



EMPLOYEE-LED INNOVATION AWARD

WINNER

Philip Edwards

process operator, Fujifilm Speciality Ink Systems

As the saying goes, cleanliness is next to godliness, and, at Fujifilm Speciality Ink Systems in Broadstairs, this rings especially true. Any spillages and splashes can cause cross-contamination between batches of ink and lengthen crossover times between them.

At the plant, the main culprits for splashing were the semi-automated 'lances' on the filling lines. The lances were proving such a problem that each cycle of four five-litre bottles was taking over 33 seconds to fill, at a pump speed of just 37RPM. Any faster than that, and the level of splashing caused delays across the entire factory.

Phil Edwards, a process operator at the plant, took it upon himself to fix this issue. He quickly realised that the secret to a splash-free production line was to sink the lances below the level of the ink as it rose up the bottles. Some further experimentation with flow-rates completely eliminated splashing on the line.

Calling on support from the plant's engineering team, Phil worked diligently on his idea, even during lunch breaks, to modify the nozzles on the lances. As word of his idea spread, other operators got involved, lending their support and input to the project. All of the testing and experimentation took place while the plant was active, with no missed orders or customer complaints.

Not only has Phil's modification eliminated any risk of cross-contamination, it has also significantly improved process time on the filling lines. The pump speed could be increased to 50RPM, which gave a predicted fill time of 29.5 seconds – a 12.5% improvement. However, Phil wasn't finished there. He worked with Autoline, the suppliers of the machinery, to re-programme the software to experiment with fill flow rates, lance and nozzle control, and pump speed. This meant he could optimise the settings for different batches and products.

Phil used 20 batches to help verify his ideas, and the figures speak for themselves: sixty readings were taken, and the average fill time across them was just under 26.5 seconds – a 21.8% reduction in time taken. This added up to a six-minute saving per tonne of finished product. Each Autoline has a daily output of, on average, five tonnes, meaning half an hour can be saved, per line, per day. An extra 130 bottles, or 650kg of product, can now be packaged per shift, which across the 240 days the plant operates over a year adds up to 156 tonnes of finished product per year.

Phil met his brief – to reduce spillage and eliminate contamination – through hard work, and his scientific approach to the task has also led to an increase in the plant's productivity. A shining example of employee-led innovation.

FINALISTS

Manufacturing Technology Roadmap Team,
Siemens Congleton

Maria Galica,
manufacturing shift manager, Alpen Production Team, *Weetabix Food Company*

Will Haynes,
engineering manager,
Paul Hall, innovation engineer, and **Andy Hubbard,** engineering technician, *Delarue Currency*

Richard Draper,
production manager, and **Pete Dabell,**
assistant production manager, *He-Man Dual Controls*

JUDGES' COMMENTS

“Philip demonstrated an extremely relevant and innovative solution to a significant issue within the company, which not only fixed the problem but also delivered strong bottom-line results”