

IPOS e-Bulletin

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Cool Airports

Innovation for a warming world

As his flight came in to land, Greg Ingleton was struck by how simple it could be to turn the dry, flat areas of Adelaide Airport into green space. What he then designed turned into something much more powerful, creating new business models in irrigation, agriculture, food service, carbon trading and, best of all, a way to cool airports in the driest parts of our warming world.

Greg Ingleton is an environmental scientist who challenges the way we think about and use water, especially in Australia, one of the driest places on our planet. Part of Greg's work for a large water utility is to identify and develop opportunities to use 'wastewater' in ways that provide social, environmental and economic benefits. This talk was given at a TEDx event using the TED conference format but independently organized by a local community. Check out the video [here](#).

CBD smart water network leading the way

Download the annual report from our website

Our smart water network in Adelaide's CBD is already having an impact, seven months after it launched.

The network comprises acoustic sensors, pressure and flow data, high speed transient pressure sensors, smart meters and water quality sensors to improve water services and reduce disruptions for our customers. Since the network started operating in July 2017, we have identified four cracked pipes and repaired them, avoiding four main breaks.

In seven other instances we have obtained data confirming that main breaks have occurred over a time of five minutes or less. In these cases, neither the alerting system nor any operational preventative action was possible because of the speed of the main breaks.

We are now developing faster alert transmission systems so we can achieve the quickest response possible from leak measurement to action on the ground. The data indicates that a significant number of pipe breaks will be able to be prevented this way. From a scientific point of view, the intercept of four cracked pipes in seven months has exceeded the project team's expectations.

Interpreting smart water network data is as new as the sensor technology itself and we're leading the way. To help evaluate the data we receive, we are working closely with experts from the University of Adelaide and Allwater to measure and interpret noises, pressure waves and flow.

We are setting a benchmark for the water industry by integrating smart technology on a broad scale to benefit customers by reducing community impacts like traffic delays and water service interruptions.

This technology has also enabled data-driven decisions about our network maintenance and upgrades that benefit customers and the community, now and into the future.



Tip of the Month

Soil moisture sensors

Knowing the amount of moisture in the soil can provide the irrigation manager with information to guide irrigation schedules. Soil moisture sensors can be used to provide readings on soil moisture and often integrate with irrigation systems. Information about soil moisture sensors can be sourced from the [IPOS Code of Practice](#) on page 74.

Figure 1: Soil moisture sensor used in agriculture



February Irrigation Requirement Overview

Irrigation requirements for different regions in Greater Adelaide are presented below. If you would like specific irrigation requirements to you, please contact us and we may be able to provide this to you based on your location.

Station	TQVS 1 (kL/Ha)		TQVS 2 (kL/Ha)		TQVS 3 (kL/Ha)		TQVS 4 (kL/Ha)	
	AIR	BIR	AIR	BIR	AIR	BIR	AIR	BIR
Adelaide Airport - 023034	1964	1933	1156	1116	954	912	752	708
Kent Town - 023090	1671	1809	985	1037	813	844	641	651
Mount Crawford - 023763	1884	1890	1086	1073	886	869	686	664
Noarlunga - 023885	1914	1910	1137	1104	942	903	748	702
Parafield - 023013	2043	2000	1207	1147	997	934	788	721

AIR is the 'Actual Irrigation Requirement' which is based on the current climate data.

BIR is the 'Base Irrigation Requirement' which is based on the average of the previous 5 years climate data.

Station	Rainfall (mm)		Eto (mm)	
	Current	Long term	Current	Long term
Adelaide Airport - 023034	9	18	231	235
Kent Town - 023090	7	19	196	224
Mount Crawford - 023763	18	25	228	235
Noarlunga - 023885	5	17	222	232
Parafield - 023013	8	21	239	246

Disclaimer:

SA Water's Business Relations Group provides recommendations and suggestions only. It is advised that further investigations are detailed studies are completed before any projects are implemented. All applicable standards & guidelines (Australian, EU, AQUIS, HACCP, Australian Drinking Water Quality Guidelines etc.) should be adhered to, and care should be taken to ensure water and wastewater minimisation programs do not negatively impact health or processing operations.