

Nomination: 19241

Envico's Drone Technologies Amplify Island's Biodiversity Efforts

Page: General Information
Name of Organization / Company Envico Technologies
Logo Download File (https://asiasteveawards.secure-platform.com/file/29184/eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJtZWVpYUkiOiJOTTE4NCwiYWxzZSI6ImInbn95I0cU?Envico%20logo%20transparent.png)
Web Site Address https://www.envicotech.co.nz/ (https://www.envicotech.co.nz/)
Page: Entry Information
Entry Title Envico's Drone Technologies Amplify Island's Biodiversity Efforts
Category U01 - U11 - Award for Innovation in Sustainability > U11. Project of the Year in the Area of Nature & Biological Diversity
Submission Format An Essay of up to 625 Words

Essay

Established in 2018, Envico Technologies creates industry-leading drone and land-based technologies which amplify the efforts of the global conservation and reforestation sectors. With kaitiakitanga (the way Māori manage environments, where all life is connected and guardianship and protection of natural resources is imperative for current and future generations) as our anchor, we enable eco-systems and communities to thrive, and support business, not-for-profit and government, to do more good for their environments and their people.

THE PROBLEM:

Biodiversity is in crisis and species are vanishing at a rate not seen in 10 million years. Biodiversity matters because we're losing eco-systems that provide the air we breathe, and the food we eat. The introduction of invasive pests (rats, stoats etc.) which kill native wildlife and decimate plant life and environments, destroy biodiversity. Traditional approaches to managing/eradicating these pests are failing. The scale of the problem is too great. The cost too high. Innovative technologies are needed to bring scale and spend optimization to the sector.

THE SOLUTION:

Unlike many in the sector, Envico has created a holistic solutions approach, addressing the immediate need of pest management and/or eradication with greater effectiveness and scale, plus developing technologies that reintroduce desired plant life to support restoration of affected environments. Solutions include:

Envico Aerial Baiting: large-scale drone bait dispersal technology to reduce and/or eradicate pest populations

Envico Spitfire: Innovative land-based pest trapping methods with high rates of efficacy

Envico Seed Pods: Transformative drone powered seed technology to reintroduce native fauna

THE PROJECT

The project took place in October and November 2022. The goal was to remove invasive species that were destroying the biodiversity of the islets surrounding Wallis Island in the South Pacific. These islands hold immense cultural significance for local communities that live and earn their livelihoods there.

Two species of invasive rats had overrun the islands, damaging native plants, eating birds' eggs and destroying the natural balance required for flourishing wildlife. "The destruction not only places natural fauna and flora at risk, but also threatens the entire connected island-marine ecosystem," noted Richard Griffiths, Island Conservation Head of Operations for South and West Pacific.

Envico brought their Aerial Drone Baiting technology solution to the project, enabling the project to be conducted at scale and pace. Wallis Island areas are noted for their rough vegetation, thick foliage and steep coastlines, and landing areas on the islands were extremely limited. To address this, Envico used an offshore barge set-up for drone preparation, take off and landings.

Envico has developed unique specialist drone spreaders for bait dispersal patterns. The spreaders attach to Envico's drones which have been designed and built specifically for aerial baiting. The drones for this project had a 22-pound (10-kilogram) load capacity. The flight missions were pre-programmed using 3D models of the target areas, allowing for accurate flying and precision aerial baiting around coastlines and varying typography. Thirteen islands were covered by the operation. "Our heavy-lifting drones are the ideal solution for completing complex operations on islands. Traditionally helicopters have been used, which can be effective but are incredibly expensive and require far more time and resources," said Cameron Baker, Managing Director of Envico Technologies.

OUTCOMES:

Following the project completion, the islets are now rat free.

Lorikeets and Polynesian starlings are among the threatened species expected to benefit from the project, along with sea turtles, red-footed boobies and more. Because islands are small and isolated, the potential for ecosystem restoration through invasive species control using drone technology is dramatic.

Envico's technologies are also being employed by conservation minded businesses and organisations in NZ, who are seeking greater sustainability impacts and/or supporting the country's Predator Free 2050 goals (to rid New Zealand of the country's three most invasive species: possums, stoats and rats by 2050).

For this category please provide

An essay of up to 625 words describing the nominated innovative achievements since July 1 2021, **OR** a video of up to five (5) minutes in length illustrating the same.

Optional (but highly recommended), a collection of supporting files and web addresses that you may upload to our server to support your entry and provide more background information to the judges.

Credits

This project was a collaboration between: Envico Technologies, Global non-profit organisation Island Conservation, Service Territorial de l'Environnement de Wallis et Futuna, and the customary authorities and families living on Wallis.

Do You Have Supporting Files You Would Like to Upload?

No

Do You Have Website URLs you would like to link to

Yes

URL 1

<https://www.envicotech.co.nz/drone-baiting> (<https://www.envicotech.co.nz/drone-baiting>)

URL 2

<https://www.islandconservation.org/press-release-wallis-island-communities-prioritize-their-natural-heritage-and-biodiversity-with-successful-invasive-species-removal/>
(<https://www.islandconservation.org/press-release-wallis-island-communities-prioritize-their-natural-heritage-and-biodiversity-with-successful-invasive-species-removal/>)

URL 3

<https://www.worldatlarge.news/2024/02/02/drone-technologies-are-expediting-pacific-island-conservation-eradicating-invasive-rats-at-speed/>
(<https://www.worldatlarge.news/2024/02/02/drone-technologies-are-expediting-pacific-island-conservation-eradicating-invasive-rats-at-speed/>)

URL 4

<https://www.youtube.com/watch?v=oeWovCz7AP0> (<https://www.youtube.com/watch?v=oeWovCz7AP0>)

URL 5

<https://youtu.be/2JDit2oM41c> (<https://youtu.be/2JDit2oM41c>)

URL 6

URL 7

URL 8

URL 9

URL 10

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