


3D-Micromac AG

Micromachining Excellence



A modern, two-story building with a yellow facade and large glass windows. The building is surrounded by greenery, including trees and bushes. The sky is blue with some clouds. The company logo "3D MICROMAC" is visible on the building's facade.

3D MICROMAC

"Our international customers place great value on future-oriented and user-friendly processes. Our solutions help them increase production efficiency and lower cost".

Tino Petsch, CEO 3D-Micromac AG



Our Demand: Setting Worldwide Standards in Laser Micromachining

3D-Micromac is the leading specialist in laser micromachining. Our team of experts develops processes, machinery and complete systems at the highest technical and technological level. 3D-Micromac systems have been successfully implemented in various high-tech industries worldwide including photovoltaic, semiconductor, glass and display industries, micro diagnostics, and medical technology. Our target is to completely satisfy customer demands even on the most complex projects.

3D-Micromac adheres to high-performance and future-oriented processes at high production efficiency. Our technologies have set international standards for true innovation. Since we place great importance on continually expanding our know-how, we are diligent about keeping up with the latest research. On a daily basis, we combine recent results with our customers' demands to realize them in practice.

Our Core Competencies



Whether Standard System or Special Solution: We Optimize your Processes

At 3D-Micromac, we not only successfully provide our customers with high quality, reliable and user-friendly standard systems for all applications in laser micromachining, we also provide branch-specific solutions. Our products help increase production efficiency, optimize processes and lower costs in various areas of technology.

Our expertise and engineering competency allow us to stand alongside our customers as reliable partners in technology and process development as well as in the development of OEM-manufacturing solutions and customer-specific systems. Our innovations are built on more than ten years of expertise in laser micromachining. This especially applies to the excimer-and ultra-short pulse laser systems, as well as the roll-to-roll laser machining of flexible substrates.

We support our customers across the entire product life cycle, from process development and selection of a suitable machine design to commissioning and comprehensive servicing. As cooperative and trusting partners, we swiftly and reliably meet our customers' requirements.

What is our motivation? The ever-new technical challenges that make us grow.



Our Strength: Reliable and Fast Service Worldwide

Good service means being in good hands especially when it comes to production systems running 24/7. At 3D-Micromac we provide this peace of mind. Our qualified service team is available around the clock and worldwide offering fast and reliable service.

As trusting and cooperative partners, our experts provide technological solutions from the initial idea to series production. In the application laboratory, we model every step of process and technology development, offering immediate support to our customers from pre-testing feasibility and prototype and functional prototype development, to mini-series. We provide advice during the process development and optimization, and together with our customers, find the most economic production solution.

Along with delivery, assembly and commissioning, we offer user training as well as custom-tailored maintenance and service contracts. Reliability and competence are our strengths. We remain the point of contact for our customers across the entire life cycle of the system.



Our Target Markets

Production Solutions for Innovators and Growth Markets

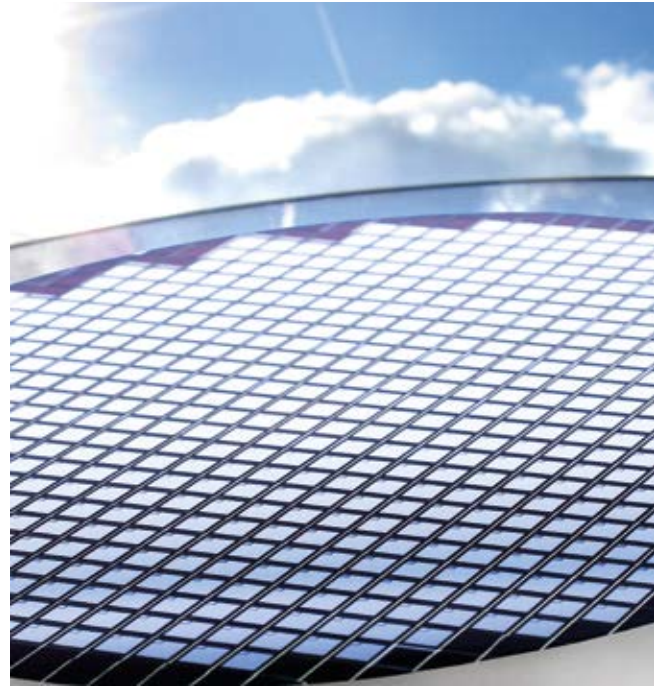
Innovative laser processes are revolutionizing industrial manufacturing worldwide. They are characterized by extraordinary reliability and productivity, fine precision, and flexibility. It is only because of our laser processes that efficient series production of new and innovative components and products are made possible. Our technologies and systems are successfully utilized in high-tech industries and by innovators like the photovoltaic and semiconductor industries, micro diagnostics and error analysis, display and smart glass-production, electronics manufacturing, medical technology, and ophthalmic lenses.

Photovoltaic

3D-Micromac continues to develop innovative production solutions in order to satisfy PV cell manufacturers' requirements for high productivity and efficiency. By combining process know-how, equipment and service, our system solutions for Laser Contact Opening (LCO) of high efficient PERC (Passivated Emitter Rear Cell) solar cells, or for the cutting of solar wafers, are fulfilling the requirements of efficient cell manufacturing in every possible way.

Semiconductor Industry

Industry trends toward increasing miniaturization and continuously increasing efficiency requirements of electronic components have driven manufacturers of semiconductor-based components to find new solutions. To be efficient and profitable, production equipment needs to stay up-to-date to meet these new requirements. Thus, 3D-Micromac develops future-oriented laser processes and system solutions to optimize existing production processes. We provide production equipment for the separation of semiconductor wafers using TLS-Dicing™ Technology.



Microstructure Diagnostics and Failure Analysis

Microstructural diagnostics and defect analysis are deciding factors for the continued improvement of materials with special properties and the development of high-performance components. With the microPREP™-System, 3D-Micromac opens a new field of application for laser micromachining. The system also opens new avenues for laser-based sample preparation by significantly shortening preparation time and achieving considerable cost advantages regarding upkeep and maintenance cost.

Flexible Electronics

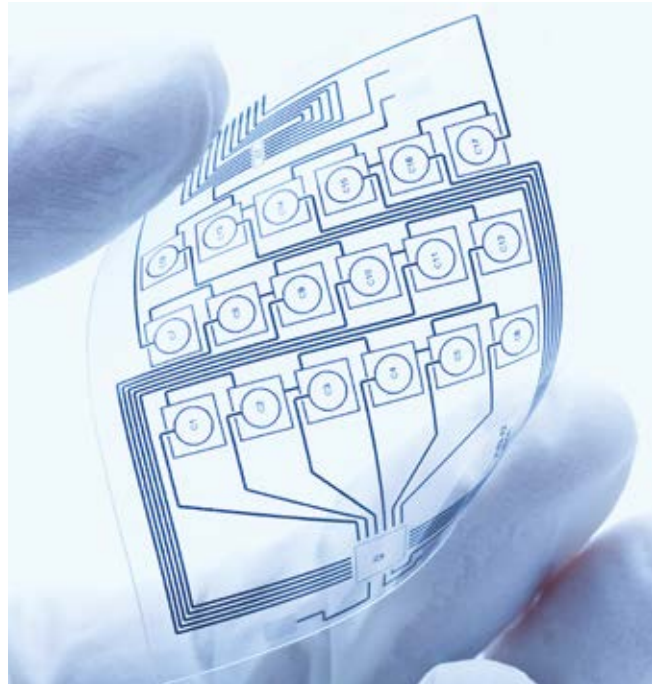
As one of the important future technologies, flexible electronics creates a variety of novel application opportunities. To satisfy these possibilities, 3D-Micromac has developed a modular roll-to-roll production system called microFLEX™. This system features a combination of laser processing and print technology and easily adapts to changing markets, which allows customers to maintain a deciding technological edge in product development.

Medical Technology

In the manufacturing of medical instruments and implants, precision and machining quality on ever smaller structures are playing an important role. Laser technology, due to its selective and non-contact processing, offers optimal conditions for efficient and inexpensive concepts. 3D-Micromac develops reliable OEM-solutions and customer-specific laser systems for the production of medical engineering components that are precisely aligned with the requirements of the medical technology manufacturers.

Ophthalmic

The production process of ophthalmic lenses requires several marking processes: virtually invisible functional engravings and visible branding engravings. Looking back at more than ten years of branch experience and more than 200 laser systems in the industrial production of ophthalmic lenses and contact lenses, 3D-Micromac has become the market leader in the premium marking of ophthalmic lenses. We offer a suitable laser engraving system for every application – for premium marking using excimer-lasers and as a cost-efficient and maintenance-free laser system with integrated DPSS laser (diode-pumped solid-state laser).



Milestones in our Company's History



2002

Founding of 3D-Micromac AG

2003

Market launch of the world's first commercial laser system utilizing ultra-short pulse laser

2004

Development of industrial-suited excimer-laser system for ophthalmic lenses

2006

Beginning of developmental work of roll-to-roll laser machining of flexible materials

2007

Winner 'Innovation Prize' by the Free State of Saxony

2009

New construction of a company building at the 'Smart Systems Campus' in Chemnitz

2010

Successful market launch of production systems for the manufacturing of nozzles via excimer-laser

2011

- Awarded the 'SPIE Green Photonics Award'
- Winner of the 'Excellence Award' at the Taiwan Laser Application Forum
- Transfer of the microFLEX Roll-to-Roll system into industrial series production

2012

- CEO Tino Petsch is honored as 'Entrepreneur of the Year' in Saxony
- Construction of the microFLEX-Center

2013

- Solar Industry Award in the Thin Film Innovation category
- Strategic realignment focusing on industrial growth markets

2014

- Technology acquisition for Thermal Laser Separation (TLS-Dicing™)
- Successful market launch of production systems for Laser Contact Opening
- Founding of 3D-Micromac America



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