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# Pharma giants partner with Singapore researchers to boost biologics and vaccines innovation

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**To enhance manufacturing productivity, improve operational efficiency and achieve sustainability goals**




Leading pharma companies GSK, Sanofi and Takeda will partner with research communities from the Agency for Science, Technology and Research (A*STAR); National University of Singapore (NUS); Nanyang Technological University, Singapore (NTU Singapore) and its innovation and enterprise company, NTUitive; and Singapore Institute of Technology (SIT) to boost Singapore's biologics manufacturing capabilities.

Their partnership will be formalised through the Biologics Pharma Innovation Programme Singapore (BioPIPS), a consortium initiated by A*STAR with support from the Singapore Economic Development Board (EDB).

BioPIPS seeks to use research and innovation to grow Singapore's manufacturing capabilities for biologics, which include recombinant therapeutic proteins, and vaccines. The consortium will bring together leading industry experts and Singapore's research ecosystem to enhance manufacturing productivity, improve operational efficiency and achieve sustainability goals.

**BioPIPS will have three workstreams-**

- The Sensing and Modelling workstream aims to harness machine learning and mechanistic modelling technologies, together with smart sensors, to enable simplified and faster workflows.

- The Sustainability workstream focuses on tackling sustainability challenges in biologics and vaccines manufacturing, which typically utilises single-use (disposable) equipment due to the extremely sterile environment needed for product purity.

- The Compliant Agility workstream focuses on the removal of manual tasks to achieve greater productivity in the manufacturing facilities while maintaining compliance status, by using solutions like robotics and advanced analytics.

***Image Caption**: [L-R]- A/Prof Susanna Leong, Vice President (Applied Research), SIT; Prof Thorsten Wohland, Director, Research Governance and Enablement, Office of the Deputy President (Research and Technology), NUS; Prof Ng Huck Hui,*

*Assistant Chief Executive, Biomedical Research Council, A*STAR; Chan Siong Wan, Site Director, GSK; Tan Kong Hwee, Executive Vice President, EDB; Koh Liang Hong, Site Head, EVolutive Facility, Sanofi; George Lam, Site Head, Takeda Manufacturing Singapore; Prof Lim Keng Hui, Assistant Chief Executive, Science & Engineering Research Council, A*STAR; Prof Peter Preiser, President's Chair in Biological Science & Associate Vice President (Biomedical and Life Sciences), NTU Singapore; David Toh, Director and Chief Executive Officer, NTUitive*