

French agribot startup Naïo Technologies takes an unconventional approach to expanding the reach of autonomous weeding and harvesting robotics. The team pushes forward its ambitious plans of global expansion through a philosophy of sharing in progress.

The startup's strategic marketing manager Julien Laffont told FreshFruitPortal.com about strategies the company uses to advance the industry further. Our conversation revealed what the current atmosphere of automated robotics and farm tools looks like.

With a range of electric tools for hoeing, weeding and harvesting, Naïo provides solutions for vegetable farmers.

What the startup saw was a need to address the strenuous, tedious tasks in everyday vegetable farming. In particular, weeding and harvest fieldwork was becoming burdensome for farmers.

In talking with farmers, the startup found that there is "a real need for this technology", due to the "huge lack of workforce in the agricultural industry". As farmers struggle to find laborers, autonomous technology can fill this need by doing the nitty-gritty work that is increasingly dangerous for people to do.

Global expansion is a huge focus point for the company. Laffont told us that their rapid expansion is part of their plan to further its mission - making agriculture more productive.

"Our main goal is our expansion project in California," he said. This new venture involves hiring two more people onto the Naïo team.

It doesn't stop there, though - the team's aspirations are boundless. For the time being, it has robots at work across Europe and Canada. Laffont emphasized that the startup is eager to spread its reach to North America, South America and Asia. More immediately, its targeting Chile and Japan as potential markets.

Laffont went on to paint a picture of why such markets are in need of mechanical weeding and harvesting.

"The average farmer in Japan is 67 years old," he explained. "So, for tomorrow, there are two choices. Either it will import or it will have to reinvent agriculture. To do that, the first step is helping aging farmers and the next step is showing them how to be more efficient."

Naïo Technologies "is convinced that agricultural robots are *the* solution to improved working conditions and profitability for farmers".

Naïo's story

Initially responding to the needs of asparagus farmers in France, Naïo came out with its first robot - OZ - after its founding in 2011. But this was "just the beginning of the adventure", said Laffont.

Naïo's OZ is now used by 120 farmers across Europe and Canada and operates for small farms. Then, the team expanded its equipment for large scale farming.

"With this experience, we decided to make two other robots," Laffont explained. DINO - while "still a prototype for the moment" - is robot at work on 20 farms. The DINO system is a large scale mechanical weeding robot. Also a weeding robot, TED is a piece of newer equipment specifically built for vineyards.

A unique approach to moving the industry forward

With approximately 12 other companies in the robotic weeding and harvesting industry, it's in everyone's interest to collaborate. When asked about competition, Laffont gave an unexpected answer.

Robotics is "still a small market" and Naïo's committed to making it bigger. So they rely on other companies prospering by their side.

"We do not really consider those companies as competitors, we prefer to believe that we can be stronger together," Laffont explained.

Mutual development is central to Naïo's efforts. Four years ago, the company created an event - the International Forum of Agricultural Robots. There, companies share their progress and report on innovation.

Through "gathering all of the ecosystem of agricultural robotic companies", the meetings foster mutual support in innovation. The idea is to grow the network faster by bringing together experts throughout the industry, from researchers and farmers to journalists and investors. It also gives newcomers the chance to pitch their ideas.

By combining forces, the startups are able to accomplish more, together. This sort of approach is particularly critical since all of the companies are startups and can't individually compete with big players.

With competition not being a huge challenge, we were interested to know about what exactly the startup has to face in the field. Laffont explained that the biggest challenge is safety.

"We really push our standards really high" when it comes to safety, he said. This is because "when we speak about autonomous vehicles, the first question that comes to mind is - 'is it safe?'".

To confront this challenge, they have a team of investigators who are available to customers to support safety procedures. Naïo has a team to answer questions and has meetings in the EU to talk about autonomous vehicle safety. Again, it's in the interest of robotics to work with others - particularly in efforts to improve standards in safety.

Integration for autonomous weeding

Another big question is how farmers integrate the equipment into their already existing operations. It's easier for small farmers to integrate the technology into their everyday work.

However, with large scale robots, "most of our customers are big farmers who already have a routine in place", Laffont told us. To address this issue, the company created two models. The concept behind them being to provide individualized support to farmers by addressing their unique needs. Accessibility is key.

One of their models is a rental service. Naïo allows farmers to try out their robots to see if it is suited to the amount of land that the veggie farmer may have. That way, the two can experiment without the farmer sacrificing too much.

"Without having to modify all of their processes, they can try the robot," detailed Laffont. For instance, "if you have 40 hectares, you can operate the robot on this field and after three months, we can modify if you need to expand or if you want to buy the robot or not".

Along with the option to rent, vegetable farmers can hire Naïo to ope

This also makes it so that farmers don't have to hire someone who knows about agricultural robotics to operate the system. To eliminate further investment with third party, the startup's service

It considers this flexibility as both a way to troubleshoot and to encourage farmers to adopt

its equipment.

"This approach enables farmers to try the technology without taking too big of a risk."

Looking forward, the French company anticipates that agricultural robotics will both be more necessary and more widely used.