

Sweet science, sweet outcome

What's good for the sugar industry may prove just as effective in Australia's vineyards as scientists harness cutting-edge mapping technology to better manage harvest to improve quality control from vines to wines.

INSPIRED by impressive results in Queensland's sugar industry, one of Australia's biggest wine producers fortified this year's vintage with cutting-edge mapping technology.

As it shares the battle against exchange rates, global economics and local oversupply, Treasury Wine Estates (TWE) has been trialling Geographic Information System (GIS) technology from industry leaders Esri Australia to streamline harvesting and bolster productivity.

The trial – called Project Sweet – is based on an award-winning Esri GIS technology solution rolled out by the Herbert Resource Information Centre (HRIC) – that revolutionised sugarcane production in Far North Queensland.

The technology creates a digital map providing a real-time view across the entire grape intake supply chain, including harvesting, transport and crushing at the winery.

TWE sustainability regional manager Gioia Small said under the guidance of HRIC, TWE would see the technology optimise efficiencies throughout the supply chain.

“The multitude of grape varieties and qualities provide challenges for winemakers because they must be kept separate to ensure the integrity and quality of the wine,” Small said.

“Developing an intake schedule

for each day's deliveries requires a high degree of coordination between harvesters, carriers and the wineries,” she said.

“Traditionally this is done by phone, a method that provides no clear way to visualise in real-time the progress of each link in the supply chain – which can lead to inefficiencies and delays that can affect grape quality.

“GIS technology brings all this information together on common interfaces that are readily updatable and accessible throughout the supply chain.

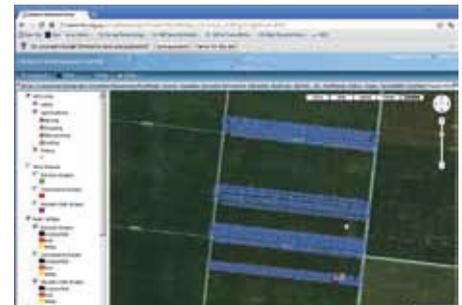
“This provides flexibility and allows the winery to be ready for unforeseen occurrences, such as when delivered tonnes vary from expected tonnes, deliveries are delayed, or arrive early.

“It's also a boon for wine consumers, whose next great glass of wine could be thanks to cutting-edge, GIS technology.”

Project Sweet took place during the six-week harvest at TWE's Rosemount Rycroft winery in McLaren Vale, South Australia.

Small said at the heart of the system is a series of interfaces, called dashboards, which provide maps and data for each link in the supply chain.

“The harvesting dashboard provides a live map of where the harvesters are, what grape variety they are harvesting, how much has been harvested and an estimated completion time,” Small said.



GIS technology provides a real-time view across the entire grape intake supply chain, including harvesting, transport and crushing at the winery.

“The logistics dashboard displays real-time mapping of truck locations on the road, the time they left the vineyard, their destination, an ETA and summary of their progress, and when their load is scheduled for crushing.

“The winery dashboard features the same logistics map and data about the trucks, as well as cumulative figures on the fruit that has been loaded, delivered and what is still remaining.

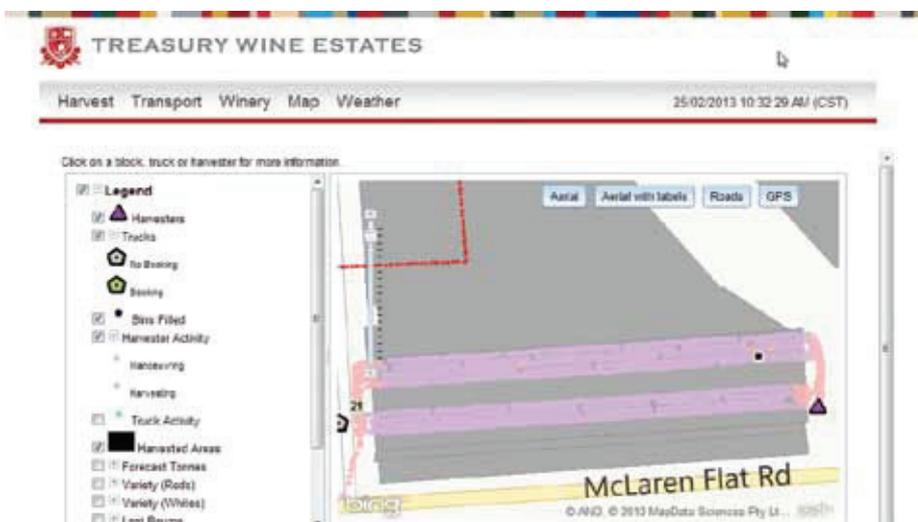
“Having this accurate and timely information at our fingertips will enable us to make informed business decisions, and ensure the optimal efficiency of each link in the supply chain, which is integral to the efficiency of the intake as a whole.”

Esri Australia GIS specialist Peter Wilmot said both TWE and HRIC should be commended for spearheading a new approach to agribusiness operations with their creative use of GIS technology.

“HRIC received international acclamation when they first used GIS technology to completely transform the way sugarcane was farmed in Australia,” Wilmot said.

“It's fascinating to see them take what they've learnt and use it to overhaul traditional winemaking operations.

“Both HRIC and TWE are providing an outstanding example of how GIS can be used to analyse and visualise agricultural environments and workflows to increase production, reduce costs, enhance food security and manage land more efficiently.”



The harvesting dashboard provides a live map the locations of harvesters, grape varieties, load levels and estimated completion times.

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