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Villa Sandi Turns Vineyards into an Intelligent Ecosystem for Precision Viticulture

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Agronomic data, climate sensors and artificial intelligence are being deployed across all of the Group's estates in the Veneto and Friuli Venezia Giulia regions of Italy



Villa Sandi, a historic family-owned winery in Italy's Veneto region and a pioneer of premium Prosecco, is accelerating its commitment to precision viticulture by transforming its vineyards into an intelligent ecosystem where sensors, satellite imagery, drones and decision support systems work together to make every intervention more targeted and sustainable, while helping agronomists identify the ideal harvest window.

Among the wineries at the forefront of digital innovation in the Prosecco category, Villa Sandi has implemented a precision viticulture ecosystem connecting more than 200 hectares of vineyards through a single digital platform that collects and interprets agronomic and climate data in real time. The initiative, launched more than two years ago, is part of a broader sustainability strategy that has also earned all of Villa Sandi's vineyards Biodiversity Friend certification, recognizing farming practices that protect ecosystems and natural resources.

The investment is designed to make vineyard management more precise, sustainable and resilient to climate change, while reinforcing the quality that underpins Villa Sandi's continued growth in key export markets - foremost among them the United States, where demand for authentic, high-quality Prosecco continues to grow.

The system combines weather stations monitoring temperature, humidity, rainfall and wind; electronic leaf sensors measuring leaf wetness; and soil sensors reading moisture down to roughly 70 centimeters. AI-powered decision support tools transform this data into practical recommendations for agronomists, while drones and satellite imagery monitor vegetative vigor plot by plot, identifying variations within just a few meters, early signs of vine stress and the optimal harvest timing.

"Technology does not replace human expertise — it makes it more informed," says Leonardo Moretti Polegato, Vice President of Villa Sandi. "Viticulture is built on observation, sensitivity and an in-depth knowledge of the land. Today, we can complement that experience with digital tools and artificial intelligence that help us interpret large volumes of data and better understand the specific needs of every vineyard. This allows us to intervene only where necessary, at the right time and with the appropriate level of intensity, improving grape quality while reducing our environmental impact."