Tatsoft is a premier Platform Developer for real-time data monitoring, SCADA and HMI Systems, Distributed Data Aggregation and Advanced Visualization tools. With over 25+ years of experience solving complex problems, the Tatsoft team has industry-proven expertise working with leading companies worldwide, to deliver robust industrial applications in a wide variety of industries and environments, from plant floor to the executive management level.



Case Study - Water Irrigation

Tatsoft FactoryStudio increases flexibility, efficiency, and lowers cost for pivot operators

Improved real-time control, data logging, and remote access for improved irrigation performance

Company
Irrigation Automation Company

Industry
Agriculture

Location
North Dakota (ND)

Website
https://tatsoft.com/solutions/

Challenge

Irrigation Automation Company needed a way to visualize and control real-time data to improve efficiency and performance of pivots out in the field, while allowing farmers the ability to communicate via a mobile device, iPad or iPhone. They searched for a complete software package that provided the necessary connectivity, communications, report generation, and graphic displays all-in-one.

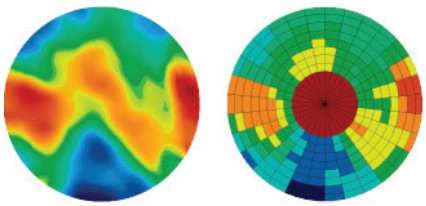
Solution

Irrigation Automation Company chose FactoryStudio; providing them the flexibility and control for managing communications with the PLC, real-time alarms & alerts, built-in SQL data-logging, ability to create needed complex animations & scripts, using Microsoft .NET development tools and allowed the application to run natively on iOS supporting iPhones and iPads.

Results

A rich operator experience and functionality that helped Irrigation Automation Company differentiate themselves from the competition, while providing improved efficiency of water/chemicals usage, and significantly less pivot systems downtime.





When Irrigation Automation Company in North Dakota needed new software for better control of their irrigation systems, they examined Tatsoft's Factorystudio as a way to set out to differentiate themselves from their competitors.

Combining their knowledge from having hundreds of irrigation control systems installed over the past decade and hands-on farm experience, their engineering team envisioned a system using iPads, radio and cloud. The goal was to provide farmers a cost-effective solution delivering rich access to information- anytime and anyplace, with accuracy and reliability.

With the focus on providing greater value and innovation for their current and future customers, the company evaluated many software tools including but not limited to Wonderware Intouch, Inductive Automation Ignition, and myScada.

What they had found in the other software packages, was that overall the systems provided only part of the solutions needed for connectivity, graphic displays, communications, and report generation.

The final choice was to implement with Tatsoft FactoryStudio for a couple of clear reasons:

- The ability to create very complex animations and scripts, using the Microsoft .NET tools
- Running the application natively on the iPad
- Built-in SQL data-logging
- Flexible and native communication with the PLC, which enabled optimization of the bandwidth of the master base radio, one of the main constraints for implementation.

According to the Project Manager: ***"…the other packages we looked at were either extremely long in the tooth, could only communicate with a single PLC, or were lacking in data collection capabilities."***

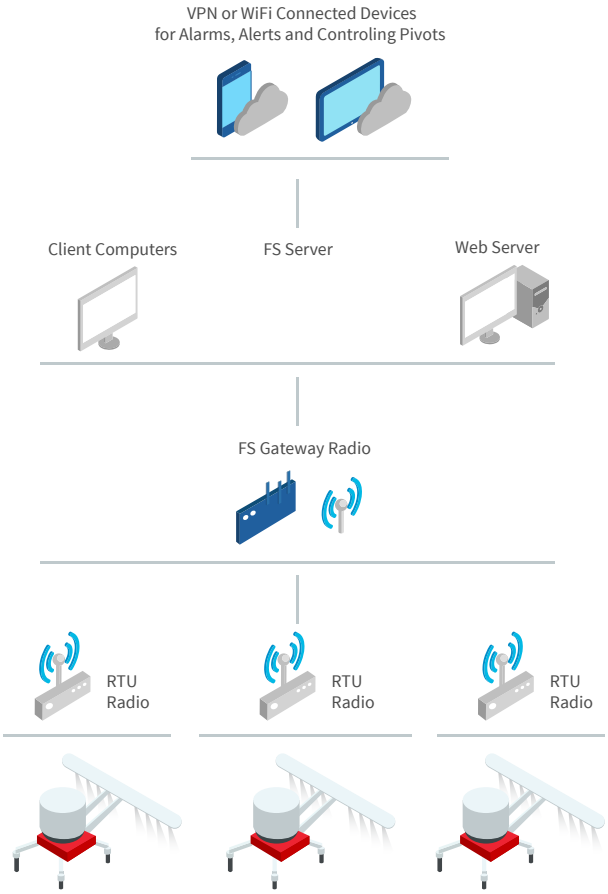
Data collected from PLCs is combined with data entered by the end user. A Water Consumption report is generated and emailed to the user to comply with Canadian and local US governments regulations.

"We modeled our Pivot Control System on what we had previously built within another package. Only this time, we leveraged the technologies in FactoryStudio to tweak and fully control communication with the PLCs. This was essential to the success of the remote network," he said. ***"Other big time-saving features for us were Intellisense, which gave easy access to name spaces and specific systems information in just a couple keystrokes, Online Configuration so I can continue to work on the project, make changes, and never have to restart the application, and easy development of reports."***

"Due to the types of infrastructures available across our typical clients, we needed the driver to be single-threaded because of the communication required to the PLC. We use Ethernet Radios that reach up to 21 Miles. This makes the communication much slower than if they were connected on a LAN. We also required additional data types to be read from the PLC, which the Tatsoft team delivered promptly."

Due to the modern-intuitive interface I was easily able to develop a rich operator experience. When I needed a little help, the Tatsoft support and engineering team were quick to respond. FactoryStudio also provides the tools for us to make complex animations that were essential for us to separate ourselves from the competition."

- Project Manager



With Tatsoft's FactoryStudio communication infrastructure, farmers were able to receive real-time data for enhanced performance & operability, while controlling pivots up to 21 miles away, via their iPad/iPhone

+1 (855) TAT-SOFT (828-7638)
info@tatsoft.com

2929 Allen Pkwy #200
Houston, TX 77019

www.tatsoft.com