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UK Biomanufacturing team to accelerate drug and vaccine manufacturing

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The consortium invest Ã?Â£3.1million to spearheads the development of advanced automated manufacturing controls for use in the manufacture of biologics



A UK-based consortium consisting of BiologIC Technologies, Biopharm Services, CPI, Pall Corporation, and SCIEX has launched a project that aims to develop automated manufacturing controls for use in the manufacture of biologics. The project, worth a total of £3.1million, including equipment contributions, has received support from Innovate UK, to platform this advanced technology.

This project aims to address some of the manufacturing challenges faced in the pharmaceutical industry by increasing flexibility and sustainability, reducing batch failures and paving the way towards real-time product release of biopharmaceutical drugs. This will ultimately reduce manufacturing costs and improve product quality, lowering costs to the NHS, and increasing access to life-changing drugs for patients.

The project focuses on the manufacture of a monoclonal antibody (mAb) and is designed with a flexible approach that could be applied to other therapy types, such as vaccines and viral vectors.

The consortium will develop a prototype advanced control strategy that is independent of equipment or control system suppliers and overlay this strategy onto an existing small-scale continuous bioprocessing module operating at CPI.

Through this collaboration, Pall Corporation and SCIEX have contributed equipment and process technology, and experts at CPI will design and implement the automation strategy.

BiologIC Technologies will deploy its full-stack industry 4.0 technology platform to develop a smart fluidic system with integrated inline sensing that will enable continuous flow between unit operations. The continuous bioprocessing module will be linked to the BioSolve Process cost modelling platform of lead partner Biopharm Services. BioSolve is used to assess the manufacturability of biopharmaceutical products while optimising the continuous bioprocess as measured by cost of goods, facility throughput, scalability, and environmental sustainability.

Andrew Sinclair, President of Biopharm Services, said, “The automation and control strategy principles developed in this project are not only amenable to traditional biopharmaceuticals but can also be applied to the next generation of virus-based vaccines, mRNA vaccines, gene therapy treatments and targeted biotherapeutics. By clarifying the business case using BioSolve Process and actively sharing practical control strategies, the consortium will advance UK biopharmaceutical manufacturing.”