

**icontrol**<sup>®</sup>  
solutions

CLOUD-BASED SCADA SOLUTIONS

AFFORDABLE CONTROL.  
ANYTIME. ANYWHERE.





## YOU'RE FEELING THE PRESSURE.

From water pressure to financial pressure, communities today face a growing number of challenges in providing water and wastewater services. Automation, control and remote access solutions can provide many benefits as communities and operators seek to meet their challenges.

However, the implementation and operation of higher level control systems can also represent some significant challenges. Not only can they be very expensive, but they are becoming more interdependent with the complex and rapidly evolving worlds of information technology (IT) and telecommunications.

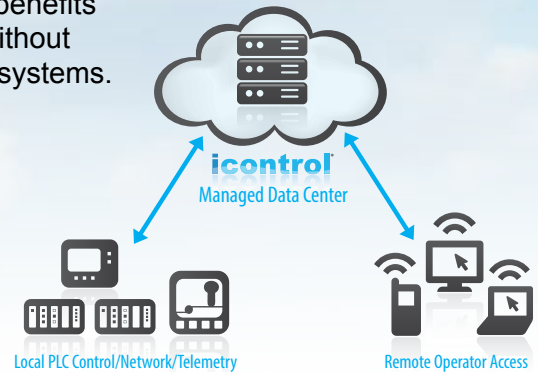
Communities and operators must ask some very important questions when considering investing in these solutions.

- Can we afford it?
- Can we maintain it?
- Will we be getting the most out of our investment?

## icontrol® ELIMINATES THE HEADACHES.

icontrol is the ideal solution for operators seeking all the benefits of a Supervisory Control and Data Acquisition (SCADA) without the expense and hassle of owning and maintaining these systems.

Our cloud-based solution provides full SCADA functionality with secure remote access to your existing control infrastructure through our managed data center. There is no SCADA-related hardware, software or licensing to buy, manage or maintain.



## MANAGE YOUR OPERATIONS.

## LET US MANAGE YOUR SCADA SYSTEM.

icontrol interfaces to your existing local PLC control and telemetry network. Process information is transferred via secure data connection (cellular, broadband, satellite, etc.) to our data center. Each client then has secure access to its individual system from nearly any internet-enabled device (PC, tablet, smart phone, etc.).



**MORE CONTROL.**

**LESS INVESTMENT. LESS HASSLE.**

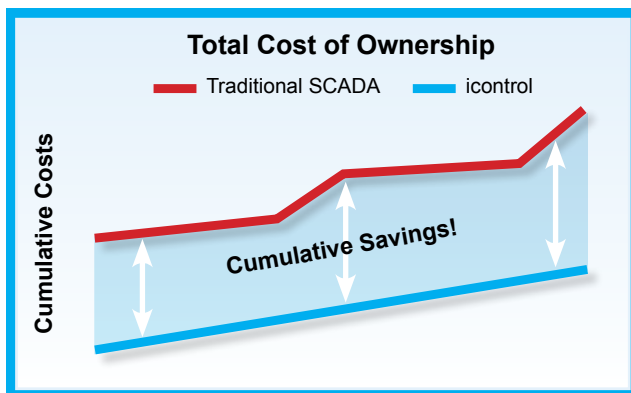
With iconrol, you'll get a scalable, full-featured control solution without the expense and aggravation of ownership and maintenance typically associated with these solutions – resulting in significant operational and financial benefits.

### Operational Benefits:

- Optimize process performance and extend equipment life through full-featured automation and control.
- Remote access ensures improved monitoring and response while improving staff efficiency.
- Improve compliance with data collection and reporting tools.
- Enhance system integrity via professionally managed redundancy, security and data backups.
- Eliminate IT headaches without servers, software or networks to maintain.
- Service and support from an organization with nearly a century of water and wastewater controls application experience.

### Financial Benefits:

- Avoid large capital investments in rapidly evolving technologies.
- Reduce operating expenses through improved system performance and reduced needs for call-outs.
- Simplify budgeting with fixed service contract fees billable monthly, quarterly, annually or a lump sum.
- Expand system incrementally as required.





# TOTAL CONTROL.

# WHENEVER AND WHEREVER YOU NEED IT.

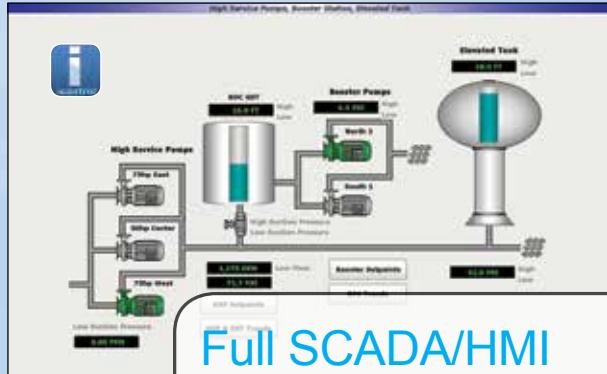
A full-featured, open-architecture platform for supervisory control, monitoring and alarming, data and reporting, and more. icontrol can be integrated with most existing local PLC control systems and accessed anywhere from most web-enabled devices.

## Accessibility



- Full access from any PC and most mobile devices
- No software to load, or maintain
- No “client” licensing – unlimited users
- Managed levels of access / security

## SYSTEM MANAGED IN DATA CENTER



## Full SCADA/HMI

- Dynamic, custom process graphics
- Multiple sites, systems and processes on one application

- 24/7 Monitoring and Management
- Redundant/High Capacity Systems
  - Servers and software
  - Power and internet connections

**Effluent VFD Speed Setpoints**

	% Speed
Triplex Minimum Speed	21 %
Triplex Maximum Speed	15 %
Duplex Minimum Speed	55 %
Duplex Maximum Speed	100 %
Triplex Minimum Speed	55 %
Triplex Maximum Speed	100 %
Fourplex Minimum Speed	55 %
Fourplex Maximum Speed	100 %

**Effluent Alarm Sequence Control**

Panel EP1 & EP2: 3-2, 2-3, Auto / Manual selector switch, Run, Stop buttons.

Panel EP3 & EP4: 3-4, 4-3, Auto / Manual selector switch, Run, Stop buttons.

**Raw Water Pump Operation Setpoints**

Parameter	Value	Unit
Flow Alarm	0.5 FT	ft
Effluent Bk Mode	2.0 FT	ft
Flow Alarm	0.5 FT	ft
WWT Infl Start	8.0 FT	ft
Flow Alarm	0.5 FT	ft
Raw Water Level	-3.5 FT	ft
WWT Infl Stop	8.0 FT	ft
Flow Alarm	0.5 FT	ft

**Stop Delays**

Event	Delay	Unit
Flow Alarm	5	SEC
Flow Alarm	60	SEC
Flow Alarm	60	SEC
Flow Alarm	60	SEC
Flow Alarm	60	SEC

**Debounce Delays**

Event	Delay	Unit
Load Start	5	SEC
Load Stop	5	SEC
Load 1 Start	5	SEC
Load 1 Stop	5	SEC


## Process Control

- Operating set points
- Alarm set points
- Equipment control ( e.g. H-0-A, VFD settings)
- Control schemes (e.g. alternation) and schedules

- Maintenance, Licensing
- Server hardware and software
- Operating and application support

## Monitoring and Alarming

- Alerts via text, e-mail and system screen
- User managed priority and call out lists
- Full alarm history and log
- Remote acknowledgement



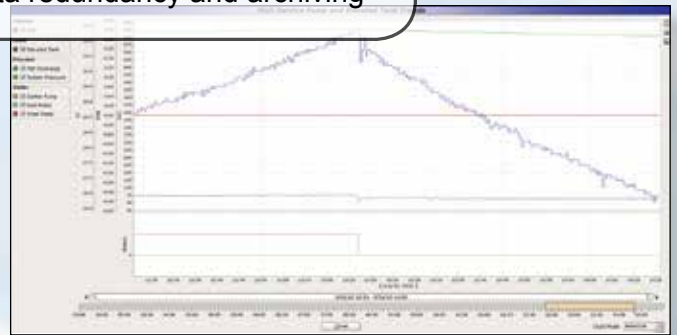
Alarm Name	Alarm Time	Cleared Time	Ack Time	Ack User
High Pressure Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
Low Pressure Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
High Temperature Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
Low Temperature Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
High Flow Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
Low Flow Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
High Vibration Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
Low Vibration Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
High Humidity Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
Low Humidity Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
High pH Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
Low pH Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
High Conductivity Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
Low Conductivity Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
High Dissolved Solids Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
Low Dissolved Solids Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
High Turbidity Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
Low Turbidity Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
High Chlorine Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
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High Bromine Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
Low Bromine Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
High Iodine Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
Low Iodine Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
High Fluoride Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
Low Fluoride Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
High Ammonia Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
Low Ammonia Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
High Nitrite Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
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High Silica Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
Low Silica Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
High Calcium Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
Low Calcium Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
High Magnesium Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
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High Potassium Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
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Low Sulfide Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
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Low Fluoride Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
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High Sulfate Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
Low Sulfate Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
High Phosphate Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
Low Phosphate Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
High Silica Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
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High Calcium Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
Low Calcium Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
High Magnesium Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
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High Potassium Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
Low Potassium Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin
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Low Cyanide Alarm	10/10/2010 10:10:10	10/10/2010 10:10:10	10/10/2010 10:10:10	Admin

## MANAGEMENT SERVICES WATER ENVIRONMENT

# Control

## Data and Reporting

- Trend charts
- Standard and custom reports
- Electronic filing options
- Data redundancy and archiving



## Security and Integrity

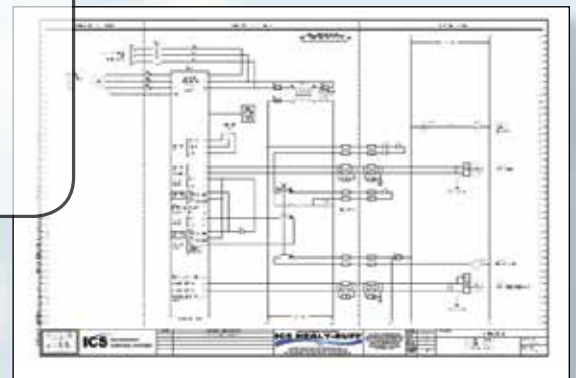
- Cyber-and physical security
- Data and application backup and restore
- Managed communications

## Monitoring and Upgrades

Hardware and network infrastructure  
Application software

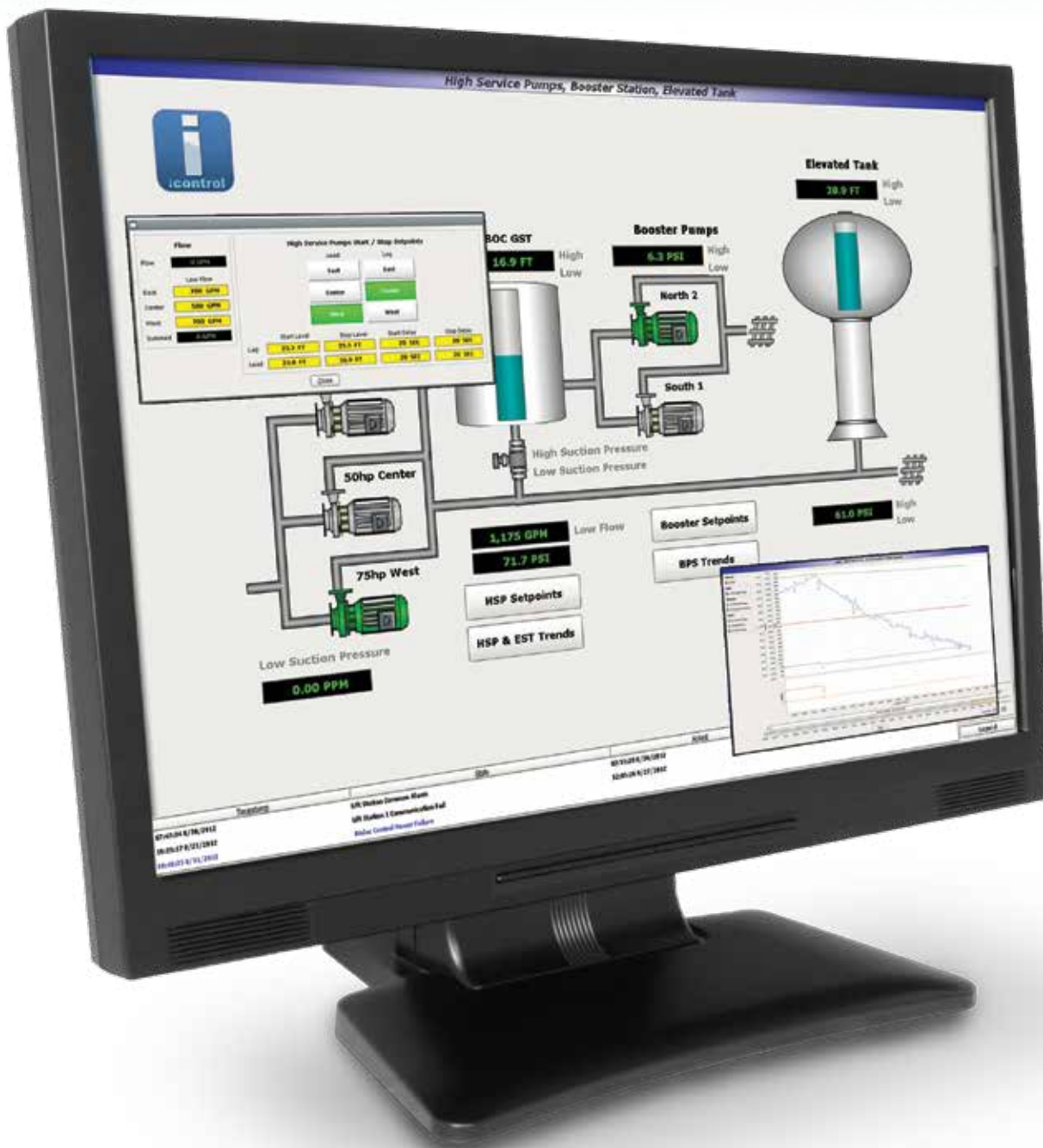
## Asset Management

- Preventive and predictive maintenance tools
- Maintenance logs and procedures
- Operation and maintenance manuals




# INCOMPARABLE VALUE AND PERFORMANCE.

icontrol's unique cloud-based solution gives you full featured control functionality and managed system redundancy and security – all at a price point comparable to basic monitoring packages. Plus, no other solution comes supported by PRIMEX, a company with nearly a century of water and wastewater control experience.






<b>icontrol vs. Traditional SCADA</b>	 icontrol	Traditional SCADA
High Capacity SCADA Server	✓	\$
Unlimited "Tag" SCADA Software	✓	\$
Alarm Notification Software	✓	\$
Data/Reporting Software	✓	\$
Unlimited Remote-User Client Licenses	✓	\$
Annual Software Maintenance Licenses	✓	\$
Point-By-Point System Expansion Capability	✓	\$
Professionally Managed Communication and IT Infrastructure	✓	?
Systemwide Support Backed by a Century of Experience	✓	?
Full System Redundancy	✓	\$\$

Full-featured performance of a traditional solution at a fraction of the cost.

- ✓ = Included in icontrol service fee
- \$ = Requires capital investment or additional operating expense

<b>icontrol vs. Alarm/Monitoring Products</b>	 icontrol	Alarm/Monitoring Products
Dynamic Custom Process Graphics	✓	?
Set Point and Process Control (Digital/Analog)	✓	?
Analog Data Collection and Trending	✓	?
Fully-Integrated (Read/Write) with Local PLC	✓	?
Unlimited Number/Mix of Inputs/Outputs (Digital/Analog)	✓	?
Use of Multiple Brands of RTU and PLC Hardware within Same System	✓	?
Multiple Communication Technology Options and Hybrid Systems	✓	?
Systemwide Support Backed by a Century of Experience	✓	?

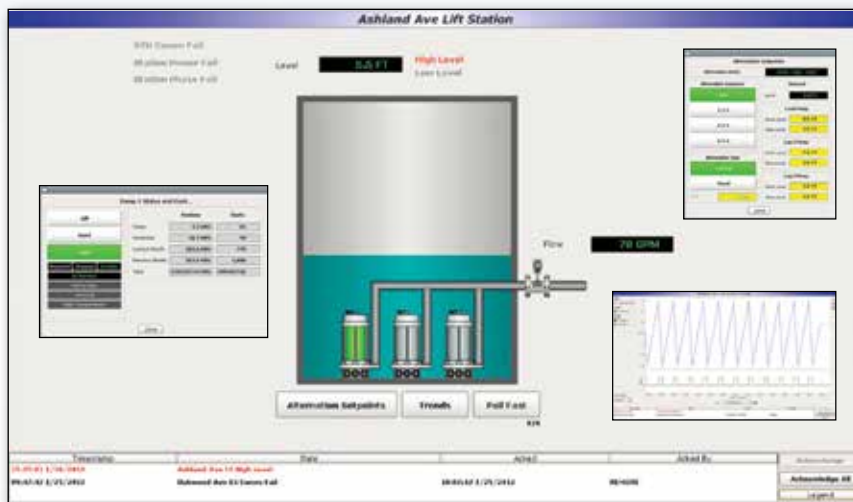
Much greater functionality and value at a cost comparable to monitoring systems.

- ✓ = Standard icontrol functionality
- ? = Ask your vendor

## STANDARD SOLUTIONS FOR COMMON APPLICATIONS.

PRIMEX® has implemented control solutions for thousands of water and wastewater applications. From this experience, we have developed several standard control applications that integrate seamlessly with your local PLC, including:

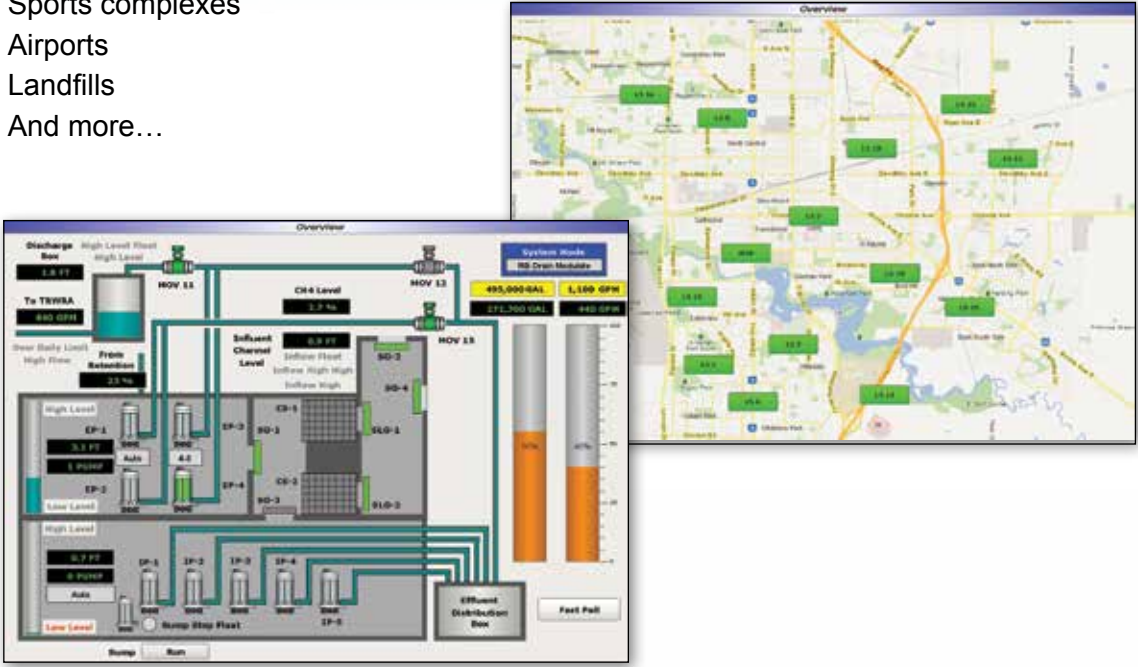
- Lift stations
- High service and booster pump stations
- Ground and elevated tanks
- Well fields
- Hydro-pneumatic tanks



# CUSTOM SOLUTIONS FOR LARGE AND COMPLEX SYSTEMS.

icontrol has also been developed to handle systems of any size or complexity. The open-architecture and multiple communication options make it possible to **integrate with nearly any PLC or existing system.**

- Water treatment processes and plants
- Water distribution systems
- Wastewater collection systems
- Wastewater treatment processes and plants
- Industrial applications
- Sports complexes
- Airports
- Landfills
- And more...





## THE MOST EXPERIENCE AND MOST COMPREHENSIVE RANGE OF SOLUTIONS IN THE INDUSTRY.

PRIMEX®, the SJE-Rhombus® Engineered Solutions Team, dedicated to water and wastewater control is the largest provider of complete control solutions for water applications in North America, offering a broad end-to-end suite of products and services, including standard pump control panels, full-featured, web-hosted iconrol® SCADA solutions and highly complex systems integration projects for large municipalities.

With thousands of installations across North America, nearly a century of expertise, and hundreds of years of combined engineering and electrical controls experience, PRIMEX provides control solutions for municipal and industrial process water applications using the latest technology to deliver energy efficient and cost effective systems carrying UL 508A, UL 698A, and UL NNY and other approvals as specified.

Multiple design and production facilities located across North America ensure PRIMEX customers seamless, high quality water control solutions. PRIMEX employee-owners offer fast turnaround on quotes, submittals and delivery, while maintaining high standards for quality. Investing in research, new product development and testing are core PRIMEX values. PRIMEX is continually designing innovative control solutions to meet the growing demands of the water control industry.



844-4PRIMEX (477-4639)  
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<b>Clearwater, FL</b>	<b>800-349-1905</b>
<b>Detroit Lakes, MN</b>	<b>888-342-5753</b>
<b>Milford, OH</b>	<b>513-831-9959</b>
<b>Plymouth, MN</b>	<b>763-559-0568</b>