

Potential Impacts Include:

- 31% Increased Tank Availability
- \$6000 Electricity Cost Savings
- \$3500 Tax Refund
- 85,000 kWh Electrical Savings
- Improved Air Quality
- Reduce Chemical Evaporation
- Reduce Maintenance Costs



## Pursuit for Continual Improvement Generates Shocking Results and Surprising UFO Sighting

In 2018, NorTex Metal Finishing was purchased by Shelby Wolters and has been under his ownership and management since that time. NorTex Metal Finishing offers quality surface protection, durability and functionality for its customers prepared at their Garland, Texas metal finishing facility. NorTex offers a wide variety of services to its customers on aluminum and steel parts. They service a wide variety of industries, including automotive, robotics, telecom, defense, and construction.

Customer:  
NorTex Metal Finishing

Industry:  
Electroplating

NAICS:  
332813

TMAC Services:  
Machine/Process Monitoring (OEE TPM),  
Lean Manufacturing,  
E3 Assessment & Coaching

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**E3: ECONOMY - ENERGY - ENVIRONMENT**  
A SUSTAINABLE GROWTH STRATEGY

### The Situation

Shelby had more than 15 years of experience in mechanical engineering, manufacturing engineering and manufacturing technology, with positions at Texstars, Lockheed Martin, and Bell Helicopter. He had worked with TMAC in previous years on technology exchanges concerning manufacturing in the aerospace industry. So when TMAC reached out to him about an opportunity to participate in receiving a free onsite E3 Assessment funding by a Pollution Prevention grant to help identify other saving opportunities, he said “Yes, why not?”

### The Solution

It started with a short site visit by TMAC, which included a brief tour of the Garland, Texas facility. Shelby had made major improvements since taking ownership in 2018. His focus on quality, quick turn-around, and customer service for his customers was moving his organization in the right direction.

TMAC’s review included finding lean, energy and environmental savings opportunities. The energy review identified an opportunity to qualify NorTex as a manufacturer that was using more than 50% of their electricity for the purposes of manufacturing. TMAC produced the reports that were submitted to the Texas sales tax office to request a \$3500 refund and removal of state sales tax for all future electricity billing.

TMAC also noticed that the heated etch tanks could be insulated to also help reduce electricity costs. TMAC’s automation team then installed a wireless machine monitoring system, which included a power consumption current sensor and a tank temperature sensor to help collect actual data on the electricity required to bring the tanks to temperature throughout the day. For over a week, TMAC collected this data in the cloud (i.e. Microsoft Azure) and visualized this information through Power BI to determine the actual cost of around \$13 per day for electricity to maintain the temperature for the production process.

SUCCESS

TMAC



### UFO Sighting

The next step to reducing tank heat loss was to identify possible solutions to insulate the test tank. Polypropylene tank floats shaped like UFOs were installed by NorTex to help insulate the tanks. In addition to reducing heat loss these floats would also reduce fumes, evaporation of chemicals, drag out and exhaust maintenance.

### Listen to the Data

TMAC staff then collected another set of data after the UFOs were poured into the tank. In addition to saving over \$1,000 in annual heating costs, this tank was now available 31% more time at the correct temperature during the day. This study gave the real data to validate the promises of the UFOs which could now be installed in up to 6 additional tanks in their facility.



*“It was really great working with TMAC to bring another set of well-trained eyes into our facility. Their ability to provide onsite data collection helped us validate our actions to generate real savings for NorTex. We are looking forward to our continued partnership with TMAC and our efforts to make positive changes to advance our ability to meet the needs of our customers.”*



*Shelby Wolters  
Owner and CEO  
NorTex Metal Finishing*

Take the first step to a more successful future!  
Contact TMAC today for your free mini-assessment.  
Call (800) 625-4876 or visit our website at [www.tmac.org](http://www.tmac.org)