

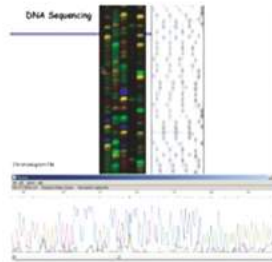
**PHOTONICS SOLUTIONS**  
LASERS & DETECTORS covering UV to IR

**PRECISELY DESIGNED**  
and tailored to your application

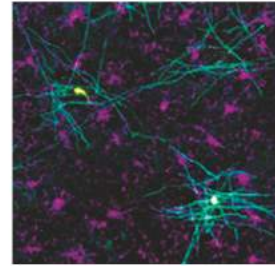
**FOR YOU**  
to be successful



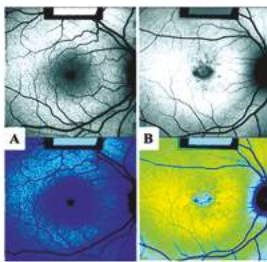
Flow Cytometry



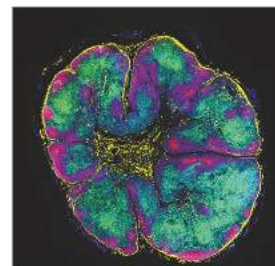
DNA Sequencing



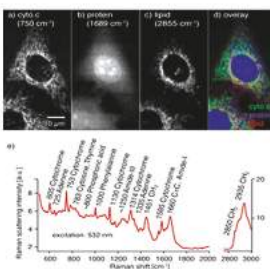
Confocal Microscopy



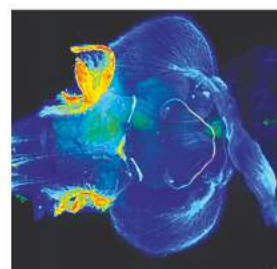
Ophthalmology



Spatial Genomics



Raman Spectroscopy



Lightsheet Imaging



Optogenetics

**For Biomedical & Sensing Applications**  
**Lasers | Detectors | OEM Engines**

Solid-State Photonic Solutions for Biomedical Instrumentation

## Pavilion Vision

Pavilion Integration Corporation (PIC), founded in 2002, is a Delaware registered Corporation with Headquarters in Reno, Nevada, and San Jose, California, with global operation sites in Munich and Suzhou. The Reno site and Suzhou site comprise R&D, applications, production operation, and quality teams. PIC manufactures free space and fiber coupled lasers, detectors, and multi-laser modules, and completed optical subsystems covering the UV, Visible and IR wavelength ranges for demanding biomedical and sensing industries. We chose the name Pavilion Integration Corporation for our company envisioning a place that allows us (customer and vendor) to openly discuss in mutual trust, and to work out leading edge breakthrough solutions that will enter the marketplace in disruptive ways to literally light the darkness on disease and discovery.

PIC's Photonic Integration Division works closely with customers on higher level customized integrated modules and optical subsystem assemblies. The PIC Photonic Integration Division has customer dedicated teams in Munich, Reno, San Jose, and Suzhou. PIC is ISO9001/13485 certified and GMP for medical device manufacturing.

## Bring Your Applications to the Next Level of Reliability & Performance

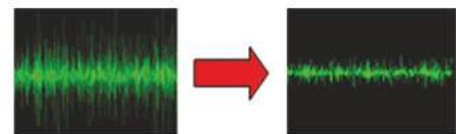
### Quality & Reliability

- » ISO9001/13485 since 2009
- » Laser Life-time >30,000 hours
- » History of over 133,000 units shipped

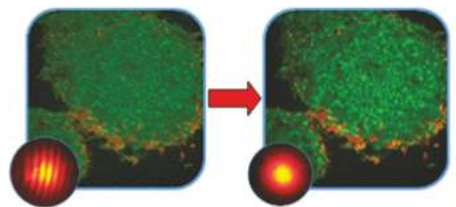


### Performance

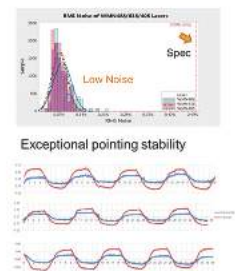
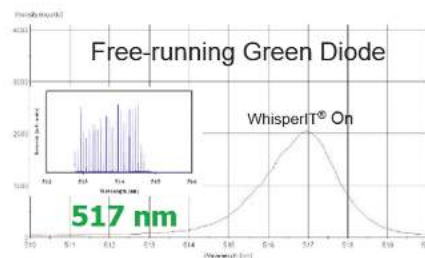
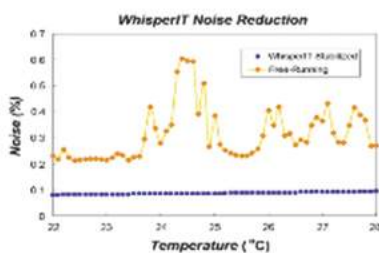
- » Low Noise
- » Low Coherence
- » Low Speckle
- » Mode Hop Free
- » Back Refection Protection
- » Excellent Beam Pointing Stability
- » Stability over Temperature and Humidity



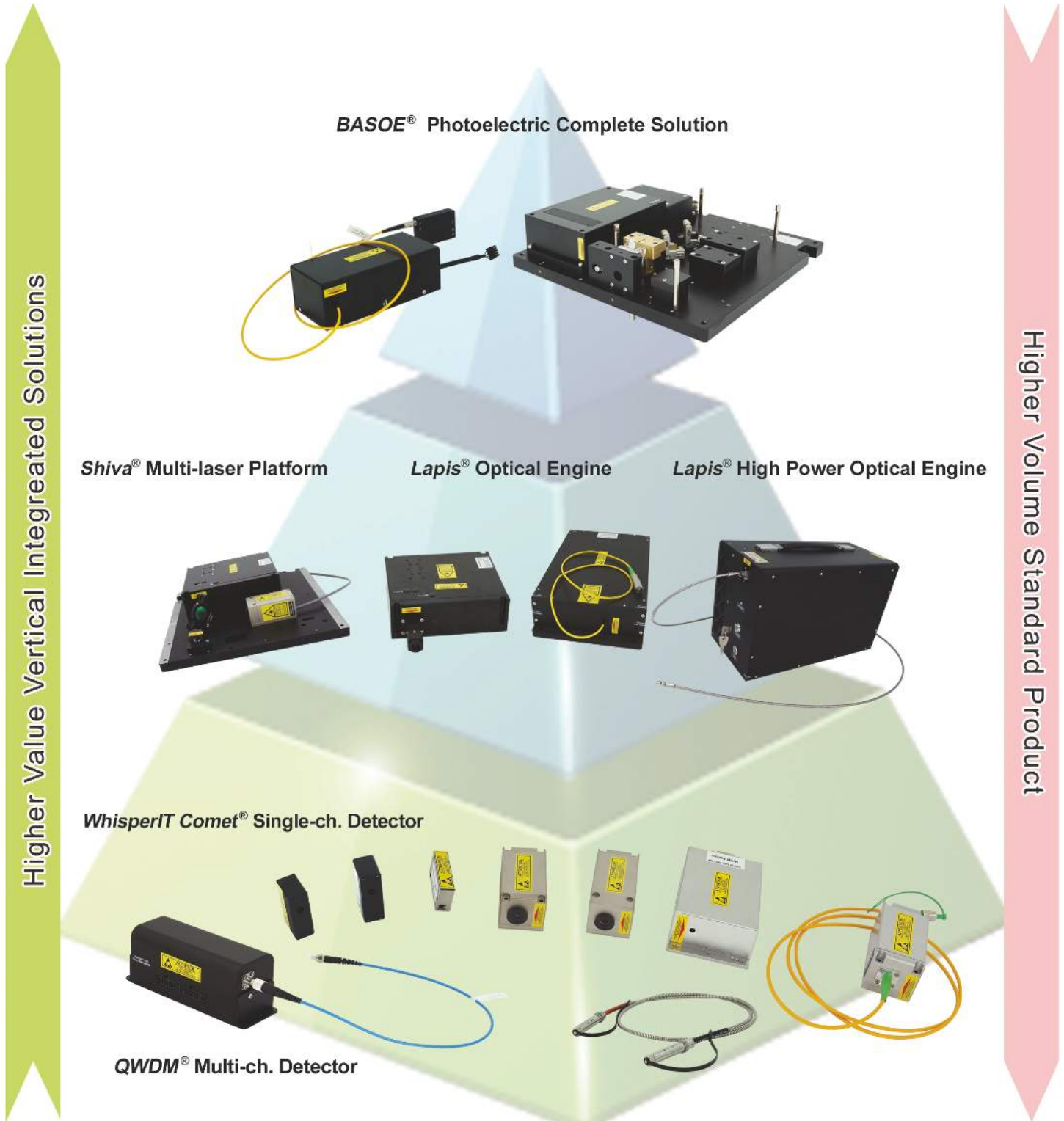
Low Noise



Low Coherence



# Product Pyramid

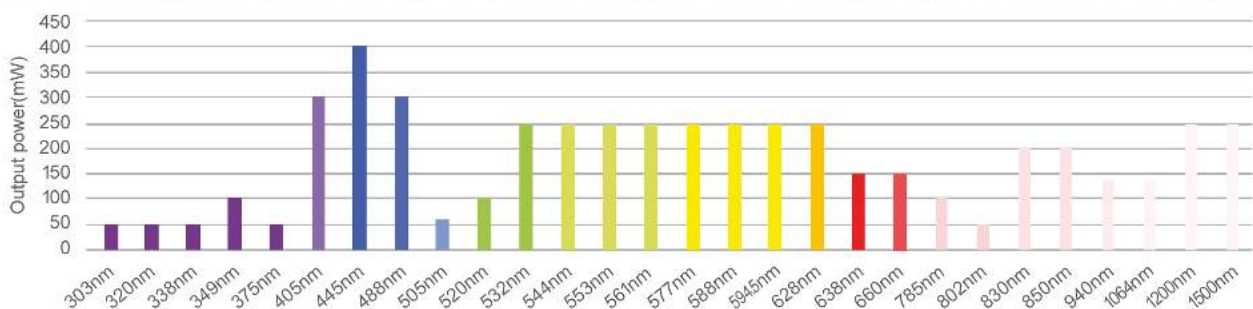


## WhisperIT<sup>®</sup> Single Laser Series: Free Space

The lasers utilize the patented WhisperIT<sup>®</sup> technology that guarantees the laser output with mode-hop free, low noise, low speckle, superior stable output power operation, and back reflection protection, under all operating conditions, while provides the custom-specific beam shape and beam delivery, at a substantially reduced cost, consistency, compact footprint, and dramatically reduced power consumption compared to conventional gas and DPSS lasers.

Single-laser Free Space					
Product Series	WMP	WMN	W	WCP	WSL
					
Laser Beam Output	0.7mm	0.7mm	0.7mm	0.7mm	0.7mm
Dimension	52*27*13mm	55*20*32mm	86*40*44mm	70*40*38mm	125*70*34mm

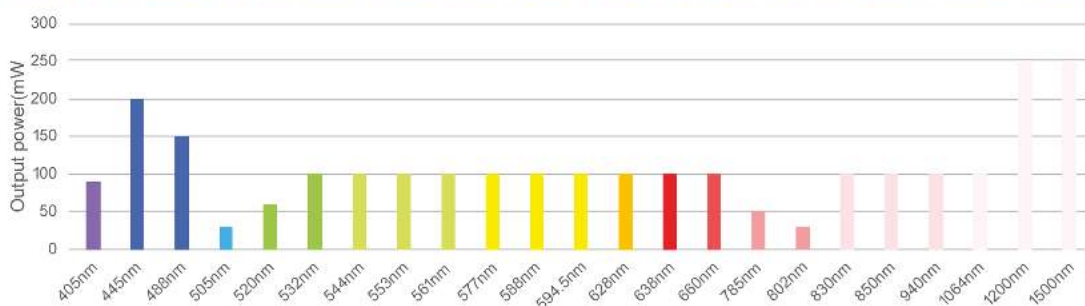
### Broad Range of Wavelengths and Output Powers (Single-mode Free Space)



## WhisperIT<sup>®</sup> Single Laser Series: Fiber Delivered

Single-laser Fiber Delivered						
Product Series	WCP FC	WCP FCO	WSR FC	WSR	WSR FCO/BSO	Dual-collimator Fiber
						
Laser Beam Output	FC/APC	0.7/1.8/2mm	FC/APC	0.7mm	0.7/1.8/2mm	0.7mm
Dimension	70*40*38mm	70*40*38mm	125*70*34mm	125*70*34mm	125*70*34mm	1m length

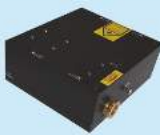
### Broad Range of Wavelengths and Output Powers (Single-mode Fiber Output)



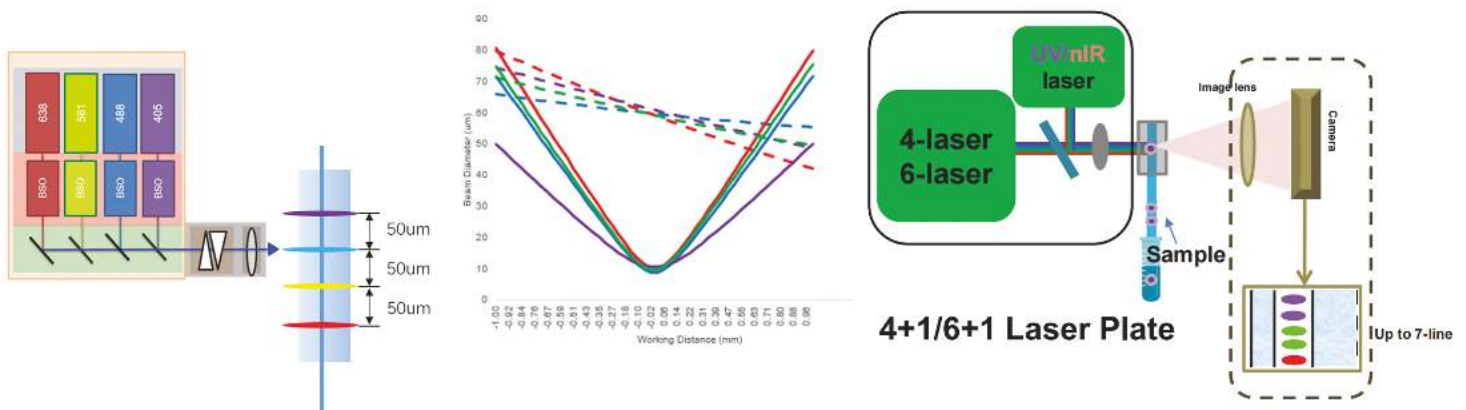
## WhisperIT® Lapis® Shiva® Multi-Laser Series

The Lapis® Multi-laser series single-mode laser based optical engines include integrated built-in lasers, customizable beam shaping, beam delivery, and final focus beams. Each Lapis® optics box undergo an extensive manufacturing process to ensure robust beam pointing stability over temperature and humidity ensuring long-life in the field.

The Shiva® series is a pre-aligned multi-laser platform, ideally suited for biophotonics (cytometry, fluorescence, microscopy, etc.) and medical imaging in cellular biology. These applications require a flexible laser source that provide several wavelengths from one axis output or one optical fiber. Available with up to 7 different wavelengths from UV to IR.

Single-mode	Lapis® Free Space Multi-laser		Shiva® Free Space Multi-Laser		Lapis® Fiber Delivered Multi-laser
	2/3-laser	4-laser	4+1 laser plate	6+1 laser plate	4 in 1 FD laser
Product Series					
Laser Beam Output	Collinear or evenly spaced multi laser beams		405nm/488nm/561nm /638nm + UV / nIR	6-laser + 1 UV / nIR laser	Single-mode PM Fiber Output with BSO
	Focus Beam: 15±3um * 60±15um				1.2mm/1.8mm/2mm
Dimension	130*176*60mm	155*180*52.2mm	320*280*88mm	320*280*88mm	270*160*50mm

### Multi-laser Free Space Nominal Optical Performance

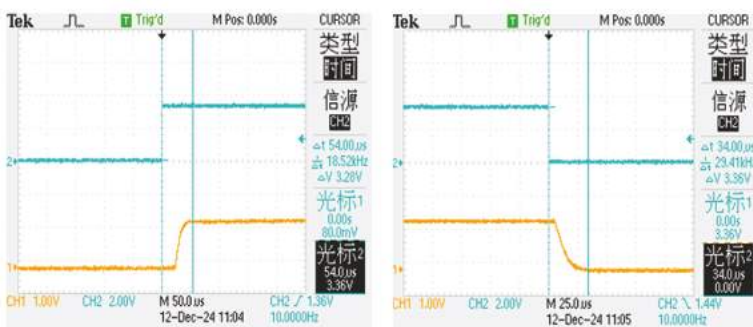


## WhisperIT® Lapis® High Power Multi-Laser Series

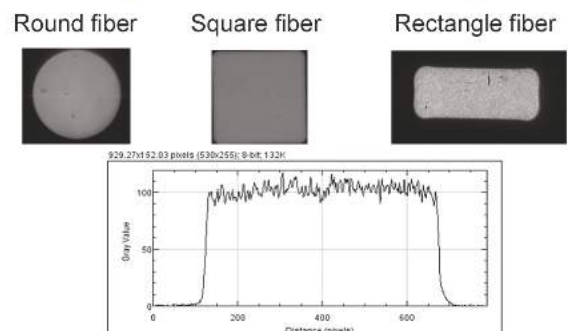
Lapis® multi-laser of high-power multi-mode based optical engines include integrated built-in lasers, customizable multi-fiber output. Each Lapis® high power optics box undergo an extensive manufacturing process to ensure robust uniformity over temperature and humidity ensuring long-life in the field.

Multi-mode	Lapis® High-power Multi-laser				
	1-laser	2/3-laser	5/7/9-laser (up to 11)	5/7-LED	Bright Light
<b>Product Series</b>					
<b>Laser Beam Output</b>	Power up to 2W	400um/450*150um 0.22NA	400um/800um/ 1000um 0.22/0.39NA	400um/800um/ 1000um 0.22/0.39NA	400um/800um/ 1000um 0.22/0.39NA
	Ideal for coupling into multi-mode fibers	SMA;FC/APC	SMA;FC/APC	SMA;FC/APC	SMA;FC/APC
<b>Rise/fall time</b>	50-150us/25-50us	50-150us/25-50us	50-150us/25-50us	80-200us/25-200us	80-200us/25-200us
<b>Dimension</b>	130*52*32mm	320*180*110mm	320*430*160mm	360*145*240mm	125*107*57mm

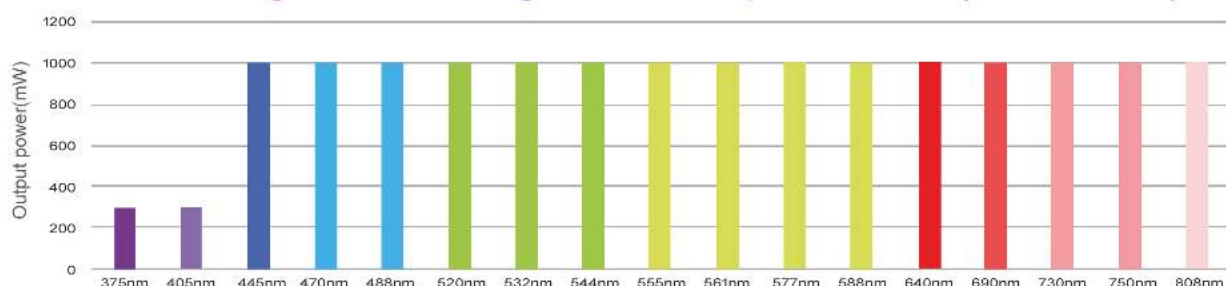
### Rise/fall Time



### High Power Uniformity



### Broad Range of Wavelengths and Output Powers (Multi-mode)

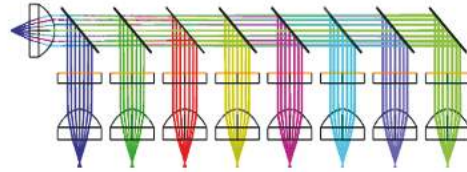


## WhisperIT Comet<sup>®</sup> and QWDM<sup>®</sup> Solid-State Detectors

An ideal replacement to expensive PMTs, offering high QE, high sensitivity, low noise, large dynamic range, and compact space savings. SSDs can be TE-cooled for ultra-low light sensitivity and feature on-board pre-amplifier customizable to match customer's channel by channel system requirements. New enhanced sensitivity red-shift models with high quantum efficiency now available.

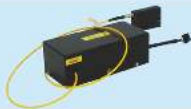

Detectors	Single-ch SSD	Multi-ch SSD
	SiPM SSD	4-ch/8-ch/12-ch
Product Series		
Spectral Response Range	350-1000nm	350-1000nm
Signal Output	Voltage/Current Analog	Voltage/Current Analog or Digital

- High quantum efficiency
- Blue and Red shifted options from 350-1000nm
- Exact Form Fit Drop-in compatible replacement to PMT
- TE-cooled version available
- Built-in pre-amplifier
- Current or voltage output
- Multi-ch SSD Standard 4, 8, up to 12-ch
- The 24, 32, 64, and 72-ch array is available upon request

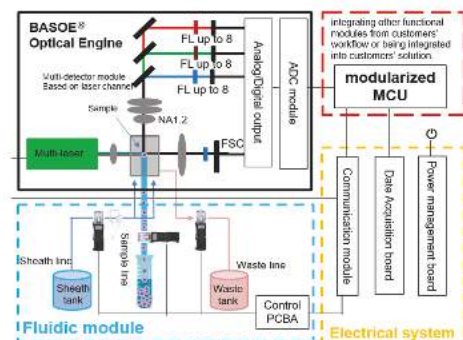


## BASOE<sup>®</sup> The Ultimate Complete Photonics Solution

The optical engine is designed with integrated excitation module, signal collection and SiPM detectors, receiving optics, filters, sample capillary or cartridge or sample flow cell.

BASOE <sup>®</sup> Optical Engine		
	1-laser + Spectrometer	2-laser 6/8-ch 3-laser 10/13-ch
Product Series		
Dimension	L*W*H:163*73*57mm	L*W*H:300*300*80mm
Application	1 <sup>st</sup> -Gen DNA Sequencing	FCM / Multi-plexing

- Standard availability: 1-laser 4-ch for POCT Specifically; 2-laser 6/8-ch; 3-laser 10/13-ch. 4-laser & other options available.
- Integrated optical engine including excitation, signal collection and detector receiving optics, filters, sample cartridge or sample flow cell.
- Collinear or evenly spaced multi laser beams at flow cell or capillary or sample cartridge.
- Integrated multi-ch receiver module.



# PHOTONICS SOLUTIONS

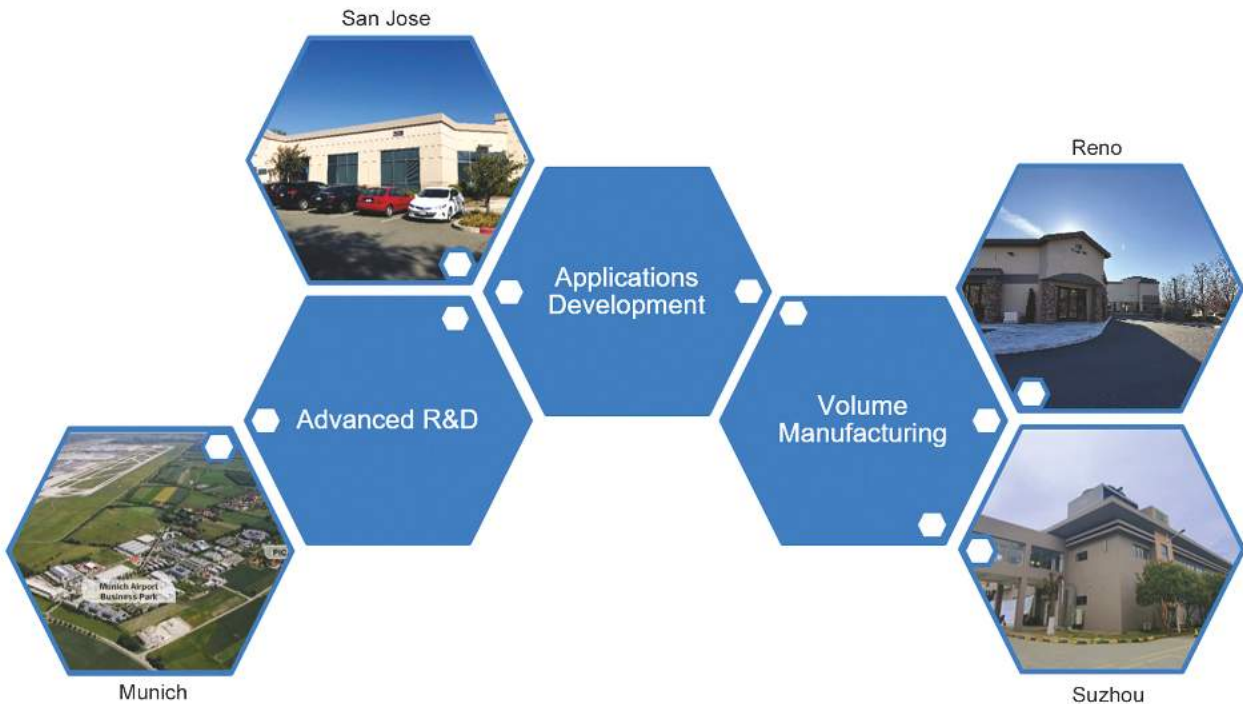
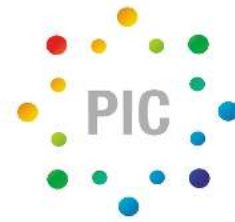
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# FOR YOU

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