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Stevanato Group Launches Robotic Human-like Inspection Unit with AI-based Machine Learning Capabilities

The Vision Robot Unit will provide biopharma companies with a fully automatized, highly accurate and flexible inspection system equipped with artificial intelligence for a variety of drug products, for increased operational efficiency.

Piombino Dese, Padua Italy, July 8th, 2020 – Italy-based **Stevanato Group**, a leading producer of glass primary packaging and provider of integrated capabilities for drug delivery systems, is launching a modular, robotic inspection system that incorporates artificial intelligence with accrued machine learning capabilities at its [Interphex Virtual Exhibition \(July 15-17\)](#). The company's **Vision Robot Unit (VRU)** is a reliable, autonomous module capable of automatically inspecting **both cosmetic and particle properties without human intervention**.

The VRU's innovative island design, for which there is a patent pending, comprises a highly versatile "plug & play" concept with a freely configurable infeed and outfeed. It is also **scalable**, as multiple vision inspection units can be added to increase throughput. Its **no glass-to-glass inspection** process significantly mitigates the likelihood of product damage or breakage.

Thanks to its **AI technology**, VRU is able to improve its inspection performance. The unit can quickly react to changing product characteristics – including active ingredient variations, differing fill levels and different containers – even throughout a single batch. It is also adaptive, exhibiting continuous learning from both production and operator stimuli. The result is an improvement in the reduction in both false rejects and, even more importantly, false positives.

The VRU is ideal for a broad array of applications in the pharma development and manufacturing landscape, including **biotech products** such as monoclonal antibodies (mAbs), **vaccines and lyophilized drugs**. Suitable for inspecting **high-value products**, the machine can be employed both in **laboratory settings and for small batch production**.

The Vision Robot Unit is designed to meet emerging "smart factory" needs for a **fully automated, flexible inspection solution that enhances control process reliability**. The unit includes automatic format changes, and the ability to gradually reduce set up times via image and data collection. The VRU is available with or without additional collaborative robots. Basic models offer particle inspection, while an optional add-on provides cosmetic inspection.

"Pharmaceutical companies are increasingly looking for flexible solutions incorporating the most advanced technologies," said **Raffaele Pace, Engineering Head of Operations at**

Stevanato Group. “Our novel Vision Robot Unit is a breakthrough solution, as it addresses some of today’s operational challenges by providing a fully automatic and extremely accurate control process for complex drugs.”

Recent advancements in artificial intelligence promise to optimize pharma visual inspection processes, providing advanced analytical tools to identify and classify defective products with greater accuracy and robustness. Stevanato Group has pioneered this technique and stands ready to support customers in its implementation.

About Stevanato Group

Established in 1949, Stevanato Group is the world's largest, privately-owned designer and producer of glass primary packaging for the pharmaceutical industry. From its outset, the Group has developed its own glass converting technology to ensure the highest standards of quality. The Group comprises a wide set of capabilities dedicated to serving the biopharmaceutical and diagnostic industries: from glass containers with its historical brand Ompi, to high-precision plastic diagnostic and medical components, to contract manufacturing for drug delivery devices, to visual inspection systems, assembly, and packaging equipment. The Group also provides analytical and testing services to study container closure integrity and integration into drug delivery devices, streamlining the drug development process. Thanks to its unique approach as a one-stop-shop, Stevanato Group can offer an unprecedented set of solutions to biopharma companies for a faster time to market and a reduced total cost of ownership.

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