



Success Story



ALPHA ANODISING LTD

When a sustainable edge leads to transformative changes.

Alpha Anodising was formed in 1972 to fulfil a requirement for quality black anodising of equipment for the motion picture industry. Anodising is an electrochemical process that develops an aluminium oxide coat on the surface of a part or product. This protects the product from wear and tear as well as enhancing the overall look.



Challenge



Alpha Anodising were on a mission to develop their sustainability credentials and reduce the costs of running their energy intensive shop floor, which houses a swathe of large bubbling tanks preparing anodising treatments ready for products including high end consumer electronics, and industrial process equipment. To get an edge in this area, they wanted to energy monitor key equipment including three electrically powered 240V heaters heating a 11000L boil tank used during the anodisation process, which were responsible for 37% of the entire site's energy consumption.

They also wished to improve the management of their equipment across the factory more generally. Employees were coming in early to turn on heaters to get the boil tanks up to temperature ready for production. This was not ideal when arranging weekend or shift work, as it involved having to manually reprogram heater timers on up to 50 tanks.

Solution



The company joined WMG's Net Zero Innovation Network and accessed a manufacturing energy toolkit to understand energy hotspots in the business. Members of WMG's SME group measured their electrical energy consumption over a six-week period and tested insulative lids on the boil tanks to compare energy consumption before use and after. A full report with a range of energy saving recommendations was presented including heater upgrades, timers, and the introduction of a dashboard to increase visibility of energy usage in the factory.

Alpha then secured a grant through [Innovate UK Business Growth](#) to develop a solution that would network, centralise and simplify the process of managing the temperature of the boil tanks. WMG's Julian Swiestowski, identified an opportunity to use IoT (Internet of Things) technology and connectivity to make this happen.

He explored off the shelf solutions, that were competitively priced, easily programmable, and possible to retrofit beyond this project to other equipment. He settled on the [Siemens logo series](#) which provides a compact controller that links directly to the cloud so that the company can set and adjust the temperature for the tanks away from the shop floor, in the office or on tablets and mobile devices at home.

Impact



The collaboration and IoT project will lead to a number of transformational benefits:

- The new IoT system will save Alpha thousands of pounds a year in energy costs through automation and better insight into usage;
- The new system will allow for higher levels of productivity in the business and enhanced quality as there will now be a whole range of data that can be used to tweak production parameters;
- The system will free up staff to work on other activities which will increase efficiencies and there will also be opportunities for the upskilling of staff to use the new digital systems;
- There are now a range of sustainability led ideas developing within the firm such as insulation on tanks and the introduction of a two-stage counter current rinse system to reduce water consumption by 40-50% They have also invested significantly in Solar Energy Panels and new equipment such as a top of the range Timesaver finishing machine and additional bead blasting cabinets.

Importantly, they are now in a better position to respond to client requests regarding their Environmental, Sustainability and Governance (ESG) targets.

“The work undertaken in this project has exceeded our expectations, we are looking forward to getting the new system up and running in the business and continuing our productivity push through sustainability measures.”

Leslie Sharp
Managing Director
Alpha Anodising Ltd

