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## **Company**

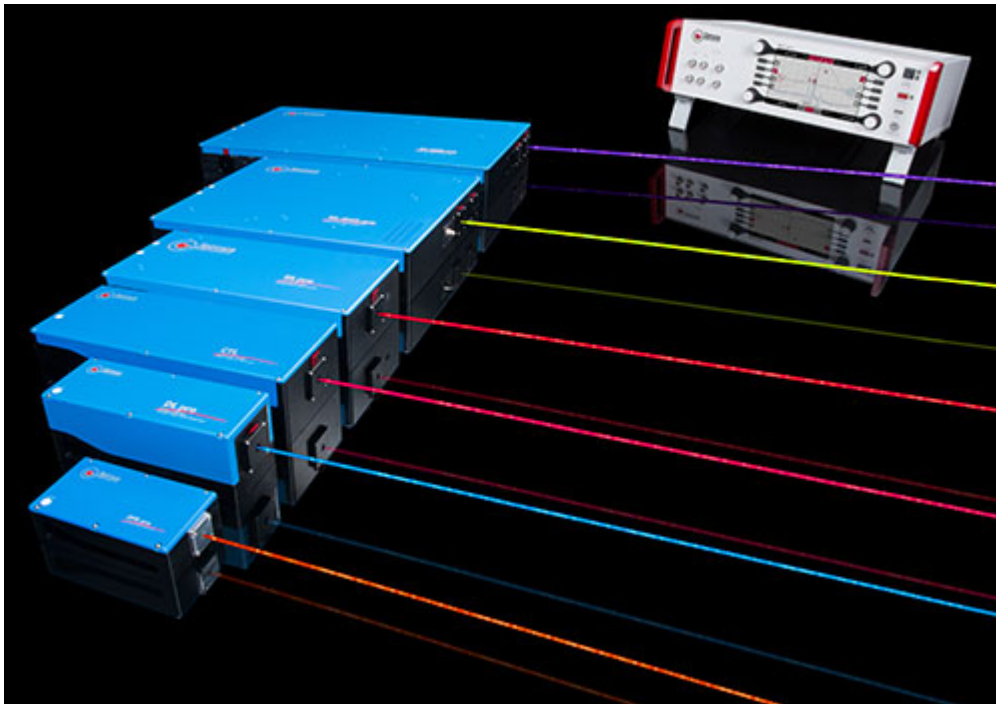
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## **All Wavelengths. 190 nm - 0.1 THz**

TOPTICA's products provide an ultra-broad laser wavelength coverage: 190 nm - 0.1 THz (corresponding to 3 mm). They enable a big variety of demanding applications in quantum optics, spectroscopy, biophotonics, microscopy, test & measurement, as well as materials inspection. The unique wavelength range is based on three major product categories:

### **Diode Lasers**

**190 - 3500 nm**  
**with frequency-conversion techniques**



Narrow linewidth, highest accuracy, ultra-wide wavelength tunability and great ease of use are the key attributes of TOPTICA's tunable diode lasers. Due to their ultra-stable design and digital control electronics they reach excellent low noise and drift values.

## [Ultrafast Fiber Lasers](#)

**488 nm - 2300 nm,  
(3500 nm customized) 5000 - 15000 nm**



TOPTICA's pulsed fiber lasers reach pulse durations as short as 25 fs and output power levels of more than 5 W. A modular design concept with erbium- and ytterbium-doped fibers is the basis for different wavelength models (1560 / 780 nm, VIS / NIR tunable output, IR / NIR supercontinuum, broadband mid-IR).

## [Terahertz Systems](#)

**0.1 - 6 THz  
(15 THz customized)**

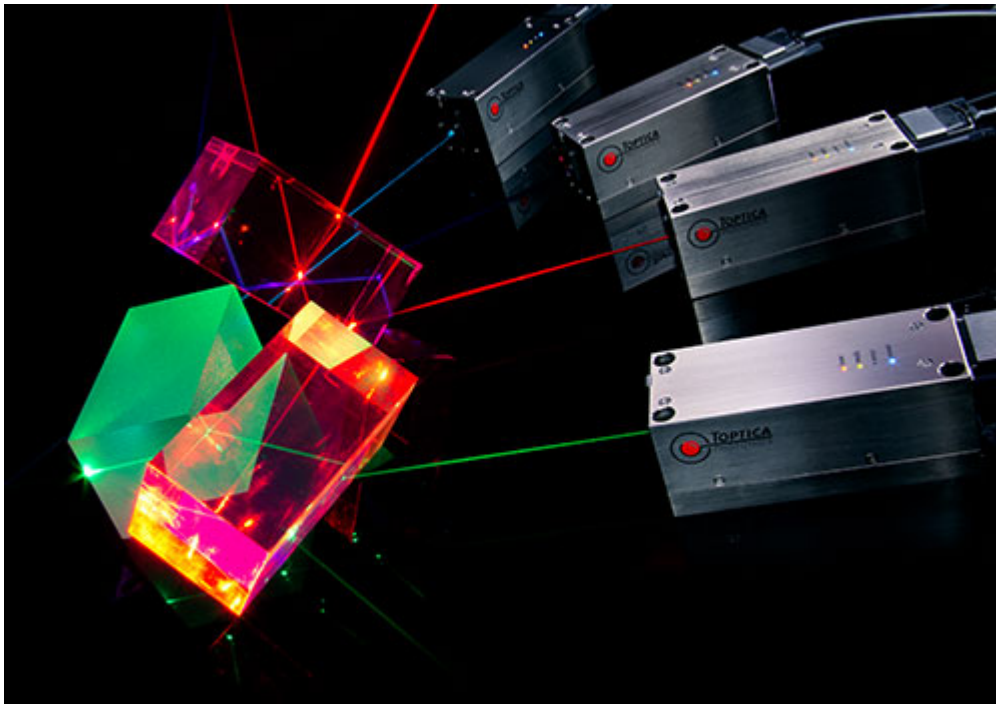


TOPTICA's terahertz solutions set new standards in terms of dynamic range, bandwidth and measurement speed. The portfolio includes complete systems and components for continuous or pulsed terahertz radiation with highest reliability and cutting-edge specifications.

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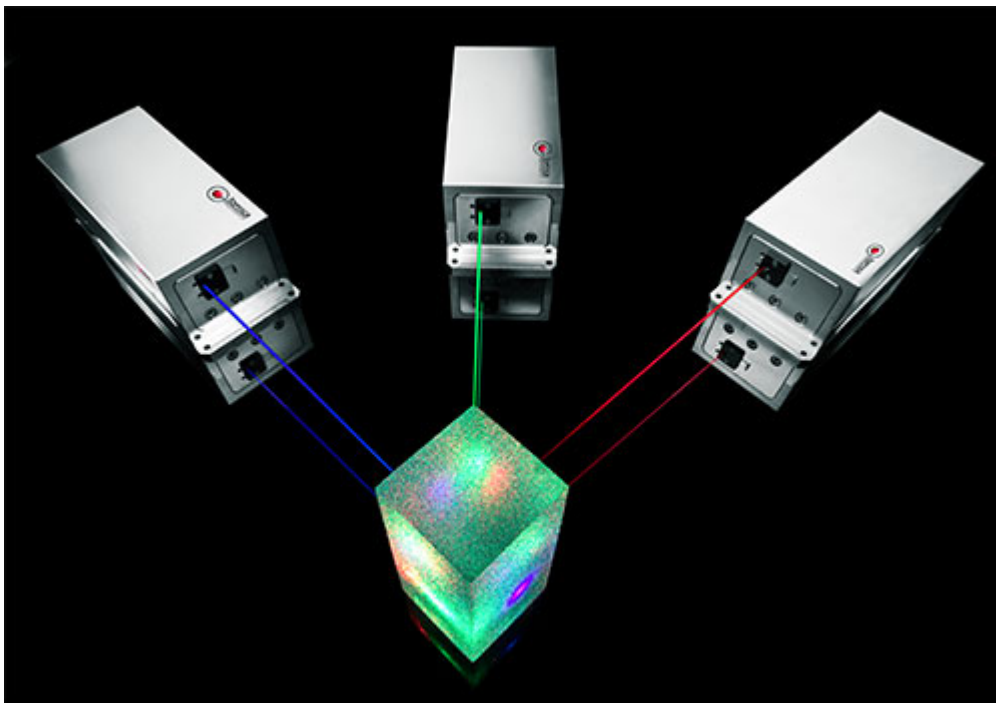
**Additional product lines** are available that further extend the number of supported applications. These innovative solutions are specifically tailored to enable sophisticated experiments in physics, biology or chemistry. They help to achieve milestones in fundamental research programs, as well as in complex industrial development projects:

### [Single-Mode Diode Lasers](#)



TOPTICA's single-mode diode lasers combine excellent diode technology and rock-solid opto-mechanical engineering with convenient computer-control and intelligent protection measures. They come with diffraction limited TEM<sub>00</sub>-output and reliable spectral properties, as well as optional robust fiber-coupling.

### [Single-Frequency Diode Lasers](#)



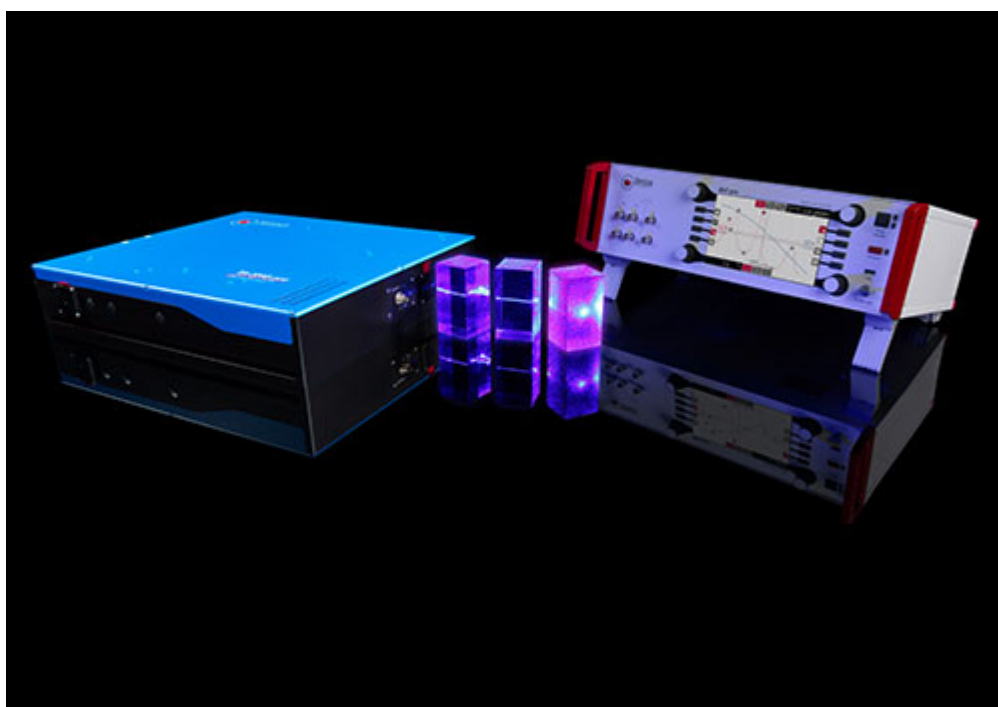
The single-frequency diode lasers employ state-of-the-art diode technology to achieve the highest single-frequency output power of any direct diode-based system. For example, the TopMode 405 nm providing 100 mW, or the TopWave 266 nm offering 300 mW - both industry records!

## [Amplified Diode Lasers](#)



Tapered amplifier systems are available in Master Oscillator Power Amplifier (MOPA) configuration or as stand-alone amplifier systems. The amplifiers reach high output power levels up to 3.5 W with excellent beam quality, without compromising the favorable spectral qualities of the master lasers.

## [Frequency-Converted Diode Lasers](#)

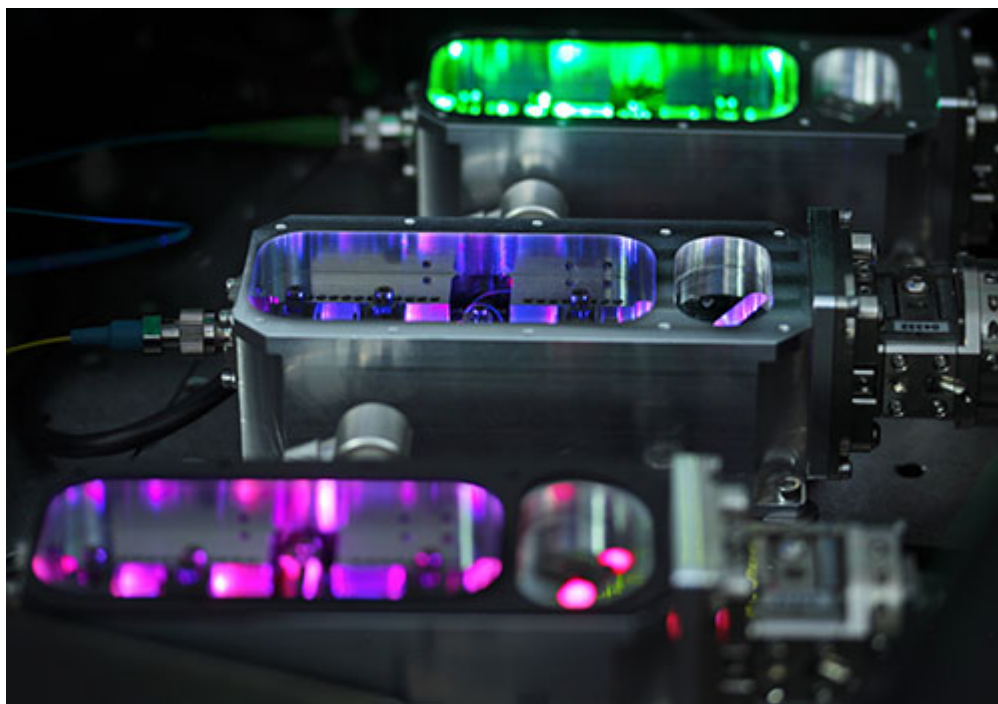


Via second or fourth harmonic generation, TOPTICA's frequency-converted laser systems access the UV, blue, green, yellow and orange spectral ranges with high output power



levels. The tunable, single-frequency systems are available at virtually any wavelength between 190 nm and 780 nm.

## Frequency Combs



TOPTICA's offset-free frequency combs reach an unprecedented low-noise operation. With TOPTICA's tunable diode lasers they can be combined into easy-to-use laser systems delivering frequency-stable cw-output at any wavelength between 420 nm and 2200 nm.

## Multi-Laser Engines





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 integration into any customer's system design.

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More insight about the wide range of applications that are enabled with TOPTICA's lasers can be found on [the poster "Laser Absorption in Physics, Chemistry & Biology"](#). It displays the central absorption wavelengths of single atoms, semiconductors, molecular gases, molecules and fluorophores (1PE and 2PE) in the wavelength range of 190 - 3500 nm.

All indicated elements can be studied with TOPTICA's lasers. In addition, TOPTICA's product range also enables optical studies of much more elements in other wavelength regions, i.e. up to 3 mm.

You can download a high-resolution version of the poster as [picture](#) or [pdf](#). And we are happy to send you a paper print of this poster - please contact us at [poster \[at\] toptica.com](mailto:poster@toptica.com).

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