

## One startup company's goal - 1 billion trees by 2028, all planted by drones

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This spring, in an area north of Toronto that had previously burned in a wildfire, drones hovered over fields, “firing seed pods into the ground, planting native pine and spruce trees to help restore habitat for birds.”

According to a [report by Fast Company](#), [Flash Forest](#), the Canadian startup behind the project, plans to use its technology to plant, in one month, 40,000 trees in the area. As it expands to other regions, by the end of the year it will plant hundreds of thousands of trees. The startup's goal is to have planted a full 1 billion trees by 2028.

The company, and [other start-ups like it](#), believe the use of tree-planting drones is how the world can reach ambitious goals “to restore forests to stem biodiversity loss and fight climate change,” the report said.

The Intergovernmental Panel on Climate Change says that to limit global warming to 1.5 degrees Celsius, “it's necessary to plant 1 billion hectares of trees - a forest roughly the size of the entire United States,” the report cited.

While new trees are planted, existing forests need to be protected, but right now, that isn't working well, the report said. “There are a lot of different attempts to tackle reforestation,” says Flash Forest cofounder and Chief Strategy Officer Angelique Ahlstrom. “But despite all of them, they're still failing, with a net loss of 7 billion trees every year.”

Since older trees can store much more carbon, deforestation is arguably an even more critical issue than planting trees, the report said, and drones can't address that problem. However, when it comes to restoring forests that have already been lost, the drones can work more quickly and cheaply than humans planting with shovels.

According to the report, with Flash Forest's tech, currently 10,000 to 20,000 seed pods can be planted per day, and as technology advances, a pair of pilots will be able to plant 100,000 trees in a day. In comparison, someone working by hand might typically be able to plant around 1,500 trees in a day, Ahlstrom says. The report said the company aims to bring the cost down to 50 cents per tree, or around a fourth of the cost of some other tree restoration efforts.

### How is the seeding accomplished?

When it begins work at a site, the report said the startup “first sends mapping drones to survey the area, using software to identify the best places to plant based on the soil and existing plants. Next, a swarm of drones begins precisely dropping seed pods, packed in a

proprietary mix that the company says encourages the seeds to germinate weeks before they otherwise would have. The seed pods are also designed to store moisture, so the seedlings can survive even with months of drought.” Drones use a pneumatic firing device in some areas, such as hilly terrain or in mangrove forests, that shoots seed pods deeper into the soil. “It allows you to get into trickier areas that human planters can’t,” Ahlstrom says.

### **What happens after an area is seeded?**

After planting, the company returns to track the progress of the seedlings, the report said. “Depending on the project, we’ll go back two months after, and then a year or two after, and then three to five years after” to make sure the trees are actually sequestering as much carbon as they planned, Ahlstrom said. “If we fall under a threshold plant goal of a certain number of trees, we’ll go back and ensure that we are hitting our goal.” According to the report, the process doesn’t typically require work from humans to keep the seedlings alive, since the company chooses native species and its seed pods protect the seeds from drought. Instead, the strategy “is to plant a large number of trees and let some naturally survive.”

### **What determines the kind of species that are planted?**

Each planting is using about four species, with a goal of eight. “We very much prioritize biodiversity, so we try to plant species that are native to the land as opposed to monocultures,” Ahlstrom said. “We work with local seed banks and also take into account that the different changes that climate change brings with temperature rise, anticipating what the climate will be like in five to eight years when these trees are much older and have grown to a more mature stage, and how that will affect them.”

After the current planting near Toronto and another in British

Source: <https://www.pennlive.com/nation-world/2020/08/one-startup-companys-goal-1-billion-trees-by-2028-all-planted-by-drones.html>