FONDAZIONE BRUNO KESSLER
MAGAZINE

# FBK will coordinate the FEROX European Project to support the work of wild berry pickers

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## It will be based on AI, data and robotics technologies and will be tested in Finnish forests.

9 organizations across Europe have joined forces to develop an advanced technology-focused solution that helps berry pickers. It is the three-year FEROX project funded by the European Union and **coordinated by** Trento based **Fondazione Bruno Kessler**. FBK Digital Industry Center's TeV and 3DOM Units are involved in the project.

The scope will be the **forests in Finland** where, in very large areas and in a very short season, most of the harvesting is done by hand by foreign workers with limited knowledge of the area.



Thanks to the project, **autonomous drones equipped with various sensors to acquire data, and build 3D models of the forests** will be employed. These efforts will make it

possible to accurately predict the location, amount, and types of berries. The collected data will be used to build AI models to help workers locate berries and optimise their operations. In addition, FEROX will provide wild berry pickers with **navigation and locating services and physical support to improve their working conditions**. The holistic solution of FEROX will contribute to the overall safety of the workers by automatically monitoring the pickers and providing aid where it is needed.

“FEROX”, project coordinator **Paul Chippendale (FBK)** points out, “opens up vast possibilities and willat the same time have scientific, social and economic impacts. In fact, the project will explore the benefits of AI and drones in wilderness applications, thus helpiing instill trust in these technologies and we predict new business opportunities for SME’s and citizens”.

The Ferox team is composed by the following organisations:

Fondazione Bruno Kessler (FBK),, Italy – Fondazione Bruno Kessler is an award-winning research institute. FBK specialises in the areas of Information Technology, AI, Sustainable Energy, Sensors and Devices, Cybersecurity, Digital Society, and Digital Industry. They will coordinate the project and, thanks to their expertise will inform much of the technical aspects of the project, like machine vision and 3D applications.




Deep Forestry,, Sweden – Deep Forestry builds drones to automate and digitise commercial forestry fieldwork and tree-based agriculture. Within the FEROX project, their role is to provide drones equipped with cameras and sensors that will collect much-needed data.

Sparkd AI, Ireland – Sparkd helps companies innovate their products with computer vision and deep learning technologies. Sparkd’s role within the FEROX project is to design and develop computer vision and machine learning algorithms. By doing so, Sparkd aims to fulfil three goals; optimising yield, increasing workers’ safety, and increasing the quality of the harvest.

Tampere University (TAU), Finland -Tampere University is a multidisciplinary institution in Finland, focused on research and innovation in technology, health, and society. Within the FEROX project, their areas of focus are the research and dissemination of the solution’s core technologies.

Polytechnic University of Valencia (UPV), Spain – The Polytechnic University of Valencia is Spain’s leading technological university. UPV’s role within FEROX is focused on the technical management of the overall project, as well as developing core technologies.

National Land Survey of Finland (FGI), Finland – The National Land Survey of Finland is a 200-year-old organisation that safeguards, monitors, and maps Finnish land. As part of the FEROX project, the National Land Survey of Finland will support research and mapping efforts.

INGENIARIUS, Portugal – INGENIARIUS is an organisation devoted to the development of mobile robotics solutions. Within the FEROX project, INGENIARIUS will spearhead system integration by coordinating the efforts of all the partners. The INGENIARIUS team is also responsible for fleet management and the development of the user interface.

ARKTISET AROMIT – Arctic Flavours Association (AFA), Finland – The Arctic Flavours Association is a Finnish non-wood forest products association focused on the production and maintenance of wild berries, mushrooms, herbs, and special forest products. Their goal is to promote the gathering, processing, and use of natural products while also improving their quality. The AFA will lead the dissemination and demonstration of the FEROX project.

Cranfield University, UK – Cranfield University is a specialist postgraduate institution specialising in the fields of technology and management. Within the FEROX project, CU will conduct human analysis, with the aim of measuring the psychological impact of the project on workers. Cranfield University will also be key to the ethical management of the FEROX project.

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