

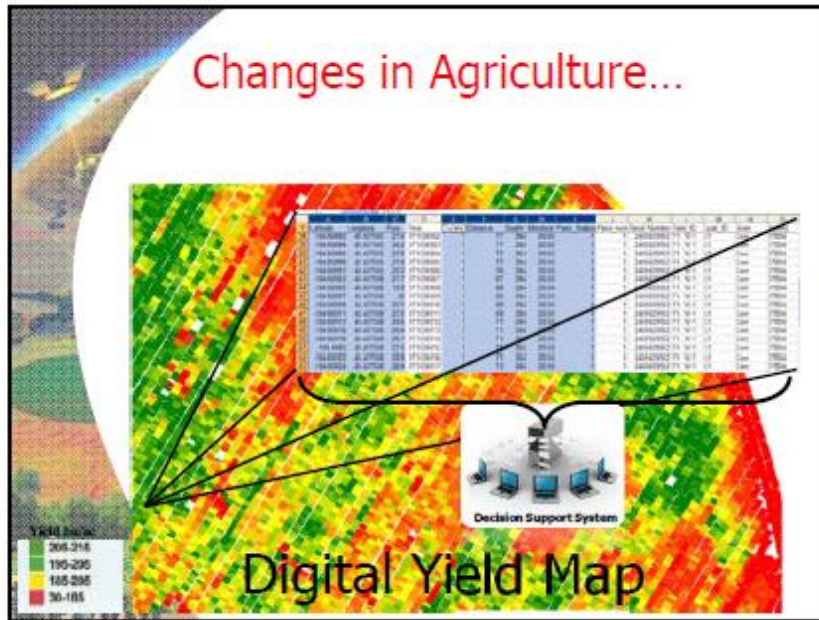


Nuevos sensores y tecnologías para la monitorización on-the-go del viñedo

Javier Tardáguila



More data, more info in modern agriculture....



Information age in agriculture

Vineyard assessment



Vineyard assessment



Yield

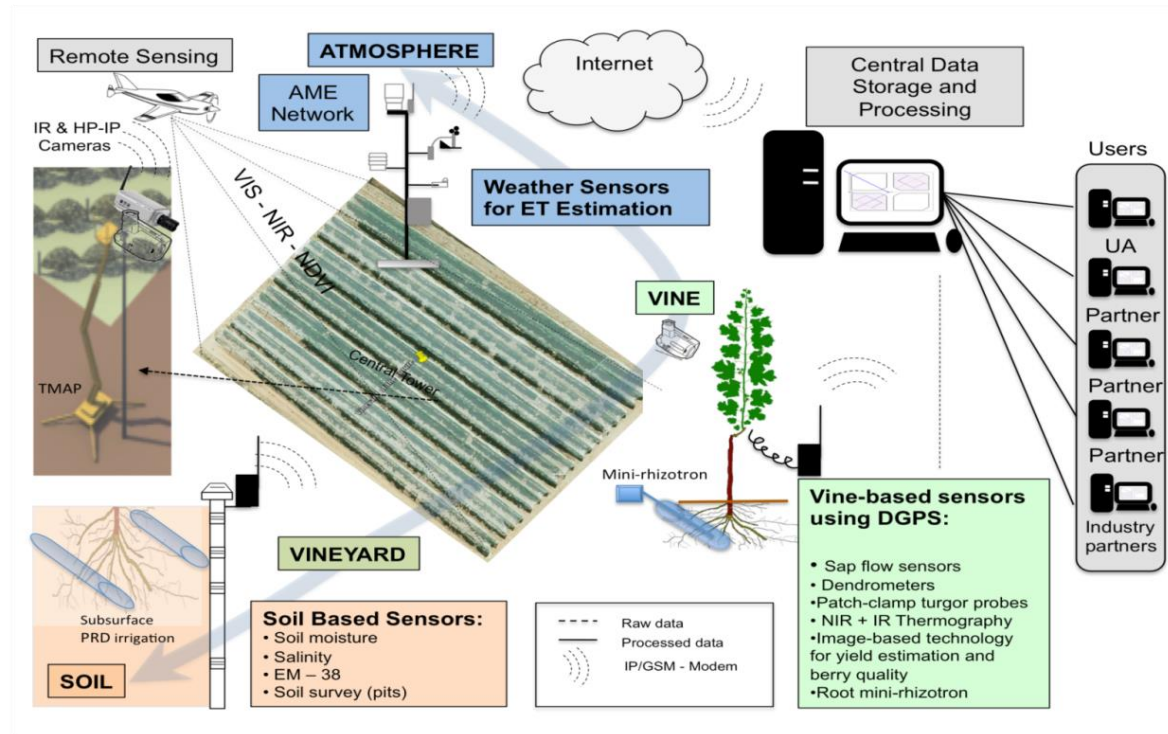
Nutritional status

Grape composition

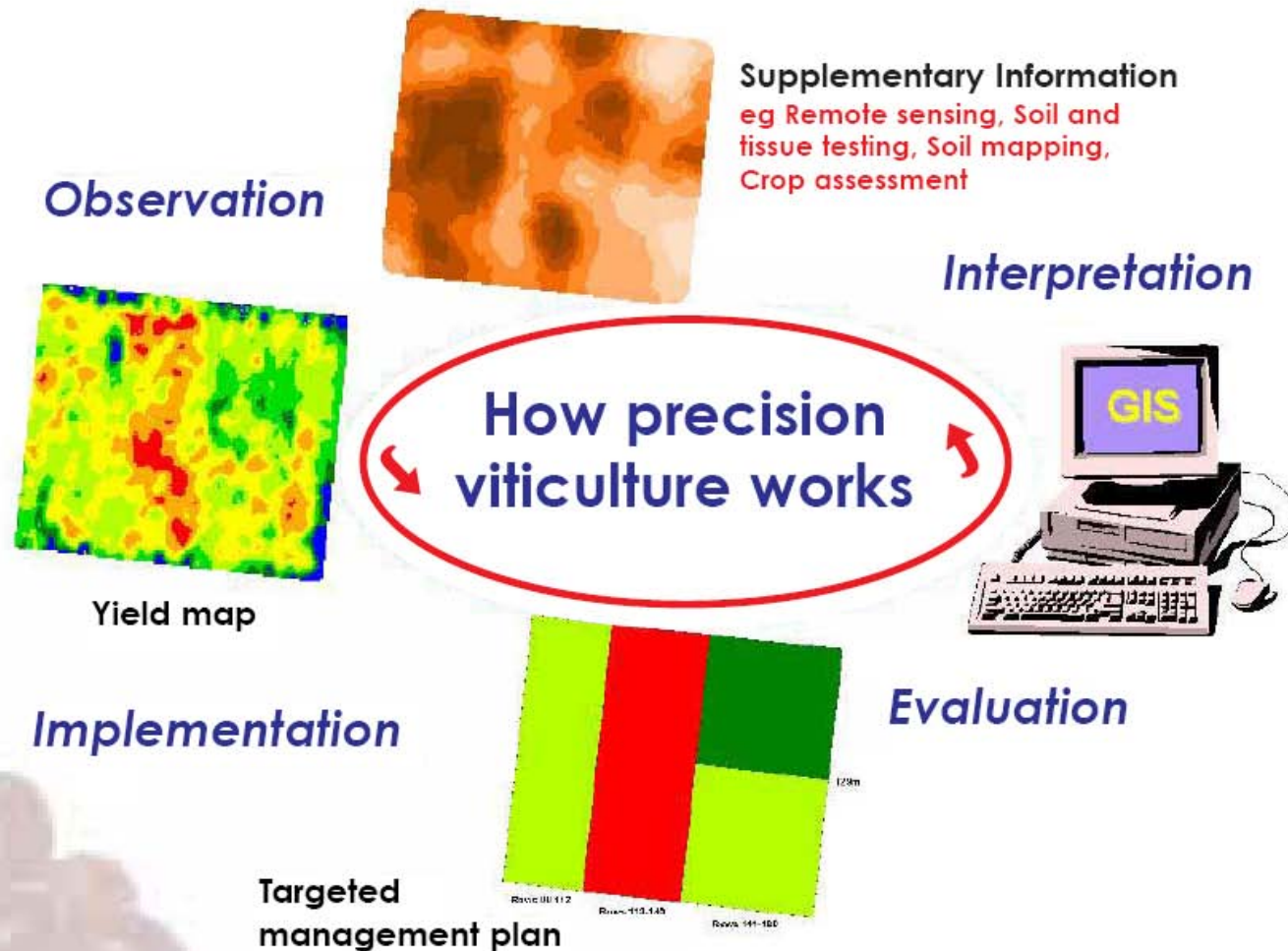
Vegetative status

Water status

Vineyard of the Future



Televitis group, 10 years working on precision viticulture



Spatial variability of the vineyard



Non-invasive and rapid sensors



Proximal and remote sensors in viticulture



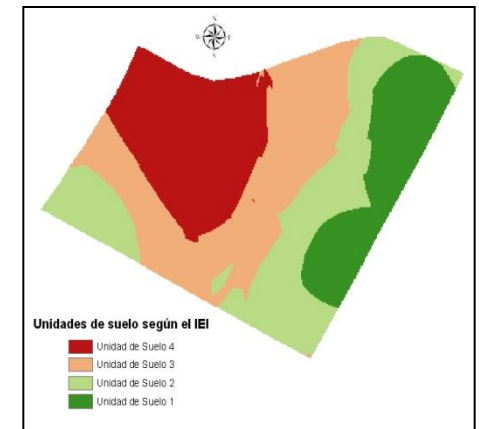
**What viticultural parameters can
be assessed using emerging
technologies?**

Why ?

Vineyard soil



Vineyard mapping using a soil profiles



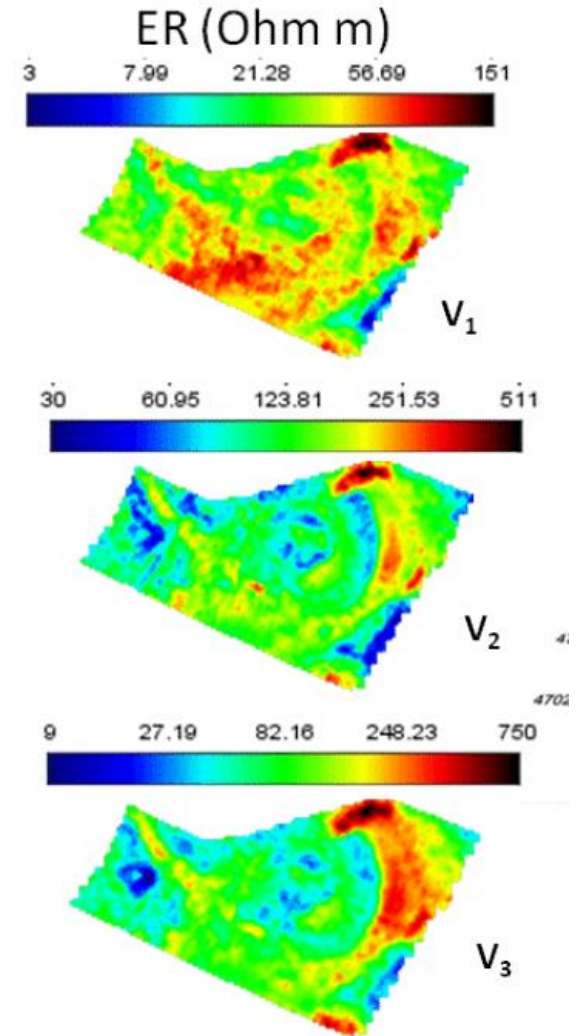
0 50 100 150 Meters

Tardaguila et al, 2011

Soil electrical resistivity assessment on-the-go



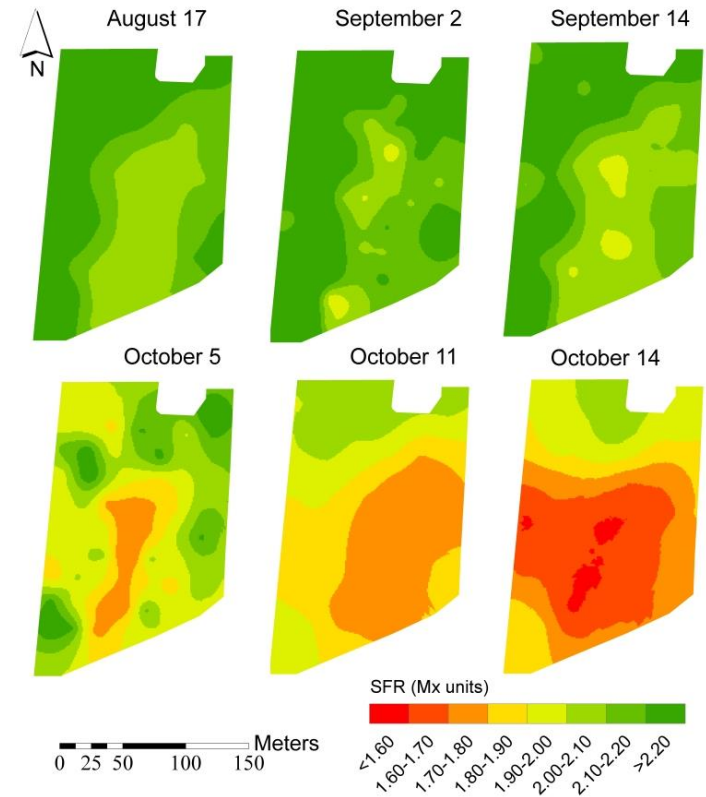
Rossi et al. 2013



Vegetative status



Leaf nitrogen content assessment on-the-go

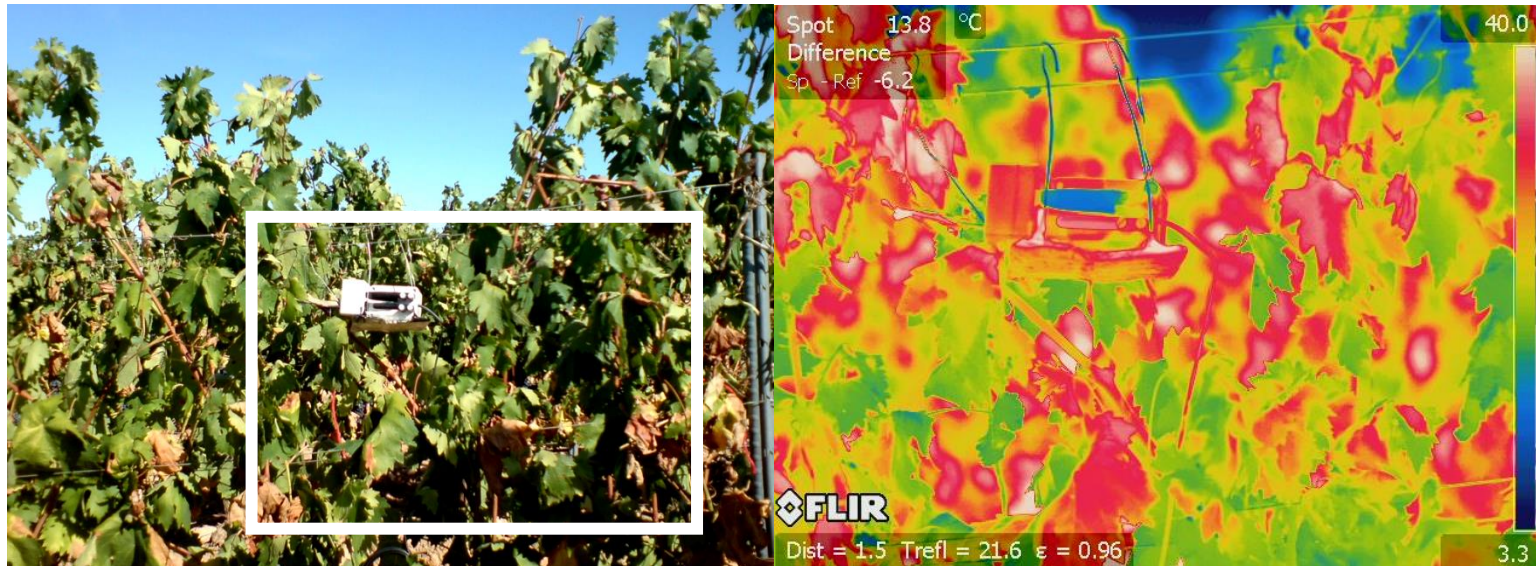


Vineyard water status

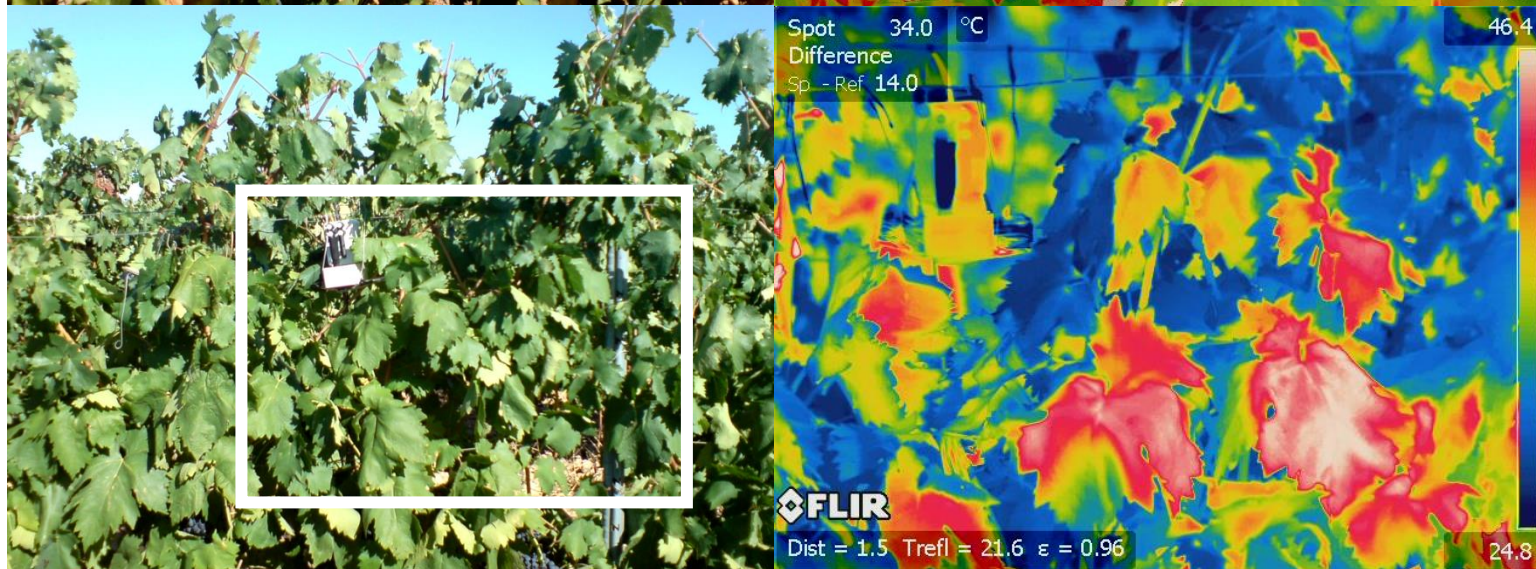


Thermal imaging to assess vineyard water status

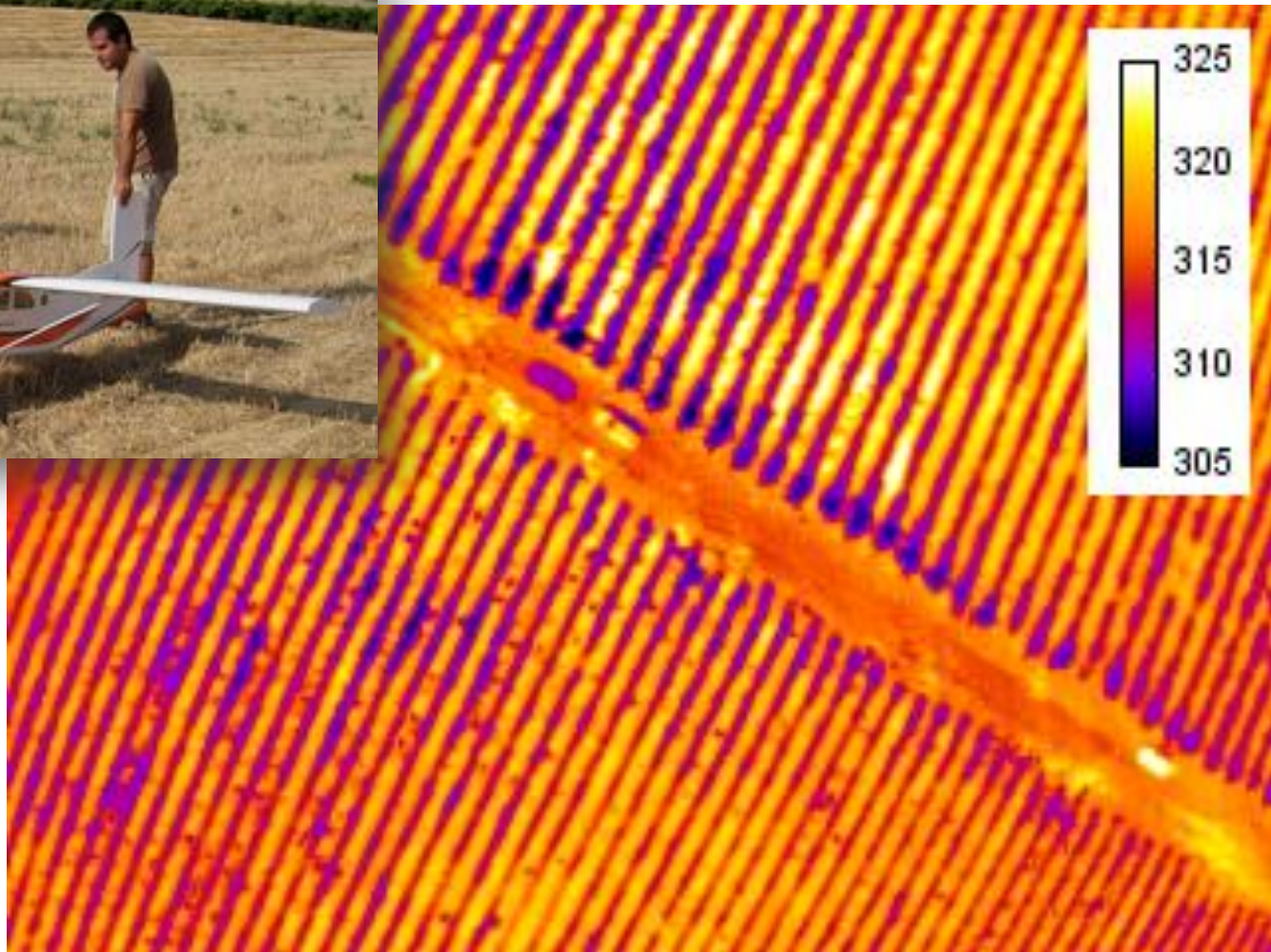
Stress



No stress



Thermal image obtain by UAV of the vineyard



Vineyard water status assessment on-the-go



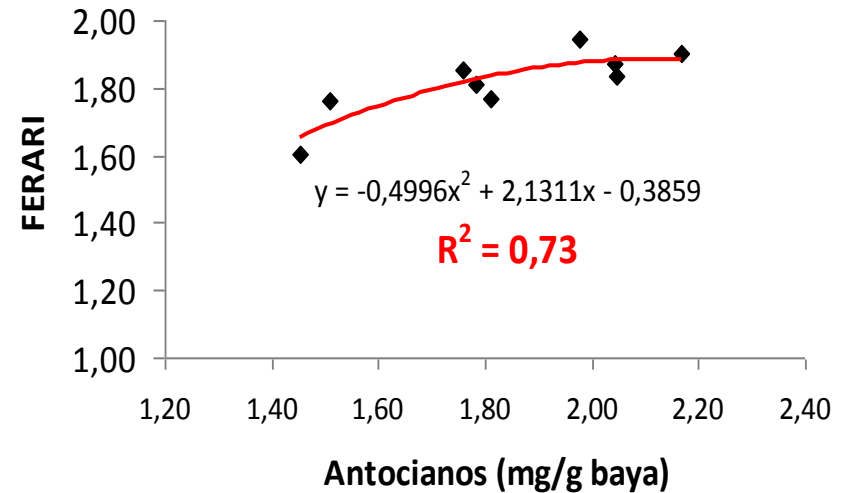
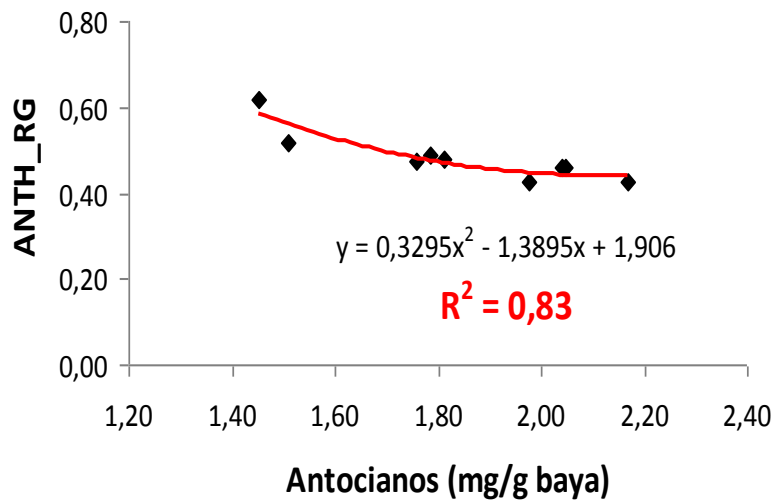
Grape composition



Multiplex: predicting grape and wine colour



Prediciting grape colour using Multiplex



Diago et al. 2013 JIVV

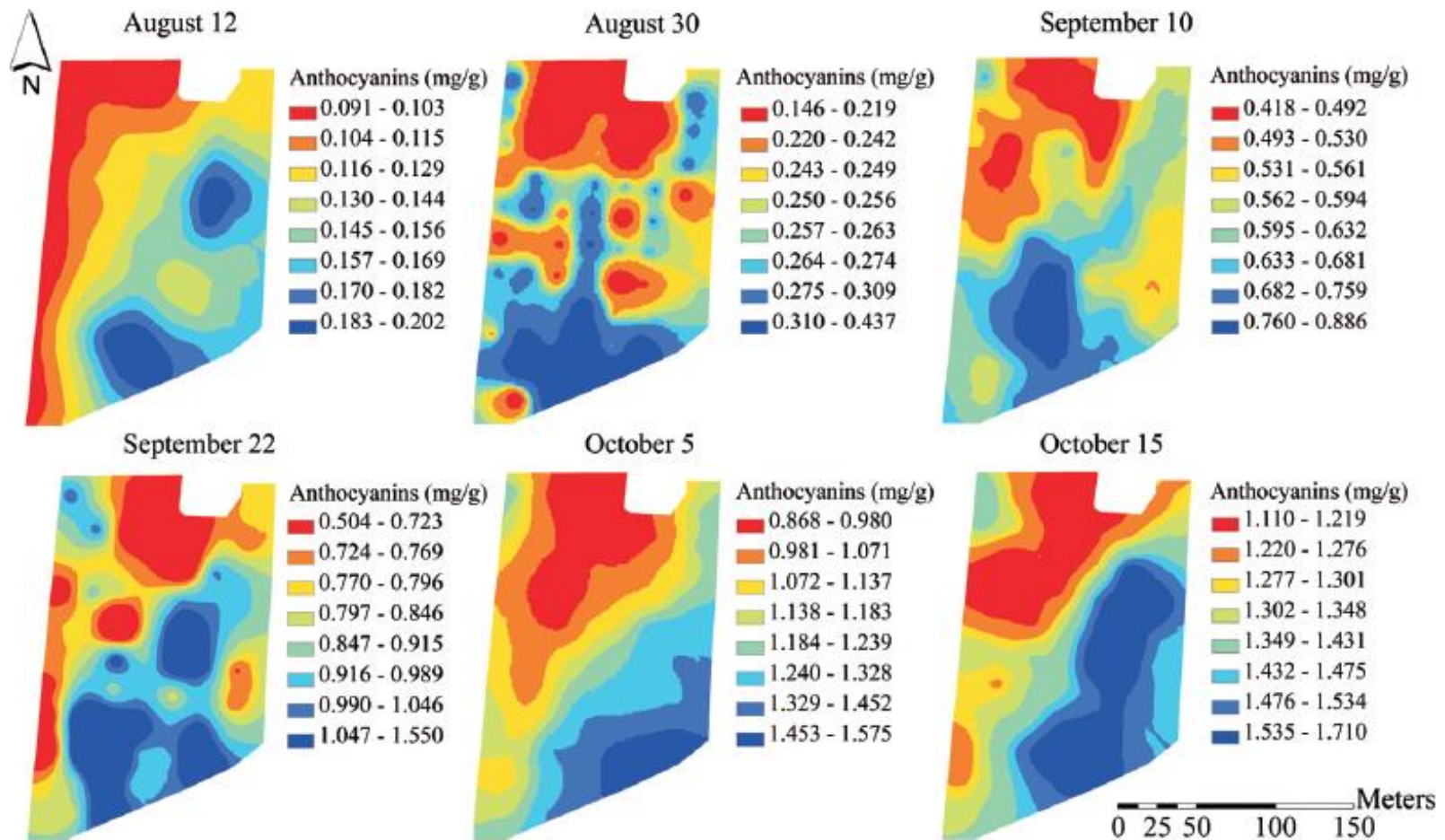
Grape colour assessment by VineRobot



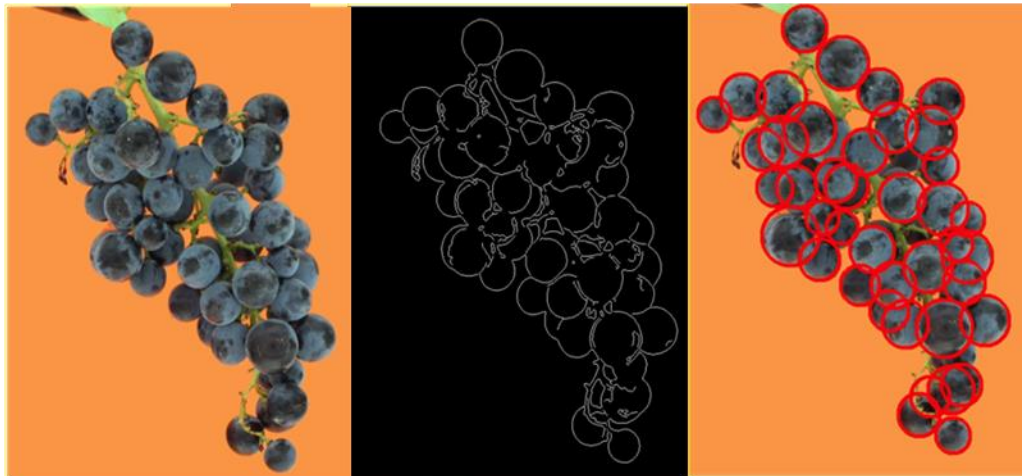
The VineRobot project has received funding from the European Union's Seventh Programme for research, technological development and demonstration under Grant Agreement No 610953.



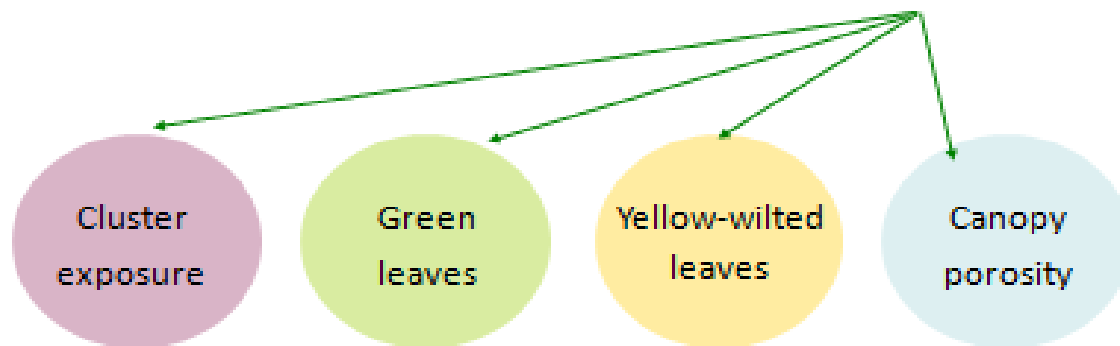
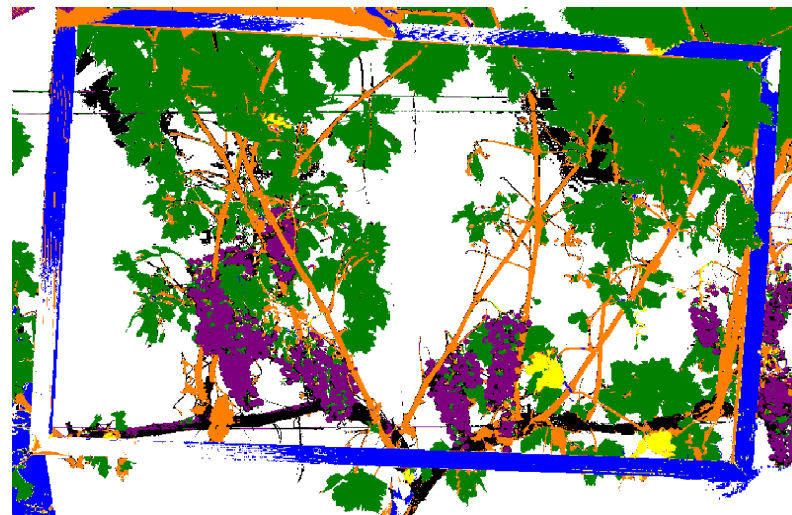
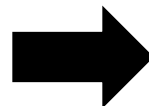
Spatio-temporal variability of anthocyanin content



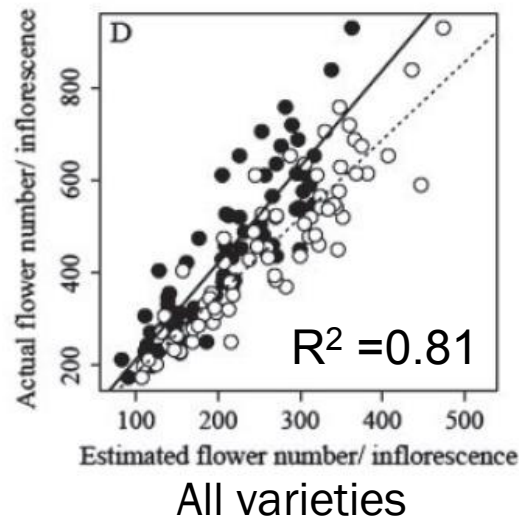
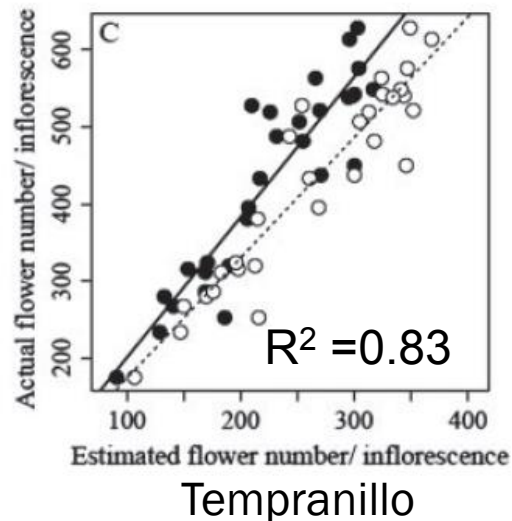
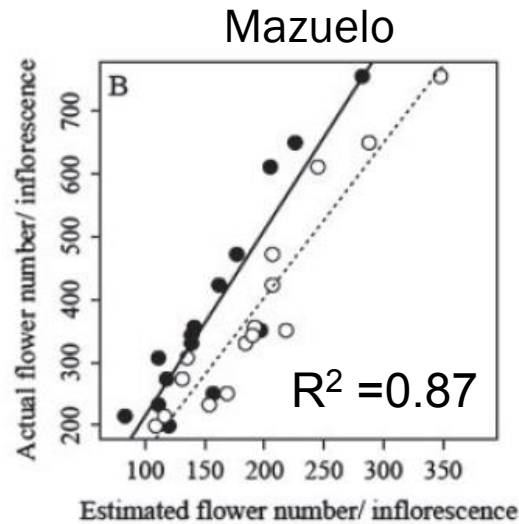
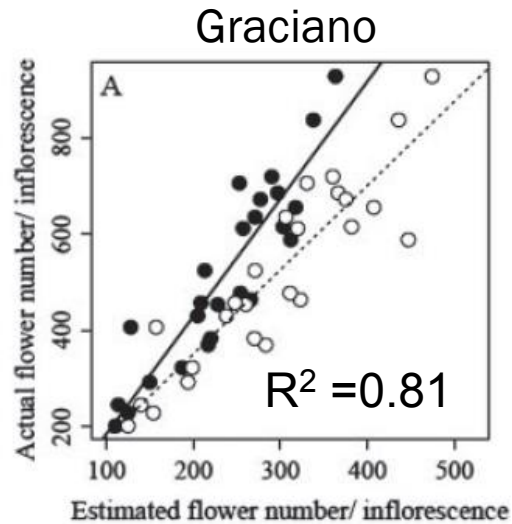
Yield components



Machine vision in viticulture



Assessment of flower number under field conditions by image analysis



**Precision = 92.9%
correctly detected**



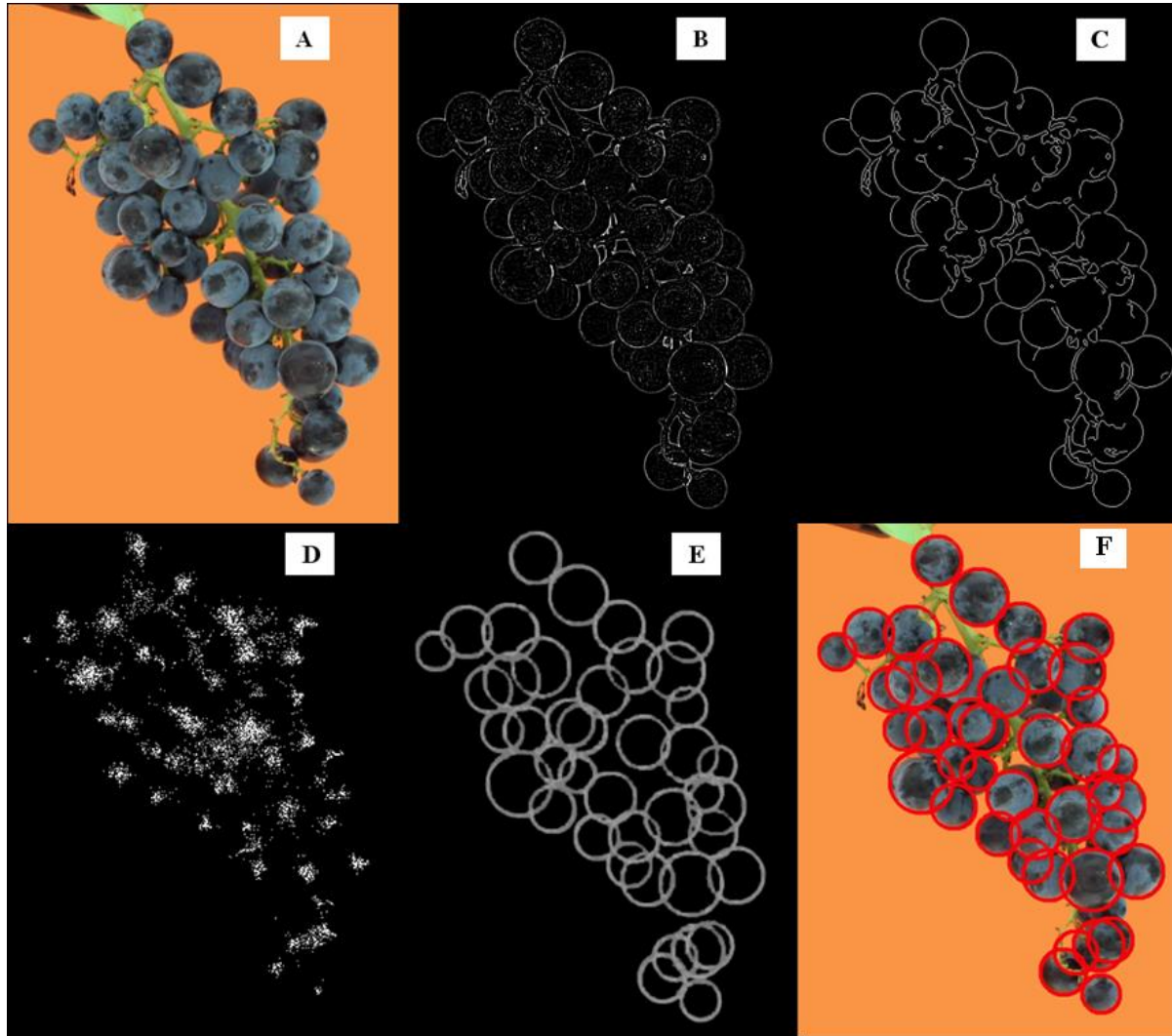


One of the first worldwide available Apps for viticulture

Download it free!



Detection of individual berries by image analysis



Yield forecast on-the-go by image analysis



VineRobot



SIVIS

LES VIGNERONS DE

BUZET

S'engager autrement !



avanzare

nanomaterials... part of our everyday life

Passion for viticulture

"When you can measure what you are speaking about and express it in numbers you know something about it"

William Thomson



Javier Tardáguila



María Paz Diago



Arturo Aquino



Borja Millán



Clara Rey

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¡ Muchas gracias !

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