TOPTICA PHOTONICS

All Wavelengths.
190 nm - 0.1 THz

EPIC Online Technology Meeting on Atomic Clocks and Quantum Sensors

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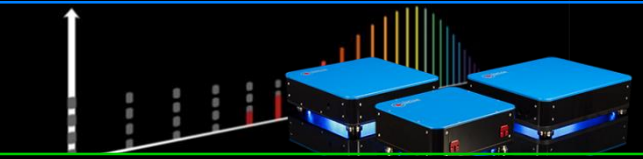
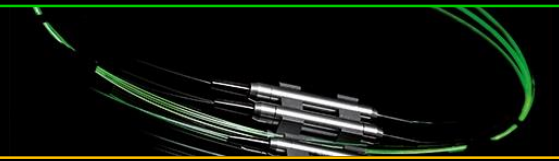
Vice President Quantum Technologies





TOPTICA Group: Key Figures

Key Figures

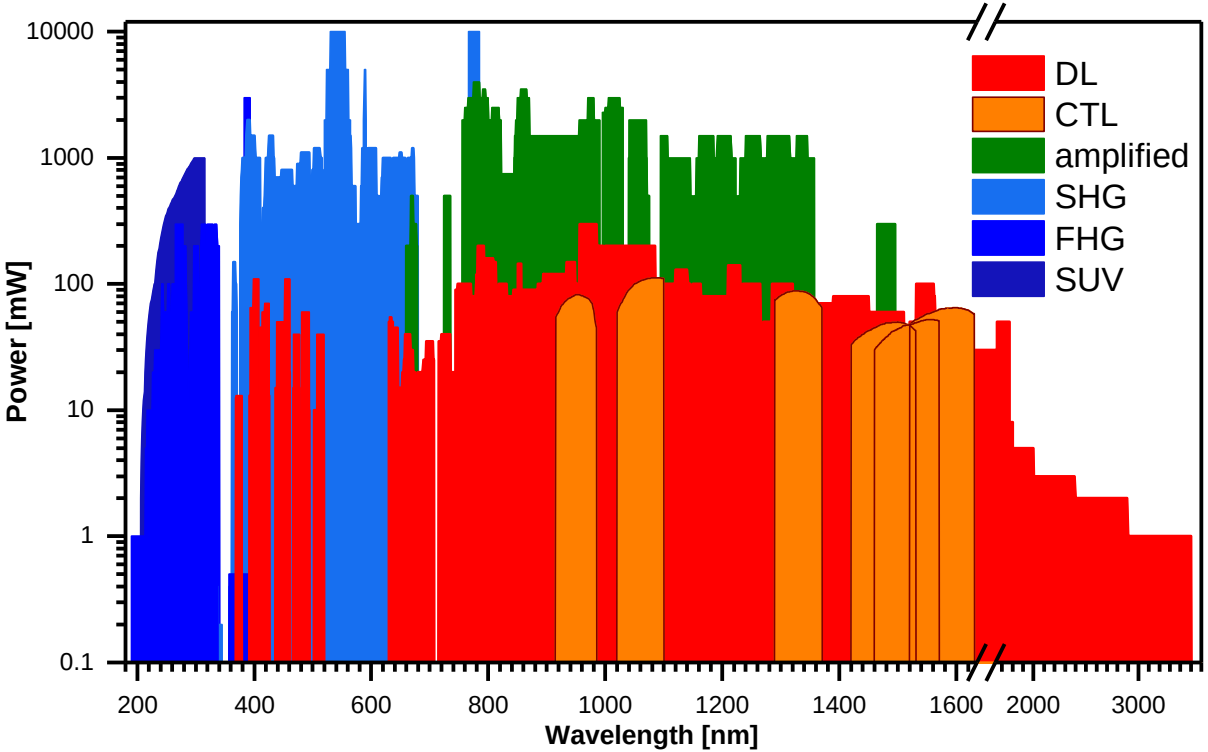
Employees	~320
Revenues	~74 Mio € (82 Mio $)
Founded	1998
Group:	TPA, TPI, TKK, TCN eagleyard Photonics TOPTICA Projects

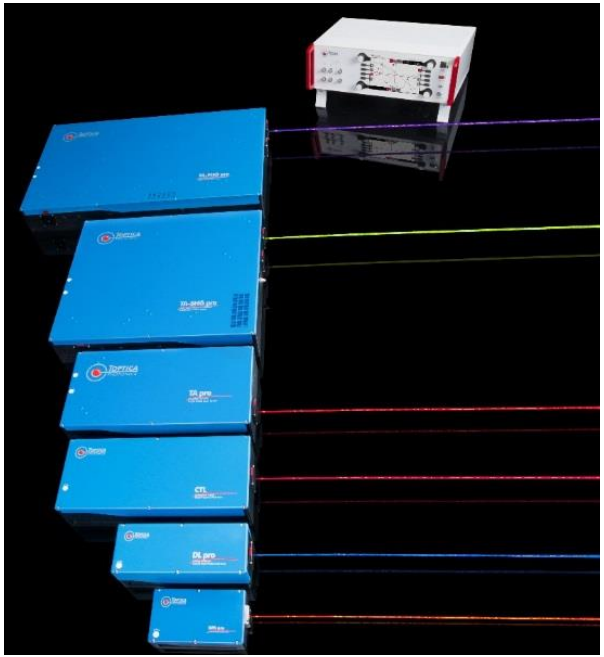
Technology

Diode Laser Systems	**190 – 4000 nm**
Ultrafast ps/fs Fiber Lasers	488 – 2200 nm, 5 – 15 µm
Frequency Combs	**420 – 2200 nm**
Terahertz Systems	0.1 – 6 THz
High Power Laser Diodes	630 – 1120 nm (eagleyard)

Quantum Shovels

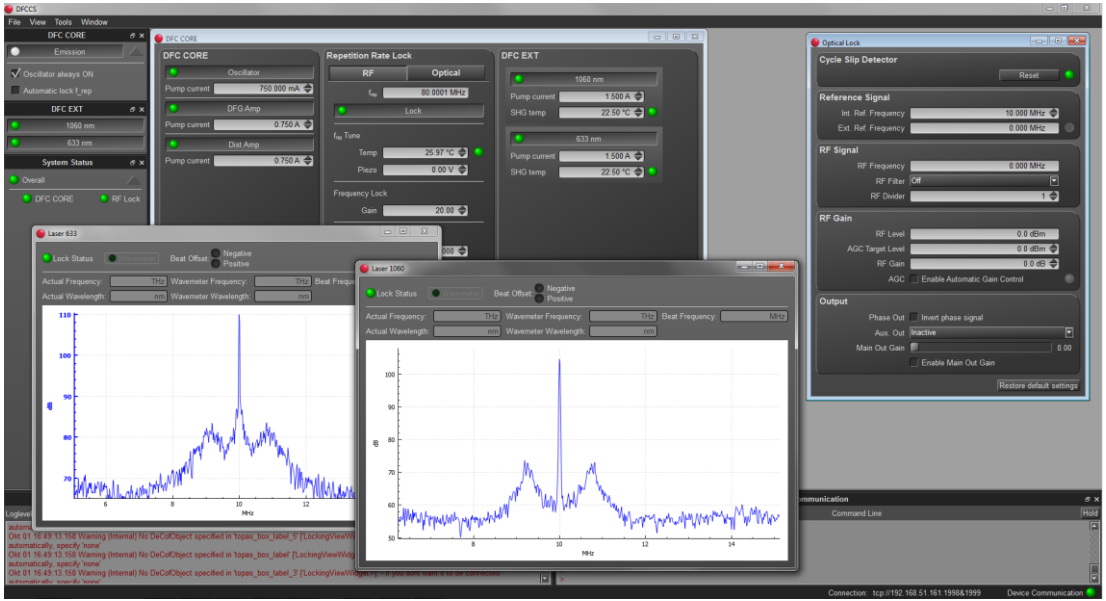
Tunable Diode Lasers for Optical Clocks & Quantum Sensors





- DLC DFB pro: rock-solid and nanometers of modehop-free tuning
- DLC DL pro: tunable & frequency-stable with linewidth down to < 10 kHz
- DLC TA pro: DL pro-like with Watt class output power
- DLC TA-SHG/FHG: high power at visible and ultraviolett wavelengths

Difference Frequency Comb – Compact, Robust, High-end



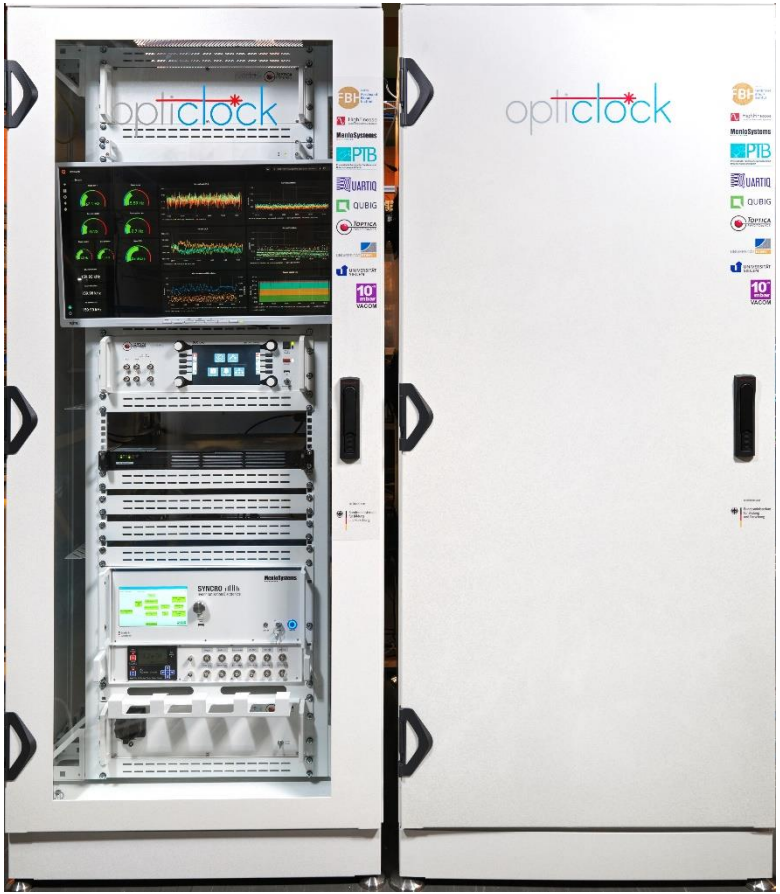
- CERO technology: fceo-free (zero fceo)
- Wavelenght extensions: 420 – 2200 nm
- Beat detection units: fiber-coupled with optical filter
- Locking electronics: fast and low noise
- Full software control: remote & convenient

Laser Rack Systems

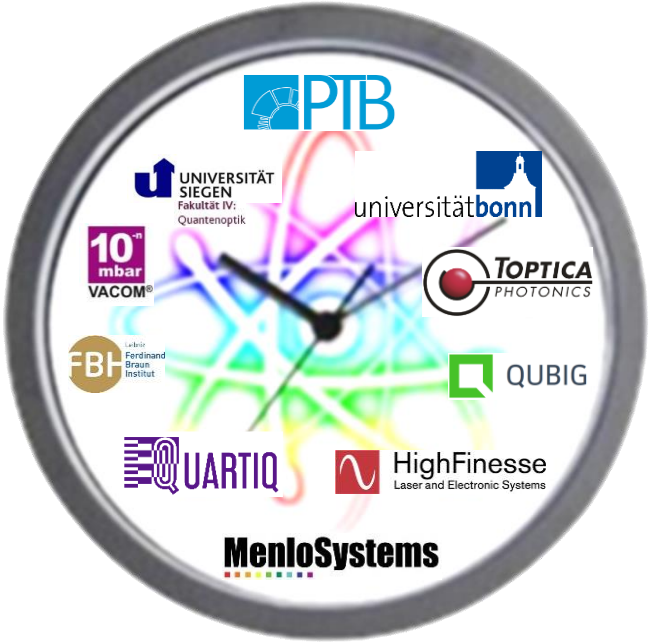
Key Features

- Rack-mountable & rack-mounted diode laser and frequency comb modules
- Fiber-coupled, polarized optical output of 330 .. 1625 nm
- Extensively tested and qualified
- Convenient remote control
- Complete solutions based on different subsystems including frequency stabilization
- Quantum-technology-approved performance in industrial footprint
- **Complete Quantum Technology Solutions**

Systems Engineering Competence



Optical single $^{171}Yb^{+}$ ion clock



Federal Ministry of Education and Research

Quantum Technology Competence

opticlock

iqclock

ACTION

QSource

QIA QUANTUM INTERNET ALLIANCE

PASQuanS

Bundesministerium für Bildung und Forschung

QUANTUM FLAGSHIP

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