

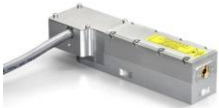


Company profile & Product portfolio

An Introduction

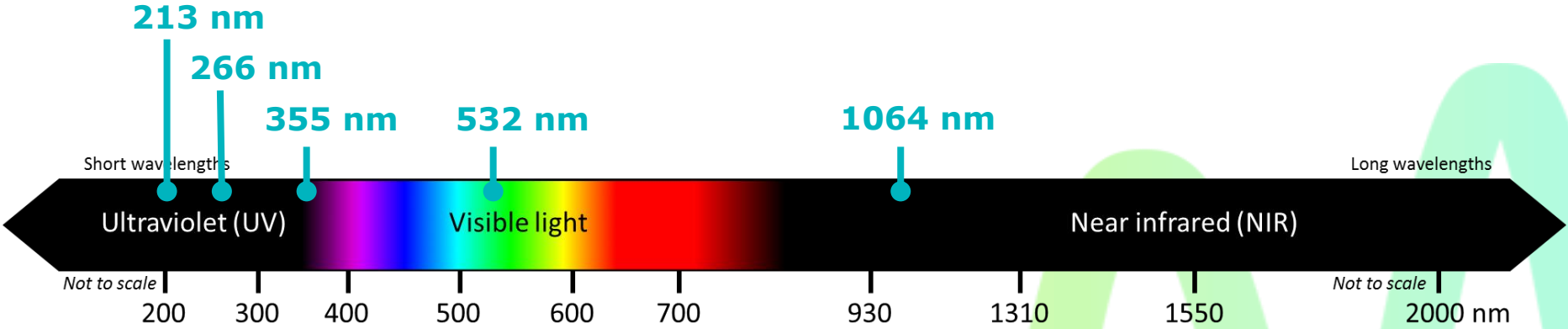


PRODUCTS AT A GLANCE



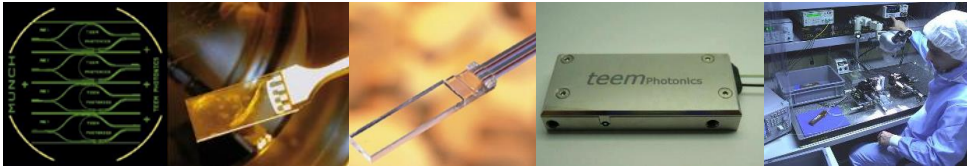
Laser product line

For both R&D and OEM industrial applications



ioNext: a photonic integrated circuit platform

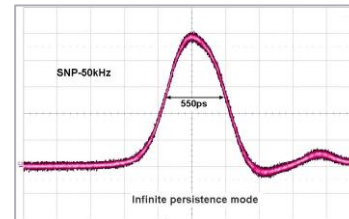
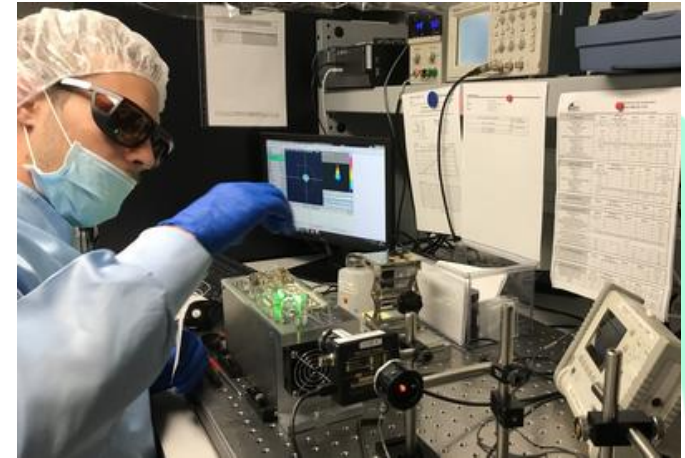
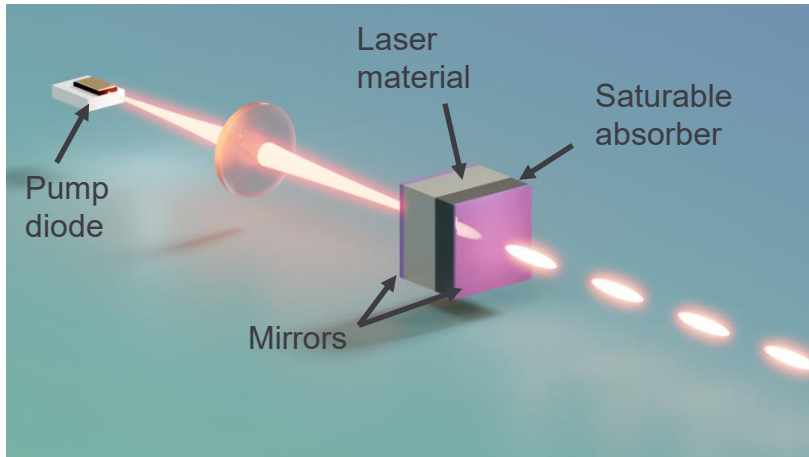
Manufacturing of glass-based planar lightwave circuits



LASER TECHNOLOGY

A unique design for all the lasers

- One technology: passively Q-switched (PQS) microchip laser
- Developed and patented by MIT (USA) in early 2000s
- More than 25-year manufacturing experience yields to state-of-the-art lasers of its category

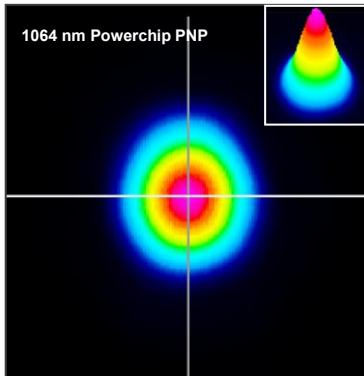


« Sub-nanosecond lasers are able to generate **non linear laser-matter interaction within standard experimental conditions.** »

PQS SOLID STATE LASER BENEFITS

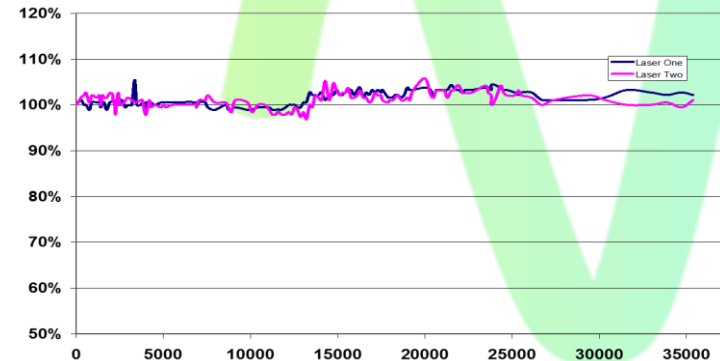
Unique beam quality

- > @ 1064 nm:
 - TEM00, $M^2 < 1.1$
 - Ellipticity < 1.1
- > @ 532, 355, 266 nm:
 - TEM00, $M^2 < 1.2$
 - Ellipticity < 1.3
- > Polarization ratio > 20 dB
- > Energy stability < 5 %



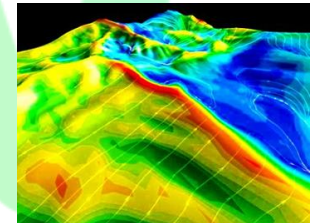
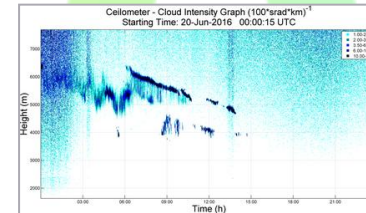
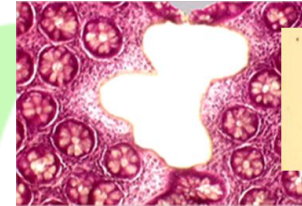
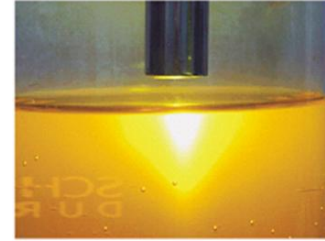
Compactness and reliability

- > Robust laser material: Nd:YAG / Cr:YAG
- > Long lifetime of the laser output:
 - @ 1064 nm $> 45,000$ hours
 - @ 355/266 nm $> 15,000$ hours
- > Extended lifetime and good beam quality for UV lasers – exclusive proprietary manufacturing integration process



EXISTING APPLICATIONS

- › Raw diamond marking: IR
- › Bio-imaging : deep UV
- › Photopolymerisation (3D printing): IR + green
- › Microdissection: UV
- › Wafer inspection/semiconductor: UV
- › Environmental analytics (LIF): UV, green
- › Distributed temperature sensing (DTS): IR
- › Ranging and lidar (distance, shape): IR + green
- › PCB repair: Green
- › Tattoo removal: IR



90 %

OEM, customized products

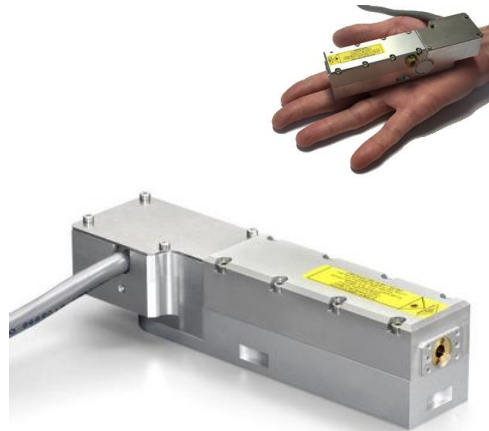
R&D (Universities,
Research labs)






10 %

LASER PORTFOLIO

MNx- and SNx- microchip series

- › Ultra-compact design
- › Lightweight, unsealed or sealed housing
- › Cost-effective solution
- › Free-running pulse emission, remote start & stop
- › Separated controller unit – desktop, OEM or board models








	UV→IR
	130 kHz
	0.75 ns
	8 μ s
	200 mW

LASER PORTFOLIO

PNx- Powerchip series

- Sealed housing for demanding environments
- Free-running pulse emission or external signal triggering function
- Exclusive 213 nm model available from the market
- Unique UV emission reliability with extensive lifetime – twice more than competition demonstrated



	UVC→IR
	1 kHz
	0.5 ns
	80 μJ
	80 mW

LASER PORTFOLIO

Amplified microchip series

- > Combines passively Q-Switched (PQS) microchip laser technology and amplification stage (optical fiber – MOFA, or bulk material, MOPA) for outperforming the pulse specifications:
 - Shorter pulses
 - Higher peak power
 - High repetition rates
- > Sealed housing for demanding environments
- > Cost-effective solution



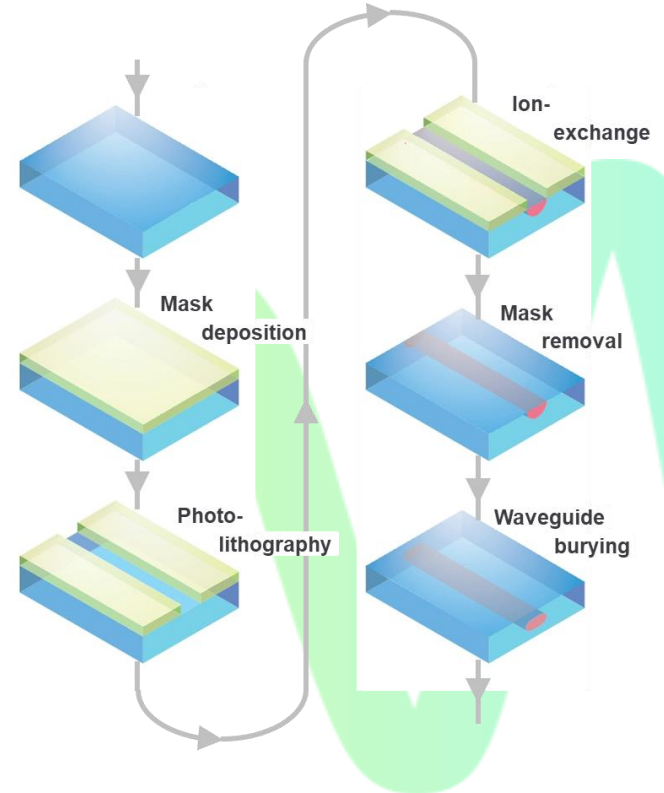
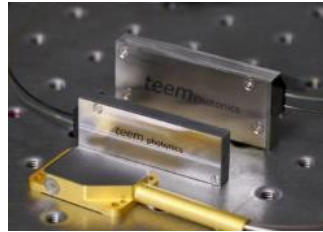
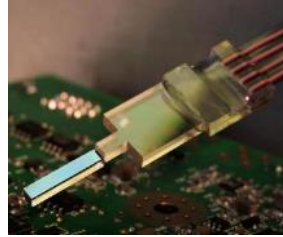
	PicoOne	PicoMega
	VIS→IR	VIS→IR
	70 kHz	125 kHz
	<0.65ns	0.2 ns
	25 μJ	2 μJ
	1.7 W	300 mW

BNG-series		1064	532	355 nm
			30	100 kHz
		0.65	0.75	1 ns
			15	30 μJ
			300	500 mW

IONEXT: GLASS-BASED PHOTONIC CIRCUITS






The ion exchange platform:

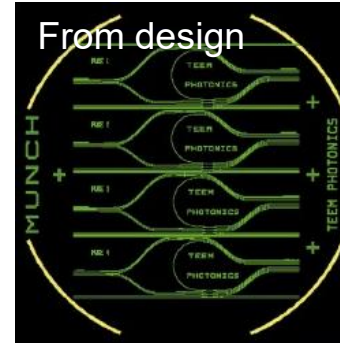
- > A complete set of passive functions for the VIS and NIR
- > Low cost and short turnaround time
- > Custom products for photonic sensing, light routing, Si/InP photonics coupling, microscopy



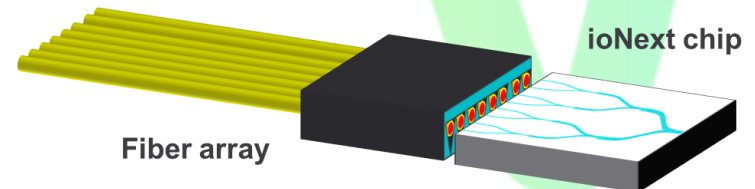
IONEXT: A PASSIVE PIC PLATFORM

A set of passive functions in the VIS and NIR

-  Splitters 1xN
-  Couplers
-  Tapers/Spot size converters
-  MUX/DEMUX
-  Interferometers (MZ, MMI, Michelson)



Multiple ioNext chip interfaces (top, edge, etc.)



YOUR CONTACTS

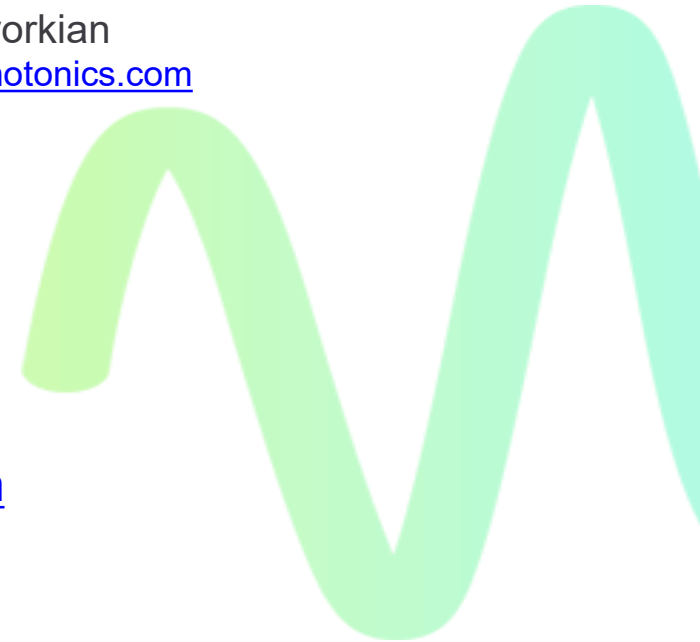
Lasers

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THANKS !

