



Sentek Quarterly Newsletter

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sentektechnologies.com



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A word from Managing Director Nick Ktoris

Welcome to the latest edition of Sentek's newsletter.

I am hopeful that this newsletter will play an important role in highlighting the excellent work being undertaken by our staff, dealers and partners.

We encourage you to submit ideas for case studies and to provide feedback on the content of the newsletter.

In the past 31 years Sentek's major market for its soil moisture monitoring technologies has been [agriculture](#). Demand for this technology in just the last few years has grown rapidly. Why is that?

It is time to talk about water's significant role in the food production process, and the importance of water conservation. Here are some important facts:

- Agriculture cannot exist without water
- Irrigation is regarded as one of the key practices to increase food, fibre, feed and bio-fuel production
- Water use has been growing at more than twice the rate of population increase in the last century
- Water supplies are falling while the demand is dramatically growing at an unsustainable rate
- Currently 1.2 billion people are living in countries or regions with absolute water scarcity, almost one-fifth of the world's population.
- Agriculture accounts for 70% of water use globally. Irrigators are thus the custodians of water.



If you can't measure something, you can't understand it. If you can't understand it, you can't control it. If you can't control it, you can't improve it. This is what makes Sentek so special as we can help to provide some of the insights required to save water and much more.

Sentek would like to warmly invite our dealers, distributors, integrators and growers to our Annual Dealer Conference, held on 12-13 July 2022. The conference will be held both in-person in Adelaide, Australia, and online via Zoom. See the following page for further details.

Along with our leadership team and the Board of Directors, we would like to take this opportunity to thank all for your continued support. I am consistently inspired by your efforts. Thank you all for everything you have done and will do for Sentek.

Enjoy reading the rest of the Sentek newsletter.

Annual Sentek Dealer Conference

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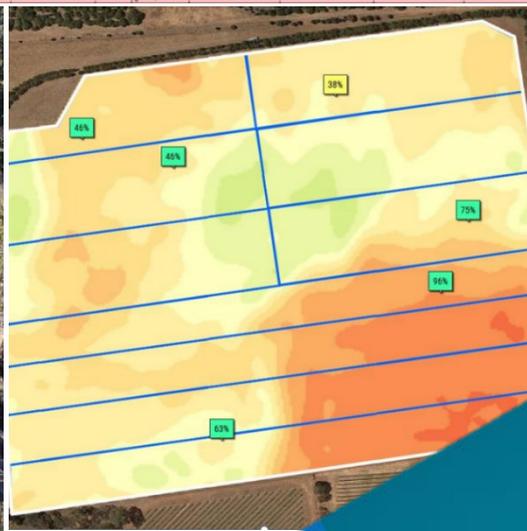
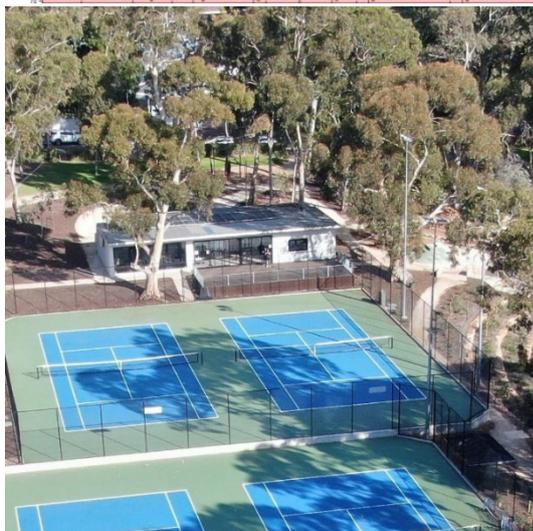
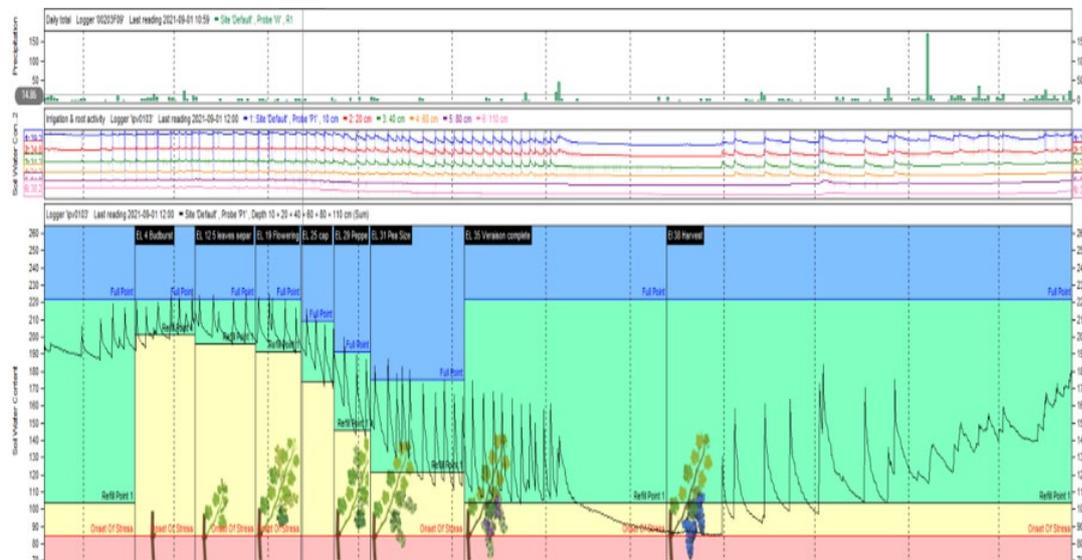
A jam-packed agenda featuring advanced software training, showcasing of new products, and case studies from all over the globe promises to be as exciting as it is informational.

Find more information including a draft agenda here:

<https://orders.sentek.com.au/dealer-training-conference>

To register your attendance in-person or online, please fill out this quick form:

<https://sentektechnologies.com/2022-sentek-dealer-training-conference-attendance/>



New and Updated Products

VIC-E_{Ce} Conversion in IrriMAX Live

The first field calibration equation correlating VIC measurements of TriSCAN to E_{Ce} samples (equivalent Electrical Conductivity of a saturated paste extract) has been completed in conjunction with Virginia Tech.

Method Summary

The full method used is described in detail on our webpage:

<https://sentektechnologies.com/uncategorised/sentek-volumetric-ion-content-vic-conversion-to-ece-virginia-tech/>

Three TriSCAN [Drill & Drop](#) 60cm probes were installed adjacent to one another at the site. Irrigation water with salinity of 0dS/m; 3dS/m and 6dS/m was infiltrated around each probes, ensuring the wetting front moved beyond 60cm. After drainage was returned to Field Capacity, the VIC reading was noted and soil samples were taken around and adjacent to each sensor measuring depth on the three probes. The texture and site location were also recorded before the samples were sent for laboratory analysis for E_{Ce}, CEC and soil textural data (% sand, % silt and % clay).



Benchmarking field setup

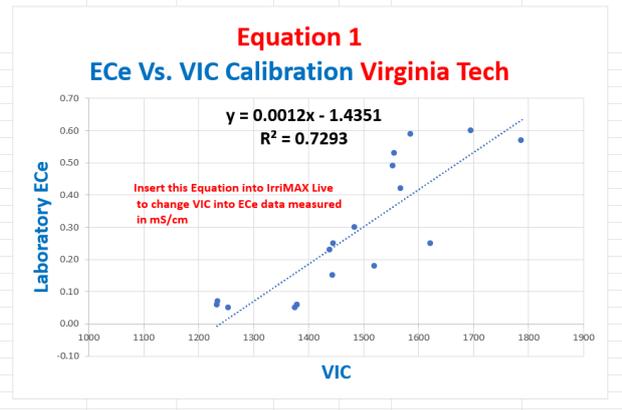


Sampling

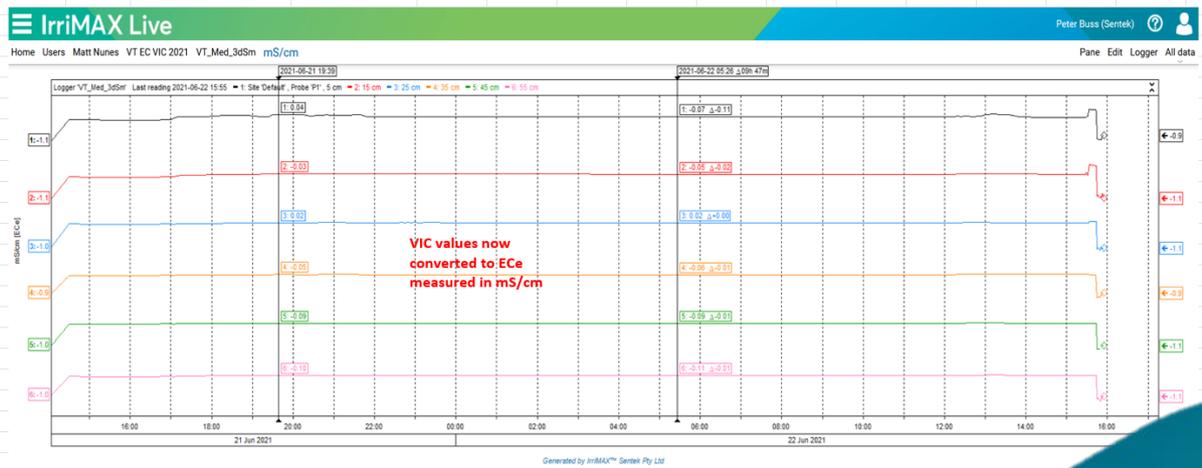
Results and Calibration

Equation 1 represents the first results for what Sentek plans to be a library of equations.

This equation can then be applied to the data recorded by the TriSCAN sensors in the field to convert VIC to EC_e using the data adjustment function in IrriMAX Live. Insert equation "Multiplier" and "Constant" as shown below:



The result is shown below. VIC data have now been converted to EC_e measured in mS/cm.



Quarterly Activities

Hort Connections

Sentek's Marketing Coordinator Amber Venning, Australian Regional Manager Medi Zaboli, and Pat Menkens of Menkens Irrigation Services – one of Sentek's longest-running dealers of 28 years – exhibited Sentek's products and services at Hort Connections 2022 in Brisbane, Queensland.

Hundreds of attendees and fellow exhibitors displayed interest in Sentek's offerings that are popular with vegetable growers and researchers, a particular interest theme was Sentek's Bluetooth Drill & Drop probe, which Medi and Amber showed the various sensor depths and connection to the Sentek Connect app live with a working probe.



Nuriootpa AgTech Field Day

Sentek's Australian Regional Manager Medi and Marketing Coordinator Amber had the opportunity to exhibit and present at the Nuriootpa Field Day in May. The event had a great turnout where they showcased Sentek's products on a tour of the Research Centre and had one-on-one discussions with growers and distributors.



Galcon visit to Australia/NZ

[Galcon Irrigation](#) staff Yoav Tregerman and Ofer Epstein visited growers and dealers in Australia and New Zealand in June 2022. In Virginia, SA, they met with [Fertijet](#) users and discussed Galcon products and uses, before coming to Head Office in Adelaide. The Sentek Sales & Marketing team took them for the famous Sentek 'Innovation Soup' at the Adelaide Central Markets before taking them to the beautiful Henley Beach in the afternoon. ANZ Regional Manager Medi joined Yoav and Ofer for their visit to New Zealand.



Capsicum grower currently using Fertijet which grows in soil inside greenhouses.



Fertijet user growing capsicums and zucchinis. Significant yield gains and savings were realised by reducing fertiliser usage.



Europe Visit

Manager of Sales & Marketing Rob Guy, and European Regional Manager Paolo Antini met up at [Agralis](#)'s new facilities in France and updated forecast and discussed new angles of business.

Following their visit to France, Rob and Paolo visited Inta and Regaber in Spain to train their staff on IrriMAX Live functionalities. In Murcia, Spain, they met two research groups working on the irrigation management in the Mar Menor and who have installed over 100 Sentek probes.



Kiwi Meeting Calabria Region

In collaboration with Winet and Agricola Guzzon Paolo had a meeting with 60 kiwi grower (+20 online), including agronomists and cooperative and presented the technologies and case studies from the Latina area. Supported by Zespri and "Kiwi passion" it was a very successful event.



EnviroSCAN Deep Installation

In May, Sentek dispatched these [EnviroSCANs](#), between 4 and 6 metres in length, to [Global Groundwater](#) in Western Australia. It is not often we manufacture and package probes for deep installation, however our EnviroSCAN can be customised to reach depths of up to 40 metres!



Staff Member Profile Feature

Alka Singh, Technical Writer & Training Coordinator

What do you do at Sentek?

I create clear and concise material, take care of editing and proofreading tasks, and maintain a library of technical documentation. I do research and gather technical information, and study target audiences before the product is released – I thoroughly test whether users understand the newly developed material, collaborating with engineers, developers, and other technical specialists to ensure that they know the subject. I also provide up-to-date trends and developments in the industry by producing electronic documentation in addition to hard-copy manuals.



What do you like most about working for Sentek?

I love a little bit of everything – the planning, the communication with managers and the creative aspect. I love trying out a new idea, getting a chance to get my vision on board. Coaching, sharing, and building educational material and documents following an interactive session. I also enjoy learning new technology, and collaborating with the team including organising smaller training programs.

What projects are you currently working on?

Most of the projects I am working on are ongoing. This includes IrriMAX Live training module creation and working on Sentek Modem User Manual Work on new mobile apps for All-in-One and Sentek modem.

What do you like to do in your spare time?

I enjoy cooking, which helps me focus on detailed instructions and procedures; this is very important in my line of work. Good food also helps me relax and stay healthy. Also, I enjoy small skits and role play with my two beautiful children; we recently recreated the famous Cinderella story where I was the nasty stepmom! I enjoy reading suspense/thriller/detective novels and mythological storybooks and learning about history and the origin of humankind. My favourite writer for suspense thrillers is Agatha Christi and favourite book is *Endless Night*.

Look out for Alka at our upcoming Sentek Dealer Conference!

Case Study: Continuous Improvement via Step-by-Step Innovation

Written by Rob Guy

"Most innovation involves doing the things we do every day a little bit better rather than creating something completely new and different."

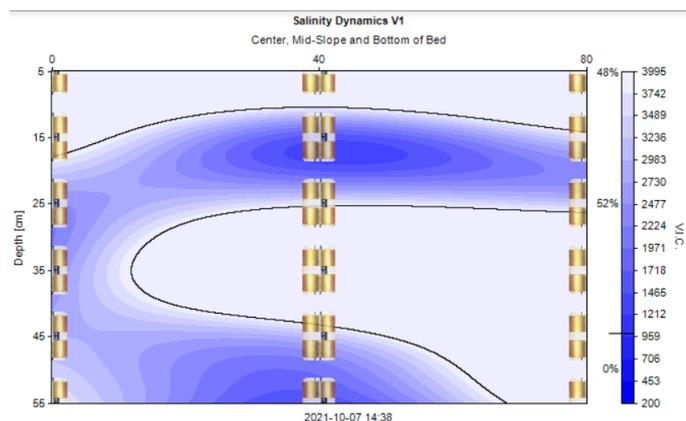
Introduction

The inclusion of IrriMAX Live onto the Galileo Cloud and GSI Pro platforms has created a single-view user interface. For users of a combined Sentek and Galcon monitoring and control system, this has resulted in the development of a continuously improving feedback loop.

Irrigation and fertigation schedules are programmed into either the Galileo Cloud or GSI Pro based on current best practice for the design and crop. Sentek probes and IrriMAX software provide insights gained by measuring and analysing continuous soil water, salinity and temperature data. This information is then translated into programming "tweaks" with respect to how much, how and when to apply water and fertiliser.

Fertiliser Insights

Leading agronomists are increasingly making use of multiple probes installed in arrays around the plant. These arrays give a multi-dimensional view of soil water, temperature and salinity dynamics. Frequent improvements are realised through continuous small changes in inter alia. Tillage, pulsing, dosage rates and frequency, reducing leaching and managing salinity. In the example, the 2D visuals illustrate clearly how excess fertiliser is accumulating at the fringes of the root zone. A practical first could be a lower runtime duration or a longer cycle in scheduling depending on the practicalities of the operation.



A note on using the VIC (TriSCAN salt) readings to get insights, is the importance of filtering the data, particularly in heavier soils. While the calculations separating the frequencies can allow for differences in moisture to a degree, good science would always compare EC type readings at the same moisture content. IrriMAX Live has built-in functionality to do this. Refined management of salinity accumulation and fertiliser dosages are increasing guided by the resultant understanding of the soil water and salinity dynamics in this case guiding the confinement of topdressing to the top 10cm of soil.

Water Management Optimisation

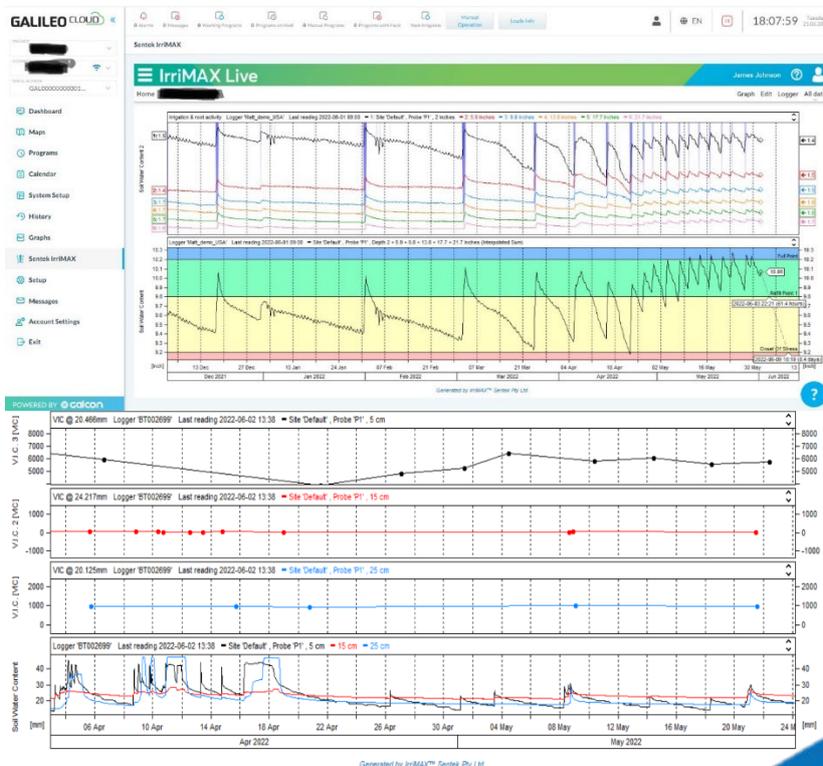
Marcelo Tregerman and his family farm organic bananas in the south of Israel. Economically and environmentally responsible and sustainable use of water and nutrient inputs are vital to the viability of their operation. The screenshots below of the Galileo dashboard show how the views are customised to match the requirements of their operation.



Irrigating Bananas in southern Israel sandy soil involves applying large amounts of water every day during the warm period. Yet, we need to apply the water in the correct amount when the plant needs it else, we'll be leeching the water & fertilisers from the root zone (banana root zone is very shallow). Using the Sentek probe and the analysis supreme abilities of IrriMAX Live platform we're able to learn when & how much (quantity & frequency) to irrigate leveraging our yield and quality.

The final quote below summarises the approach of the best irrigators and growers Sentek and Galcon have the privilege of serving through our dealer networks.

"Innovation is more likely to come from a person who sits down and does the same thing every single day until they become an expert than from a person who sits down once because they feel inspired."



Key Contacts

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