L3Harris Technologies

2023 TEEA Winner - Water Conservation

L3Harris designs and builds FAA-compliant equipment and systems for a variety of customers. As part of the aluminum parts fabrication facility in Greenville, Texas, a series of chemical dip tanks are used in a process line for metal preservation. Five continuous water flow tanks are then heated to clean and deposit corrosion resistant chromate coating on milled parts. On average, this process used 1,000,000 gallons of water a month.

To reduce the amount of water, L3Harris installed a series of automated valves controlled by conductivity sensors and solenoids. The sensors send a signal to the solenoid valves that then open at a flow rate of 5 gal/min when conductivity is too high.

By implementing this solution, it reduced the amount of freshwater usage by 70%, achieving a usage rate in the tanks of 300,000 gallons per month while maintaining product quality. Additionally, it reduced both the process wastewater and inorganic sludge production by over 50%.