



Better vines, better wines: Digitalizing vineyard management for a premium winery in Uruguay

About the client

Close to Uruguay's Atlantic coast, a premium winery grows its vines across rolling hills. Covering more than 250 hectares and divided into over 1,000 plots, the estate is a mosaic of terroirs: no two plots are quite alike. Sun exposure, humidity, and soil all shift from one to the next, and the same grape variety can taste different depending on which hillside it grew on.

That difference carries from vineyard to glass. The winery makes red, white, rosé, sparkling, orange, and late-harvest wines, with an annual production capacity of 2.2 million liters. It has earned international recognition, including high scores from major wine competitions, and its wines now reach markets across the Americas, Europe, and Asia.



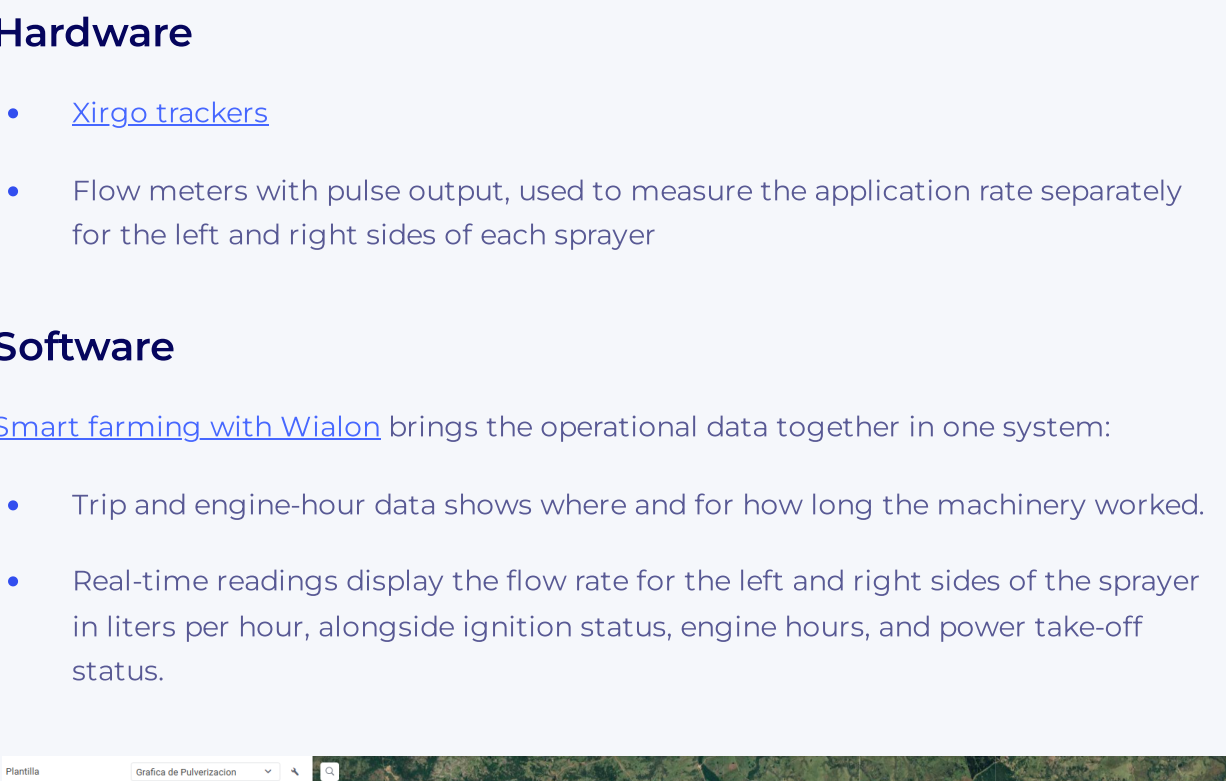
Challenge

Grapevines need careful treatment throughout the growing season — left unmanaged, disease can damage leaves, shoots, and berries, reducing both the volume and the quality of the harvest. Effective crop protection depends not only on choosing the right crop protection product but also on applying the right amount at the right time.

For this winery, the variety of its vineyards is one of its greatest strengths — and one of its greatest operational challenges. The team works carefully with the conditions of each plot, allowing the grapes, and eventually the wines, to express the character of the soil they come from.

Vineyard treatments are carried out by tractors towing air-blast sprayers. The spraying itself followed the winery's established vineyard-management practices, but the team lacked precise digital data to verify:

- The volume of product applied to each plot
- The duration of the operation
- Estimated fuel consumption
- The progress of a treatment campaign across the vineyard



An air-blast sprayer used for vineyard treatments

The winery needed to replace manual estimates with accurate records while giving managers a clearer view of work in progress. That's why it turned to [Maqsat](#), a Wialon partner of 12 years with a presence in Uruguay, Argentina, Chile, and Spain.

Solution

The winery has 60 units connected to Wialon, including tractors with air-blast sprayers.

Hardware

- [Xirgo trackers](#)
- Flow meters with pulse output, used to measure the application rate separately for the left and right sides of each sprayer

Software

[Smart farming with Wialon](#) brings the operational data together in one system:

- Trip and engine-hour data shows where and for how long the machinery worked.
- Real-time readings display the flow rate for the left and right sides of the sprayer in liters per hour, alongside ignition status, engine hours, and power take-off status.



- Campaign reports relate the agricultural work to individual vineyard plots.
- Fuel management reports record fuel dispensed from the mobile cistern, including the receiving unit, time, duration, and volume in liters.

Nº	Sensor	Activado	Desactivado	Duración	Litros	Conductor	Unidad
1	Surtidor	2026-06-01 07:43:59	2026-06-01 07:47:08	0:03:09	39.48	---	Retro case 776 (75)
2	Surtidor	2026-06-01 07:57:07	2026-06-01 07:59:22	0:02:15	38.05	---	NH 617
3	Surtidor	2026-06-01 08:10:04	2026-06-01 08:12:02	0:01:58	10.75	---	NH 547
4	Surtidor	2026-06-01 08:17:14	2026-06-01 08:19:07	0:01:53	25.20	---	JD 5090 (942)
5	Surtidor	2026-06-01 08:27:30	2026-06-01 08:29:26	0:01:56	25.65	---	NH 929
6	Surtidor	2026-06-01 08:41:05	2026-06-01 08:42:49	0:01:44	10.39	---	LS 804
7	Surtidor	2026-06-01 08:46:37	2026-06-01 08:47:56	0:01:19	15.73	---	NH 280

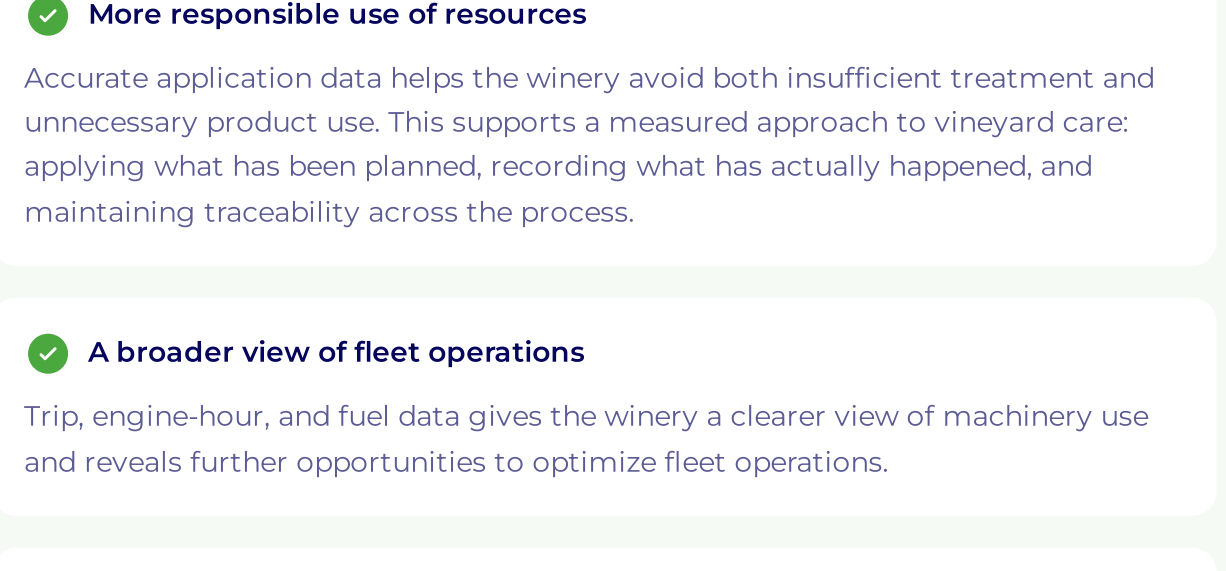
- BI tools support further reporting and analysis.

Wialon's white-label capabilities allow Maqsat to provide the system under its own brand, keeping its logo visible whenever the winery team uses the system.

Implementation

The partner spent 4 months analyzing the requirements and developing the hardware setup.

"Selecting a suitable sensor and configuring it to measure the flow reliably in liters was the main technical challenge of the project," explains the Maqsat team.



Separate displays show the application rate for the left and right sides of the sprayer

Field installation took another month, followed by 1 week to configure the reports and database that would turn the collected measurements into practical information for the vineyard team.

The winery expected accurate volumes. What it also got was live control over the entire spraying campaign. The operator no longer has to trust the sound of the sprayer behind them — Wialon shows exactly how much is actually being applied.

Results

As the Maqsat team summed it up, "Digitalizing a process that used to depend on manual estimates didn't just make spraying more efficient. It supported better harvest results, and better wine."

Accurate records for more than 1,000 plots

The vineyard team can see how many liters of treatment product were used in each plot. This helps verify that the planned work was completed. For a vineyard divided into more than 1,000 plots, this creates a much clearer operational picture while respecting the distinct requirements of each area.

Real-time campaign visibility

Managers can follow the progress of treatment campaigns across the vineyard rather than waiting for information to be compiled after the work is complete.

More responsible use of resources

Accurate application data helps the winery avoid both insufficient treatment and unnecessary product use. This supports a measured approach to vineyard care: applying what has been planned, recording what has actually happened, and maintaining traceability across the process.

A broader view of fleet operations

Trip, engine-hour, and fuel data gives the winery a clearer view of machinery use and reveals further opportunities to optimize fleet operations.

A foundation for further agricultural projects

The same approach can be extended to other crops the client works with, such as olives and blueberries.

Company profile

Country: Uruguay

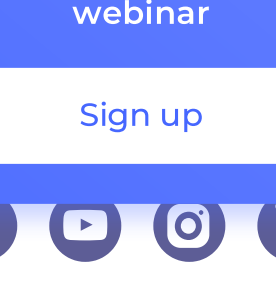
Industry: Agriculture

Website: [maqsat.com.uy](#)

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