



ADVANCING INDUSTRIES

WITH **NEW GENERATION FEMTOSECOND LASERS**



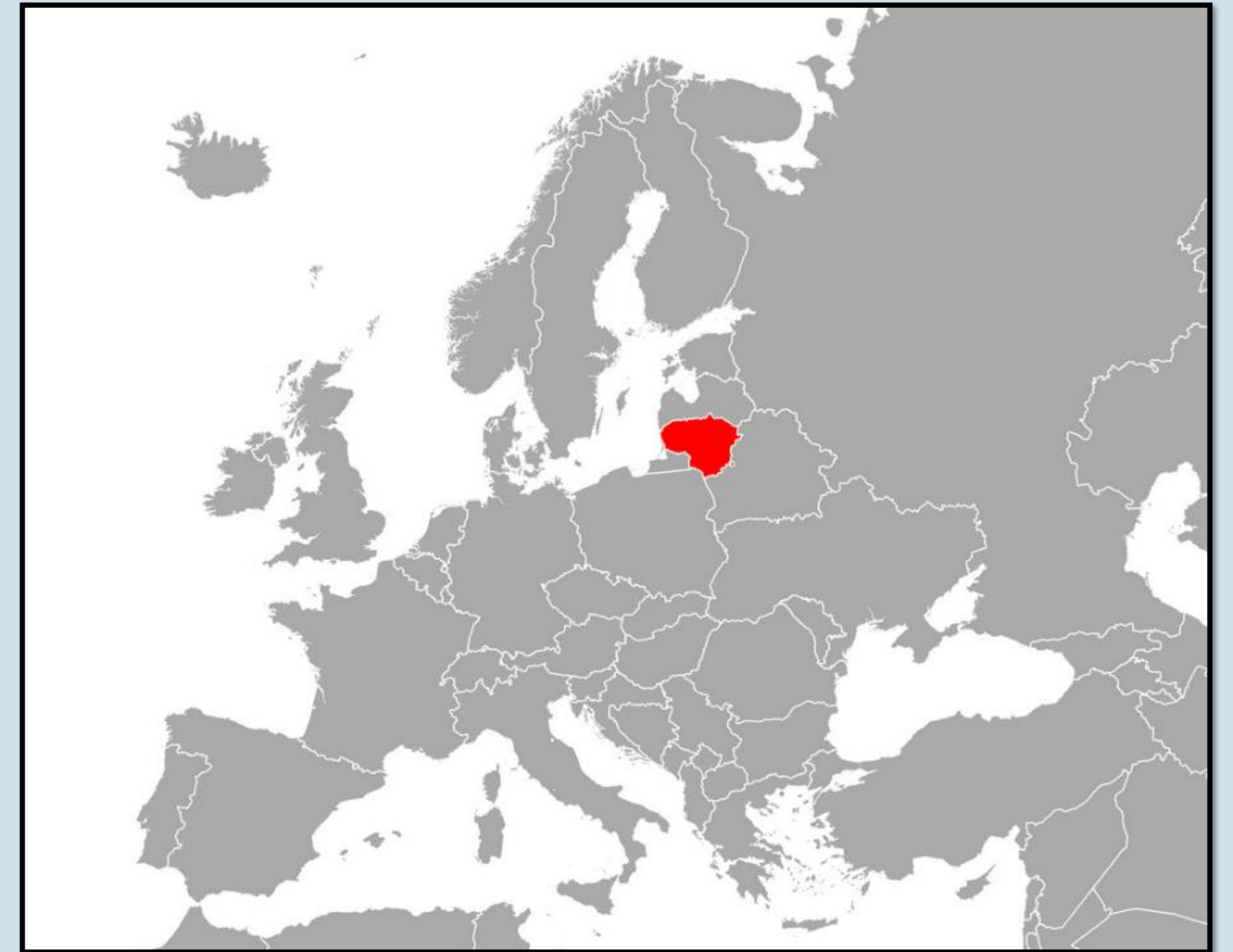
# About Lilit

Established – 2015 in Vilnius, LT

Team – 24 experts in their fields

Core competences – USP lasers,  
fiber technologies, optomechanics

Products – femtosecond lasers



We are part of:





# New generation air-cooled femtosecond lasers

Indylit  
for microprocessing



1030/515nm, 450fs, 10W,  
100 $\mu$ J, 80kHz-1MHz

Biolit  
for biophotonics



1045nm, 80fs, 2W, 15-40MHz

Neolit  
for laser seeding



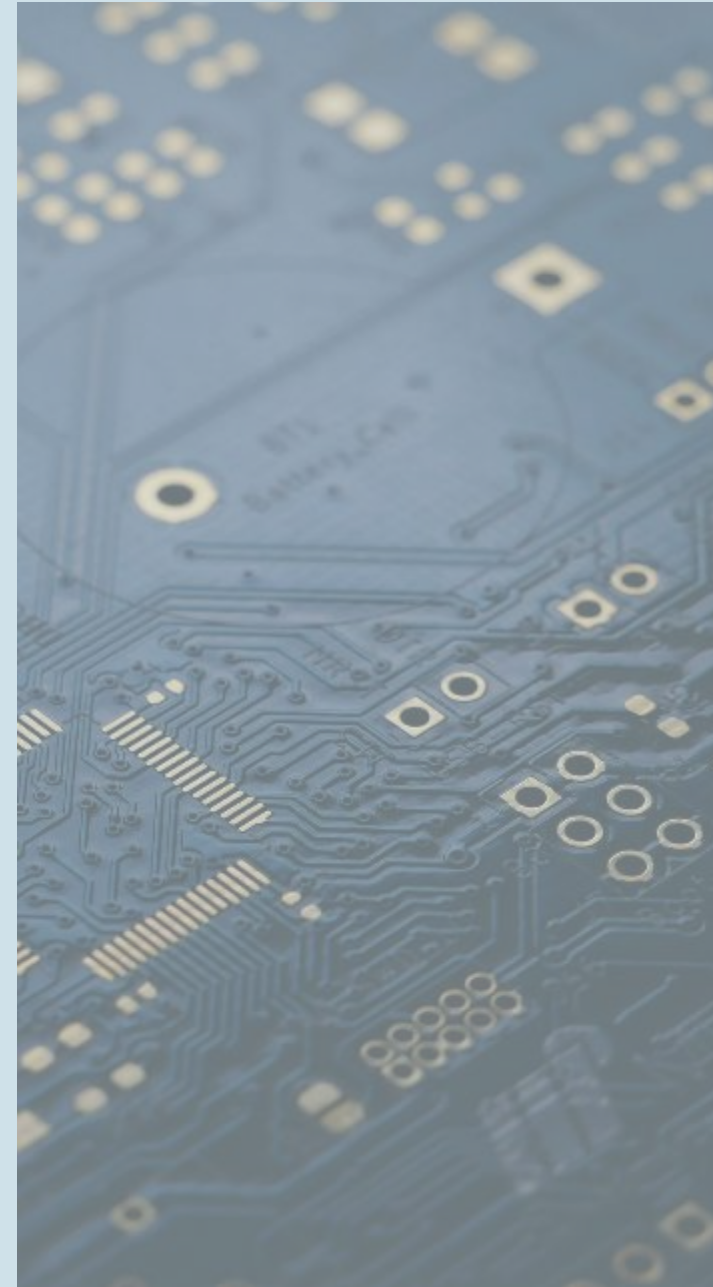
1020-1070nm, 1-10ps,  
15-40MHz, 1-50mW



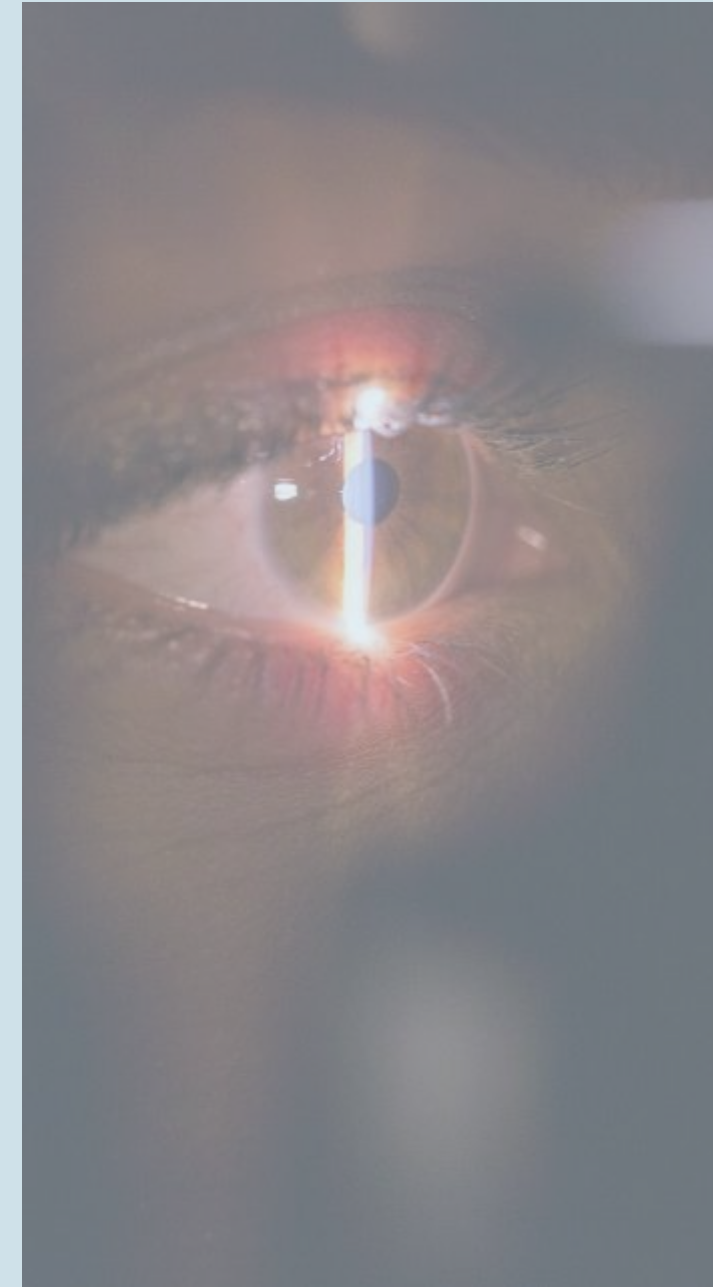
# Femtosecond laser applications



**Materials microprocessing**  
Surface structuring, drilling, athermal ablation, black marking



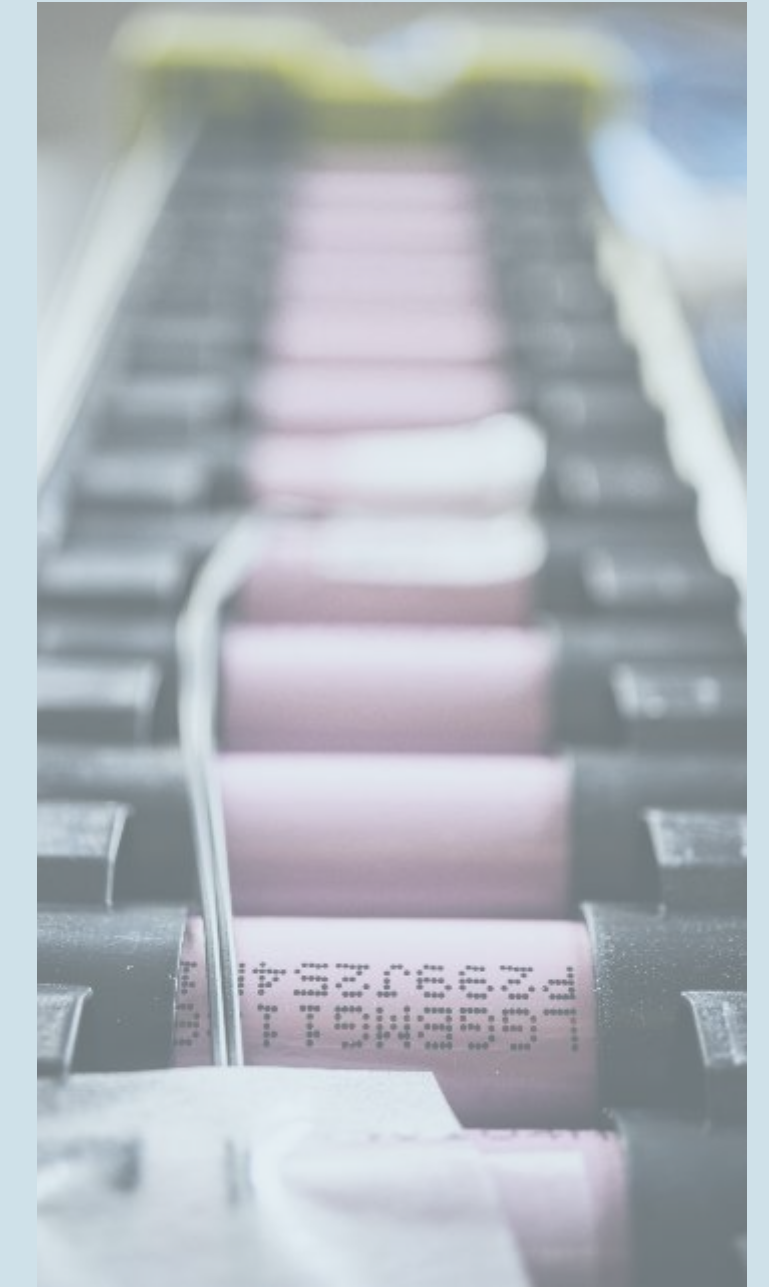
**Semiconductor and electronics**  
Wafer processing and inspection, Flex PCB processing, VIA drilling



**Ophthalmology**  
Cataract (FLACS), refractive correction (bladeless LASIK, SMILE)



**Display manufacturing**  
OLED cutting, array repair, laser lift-off, glass cutting, sapphire scribing



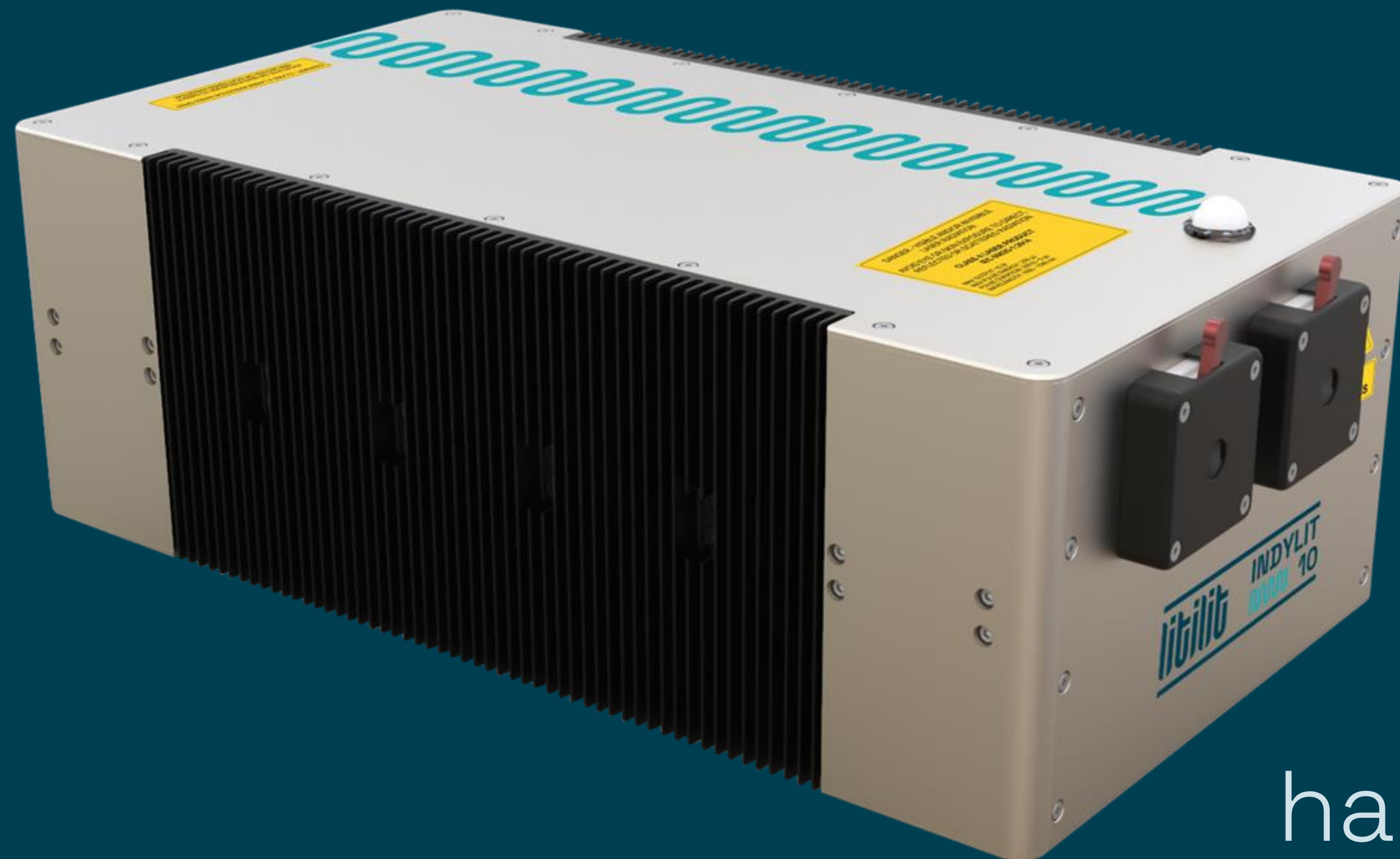
**Battery manufacturing**  
Electrode cutting, microstructuring, annealing



# Indylit 10 SH

Industrial materials microprocessing

10W at 1030nm, 5W at 515nm, 450fs, 80kHz-1MHz, burst mode



Air-cooled  
and ready for  
harsh environments



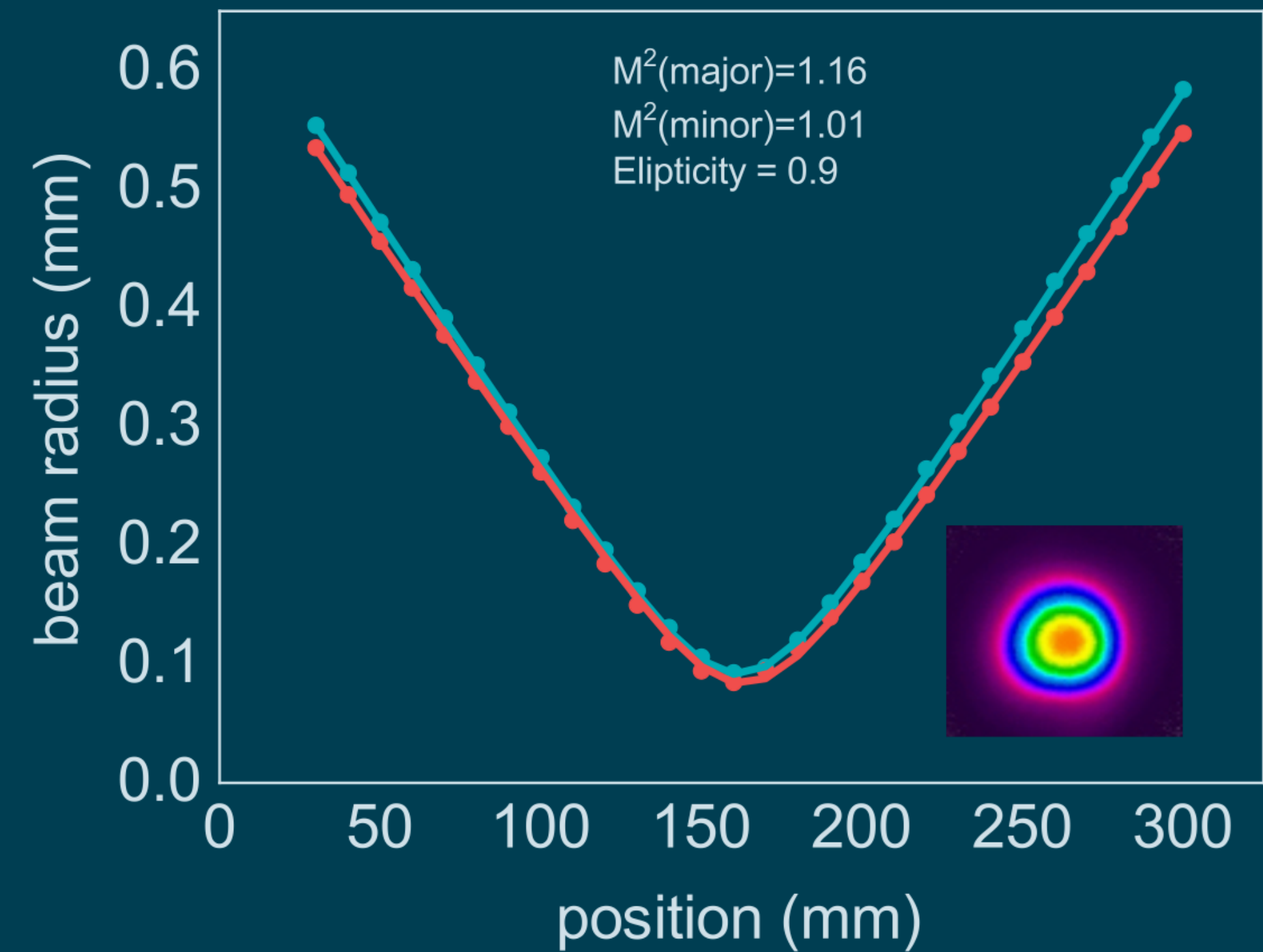
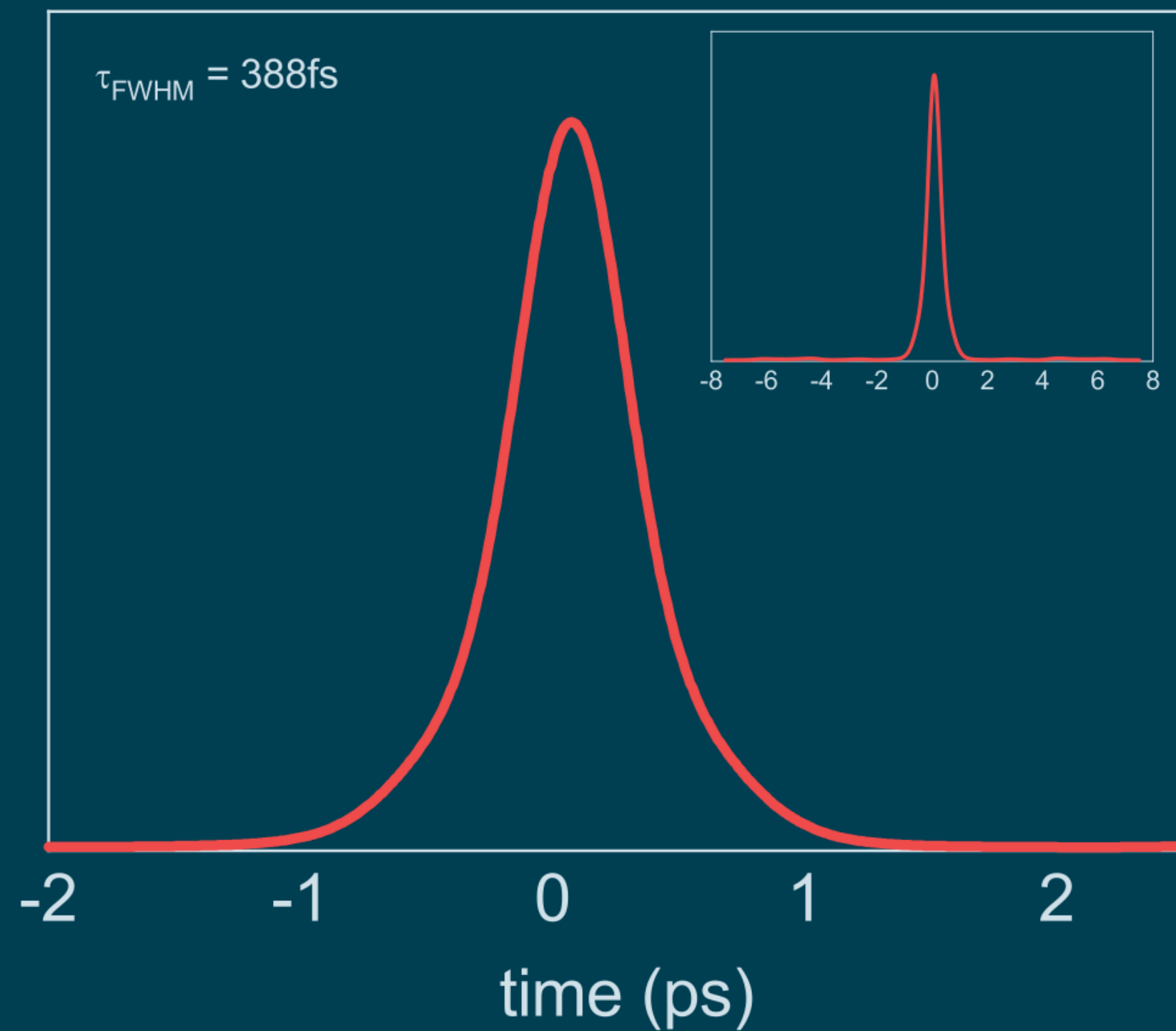
Passively  
air-cooled

Clean pulse  
shape

High pulse  
energy

Turn-key  
operation

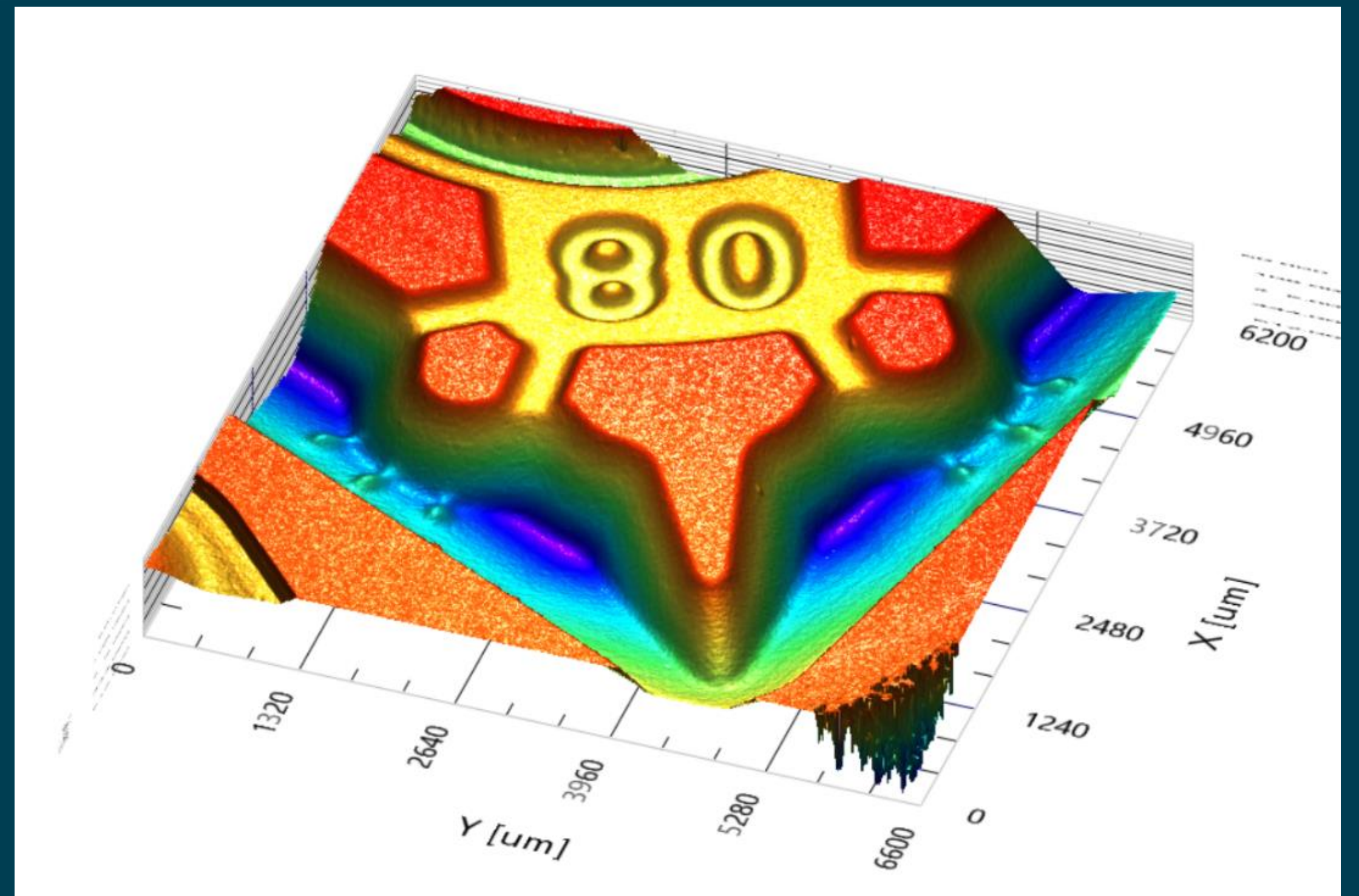
Maintenance  
free





# Application example

Tungsten Carbide stamp processing for cutting tools manufacturing

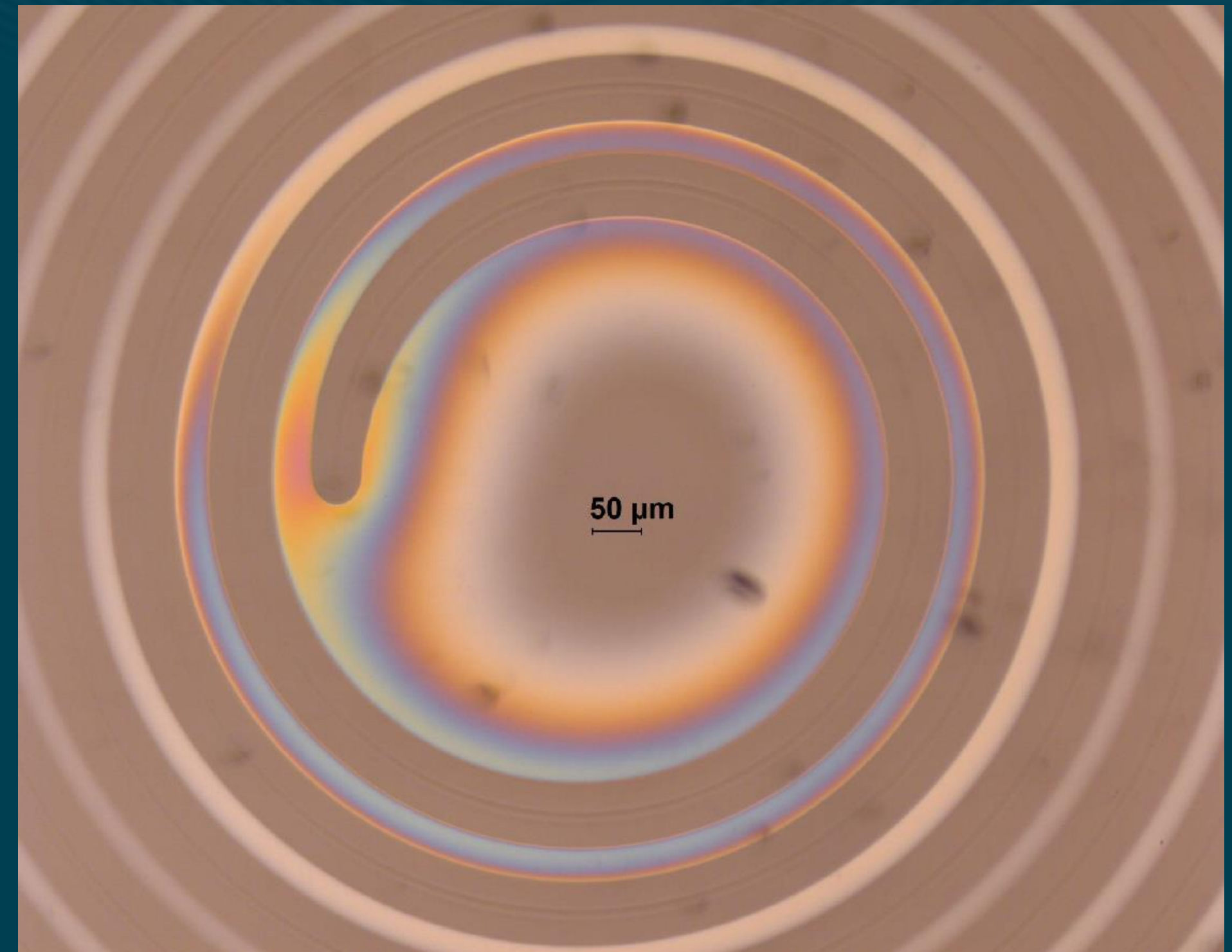
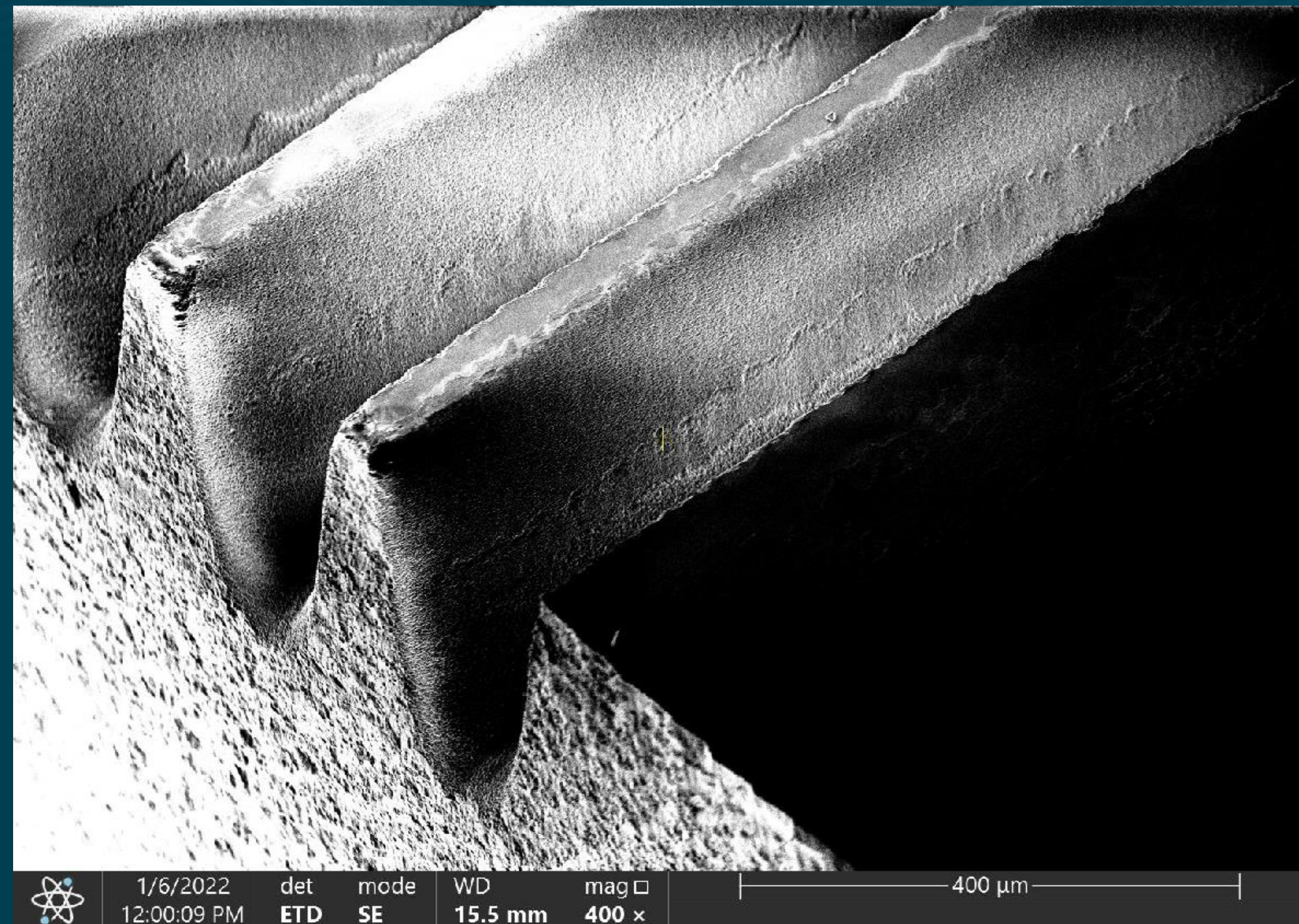


Courtesy of Direct Machining Control



# Application example

Glass cutting, grooving and welding



Courtesy of Workshop of Photonics



# Biolit series

Femtosecond fiber laser for biophotonics

1045nm, 80fs, 2W, 15-40MHz



Clean pulses  
lead to  
sharp images

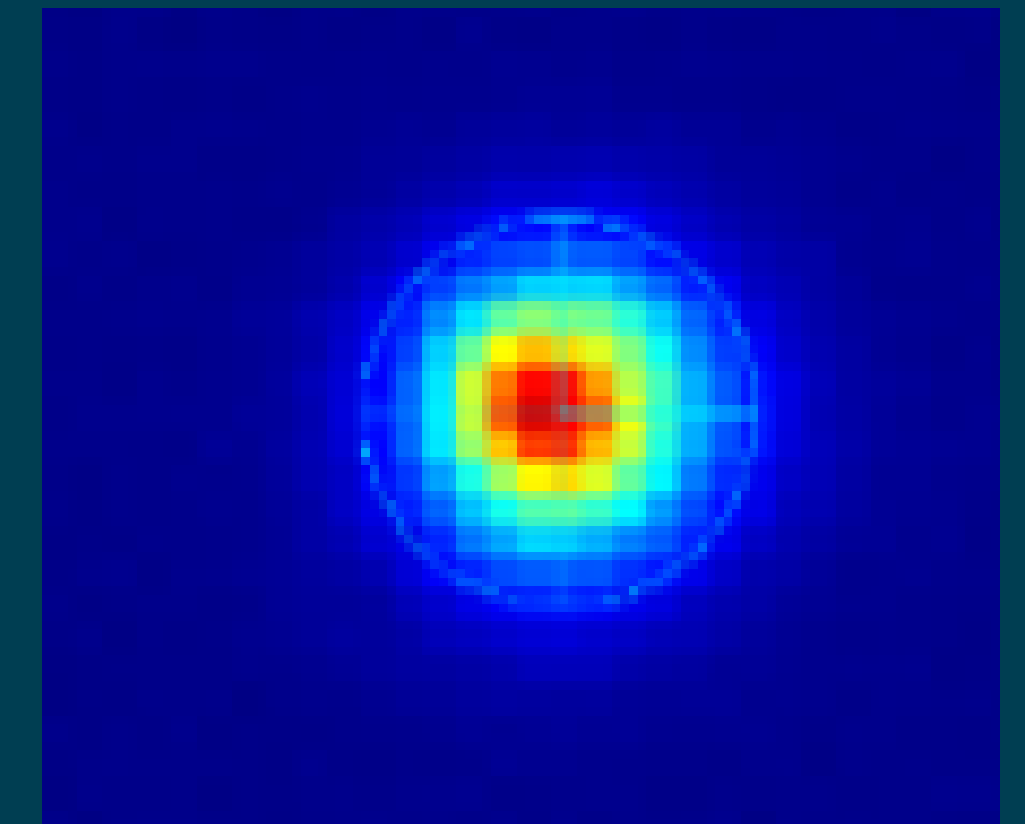
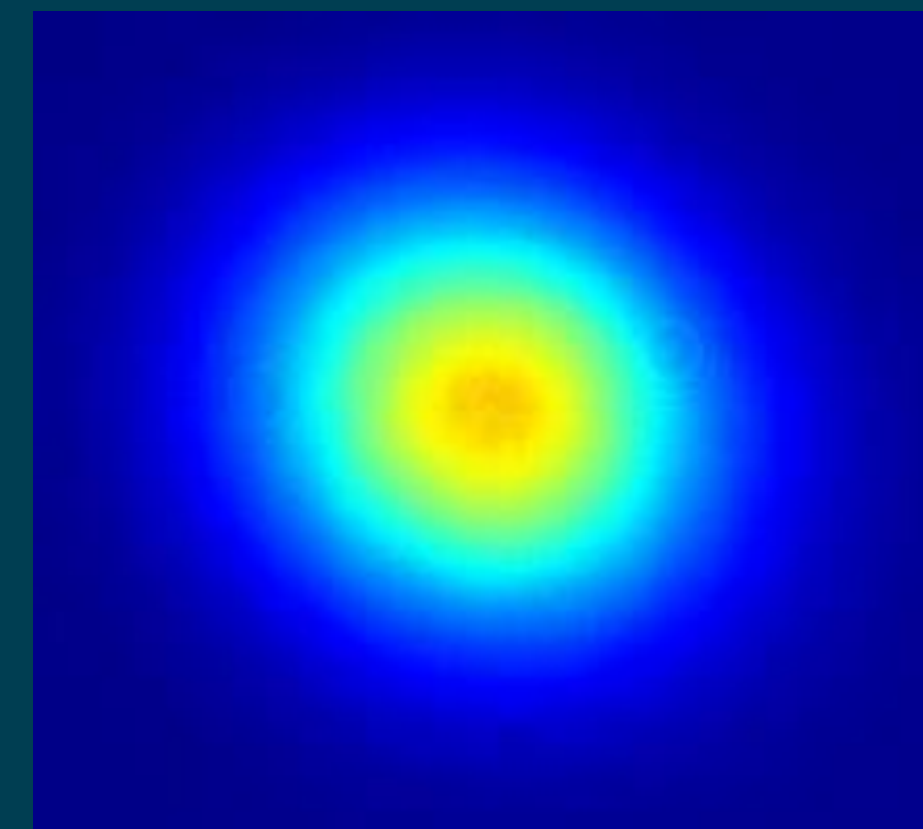
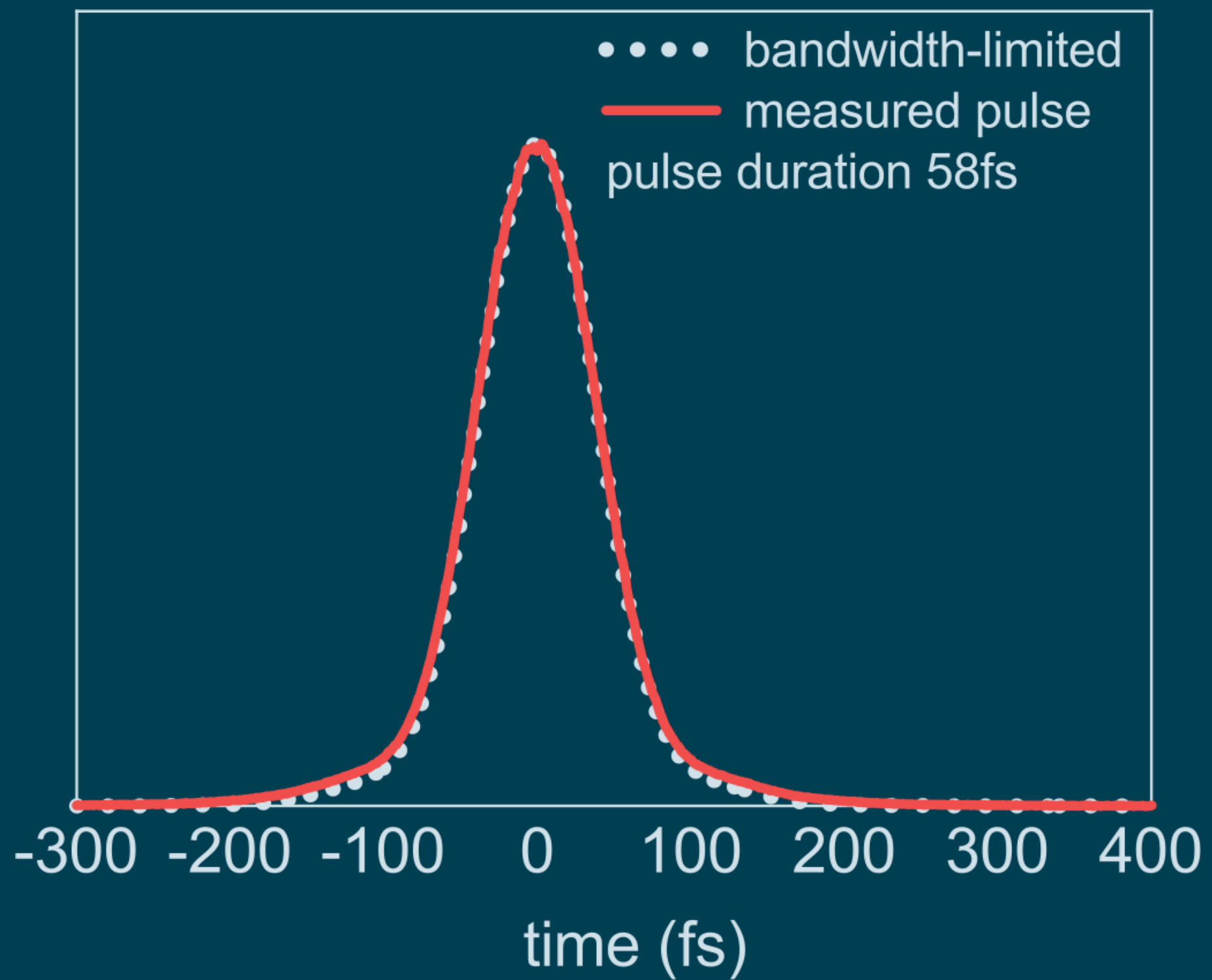


Clean and short pulses resulting in sharp images

Flexible repetition rate optimized for multiphoton microscopy

Integrated dispersion pre-compensation

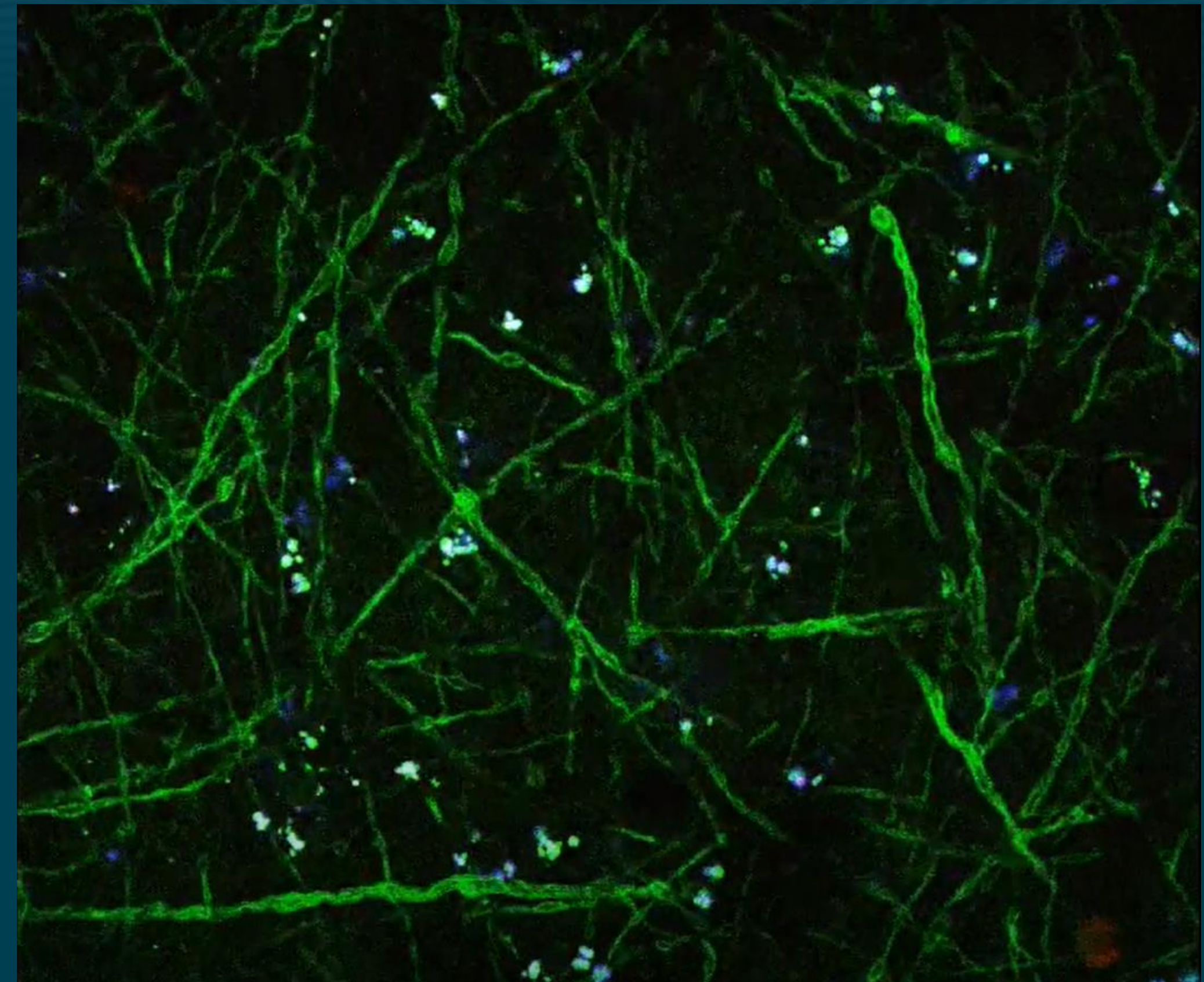
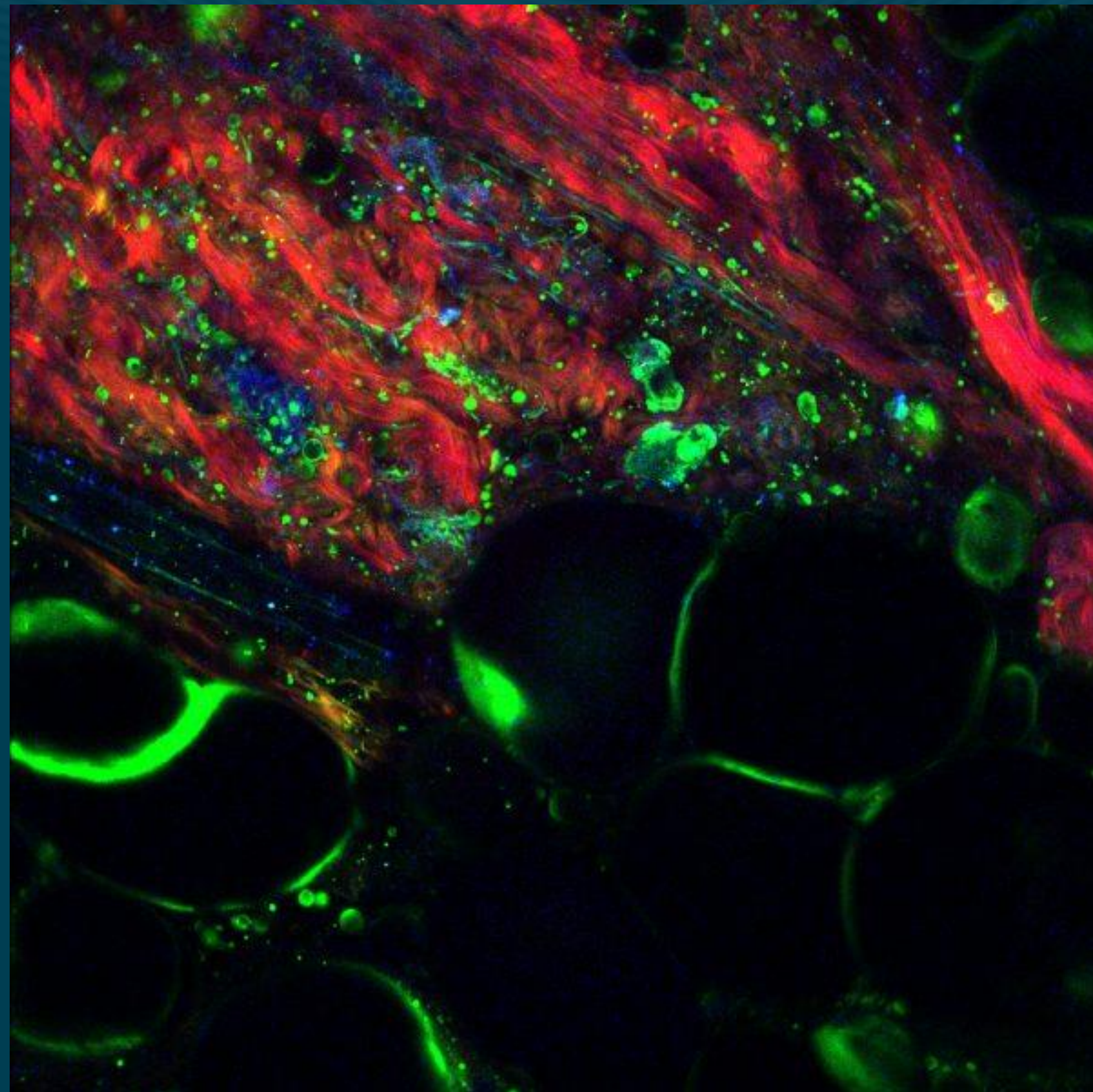
Compact air-cooled laser head design





# Application example

Multiphoton microscopy



Courtesy of Vrije Universiteit Amsterdam

The image of skin tissue, obtained with a multiphoton microscope  
red – collagen bundles, blue – elastin fibers, green – fat cells



# Neolit series

Ultrashort pulse fiber seeder for laser amplifier

1020-1070nm, 1-10ps, 15-40MHz, 1-50mW



Smooth  
ultrashort pulse  
generation



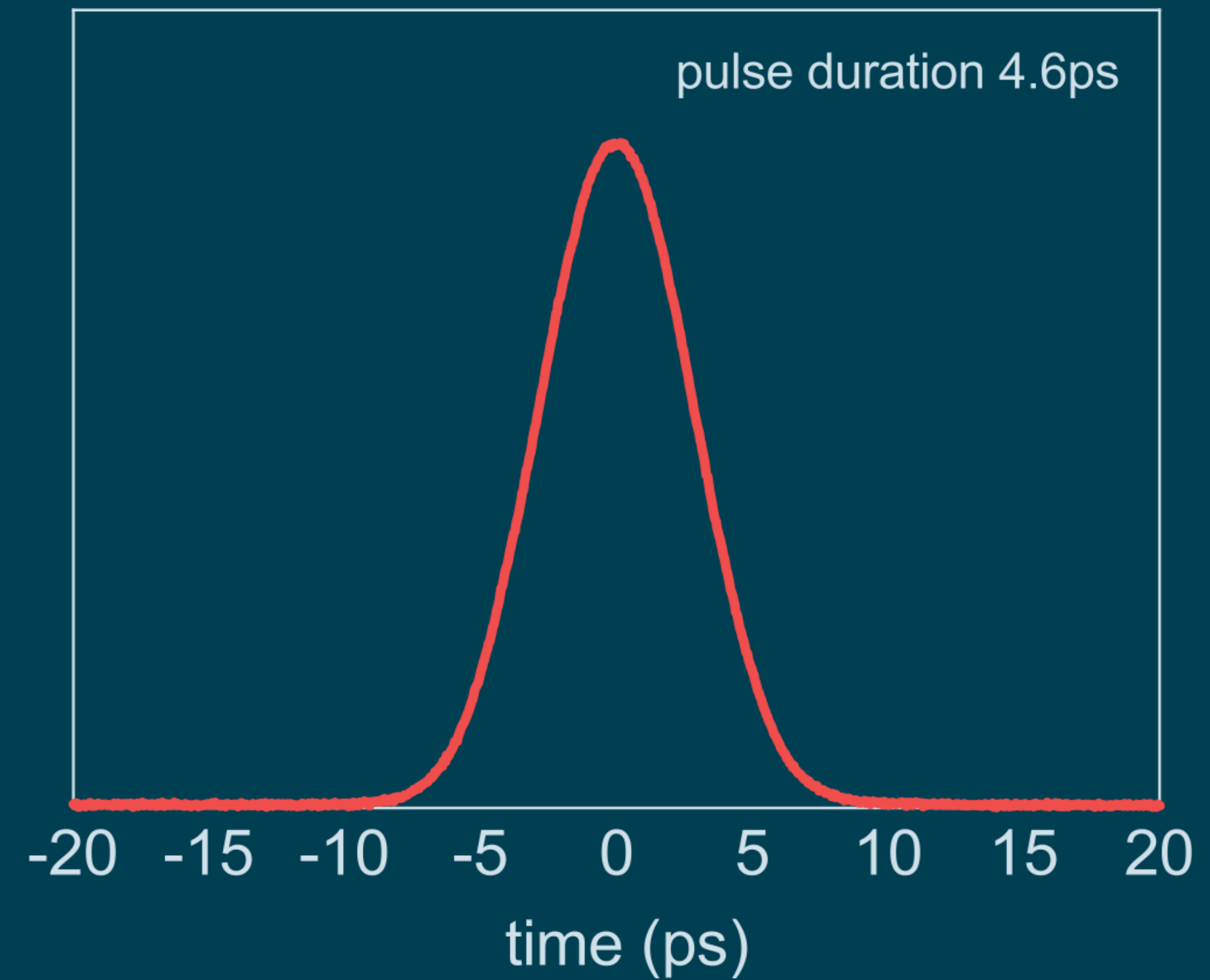
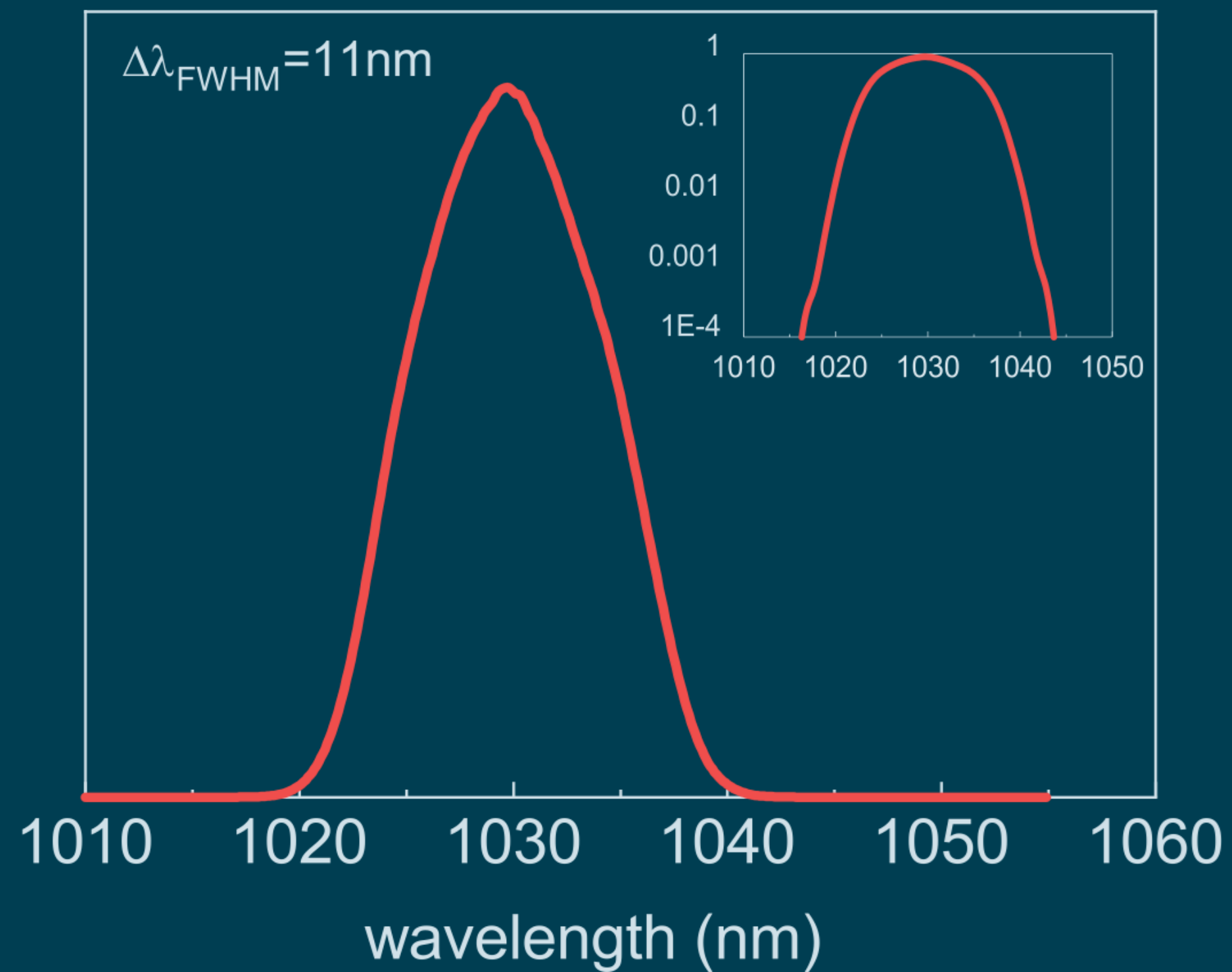
SESAM-free  
technology

Insensitive to  
environmental  
disturbances

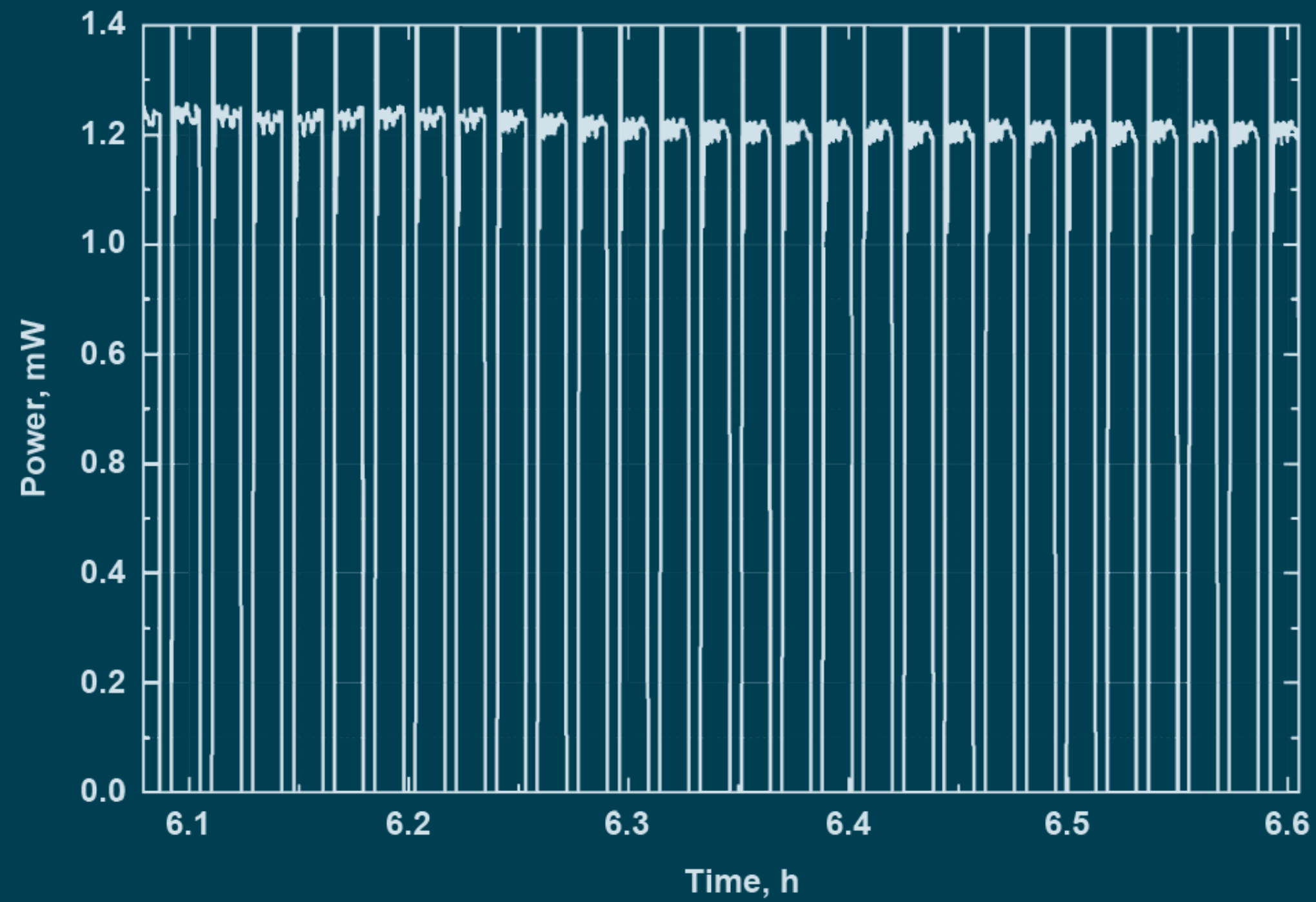
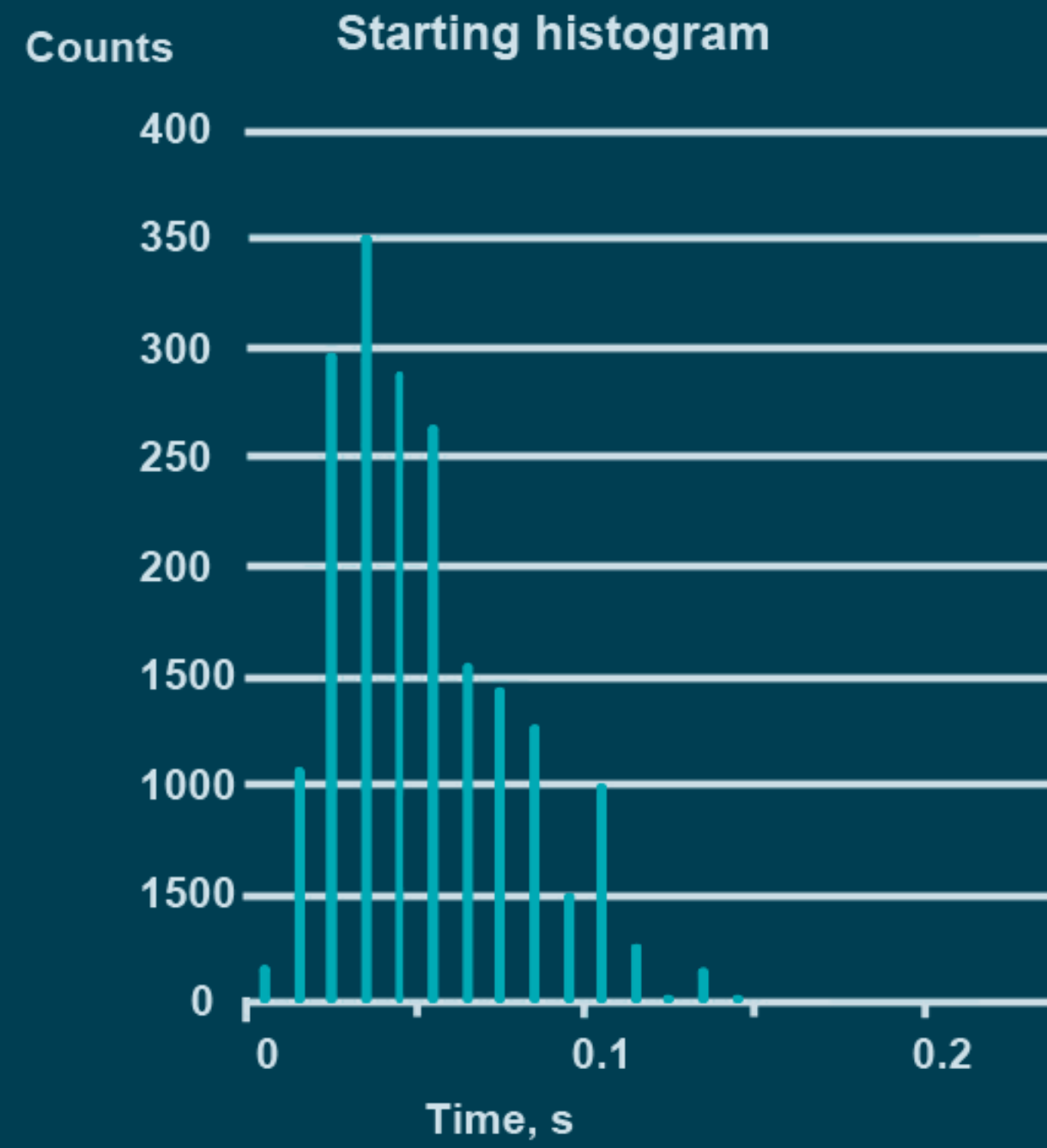
Temporally and  
spectrally  
smooth pulses

Highly  
customizable  
output parameters

Ultra wide spectrum  
compressible down  
to 30 fs

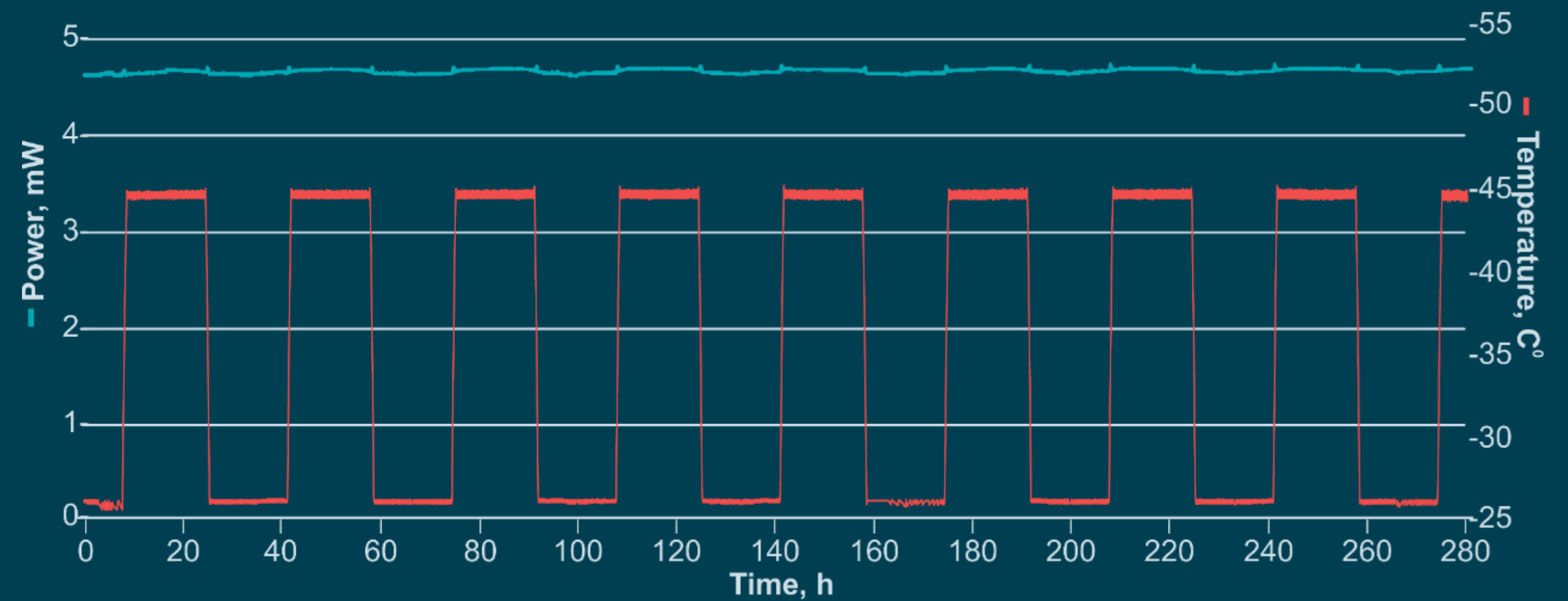






Starting statistics

Environmental stability

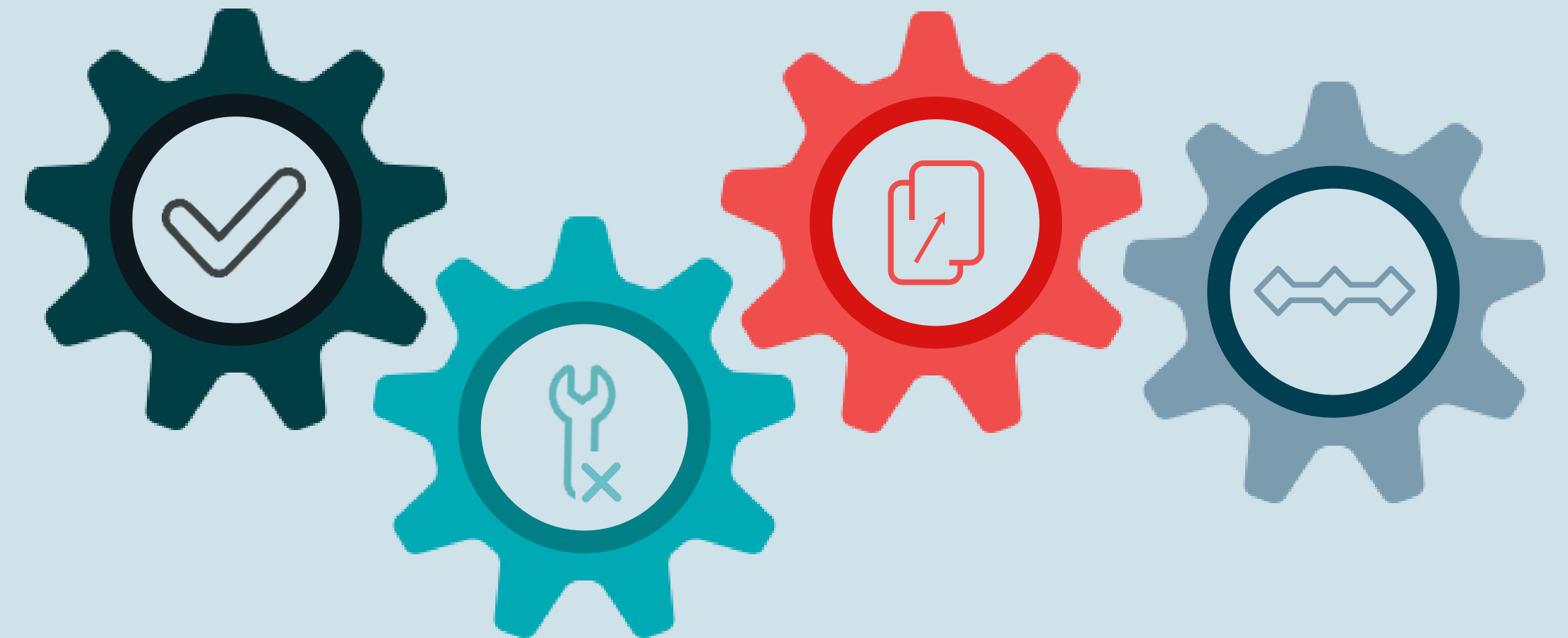






# Benefits

- Passively air-cooled laser head
- Unparalleled optical performance
- Advanced pulse control (incl. burst, analog power attenuation, PSO)
- Plug & play installation
- Lowest costs of ownership in the market





We care about our customers challenges  
in advancing industries







# Contacts

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