

FlumeGate® automatically provides Alt Urgell farmers with a reliable water supply

Situation

The Alt Urgell Irrigation Community is an irrigation cooperative located in the area surrounding the village of Tàrraga in Catalonia, Spain. The community's canal and pipe network is supplied by a 45,000m³ reservoir. Water is pumped up to the reservoir from a neighbouring irrigation community.

A lack of measurement and regulation along the community's 18km main canal made it difficult to control water. Without precise control, operators would release more water from the reservoir than was required to ensure an adequate water supply for irrigators. Energy for pumping was cheap and water plentiful, so the community didn't have to worry about how much water they used.

In recent years, the increasing energy cost of pumping water has made the association's water relatively expensive. Operations Director Justo Minguella Albareda said, "We used to open the manual gates and without any kind of measurement we would fix every problem by releasing more water.

Energy was really cheap, so we didn't have to worry. Now with many more users and high energy prices everything has changed. Today we focus on saving water, on optimisation and trying not to lose one drop of water."

Farmers have installed pressurised irrigation systems and started growing higher-value crops. Alt Urgell has also installed a buffer reservoir along the lower half of the main canal to capture excess water, which is then piped to users.

The challenge was to reduce water use upstream of the buffer reservoir while ensuring farms received a good supply of water. Large fluctuations in water levels meant that pressurised irrigation systems couldn't reliably draw a steady supply of water from the canal. Consequently, many farms along the upper section of the main canal didn't irrigate.

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Justo Minguella Albareda,
Alt Urgell Operations Director



Pistachios irrigated using pressurised irrigation are one of the high-value crops grown by the community

Spain

Tàrraga, Catalonia



Customer profile

The Comunidad de Regantes del Alt Urgell (Alt Urgell Irrigation Community) is an irrigation cooperative covering an area of 4,500 hectares. Approximately 60% of the service area is currently irrigated. Founded in 1963, the community serves around 450 members through an 18 km main canal and 20 km of secondary canal and pipes. Farmers mainly grow high-value crops including grapes, almonds and olives.

Solution components

Software



SCADAConnect

Hardware



FlumeGate

- FlumeGate x 1

Solution

The solution was to install a FlumeGate in the main canal, located one kilometre from the supply reservoir. It is set to automatically maintain the canal water level upstream of the gate at 80cm. As the rate of water withdrawn from the canal changes, the FlumeGate adjusts its flow rate to meet the withdrawals and maintain the water level.

Typically, the FlumeGate will adjust dozens of times a day, much more frequently than a human operator could manage.

Results

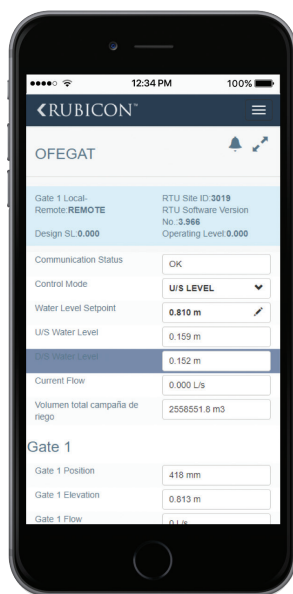
The FlumeGate has a 3G cellular modem enabling it to be remotely managed using Rubicon's SCADAConnect® Live cloud software. Operators monitor and control the FlumeGate using a web browser on a computer or smartphone. SCADAConnect sends alert messages if anything goes wrong, which gives operators added peace-of-mind.

The constant water level in the upper reaches in the main canal mean that farms now receive a reliable supply service, without operators sending excess water through the canal.

Mr Minguella Albareda said, "The FlumeGate allows us to optimise the exact amount of water needed to maintain a water level in the canal."

Additionally, remote management saves a lot of travel time. With a normal gate, an operator would have to drive 5 km from the office to adjust the gate twice a day. Now the operator can focus on other tasks while monitoring from their mobile phone.

"It works perfectly, we haven't had any problem so far, and we've had close to a million cubic meters going through. We haven't had the slightest problem. There are many control gates, but for me, this is the tool, not a tool, it's *the* tool".



The FlumeGate is remotely managed using a smartphone



“I’m talking with more than 25 years’ experience in open canal control, and I would totally recommend this device.”

Justo Minguella Albareda, Alt Urgell Operations Director>About



The FlumeGate maintains a constant upstream water level



Watch the Alt Urgell video here:

<https://youtu.be/Jbo78IT9i7A>

About Rubicon Water

Rubicon Water delivers advanced technology that optimises gravity-fed irrigation, providing unprecedented levels of operational efficiency and control, increasing water availability and improving farmers' lives.

Founded in 1995, Rubicon has more than 30,000 gates and meter installed in TCC® systems in 15 countries.