Wine Australia

Media Release

Thursday 6 September 2018

AI to map Australia's 65 wine regions row-by-row

The vineyards in Australia's 65 wine regions will be accurately mapped for the first time using high-resolution satellite images and advanced machine learning in a national census of Australia's winegrape area.

Wine Australia Chief Executive Officer Andreas Clark said, 'the national scan is an exciting opportunity as it will allow Australia for the first time to have a scalable and repeatable method to measure vineyard area.

'Through the investment, the maps will also be delivered in an online interface that will be able to be accessed by Australia's grapegrowers', he said.

By mid-2019, Consilium Technology's world leading agricultural artificial intelligence software GAIA (Geospatial Artificial Intelligence for Agriculture) will deliver a row-by-row census of all of Australia's vineyards using high-resolution satellite images and advanced machine learning.

The scan will be repeated for two years, producing maps for three consecutive vintages.

Wine Australia's agreement with Consilium Technology follows a successful pilot undertaken earlier in 2018, which returned an outstanding accuracy of more than 90 per cent for scans of the two trial regions Margaret River and Tasmania.

'GAIA's pilot of Margaret River and Tasmania demonstrated the technology can deliver accurate, timely and cost-effective information about Australia's vineyards and it is exciting that its capabilities will continue to grow as it learns from the information it receives. We are extremely pleased with the results', Mr Clark said.

GAIA's first test was conducted in Margaret River where vineyard locations were already known, and a quantitative analysis of accuracy performed on the results. A second demonstration was then run using the trained algorithm from the previous analysis to demonstrate its learning capability, which showed a 5 per cent improvement on the previous scan.

Tasmania provided GAIA with an unknown space to work with and the added complication for the software of other crops that have a very similar appearance to vineyards.

'GAIA stood up to the challenge and we're excited to see how it performs against similar obstacles in other wine regions', Mr Clark said.

The first national scan will be delivered in mid-2019 and will include the geolocation of every vineyard block in Australia, the area of vineyards for each geographical indication and the length of the vineyard rows in each region.

It is anticipated that the information from the scan will also be beneficial to Australia's biosecurity activities and wine label integrity. To improve the quality of the reporting, grapegrowers will be asked to identify the varieties of the vineyard plots from the scan.

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About Wine Australia

Wine Australia supports a competitive wine sector by investing in research, development and extension (RD&E), growing domestic and international markets, protecting the reputation of Australian wine and administering the Export and Regional Wine Support Package.

Wine Australia is an Australian Commonwealth Government statutory authority, established under the Wine Australia Act 2013, and funded by grape growers and winemakers through levies and user-pays charges and the Australian Government, which provides matching funding for RD&E investments.