



Smart Water Management

We have an opportunity to transform the way Australia manages water to: create an integrated, intelligent system that helps us to use water wisely.

Why?

Water resources in Australia are at a critical point. Unprecedented droughts, particularly over the last 10 years, have motivated Governments, industry and the community to address this issue. Everyone recognises that, to make our economy sustainable, we need effective and efficient water systems.

We are not alone with this problem. Globally countries are struggling with issues relating to water quality, water quantity, water use, water management and waste management. However Australia is unique in many ways:

1. Water scarcity places significant stress on our supplies. We are hard pressed to meet our water use needs for domestic, agriculture, community and environmental purposes.
2. Our water infrastructure is largely outdated and, in some cases, the technologies we rely upon to manage our water are up to 100 years old
3. We are struggling to respond quickly enough to the additional pressures of climate change, which will further reduce our natural water supply.
4. Our water capture is varied, requiring major realignment in the ways we harness our water supplies.

What?

Our Government is committed to solving our nation's water management issues, with a focus on: securing water supplies, using water wisely and supporting healthy rivers.

Both Government and industry are strongly aware that we need significant investment to update our water management systems and improve efficiencies in our water networks. However, simply improving physical infrastructure isn't enough.

Information technology will help us to better understand, improve and manage our water. For example, it will allow us to:

- Effectively measure what water we have
- Interpret and make intelligent decisions from the information collected
- Encourage and enable every user to conserve our scarce water resources
- Deliver water to the right place at the right time

How?

Create an integrated, intelligent water system...

with a smart network that monitors its own health, remotely senses damage, assesses water availability and predicts demand

We need a smart water system that helps manage end-to-end distribution, from reservoirs to pumping stations to smart pipes to holding tanks to intelligent metering at the user site – so we can manage water consumption efficiently.

Intelligent water solutions will help our communities to use and re-use water supplies. They will also help us to accurately monitor, assess and forecast the availability, condition and use of water.

Smarter water systems will also support the National Water Initiative priority of greater national cooperation and coordination in managing this vital resource, by ensuring Australia's local water systems can all integrate and communicate with each other.

That helps us to use water wisely...

by only irrigating where and when it's needed

Many of our farmers, who use 70% of our fresh water, still irrigate on a 'flood the field' basis, losing up to 75% of the water to evaporation. Not all the water that does reach the soil actually reaches the crops. As a result, these traditional irrigation systems take four times the water they need to produce each tonne of grain.

SMART IS Ground sensors that monitor soil and moisture growth

SMART IS Computer analysis to determine how much water each plant needs.

SMART IS Automatically directing drip irrigation when, where and only in the quantities needed.

SMART IS Using technology to accurately report what water is available.

Reducing the water needed for irrigation

The University of Melbourne is developing a computerised irrigation system that automatically senses water requirements and directs water where it's needed. The project aims to reduce the irrigation water being taken from the Murray River by 1,000 gegalitres.