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News Release

VERMES and droptical advance dispensing process control

Strategic technology partnership combines precision microdispensing with optical process monitoring to accelerate development and provide reliable real-time feedback.

Holzkirchen, Germany, November 03, 2026 – VERMES Microdispensing GmbH and droptical GmbH, in collaboration with MOL Solutions, have entered into a strategic technology partnership focused on the control and monitoring of dispensing processes. By combining VERMES microdispensing systems with droptical's optical measurement technology, the partners offer an integrated solution that enables users to assess droplets immediately after they leave the nozzle. This provides early insight into dispensed volumes, droplet formation, satellite droplets and potential material build-up at the nozzle, helping to further stabilise the dispensing process.

VERMES contributes its expertise in contact-free microdispensing. Combined with droptical's measurement technology, this adds data-based evaluation directly during application and creates a foundation for more targeted process assurance. MOL Solutions contributes many years of experience in microdispensing and process development and supports the international commercialisation of the droptical solution.

droptical's optical technology analyses each droplet immediately after it exits the nozzle. It detects whether a droplet has been dispensed, measures the applied volume and identifies process deviations such as satellite formation or material build-up at the nozzle. This makes it possible to evaluate even rapidly evaporating mediums, such as pure alcohol, before monitoring on the component part becomes of limited value.

For process development, the solution provides more efficient access to detailed information. Users can evaluate dispensing parameters more precisely, compare settings more quickly and identify the causes of deviations. Depending on the application, this can reduce the need for complex high-speed camera investigations or allow them to be used more selectively. Stroboscopic image acquisition also enables the measurement of light-sensitive liquids. The resulting data helps teams define robust process windows and improve the transfer of a developed dispensing process into production.

The collaboration also provides practical benefits in production. It offers direct feedback on each dispensing event, helping to identify errors before they become visible only at a downstream process step or after curing. This helps prevent scrap and improves the traceability of individual dispensing events. In smart manufacturing environments, the information can also be linked to component and process data to document applied volumes and process conditions transparently.

The partnership also creates a development path towards closed-loop dispensing control. Users can already use measurement results to adjust process parameters, for example settings on the dispensing system or the media pressure. With its in-house developed, volume-based Drop Volume System+ (DVS+), VERMES already offers a solution for closed-loop process optimisation. Looking ahead, combining optical process monitoring with parameter-based feedback could make it possible not only to identify deviations early, but also to adjust dispensing processes actively within defined tolerance limits.

As part of the technology partnership, VERMES offers evaluations of basic dispensing processes, training on using a VERMES dispensing system with a droptical device, and evaluation of complete dispensing processes—including inline process control—as an integrated module. The solution is relevant to companies across industries that require real-time feedback on dispensed volume, droplet formation, satellite droplets or nozzle condition, especially when later quality inspection would be too late or technically difficult.

“Precision does not end when a droplet is triggered. What matters is knowing what actually happens at the nozzle,” says Stefan Hirte, CEO of VERMES Microdispensing. “With droptical, we combine high-precision dispensing with direct optical feedback, making dispensing processes faster to develop and easier to control.”

Jonas Heelein, Managing Director of droptical, adds: “This enables users to develop dispensing processes faster, detect critical deviations earlier and assure their processes more effectively. Faults become visible where they occur—before they lead to scrap, rework or unnecessary costs.”

About VERMES Microdispensing

VERMES Microdispensing GmbH develops and manufactures jetting microdispensing systems for precision manufacturing. In 2001, the company made a significant mark on microdispensing with the world’s first piezo-based, contact-free dispensing systems. Today, customers worldwide use VERMES systems to apply adhesives, silicones, greases, solder and conductive pastes, solvents, and other demanding fluids with precision, repeatability and process

reliability. Its solutions are used in electronics and semiconductor manufacturing, the automotive industry, communications technology, fibre optics, pharmaceuticals and life sciences. From its location in Holzkirchen near Munich and its worldwide subsidiaries, VERMES combines application expertise with in-house development and manufacturing capabilities, supported by an international sales and service network.

More information about VERMES can be found at www.vermes.com

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