



# innovation challenge 2023

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Press release

## VITICULTURE, ENOVITIS IN CAMPO: THE WINNERS OF THE INNOVATION CHALLENGE 2023 ANNOUNCED

(Polpenazze del Garda – Brescia, 26 May 2023). Automation, precision and reduction of the environmental impact, but also electrification, artificial intelligence and versatility. These are the key words of innovation in the vineyard according to the Lucio Mastroberardino Innovation Challenge 2023. The competition held by Enovitis in Campo, the dynamic event organised by the Unione italiana vini (7-8 June, Azienda Agricola Erian – Cantina Bottenago, Polpenazze del Garda – BS) has selected the innovative projects that stand out in terms of technical progress, efficiency and functionality, sustainability, practicality, environmental impact and quality of work. The winners, announced today, are divided into the two competition categories “Technology Innovation”, attributed to works that show significant elements of progress according to different qualitative parameters, and “New Technology”, reserved for technologies, machines or products that stand out in at least one of the evaluation parameters included in the competition regulations.

In the Technology Innovation category, the winners are BFM's CM-SNE electric synchronised pruning machine and COBO's autonomous driving system based on artificial vision, Vision Lane Navigation. The “New Technology” winners, on the other hand, include the Landini Trekker 3-085 Compact tracked tractor by Argo Tractors, the Mister L aerosol dispenser by CBC (Europe), the VRT kit for pesticide treatments by C.I.M.A., the release methods of the active substance CRC by Manica, the multi-functional climatic irrigation system by Rivulis, the Vignamatic Cultivator by Sicma and the STX-SUITE automatic guidance layout system by Stonex.

*Below are the motivations behind the selection of the winners.*

### **TECHNOLOGY INNOVATION AWARD:**

#### **BFM – CM-SNE pruning machine**

BFM's CM-SNE electric synchronised pruning machine makes a significant contribution to the electrification of operating machines in the vineyard. The machine runs on electrical power from the tractor system, at low voltage and with the normal battery supplied, thereby avoiding the use of an independent hydraulic system and the problems of oil overheating, reducing fuel consumption thanks to better energy efficiency and preventing the risk of pollution due to accidental leaks.

#### **COBO – Vision Lane Navigation**

COBO's Vision Lane Navigation implements computer vision for automatic driving, allowing this very useful function to be used even in areas where satellite coverage is scarce or non-existent. It also allows for operation based on the real operating conditions (therefore not with previously loaded maps), thereby increasing the level of safety related to the use of automatic driving. The kit can also be installed on tractors already used by the owner.

### **NEW TECHNOLOGY:**

#### **ARGO TRACTORS - Landini Trekker 3-085 Compact**

The Trekker 3 vineyard tracked tractor stands out for the availability of both steel and rubber tracks and for the improved ergonomics of the driving position, where the platform suspended on a silent-block and the original

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combined controls of the steering clutches also stand out. This very compact tractor is an important contribution for viticulture in extreme conditions making it easier to work in areas where landscape and hydrogeological factors are important as well as socio-economic factors.

#### **CBC (Europe) – Mister L**

This is a pheromone dispenser for the control of grapevine moth that introduces a concept of actively regulated product distribution based on the ethology of the insect and the phenological stage of the crop. The distribution of the pheromone is carried out by an aerosol and only at the time of the day when *Lobesia botrana* mates, varying as the season progresses and constantly measuring the environmental temperature. It allows for a drastic reduction in the number of diffusers per hectare and lasts for 150 days of treatment. Its reduced size and weight reduce waste and it is simple to dismantle into individual components for disposal.

#### **CIMA – VRT kit**

Cima's VRT kit applies and combines precision viticulture with variable rate technology that enables the user to differentiate and adapt the volumes of pesticide treatments according to the areas of the vineyard, previously identified as not homogeneous by drawing up prescription maps at variable rate, defined through Google Earth and GPS. It identifies the variability of vegetative expression present on the plot, allowing for the use of plant protection products in a site-specific way and enables the user to file the data for subsequent consultations.

#### **MANICA – active substance CRC release method**

The combination of copper and zeolite guarantees the gradual release of copper ions. This allows the user to decrease the washout by increasing the persistence and thus allowing for a reduction in the dosage, while maintaining the effectiveness of the treatment. It is produced using regenerated copper and Italian zeolite, reducing extraction and transport costs, in line with the principles of the circular economy.

#### **RIVULIS – Climate-smart irrigation**

This multi-functional climate-smart irrigation system is managed through a wireless network that allows the user to deal with multiple stressors of the vineyard, exacerbated in a context of climate change. It is an interesting contribution in the field of vineyard automation, climate adaptation and the ecological and digital transition of viticulture. It allows the user to limit the damage from scorching of the clusters and to limit the damage from late frosts by irradiation. The nebulisation system is located near the clusters and connected to a network of sensors capable of continuously acquiring microclimatic data in order to manage the opening and closing of the solenoid valves automatically and remotely based on the threshold parameters.

#### **SICMA – VIGNAMATIC cultivator**

The machine effectively combines the mechanical weeding of the inter-row and sub-row soil in one passage and is also versatile where there is the alternating management of tilled inter-row and grass-covered soil. Thanks to a hydraulic system, it is in fact possible to lift just the central ploughshares without lifting the entire frame, thereby excluding them from the tilling operations and keeping the centre of gravity low without compromising manoeuvrability.

#### **STONEX – STX SUITE**

The STX Suite combines an automatic guidance system and a Pauselli pole-driving machine (able to operate even on high slopes) for the positioning of intermediate and head poles in vineyards, making the execution of the operation simple, safe and fast. The system allows the user to control the machine remotely via remote control, requiring only one person for the operation. The software allows the user to both design the work and execute it directly in the field, operating in a fully automatic mode.