



Noble Secures New Patent for AI-Powered Sound Detection in Drug Delivery and Diagnostic Devices

New patent helps verify correct device operation, which may support patient confidence and adherence through AI-enabled performance feedback

Crystal Lake, Illinois, August 12, 2026 - Noble, an Aptar Pharma company providing patient-centered solutions that support the safe and effective use of drug delivery and diagnostic devices, today announced the issuance of a new U.S. patent covering an artificial intelligence-enabled method for detecting, analyzing and classifying sound output from drug delivery and diagnostic devices. The patented approach advances training, verification and performance feedback by objectively determining whether a device has been operated correctly.

The technology can help determine whether critical device-use steps were completed successfully, providing objective feedback to indicate whether a user has correctly operated a device. As more therapies move into the home and self-administration becomes increasingly common, understanding whether a patient has successfully used a device is becoming an important component of supporting adherence and confidence.

"At Aptar Pharma, the patient remains at the center of everything we do," said Craig Baker, President of Noble, an Aptar Pharma company. "This patent reflects our commitment to applying artificial intelligence in ways that help patients use therapies more confidently and consistently. By recognizing and classifying sounds generated during device operation, this technology can help determine whether critical steps were completed correctly, providing objective feedback that supports correct device use."

AI-Driven Feedback from Sound

The patented approach uses time-series acoustic sensing and neural network-based machine learning to analyze device-generated sound signatures and determine whether a drug delivery or diagnostic device has been operated correctly. Because the system relies on sound rather than visual markers or hardware modifications, it is well suited for training programs, usability studies and human factors evaluation.

Part of Aptar Pharma's Broader AI Strategy

This patent represents an important milestone in Aptar's growing portfolio of AI-enabled innovations. Across Aptar, artificial intelligence is being explored and implemented in areas including patient and consumer insights, analytical and compatibility testing, formulation and product development, quality prediction, digital health solutions and advanced data analytics. From Pharma to Beauty to Closures, Aptar is leveraging AI-enabled approaches to accelerate innovation, strengthen quality and compliance, drive operational advantage and help customers make more informed decisions throughout the development and manufacturing lifecycle.

The innovation also reflects Aptar Pharma's broader strategy of supporting customers across the treatment journey, from formulation to patient. Through integrated capabilities spanning formulation development, analytical services, regulatory support, human factors expertise, drug delivery systems, patient onboarding, training, digital health and patient engagement, Aptar helps pharmaceutical companies accelerate development, reduce risk and improve treatment experiences.

The patient remains the common thread throughout this journey, from early-stage formulation and device development through successful therapy administration and long-term adherence.



Press Release



About Noble

Noble is part of the Aptar Pharma segment of AptarGroup, Inc., a global leader in drug and consumer product dosing, dispensing and protection technologies. Noble provides patient-centered solutions that support the safe and effective use of drug delivery and diagnostic devices across the therapy lifecycle. From early development through launch and beyond, Noble partners with pharmaceutical and medical device companies to design, test and deliver training and demonstration solutions that support confident device use. For more information, please visit www.gonoble.com and www.aptar.com.

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