

Case Study

The Year
in Industry

EDT



Usman Rana

Company: UNIPATH
 University: Imperial College London
 Course: Chemical Engineering

The feasibility of continuous product manufacturing – ‘Reel to Reel’

Usman’s project was to prove the feasibility of continuous product manufacture, helping to streamline the manufacturing process, thus saving time, money and increasing output. Through developing a thorough understanding of the entire process, Usman has reviewed each element of production and identified a lean manufacturing process, whilst ensuring quality is not compromised. His project could reduce the £432,000 process and reject material wastage, and have the potential to save £1million per annum through continuous product manufacture.

“This project required a multi-interdepartmental team being brought together and Usman has been instrumental in driving this forward; his verve and tenacity has been highly evident in a climate of scepticism and complacency, after the intention to close the UNIPATH site was announced.”

M. J Chard
 Technical Manager
 UNIPATH

Usman has identified a lean manufacturing process, whilst ensuring quality is not compromised. Usman’s project could help UNIPATH significantly reduce the £432,000 process and have the potential to save £1million per annum through continuous product manufacture.



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Background

UNIPATH is a leading global developer, manufacturer and marketer of in vitro diagnostic products associated with women's health. The range of tests includes pregnancy, ovulation, contraception and infectious disease tests. In excess of 50 million tests are produced per annum for both home and professional rapid diagnostic test markets.

Approach

Usman was charged with investigating the feasibility and benefits of moving the company's technical manufacturing processes from a discontinuous to a continuous system, whilst increasing output and reducing resource requirement. His first action was to gain a thorough understanding of the immunodiagnostic technology and the molecular level of chemistry behind the tests, choosing a specific product to act as a benchmark for his learning. By liaising with manufacturing team members and building relationships both internally and externally from UNIPATH, he set about understanding the whole process from raw materials to final product to ensure complete process knowledge. From here, Usman reviewed equipment and resources used, as well as validating the process with Quality Assurance regulations, and identified the waste and loss produced from the current manufacturing method. He also produced a thorough report of his findings which was circulated to the higher management.

Results

Usman's improved processes could help UNIPATH save the £300,000 losses made due to process design and £102,000 from rejected materials per annum. This reduction in product's technical production and assembly costs would significantly increase the number of products produced per operator per day, leading to a more lean manufacturing process, saving both energy and production costs of large,



expensive machinery. UNIPATH have already made the decision to transfer semi-skilled test assembly to China, but Usman's findings could influence key decision makers to keep a skilled production facility in the UK with approximate potential savings of 1million per annum through continuous product manufacture.

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