



DOROT DIGITAL SOLUTIONS

# SMART IRRIGATION in Australia



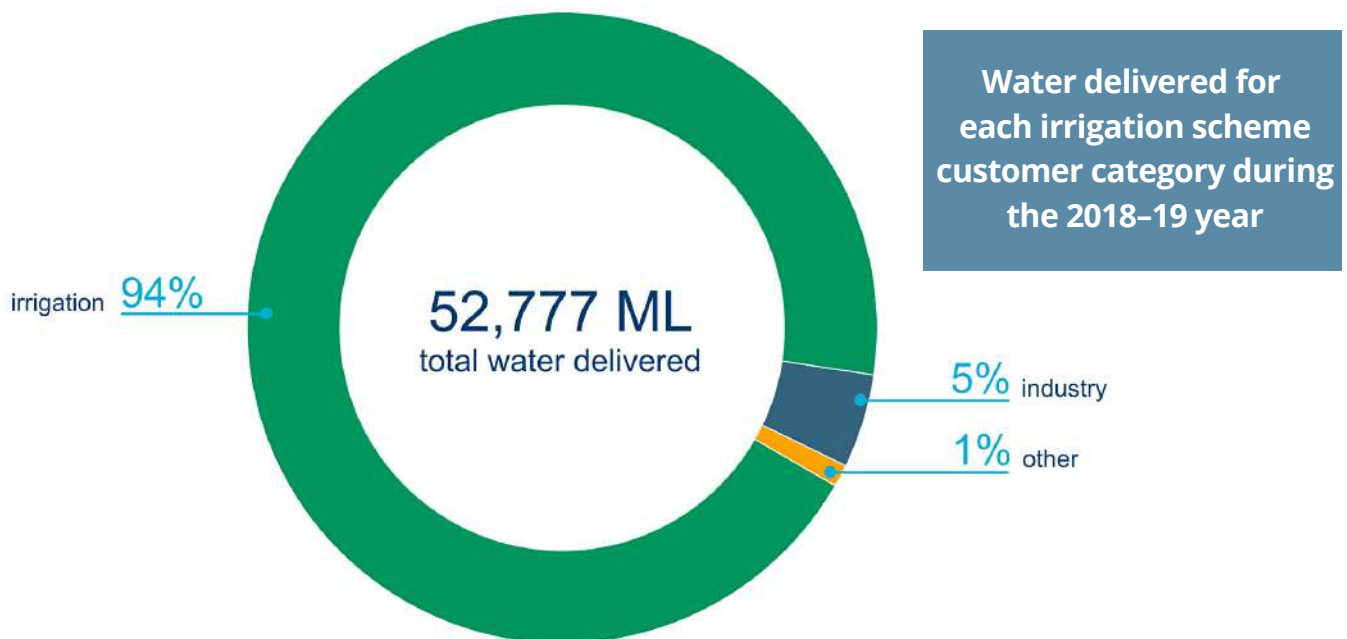
FLOW REGULATING | SURGE PREVENTION  
RESERVOIR LEVEL-CONTROL

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CASE STUDY

# DID YOU KNOW?

- One "sydharb" is the amount of water in Sydney Harbour: approximately 500 million m<sup>3</sup>. This unit of volume is used in Australia to describe the amount of water in large water bodies, such as lakes and dams.
- Australians are ranked the highest consumers of water per person in the world, despite being the driest inhabited continent - 70% of land is arid.
- Australia uses approximately 25,000 million m<sup>3</sup> of water per year (equivalent to 50 "sydharb").
- Damage caused by salinity costs the Australian economy more than \$250 million annually.
- The longest water supply pipeline in Australia is in Western Australia. It extends nearly 600 km, from Perth to Kalgoorlie.
- The oldest dam in Australia is the Parramatta Lake Dam, built in Sydney in 1856. It is still in operation today.
- Throughout Australia, approximately 1500 millions m<sup>3</sup> of water are used each year for irrigation purposes. (Source: <http://www.blueplanet.nsw.edu.au/water-facts/.aspx>)



## IRRIGATION SCHEME IN PERTH REGION\*

- The Perth region's irrigation scheme is the Harvey Water Irrigation Area which comprises three irrigation districts: Waroona, Harvey, and Collie River.
- There are more than 1,600 customers in the Harvey Water irrigation scheme, most of whom receive water from the scheme for irrigation purposes.

\*Source: <http://www.bom.gov.au/water/nwa/2019/perth/supportinginformation/waterstores.shtml>





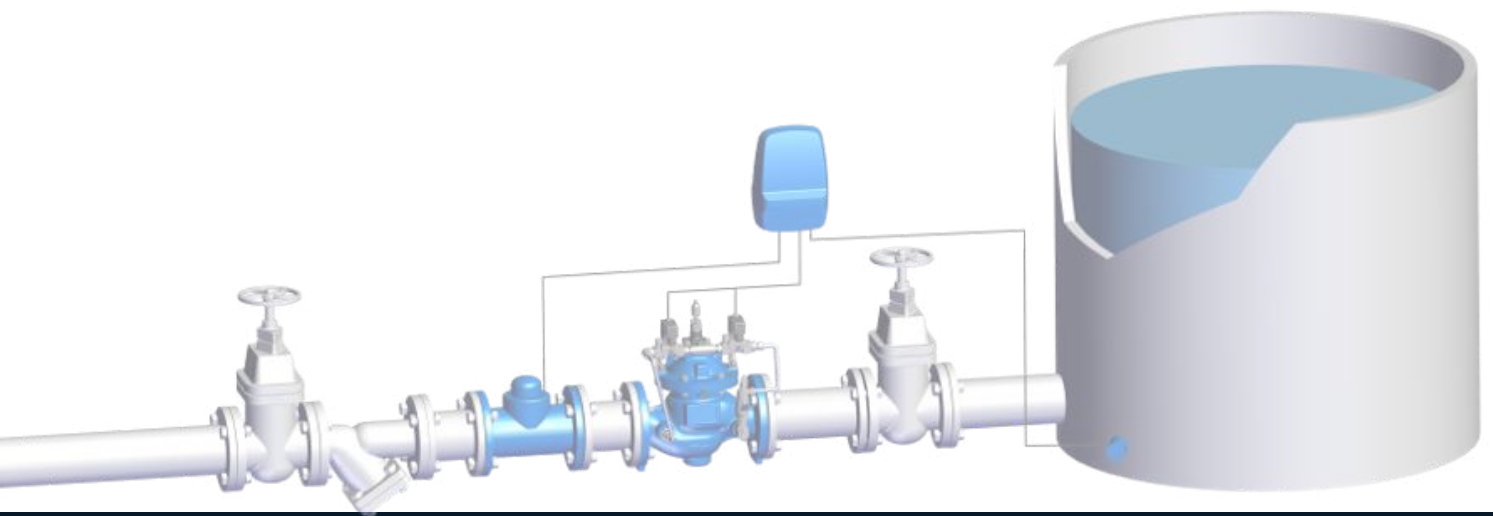
# OUR OBJECTIVE

Our customer is a water provider, who supplies irrigation water to various customers. The need to increase the efficiency of irrigation water supply network defined clear objectives:

- Regulate the flow rate to each of the consumers
- Prevent pressure surges during valve opening and closing

## CHALLENGES

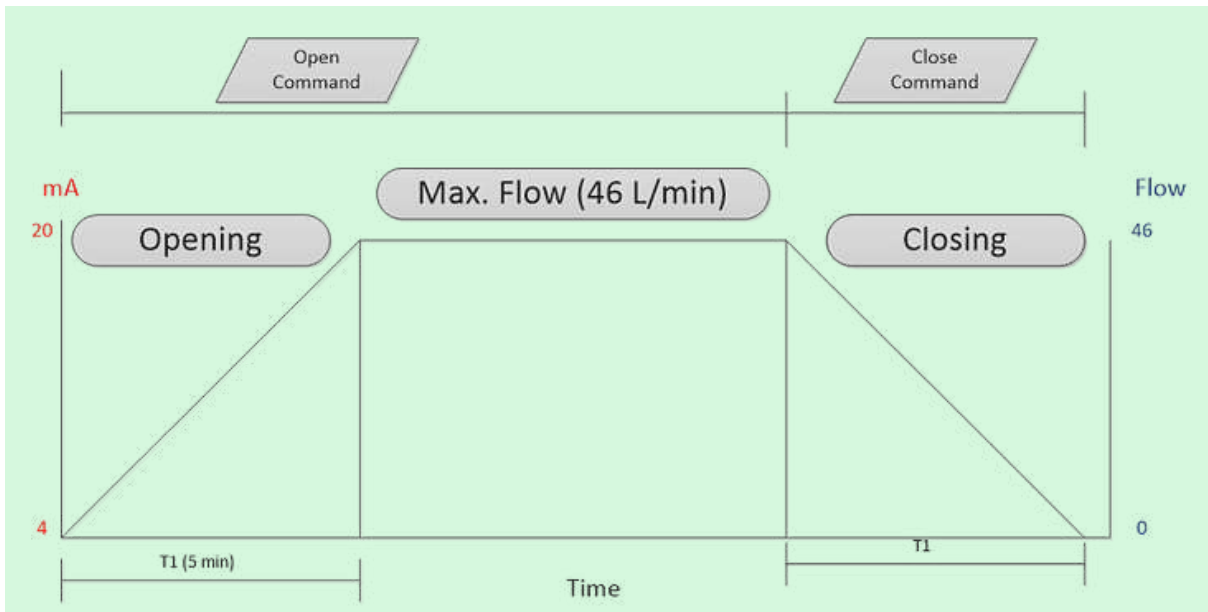
- Filling up reservoir
- Prevent pressure surge during valve opening/closure
- Limit flow



# THE PROJECT

The network designer issued a request for:

- A flow regulating control valve that slowly and steadily increases or decreases the flow over a pre-defined period of time to eliminate water hammer damage.
- Regulate flow to a desired value.



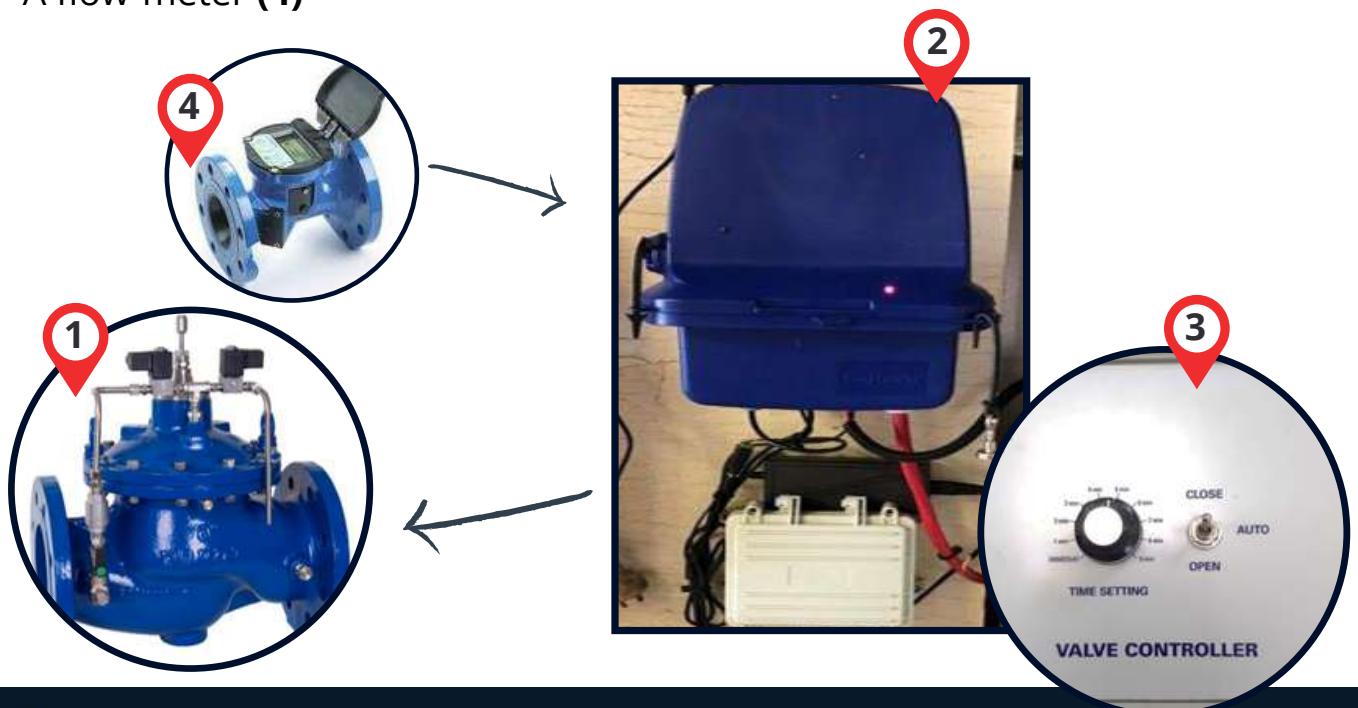
# OUR SOLUTION

**Dorot Digital Solutions** proposed a system that efficiently and dynamically manages the water supply for irrigation consumption, allowing remote control and multiple configuration of various functions, based upon numerous variables such as pressure, flow, water level and more.

The system enabled the client to set the required time to open/close the valve, regulate the flow to any desired value and locally or automatically open/close the valve according to reservoir level.

The system was equipped with:

- Dorot S300 6in. EC valve **(1)**
- ConDor controller, regulating the flow to a user-defined set-value **(2)**
- Custom made control panel consisting of close\open time selector button and a manual override toggle switch **(3)**
- A flow-meter **(4)**



# THE INSTALLATION



The system was installed and commissioned in May 2020. Following a short in field calibration, the system performed as expected, to the full satisfaction of the client.

