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China's WuXi Biologics unveils new platform to transform bioprocessing and manufacturing

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PatroLab platform reduces process deviations and batch rejection rates through end-to-end monitoring

China-based WuXi Biologics, a leading global Contract Research, Development, and Manufacturing Organization (CRDMO), has announced the launch of PatroLab™, a state-of-the-art digital twin platform designed to transform bioprocess development and manufacturing.

By combining advanced real-time process monitoring with Raman-based Process Analytical Technology (PAT) and predictive in-silico modeling, PatroLab™ enables real-time and smarter analytics, proactive control, and accelerated decision-making.

This integrated digital solution helps enhance process performance, minimise process risks, shorten development timelines, and ensure consistent, high-quality biologics manufacturing. With PatroLab™, WuXi Biologics sets a new benchmark for efficiency and reliability, enabling global clients to achieve faster time-to-market and robust commercial supply.

Central to the PatroLab™ platform is WuXi Biologics' advanced Raman PAT system, which marks a groundbreaking transition from conventional static, off-line testing to real-time, non-invasive monitoring of more than 40 key process performance and product quality attributes. This innovation enables deeper process insights and faster data-driven decisions.

By increasing data density per batch by nearly 1,000 times compared to traditional methods, PatroLab™ empowers clients to apply QbD (Quality by Design) principles more effectively, and accelerate bioprocess development and manufacturing – all while ensuring product quality and operational excellence.

Building on its real-time monitoring capability, the PatroLab™ platform combines data-driven and mechanistic modeling approaches with digital twin concepts to create virtual bioprocess replicas. This enables a transition from reactive responses to predictive decision-making.