

# IRRIGATION CONTROL

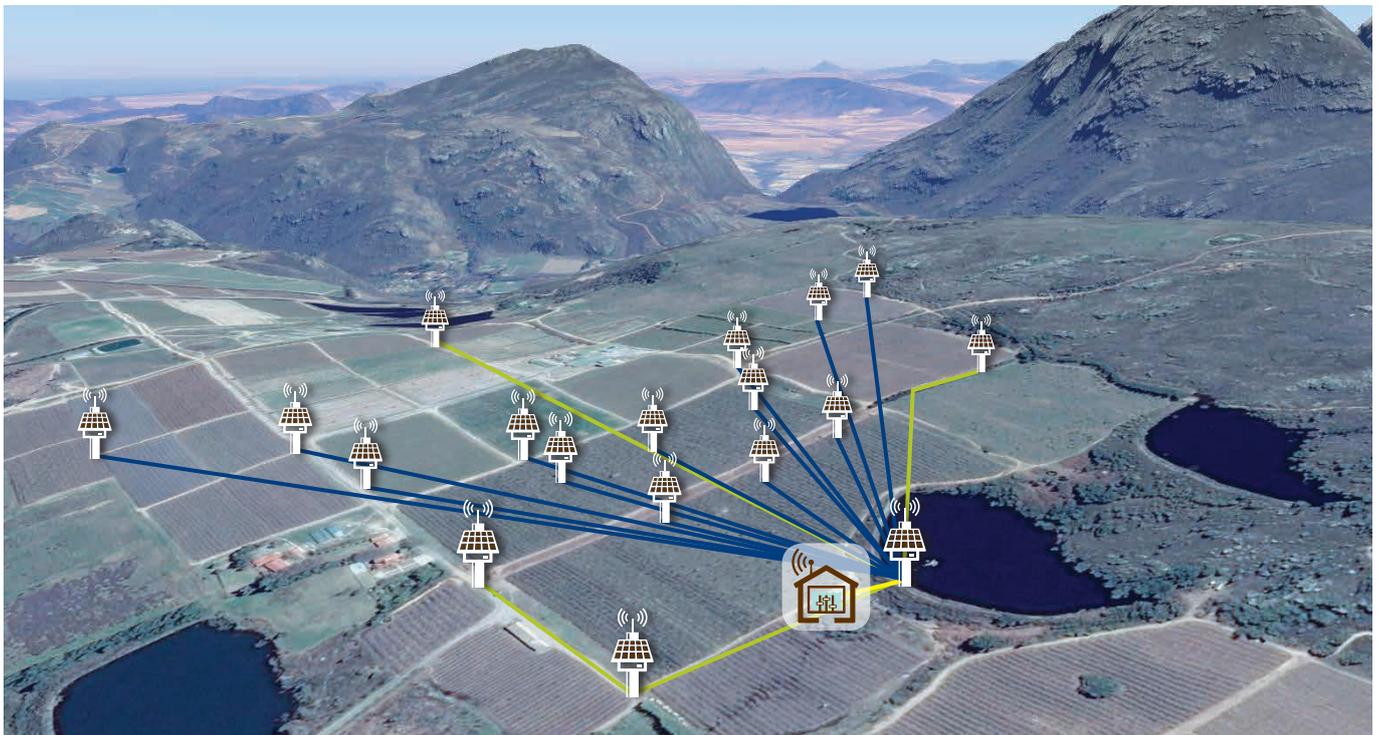


## Heldervue Estate - A Division of Univeg

**Case study:** Wireless automation of irrigation and fertigation

**Jabeco's** wireless automation effectively controls irrigation infrastructure, thereby enabling farmers to shift their focus from irrigation management to the actual business of farming. The complete control and real-time monitoring minimize water wastage and maximize productivity.

**Heldervue Estate** is located in the Piketberg area, in the Western Cape province of South Africa. The farm produces predominantly plums, peaches, apples and pears. There are four main pump houses which mostly drip-irrigate all the orchards. Irrigation and fertigation to the respective orchards are automated via a wireless control network. The farm manager has complete control over irrigation and fertigation schedules by configuring the EcoWeb software system to control the irrigation infrastructure.



**INFRASTRUCTURE LAYOUT:** The main pump house draws water from a dam (bottom right). A main repeater is situated on high ground close to the pump house (communications link indicated in yellow). Blocks that are irrigated from the main pump house are wirelessly controlled by the EcoWeb control system via field modules (communications links indicated in blue). Distant field modules that cannot communicate directly to the main repeater are connected via other field modules (communications link in green). Field modules are solar powered units, which switch latching valves on the respective blocks.

**PEACE OF MIND:** In the event that an instruction from the EcoWeb control system is not received by a field module, EcoWeb will display an alarm. The option is also available for the farm manager and water man to receive SMS notifications for any faults that occur in the system.

**Assistant water-man, Tinus states:**

*"Hierdie sisteem is voordelig vir my menslike gestel."*



**AUTOMATING THE EXISTING INFRASTRUCTURE:** Heldervue Estate's main pump house distributes water to the irrigation zones through five main lines (top left). Eight fertigation tanks (top right) feed two fertigation components into the main lines. The Jabeco technical team interfaces control and communications systems with the existing infrastructure, which enables EcoWeb control the entire system. The irrigation is scheduled according to the farmer's input, fertigation is injected in preset concentrations, and the in-line filter system is flushed according to a preset schedule. The farm cuts down on operational issues, and saves thousands of man hours. *Production becomes more effective, at lower costs.*

**SYSTEM BREAKDOWN:** The wireless system that connects to the main pump house controls the irrigation to 20 irrigation blocks. Jabeco's field modules can each trigger up to four separate valves, which means that the units are typically installed at the middle point between several water valves. The total system, which automates the pump house systems, and controls the valves in the irrigation zones, comprises the following:

	Jabeco Product	Qty	Description
	PC with EcoWeb	1	This forms the brain of the entire automation system, and is installed in the control room of the main pumphouse. NOTE: An Internet connection is essential for remote monitoring and support.
	JIO	1	The JIO provides input-output channels, which are used to interface EcoWeb with the existing pumps, meters and controllers.
	JFERT	4	The JFERT's provide the interface between EcoWeb and the fertigation systems, and controls fertigation concentration.
	Field Module (FM)	20	The FM's provide connectivity to remote units, and can provide on-off control for up to four solenoids.
	Modem	1	The Jabeco modem manages the wireless communications between EcoWeb and the wireless network.

For more information on our products and services, visit our website at [www.jabeco.co.za](http://www.jabeco.co.za) or feel free to contact us by email at [sales@jabeco.co.za](mailto:sales@jabeco.co.za) or call us on tel: +27 (12) 349 1100 or +27 (83) 679 2102