



Rite Irrigation LLC

Irrigation system dealer and automation company with extensive experience in farming irrigation systems.



With the Rite Control system, what goes around comes around.

CHALLENGE

- The other software packages provided only part of the solutions needed for connectivity, graphic displays, communications, and report generation.
- The farmers' main method of communicating with the Pivots is with a remote device, iPad or iPhone.

SOLUTION: FactoryStudio

- Ability to create very complex animations and scripts, using the Microsoft .NET tools on a PC, even so being able to run that application natively on the iPad
- Built-in SQL data-logging capabilities
- Flexibility and control FactoryStudio gives to the application in managing communication with the PLC

RESULTS

- Another satisfied customer, Greg stated: *“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.* - According to Greg.

Fordville, ND - Rite Irrigation LLC, an irrigation system dealer and automation company with extensive experience in farming irrigation systems, set out to distinguish themselves from their competitors by providing greater value and innovation for their current and future customers.

Rite Irrigation systems are helping farmers grow the foods of the world. Combining their knowledge, which comes from having hundreds of irrigation control systems installed over the past decade, and hands-on farm experience themselves, the engineering team envisioned a system using iPads, radio and cloud, to provide farmers a cost-effective solution providing rich access to information- anytime and anyplace with accuracy and reliability.

In order to find the best solution, many software tools were evaluated including Wonderware Intouch, Inductive Automation Ignition, and myScada. Then the research and development team came across FactoryStudio from Tatsoft.

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. That's clearly not the case with FactoryStudio.

The farmers' main method of communicating with the Pivots is with a remote device, iPad or iPhone. Initial setup is done on a PC, and the end user can generate reports, change all settings, and acknowledge alarms, all from a mobile device. The designed architecture has iPad devices with the Tatsoft native iOS runtime (ScadaHMIClient), a standard application from the Apple Store.

All that's left to do is connect to the WebServer located at the farm, which acts as a gateway to the radio-modem that access the PLCs at each controlled pivot, and log into the application.

The final choice was to implement with Tatsoft FactoryStudio for a couple of factors: the ability to create very complex animations and scripts, using the Microsoft

.NET tools on a PC, even so being able to run that application natively on the iPad; built-in SQL data-logging capabilities; and the flexibility and control FactoryStudio gives to the application in managing communication with the PLC, which enabled optimization of the bandwidth of the master base radio, which was one of the main constraints for an efficient implementation.

According to Greg Maendel, Product Manager at Rite Irrigation: *"...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."*

The biggest benefits of our systems are real-time control, data logging, and remote access.

Data is collected from PLCs and combined with data entered by the end user a Water Consumption report is generated and emailed to the user. The Canadian government and some local US governments require the report.

"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."

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, quick and easy development of Reports required by the Canadian government as well as some local US Governments." - According to Greg.

Because of the 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.