



# TSP Engineering streamlines bogey production

Support from the Civil Nuclear Sharing in Growth programme helped TSP cut production time for specialist bogies by over a quarter.

TSP Engineering provides a specialist manufacturing service to quality-critical industries including nuclear, defence, and oil and gas. Operating from one of the UK's largest engineering facilities at Workington, Cumbria, TSP has over 70 years' experience in the nuclear sector.

The firm was recently contracted to manufacture eight specialist bogies. Initial calculations showed that each bogie would take 500 hours to manufacture – but to be competitive, that time had to be reduced by a quarter.

TSP's project team reviewed the current process of manufacturing and found a number of opportunities to improve efficiency. One of the biggest opportunities was in reducing the distance that the components moved around the factory during manufacture. From material goods in to finished fabrication, each bogie would be move one kilometre around the factory.

Part of the problem was that two key manufacturing bays weren't ideally set up for lean flow when transferring items and products to the next production stage. Improvements could help avoid difficulties for the fabrication team leaders, manufacturing personnel, and crane and forklift drivers.

The TSP project team held brainstorming sessions with workshop staff and CNSIG advisors to identify possible solutions. The aim was to reduce the flow of materials by 40 per cent, while gradually decreasing the production hours from the first to the final bogie, and beating the total budgeted hours for all eight assemblies.

Suggestions including redesigning one bay as a material drop-off point, and setting up a new work area to better suit the new flow; repositioning the chamfering area to be in line with this new drop-off point; and introducing a small interconnecting gangway to transport small chamfered items to the second bay without needing cranes or forklifts.

Completing the contract as a CNSIG project was initially frustrating, notes lead manufacturing engineer Ben Carter.

**"We found out instantly that we were moving people and processes way too much, but we had to let this data collection period run its course," he says. "We quickly put together some great improvements, which gave savings to the business on cost, quality and timescale resulting in a hugely successful project."**





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The team also drew on lessons learned from a previous project, and reintroduced a bill of materials process to improve lead times on parts moving from the plate preparation department.

“Our business at TSP has gone through a whole new learning curve involving team building, valuable coaching and a wide range of training support delivered by knowledgeable experts from the CNSIG team,” says Andrew Baxter, operations and business improvement manager at TSP.

“The biggest challenge for the TSP workforce was the direct connection between training and the introduction of actual benefits, which was successfully achieved by driving direct improvements through live projects such as the specialist bogie manufacturing programme.”

Once the improvements were made, overall transport distance for each bogie was reduced to just 300 metres – a saving of 70 per cent. Further analysis showed that there were no other outstanding sources of inefficiency in the manufacturing process.

Manufacturing time for each bogie was reduced by over 27 per cent from the original forecast.

As this was the first project of its kind within TSP’s workshop, employees had to adapt to a change of culture in areas such as completing data collection sheets. But with demonstrable

benefits and management backing, workshop team leaders now say they have the confidence and knowledge to change their work areas to better suit specific project workflow.

“CNSIG has helped TSP become more focused, and assisted the business to drive the necessary improvements to bring us to the leading edge as a key supplier to the nuclear industry,” says John Coughlan, TSP director of operations.

Formerly part of Tata Steel, TSP was acquired by Greybull Capital in spring 2016 as part of the long products business. It continues to trade as TSP Engineering.

[www.tsp-engineering.co.uk](http://www.tsp-engineering.co.uk)

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The Civil Nuclear Sharing in Growth (CNSIG) programme aims to develop the UK manufacturing supply chain for civil nuclear new build, operations and decommissioning. It includes a four-year programme of high-intensity support for 10 key suppliers.

The programme is part-funded by government through the Regional Growth Fund, and supported by industry leaders including Rolls-Royce.

Find out more: [namrc.co.uk/services/sig](http://namrc.co.uk/services/sig)



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