Network to Innovate: Robotic Technologies in Agriculture

AGNES KIVISTIK 25.10.23, 06:38 UTC

Sustainable farming with field robotics

ANONÜÜMNE 30.10.23, 10:33 UTC

In Poland in our test fields (Agriculture Advisory) we plan also to test the robot (in practice). It will be Farmdroid on sugar beets. So I ask You to exchange experience and results? maciej.zacharczuk@wodr.poznan.pl — ANONÜÜMNE

Sure, great! — ANONÜÜMNE

Great. We now are looking for cooperators and formulating the cooperation plan. Let's be in touch after the workshop. — VICTORBLOCH

exactly, we will — ANONÜÜMNE

ANONÜÜMNE 31.10.23, 08:53 UTC

Electricity for the CV camera

How you feed the camera. Do you take power from robot or camera has it's own batteries?

The robot has it's own power and internet connection and even camera, but the producers does not allow to users to use it, hence, we had to use additional power source. We started to negotiate with the robot producer to be able to use them. — VICTORBLOCH

We used a GoPro camera which records also the location. — VICTORBLOCH

ANONÜÜMNE 31.10.23, 08:53 UTC

What is the price of such robot and what would be an example of agriculture enterprise that could break even with the investment?

FD20 is around 90 000 euro, depending on equipment. — ANONÜÜMNE

Most likely a vegetable farm with lettuce, onion etc which require a lot of hand work in weeding. — ANONÜÜMNE

ANONÜÜMNE 31.10.23, 08:58 UTC

How many farmers in Finalnd do you estimate could benefit from such technology?

ANONÜÜMNE 31.10.23, 09:33 UTC

Such machines must gather a great deal of commercially valuable data - who owns this data, the farmer or the company supplying the robot?

The producer has the data about the fields, plant locations and weedings. We asked them to have this data, they provided only part of it. But they are not related to this additional camera that we test. The data from it will be owned only by the farmer. — VICTORBLOCH

ANONÜÜMNE 31.10.23, 09:02 UTC

Video Link

PeltoRobo-hanke - ensimmäisen kauden testausta
koostas Uudet Teknologiat & Maatalous
YOUTUBE

ANONÜÜMNE 31.10.23, 09:08 UTC

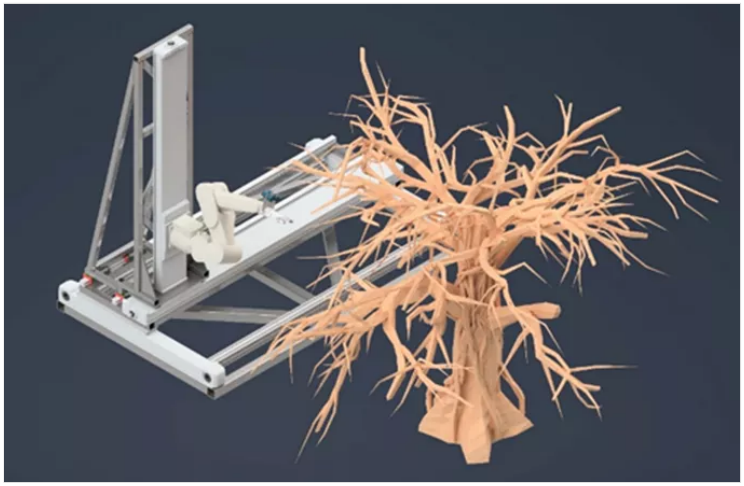
Soil moisture conditions

Did you have a chance to manage the tests for the different soil moisture conditions that the robot could operate?

It worked well 2 days after a strong rain. We didn't dare to try it immediately after rain because it can be really stuck in the middle of the field. — VICTORBLOCH

AgroBots harvester for cutting branches of fruit bushes

ANONÜÜMNE 30.10.23, 10:35 UTC



How do you think to solve problems related to berries juice acidity? — ANONÜÜMNE

How should be technology to perform the plant for such type of harvesting? Are any changes compared to the existing canopy necessary? — ANONÜÜMNE

What expected efficiency of such a robot, work speed compared to human? — ANONÜÜMNE

About accidity of the berries, we will have to select proper design and material solutions. Perhaps it will also be linked to some routine cleaning, disinfection needs in final application for the tool. — ANONÜÜMNE

ANONÜÜMNE 31.10.23, 09:11 UTC

Costs

What would be approximate cost for that robot?

It's hard to tell, but robot about 20000 eur. — ANONÜÜMNE

ANONÜÜMNE 31.10.23, 09:11 UTC

This is quite a challenge - what number of farmers could potentially use such technology in your country? What other ountries might form a market?

ANONÜÜMNE 31.10.23, 09:14 UTC

Could the robot be used also to harvest some other berries / fruit and what would those be?

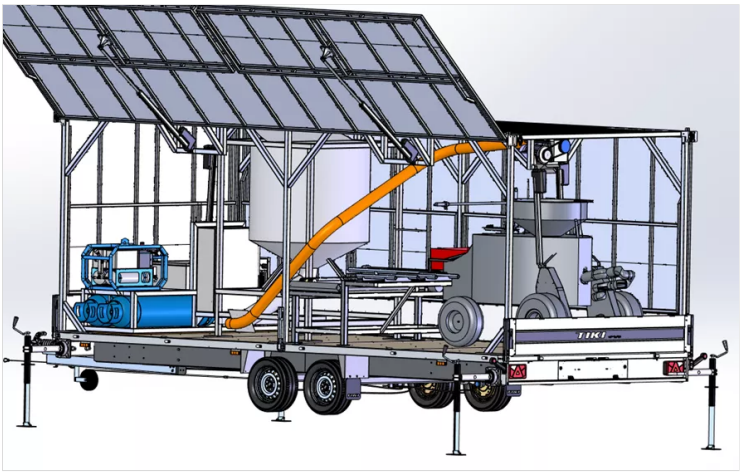
VICTORBLOCH 31.10.23, 09:19 UTC

Experience

Interesting project, but very challenging. We have before 2 year a similar project for a strawberry picking robot in Finland, but the conclusions were not very promising. We left with a lot of unsolved problems.

Agrorobotics in Estonian University of Life Sciences

ANONÜÜMNE 30.10.23, 12:53 UTC



VICTORBLOCH 31.10.23, 09:27 UTC

Level of availability

What is the projects status? Are you still in developments, when this system can be available? What are the specializations: power, amount of energy, cost?

ANONÜÜMNE 31.10.23, 09:40 UTC

Private companies

Have you calculated how big is the Estonian market for this servicing station and where would be naturally the next market opportunities?

Estonian market depth is not probaby significant, in terms of farming robot. So far, the lack of suitable machinery has set limits on preparation and establishing berry farms. In general, it would be suitable for export. The power station has received some interest from Estonian companies, including event organizers and military field. — ANONÜÜMNE

ANONÜÜMNE 31.10.23, 09:49 UTC

DEMO

When or are you organizing a demo for the service station?

Hopefully in upcoming summer. First demo will be for the power station, after that the servicing station. — ANONÜÜMNE

Agricultural advisory services based on drones

ANONÜÜMNE 30.10.23, 10:34 UTC

Are the legal possibilities to use pesticides with dron in EU? — ANONÜÜMNE

we dont use pesticides, we use natural pest — ANONÜÜMNE

Trichogramma — ANONÜÜMNE

ANONÜÜMNE 31.10.23, 09:30 UTC

The services you describe are provided by the public advisory system, which is well-developed in Poland. Are they provided to farmers for free, or are they charged for it?

services are paid — ANONÜÜMNE

ANONÜÜMNE 31.10.23, 09:32 UTC

Where did the idea for such services originate from - was it, as in the case of AgroBots in Latvia - a demand from farmers? Or did the idea originate with the advisory service?

we were collecting farmers need. It was a design proces, the first phase to collect existing 15 possible technologies and finally choosed 4 that farmers need — ANONÜÜMNE

ANONÜÜMNE 31.10.23, 09:34 UTC

Do the drones gather commercially valuable data. Who is the owner of the data? Does the public advisory service train farmers in using / safeguarding such data?

data owner is farmer — ANONÜÜMNE

yes w train our advisors and farmers as well — ANONÜÜMNE

ANONÜÜMNE 31.10.23, 09:40 UTC

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Has it been easy to get farmers involved in using these services?
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no and yes:) Farmers are seraching the drones services, but they are still considering new technologies, so it is few years process — ANONÜÜMNE

VICTORBLOCH 31.10.23, 09:42 UTC

What part of data collected by drones can be replaced by satellites services?

generally NDVI will be replace withint few years by satelites, but not in any case. We see that we shoild offer satalites data and in some cases drones should precise. For example field damages — ANONÜÜMNE

There are two important thing: change in time (satelites) and good resolution (drones) — ANONÜÜMNE

ANONÜÜMNE 31.10.23, 09:56 UTC

Drones vs huge area

How your deal with huge territories, where the one drone is inefficient. Are you using multiple drone system. If yes, are you using drone pilots for every drone, or you are using kind of hub operating system?

You can also share and promote your own project here or call for co-operation

AGNES KIVISTIK 25.10.23, 06:57 UTC

ANONÜÜMNE 31.10.23, 09:46 UTC

Hugo Green Solutions – Rolnictwo Precyzyjne (https://hugogreen.pl/en/). Hugo Green Solutions is a spin-off company set up in 2020 from the University of Agriculture in Kraków. The rover they have developed is relevant to this workshop (under the Hugo Technology Solutions tab).

ANONÜÜMNE 31.10.23, 09:47 UTC

https://pit.lukasiewicz.gov.pl/en/o/project-no-poir-01-01-01-00-1230-19-polski-robot/. The Łukasiewicz Network is concluding a project to produce a field robot as part of the project 'Intelligent robot with the requirements of precision agriculture'.

ANONÜÜMNE 31.10.23, 09:47 UTC

https://inkubator4.urk.edu.pl/index/site/8179. Meet HOGWEED – the University of Agriculture in Kraków has also carried out work to build a robot specifically designed to remove the invasive plant species Heracleum sosnowsky (Sosnowky's hogweed, also known as Stalin's curse).

ANONÜÜMNE 31.10.23, 09:47 UTC

https://e-stado.pl/ is a Polish technology company working on solutions related to dairy cattle.

ANONÜÜMNE 31.10.23, 09:48 UTC

http://gyroscan.ipan.lublin.pl/en/sample-page/. Gyroscan is a project to develop a decision support system based on remote sensing for precision farming (assessment of the degree of degradation of meadows and for the carbon dioxide balance between the soil – vegetation and the atmosphere. The project was run by the Bohdan Dobrzański Agrophysics Institute of the Polish Academy of Science.

ANONÜÜMNE 31.10.23, 09:48 UTC

Innovative frost protection technologies for fruit and horticultural crops is the self-explanatory name of an Operational Group in Poland - https://www.ksowplus.pl/en/eip-operational-group?tx_wrobksowepi_epi%5Baction%5D=show&tx_wrobksowepi_epi%5Bcontroller%5D=EPIOperationalGroup&tx_wrobksowepi_epi%5BePIOperati

ANONÜÜMNE 31.10.23, 09:49 UTC

Fruit App is a management system for orchards created by another Operational Group in Poland - https://www.ksowplus.pl/en/eip-operational-group?tx_wrobksowepi_epi%5Baction%5D=show&tx_wrobksowepi_epi%5Bc

ANONÜÜMNE 31.10.23, 09:57 UTC

The European Testing and Experimentation Facilities for Agrifood Innovation

Book your calendar for Synergy Days! AgrifoodTEF will be part of such an important initiative, bringing together hundreds of experts from the many European projects concerned with Digital Agriculture. Promoted by the SmartAgriHubs community, Synergy Days are open for registration at this link.

AGRIFOODTEF

This project will offer free AI and robotic tests in agriculture for SMEs in Europe / from TRL 6 to 8
– ANONÜÜMNE

ANONÜÜMNE 31.10.23, 09:58 UTC

https://flexigrobots-h2020.eu/ Flexigrobots seems also really interesting project, i just heard some results from the Finnish project partners

Flexible robots for intelligent automation of precision agriculture operations

FlexiGrobots is an Innovation Action aiming to build a platform for flexible heterogeneous multi-robot systems for intelligent automation of precision agriculture operations, providing multiple benefits to farmers around the world.

FLEXIGROBOTS-H2020

Mtech DIGITAL SOLUTIONS

Here you can rase a topic of your own interest or express your needs in regards to some specific issue

AGNES KIVISTIK 25.10.23, 06:58 UTC

ANONÜÜMNE 31.10.23, 10:03 UTC

Could someone of the reporters comment on the potential impact of robots/drones ("foreign" objects in the environment) on wildlife? radio/electromagnetic waves?...

ANONÜÜMNE 31.10.23, 10:06 UTC

Use of satellite technologies in farming - examples from member states (point of views of farmers, public administration, researchers).

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