

CAL INTERNATIONAL PARTNERS WITH AIRSEED TECHNOLOGIES TO TACKLE CLIMATE CHANGE

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Liverpool CAL International have teamed up with Australian green tech start-up AirSeed Technologies to embark on a ground-breaking climate change initiative, which will see the aerial platform technology aim to plant 100 million trees by 2024. The ground-breaking Anglo-Australian project and technology will not only tackle deforestation but also help in the major fightback against global warming.

CAL International working in partnership with AirSeed Technologies has designed and engineered a seed pod delivery system that sits as “the engine” of AirSeed’s unique tree-planting aerial drone technology. Over the past 30 years, the world has lost more than 300 million trees through deforestation, natural disasters and human consumption.

The Knowsley-based company, run by entrepreneur and tech disruptor Cliff Kirby, was approached by Australian-based AirSeed Co-Founder Andrew Walker to assist in refining the planting systems for their drone technology.

The mission brief was to take AirSeed’s existing delivery system and refine the design of the user

interface and manufacturability of the seed pod delivery system The AirSeed drone, which uses artificial and data intelligence, is a payload and delivery system that identifies and locates designated target areas with GPS coordinates and then fires carbon pods onto the ground at a rate of two-per-second.

The carbon pods are then pinpointed on the mapping system in line with the flight trajectory, which also considers wind variables and conditions on the day of planting. This allows the drone to return on a reconnaissance flight via the same route to then identify and map tree growth.

Using a two-person team, an AirSeed drone aims to plant 40,000 pods per day

The pods each carry a gram of carbon, which is collected from rotting and dying vegetation. The pod protects the seed whilst in the germination cycle from combative elements such as insects, rodents and birds. The seed pod is activated when it rains, with the carbon absorbing the water and allowing the seed to germinate.

Commenting on the project, CAL International founder and engineer, Cliff Kirby, commented: "As soon as Andrew mentioned AirSeed to me I knew we were talking about a product and project that was ground-breaking in every sense of the word. CAL International is a unique business that not only has dedicated teams working in partnership Blue Chip manufacturers but also incredible start-up technologies and disruptors such as NeedleSmart and AirSeed. As a company we blend a traditional engineering background with a company ethos built on innovation, as such we are often brought in to solve complex problems and issues in the automotive, defence, and nuclear industries. Often those complexities will span both engineering and tech fields, which allows us to create solutions that can then be scaled to volume. According to the United Nations Intergovernmental Panel on Climate Change which was released in Oct 2018 it said, "The world has 8 years remaining to prevent a massive destabilising climate change through combined rapid phase out of fossil fuels, reforestation and other natural climate solutions."

Cliff Kirby added: "When AirSeed explained what they hoped to achieve, it was a challenge that we were delighted to take on. The huge significance and impact that this innovation can bring in the fight against climate change is truly global. Together with AirSeed based in Australia and South Africa and CAL based in the UK, this is a global collaboration and the very definition of the art of the possible. The collaboration between CAL and AirSeed will ultimately mean that each drone can deliver two pods per second over a designated area, planting up to 40,000 pods in a day. Through rapid automation and scale of the process, it can cover and penetrate a much wider geographical area."

AirSeed was co-founded by British born entrepreneur and engineer, Andrew Walker, and South African data-mapping analyst and Chief Pilot Andries Louw. Together, they created the AirSeed team, which is comprised of experienced professionals in engineering, ecology, marine and terrestrial microbiology and data science.

AirSeed co-founder Andrew Walker said: "AirSeed is a business that is pushing the boundaries with an ambitious strategy around reforestation. Having seen first-hand how CAL has taken concepts such as NeedleSmart and worked in partnership to bring forward truly unique innovation, we knew CAL would be a good fit for AirSeed. CAL have taken responsibility for refining the design of the user interface and manufacturability of the seed pod delivery system. It was important that the engineering and build of this function would integrate into the flight systems and technical aspects of the aerial platform and tele metrics."

"Working with CAL, they have managed to take an existing delivery system design and turn it into

a unique pod delivery mechanism. The design and engineering that has gone into the aerial platform from CAL also means we can produce a great number of AirSeed aerial platforms and deploy these into the field quicker to speed up the process of reforestation which will help us in a race against time to mitigate climate change.”

The unique proposition of AirSeed’s aerial platform means it can operate in remote areas that are difficult to access due to challenging terrain or bushfire damage.

Refrigerated supply lines are required to transport seedlings from nurseries to planting area. Traditional manual planting solutions are slow, labour-intensive, expensive and ineffective in trying to mitigate today’s rate of deforestation. AirSeed’s aerial platform is 80% cheaper than current planting methods and 25 times faster than manual planting methods.

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