Matthews INTERNATIONAL®

NEWS RELEASE

Matthews International
Corporate Office
Two NorthShore Center
Pittsburgh, PA 15212-5851
Phone: (412) 442-8200

March 19, 2026

Contact: Frank Bogenstahl
Sr. Director of Sales, Energy
engineering.base@matw.com

Matthews Engineering and hs-tumbler Join Forces to Enable High-Speed Dry Electrode Manufacturing Through Trajectory Mixing

Cooperation combines trajectory mixing and calendering expertise to improve powder preparation, throughput and process consistency for dry battery electrode manufacturing.

Joint development aims to support scalable, solvent-free DBE production with more homogeneous powder mixing, higher line speeds and improved operational performance.

PITTSBURGH / QUAKENBRÜCK, **March 19, 2026 (PR Newswire) –** Matthews Engineering, a division of Matthews International Corporation (NASDAQ: MATW), and hs-tumbler GmbH today announced a cooperation to advance trajectory mixing technologies tailored for dry battery electrode (DBE) manufacturing. The joint development targets scalable powder preparation and higher calender throughput for next-generation, DBE production systems.

This collaboration brings together Matthews' deep expertise in precision engineering and advanced calendar systems with hs-tumbler's proprietary trajectory mixing technology, aimed at enabling consistent, high-quality powder preparation upstream of electrode calendering and lamination. Dry electrode manufacturing continues to gain momentum from cell makers, automotive OEMs and research institutions seeking solvent-free, energy-efficient production solutions, including for next-generation battery chemistries.

Trajectory mixing applies a controlled Lissajous-type motion within a sealed container to produce highly homogeneous dry-electrode powder mixtures. In a single processing step, the method achieves uniform binder distribution and controlled fibrillation, thereby replacing multiple conventional dry-mixing and conditioning stages. The technology enables high feed uniformity and improved electrode mouldability, while simultaneously reducing mixer wear, metal contamination, and active-material particle damage. In addition, the enclosed process

significantly minimizes dust exposure, providing clear operational and safety advantages for battery cell manufacturing and R&D lines.

Early development efforts under the cooperation have shown promising indications that trajectory-mixed DBE powders can support increased calender throughput at elevated line speeds while maintaining quality parameters of the dry electrode sheet. Further, cell assembly using trajectory-mixed powders, show the potential for improved productivity in dry electrode workflows.

“This partnership advances our shared vision of enabling next-generation battery manufacturing for our customers,” said Brandon Babe, President, Matthews Engineering. “By combining Matthews’ advanced calendering and process expertise with hs-tumbler’s innovative trajectory mixing, we aim to provide the scalable upstream processing foundation that DBE production requires, while further enhancing our intellectual property platform.”

About Matthews Engineering

Matthews Engineering is a global provider of engineered solutions specializing in the design and manufacture of continuous process equipment and precision machinery for demanding industrial applications, including dry battery electrode production lines. A division of Matthews International Corporation (NASDAQ: MATW), Matthews Engineering supports customers worldwide with complete process systems, leveraging decades of experience in calendering and roll-to-roll manufacturing to enable advanced energy storage production.

About hs-tumbler GmbH

hs-tumbler GmbH develops and supplies trajectory mixing technology, a novel approach to powder processing that uses programmed multi-axis motion in sealed containers to achieve homogeneity, binder distribution, and control of sensitive materials. The technology supports solvent-free and low-environmental foot-print processes and is applied in advanced manufacturing contexts such as battery materials, ceramics, and high-performance composites.

###