



Water Board of Nicosia, Cyprus

Aquestia's Smart water pressure management outperforms demand and delivers immediate return on investment.

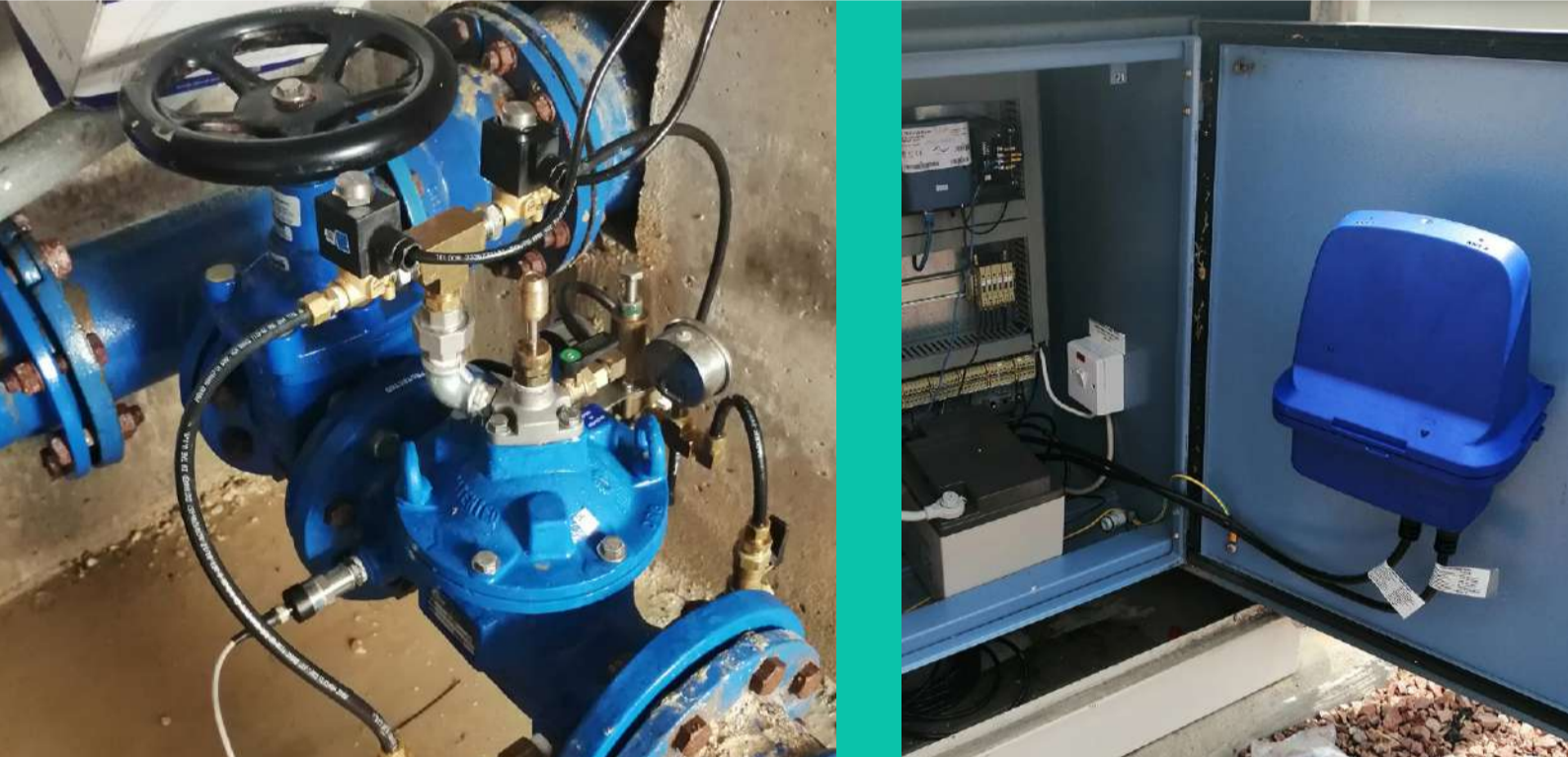
Background

Cyprus has a subtropical, semi-arid climate with very mild winters and hot, dry summers that last around eight months. In recent years, the average annual rainfall has continually decreased, impacting the country's supply of household water. In 2016, water scarcity affected 21.3% of the country's population; by 2030, this figure is expected to increase to 61.5%.

Challenge Reduce leaks and non-revenue water

In 2008-2009 scarcity was so severe in Cyprus's capital and largest city, Nicosia, that it led to an intermittent water supply. The reduction of leaks and pipeline bursts at a limited budget quickly became Nicosia's top priority. The city's water board looked to source a solution that would intelligently reduce pressure throughout the District Metered Area (DMA), while maintaining a minimal pressure at the critical point – the highest point within the DMA.

Solution Digital water pressure management

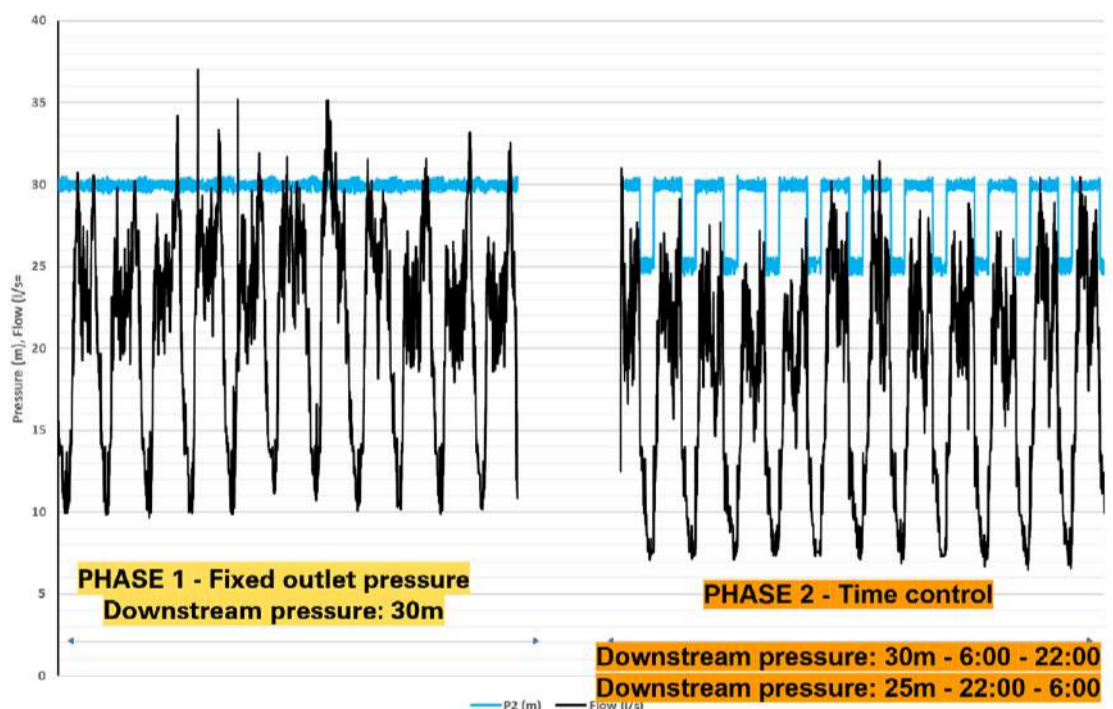


Aquestia's long-time local partner, A4, submitted a proposal for the tender put out by the Nicosia Water Board, with an end-to-end offering of products from Aquestia's Smart Solutions. Following a thorough evaluation, the bid was accepted based on the superiority of the products, combined with Aquestia's years of expertise, deep hydraulic knowledge and reputation for providing superior technical support.

The A4 proposal included a DOROT S300 4" hydraulic control valve with an EC control trim, locally-controlled by the ConDor, which was configured to reduce pressure to a fixed downstream set point.

Results Precise water regulation – unparalleled results

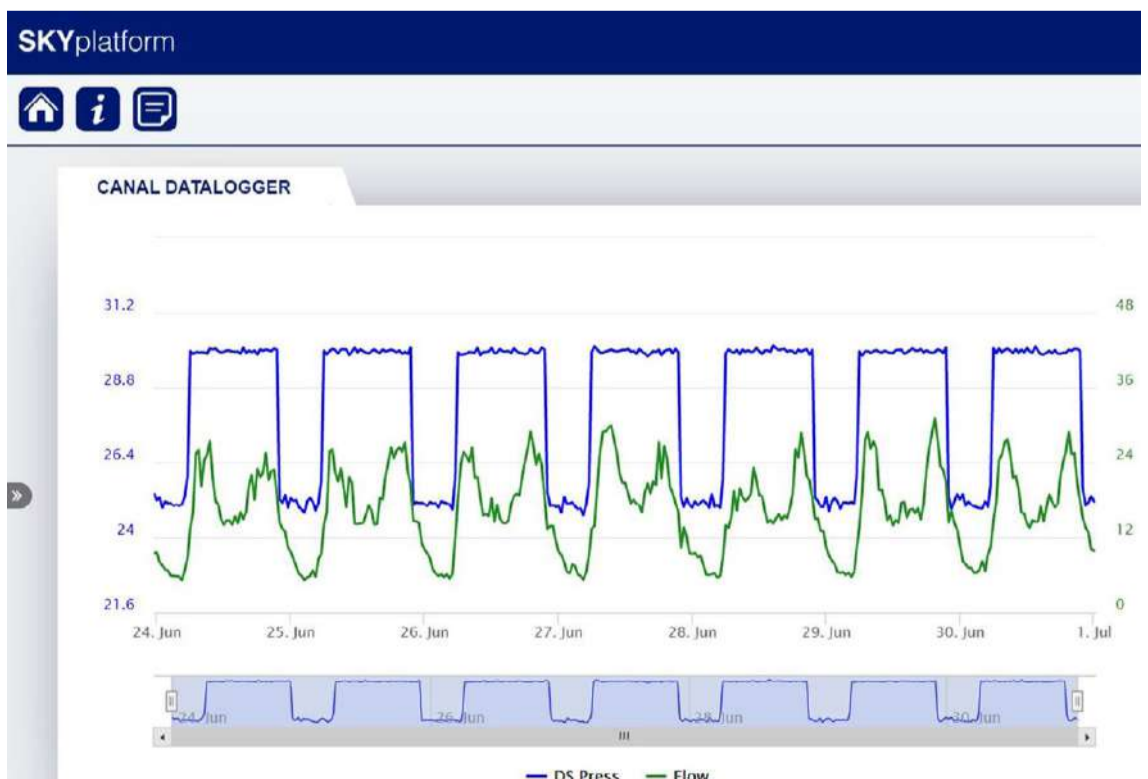
The new hydraulic valve and ConDor controller have achieved unparalleled results, enabling the Water Board to regulate pressure to within several centimeters of the setpoint, regardless of the erratic flow. Downstream pressure in relation to flow can now be dynamically and precisely maintained, resulting in a reduction in average sector pressure and burst frequency.



The project was developed in three phases:
Phase 1 - a constant pressure was set at the valve outlet.
Phase 2 - pressure was set according to day and night flow levels, achieving a 6400m³ reduction in annual NRW.
Phase 3 - pressure was regulated according to demand, reducing NRW by a further 2400m³ per year.

Altogether, the annual reduction in Non-Revenue Water in Nicosia following implementation of the ConDor was 8800m³, equating to savings of €10,560 per year.

In terms of operational benefits, all reconfiguration of the hydraulic function and setpoint changes can be carried out remotely, and the continuous hydraulic data provided about flow and pressure provides real-time visibility of the sector's operation



Customer Perspective

"All our needs were met"

"We wanted an integrated system to remotely control hydraulic valves and optimize their performance," says Christos Lordanou, Senior Technical and NRW Manager at Water Board Nicosia. "Another request was to have different pressure values during the night, therefore minimize the losses caused by leaks in the system. The supplied solution was installed in an existing pit of area 15C and the critical point was selected to be the highest point of the area, opposite the University of Cyprus (one of our major consumers). After installing the valve and ConDor all needs were met. The communication with the Aquestia team was great and we look forward to continuing our collaboration!"