UK SME is seeking partners to pilot an Asian hornet detection system in high-impact agricultural and urban areas.

Summary

Profile type
Technology offer

Company's country
United Kingdom

POD reference
TOGB20250318024

Profile status
PUBLISHED

Type of partnership
Commercial agreement with technical assistance

Targeted countries
• World

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Term of validity
21 Mar 2025
21 Mar 2026

Last update
21 Mar 2025

General Information

Short summary

A UK-based environmental R&D company seeks partners for a pilot study aimed at addressing invasive Asian hornet incidents through systematic area eradication. The company has developed an AI-based solution for detecting, tracking, and locating this highly predatory non-native hornet species. They are offering technology partnerships on a commercial basis, including technical support. Countries of particular interest are: Spain, Belgium, Portugal, Germany, Greece, France, Italy, Netherland

Full description

UK SME established in 2018 are experts in developing innovative solutions for maintaining a healthy ecosystem essential in the provision of food for wildlife and humans.

This company is at the forefront of automation of insect biodiversity detection in the UK, with successful trial sites across the UK and other countries. Developed in partnership with university research experts, industry bodies, and government agencies like the National Bee Unit and Animal Pant and Health Agency part of the Department of Environment Farming and Rural Affairs. The technology is co-developed and backed by a global digital technology transformation company.

Asian hornets are a highly predative non-native species that hails from east Asia and has spread rapidly throughout

Europe after being inadvertently introduced in 2004. Quick identification and monitoring of these invaders is paramount, and the Asian hornet detection system, facilitates this crucial process, helping to avoid common misidentification with native species.

As part of the Asian hornet detection system, the company has developed a range of innovative components, including a tripod-mounted AI camera bait station, together with specially formulated bait vaporizer, which attracts Asian hornets from a considerable distance. Together with utilising cutting-edge artificial intelligence (AI) technology, this accurately identifies and is trained to track Asian hornets, as well as supporting next location detection and triangulation.

The detection system is equipped with a high-resolution camera fixed on a landing pad of irresistible attractant, the device is able to capture detailed images, continuously analysing the data to identify potential Asian hornet activity. Once the device detects Asian hornet presence, it sends a real-time alert system empowering authorities to take immediate action. Each device includes essential details to help identify Asian hornets and a QR code that directs users to an app for reporting and tracking these insects.

This technology is at TRL 6 and is at the forefront of technology response solutions, that can stay ahead of the reproductive life cycle of the species. It is uniquely placed to help monitor the spread of invasive Asian hornets. This technology will be especially valuable for organizations based in or working in high-yield agricultural regions with high numbers of Asian hornets, which have impacted both food production and human working conditions.

The company seeks partnerships under a commercial agreement with technical assistance. Pilot projects will be undertaken with local authorities and pest control companies who deal with the bio security issues associated with Asian hornets.

Advantages and innovations

Unlike traditional methods, the Asian hornet detection system can operate autonomously, providing real-time data and alerts to enable a swift and targeted response for ground teams responsible for its management.

Compared to manual track and trace approaches that can take days to implement the companies' new solutions includes a wide range of benefits:

- New bait station employs a vaporised dispersal method, allowing the hornet attractant to be carried on the wind, significantly increasing the potential visitation of Asian hornets to the station.

- The associated mobile app improves reporting and reduces miss identification. Tracking ability reduces time taken to identify nest location.

- Extensive UK field trials with Beekeepers, using 1000 bait vaporisers, backed by University researchers, have confirmed that this new technology led approach, increases effectiveness and reduces labour, cost and time by approximately 80% from days to hours.

Technical specification or expertise sought

Stage of development

Already on the market

Sustainable Development goals

- **Goal 3: Good Health and Well-being**
- **Goal 11: Sustainable Cities and Communities**
- **Goal 15: Life on Land**

IPR Status

IPR applied but not yet granted

IPR Notes

International Patent applied for

Partner Sought

Expected role of the partner

The UK SME is seeking partnership with local authorities, municipalities, pest control companies, and other organisations that deal with Asian hornets and operate in sectors such as agriculture, pest control, food production.

The role of the partner will be to engage with this technology solution for rapid responses to Asian hornet incidents. Partners will engage their local networks to increase participation of the mobile application for community network response, to increase the reach and effectiveness of identification.

Partners will be responsible for their own responsible disposal of Asian hornets, meeting their own local legal responsibilities for animal welfare.

Partners will provide feedback on all elements of the solution, for further improvements.

Partners need to be experienced in responding and dealing with Asian hornets incidents, and have at least one response team, that the solution can be piloted with. The desired outcome of the partnership is working together to improve effectiveness of the solution for mutual benefit to each partner, and the wider society and natural environment.

After initial training, the working relationship will be supported by regular virtual meetings for debrief and learnings, to identify features and benefits that would improve the overall system.

Type of partnership

Commercial agreement with technical assistance

Type and size of the partner

- **Big company**
- **Other**
- **SME 50 - 249**
- **SME <=10**
- **SME 11-49**

Dissemination

Technology keywords

- **01003003 - Artificial Intelligence (AI)**
- **10002005 - Biodiversity / Natural Heritage**
- **010002002 - Biodiversity**

Market keywords

- **09005 - Agriculture, Forestry, Fishing, Animal Husbandry & Related Products**
- **05007007 - Other medical/health related (not elsewhere classified)**

Targeted countries

- **World**

Sector groups involved

- **Digital**
- **Agri-Food**
- **Health**