



RUBICON™

# Confluent™

## Irrigation district management software

Rubicon's Confluent software transforms the way irrigation districts manage water, administer operations and serve their customers.

Innovative, modular and scalable, Confluent enables you to plan, manage, deliver, invoice and communicate better, cheaper and faster while providing your customers with a world-class service.

By combining the latest internet and smartphone technology, innovative scheduling and network visualisation tools, advanced remote control engineering, and an industry standard database, Confluent helps you to meet the significant challenges you face in managing your water resources.

## Automate all operations and administration

Confluent consists of a core database and fundamental tools, and your choice of a number of function packs. Each pack is a collection of tools that streamlines a part of your business. For example SCADAConnect® helps you remotely manage automated devices in the field and Customer Connect enhances communication with your customers.

So whether your need is to remotely manage meters, automate water ordering, manage regulatory change, or modernise your entire district's infrastructure, you only buy what you need. Your investment in software and training is future-proof because you can add functionality over time as your needs change or to support ongoing modernisation and change.

## Designed for irrigation

Unlike generic software packages designed for factories or the office, Confluent is designed specifically for irrigation districts.

The software knows about water demand such as orders and rotations, about delivery operations and gates and channels and about customers, service points and invoices. When this information is integrated you can

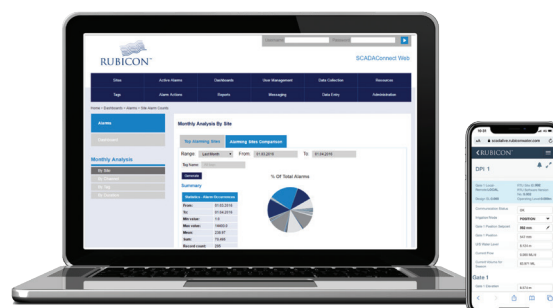
- Plan better, make smarter decisions and fewer mistakes
- Report using meaningful performance indicators such as overall system efficiency
- Calculate volumetric accumulation and determine farmer satisfaction

Irrigation also demands robust, reliable 24 x 7 operation, with alarm escalation and notification by phone and SMS or internet. Having 24 hour Interactive Voice Response (IVR) and web access helps farmers in their interaction with the district when and where they need it.

In-field tools like mobile internet to manage water deliveries and smartphone apps for meter reading are also essential for efficient management.

And an irrigation system needs to be able to scale. Thousands of devices providing real-time information covering hundreds of customers' farms can add up to a data explosion that your system needs to handle. Confluent turns that data into information. Analysis and reporting tools help build management insight for better control and for future planning.

Best of all, we're here to help. With more than 15 years' experience helping districts manage irrigation operations in 10 countries, we have the skills to quickly design and build custom modules or reports for your unique needs.



## A TCC® product

Confluent is one of the products making up a modular family of precision hardware and software called TCC (Total Channel Control®). TCC is an advanced technology set designed to improve the management and productivity of water in open channel and gravity pipeline distribution. Unlike traditional infrastructure, TCC products can interact and work together to help managers improve:

- water availability
- service and equity to users
- management and control
- channel operator safety

## Industry-standard relational database

As the cornerstone of your information technology strategy it's good to know that Confluent is underpinned by an industry-standard relational database management system. This means Confluent is scalable, secure, open and reliable.

### Scalable

Confluent expands to a virtually limitless number of users, sites, customers, orders and field measurements. And additional sites can be added while the system is online, ensuring no disruption to service.

### Secure

Integration with Microsoft Active Directory is standard, and multi-level authorisation tools can be configured to limit access to functions or sites. Actions are logged for auditing.

### Open

Confluent can interface with your existing business applications such as accounting and asset management systems or share data with external systems such as a government authority's water register or geographic information system (GIS).

### Reliable

Multiple backup and redundancy options ensure minimal downtime, with standard utilities provided for database backup and recovery, data replication, and secure data access.



## SCADAConnect® Remote management of infrastructure

SCADAConnect enables you to improve safeguards, reduce costs and enhance control of your network with real-time remote management of field equipment.

A comprehensive suite of remote device monitoring tools and sophisticated alarms can transform your operation by giving your team the detailed real-time performance information they need to rapidly respond to issues before they become problems and without having to travel to site.

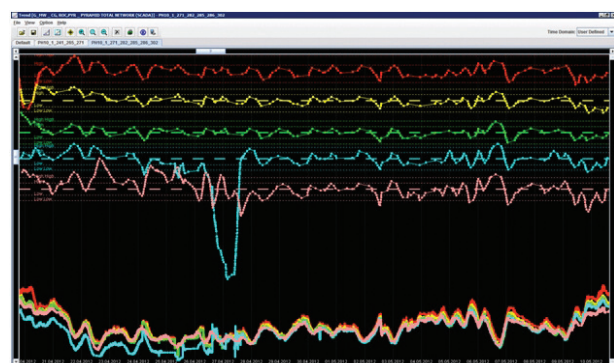
SCADAConnect's data analysis and graphing tools (also called trending) convert the huge quantities of field data into information you can use to manage, to plan and to improve.

For users with a small number of sites, SCADAConnect can be deployed as an entry level cloud solution whereby you can manage your field equipment over the internet using just a web browser and connection to cellular communications networks. This can provide a low cost, rapidly deployed alternative to installing a traditional in-house SCADA system.



### Features:

- Real-time remote supervision and management of gates, meters and other field devices (using MDLC or Modbus protocols)
- Geographic visualisation of devices using satellite maps and customisable overview screens
- Alarm notification, acknowledgement and critical alarm escalation from operator's desktop, SMS, email or pager
- Data analysis and graphing for performance management
- Can be used by multiple users simultaneously
- Secure storage of years of data



Tools for real-time supervision and management, data analysis and graphing



## Customer Connect Efficient customer interaction

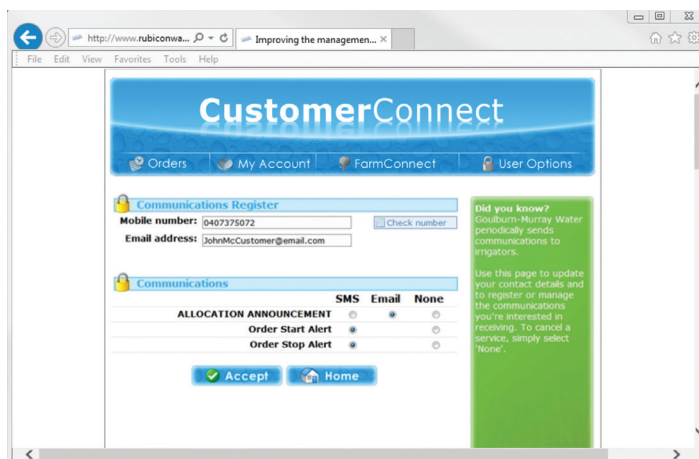
The Customer Connect function pack streamlines the communication process, helping you get close to your customers cost-effectively. A range of tools enable you to communicate in the way that best suits you both.

A dedicated web portal with customer login gives you the ability to communicate directly with individuals or groups of farmers all at once. Messages can be sent and received or up-to-date reports and bulletins can be posted for browsing.

Alternatively a customer can elect to receive messages by SMS or bulletins by fax or email. And the Interactive Voice Response (IVR) system means you can handle most customer needs 24 hours a day.

Customer Connect can also enable farmers to manage their water orders when used in conjunction with the Orders, Rotations & Scheduling function pack. Invoices and water usage statements can also be delivered electronically to customers through Customer Connect when used in conjunction with the Tariffs, Rates & Invoicing function pack.

It's all about providing better customer service and support and improving the efficiency of your operations.



Customer Connect provides farmers and districts with a range of efficient communication options

### Features:

- Communicate using the technology your customers want: telephone, web, SMS, fax, email or IVR
- Keep a record of communication between operator and customer
- Smartphone compatible
- Target a single customer or any group of customers with broadcast messaging
- Use automatic, event-based messaging



## Tariffs, Rates & Invoicing Streamlined revenue generation

Tariffs, Rates & Invoicing streamlines revenue data management.

Complex tariff or rate structures can be defined, made up of any combination of charges such as water usage, property size or farm assets, and combinations of fixed or variable costs, whether one-off or regular.

Invoices can be generated by schedule or the data formatted for input into your own accounting package.

### Features:

- Management of rate structures based on complex combinations
- Interface with external accounting systems
- Invoice generation or data export



## Network Visualisation

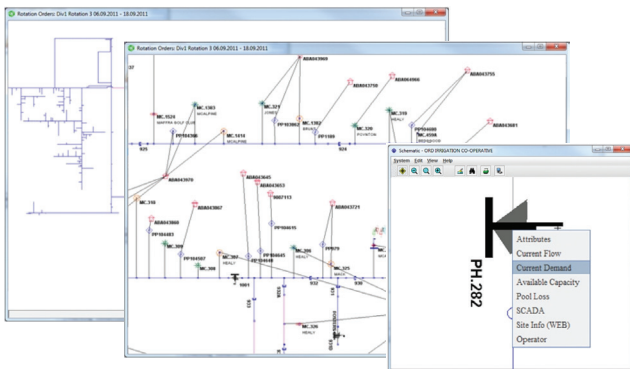
Dynamic visibility of network behaviour

The Network Visualisation function pack provides a visual, schematic representation of the entire irrigation network so that operators have an intuitive 360°, high and low-level feel of total network behaviour.

Our innovative real-time dynamic analysis provides a visual summary of actual demand and flow at any point in the network, and future demand when used in conjunction with the Automatic Delivery function pack.

You can quickly navigate to any part of the network and drill down to individual items for more detail, including SCADAConnect screens.

Easy configuration lets you add and remove infrastructure "on the fly".



Network Visualisation lets you quickly navigate your network and drill down for detail

### Features:

- On-screen visualisation of network
- Fast navigation through even complex networks
- View total demand and downstream usage at any point in the network
- Segment network into areas and groups for reporting, performance monitoring, user messaging or operational management



## Hydrological Data

Streamlined data collection, analysis and reporting

The Hydrological Data function pack collects, stores and organises data from different systems and sources throughout your irrigation district and allows you to present only the high-level data essential for medium and long-term planning and decision making.

And by automatically collating and uploading this data to external systems you can meet complex government reporting obligations with minimal effort and cost.

With a data model designed especially for irrigation, Hydrological Data sets the standard for irrigation data warehousing. So it's ideal if you want to efficiently manage bulk water demand and supply, report dam water levels, and analyse rainfall patterns or water quality metrics over time.

### Features:

- Automatic data collection from field devices and software packages
- Manual data entry with remote option via web browser/mobile device
- Interfaces with existing SCADA systems
- Supports common data formats including the WaterML industry standard and the Bureau of Meteorology's Water Data Transfer Format (WDTF)
- Analyse multi-year trends using integrated tools or external software
- Report to external stakeholders



## Orders, Rotations & Scheduling

Tools for planning of water delivery

Orders Rotations & Scheduling improves operational efficiency by automating the collection, management and planning of requests for water delivery.

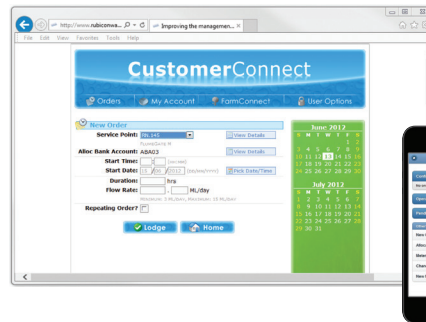
Farmers can place requests using telephone, IVR (Interactive Voice Response) or the web or smartphone (with the Customer Connect function pack). Farmers have the power to delete or modify requests with all actions logged. If required you can also enforce notice periods on these actions.

If you manage your network through rotations, you can define multiple rotations and apply requested delivery changes.

Clever visual planning tools enable you to maximise your ability to deliver while fitting into your network's physical limitations and operational capacity to deliver. Operator running sheets can then be printed with up-to-date instructions.

By making the planning and scheduling process more efficient, notice periods for delivery requests can be shortened and equitable services provided to customers.

By running reports you gain insight into farmer demand. You can also view the demand dynamically and visually if you have the Network Visualisation function pack.



Farmers can manage their delivery requests via the web and smartphone

### Features:

- Farmers can order and manage their water delivery requests through the method of their choice
- Define and manage pre-planned deliveries (rotations or rosters)
- Demand and service reporting by section or entire channel system
- Logging of order history
- Easy definition of planning areas
- Generation of running sheets to provide operator instructions to field staff

## Unlock the automation potential of Rubicon's gates and meters

Rubicon's gate and meter products come embedded with software which enables remote monitoring and control using Confluent without the need for costly integration.



The SCADAConnect function pack seamlessly links with Rubicon gates and meters for remote monitoring and management.



For a powerful control solution, the NeuroFlo® function pack works with the FlumeGate® embedded software to automatically control regulating structures to maintain stable channel levels and eliminate outfalls at the ends of channels.



SlipMeters™ installed at service points receive electronic instructions to automatically open and close according to schedule when they are managed by the Automatic Delivery function pack.



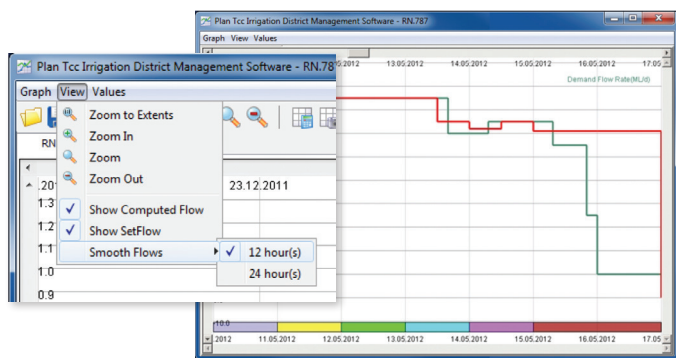
## Automatic Delivery

Automatic water order confirmation and optimised scheduling and delivery

The Automatic Delivery function pack completely automates the scheduling of water deliveries to utilise the available capacity of the channel system, and then schedules the service point to automatically open and close the gate at the planned time, day or night.

Farmers requesting water online (through Customer Connect) can receive immediate confirmation of their orders and can be certain that their water will be reliably and accurately delivered.

Sophisticated demand-scheduling and order-linking techniques ensure that all parts of the channel system from the storage to the farm have capacity to deliver the order. At the same time the number of check and storage gate movements are minimised to reduce channel level fluctuations.



By smoothing the peaks and troughs in demand for water, channel capacity utilisation can be increased and service equity enhanced.

### Features:

- Demand scheduling to fit demand within network limitations
- Automatic confirmation of delivery at time of delivery request or order
- Automatic download of delivery instructions to service points



## NeuroFlo® Network Control

Intelligent automated regulation

The NeuroFlo Network Control function pack automatically controls and coordinates a sequence of gates installed at regulating structures along the length of a channel to optimise the whole network operation in response to customer requirements. Constant flows to farmers are maintained while simultaneously eliminating outfalls at the end of the channels. By eliminating unnecessary outfalls, more water remains available in the dam or river for use at another time.

With NeuroFlo, channel networks can be operated almost on-demand, providing farmers with more flexibility, equity and productivity. Distribution efficiencies of up to 90% have been achieved, and where channels are fed by pumping, results in substantially reduced energy costs.

### Features:

- Automatic coordination of all regulating gates
- Rapid, near on-demand response to farmer need
- Response optimised by real measurements of specific hydraulic behaviour in every section of channel
- No unnecessary outfalls



## Rights & Compliance

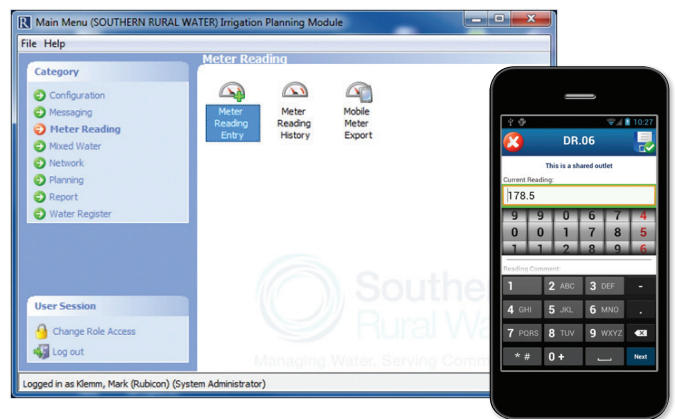
Water rights management

The Rights and Compliance function pack helps you take control of the complexity of managing water allocation rights, ensuring compliance with those rights and complying with increasing government regulation.

You have the flexibility to define water rights or entitlements in the way that reflects your legal structure. You can effect permanent or temporary transfer of rights or alternatively interface to an external water rights register where an external body manages the rights.

Tools are provided for checking water rights before or after water delivery, and for ensuring deliveries conform with regulations. You can report to farmers on usage and on the fairness of distribution and to regulatory authorities or other stakeholders.

Meter reading is cheaper and easier with automated remote meter reading when meters have telemetry. Alternatively you can use our smartphone app if your staff manually collect meter readings, or you can use Customer Connect to enable farmers to self-report and save on meter reading costs.



Smartphone app options streamline meter data collection.

### Features:

- Management of rights and entitlements, equity shares, delivery shares or environmental variables
- Management of transfers of rights and entitlements
- Automatic checking of deliveries to adhere to rights
- Generation of customer water statements
- Reporting to demonstrate compliance
- Automatic or manual recording of meter readings
- Farmer self-reporting of meter readings via web or IVR

## About Rubicon Water

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

Founded in 1995, Rubicon have more than 30,000 gates and meters installed in TCC systems in 15 countries.