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BIENESIS Begins Deploying 800 Robotic Vineyard Canopies in France and Italy

The French startup says its retractable system shields vines from frost, hail and heat without leaving vineyards permanently covered

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A French agritech startup said it has begun deploying more than 800 retractable robotic canopies in vineyards across France and Italy this year, as growers look for new ways to protect grapes from frost, hail, heat waves and heavy rain without turning vineyards into permanent greenhouse-style structures.

The company, BIENESIS, announced the rollout at VivaTech in Paris on Wednesday and said the installations are part of its Constellation 2026 program. The startup, founded in 2024 and based in Clermont-Ferrand, was spun out of the Michelin Innovation Lab and has been working with the French wine industry since 2022.

Its system, called La Canopée, is designed to cover vine rows only when weather conditions require it. BIENESIS said two robotic arms deploy a technical fabric above the vines in less than one minute and retract it once the risk has passed. The company said the canopy remains out of sight 95% to 98% of the time and can be controlled remotely by smartphone.

The pitch comes as European winegrowers face repeated crop losses tied to climate volatility. In many regions, spring frost, summer hail and extreme heat have become more frequent threats to yields and grape quality. Traditional responses often force growers into a choice between open-air farming, with its exposure to weather shocks, and fixed protective infrastructure that can alter vineyard operations and landscapes.

BIENESIS says its approach offers a middle path. Rather than covering vines all season, the system is meant to intervene only during critical events. The company argues that this preserves the agronomic and visual character of vineyards while reducing losses from short but severe weather episodes.

The startup cited field trials conducted over two growing seasons in Burgundy, where it said the system produced yield gains ranging from 23% to 129% with 13 to 19 targeted deployments. Those figures were provided by the company and were not independently verified.

François Lemaire, BIENESIS chief executive, said precision crop cover could become a key adaptation tool for growers facing climate disruption. He said the company sees future uses beyond weather protection, including reducing crop treatments and improving irrigation management.

The company is also moving beyond wine grapes. BIENESIS said it has started a pilot project with Andros on raspberry production and opened a first plot in Italy as it prepares for broader European expansion.

The technology arrives at a time when vineyard investment decisions are increasingly shaped by climate risk. For growers, even one frost night or hailstorm can erase much of a season’s work. In premium wine regions, those losses carry added pressure because lower yields can affect both farm income and supply for wineries that depend on consistent fruit quality.

BIENESIS did not disclose pricing for the canopy system or identify the growers using it. It also did not provide regional breakdowns for the more than 800 installations announced for 2026.

At VivaTech, the company is presenting trial results and demonstrations of the retractable canopy. BIENESIS was also selected among the event’s Top 30 Tech for Change companies and earlier this year received a Best of Innovation award at CES 2026 in Las Vegas.

For wine producers across France and Italy, the appeal of such systems may depend on whether they can deliver reliable protection without adding too much cost or complexity to vineyard work. The company says its compact folded structure remains compatible with tractor operations, an important point in vineyards where mechanized passes must continue through much of the growing season.

As climate pressures intensify across Europe’s wine regions, technologies that promise targeted protection are drawing closer attention from growers trying to preserve yields while keeping vineyards productive and recognizable as open landscapes rather than enclosed farms.