



# Product Line Card Opto-Electronics

**2025 V1**

For customized projects please Contact us:

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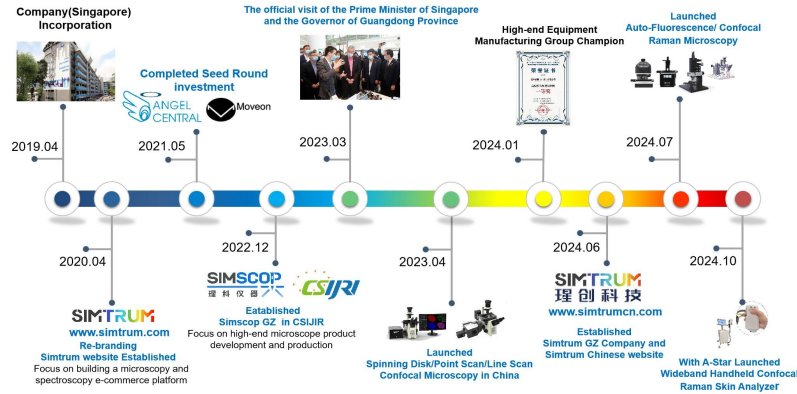
## Company Profile

Established in Singapore in 2019, SIMTRUM Group specializes in innovation and applications within microscopy and spectroscopy. Its core team brings decades of optical technology expertise. In 2022, the company partnered with the CSIJRI in Guangzhou to establish a joint R&D laboratory for microscopy with independent research capabilities. The team now includes multiple Ph.D. graduates from the National University of Singapore (NUS), and has grown to dozens of members.

SIMTRUM has collaborated with leading institutions such as Nanyang Technological University (NTU), NUS, A-Star, and Xiamen University to develop high-end microscopy systems. In March 2023, the company's Guangzhou R&D center was visited by former Singapore Prime Minister Lee Hsien Loong and the Governor of Guangdong Province. Later that year, SIMTRUM won first prize in the startup category of the Guangzhou Technology Innovation and Entrepreneurship Competition and secured multiple technology patents.

**Vision:** To be a leading photonics technology company that truly understands and adds value to our customers.

**Mission:** Driven by innovation, we deliver exceptional services and precise products to global photonics users, empowering customer success and advancing industry transformation.

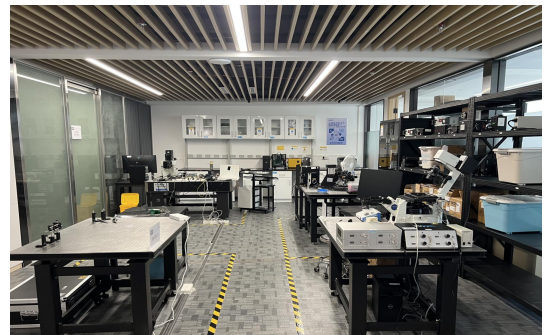
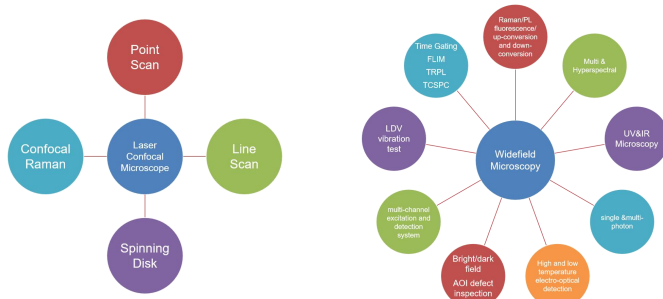


## Company Milestones

## Optical R&D Laboratory

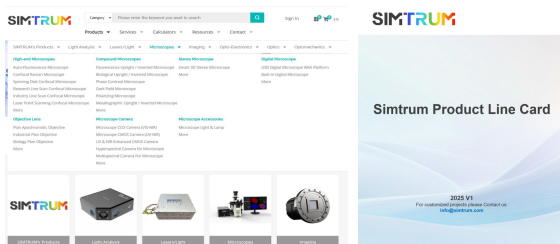
We have established a fully-owned optical laboratory in Guangzhou operating as a subsidiary of Simscop Instruments. This facility specializes in the R&D and manufacturing of high-end microscope systems and critical equipment components.

Our proprietary microscope systems include confocal laser microscopes and wide-field microscopes, along with core components such as detection modules, photomultiplier tubes (PMTs), silicon photomultipliers (SiPMs), multi-channel lasers, and motorized filter wheels. Additional products are currently under development.



Real scene of optical R&D laboratory

## Focus on microscopy and spectroscopy e-commerce platform



Simtrum is a specialized e-commerce platform dedicated to microscopy and spectroscopy, serving scientific research, industrial, and healthcare fields with high-quality products and aiming to be a trusted partner in the sector.

The platform features seven major product categories: Microscopes, Light Analysis, Lasers/Light sources, Imaging, Opto-Electronics, Optomechanics, and Optic, offering over 4,000 products in total. Each category is equipped with a product line card to facilitate efficient selection.

As a supply chain-integrated systems provider, Simtrum employs a rigorous testing system where every product undergoes professional inspection and performance verification before launch. This ensures reliability and delivers a ready-to-use, worry-free experience for customers.

E-commerce platform website: [www.simtrum.com](http://www.simtrum.com)

With 10 years of expertise, we support 3,000+ customers with 30+ tailored solutions.  
Trust Simtrum for your microscopy and spectroscopy needs.

## Acousto-Optic Device



**Free Space Acousto-Optic Modulators (AOM)**



**Fiber Coupled Acousto-Optic Modulators**



**Fiber-coupled Acousto-optic Tunable Filter**



**Free Space Acousto-Optic Tunable Filter**



**Acousto-Optic Q-switch (AOQ)**



**Acousto-Optic Frequency Shift (AOFS)**



**Phase Modulators**



**Acousto-Optic Deflector (AODF)**



**Pockels Cells**

Product	Wavelength	Aperture	Frequency	Drive
Free Space Acousto-Optic Modulator (AOM)	266/343/355/532/800/1045/1064/9600/10600 nm and 450-900 nm	0.5-8 mm	40-200 MHz	Yes
Fiber-coupled Acousto-optic Modulator	780/1030/1064/1550 nm and 910-940 nm	Loss < 3dB	40-300MHz	Yes
Fiber-Coupled Acousto-Optic Tunable Filter	800-1700 nm	Loss < 3dB	60-100 MHz	Yes
Free Acousto-Optic Tunable Filter (AOTF)	200-4500 nm	3/5/12/20 mm	18-135 MHz	Yes
Acousto-Optic Q-Switch (AOQ)	1064/1342/1532/1550/10600 nm and 1900-2100 nm	1-11 mm	20-80 MHz	Yes
Acousto-Optic Frequency Shifter (AOFS)	633/1064 nm	1/3 mm	20-115 MHz	Yes
Phase Modulator	280/355/370/420/461/532/650/780/935/960 nm	2/3 mm	25 MHz-3 GHz	Yes
Acousto-Optic Deflector (AODF)	266/355/364/405/488/515/532/561/813/1064/1083 nm	1-26 mm	70-230 MHz	Yes
Pockels Cell	515/532/800/1030/1064 nm	3/4/6/10 mm	/	Yes

## Fiber Couple Electro-Optic Modulators



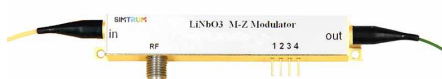
Ultra-fast Pulse Generator for TCSPC



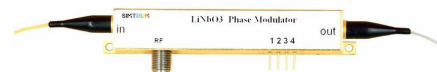
Single-photon time counter

Product	Resolution	Number of channels
Ultra-fast Pulse Generator for TCSPC	Adjustable Pulse Width 100-5000ps	1
Single-photon time counter	Timestamp resolution 1/8 ps	2/4/8/16

## Fiber Couple Electro-Optic Modulators



Electro-optical Amplitude Modulator



Electro-optic Phase Modulator

Product	Operating wavelength	Bandwidth	Extinction ratio
Electro-optical Amplitude Modulator	780/850/1064/1550 nm	2.5/10/20/40 GHz	20/30/40 dB
Electro-optic Phase Modulator	780/850/1064/1550 nm	300 MHz; 10/20/40 GHz	20 dB

## Spatial Light Modulator (SLM)



**Phase Spatial  
Light Modulator**



**Transmission Amplitude  
SLM**



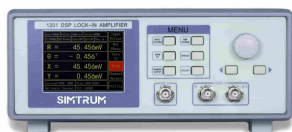
**Reflection Amplitude  
SLM**



**Digital Micromirror  
SLM**

Product	Spectral range (nm)	Resolution	Response Time
Phase Spatial Light Modulator	400-1700 nm	1920×1080/2048×2048/3840×2160	16-600 ms
Transmission Amplitude SLM	420-1200 nm	1024×768/1920×1080/2048×1536	6-22 ms
Reflection Amplitude SLM	350-1700 nm	1920×1080/2048×2048/3840×2160	2-60 ms
Digital Micromirror SLM	350-2500 nm	1920×1080/2048×1200/2716×1600/ 1024×768/2560×1600	Real-time transmission rate 30-120 Hz

## Lock-in Voltage Amplifier



**Single-channel Lock-in Amplifier**



**Dual-channel Lock-in Amplifier**

Product	Frequency range	Input noise	Dual-channel Lock-in Amplifier
Single-channel Lock-in Amplifier	50 mHz-120 kHz DC-102/250 kHz; DC-1.5/10/60 MHz	Low-noise 2.5/3/5 nV/sqrt(Hz)	no yes
Dual-channel Lock-in Amplifier	DC-102/250 kHz; DC-1.5/400 MHz	2.5/4/5 nV/sqrt(Hz)	yes