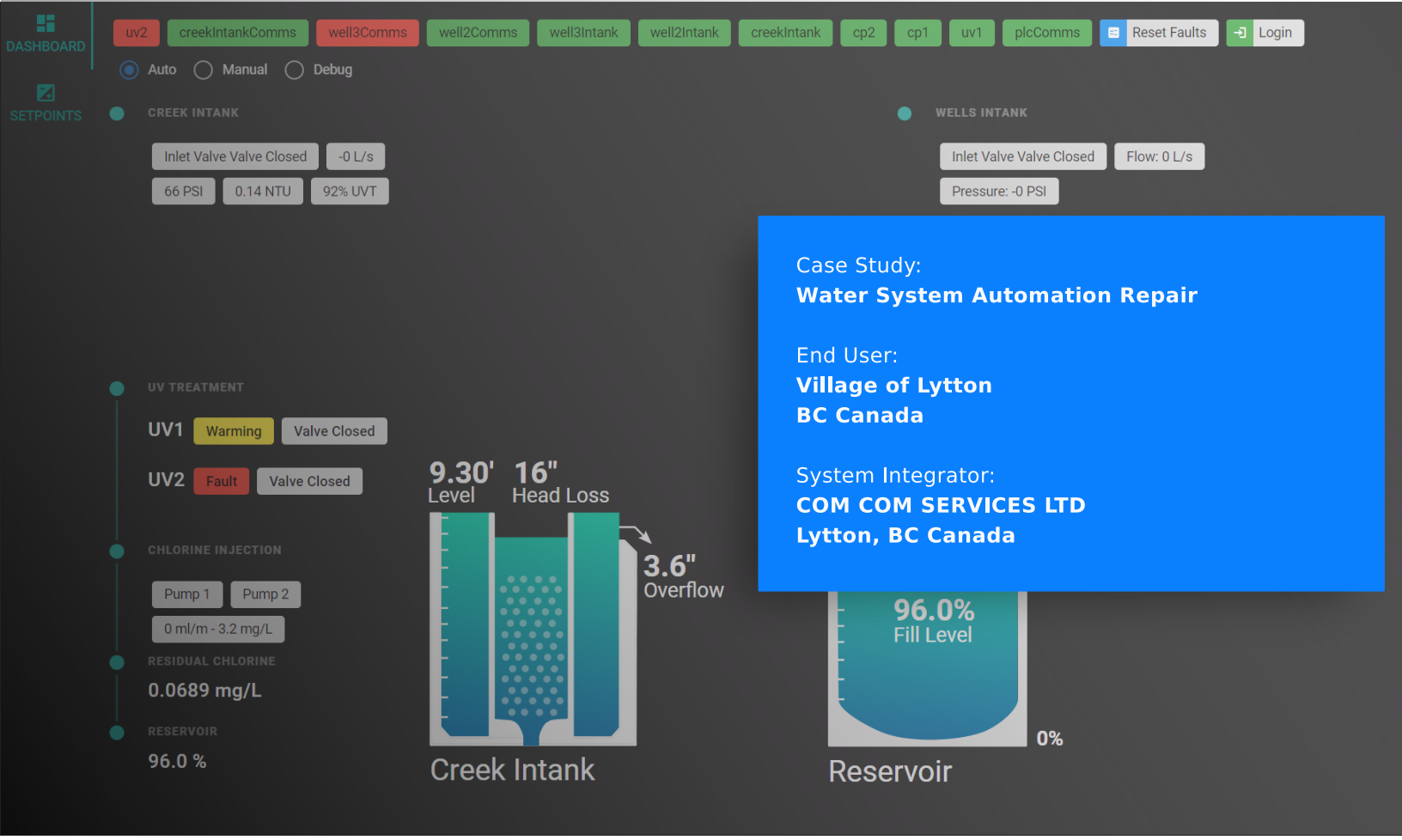

Background:

The Village of Lytton operates a water system sourcing water from 2 deep wells and a creek intank to supply its residents with clean drinking water.

Following the commissioning of a new water treatment plant the Village was plagued with issues stemming from its new PLC system including inoperable water intanks, constant rogue alarms and many other inconsistencies.

After battling with the automation provider for over a year and incurring tens of thousands of dollars of utility expenses due to relying solely on the wells instead of being able to utilize the gravity fed creek intank the Village turned to COM COM SERVICES LTD to fix the faulty system.

"Initially we began to troubleshoot the faulty ladder logic running the water system but it was quickly evident that the programmers who had built the system had no idea what they were doing and had created a huge mess, everything would have to be reprogrammed"

Instead of reprogramming the existing PLC's in ladder logic COM COM SERVICES LTD added a Flexs Q5 to each cabinet and reconfigured the existing PLC's to act as IO modules which the Flexs Q5 could communicate with via ModBUS TCP, from there they went on to write new logic on the Flexs Q5 to control the water plant.

The original ladder logic programming cost over $250k and took almost a year to complete but by taking advantage of the efficiencies gained through the Flexs Q5's logic scripting COM COM was able to reprogram the entire system in less than two weeks time at a cost of only $15,000 (less than 1/16'th of the original cost)

Challenges:

Secure Network Communication

In order for the system to function, communication had to be made between devices over an internet network.
This was easily done thanks to Flexs Q5's built-in AES 256 bit encryption tools.

Web HMI

Due to limited human resources the Village could not afford to keep a full time water operator at water treatment plant to monitor the system and they needed a way that operators could log in remotely to adjust settings and check on levels.The Flexs Q5's onboard web server was setup to have a special password protected page where operators could log in to monitor operation and make changes. Any remote changes were also logged with the operator's name and a timestamp to ensure full security compliance.