

Quantum leap in OSD testing technology with SciY's latest innovation

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The SciY platform of advanced, vendor-agnostic software and automation technologies is expanding with the launch of the cutting-edge SciYbotic range of tablet testing (TT) automated units. This latest innovation was developed by the Optimal Group, consisting of Optimal Industrial Automation and Optimal Industrial Technologies, to advance the efficiency of oral solid dosage (OSD) manufacturing and improve quality control, cycle times and profitability.



The TT range from Optimal is part of the broader SciYbotic Quality Test Machines series of at-line solutions that enable the digitalisation of pharmaceutical manufacturing from the lab all the way to commercial-

scale production. This latest addition to the portfolio combines vision-guided six-axis robots, analytical instruments, and control systems driven by synTQ knowledge management software. All these components operate in sync to support high-speed, accurate, repeatable and traceable quality control operations within a compact footprint.

Individual tablets are picked up by the robotic arm to be placed in one or multiple analytical instruments. They are precisely positioned in the analyzer for quality checks and the synTQ platform, hosting chemometric and other predictive models, is used to define the characteristics of each sample. Once this action is complete and all tests have been performed, the robot moves the tablets to uniquely marked trays for easy traceability.

The TT machines offer high flexibility, as they are fully customizable to address the specific needs of each individual pharmaceutical application. They operate at high speeds and can be equipped with different analyzers, e.g. to perform only assay testing, or to combine this with weight, thickness and/or hardness. For example, the SciYbotic TTA-60 Quality Test Machine is equipped with a multi-purpose infrared analyzer or, if preferred, a Raman analyzer, to measure content uniformity and determine assay. Based on a typical tablet analysis time, it can process 60 tablets per hour and is able to provide quality decisions to the tablet press within 1 minute.

To advance interconnectivity and flexibility of smarter operations, users can also integrate and run their preferred chemometric models within their custom TT units. The solution can operate either as part of the user's existing production control system or in a standalone configuration.

Therefore, the validated laboratory analytical technique, chemometric model and analyzer type can be integrated into the flexible design. Finally, thanks to the synTQ software platform, which provides a holistic and data-driven real-time overview of manufacturing phases, users can maximize their visibility and control.

As a result, companies can integrate the validated laboratory analytical technique, chemometric model and analyzer type into a flexible design, eventually within broader Process Analytical Technology (PAT) frameworks. Alternatively, they can use the TT units to kickstart PAT strategies, enhancing quality-centric manufacturing strategies.

Martin Gadsby, Chairman at Optimal Group, concludes: “The entire Optimal Group worked closely on the development of the SciYbotic TT design, and we are proud to see our technologies being leveraged to create such an advanced setup. Customers worldwide have already started asking us for comprehensive, fully integrated automated quality testing machines and we are delighted to be able to support them with our latest innovation. We look forward to working closely with pharmaceutical companies to drive the adoption of the TT range and help the entire sector realize the benefits of Pharma 4.0 applications. Through a fully autonomous design, these solutions can greatly streamline quality control, enhancing consistency while reducing complexity and processing time.”

To learn more about the SciYbotic TT range of Quality Test Machines, visit: <https://www.sciy.com/en/news-and-events/news/2024/quantum-leap-in-osd-testing-technology-with-sciys-latest-innovation.html>

Image captions:



Image 1: The SciY platform of advanced, vendor-agnostic scientific software and automation technologies is expanding with the launch of the cutting-edge SciYbotic range of tablet testing (TT) automated Quality Test Machines.

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About SciY

SciY is a vendor-agnostic platform offering a broad range of software solutions across the life sciences research, development and manufacturing automation and QC functions – easy to integrate, flexible, user-centric and uncompromisingly performant. By streamlining data analysis and management, SciY empowers scientists and researchers, accelerates scientific discoveries and enables precise decision-making.

www.sciy.com

About Optimal Industrial Automation (OIA)

Optimal Industrial Automation has more than 30 years' experience building, integrating and optimising manufacturing automation systems for challenging and highly regulated industries. Projects are typically for the pharmaceutical, life science, chemical, aerospace, green energy, food & beverage and other high-value process sectors. The company's primary aim is to deliver measurable reductions in production costs, while finding substantial improvements in productivity, product quality and business sustainability. Part of its capability in achieving this aim is experience in the implementation of Optimal's print and inspect system product – synTI®, plus sister company Optimal Industrial Technologies' leading PAT based process management software platform synTQ.

The company employs a large technical team qualified in software, electrical, electronic, vision and control hardware disciplines. The team has built and developed individual machines and process skids to meet regulations such as FDA 21 CFR Part 210/211 – Pharmaceutical Industry GMPs, and FDA 21 CFR Part 11 – Electronic Records and Signatures. It is also ISO accredited and has years of experience working within GAMP guidelines.

Reader contact: SciY: Markus Ziegler
Sr. Director and Head of Group Marketing
Bruker BioSpin
Tel: +49 172 3733531
Web: <https://www.sciy.com/en.html>
Email: info@sciy.com
Address: 40 Manning Road, Billerica, MA 01821, USA

PR agency:
DMA Europa
Chiara Civardi
Progress House, Great Western Avenue, Worcester,
WR5 1AQ, UK
Tel.: +44 (0) 1905 917477
chiara.civardi@dmaeuropa.com
news.dmaeuropa.com