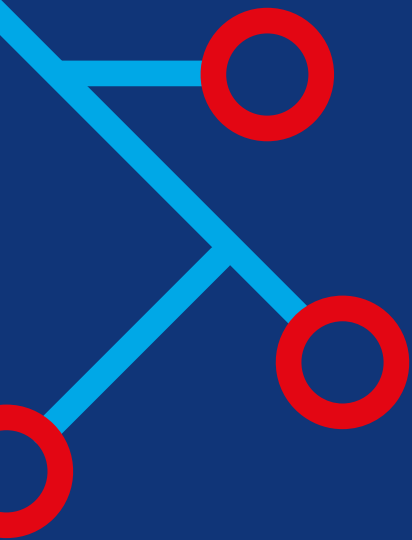
Life Sciences

aws LISA – Life Science Austria
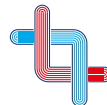
Bringing life sciences from the lab to the market

Austria as a business location will benefit from the most innovative ideas only once they have made it from the lab to the market. Austria Wirtschaftsservice (aws) has established Life Science Austria (LISA) as a one-stop shop that spans the entire value-added chain of startups in the life sciences. LISA provides customised support at every stage of a startup's development.

www.lifescienceaustria.at

AnYxis

The Viennese startup is developing novel biological drugs that enable the immune system of cancer patients to fight the disease.

Throughout the past decades, oncological research has made substantial progress. However, there are definitely shortcomings when it comes to rare tumour diseases that mainly affect very young patients. Hence,

AnYxis' focus is on developing novel, immunologically effective and better-tolerated drugs for treating rare childhood cancers.

A vaccine against cancer
One of AnYxis' primary targets is to develop a vaccine against neuroblastoma, a deadly cancer in children. Neuroblastoma causes around 15% of all tumour-related deaths, making it the third most common cancer among children. Fortunately, this disease affects only about three in every 100,000 people. In the future, the

© AnYxis

vaccine under development at AnYxis will be an additional therapeutic option for neuroblastoma patients who have already undergone all other available treatments (multimodal chemotherapy, surgical resection, radiotherapy, stem cell transplantation and passive immunotherapy).

First promising clinical results

A small number of patients for whom no further treatment options were available after completing passive immunotherapy have already been treated with the cancer

anYxis
immuno-oncology

AnYxis Immuno-Oncology GmbH
Brehmstraße 14A, A-1110 Vienna

Founded in 2019
Management: Oliver Mutschlechner

www.anyxis-io.com

vaccine in a curative trial. On average, these patients were vaccinated a little more than five years ago and all of them (100%) now lead a normal life without having relapsed.

Together, the founding and advisory team of AnYxis, consisting of Oliver Mutschlechner, Hans Loibner, Holger Lode, Wolfgang Stoiber and Ulrich Granzer, can look back on more than 150 years of experience in research and the successful development of drugs, with a focus on cancer immunotherapy. AnYxis plans to test the vaccine in clinical trials within the next two years and make it available to physicians and patients on the market within the next five to six years.

digitAAL Life

digitAAL Life offers tablet-based training in the form of a serious game designed to activate cognitive abilities by multimodal means.

The basic version of the company's digital training game was developed in the context of several research projects. It was tested in a number of field trials that primarily involved people suffering from dementia and was very well received. The game is the continued digital implementation of methods and content currently used to stimulate patients multimodally via Alzheimer's dementia trainings. Digitalisation facilitates the collaborative preparation and implementation of multimodal, playful exercises designed to activate patients' cognitive performance by trained specialists and relatives. Moreover, planning thematically organised content and documentation can now also be taken to the digital level. Specialists can personalise content (e.g. by turning a family photo into

© digitAAL Life

a puzzle) and adapt the level of difficulty to the patient's cognitive state. The game can be used in individual and group settings by both organisations and individuals.

A spinoff located in Graz

The founding team collected by Maria Fellner consists of partners from Joanneum Research and Sozialverein Deutschlandsberg. Maria Fellner previously headed a project on the same topic at the Institute for Information and Communication Technologies (Digital) located at the Graz-based Joanneum Research institute. The

digitAAL Life GmbH
Halbärthgasse 2-4, A-8010 Graz

Founded in 2020
Founding team: Josef Steiner (Sozialverein Deutschlandsberg), Maria Fellner, Heinz Mayer

www.digitaal.life

Austrian Red Cross is currently testing the solution in a pilot project run in three of its regional branches.

Monitoring the dementia status
The truly radical technological innovation offered by the tablet-based game is the support in decision-making it will provide in the continuous monitoring of the dementia status. The globally unique research projects carried out so far have already provided first clues on objectively measurable indicators of the dementia status based on patients' gaze behaviour and movement patterns.

In conjunction with the performance data collected in the serious game, they will constitute the basis for decision-making support in the assessment of the dementia status.

Business model
The product is offered as Software as a Service (SaaS) in a Business-to-Business-to-Consumer business model. Thinking in terms of a digital sharing economy, there are also plans to build up a community.

Fortix

www.fortix.io

The Vorarlberg-based company is developing a glove equipped with sensors which enables first-aiders to optimise the quality of chest compressions during resuscitation.

Sudden cardiac death is one of the most common causes of death in the western world. Defibrillation along with early and correctly performed chest compressions are the two measures that increase the survival chances of patients experiencing preclinical cardiovascular arrest. The Glove:IX project run by Fortix, a company located in Dornbirn, wants to improve the quality of applied chest compressions by giving acoustic and visual feedback on speed and pressure. The technology makes professional first-aiders more efficient and reduces first-aid amateurs' fear of undertaking resuscitation. Moreover, when the device is used in professional settings, it facilitates the collection of important data on chest compression. This information is made

© Anna Hämmerle/Fortix

available to researchers and will provide new insights in emergency medicine.

Sensory glove

Glove:IX is equipped with sewn-in textile sensors. The sensor system measures the forces acting during resuscitation and directly transmits them to a hardware component connected to the glove. The data are evaluated in realtime and processed in a user-friendly way. Easy handling and a significantly lower price than competitive products qualify Glove:IX for a wide range of applications. Hence, the product is of great

Fortix GmbH
Hintere Achmühlerstraße 1a, A-6850 Dornbirn

Founded in 2019
Founders: Daniel Kappacher, Florian Rosmann, Adrian Natter, Martin Hämmerle, Pius Gasperi

www.fortix.io

interest to professional life-saving services, opening up new market opportunities.

Proven team

The members of the founding team (Adrian Natter, Pius Gasperi, Daniel Kappacher, Florian Rosmann and Martin Hämmerle) have known each other since their school and university days when they ran joint technical projects. Initially, they focused on websites and apps. As time went by, their projects became technically more ambitious: the idea for Glove:IX was born when the Fortix team first experimented with textile sensors.

Challenges

Fortix still has hurdles to overcome. The company must solve technical challenges that have arisen in this highly complex interdisciplinary project and require intense basic research. For 2020, the goal is to develop a prototype, which has already been field-tested by the Red Cross, into a marketable product.

G.ST Antivirals

www.gst-antivirals.com

G.ST Antivirals wants to fight diseases such as rhinovirus infections by developing agents that inhibit viral nutrient utilisation of the host cell metabolism.

In 2020, viral infections are more topical than ever. However, it is not only the coronavirus or influenza that afflict the human body: runny noses are always in season – and colds are caused by viral pathogens such as the rhinovirus. The Medical University of Vienna spinoff G.ST Antivirals is currently studying viral diseases in general and the rhinovirus in particular. Founders Guido Gualdoni and Johannes Stöckl have discovered how the virus can be stopped and how colds might be treated in the future. The startup G.ST Antivirals now wants to bring this therapeutic approach to market maturity.

The Achilles' heel of viruses
Viruses have no metabolism of their own

© G.ST Antivirals GmbH

and are therefore entirely dependent on the host cell to supply the building blocks they need to multiply. As viruses require a high nutrient intake in order to proliferate, they have found strategies to force host cells to increase their uptake of nutrients to ensure an efficient infection cycle. G.ST Antivirals is developing a treatment that stops the virus from accessing the host cell's metabolic products. In studies carried out at the Medical University of Vienna, the founding team noted that the rhinovirus is particularly vulnerable to inhibited sugar utilisation.

G.ST Antivirals GmbH
Löwengasse 39/11, A-1030 Vienna

Founded in 2019
Founders: Guido Gualdoni, Johannes Stöckl

www.gst-antivirals.com

Sugar as a remedy for the common cold

Based on this insight, the team found a substance that is highly effective against rhinoviruses: 2-deoxyglucose inhibits glycolysis in the host cell, thus starving the virus inside the cell. As it is cheap to produce and highly effective, the molecule is ideally suited for widespread application as a remedy for the cold. Since the substance's tolerability has been sufficiently demonstrated, G.ST Antivirals can start clinical testing of the molecule before the end of this year. Hence, the new rhinitis medicine, which enjoys patent protection until 2038, might make it to market within a time frame that is remarkably short for a drug.

Lung-Diagnostics

www.lung-diagnostics.com

The startup located in Linz is developing an AI-based lung-function testing system that facilitates the reliable and rapid diagnosis of lung diseases both in surgeries and at home.

Founded in Linz in 2019, Lung-Diagnostics (LD) is developing a test system that facilitates faster and more accurate diagnostic recommendations plus monitoring and management solutions for better lung health. Lung-Diagnostic's solution comprises a diagnostic/test equipment and an AI-based self-learning software that records the physical and chemical parameters of breathing and respiratory air. Data-fusion algorithms link the individual readings, compare them with reliable reference values and propose a comprehensive diagnosis to the specialists.

Patients can thus be informed about the state of their lungs and the course of the disease directly at the point of care, i.e. at

the surgery and even at home, by a kind of traffic light system. Diseases such as asthma, COPD, pulmonary fibrosis or lung cancer, but also infections can be diagnosed more rapidly; the therapy is personally monitored and more successful.

Lengthy run-up

The founding partners Klaus Fischer and Alfred Wegerer have many years of experience in medical device technology, diagnostics, respiratory systems and software. The decision to locate in Linz – the company is based in a former tobacco

© Lung-Diagnostics GmbH

LUNG DIAGNOSTICS

Lung-Diagnostics GmbH
Peter-Behrens-Platz 6, A-4020 Linz

Founded in 2019
Founders: Klaus Fischer, Alfred Wegerer

www.lung-diagnostics.com

factory – was guided by the fact that the founders have already cooperated with Johannes Kepler University of Linz and Kepler University Hospital during two years of intense spadework. The findings obtained in the preliminary projects ultimately led to the foundation of Lung-Diagnostics, which was established with the aim of turning them into marketable products.

Better quality of life
The target group of the LD system are general practitioners, health professionals working at points of care and private users who want to pay more attention to their lungs and vitality. The Linz-based researchers therefore refer to their product as a "blood pressure monitor for the lungs". As the system makes diagnoses faster and more reliable, therapies become more individualised and effective, which, in turn, increases the quality of life.

Occyo

The Innsbruck-based company Occyo has developed a diagnostic tool for ophthalmologists that uses a novel imaging and analysis module to provide sharp and standardised images of the strongly convex ocular surface.

Imaging ophthalmic diagnoses struggle with the roundness of the human eyeball: its surface is strongly convex, and current imaging techniques produce pronounced blurring because the slit-lamp cameras used can only focus on a flat image surface. High-resolution photography of the ocular surface is the basis of all diagnostics and therapies: more than 20 million patients worldwide are affected by serious ocular surface diseases; 125 million people wear contact lenses, the fit of which is regularly documented by photos. Two Tyrolean ophthalmologists have now developed an imaging module with integrated image analysis software that yields sharp, high-resolution and standardised images. This

makes diagnoses easier and, above all, more accurate.

Novel diagnostic tool

Ophthalmologists Bernhard Steger and Vito Romano founded Occyo to remedy the shortcomings of the traditional technique. Jointly with optical engineer Ulrich Hausmann and marketing specialist Giulia Angi, they developed the Cornea Dome Lens (CDL). This diagnostic tool is an imaging module with integrated image analysis software, which is able to provide sharp, high-resolution and standardised images of the entire anterior ocular surface from a fixed and straight viewing position.

Superior technology

With a lateral resolution of 12 micrometres – i.e. the size of a red blood cell – at a field size of 21 millimetres and an average curvature of 9 millimetres, the image quality of CDL optics is designed to be clearly superior to current diagnostic systems. The optical specifications as well as the design and construction of the lenses are implemented in cooperation with specialists from the Innsbruck-based company Optronia. After

aws PreSeed

building a first demonstrator model in 2019, Occyo currently works on a technically optimised prototype, which will be clinically tested before the end of 2020.

© Occyo GmbH

Occyo GmbH
Bleichenweg 13b, A-6020 Innsbruck

Founded in 2019
Founders: Ulrich Hausmann, Bernhard Steger

www.occyo.com

Pregenerate

Pregenerate uses scalable organ-on-a-chip models to create personalised drugs for the treatment of arthritis, thus rendering animal testing redundant in pharmaceutical research.

Pregenerate is developing a novel approach to improving the treatment of arthritis through personalised medication. The method uses a cartilage-on-a-chip model in which cartilage tissue cells are taken from a patient, replicated in vitro and then attached to the chip within a protein matrix. The special feature of the system is that, in this chip, the cells organise themselves and behave in the same way as natural cartilage tissue does. The individual tissue material can then be exposed to artificially induced inflammation in the laboratory and simultaneously be examined while it is treated with drugs. The screening model is of considerable importance in the development of new arthritis-inhibiting substances because it does not require

© Pregenerate

animal experiments and provides fast and accurate results for the personalised use of a drug. Pharmaceutical companies can save billions by using the Pregenerate method.

Personal experience

Pregenerate founder Julie Rosser is a veterinarian who specialises in horses for a living and was dissatisfied with the low recovery rates from arthrosis among her four-legged patients. She studied joint diseases in depth, finding that conventional basic research on animals did
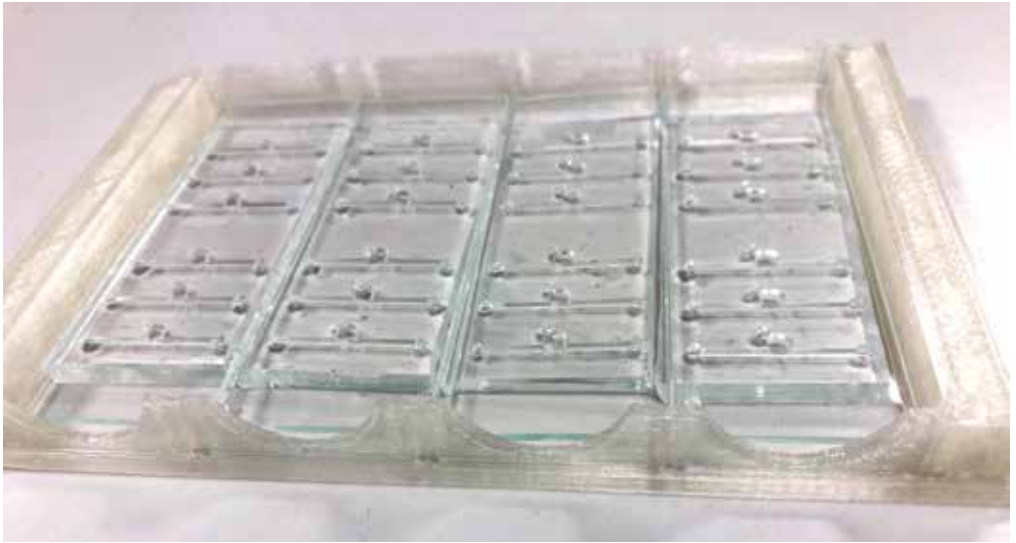
Pregenerate GmbH
Lindengasse 56/18–19, A-1070 Vienna

Founded in 2019
Management: Julie Rosser

www.pregenerate.net

not yield representative results for human
application. Peter Ertl, professor at Vienna's

University of Technology, suggested
reviewing the doctoral thesis Julie Rosser

submitted to the University of Veterinary Medicine, Vienna, with a view to applying it to humans.

Personalised drugs

The Pregenerate method not only offers the possibility to investigate patient-specific reactions to artificially induced inflammation, but also permits drawing conclusions as to the effectiveness of different anti-inflammatory drugs. The choice of the respective medication for the effective treatment of arthritis can thus be individually adjusted to each patient.

Fresh capital

Pregenerate is currently looking for investors and funding to advance research for an analysis platform based on artificial intelligence. The aim is to identify trends in the imaging of living cells and changes in the response of gene expression. Founder Julie Rosser intends to submit a preliminary application to the US Food and Drug Administration (FDA).

Vertify

The startup located in Graz is developing a medical software that supports physicians in the diagnostic assessment of dizziness symptoms to avoid unnecessary multiple examinations.

After headache, dizziness is one of the most frequent leading symptoms in clinical routine. However, physicians do not deal with a uniform clinical picture but are faced with a multidisciplinary, multisensory and sensomotoric symptom resulting from different causes and developments. Most cases are due to diseases of the inner ear (peripheral), the vestibular nerves or the brainstem/cerebellum (central). Internal causes, pharmaceutical poisoning, movement disorders and psychosomatic disorders need to be considered as well. Due to the wide variety of possible causes, vertigo assessment and diagnosis are an interdisciplinary challenge for

© Lichtmeister

neurologists, ENT and internal specialists, psychologists and psychiatrists, ophthalmologists and orthopaedists.

No more unnecessary multiple examinations

The Graz-based company Vertify is developing medical software that supports the early and simple assessment of dizziness symptoms in order to facilitate the targeted referral of patients to specialists. This saves patients from the ordeal of multiple examinations.

VERTIFY
EYES EXPLAIN VERTIGO

Vertify GmbH
Stremayrgasse 16/IV, A-8010 Graz

Founded in 2020
Founding team: Christoph Schöggler (CEO), Christof Stocker,
Bianca Bizjak, Daniela Frühwirth-Kaspar

www.vertifymed.com

Target group: general practitioners

This new type of software primarily targets general practitioners who provide primary care. The family doctor can refer patients suffering from dizziness to the proper specialist based on software-supported simple tests, which facilitate rapid diagnosis and the initiation of causal therapy. This cuts down on the maze of examinations for patients and makes assessment faster and more cost-efficient. In many cases, time-consuming and costly radiological examinations are no longer necessary, thus reducing the burden on the health care system and health insurance companies.

Versatile founding team

The team assembled by seasoned founder Christoph Schöggler consists of ophthalmologist Bianca Bizjak, orthoptist Daniela Frühwirth-Kaspar and computer scientist Christof Stocker. The company's goal for 2020 is to continue its growth path.

Lithos Crop Protect

www.lithosprotect.at

The company domiciled at Ennsdorf is developing eco-friendly plant protection products based on pheromones. Its first objective is to protect maize crops from the Western corn rootworm.

As the EU banned the bee-killing neonicotinoids, there are currently no effective pesticides to control the corn rootworm. The insect is the most dangerous pest for maize, in economic terms the number one cash crop plant worldwide. Though chemical insecticides are sprayed, they are of a broadband type and thus hardly effectual and, above all, not ecologically safe. Franz Reitbauer, a pioneer in the use of minerals in agriculture (e.g. as feed additives or soil adjuvants), founded the spinoff Lithos Crop Protect to combat maize pests with the help of natural attractants (pheromones).

Disoriented rather than reproducing bugs

Instead of killing the bugs with poison,

Lithos Crop Protect prevents them from reproducing. Beetle-specific sex attractants are spread in combination with natural minerals. While they are gradually released, they act as a mild, long-term contraceptive: the male beetles get confused and can no longer find the females. Thanks to Lithos' patents, this innovative method can now, for the first time, be used in agriculture. The pheromone method will initially be implemented in CornProtect, a product to combat this extreme pest, which was imported from the United States in the early 1990s.

© private

lithos protect

Lithos Crop Protect GmbH
Wirtschaftspark Straße 2/8, A-4482 Ennsdorf

Founded in 2018
Management: Franz Reitbauer

www.lithosprotect.at

Spot-on effect

CornProtect acts only on the targeted species, by slowly releasing the pheromone. It is completely non-toxic and harmless for other insects (bees), organisms and the environment. The costs for farmers are within the usual range. CornProtect can be used in both conventional and organic farming.

Studies confirm effectiveness

Long-term studies and field trials have confirmed the effectiveness and long-term action of CornProtect. The company is currently working on obtaining EU approval as a crop protection product. Meanwhile, CornProtect is already being sold on a limited scale in selected countries on the basis of so-called emergency market authorisations.
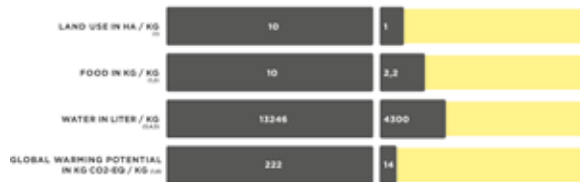
Livin Farms

www.livinfarms.com

Livin Farms is developing devices and methods for breeding insects as a protein source. The company wants to offer global alternatives in the search for a sustainable protein supply.

Founded by Katharina Unger, the startup Livin Farms offers consumers and enterprises insect breeding farms for home use ("The Hive") and industrial use ("The Hive Pro"). Livin Farms is a pioneer in farming insects as alternative sources of proteins and nutrients by breeding them in modular systems and feeding them food scraps.

Patented breeding method

Livin Farms was founded in 2018. Already in the runup, the company successfully developed a meanwhile patented small-format vertical system for breeding insects ("Hive Home"), which was designed to determine the basic requirements and functions of automated breeding as well as the needs of the insects. Given the

	Cow	Worm
LAND USE IN HA / KG	10	1
FOOD IN KG / KG	10	2,2
WATER IN LITER / KG	13246	4300
GLOBAL WARMING POTENTIAL IN KG CO2-EQ / KG	222	14

© Livin Farms

© Paris Tsitsos

rising demand for insects as feed and food, it makes economic sense to upscale the system to a professional level ("The Hive Pro"). Due to its modularity, it can be used wherever locally sourced organic residues, for example stale bread, may serve as feed.

Enormous future market

According to the Food and Agriculture Organization (FAO) of the United Nations, the global demand for animal products is expected to double by 2030. At the same time, more and more productive arable

LIVIN farms

Livin Farms AgriFood GmbH
Tech Park Vienna, Gutheil-Schoder-Gasse 17, Room 50500,
A-1230 Vienna

Founded in 2018
Management: Katharina Unger

www.livinfarms.com

and pasture land is being lost. In recent decades, fertile land has already been reduced by more than 30% worldwide as a result of infrastructure construction, the spread of human settlements and erosion. The encroachment continues unabated, while climate change increasingly limits and threatens agricultural productivity and safety.

Sustainable growth
Unlike traditional livestock, insects ("mini farm animals") produce very few emissions but are an excellent source of protein,

nutrients, unsaturated fatty acids and vitamins. They require far less land and can be fed with materials that would otherwise be incinerated or composted.

MyMind

The neurofeedback game Brain Hero developed by MyMind helps autistic children to train their brains in a targeted way. As a result, concomitant behavioural therapies work better and more effectively.

Autistic children need intensive behavioural therapies to learn basic things such as routine life skills. Depending on the severity of the case, up to 40 hours of individual behaviour therapy are recommended per week. Providing this type of care on such a scale is usually not feasible because there are too few therapists and the costs are not covered by the health insurance scheme. The Viennese company MyMind has developed a neurofeedback game called Brain Hero, which increases autistic children's ability to concentrate and relax. It also improves their learning ability and social interaction. A portable EEG device (electroencephalograph) is placed on the child's head and the boy/girl playfully

© MyMind GmbH/Thanya Khantho

learns to control and influence his/her brain activities.

Brain Hero to be certified as medical device

Neurofeedback has long been known as a healing method but has not yet been sufficiently researched in the field of autism. The two founders, Christof Götz and Christine Hartlieb-Götz, have set themselves the goal of obtaining medical certification for the hardware and software used in their game and proving its effectiveness in clinical studies. In addition,

© MyMind GmbH/Thanya Khantho

they plan to run a research project to investigate the neurological aspects in greater depth in order to facilitate a more targeted and personalised therapy. They will use a portable 24-channel EEG device specifically designed for children with autism or ADHD, because regular EEGs are difficult to use in this target group.

Analysis by AI algorithms

Jointly with the EEG signals, MyMind also records the children's neurological profiles. In addition, standard EEG diagnoses are made at regular intervals. They are combined

MyMind GmbH
Fuchsthallergasse 2/10, A-1090 Vienna

Founded in 2018
Founding team: Christine Hartlieb-Götz, Christof Götz (CEO)

www.brainhero.life

with the EEG measurements obtained from the game to generate data collections, which can be analysed further by artificial intelligence methods. This facilitates a more precise definition and improvement of the neurological issues with a view to fully exploiting the patient's potential.

Parents' initiative
Christof Götz and Christine Hartlieb-Götz, who have an autistic child of their own, started Brain Hero in 2017 after their child had shown positive reactions to neurofeedback games. Meanwhile, a team of 16 experts in neuroscience, medical technology, psychology, and games and software development endeavours to improve the quality of life of people with autism or ADHD. Moreover, the company plans to develop diagnostic procedures for diseases such as epilepsy and dementia.

OncoOne

www.oncoone.com

OncoOne uses a new mode of action to treat patients suffering from solid tumours and faced with limited treatment options with highly effective drugs.

OncoOne, a biotech company located at Klosterneuburg, is developing highly effective therapeutics based on a new active substance that will possibly help patients suffering from cancer. The novel therapy focuses on the "oxidized macrophage migration inhibitory factor" (oxMIF), an approach that has so far been underresearched and rarely pursued in drug development. According to the current timetable, OncoOne will have developed the first drug candidate suitable for entering clinical trials within four years. Clinical trials will start with pancreatic, colorectal, lung and ovarian cancers.

Pharma career
The company was founded by Randolf

© OncoOne

Kerschbaumer, Michael Thiele and Alexander Schinagl. All founders have a long history in industrial drug development, above all in the development of protein therapeutics, as well as in such important areas as science management, heading innovation networks and highly specialised laboratory work. Each team member has contributed to the development of GMP-compliant substances in pharmaceutical companies and to the publication of numerous patents and scientific papers.

OncoOne
Research & Development

OncoOne Research & Development GmbH
Höhenstraße 19/2, A-3400 Klosterneuburg

Founded in 2018
Founders: Randolf Kerschbaumer, Alexander Schinagl, Michael Thiele

www.oncoone.com

Driving growth by attracting talents

Even though OncoOne is a new startup, it relies on a scientific advisory board and is linked with a network of international contract research organisations. Moreover, the young company is constantly looking for talents to expand its team.

Licence marketing

OncoOne's goal is to license individual projects to pharmaceutical companies after concluding phase 1 clinical trials. The licence fees will be used to finance additional projects to sustainably position OncoOne as a research and development company.

Sarcura

www.sarcura.com

Sarcura is developing an industrial platform for manufacturing personalised cell therapeutics to treat cancer.

Cancer therapies are undergoing a radical change these days. The first new-generation therapeutic agents produced from patient cells, so-called "living drugs", were recently approved for the treatment of blood cancer. At present, hundreds of personalised cell therapies for many other types of cancer are in their clinical development stage. They involve the genetic modification of immune cells that are taken from the patient's body so that the modified cells, once reinserted, recognize and destroy the cancer cells. These cell therapies are currently produced manually in a laborious process, which makes them very costly and limits the number of patient-specific doses that can be manufactured.

Machine-assisted method
Sarcura has taken a different approach.

Launched by founder Daniela Buchmayr, who has accumulated a wealth of corporate experience, the startup integrates semiconductor technology to permit real-time control at the cell level in a complex biopharmaceutical manufacturing process. Further miniaturisation of purification and industrial automation render the production of the novel cell therapeutics safer, reduce production costs and thus facilitate their future broad application as personalised mass products. Sarcura hopes to make individualised cancer therapy more efficient by using industrial methods.

Experience and a passion for research

The founding team, consisting of Daniela Buchmayr, Franz Emminger, Martin Fischlechner and Erwin Gorjup, has many years of experience in the biopharmaceutical industry, in microsystems technology, product development and cell biology. The sluggishness of large corporations in implementing disruptive ideas has accelerated the launch of the company, which is based at the Institute of Science and Technology Austria (IST Austria).

The time required for developing the first standalone product is estimated to exceed three years. Building the entire platform in the currently planned form will turn Sarcura into a research-intensive high-tech life sciences company for another ten years.

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Sarcura GmbH
Obere Haselbacherstraße 9, A-3413 Hintersdorf

Founded in 2019
Founding team: Daniela Buchmayr (CEO), Martin Fischlechner, Erwin Gorjup, Franz Emminger

www.sarcura.com

UriSalt

The Tyrolian startup UriSalt is developing non-invasive tests for analysing the electrolyte status of humans with a simple urine sample. Target markets are public health institutions and private users.

Electrolytes such as sodium, calcium, magnesium and potassium are essential for human health and must be supplied to the human body via food. So far, the electrolyte status has mostly been assessed by taking a blood sample, which is subsequently analysed in the laboratory. UriSalt has developed the first cost-effective, innovative test system that can determine the body's sodium status at the doctor's surgery or at the patient's home by means of a simple urine analysis (point-of-care test). With this test, the founding team – consisting of physician Peter Heinz-Erian and the two industrial chemists Gerda Fuhrmann and Pinar Kilickiran, who specialise in sensors – is

targeting a market of around two billion people worldwide who are affected by sodium imbalances.

Sodisens

On the one hand, a wide range of severe conditions such as cystic fibrosis and diarrhoea cause chronic lack of sodium (hyponatraemia), which may also be a side effect of critical medications. On the other hand, people suffering from high blood pressure should strictly avoid elevated sodium levels resulting from the excessive intake of salt.

UriSalt GmbH
Weissstraße 9, A-6112 Wattens

Founded in 2018
Management: Pinar Kilickiran, Gerda Fuhrmann

www.urisalt.com

The "Sodisens" test kit comprises urine test strips and a readout meter featuring software for analysis, display and data management. The test instantly returns the result and is so easy to handle that it can be performed by patients themselves. A direct link to the physician treating the patient can be established via an app,

thus facilitating tailored advice and taking counteractive measures as necessary.

Development goals
The technical challenges are the reproducible manufacture of a reliable test strip and the development of the portable readout meter. UriSalt is currently implementing the latter in cooperation with external partners, while it has set up the test strip production in-house. UriSalt wants to use its proprietary core technology to develop more urine tests for other important electrolytes and to offer a comprehensive portfolio of non-invasive tests in the future.

aws Seedfinancing

Projects supported in 2019

ACTVR	Seedfinancing	Physical Sciences	99
AMB technology	PreSeed	ICT	16
AnYxis	PreSeed	Life Sciences	118
Artificial Researcher	PreSeed	ICT	20
BirdShades	PreSeed	Physical Sciences	76
digitAAL Life	PreSeed	Life Sciences	121
Fortix	PreSeed	Life Sciences	125
GoEssential	PreSeed	ICT	23
GreenBrakes	Seedfinancing	Physical Sciences	103
G.ST Antivirals	PreSeed	Life Sciences	129

i4SEE TECH	PreSeed	ICT	27
Kern Tec	PreSeed	Physical Sciences	80
Lambda Wärmepumpen	PreSeed	Physical Sciences	84
Legitary	PreSeed	ICT	31
Lithos Crop Protect	Seedfinancing	Life Sciences	147
Livin Farms	Seedfinancing	Life Sciences	151
Lung-Diagnostics	PreSeed	Life Sciences	133
Luxinergy	PreSeed	Physical Sciences	88
MicroResonant	PreSeed	Physical Sciences	91
Monkee	PreSeed	ICT	35

Mostly AI	Seedfinancing	ICT	51
MyMind	Seedfinancing	Life Sciences	155
Naboto	PreSeed	ICT	39
Occyo	PreSeed	Life Sciences	137
OncoOne	Seedfinancing	Life Sciences	159
Ondewo	Seedfinancing	ICT	55
Pregenerate	PreSeed	Life Sciences	140
Prewave	Seedfinancing	ICT	59
proactivaudio	Seedfinancing	ICT	63
P.SYS	PreSeed	ICT	43

Sarcura	Seedfinancing	Life Sciences	163
SignD	PreSeed	ICT	47
Snapscreen	Seedfinancing	ICT	67
subdron	Seedfinancing	ICT	70
UGP materials	PreSeed	Physical Sciences	95
UpNano	Seedfinancing	Physical Sciences	106
UriSalt	Seedfinancing	Life Sciences	166
usePAT	Seedfinancing	Physical Sciences	110
Vertify	PreSeed	Life Sciences	144

Boosting key technologies

On behalf of the Austrian Federal Ministry for Digital and Economic Affairs and the Austrian Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology, Austria Wirtschaftsservice Gesellschaft mbH (aws) helps high-tech companies locate and set up business in Austria. A special focus is on supporting technological areas with high growth potential and innovative strength such as life sciences, information and communication technology, and physical sciences.

For more information on aws Seedfinancing programmes
phone: +43 1 501 75-0
e-mail: 24h-auskunft@aws.at   www.aws.at/seedfinancing

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