



**Kalique  
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Co-Founder, Vertinetik

## **Vertinetik**

Case study

### **Background**

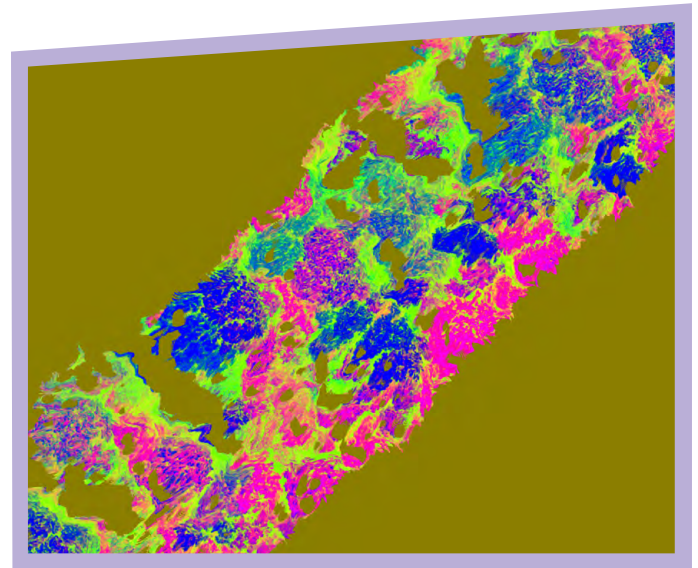
Vertinetik was founded with the vision to leverage precision technology to address the challenges farmers face due to climate change and growing environmental and economic pressures, all within a shifting geopolitical landscape. Early on, the team also recognised that foresters were facing similar challenges. With a background in unmanned air vehicle (UAV) solutions and expertise in remote sensing and georeferenced data processing, they have closely followed advancements in sensor technology and machine learning-based analytics. This drove them to explore what keeps foresters up at night and devise solutions that could offer real impact.

Vertinetik has been inspired by the innovative work of other entrepreneurs in the field, such as Outfield Technologies and Agrisound, who share a similar drive to make significant contributions to their industries. Vertinetik's own journey has culminated in cutting-edge solutions tailored to the forestry sector.

# Innovation story

Vertinetik's flagship platform, Erdo, is a web-based interface for reporting, analysing and collecting data. It focuses on individual tree segmentation, species identification and the assessment of tree health, hazards and risks. By utilising surveys conducted with commercially available UAVs, Erdo offers superior time efficiency, precision and cost-effectiveness while ensuring ease of use for foresters.

The platform enables early detection and management of tree diseases and pests, such as ash dieback, ensuring prompt interventions. This non-invasive technology helps maintain environmental benefits, addresses safety hazards, preserves the aesthetic value of landscapes, and promotes long-term sustainability. Company bosses believe that Erdo could become a leading tool in combating ash dieback and similar threats to forests, delivering a comprehensive approach to tree health monitoring.



**“The UK Agri-Tech Centre helped nurture Vertinetik’s breakthrough from concept to reality”**

Kalique Dugarte,  
Co-Founder, Vertinetik

## Collaboration and support

Key partnerships have been essential in accelerating Vertinetik's ambitions. Its collaboration with Sylvain Resources and the Centre for Research into Environmental Science and Technology (CREST@UCS) helped with identifying the need for a cost-effective method for assessing tree diseases. Historically, these assessments were either labour-intensive, requiring manual surveys, or expensive, involving aerial imagery. Together, they have conducted a series of UAV-based surveys using multispectral and LiDAR sensors, which led to early identification of forest areas affected by ash dieback.

Thanks to the UK Agri-Tech Centre's investment in advanced drones and sensors, and with support from Innovate UK Edge's Growth Support Account RTO Access Scheme, Vertinetik expanded its research with state-of-the-art equipment, such as the Mjolnir VS-620 Hyperspectral camera and Velodyne VLP-32 LiDAR system. This led to the launch of their project in April 2023, titled 'Feasibility Study for the Development of an Accessible UAV-based Tree Health Management Platform: Ash Dieback', through Innovate UK's Innovate Farming programme.

Further support has been provided by the Open University, a subcontractor with extensive experience in remote sensing and satellite-based tree health monitoring. Its involvement, particularly through the NERC Treescapes-funded Branching Out project, which includes partnerships with Forest Research, the Stockholm Environment Institute, and several UK universities, has been instrumental in expanding their capabilities.

Vertinetik's recent engagement with key industry bodies such as Confederation of Forest Industries, The Arboricultural Association, and Forestry Research has also strengthened their ties with the forestry sector, opening new doors for collaboration and innovation.

