

Microlution  
ML-5/MLTC/MLDS

# Shape your future



Machining for a shrinking world

# Higher performance in smaller devices

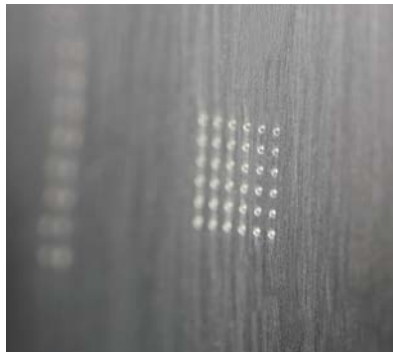
Miniaturization is a clear trend today and the accuracy of features is becoming even more crucial, as manufacturers are challenged to deliver precision parts, to get higher final product performance and to effectively control the price per part. GF Machining Solutions offers the industry's most complete line of micromachining Laser platforms optimized for small, high precision features to meet the increasing need for the smaller, smarter parts to support today's leading edge products.



## Medical

### Advancing medical technology

Minimally invasive surgery limits incision size, reducing hospitalization and healing times and associated pain and risk of infection. This medical trend drives demand for smaller implants and medical devices as well as emerging demand for microparts. Regulatory and margin pressures associated with miniaturization push manufacturers to look for new technologies. GF Machining Solutions offers a new class of high-precision Laser micromachining platforms ideal for the medical device manufacturing industry. Our solutions answer medical device manufacturers' needs: higher productivity, better quality and compliance with stringent regulations.



## Automotive

### Boosting auto performance

Automakers envisioned getting more combustion out of the same amount of fuel if they could engineer fuel injector spray flow, angle, droplet size, and fuel mass. The designs were there, but the holes could not be machined to specifications with existing solutions. GF Machining Solutions' ultrafast Laser platform changed everything, delivering precision microholes on new generations of fuel injectors that improve performance to help meet government emissions regulations and satisfy customers.



## Watches

### Running like a Swiss watch

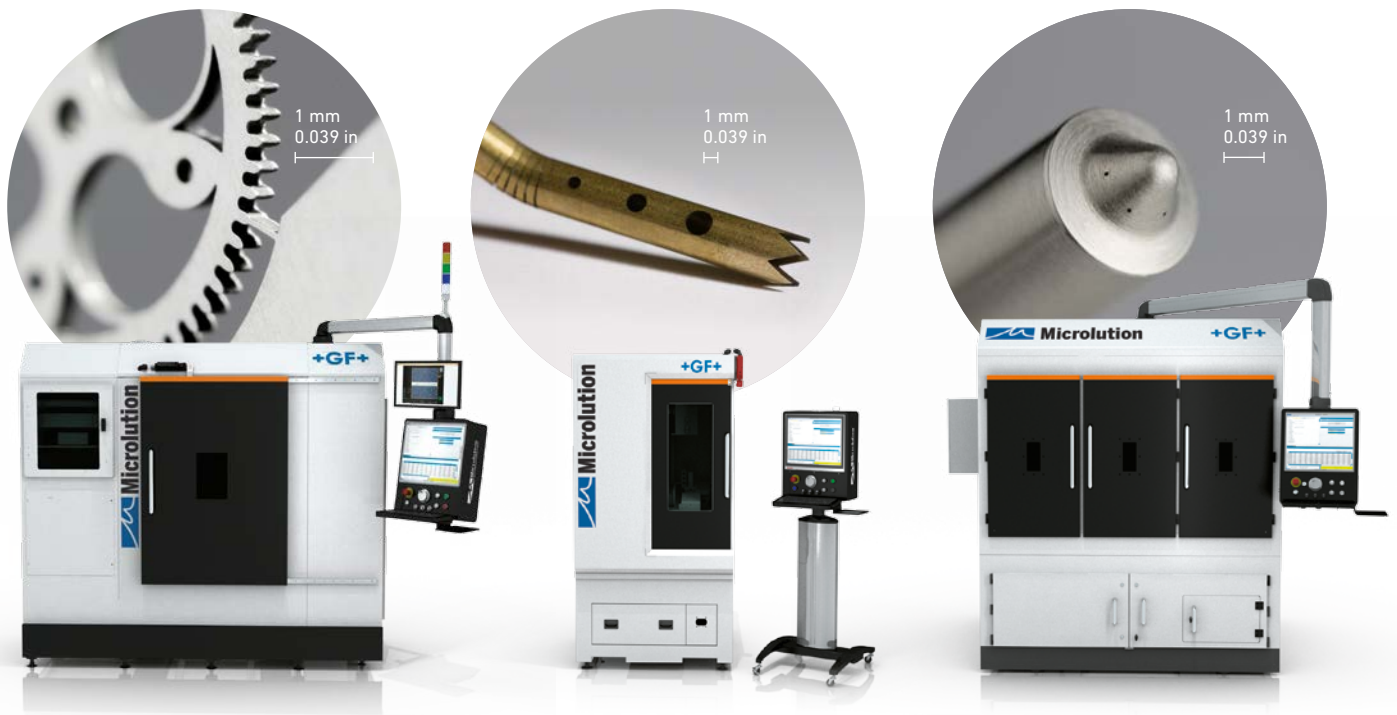
The movement of an automatic watch consists of hundreds of extremely small tight-tolerance components. These components have always been difficult to manufacture due to their size, intricacy, and precision requirements. With GF Machining Solutions, watchmakers have found the ideal solution for producing parts at lower costs and with faster cycle times, increasing manufacturers' productivity. Ultrafast Laser solutions provide speed, accuracy, and quality advantages over traditional micromachining solutions.



Machining at the speed of the light

# Femto's advantages

Experience clean, lightning-fast machining while maintaining high accuracy and productivity, with femtosecond Laser technology. Ultrashort pulsed Laser machining produces no heat-affected zone, delivering perfect microholes in seconds and producing medical devices in a single process. Burr-free engraving of a wide range of materials, from steel, aluminum, carbide, brass, graphite and copper to gemstones, ceramics and polymers, is at your fingertips today.



## ML-5

### Increase machining quality and repeatability

The ML-5 is industry's leading ultrafast Laser micromachining platform, combining exceptional part handling, motion control and real-time positional feedback to deliver microholes and other features with ultrahigh surface and edge quality.

- Five-axis scanning head
- Five mechanical axis
- Real-time part characterization and validation



## MLTC

### Simplify complex machining processes

The MLTC is an ultrafast Laser tube cutting platform that quickly and accurately machines complex features in metal and polymer tubes with extreme precision for the medical device industry and for other applications, eliminating most or all post-processing.

- Closed-loop measurement
- Bar feeder



## MLDS

### Boost your productivity

The MLDS is a dual-station micro-machining platform delivering the same speed, accuracy and quality as our ultrafast Laser platforms for high-volume applications. It is available in dual Laser or hybrid mechanical Spindle ultrafast Laser configurations.

- Five-axis scanning head
- Two active machining stations
- Embedded part measurement and adjustment
- Pick and place automation

## At a glance

We enable our customers to run their businesses efficiently and effectively by offering innovative Milling, EDM, Laser, Additive Manufacturing, Spindle, Automation and Tooling solutions. A comprehensive package of Customer Services completes our proposition.

[www.gfms.com](http://www.gfms.com)

