



Press Release

Munich, January 13th 2022

Planet Earth gets a thermometer: OroraTech launches first dedicated satellite with SpaceX

Just 5 days after Christmas, Colorado experienced its worst wildfire disaster on record. In a matter of hours, the Marshall Fire burned more than 1,000 homes and disrupted countless lives, ultimately causing over \$1 billion in damages. The unprecedented speed and intensity of the blaze highlights just how volatile our environment has become in the wake of climate change. The need for new technologies to detect fires faster, monitor their spread more precisely and reliably has become increasingly important.

Today, OroraTech has taken a crucial step by launching their first thermal-infrared camera, designed to quickly capture and transmit critical information to decision makers on the ground. The data will be integrated with their existing wildfire intelligence service, significantly enhancing detection speed and precision for clients around the globe. Over the coming years, the company's space-based cameras will provide new and improved insights for the mitigation of natural disasters.

Munich / Cape Canaveral, January 13, 2022 - With the launch of a Falcon 9 rocket, the U.S. space company SpaceX is bringing a payload from OroraTech into space with its Transporter-3 mission. At an altitude of 525 kilometers (± 25 km), a satellite about the size of a shoebox (CubeSat) will orbit the Earth and capture continuous high-resolution thermal images of the surface. The data will be analyzed directly in orbit using an AI-based algorithm and then transmitted back to Earth. This significantly reduces fire detection and notification time from hours down to a few minutes, providing invaluable time to avert danger and prevent damage.

"We capture both mid-wave and thermal infrared radiation with our technology from a great distance," explains Thomas Gruebler, CEO & co-founder of OroraTech. "We analyze the collected data with our

GPU-accelerated onboard processing module in orbit and thus detect characteristic temperature signatures already in space. Our AI-based software ensures that detected wildfires are reported immediately."

The Munich-based company entered a long-term partnership with Spire, a Luxembourg-based manufacturer of small satellites, reducing the cost of launching satellites into space and thus creating the capacity to focus more resources on developing the technology. "By consistently developing the technology for small satellites, OroraTech is achieving a fundamental change in the industry cost curve," said Wolfgang Neubert, partner at APEX Ventures. "With the current demonstration mission, OroraTech wants to prove that the technology is suitable for use in space and that usable images can be taken even at around 500 km. The first data will show what will be possible in the future and pave the way to improved coverage and more accurate predictions."

However, forecasting wildfire risk and creating accurate fire spread models require a large number of precise data points. An entire swarm of satellites - a constellation - is necessary to obtain these. In a sun-synchronous orbit, the CubeSat constellation will provide coverage for every point on earth at the same time each day, several times a day. By the end of 2023, a minimum viable constellation (MVC) composed of eight CubeSats will be in operation focusing on capturing thermal images in the late afternoon, the peak fire time for wildfires which is hardly covered by current satellite missions. OroraTech is now closing this gap in the available data and, at the same time, significantly improving the data-cost ratio.

"OroraTech is addressing a global issue on a large scale," Florian Erber, Managing Partner & Founder of Ananda Impact Ventures, is pleased to say. "Due to its high scalability, OroraTech is also extremely interesting for investors like us. We believe that the solution portfolio will have a strong economic and social impact but especially in the fight against climate change." Christian Federspiel of Findus Venture also emphasizes this: "The data has immense value. OroraTech will become even more interesting for investors because of this unique information."

The effects of climate change can be seen in the devastating fires experienced in North America and Australia. In August 2021 alone, fires in the northern hemisphere released 1,384.6 megatons of CO₂ into the atmosphere - worldwide. OroraTech's service is of interest to commercial forestry, government agencies, and the insurance industry, as timely warning leads to faster response time and, therefore, less damage. "If you are notified in time that a fire is becoming a danger, you can better protect yourself and your property," says Grübler. "This is especially relevant for those who can't get insurance, or can only get it at an incredibly high cost, because of a latent wildfire risk."

In the future, OroraTech's satellites will not only be able to monitor wildfires, but also other processes that contribute to climate change. One such process is gas flaring, the burning of the byproduct from

petroleum production, especially in remote areas such as offshore facilities. According to the World Bank, if all gas flaring were stopped today, CO2 emissions could be reduced by 400 million tons per year. The technology from Munich can also be used to determine the evaporation of water in the soil, which is particularly interesting for agriculture and extremely relevant with increased droughts predicted. Even oil spills on water can be monitored more accurately from orbit.

Whatever the challenge may be, OroraTech is poised to take climate change resiliency to a whole new level - from space.

About OroraTech

OroraTech is a NewSpace start-up headquartered in Munich, Germany, providing a global satellite-based wildfire detection and monitoring service by processing data from various available satellite sources. In parallel, the company is developing its own nanosatellite constellation specialized in wildfire detection, with the first satellite launched in early 2022. Founded in 2018 by Thomas Grübler, Björn Stoffers, Florian Mauracher, and Rupert Amann, the company has grown to an international team of over 60 employees. OroraTech is financed by private investors such as Findus Ventures, Ananda Impact Ventures, APEX Ventures, and Bayern Kapital and has been supported by research grants from the Bavarian and German government, the European Space Agency, and the European Commission. To learn more, visit <https://ororatech.com>.

About APEX Ventures

APEX Ventures is a Europe based Venture Capital Firm investing into deep-tech start-ups with a focus on unique and defensible intellectual property and above-average market potential. APEX funds have completed numerous investments in Europe and in the U.S., among others in the fields of A.I. for medical applications, quantum and laser technologies, automation and robotics, computer vision, space technologies, as well as digital forensics. APEX Ventures closely supports the founding teams in their go-to-market approaches to help accelerate international growth. To identify talented teams and support their ideas at an early stage, APEX Ventures closely works with academic institutions, entrepreneurship programs and other international VC partners. To learn more, visit <https://www.apex.ventures>.

About Ananda Impact Ventures

Ananda Impact Ventures is the leading impact-focused venture capital fund with a pan-European investment remit, managing €180 million in four Core Impact Funds, with investments from notable institutional and private investors. Ananda backs technology businesses committed to having a positive impact that answers the most pressing social and ecological challenges of our time in a way that is both scalable and sustainable. The active portfolio includes Auticon (IT consulting for people with autism), Open Bionics (bionic prostheses for children), IESO Digital Health (online psychotherapy) and Ororatech (which uses satellite technology to combat forest fires). For more about Ananda Impact Ventures, visit www.ananda.vc.

About Findus Venture

Findus Venture GmbH is an Austria-based investor in NewSpace, AI, and CleanMobility. Findus invests in DeepTech companies with sustainable business models that are to be used for the benefit of mankind. Findus understands the core business model of these companies, in combination with the underlying technology and solutions. To stay up to date, Findus and its partners implement technology-intensive

projects such as the ADLER-x satellite series. Findus is an investor of Spire Global and Hyperloop Transport Technologies – HTT, among others.

About Spire

Spire is a global provider of space-based data and analytics that offers unique datasets and powerful insights about Earth from the ultimate vantage point so organizations can make decisions with confidence, accuracy, and speed. Spire uses a multi-purpose satellite constellation to source hard to acquire, valuable data and enriches it with predictive solutions. Spire then provides this data as a subscription to organizations around the world so they can improve business operations, decrease their environmental footprint, deploy resources for growth and competitive advantage, and mitigate risk. Spire gives commercial and government organizations the competitive advantage they seek to innovate and solve some of the world's toughest problems with insights from space. Spire has offices in San Francisco, CA, Boulder, CO, Washington DC, Glasgow, Luxembourg, and Singapore. To learn more, visit <https://spire.com>.



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