

Robotics Plus

The power to adapt

**MCX Tech**

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

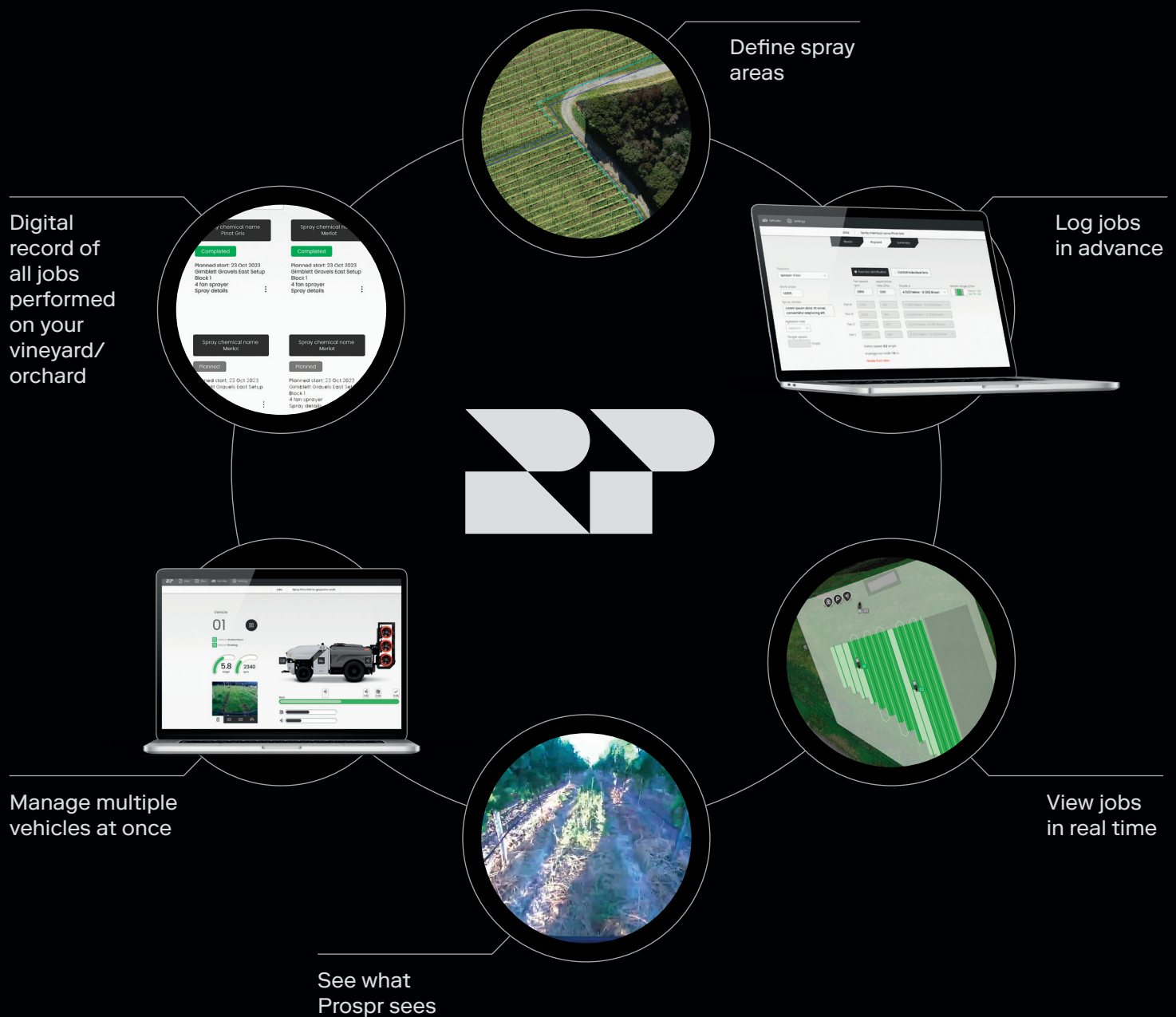
With a small footprint and unique steering configuration, incorporating electric steering and independent motors, the vehicle turns on its rear axle with a minimum headland requirement of 7.1m for row-to-row turning. This allows you to cover ground faster, maximising productivity and spray time compared 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 tyre 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 tyre: 737mm diameter Rear tyre: 972mm diameter
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 / 74 HP at 2,600rpm	Ground clearance	279mm
Drive System	Independent electric 4WD — 50kW / 67HP 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 that 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, apple or tree crops.



#### Q8

The Q8 sprayer is made up of 8 fans, 4 on each side and is best suited to apple crops.



## Sprayer Spec Sheet

### Q4/Q6/Q8

Spray tank volume	1,514L
Fans	Quantum QM-420 units, driven electrically by motor, giving individual fan speed control up to 3,500rpm  Q4/Q6: 2 - 3 fans per side Q8: 4 fans per side  Fan configuration will vary depending on growing format i.e., V trellis, 2D planting or conventional planting
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
Application rate	180–2680 L/Ha*  *indicative range dependent on number of fans, speed, row width and nozzle configuration. Please ask for specific application ranges
Payload weight	Empty sprayer payload is 600-900kg depending on configuration  2100-2400kg when tank is full

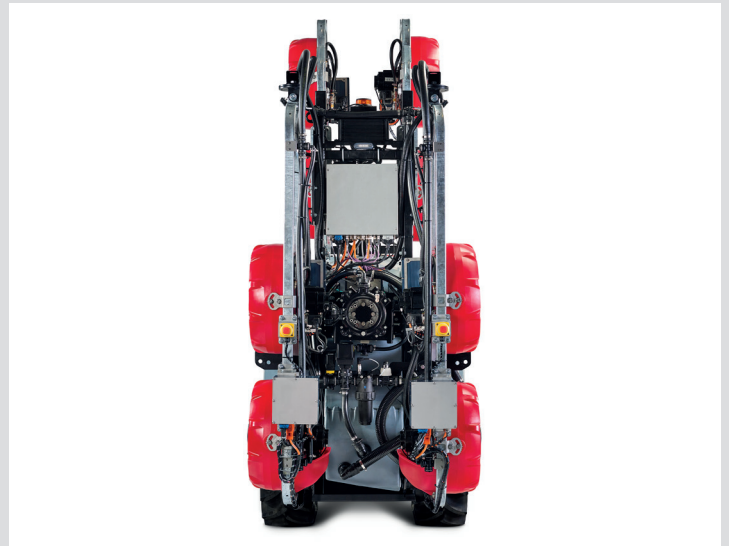
### Servicing

Q4 Sprayer opened outwards for ease of service and adjustment.



### Operation

Q8 Sprayer rear — folded inwards for operation.



## Partners with purpose

We have partnered with best-in-class technology suppliers to deliver the first autonomous modular vehicle platform for the agricultural industry. This means you can utilise a range of different tools or attachments for the greatest flexibility and return on investment.

Alongside this, we have incorporated a range of technologies from market leaders which significantly increase the robustness and support for Prospr in a demanding agricultural environment.



### Yamaha Motor Corporation

Yamaha Motor Company is a global technology leader and we have taken advantage of their extensive knowledge in machine vision and artificial intelligence. They specialise in the application and combination of four core technical competencies: powertrains, chassis and hulls, electronic control and manufacturing. Their long-term vision is to solve major social problems through their investments, including feeding the world sustainably. They work with organisations around the world, developing businesses and enabling them to create unique products that enhance the way we move, eat and live.



### Croplands

Croplands has over 50 years' experience in world-leading spraying solutions, combined with our tech to provide you with an automated spraying solution. With manufacturing operations based in Australia, New Zealand and Canada, they are continually evolving their range to meet the ever-changing needs of the agriculture sector, producing innovative solutions. As a subsidiary of crop protection company Nufarm Ltd, Croplands has a deep understanding of the importance of effective and efficient chemical application.



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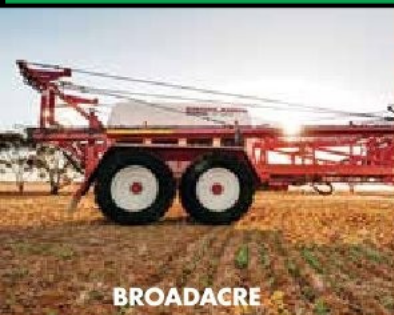
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All seasons · All crops · All terrain

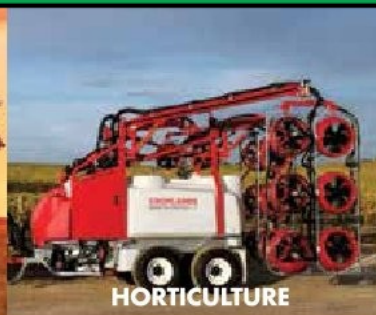
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