ROBOTICS

Slopehelper agricultural robot tends to steep vineyards

By Ben Coxworth
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The Slopehelper weighs a claimed 1,200 kg (2,646 lb) and is 2.6 m long (8.5 ft) Slopehelper

Although we've been hearing about various agricultural robots that are still in development, there's at least one which is already commercially available. It's called the Slopehelper, and it's made mainly for use in vineyards.

The Slovenian-designed autonomous electric vehicle runs on rubber tank-like treads, and can be equipped with system-specific hinged tools for tasks such as mowing, weeding, mulching, spraying, aerating, pruning and trimming. True to its name, it can handle slopes of up to 45 degrees, travelling at a top speed of 10 km/h (6 mph).

Operators start by towing it on a trailer to the field in question. Utilizing a radio remote control unit, they then manually guide it off the trailer and over to the beginning of the first row of plants. They then program in the parameters of the task via a built-in interface, after which they set the vehicle to autonomous mode.

Whenever needed, the Slopehelper can be operated by full manual remote control Slopehelper

The Slopehelper then proceeds to make its way through the field while performing its given task, automatically moving up one row, turning around at the end, then heading down the next one. It uses Differential GNSS to maintain its position between rows, while also utilizing touch sensors on both sides to determine the location of the vines' trunks.

The vehicle additionally uses FMCW (Frequency-Modulated Continuous Wave) radar to detect obstacles, and to maintain a safe distance from people or animals. If it does encounter a particularly tricky obstacle, it will contact its operator via an accompanying app. They can then activate its optical camera system, remotely guiding the vehicle as it either removes or makes its away around the obstacle.

That same app can be used to check in on the robot's progress at any time, and to notify the operator when the job has been completed. One charge of the onboard lithium battery pack should be good for up to 14 hours of use.

The base package, which includes a Slopehelper and four tools, is claimed to cover almost 80 percent of a farmer's annual needs while costing less than a tractor. You can see the vehicle in action, in the following video.

Source: Slopehelper

Autonomous work. How it works.

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Based out of Edmonton, Canada, Ben Coxworth has been writing for New Atlas since 2(and is presently Managing Editor for North America. An experienced freelance writer, he

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