

Media release: Robotics Plus

Robotics Plus launches Prospr: multi-use autonomous vehicle for sustainable orchard and vineyard production

Autonomous modular vehicle platform for agriculture automates a variety of tree crop tasks, including intelligent spraying - to improve efficiency and alleviate labor challenges

Salinas, Calif., and TAURANGA, NZ, September 21, 2023 – New Zealand-based agritech company [Robotics Plus](#) has launched Prospr, an autonomous, multi-use, hybrid vehicle designed to carry out a variety of orchard and vineyard crop tasks more efficiently and sustainably while reducing reliance on labor. Prospr is now commercially available from Robotics Plus, a specialist in the design and build of innovative agricultural robotics.

Prospr accommodates multiple swappable tools being developed, including newly released tower sprayers for grapes, apples, or tree crops. The right tool for the job is attached to the vehicle depending on the day's work, and multiple Prosprs can collaborate in a fleet to get the job done. The autonomous vehicle uses a combination of perception systems to sense the environment, enabling data-driven insights.

Robotics Plus will showcase Prospr for the first time at [FIRA 2023](#) this week, a California-based event dedicated to autonomous agriculture and agricultural robotics solutions.

Steve Saunders, Co-founder and Chief Executive at Robotics Plus says the agriculture industry faces unprecedented challenges as this generation works to produce more food sustainably while reducing emissions and supplying at a lower cost.

“Prospr is a robust autonomous vehicle, with all-day running, that adapts to the jobs growers need to do while reducing emissions, inputs and reliance on increasingly hard-to-find machine operators. We’ve focussed on utilisation and flexibility with a unique modular architecture, allowing different tools for various crop types and applications year-round to maximise return on investment.

“It’s great to be back at FIRA to launch Prospr, with the first vehicles rolling out to customers this month. It’s a fantastic milestone for the passionate and dedicated Robotics Plus team.”

Dr. Alistair Scarfe, Co-founder and Chief Engineering Officer at Robotics Plus, says, “We’ve made multiple technology advances for Prospr, including a remodelled platform for tools, new spraying attachments, and a new user interface to aid management and planning. We’ve also improved machine connectivity, control, safety and localisation. Prospr has its own wireless network, keeping vehicles online and enabling software updates for new features. We’re really proud to release another world-leading robotic innovation to market, thanks to the expertise of our outstanding team and partners.”

Hybrid System

Prospr has an all-electric drive system for superior torque and control. Its onboard power generation, with a Tier 4 diesel generator, allows the vehicle to operate for extended periods without charging or refuelling.

Regenerative braking and high-capacity batteries extend range whilst its intelligent all-wheel-drive system with independent wheel motors gives superior manoeuvrability, grip and control.

Dr. Scarfe adds, "We've put our hybrid power and drive system through its paces and can achieve over 70% reduction in fuel consumption when compared to traditional diesel tractors doing the same job."

Modular and adaptable

Prospr has a small footprint and unique steering configuration, incorporating electric steering and independent motors. The vehicle turns on its rear axle with a minimum headland requirement of 7.1m/23ft for row-to-row turning. Minimum row spacing is 1.85m/6.07ft, giving growers options to deploy automation in a greater variety of applications in various crop types. This means ground is covered faster, maximizing productivity and spray time compared to machines that turn on every second row or greater. The vehicle's lightweight design, combined with its unique tire and wheel configuration, reduces ground compaction.

Steve Saunders says, "We've delivered a highly adaptable modular vehicle and are partnering with industry leaders to deliver various technologies for our tools. The first of these partnerships is with Croplands, a leader in sprayer technology. Our ongoing partnership with Yamaha Motor Co is helping us refine and productize our vehicle for scale. This significantly increases the robustness and support for Prospr in demanding and ever-changing agricultural environments."

Q Series Sprayers

Q Series Sprayers, developed by Robotics Plus in conjunction with Croplands, allow growers to deploy a range of spray configurations, adapting to various crop types, growing formats, heights, and the day's job. The Q4 / Q6 sprayers have two or three fans on either side and are best suited to grape, apple, or tree crops. The Q8 sprayer comprises eight fans, four on each side, and is best suited to apple crops. Spray rates and air speed are dynamic and controlled per fan to maximise spray efficacy through electric drive and control systems. The sprayers are built upon Croplands Quantum™ fans that produce a fine mist and turbulent air for better coverage from the superior droplet formation and spray deposition.

Safety and Management

To implement Prospr, a mesh network is installed to give a more consistent connection and interaction with the machine, improving operational efficiencies and user safety. Operators can manage and streamline the day's work with a new organizational tool with an easy-to-use interface. Coordination is enabled between team members with multi-language support across various desktop and mobile devices. Jobs can be logged in advance and viewed in real time. Completed or in-progress jobs are mapped and recorded digitally. Multiple machines can be managed simultaneously by one or two operators from a single remote control via a fixed or mobile console.

For more information on Prospr or to order, see <https://www.roboticsplus.co.nz/>

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Video: Robotics Plus' Prospr in action: <https://vimeo.com/866161635/6a997fbc74>

Images: For additional images and high-resolution versions, view [here](#).



Caption: Robotics Plus has launched Prospr, a robust, autonomous, multi-use hybrid vehicle designed to carry out a variety of orchard and vineyard crop tasks



Caption: Q Series Sprayers: *(Left)* The Q4 / Q6 sprayers comprise two or three fans on either side and are best suited to grape, apple or tree crops. *(Right)* The Q8 sprayer comprises eight fans, four on each side and is best suited to apple crops. Sprayers are folded inwards for operation – and can be opened outwards for ease of service and adjustment.



Caption *(left image):* Robotics Plus founders Dr Alistair Scarfe (Chief Engineering Officer) and Steve Saunders (CEO). **Caption** *(right image):* Robotics Plus founders Steve Saunders (CEO) and Dr Alistair Scarfe (Chief Engineering Officer)

About Robotics Plus

Robotics Plus is a New Zealand-based agritech company that gives customers the power to adapt and thrive in a changing world. We specialize in the design and build of robotics, AI, and autonomous machines that reduce reliance on labor and provide data-driven insights for informed decision-making. Designed, tested, and proven in real environments to solve real problems, our solutions are brought to life

by a highly agile and deeply capable team. We leverage the power of purposeful partnerships while remaining grounded in extensive robotics experience and have a genuine on-the-ground understanding of the realities of diverse and ever-changing agricultural environments. The result is products and solutions that not only have the smarts to do the job, but to keep doing it better, helping create a more sustainable and successful agricultural sector.

For more information: <https://www.roboticsplus.co.nz/>

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