

# pharma

## TECH OUTLOOK

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## Lödige Process Technology



*The annual listing of 10 companies that are at the forefront of providing  
Pharma Tech solutions and transforming businesses*

## Lödige Process Technology A Leader in Process Engineering Solutions

**D**espite the availability of a plethora of novel drug delivery systems, oral solid dosage (OSD) forms remain the most popular across the entire spectrum of pharmaceutical candidates and products. OSDs are the preferred option for many pharmaceutical products because of their cost-effectiveness and patient compliance. Furthermore, the use of tablets or capsules for a drug product can provide a high chemical and physical stability, unique brand recognition by shape and colour, the convenience of handling, and controlled-release options. As more complex molecules are being introduced, delivering targeted therapies formulating OSDs is increasingly becoming a rigorous and expensive process. With significant advancements in recent decades, the Coating of OSDs has been the subject of remarkable developmental efforts to ensure and enhance tablet dosage form quality. However, achieving optimal manufacturing capability, cost-efficiency, and high product quality remains a major challenge for pharma companies. To this regard, Lödige Process Technology (Lödige) offers high-quality mixing, granulation, drying, fluid bed, and coating systems for the different process engineering-based production applications required for pharmaceutical products.

A family-run business founded in 1938, the Paderborn firm is credited with the invention of the Ploughshare Mixer, a mixing unit that can cover a wide range of different processing tasks for solid materials, granulates, powders, dusts, pastes, and slurries. The Ploughshare Mixer unit revolutionised mixing and processing technology by forming the basis for numerous innovations. With over 60 years' experience in continuous mixing and granulation, Lödige understands the pharmaceutical industry's needs by scaling down the established systems for the continuous manufacturing of smaller high-quality outputs of solid dosage forms. The firm offers direct compression and wet granulation/drying machines, making it the ideal partner for continuous production of OSDs. Present-day, Lödige is setting new standards for coating speed, efficiency, and filling level variability with its Coater type LC that operates on the co-current, under-pressure principle, and used for processing different shapes of tablets, capsules, and pellets. Designed for through-the-wall assembly, separating technical and process areas—the coating system permits easy adjustment of the nozzle position to the tablet bed to set an optimum spraying distance and the angle at all times. Heated inlet air is guided into the Coater housing via a special distribution system and led through the perforation into the

coating drum, ensuring a rapid drying process of the moist tablet surfaces. An innovative ultrasonic generator is used to reduce the time spent on the cleaning process. The firm's customer-oriented design of its machines and strict adherence to all current GMP directives, FDA regulations, and WIP/CIP systems enables pharma companies to reduce maintenance costs, enhance quality control, and a higher product yield. Lödige boasts various certification and compliance standards, such as DIN ISO 9001, ML-CHINA, AD 2000, and EN ISO 3834-2.



Reiner Lemperle

“As an end-to-end service provider—we not only build, install and commission turn-key solutions but also create tailor-made solutions to enable clients to continuously manufacture high quality products,” states Reiner Lemperle, Director of Sales at Lödige Process Technology. Lödige offers individual consultation services and customises solutions based on customer requirements on site from design qualification, planning, installation, and commissioning to operational qualification, performance qualification, and recalibration. To ensure planning reliability in the development of products using new processes and recipes for large-scale production—Lödige conducts pilot projects with the equipment and process management specific to those of the client's production lines. The Lödige Test Centres consist of 700 sqm and over 30 machines, including a laboratory for physical analysis dedicated to pharma trials in compliance with GMP conditions. Also, maintenance agreements, upgrades, and direct support is provided by highly qualified engineers at regular intervals over the lifetime of the machine. The company's electrical engineering department provides both the software (PLC and PC-based controls) and the hardware planning (switch cabinets and wiring) for all control-relevant components.

To further illustrate, Lödige's solutions efficacy, Lemperle, cites a case study where a client is required to reduce their coating time. Owing to Lödige's coating system, the client was able to reduce his coating time by 45 per cent without compromising the quality of tablets and double his production at the same time. For the future, Lödige seeks to further develop and improve its current machines and services for its customers. The firm has further plans to increase its geographical footprint and offer its product portfolio to price-sensitive markets such as Africa. “We are constantly trying to be ahead of the pharmaceutical market tendencies in order to control it and find solutions to the industry,” concludes Lemperle. 