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Company Profile

TOPTICA Photonics AG

TOPTICA develops and manufactures high-end laser systems for scientific and industrial applications. The portfolio includes [diode lasers](#), [ultrafast fiber lasers](#), [terahertz systems](#) and [frequency combs](#). OEM customers, scientists, and over a dozen Nobel laureates all acknowledge the world-class exceptional specifications of TOPTICA's lasers, as well as their reliability and longevity.

Founded in 1998 near Munich (Germany), TOPTICA became one of the leading laser photonics companies by aiming for, and consistently delivering high-end specifications. TOPTICA's diode lasers are appreciated for excellent coherence, wide tuning range and ideal beam profiles.

TOPTICA's 300 employees take pride in developing customized systems. In close collaboration with several universities and institutes, latest scientific discoveries are frequently incorporated into commercial products. With a global [distribution network](#), TOPTICA provides exceptional service worldwide.



Key facts

Founded:

1998

Employees:

300 (January 2019)

Revenues:

59 Mio € (68 Mio \$)

Legal Form:

Aktiengesellschaft (AG),
private ownership

Presidents:

Dr. Wilhelm Kaenders,
Dr. Thomas Renner,
Dr. Thomas Weber

Chairman:

Dr. Dieter Schenk

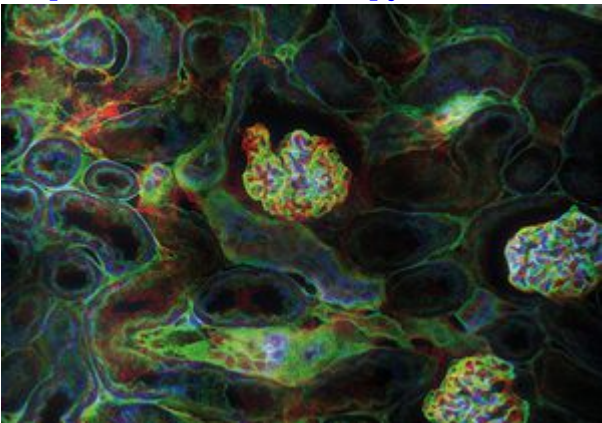
Key Markets

- [Quantum Optics & Spectroscopy](#)



Users benefit from TOPTICA's [tunable diode lasers](#) because of reliability, precision, narrow linewidth, as well as tunable laser frequency, or active frequency stabilization. The systems are typically used for demanding [applications](#) like laser cooling, trapping, and manipulation of atoms or ions in quantum optics, spectroscopy, or interferometry. TOPTICA is renowned for the widest wavelength coverage of tunable diode lasers on the market, providing high-power lasers even at exotic wavelengths.

- [Biophotonics & Microscopy](#)



Lasers play an invaluable role in instrumentation for life sciences and medical applications. In fields such as [microscopy](#), flow cytometry, or in medical and pharmaceutical instruments, TOPTICA lasers fulfill the demand for modern photonic sources. TOPTICA's portfolio includes UV, VIS and NIR laser sources, [flexible multi-laser engines](#) and [pulsed fiber lasers](#) for time-resolved applications.

- [Test & Measurement](#)



With great expertise in optical and electronic control of lasers, TOPTICA provides lasers of lowest noise at highest wavelength stability. They are the perfect instruments for high-precision measurements of semiconductors, optical components, distances or chemical compositions. Frequencies in the terahertz region (0.1 THz to 6 THz) become accessible with [TOPTICA's integrated solutions](#), opening up a wealth of novel applications in applied science, non-destructive testing and industrial process control.

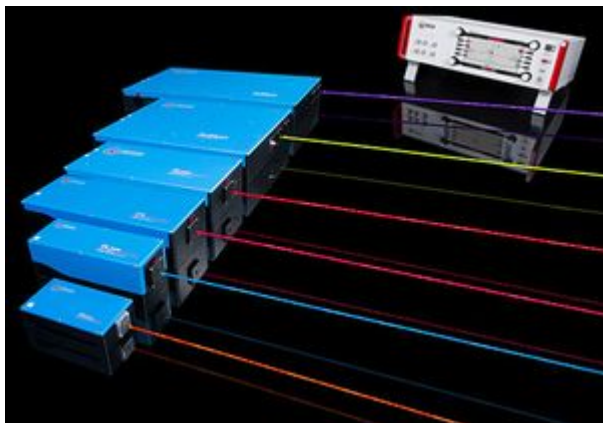
Key Technologies

- [Single Mode Diode Lasers](#)



TOPTICA's [single-mode diode lasers](#) set new standards in terms of power, low noise and convenient OEM integration. They come with diffraction limited TEM₀₀ output and reliable spectral properties, as well as optional robust fiber coupling. Compact design and low power consumption make them superior to old-fashioned, bulky and inefficient gas lasers. [Multi laser engines](#) seamlessly integrate several wavelengths into true one-box laser systems - switching between colors has never been easier. The systems' flexibility and ease of use enable straightforward deep integration into any customer's system design.

- [Tunable Diode Lasers](#)



Narrow linewidth, highest accuracy and great ease of use are the key attributes of TOPTICA's [tunable diode lasers](#). They are available with wavelengths ranging from the deep UV to the mid IR (< 190 nm -3500 nm), which is the widest spectral coverage on the market. TOPTICA's patented [pro design](#) guarantees highest stability and the best specifications resulting in cutting-edge research grade lasers. These systems help achieve milestones in a variety of fundamental research projects and are future-proof due to a fully digital interface.

- [Ultrafast Fiber Lasers](#)



TOPTICA's [pulsed all-fiber lasers](#) combine SAM mode-locked ring oscillators with PM fiber architecture, which guarantee robust 24/7 operation and turnkey performance. A modular design concept with erbium- and ytterbium-doped fibers is the basis for different models (1560/780 nm, VIS/NIR tunable output, IR/NIR supercontinuum). Thus, pulse durations as low as 25 fs or output powers of more than 350 mW can be reached. In addition, dual-color solutions enable full flexibility by providing two laser beams simultaneously.

- [Terahertz Systems](#)



TOPTICA's vast expertise with diode lasers and fiber technology offers exciting opportunities for sophisticated, integrated systems for demanding applications. Innovative solutions pave the way for easy utilization of continuous or pulsed terahertz radiation with ultra-broad bandwidth and unprecedented signal-to-noise ratio.

- [Frequency Combs](#)



The [DFC productline](#) (Difference Frequency Combs) merges TOPTICA's know-how in ultrafast laser oscillators with its long lasting expertise in tunable diode lasers and locking electronics. The integrated novel [CERO-technology](#) enables precise frequency referencing with these offset-free, fiber-based frequency combs. In addition, TOPTICA's [tunable diode lasers](#) in the region of 450 - 2200 nm can be phase-locked to the frequency combs. This way TOPTICA is able to provide complete, frequency referenced laser systems including wavelength meter and counter all from one source.

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