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New E-Learning Platform Targets Sustainability Gaps

VTskills initiative offers digital training to help small producers adopt precision viticulture amid climate and market pressures

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A new study published yesterday in the journal Proceedings highlights an innovative approach to supporting sustainable wine production in Europe. The research, presented at the 2025 International Conference on Smart Agriculture, describes the VTskills e-learning platform, which aims to help small and medium-sized enterprises (SMEs) in the wine sector adopt precision viticulture practices. The project is a response to recent challenges facing European wine producers, including a 7 percent drop in production in 2023 due to extreme weather and widespread vineyard diseases.

The VTskills initiative is led by a consortium of universities, research centers, vocational training institutions, and industry partners from Italy, France, Greece, and Spain. The project aligns with major European Union strategies such as the Green Deal, Common Agricultural Policy (CAP), and Farm-to-Fork initiative. These policies encourage more sustainable agricultural practices to address climate change and environmental concerns.

Precision viticulture uses digital tools and smart technologies to manage vineyards more efficiently. This approach can improve grape quality and yields while reducing negative impacts on the environment. However, many small wine producers face barriers to adopting these technologies, including limited access to training and resources.

The VTskills platform was developed to address these gaps. It offers online courses designed for higher education students, vocational trainees, consultants, managers, technicians, and farmers. The curriculum covers four main areas: an overview of sustainable precision viticulture (SPV), resilient skills for risk management and business planning, green skills related to soil and water management as well as pest control, and digital skills for data collection and analysis using modern agricultural technology.

The training materials include presentations, videos featuring AI avatars, scientific articles, external video content, and quizzes. All materials are available in the languages of the participating countries to ensure broad accessibility. Students who complete the courses can earn recognized academic credits.

The development of VTskills builds on lessons learned from a previous Erasmus+ project called SPARKLE, which focused on sustainable precision agriculture more broadly. The new platform tailors its content specifically to viticulture and updates training modules based on current needs identified through industry analysis.

According to the research team led by Aikaterini Paltaki at Aristotle University of Thessaloniki, there is a significant need for ongoing education in the wine sector. Studies show that many workers and technical managers in European vineyards have little formal training in agriculture or enology. This lack of technical knowledge can hinder the adoption of new practices that are essential for sustainability.

The VTskills platform is currently available online but has not yet undergone pilot testing or collected user feedback. These steps are planned for future phases of the project. The goal is to create a dynamic learning environment that supports both individual skill development and broader industry transformation toward more sustainable wine production.

The launch of this e-learning platform comes at a time when European wine producers are under increasing pressure from climate change, market disruptions caused by events like the COVID-19 pandemic, and growing consumer demand for environmentally friendly products. By providing accessible training in precision viticulture techniques, VTskills aims to help SMEs adapt to these challenges while supporting the long-term viability of Europe’s wine industry.