

SUSMAN Project Generates £1 million of Efficiency Gains for Lucite

Spurred on by rising raw material and energy costs, Lucite International's continuous drive for operational efficiency was boosted with over £1 million of savings gained by implementing 'lean techniques' promoted under the Sustainable Manufacturing (SusMan) project. Jointly project managed by Chemistry Innovation and the Centre for Process Innovation (CPI), SusMan targets improved, long term competitiveness for UK-based chemistry-using companies in the North of England (see Case Study 002/2008).

Lucite International is a global leader in acrylic-based products used to make a vast array of everyday items ranging from baths to flat-screen TVs.



The company's Cassel Works on Teesside is the world's second largest producer of methacrylates and plays an important role in the global supply chain for acrylics.

The Process Industries Centre for Manufacturing Excellence (PICME) - a key partner in the Susman project - began working with Lucite's Overhauls Group in 2007 with the aim of helping to minimise shutdown time by implementing lean techniques.

PICME techniques drive Skills Development

An initial two-day workshop - facilitated by PICME - focused on reducing shutdown time for Lucite's MM7 monomer plant. The event generated over 50 actions and a number of trials and improvements centred around the three main phases:

- shutdown and decontamination
- mechanical work
- start-up sequence.

During these trials, Lucite had an early opportunity to apply the techniques gained from PICME to address two one-off operational problems. Steve McMahon from Lucite explains: "In the first area, we avoided losing four days production by trimming down the time to change a failing pump to 11 hours. This achieved a validated cost saving of £740,000. In the second project, the cleaning of a cooling tower was cut to 33 hours, saving £200,000."

Work on reducing the length of the MM7 plant shutdown continued throughout 2007 with several more workshops.

By analysing the critical path and implementing improvements in six identified areas, the target of reducing shutdown from 9 to 6.5 days was

achieved, resulting in total annual savings of £360,000.

Steve comments, "These shutdowns occur twice a year for vital maintenance work and every hour off-line costs £3000, so these savings are essential for the long-term success of the plant." We've now reduced the shutdown time to 5 days and we're very confident that we can cut this further."



Benefits and Outcomes

Having achieved cost savings totalling over £1m, and with more efficiency gains in the pipeline, Lucite has started to roll out the programme to MM7's sister plant, MM8, on the same site. The company has identified the major hold ups impacting the length of shutdown time on the MM8 plant and are confident of replicating the results using PICME's structured way of working.

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