



**Remote Green Infrastructure  
Management**



**All Your Water Needs**

## Cloud Water Control

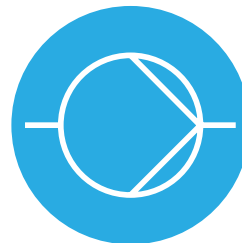
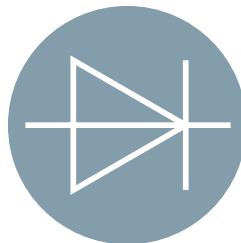
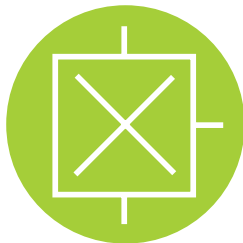
Cloud water control offers a remote green infrastructure management solution that combines monitoring sensors, remote control management technologies, and cloud computing to deliver and maintain optimum growing conditions.

Cloud Water Control systems (CWC) are smart water management solutions that remotely monitor and control, soil and water conditions on podium decks and rooftops. In fact, anywhere where soil conditions require close management.

All systems are built to specification based on site specific requirements and are designed to provide and maintain a healthy growing environment for plants, grasses and trees.

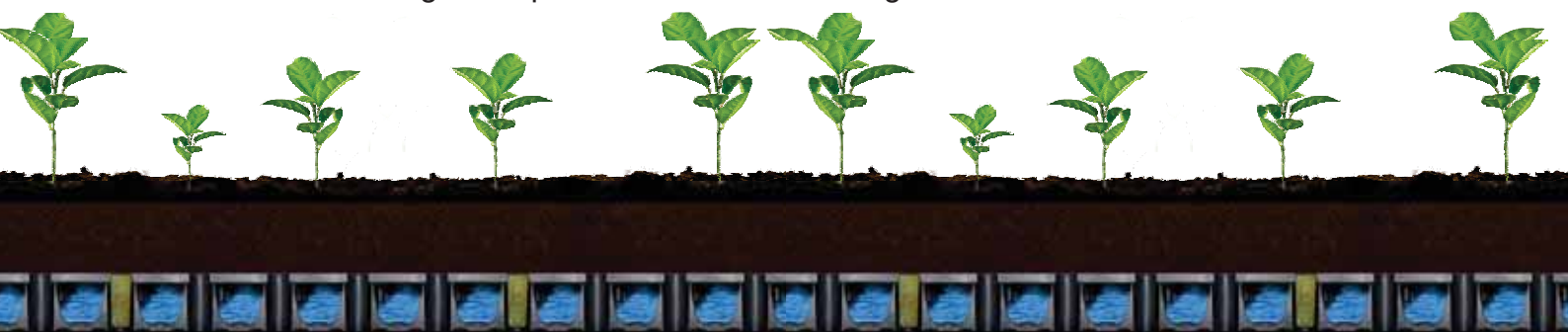


CWC systems comprise a series of interconnected sensors, valves and pumps. The sensors are directly in contact with soils. The valves and pumps are housed in CWCPods on-site. All hardware is hardwired to a central communication control panel which has an integrated wireless modem to provide a wireless link to the CWCPortal.



The CWCPortal is the cloud-based interface where users can remotely monitor and control their installation. Using the CWCPortal, users can log in on any web enabled device and are able to do the following:

- Monitor real time system performance from remote locations
- Remotely control systems to manage growing conditions
- View historical data
- Receive automated system updates and alarms
- Download data for reporting
- Access and manage multiple sites from one user login



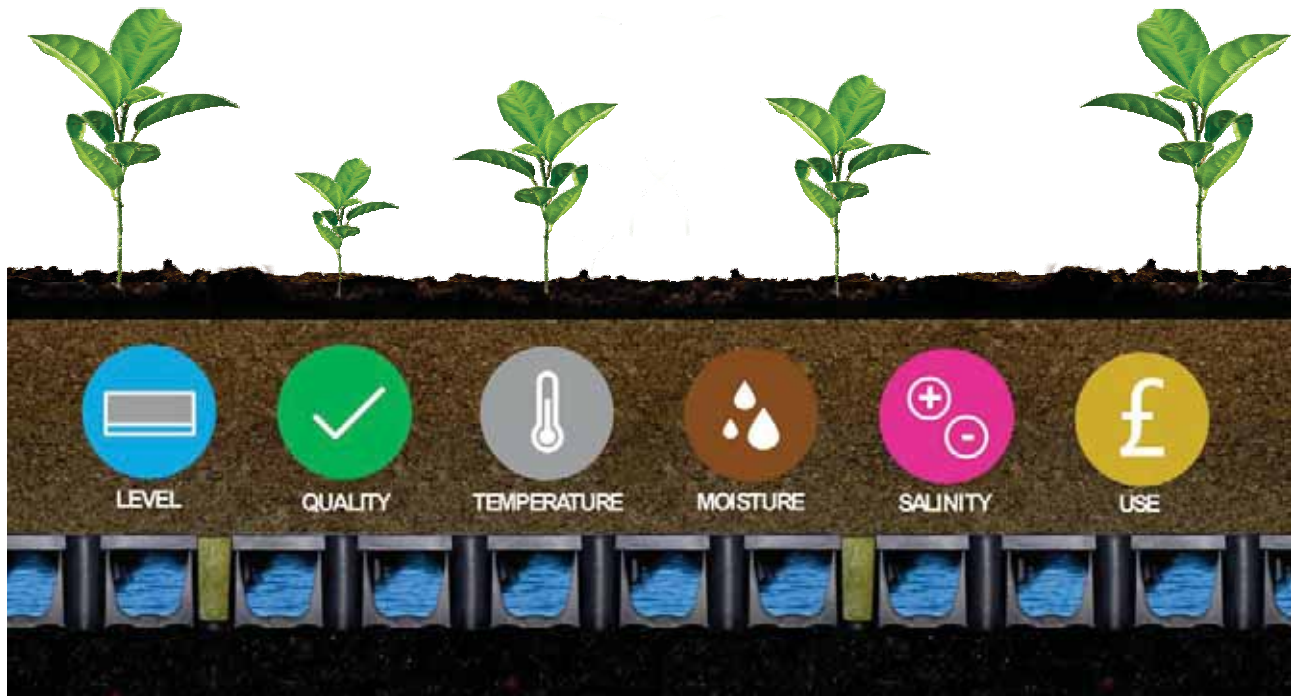


## Remote Monitoring

Our temporary and permanent systems use research grade sensors and flow meters to provide users with real-time remote datalogging which feeds back to the CWCPortal. The CWCPortal allows users to view live soil and water conditions and download historical data captured by the system.

CWC systems can be set to take readings up to every minute, providing a detailed analysis of the growing environment conditions. CWC systems are used to remotely monitor:

- level of available irrigation water (mm, or % of available storage volume)
- Soil moisture content (0-100% Saturation)
- Soil electrical conductivity (0.01-1.5 S/m)
- Soil Temperature (-10°C to +55°C)
- Water usage (m<sup>3</sup>)
- Irrigation water quality – pH, Salinity, Turbidity and more



## Remote Management

CWC systems are built to specification making them flexible, adaptable and scalable in their design. This allows for the integration of other irrigation and turf management systems with CWC to provide users with a complete green infrastructure management platform.

A selection of standard connectivity options are available allowing Cloud Water Control to be further integrated with existing or new building management systems.

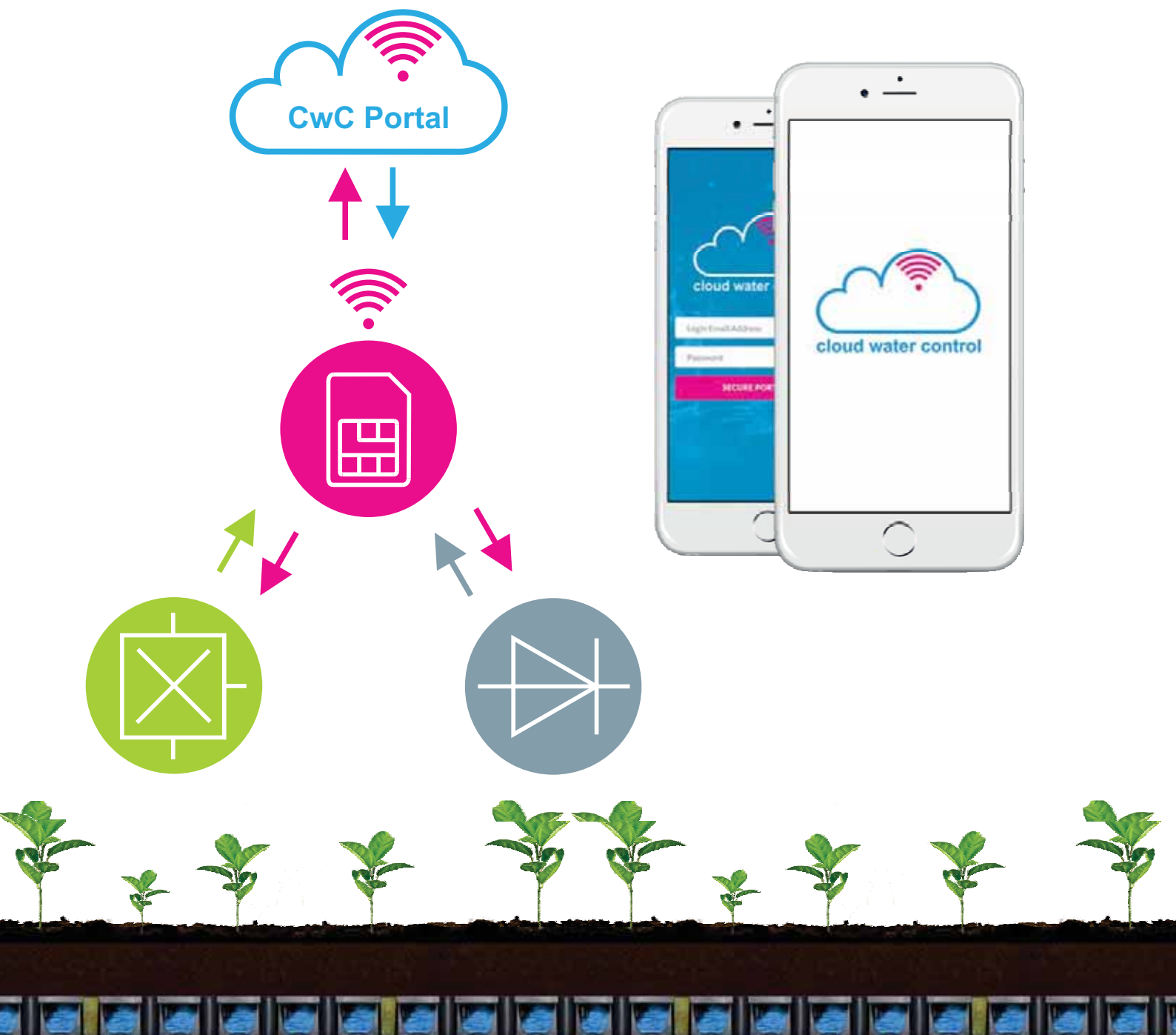


## Remote Control

CWC systems process data captured by onsite firmware, to remotely control valves and pumps to manage and maintain an optimum growing environment. Using the CWCPortal, users can login and remotely control CWC systems by adjusting the default settings to fully maximise water use efficiency and effectiveness.

Using the CWCPortal, users can remotely control their systems to:

- Control water supplies to irrigation systems to ensure soil moisture content is optimal
- Control water levels within Permavoid rafts to maximise storm water attenuation and re-use
- Manage water levels in storage tanks to maintain water levels in back-up and re-use tanks
- Control water use by moving water between zones to promote sustainable water use
- Maintain soil pH and Salinity
- Control water quality such as maintain suitable optimum pH and salinity to ensure re-use is safe for plants





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## Smartroof 2.0, Netherlands



### Blue-Green Roofs - Taking Green Space to New Heights

Blue-Green schemes combine the flood water management techniques of both blue and green roofs to alleviate urban rainwater issues, but also provide fresh healthy spaces that can be enjoyed.

Blue-green spaces are growing in popularity because of their ability to manage water to provide green spaces that have enhanced biodiversity and urban cooling properties.

Cloud Water Control designed, supplied and installed a smart water management system on a blue-green rooftop in the heart of Amsterdam. The system is responsible for managing water levels on the rooftop to minimise roof loading, but maximise attenuation and optimise irrigation. This retrofit system remotely monitors water level, soil moisture and remotely controls valves to distribute water across multiple roof levels.

The system works in sympathy with the original building construction, but also maintains a healthy green space!



Control water storage levels



Monitor water use



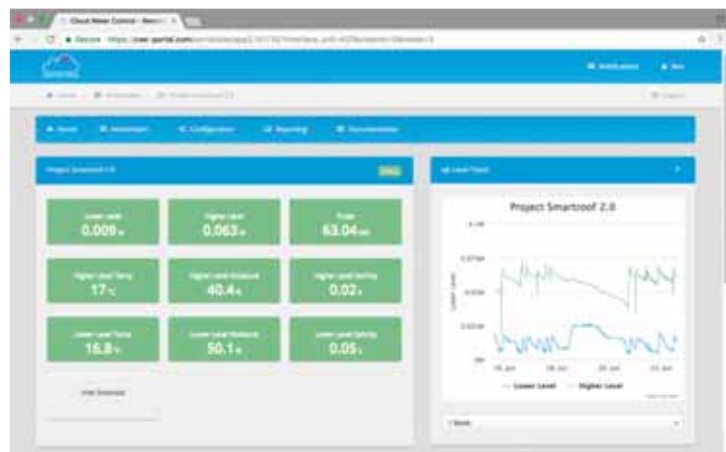
Monitor soil moisture



Monitor soil salinity



Monitor soil temperature







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### Treesquare, Netherlands









#### Resilient Cities - Building for the Future

To accommodate the growth in popularity and combat the effects of climate change, the the City of Amsterdam are future proofing new city developments by installing more green infrastructure and constructing on elevated ground to avoid flood damage. These new developments risk green infrastructure failing due to little or no natural ground water for trees.

To achieve successful tree growth, Cloud Water Control was selected to manage water an innovative new development site in Ijburg, Amsterdam.

At Ijburg, a 50m x 50m square was constructed on top of a man-made water table. The CwC solar powered system remotely monitors soil conditions, controls water inlet irrigation supplies and controls evacuation valves to manage water levels within the water table. The CwC system is vital for the survival of these trees during the early establishment stages and ensuring ground conditions are maintained long term.

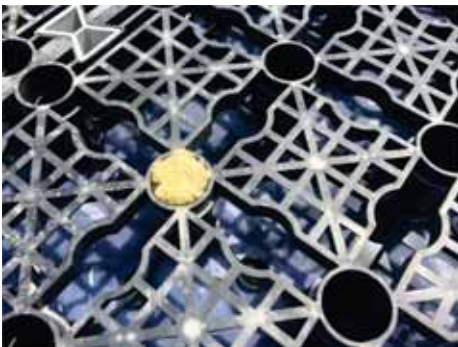
-  Control irrigation water supply
-  Monitor water use
-  Monitor soil moisture
-  Monitor soil salinity
-  Monitor soil temperature
-  Solar powered





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## Natural Grass Irrigation, Middle East



### Healthy Natural Grass in the Desert

Cloud Water Control are at the forefront of a pioneering scheme to enable the healthy growth of natural grass in the desert.

Desert climates make for challenging environments to grow non-drought resistant plant species. Without CwC, the hot climate would result in huge water losses due to high evaporation and transpiration rates. It is essential to maximise irrigation efficiency, but minimise water wastage.

Cloud Water Control designed, supplied and installed an innovative system which allows the client to view real time data. The CwC system uses sensors, valves and cloud based software to remotely control soil conditions and promote sustainable water use.

CwC supplies only what the grass requires, not too much - not too little!



Control irrigation levels



Monitor water use



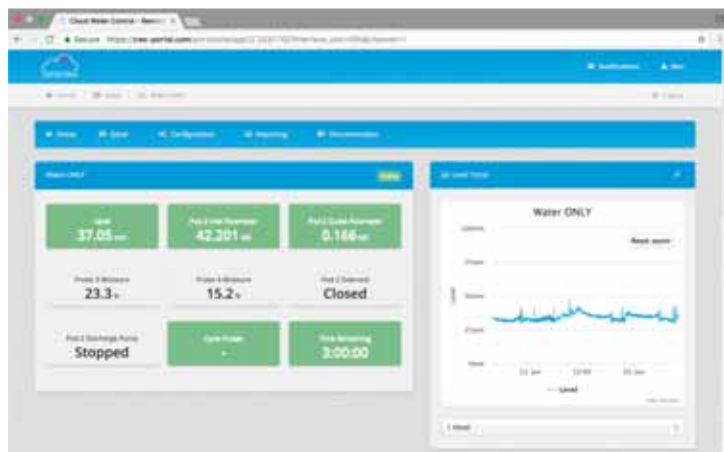
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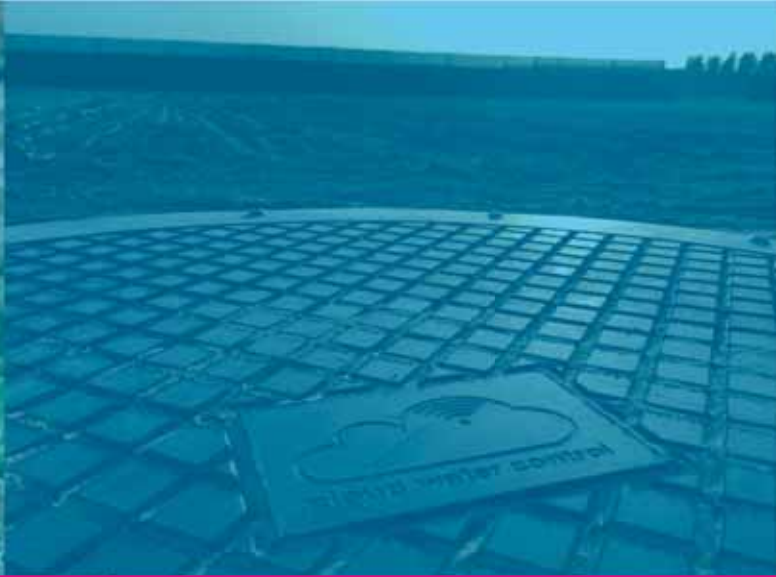
Monitor soil salinity



Monitor soil temperature







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[www.cloudwatercontrol.com](http://www.cloudwatercontrol.com)



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