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Australia's Golden Grove Nursery embraces Data-Driven Analytics for sustainable water management

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Hitachi Vantara, the modern infrastructure, data management and digital solutions subsidiary of Hitachi, Ltd. (TSE: 6501), andÂ Golden Grove Nursery, the dominant supplier of citrus nursery trees to theÂ QueenslandÂ citrus industry (Australia), have applied artificial intelligence (AI), advanced analytics and sensor technology to inform data-driven irrigation water management practices for sustainable, environmentally friendly food production.

Golden GroveÂ has installed an innovative combination of weight scales, soil moisture sensors, and analytics developed for horticulture use by Hitachi Vantara, Greenlife Industry Australia, Applied Horticulture Research, and ICT International. This solution measures and assesses moisture content in the growing media of pots, as well as crop water use, to provide insights that inform practices such as irrigation and fertilization decisions. The implementation includes a free-standing weather station to monitor the microclimate and a range of pH, temperature, soil moisture, weight, and electrical conductivity sensors to monitor water quality and leachate.

Golden Grove Nursery DirectorÂ Wayne Parr said "With this project we are using the power of data to improve our irrigation management processes which will, in turn, reduce the overheads of water usage, improve environmental outcomes, and ensure we maintain compliance with regulatory requirements."

As an alternative to the manual process Golden Grove can automatically test the water every 15 minutes. Real-time data is uploaded to the cloud and presented on one screen â?? the Hitachi Supply Chain Control Tower, modified to holistically measure production nursery productivity and environmental stewardship by integrating sensor data, weather forecasts, and biophysical models. Using Hitachi's Lumada Manufacturing Insights, nursery personnel can view predictive analytics like irrigation requirements.

This digital smart farm project is part of a broader sustainable horticulture program supported by funding from the Australian Government's National Landcare Program as well as Hort Innovation, with co-investment from Applied Horticultural Research, Greenlife Industry Australia, AusVeg, Freshcare, Growcom, Australian Banana Growers Council, Hitachi Australia Pty Ltd and Hitachi Vantara LLC.