

LIDROTEC and TRUMPF accelerate wafer dicing in the chip industry

More than three times faster than conventional sawing methods // High cut edge quality similar to plasma dicing // High-speed laser dicing makes semiconductor production more efficient

Ditzingen/Bochum, February 9 2026 – High-tech company LIDROTEC has developed an innovative laser dicing process. TRUMPF has helped to scale the process for mass production of wafers with its laser and beam shaping technology. This enables users to cut wafers more than three times faster than with conventional sawing processes, while maintaining high cut edge quality. "The new laser dicing process goes beyond the limits of established methods. It enables the chip industry to manufacture the next generation of semiconductors faster, more economically, and in high quality," says Christian Weddeling, responsible for wafer dicing at TRUMPF. TRUMPF is presenting the new technology at the Semicon Taiwan trade fair.

Three times faster than mechanical saws

Separating semiconductor chips from a wafer is an important step in the backend of semiconductor manufacturing. The new process from LIDROTEC combines ablative laser dicing under a liquid stream with high-precision beam shaping technology from TRUMPF. Users benefit from a significant increase in productivity, as the cutting speeds are more than three times faster than those of mechanical saws. At the same time, the technology provides the highest cutting edge quality, which is equivalent to plasma dicing. The liquid immediately removes molten and solidified material residues. This reduces post-processing and increases the yield of defect-free chips.

Less maintenance and lower operating costs

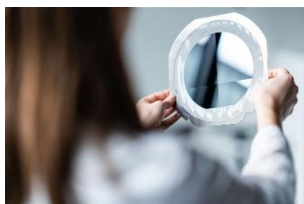
Since users do not need mechanical wear parts such as saw blades, both maintenance and operating costs are reduced compared to the sawing process. "



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The combination of speed, high yield of defect-free parts, and reduced material consumption helps our technology make semiconductor production more efficient and economical," says Alexander Kanitz, CTO of LIDROTEC. In addition, the process can be flexibly adapted to different materials such as silicon, silicon carbide, or hybrid wafer structures, making it suitable for a wide range of semiconductor types.

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Wafer dicing

The new laser-assisted process makes wafer cutting significantly more productive.

Image source: TRUMPF



About TRUMPF

TRUMPF is a high-tech company offering manufacturing solutions in the fields of machine tools and laser technology. It drives digital connectivity in manufacturing through consulting, platform products and software. TRUMPF is one of the technology and market leaders in highly versatile machine tools for sheet metal processing and in the field of industrial lasers.

In 2024/25, TRUMPF employed 18,303 people and generated sales of 4.3 billion euros. With about 90 companies, the TRUMPF Group is represented in nearly every European country as well as in North America, South America and Asia. The company has production facilities in Germany, France, the United Kingdom, Italy, Austria, Switzerland, Poland, the Czech Republic, the United States, Mexico and China. Find out more about TRUMPF at www.trumpf.com



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