

Robotics Plus

The power to adapt

Prospr
Modular vehicle platform



Prospr

A robust, autonomous, multi-use hybrid vehicle platform that significantly increases efficiency across a variety of crop tasks. With our unique modular architecture, you can rotate multiple tools and attachments across a single vehicle depending on the work of the day.

Hybrid System

Prospr is an all-electric autonomous vehicle, with on-board power generation. Electric drive motors give superior torque and control, whilst a Tier 4 diesel generator means the vehicle can operate for extended periods with no need to plug in. Fuel consumption is minimised by electrically driving all systems, including tools. Regenerative braking and high-capacity batteries extend range whilst our intelligent all-wheel-drive system with independent wheel motors gives sufficient grip and control, reducing ground damage.

Safety

To implement Prospr we install mesh network infrastructure, giving you a more consistent and accurate connection with the machine, decreasing safety issues and eliminating the potential for runaway machines.

Power to Adapt

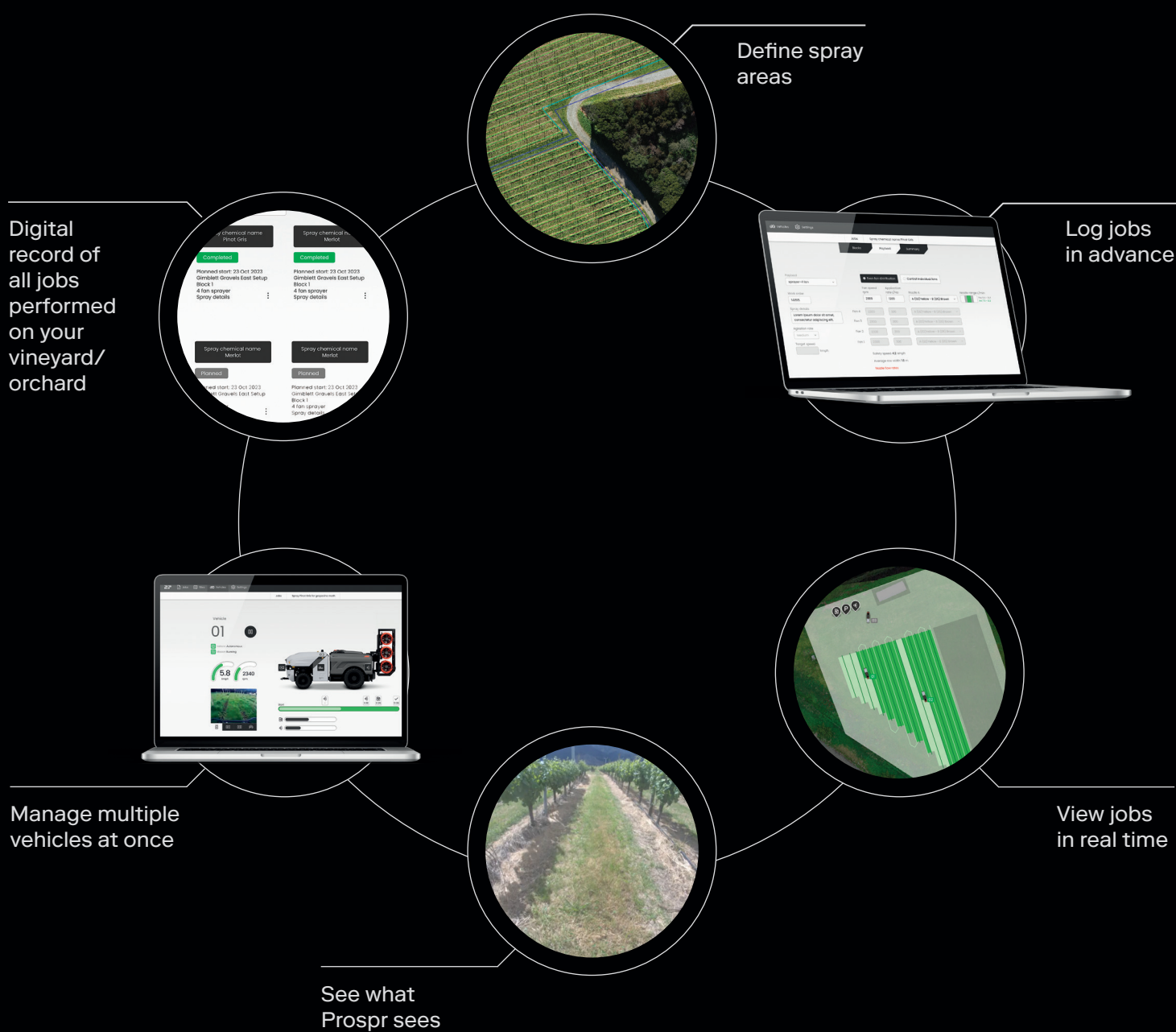
With a small footprint and unique steering configuration, incorporating electric steering and independent motors, the vehicle turns on its rear axle with a minimum headland requirement of 7.1m for row-to-row turning. This allows you to cover ground faster, maximising productivity and spray time compared to machines that turn on every second row or greater. Minimum row spacing is 1.85m, giving you options to deploy automation in a greater variety of applications in various crop types. Our vehicle's lightweight design combined with our unique tire and wheel configuration significantly reduces ground compaction to best protect the pore system and density of your soil.

Our vehicles adapt to a range of tools and implements being developed. Our interface supports multiple machines which can be controlled by a team of one or two operators from a single remote control.



Management & Planning

An organisational tool to manage and streamline the work of the day. Log jobs ahead of time through an easy-to-use interface that supports communication between your team members with multi-language support and use across various desktop and mobile devices.



Prospr Spec Sheet

Vehicle weight	1,800kg for bare vehicle, empty ~1962kg for bare vehicle with water in front tyres and full tank of diesel	Wheel dimension	Front tire: 737mm Rear tire: 972mm
Payload weight	Empty sprayer payload is 600-900kg depending on configuration 2100-2400kg when tank is full	Minimum row spacing	1.85m
Generator/Engine	Tier 4 Diesel Max power: 55 kW at 2,600rpm	Ground clearance	279mm
Drive System	Independent electric 4WD - 50kW peak output with regenerative braking Torque: Rear wheels (each) 3,420Nm Front wheels (each) 1,540Nm	Speed	Spraying at 4–8km per hour (top speed is limited by spray coverage) Top speed of 10km per hour in transit
Run time	Approximately 24 hours, based on a single tank of fuel and dependent on operating conditions as well as payload selected	Slopes	Roll/lateral max slope up to 10° Pitch/longitudinal max slope up to 20°
Maneuverability	Spot turning around center of rear axle Minimum headland for turning into adjacent row: 7.1m	Safety/sensing	LiDAR coupled with cameras for intelligent obstacle detection and avoidance Front bumper to limit speed and safely push through specific in-row obstacles such as long grass



Spray Deposition

Spray rates and air speed are dynamic and controlled in zones or by individual fans, to maximise spray efficacy.

This means spray is much more targeted than traditional sprayers. The air produced puts spray on the backs of leaves resulting in superior droplet formation and spray deposition.

Our modular approach means you will be able to deploy a range of spray configurations, making it adaptable to a variety of crop types, growing formats, heights, and the job of the day.

Q Series Sprayers

Q4 / Q6

These sprayers are made up of either two or three fans on either side and are best suited to grape and tree crops.



Q8 Straight

The Q8S sprayer is made up of 8 fans, 4 on each side and is best suited to vertical tree crops.



Q8 Low V-Trellis

The Q8L is made up of 8 fans in total, 6 fans in the rear frame and 2 fans in the front frame and is best suited to low v-trellis crops.



Q8 High V-Trellis

The Q8H is made up of 8 fans, 4 fans in the rear frame and 4 fans in the front frame and is best suited to high v-trellis crops.



Sprayer Spec Sheet

Payload Specs

Spray tank volume	1,514L
Pump	Max flow: 150L per minute Max pressure: 20 bar/290PSI
Spray control	Electric proportional valve control to multiple nozzle groups on each fan unit — allows precision control of application rate on a per-fan basis as well as being intelligently linked to vehicle speed, preventing overspray
Fan Units	Quantum QM-420 units, driven electrically by motor, giving individual fan speed control up to 3,500rpm
Payload Weight	Empty sprayer payload is 600-900kg depending on configuration 2100-2400kg when tank is full

Fan Specs	Q4/Q6	Q8S	Q8L	Q8H
Fan Configuration	4 or 6 fans in total, 2 or 3 fans in the rear frame per side	8 fans in total, 2 fans in rear frame per side and 2 fans in front frame per side	8 fans in total, 3 fans in the rear frame per side and 1 fan in the front frame per side	8 fans in total, 2 fans in the rear frame per side and 2 fans in the front frame per side
Fan configuration varies depending on growing format i.e., V trellis, 2D planting or conventional planting				
Application rate	Q4 - 175-860 L/Ha* Q6 - 280-1300 L/Ha*	400-2000 L/Ha*	400-2000 L/Ha*	400-2000 L/Ha*

*Indicative range based off 2.4m wide rows, traveling at 8kph with the standard nozzle selection. More or less possible with alternative nozzle combinations.

*Indicative range based off 3m wide rows, traveling at 8kph with the standard nozzle selection. More or less possible with alternative nozzle combinations.

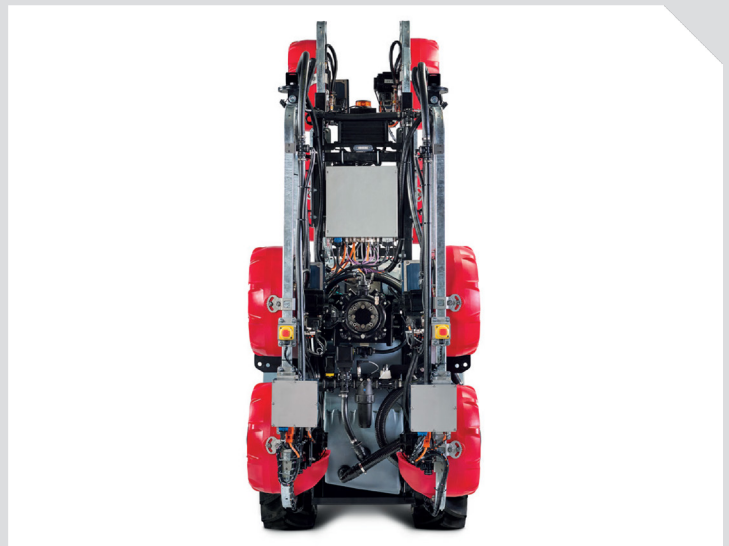
Servicing

Q4 Sprayer opened outwards for ease of service and adjustment.



Operation

Q8 Sprayer rear - folded inwards for operation.



Robotics Plus is a New Zealand based agritech company that gives you the power to adapt and thrive in a changing world.

We specialise in the design and build of robotics, AI, and autonomous machines that reduce reliance on labour and provide data-driven insights for informed decision-making. We have a genuine, on-the-ground understanding of the realities of diverse and everchanging agricultural environments.

Agriculture is time-critical, and we're producing reliable products that not only have the smarts to do the job but to keep doing it better. Technology is going to play a part in the future of farming, and we are excited to help create a more successful and sustainable agricultural sector.

Transform your next spray season, get in touch with us: info@roboticsplus.co.nz

