APE Asia Photonics Expo



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# PRESHOW GUIDE 2025



26 - 28 February 2025

Sands Expo and Convention Centre, Singapore











### **Contents**

- P3 2025 Highlights
- P4 <u>Exhibit Profile</u>
- **P5** National Pavilions
- **P7** <u>Technology Zones</u>
- **P8 Product Preview** -- Optical Communication, Precision Optics, Laser, Infrared, Intelligent Sensing, Quantum, etc.
- **P17** Conference List
- **P18** Concurrent Conferences
- **P28** <u>Concurrent Activities</u>
- P31 Part of APE 2025 Visitor Registration List
- P32 Premium Service for Visitors
- **P33** Discover How Photonics Technologies Empower Key Application Industries --- 10 Supply Chain Diagrams
- P43 Traffic Guide
- P44 Hotel Reservation



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Located in the international trade hub of Singapore, Asia Photonics Expo (APE) is Southeast Asia's premier photonics exhibition, offering unparalleled opportunities to explore and unlock the vast potential of Asian markets. The event highlights the latest cutting-edge technologies and emerging applications across the entire photonics value chain, including **optical communication, optics, semiconductors, quantum, lasers, sensing, displays, and infrared**. APE serves as a comprehensive platform for industry professionals to discover new technologies and products while gaining insights into market trends.

# **2025 HIGHLIGHTS**

#### Industry Advancements

The dynamic growth and increasing demand in Southeast Asia, especially in **Optical Communication, Semiconductor, Advanced Manufacturing, Medical,** and **Consumer Electronics,** are driving the rise of photonics technologies. APE offers an unparalleled platform to explore the latest advancements in the photonics industry ranging from **chips, components** to **manufacturing equipment**.

### **Theme Pavilions & Zones**

APE 2025 features a variety of national pavilions from **Singapore, Europe, Germany, South Korea, Japan, China** and technology zones for **Quantum, Intelligent Sensor, and Vacuum Coating**, showcasing advanced photonics technologies and products. It offers a unique opportunity to explore the latest innovations in photonics and witness collaborative efforts shaping the industry.

### **Networking Events**

APE provides a platform to forge strong connections that can propel your endeavors to new heights, whether you are from **photonics companies, research institutions**, or **industry associations**. Join us to foster meaningful networking and collaboration between our esteemed exhibitors and visitors.

- Tailor-made VIP Buyer Program
- Happy Hour at the VIP lounge
- Gala Dinner (invited only)
- Site Tour

### **Concurrent Conferences**

Dive into Singapore's vibrant photonics research landscape with a lineup of concurrent conferences covering industry and application perspectives. Topics as below:

Quantum Singapore | Photonics@SG | Asia Semiconductor Conference | EPIC Tech Watch | EUROPE meets ASIA | Advanced Photonics and Flat Optics | Electric Vehicle | Machine Vision and Robotics | Semiconductor Manufacturing.



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### **Exhibit Profile**

### **Optical Communication**

- **Optical Communication Chip**
- **Optical Communication Device**
- **Optical Communication Module**
- **Optical Communication Transmission Equipment**
- **Optical Fiber Materials**
- **Optical Fiber Cable/Fiber Sensing**
- Semiconductor Materials
- Semiconductor Equipment and Manufacturing

#### Laser

- Lasers
- Laser Material
- Laser Component
- Laser Equipment

### Display

- **Display Material**
- Display Panel/Module
- **Display Manufacturing**

### **Optics**

- **Optical Material and Component**
- **Optical Processing Equipment**
- **Optical Coating Material**

Industrial Sensor

MEMS and Sensor

Infrared Material

Infrared Component

LiDAR & Component

3D Imaging & Sensing

- **Optical Lens and Camera Module**
- **Optical Measuring Instrument**
- Machine Vision and Industrial Automation
- AR/VR

Sensing

Infrared

### Quantum

- **Ouantum Computing**
- **Ouantum Communication and** Security
- Quantum Sensing
- **Core Upstream Components**



















**GATEWAY TO PHOTONICS IN ASIA** 









# National Pavilions

SINGAPORE

- ACEXON TECHNOLOGIES
- ADVINNO TECHNOLOGIES
- APP SYSTEMS
- BOTE OPTICS
- DYMEK ASIA
- JD UNION
- KEMET
- LASER 21
- MMI SYSTEMS
- MOVEON TECHNOLOGIES
- OPTICAL GAGING
- OPTO PRECISION

- PRECISION OPTICAL SYSTEMS
- SD OPTICS
- SINGAPORE DYNAMIC
   OPTRONICS
- SINTEC OPTRONICS
- STELLENT NETWORKS
- WAVELENGTH OPTO-ELECTRONIC

EUROPE

- ACKTAR
- CHROMA TECHNOLOGY
- CIS FORSCHUNGSINSTITUT FÜR
   MIKROSENSORIK
- DELTA OPTICAL THINFILM
- DOPA DIAMOND TOOLS & OPTICS
- EUROPEAN PHOTONICS INDUSTRY
   CONSORTIUM
- HEIDELBERG INSTRUMENTS
   MIKROTECHNIK
- HOLOEYE PHOTONICS
- IBSEN PHOTONICS

- IMT MASKEN UND
- TEILUNGEN
- I-PHOTONICS
- IVAM MICROTECHNOLOGY
   NETWORK
- ACKTAR
- CHROMA TECHNOLOGY
- OPTOCRAFT
- SANDVIK OSPREY
- SPACEOPTIX
- W3+ FAIR





# **National Pavilions**

Germany	JAPAN/KOREA	СН	INA
<ul> <li>GERMAN FEDERAL MINISTRY FOR ECONOMIC AFFAIRS AND CLIMATE ACTION</li> <li>CUTTING EDGE COATINGS</li> <li>FIBERWARE GENERALUNTERNEHMEN FÜR NACHRICHTENTECHNIK</li> <li>INFRASOLID</li> <li>MICRO-HYBRID ELECTRONIC</li> <li>MÖLLER-WEDEL OPTICAL</li> <li>NANOSYSTEC</li> <li>POLYTEC</li> <li>RGB LASERSYSTEMS</li> <li>SENTECH INSTRUMENTS</li> <li>SIOS MEßTECHNIK</li> </ul>	<ul> <li>AGC</li> <li>CYBERNET SYSTEMS</li> <li>DAHE THERMO-MAGNETICS</li> <li>DBTEK</li> <li>DISCO HI-TEC</li> <li>FERROTEC SEMICONDUCTOR</li> <li>MICROVITA-INSTRUMENT</li> <li>PHOTONTECK</li> <li>SWCC</li> <li>WOORIRO</li> </ul>	<ul> <li>SIFOTONICS TECHNOLOGIES</li> <li>PHOGRAIN TECHNOLOGY</li> <li>SINGPHOTONICS INTERNATIONAL</li> <li>US CONEC</li> <li>HENGTONG OPTIC-ELECTRIC</li> <li>FLYIN OPTRONICS</li> <li>T&amp;S COMMUNICATIONS</li> <li>MRSI AUTOMATION</li> <li>HAN'S LASER</li> <li>EMGO-TECH TECHNOLOGY</li> <li>SHOURADIUM LASER</li> <li>STRONG LASER</li> <li>ABNER-NANO</li> </ul>	<ul> <li>MH ELECTRONICS &amp; TECHNOLOGY</li> <li>GIAI PHOTONICS</li> <li>INNOREV</li> <li>YUANHENG</li> <li>YUANHENG</li> <li>ULVAC</li> <li>IBRNTECH</li> <li>XINGQING OPTICAL INSTRUMENT</li> <li>RAYTRON MICROELECTRONICS</li> <li>HONGYANG</li> <li>FOCUSLIGHT</li> <li>SINCEVISION</li> <li>GRUPA TECHNICZNA CODI</li> </ul>





# Technology Zones

APE 2025 will serve as a dynamic platform to showcase groundbreaking technologies, drive innovation, and foster meaningful collaborations among industry leaders, research centers, and institutions. This event will feature dedicated **Technology Zones** spotlighting advancements in **Quantum Technologies, Intelligent Sensors, and Vacuum Coating Solutions**, offering attendees an immersive experience into the future of photonics.

### Quantum

Quantum technology is a rapidly evolving field with the significant potential to revolutionize various industries. APE 2025 will collaborate with pioneering enterprises in the quantum field to present advanced technologies, including **Quantum Computing, Quantum Communication and Security, Quantum Sensing** and its core components.

Exhibitors include:

- ChengDu Data Automation System
- QuantumCTek
- SpinQ Technology
- ZQUANTUM

### Intelligent Sensor

This zone will showcase **Industrial Sensor, 3D Imaging & Sensing, MEMS Sensor, and LiDAR**. These products are crucial for advanced manufacturing, testing and measurement, consumer electronics, and electronic vehicle applications.

Exhibitors include:

- Baiteng Electronic Technology
- HK CARLSON
- SINCEVISION

### Vacuum Coating

Vacuum coating technology is a key enabler for a wide range of applications, including **semiconductors, optics, electronics, and materials**. Displaying vacuum coating technology at APE 2025 provides the opportunity for attendees to learn about the latest techniques and applications in the field.

### Exhibitors include:

- Baofeng Metallizer
- Laiku (Suzhou) Semiconductor
- Shanghai Vacuum Society
- ULVAC



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### **Product Preview – Optical Communication**



**ADVANCED FIBER** 







TEC



Thin Film Lithium Niobate Modulator Chips

ANPL OPTOELECTRONICS

DBTEK BOOTH: B104, B105



GT 40





VCSEL Based OCT Swept Source

**DEVISER INSTRUMENTS BOOTH: A331** 



AE8600 Optical Spectrum Analyzer 600-1700nm

BOZHON SEMICONDUCTOR BOOTH: A326



**MicroStar Series** EF8621-Plus Eutectic Die **Bonding Machine** 

**ETERN BOOTH: A306** 



50G PON Z-Block





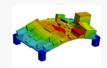
Navigator 1000

EVATEC AG **BOOTH: B304** 



SOLARIS

CYBERNET SYSTEMS **BOOTH: B131** 



Ansys Mechanical

FERROTEC SEMICONDUCTOR BOOTH: B135



**Copper Bonded Ceramic Substrates** 

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### **Product Preview – Optical Communication**



9



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### **Product Preview – Optical Communication**





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### **Product Preview – Precision Optics**





Lumerical & SPEOS

BOXIN PHOTOELECTRIC BOOTH: D212, D213



Optical Components





lon Beam Figuring Machine For Precision Optics

CPG OPTICS BOOTH: BOO3



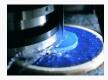
optical lens assembly

AGC BOOTH: B133



Diffractive Optical Element (DOE)

DISCO HI-TEC BOOTH: B134



KKM Service



Leybold Optics LTE 700

Vacuum Coaters

DYMEK ASIA

**BOOTH: B314** 

4D PhaseCam

ARCHER OPTX BOOTH: B124



PerfectLens® Molded Glass Aspheric Lens

EDMUND OPTICS BOOTH: B201



Filter Optics

BOARDSTONE INTELLIGENT BOOTH: C104



Image Dimensional Measurement System

GERMANLITHO BOOTH: C101



GL P2 CLIV

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### **Product Preview – Precision Optics**

GLITTER OPTICS BOOTH: D101



Optical Components: Cylindrical Lenses, spherical Lenses, toric Lense, prisms, Windows, Mirrors, Filters And So On.

> LBD TECHNOLOGY BOOTH: C334



Ion Beam Etching Machine

HG OPTRONICS BOOTH: BOO1



High Precision Spherical And Flat Optics Components

L-CHASER OPTICS BOOTH: D103



Precision Measuring Mirror

HITRONICS TECHNOLOGIES BOOTH: BOO5, BOO6



Telecentric Lens

MICROVITA-INSTRUMENT BOOTH: B106



RF Ion Source

HONGSHI INTELLIGENT TECHNOLOGY BOOTH: C225



AR Glass

MITUTOYO BOOTH: B301



WLI-U (White Light Interferometer-Unit)

KEMET BOOTH: B336



Vacuum Solvent Cleaning machines

MOVEON TECHNOLOGIES BOOTH: B332



Precision Optics and Module Assemblies

KINGDING OPTICAL TECHNOLOGY BOOTH: C533



Aspheric Lens Precision Molding Machine (MD13-90)

OHARA OPTICAL BOOTH: BOO4



High precision optical glass

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### **Product Preview – Precision Optics**

OPTICREATE

TECHNOLOGY

BOOTH: D112



Infrared Optics

Optical Lenses

SINGAPORE DYNAMIC OPTRONICS BOOTH: B233



Optical back-end processes, optics bonding and edge blackening

OPTO PRECISION BOOTH: B236



Precision Optical Coating Service

SPRECISION TECHNOLOGY BOOTH: C333



Cold working of glass aspheric surface

PANASONIC FACTORY SOLUTIONS BOOTH: B303



UA3P

SWCC BOOTH: B136



High-Strength Ultra-Fine Copper Alloy Wire

PRECISION OPTICAL SYSTEMS BOOTH: B313



Customized Optical Components

TZTEK TECHNOLOGY BOOTH: A321, A322



VMG Gantry Video Measuring Machine

#### SATISLOH ASIA BOOTH: C223



SPM-10/SPS-10 Grinding & Polishing

WAVELENGTH OPTO-ELECTRONIC BOOTH: B221



SWIR, MWIR & LWIR Lenses

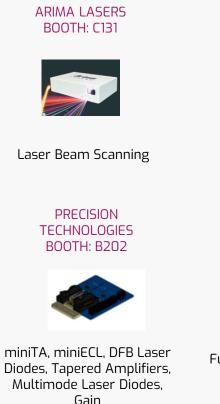
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### **Product Preview – Laser**



EMGO-TECH TECHNOLOGY BOOTH: C115



500W In-Linelsolator

SHOURADIUM LASER BOOTH: COO5



Fully Automatic IC Plastic Package Laser Cutting Machine

HAN'S LASER BOOTH: C226, C227

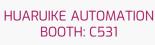


Laser Marking Machine HM20

SINTEC OPTRONICS BOOTH: B315



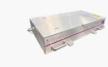
Laser Cleaning Machine





Automatic Soldering Machine

STRONG LASER ADVANCED EQUIPMENT BOOTH: A235



30W UV Femtosecond Laser

LASER 21 BOOTH: B222



SuperK CHROMATUNE – the World's broadest tunable laser

#### VILASER BOOTH: C525



Laser Solder Ball Welding Machine

#### MOJI-NANO TECHNOLOGY BOOTH: D203



Maskless Direct Writing Lithography——UV-Smart

#### XK PHOTONICS BOOTH: C231



Small NA Blue Laser Module

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### Product Preview – Infrared/Intelligent Sensing

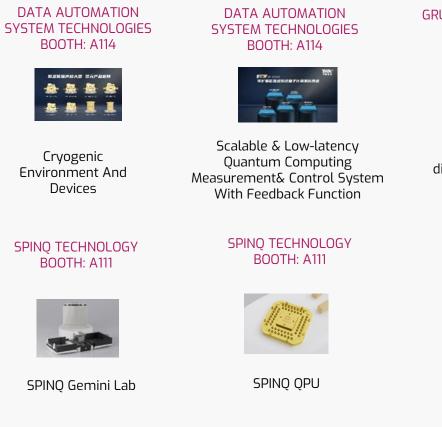




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# Product Preview – Quantum/Display



GRUPA TECHNICZNA CODI BOOTH: C303



Intercom with a selfdisinfecting touch panel

> UV TECHNOLOGY BOOTH: D226



UV Led Spot Curing System GRUPA TECHNICZNA CODI BOOTH: C3O3



Self-disinfecting capacitive keyboard

UV TECHNOLOGY BOOTH: D226



UV LED Linear Light Source



ez-Q Fridge-

Platform400

ZOUANTUM

**BOOTH: A115** 

Guangjia Series

Quantum+ Security





ez-Q Engine 2.0

ZQUANTUM BOOTH: A115



Aurora ZQ-QCS30

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17

### **Conference List**

Date	Time	Conference Room	Time	Technical Theatre
26 February	10:00-11:00	2025 Asia Photonics Expo Opening Ceremony	13:00-16:00	Machine Vision and Robotics Enabling Industrial Intelligent Manufacturing Forum
201 Ebi ddi y	13:00-17:30	Quantum Singapore 2025	16:15-17:45	EPIC Tech Watch
27 February	9:00-17:00	Photonics@SG 2025 Conference	10:00-12:00	2025 Photonics Empowering Electric Vehicle Technology Forum
			14:00-17:00	2025 EUROPE meets ASIA - Innovation in Photonics by W3+, IVAM & EPIC
28 February	9:00-12:00	Forum on Advanced Photonics and Flat Optics	10:00-12:00	Photonics Technology Empowering Semiconductor Manufacturing Forum
	14:00-16:00	Asia Semiconductor Conference		





### **Concurrent Conferences**

### Quantum Singapore 2025

Time: 26 February 2025 Venue: Conference Room

Under Singapore's strategic quantum initiative dedicated to propelling its quantum technology capabilities and research to new heights, Singapore made substantial investments in quantum research and development to solidify its status as a leading innovation hub in Asia. This conference includes topics such as National Quantum Strategy, Collaboration with Institutions, Talent Development, Applications of Quantum Technology, International Conferences and Events.

Time	Topics	Speakers
13:30-13:50	Welcome & Opening Remarks	QIU, Cheng Wei, Professor, NUS, Department of Electrical and Computer Engineering
13:50-14:10	Latest research of 2D materials to generate quantum entangled photon pairs	Gao Weibo, Professor, NTU, QUASAR, EEE&SPMS
14:10-14:30	To The Edge of Quantum Future	Wenhao Chu, Owner of Quantum Cloud Service Products, China Telecom Quantum Information Technology Group Co. Ltd
14:30-14:50	Practical Quantum Computing and Quantum-Safe Solutions	Leilei Huang, CEO, ZQuantum Technology Ltd
14:50-15:50	Next-gen Supercomputing with Hybrid Quantum Computing from Infrastructure to Applications	<ul> <li>Jie (Roger) Luo, President and Co-Founder, Anyon Technology</li> <li>Di (Prof) Zhu, NUS MSE &amp; CQT</li> <li>Georgios Korpas, HSBC Labs</li> <li>Jun Ye, Quantum Innovation Centre</li> </ul>
15:50-16:10	Towards Global Quantum Networks: The Next Generation of Quantum Communication	Dr. Carlos Andres Melo Luna, Group Leader, Fraunhofer IOF, Institute for Applied Optics and Precision Engineering
16:10-16:30	Variational Quantum Circuits for Large-Scale Computing Systems	Huck Yang, Sr. Research Scientist, NVIDIA
16:30-16:50	Presentation on cutting-edge research and 2024 Global Future Industry Index Report Release	Chris Zou, Partner, Senior Technology & Market Analyst, ICV

18





### **Concurrent Conferences**

### Machine Vision and Robotics Enabling Industrial Intelligent Manufacturing Forum

Time: 26 February 2025 Venue: Technical Theatre

The forum will gather renowned companies from the fields of industrial robots, machine vision, and optical inspection, testing and measurement to engage in in-depth exchanges and discussions on industry application needs and key technologies. This will facilitate the comprehensive strategic transformation towards "Asian Intelligent Manufacturing".

Time	Topics	Speakers
13:00-13:20	Image Sensing and Artificial Intelligence (AI) Technologies in Machine Vision Applications	Chen Jung Tsai, Chief Director, Hong Kong Applied Science And Technology Research Institute (ASTRI).
13:20-13:40	Exploration of the Application of High Speed Cameras in Scientific Research and Industrial Manufacturing	Arthur Wang, Product Manager, SinceVision.
13:40-14:00	T2SL Infrared Detector Technology and Optical Gas Imaging (OGI)	Mr. James Zhan, KT Photonics/Wavelength Opto-Electronic.
14:00-14:20	Industrial Visual Inspections via Learning with Less Data	Xun Xu, Senior Scientist, Institute for Infocomm Research (I2R), A-STAR.
14:20-14:40	Mitutoyo TAGLens – Ultra Deep Focus Eliminates Conventional Lens Limitations	Jerry R McCormick, Vision Product Specialist, Mitutoyo Asia Pacific/Mitutoyo Vietnam.
14:40-15:00	The Development Direction Of Intelligent Industrial Lenses	Martin Lee, Asia/Europe Business Director, Changchun Boxin Photoelectric Co., Ltd.
15:00-15:20	Low power FMCW Flash Imaging to Enhance 3D Optical Sensing	Sandrine CATROU, VP Marketing and Strategic Partnerships, CEA-Leti.
15:20-15:40	Theoretical Optical Measurement/Metrology	Qian Kemao, Associate Professor, Nanyang Technological University.

19





### **Concurrent Conferences**

### 2025 EPIC - Tech Watch

Time: 26 February 2025 Venue: Technical Theatre

The EPIC Tech Watch, organized by the European Photonics Industry Consortium - the world's largest photonics industry association, will bring together experts and leaders in the photonics industry. Featuring a series of refined speeches, the conference will mainly focus on key technologies, trends, and applications within the field of photonics.

Time	Topics	Speakers
16:15-16:20	Welcoming by the moderators	Carlos Lee, Director General at EPIC – European Photonics Industry Consortium(Belgium/Europe)
	Innovative Pathways: From Large-Scale Manufacturing to Micro-Nano Photonics	Myun-Sik Kim, Principal Business Development Manager, Leister International & Eric Ling, Business Development Director, Axetris
16:20-17:45	Adhesives for Silicon Photonics / Photonic Integrated Circuits (PIC)	Gabriel Yap, Regional Sales Manager Singapore & Business Development Manager Asia,DELO
	Unlocking the Potential of Wafer-Level Technology for Emerging Applications	Lichen Sun, Product Line Manager of Global Photonics Foundry Division, Focuslight
	How Femtosecond Lasers Are Changing Industries Today	Dariusz Swierad, Sales and Marketig Director, Fluence Technology
	Innovative Fiber Solutions for Life Photonics in 0.3-16µm Range	Viacheslav Artyushenko, Founder & Senior Adviser, art Photonics
	Evatec Photonics Solutions	Patrick Liu, Technical Marketing Manager, Evatec





### **Concurrent Conferences**

### Photonics@SG 2025 Conference

#### Time: 27 February 2025 Venue: Conference Room

LUX PHOTONICS CONSORTIUM in partnership with NTU, NUS, SUTD and A\*STAR will present this annual conference with the objectives to showcase the latest photonics technologies and innovations; to continue building the strong link between academia and industry; and to highlight and promote photonics R&D in Singapore to international visitors.

#### **Plenary Speakers**



Dr Radha Nagarajan Senior Vice President and Chief **Technology Officer of Cloud Optics Group** Marvell

**Conference Chair** 

**Dr Haisheng Rong** Senior Principal Scientist Intel











Asst Prof Sanghoon Chae Nanyang Technological University Singapore

Asst Prof Guangwei Hu Nanyang Technological University Singapore

Director VP, Advanced Photonics Platform LightIC Technologies Technology & Principal Scientist NSTIC & Institute of Microelectronics, A\*STAR



Mr Ramana Pamidighantam Dr Sajay B G CTO & Co-Founder Senior Scientist LightSpeed Photonics Institute of Microelectronics



Dr Wang Qian

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>>>More details



Assistant Professor Brian Sia Jia Xu School of Electrical and Electronic Engineering Nanyang Technological University Singapore



Dr Louis Martin-Monier Scientist and Technologist Massachusetts Institute of Technology

Dr Diana Mojahed Founder & CEO Lightfinde





Assoc Prof Dawn Tan Singapore University of Technology and Design

Dr Akira Ueno Principal Researcher AGC

Assoc Prof Guangya Zhou Principal Scientist National University of Singapore Institute of Materials Research





### **Concurrent Conferences**

### 2025 Photonics Empowering Electric Vehicle Technology Forum

To closely meet the needs of the rapidly evolving electric vehicle (EV) industry, the forum will comprehensively explore the applications and solutions of photonics technology across various emerging fields. It will emphasize the deep integration of photonics technology in the EV sector, providing a key platform for technical exchanges and business cooperation. This event offers professionals in the intelligent vehicle industry a unique opportunity to discuss innovations that will drive the future of smart and electric vehicles.

Time	Topics	Speakers
10:00-10:20	Current Status of E-Mobility Transition and Preparations for Connected and Autonomous Vehicles in Thailand	Assoc. Prof. Dr. YOSSAPONG LAOONUAL, Assistant to the President for Sustainability at King Mongkut's University of Technology Thonburi (KMUTT) and Honorary Chairman of Electric Vehicle of Association of Thailand (EVAT)
10:20-10:40	Driving Clarity: How Lenses Withstand the Demands of Autonomous Racing	Gary Ng Jui Meng, Technical Sales Manager, Edmund Optics Singapore Pte Ltd
10:40-11:00	MicroLED technology empowers car computers, making information acquisition more efficient and driving safer and more reliable	LiuYi, Deputy General Manager of New Market Development, Hongshi Intelligent Technology Co., LTD
11:00- 11:20	Raytron's Thermal Sensing Technology for Automotive Applications	Fushuai Liu, Marketing and business development manager, Raytron Microelectronics
11:20- 11:40	ТВА	ASTRI
11:40-12:00	ТВА	НКРС
12:00-12:20	ТВА	Yole Group

Time: 27 February 2025 Venue: Technical Theatre





### **Concurrent Conferences**

### 2025 EUROPE meets ASIA - Innovation in Photonics by W3+, IVAM & EPIC

Time: 27 February 2025 Venue: Technical Theatre

This forum is organized by renowned European organizations W3+, IVAM & EPIC, is set to be a remarkable event that brings together leading enterprises from the European optoelectronics industry to share their latest technological advancements and achievements. It could be a perfect chance to get in touch with key decision makers and potential collaborators across the industries.

Time	Topics	Speakers
Session Chair	: Carlos Lee, EPIC - European Photonics Industry Consortium, Paris, FR	
14:00	Opening EUROPE meets ASIA - Innovation in Photonics by W3+, IVAM & EPIC	Orkide Karasu, IVAM Microtechnology Network, Dortmund, DE Carlos Lee, EPIC - European Photonics Industry Consortium, Paris, FR
14:10	Optics Testing and Laser Beam Characterization Based on Precision Wavefront Measurements	Dr. Christian Brock, Optocraft GmbH, Erlangen, DE
14:25	Multifunctional Microfluidic Components	Mike Bade, IMT microtechnologies AG, Greifensee, CH
14:40	Optical Filters for Semiconductor Inspection	Dr. Georg Draude, Chroma Technology Corp, Bellows Falls, US
14:55	I-Photonics - Thin-Film Technologies & Vacuum Coating Systems	Hanna Bachyla, I-Photonics, Avižieniai, LT
15:10	Heidelberg Instruments Maskless Lithography for Industry and R&D	Wolfgang Meixner, Heidelberg Instruments Mikrotechnik GmbH, Heidelberg, DE





### **Concurrent Conferences**

### 2025 EUROPE meets ASIA - Innovation in Photonics by W3+, IVAM & EPIC

Time: 27 February 2025 Venue: Technical Theatre

Time	Topics	Speakers
15:25	Maximizing Photonic Performance with Acktar's Ultra-Black Coatings	Chen Orenshtein, ACM coatings, Naumburg, DE
15:40	Photonic Quantum Sensor Based on Diamond NV-Centers – Hybrid Integration and Performance Evaluation	Thomas Ortlepp, CiS Reseach Institute for Microsensor Systems GmbH, Erfurt, DE
15:55	Ultra-Precise Metal Optics for Applications in Space and Industry	Dr. Matthias Beier, SPACEOPTIX GmbH, Jena, DE
16:10	Latest Spatial Light Modulator Developments from HOLOEYE	Philip Engel, HOLOEYE Photonics AG, Berlin
16:25	ТВА	Dr. Oliver Pust, Delta Optical Thin Film A/S, Hørsholm, DK
16:40	ТВА	ТВА
16:55	Closing EUROPE meets ASIA - Innovation in Photonics by W3+, IVAM & EPIC	Carlos Lee, EPIC - European Photonics Industry Consortium, Paris, FR
17:10	End of Session	





### **Concurrent Conferences**

### Photonics Technology Empowering Semiconductor Manufacturing Forum

#### Time: 28 February 2025 Venue: Technical Theatre

This forum will invite semiconductor wafer fabrication, packaging, testing companies to share insights from market, technology, and application perspectives. The forum will deeply explore topics related to advanced wafer fabrication equipment and processes, advanced packaging technologies, and testing, writing a new chapter of collaborative development between photonics technology and semiconductors, and bringing more inspiration and driving force to the industry.

Time	Topics	Speakers
10:00-10:20	Large-area Ion Beam Sputtering Coatings	Dr. Kai Starke, CEO, Cutting Edge Coatings GmbH.
10:20-10:40	Laser Cleaning of Adhesive Residues on Chase Surfaces in ASA Lid Attachment Process	Dr. Jiao Jiao, Chairman, Suzhou MetLaser Intelligent Technology Co., Ltd.
10:40-11:00	Thin Film Coatings for Augmented Reality and Precision Optics Applications	Kunz, Alexander, Sales Manager Precision Optics, Bühler Alzenau GmbH.
11:00-11:20	Design Co-packaged Optics with Ansys Multiphysics Solutions	Nikhil Dhingra, Senior Application Engineer, Ansys.
11:20-11:40	Spectral Synergy: Harnessing the Power of Semiconductor Laser Technology for next generation Photonics and Quantum Applications	Sandeep Battula, Co-Founder, Qualivon Technologies Pvt. Ltd.
11:40-12:00	ТВС	





### **Concurrent Conferences**

### **Forum on Advanced Photonics and Flat Optics**

Time: 28 February 2025 Venue: Conference Room

This event is jointly organized by the National Semiconductor Translation & Innovation Centre (NSTIC), LUX Photonics Consortium and the Singapore Semiconductor Industry Association (SSIA). Join us at this exciting forum that unites leaders, innovators, and experts from the photonics & semiconductor industries to explore cutting-edge advancements in Advanced Photonics & Flat Optics technologies.

Time	Topics	Speakers
9:00-9:45	Breakfast	
9:45-10:00	Opening Speech	Prof. Yeo Yee Chia, Deputy Chief Executive (Innovation & Enterprise), A*STAR Executive Director, National Semiconductor Translation & Innovation Center (NSTIC)
10:00-10:15	Flat Optics: A Paradigm Shift in Optical Technologies	Dr Ramon Jose Paniagua Dominguez, Principal Scientist, National Semiconductor Translation & Innovation Center (NSTIC)
10:15- 10:30	Breakthrough Existing Optics Limitations with Metaoptics	Mr Aloysius Chua, Projects Director, MetaOptics Technologies Pte Ltd
10:30-10:45	Quo vadis, Metasurfaces?	Prof. Qiu Chengwei, Department of Electrical & Computer Engineering, NUS
10:45-11:15	Tea Break	
11:15-11:30	Photonic Heterogenous Integration through Die-to- Wafer Bonding	Dr Lim Leh Woon, Senior Scientist, National Semiconductor Translation & Innovation Center (NSTIC)
11:30-11:45	Advanced Photonic ECL Laser for Compact & High- Performance FMCW LiDAR	Dr Victor Li Dongdong Lead Scientist, Delta Electronics Int'l (Singapore) Pte Ltd
11:45-12:00	Electrically-driven, Chip-scale Dual-comb Spectrometer driven by Frequency-modulated Locking	Asst. Prof. Brian Sia, School of Electrical & Electronic Engineering, NTU
12:00-12:05	Closing Remarks	Assoc. Prof. Ang Kah Wee Forum Chair, National University of Singapore
		>>More details up to da





### **Concurrent Conferences**

### **Asia Semiconductor Conference**

Time: 28 February 2025 Venue: Conference Room

Organised by the Singapore Semiconductor Industry Association, the Asia Semiconductor Conference brings together leaders and innovators from across the semiconductor industry. The conference will delve into current trends and foster meaningful discussions, paving the way for technological integrations that will shape the future of the global semiconductor ecosystem.

Time	Topics	Speakers
13:00-13:20	Technology Breakthrough in Quantum, Photonics and AI as an Inflection Point	
13:20-13:40	Applications and Challenges of Integrated Photonics	
13:40-14:00	Scaling With Photonics	Jagadish CV, CEO of Advanced Micro Foundry Pte Ltd
14:00-14:20	Emerging Trends in Nanophotonic PICs	Yu Qing Jiao Professor, Photonic Integration Group at University of Eindhoven
14:20-14:55	Strengthening the Ecosystem for Integrated Photonics	Richard Hueners, Chief Commercial Officer at Palomar Technologies Terry Teh, Director of Advinno Technologies René Jonker, Executive Vice President and General Manager, Edge and Cloud Al Divison at Soitec Microelectronics Singapore Pte Ltd
14:55-15:00	Closing Remarks	Wee Seng Ang Executive Director of Singapore Semiconductor Industry Association
14:55-16:00	Networking	





### **Concurrent Activities**

### **Site Tour**

Embark on an exclusive Site Tour, available only to APE visitors, and gain unprecedented access to state-of-the-art labs, cutting-edge production plants, and innovative research centers across Singapore. This unique opportunity offers an immersive experience, allowing you to explore the forefront of the nation's vibrant photonics sector. Witness live demonstrations of the latest technologies and advancements, and gain deeper insights into the solutions shaping the future of the industry.

### Site Tour 1

#### Date: 26 February 2025, 1:00 PM – 5:30 PM

#### Venue: Photonics Institute (TPI), Nanyang Technological University Singapore - Wavelength Opto-Electronic (S) Pet Ltd

Time	Agenda	Venue
1:30PM	Transport pick up at MBS	Sands Expo and Convention Centre (Marina Bay Sands)
1:30PM- 2:00PM	Arrival at The Photonics Institute (TPI), Nanyang Technological University Singapore	
	Welcome Address & Introduction to The Photonics Institute	
2:25PM -3:15PM	Facility Tour (Part 1) - 20 minutes Group A: <u>Centre for Micro- &amp;Nano-Electronics (CMNE)</u> Group B: <u>Centre for Optical Fibre Technology (COFT)</u>	50 Nanyang Avenue, Carpark P, Singapore 639798 The Photonics Institute
3:15PM - 3:30PM	Gather at TPI for Group photo-taking	
3:30PM -4:00PM	Transport pick up to Wavelength Opto-Electronic (S) Pte Ltd	Blk 2 Bukit Batok St. 24 #07-18, Skytech Building, Singapore
4:00PM - 5:30PM	Visit Wavelength Opto-Electronic (S) Pte Ltd	659480





### **Concurrent Activities**

### Site Tour

### Site Tour 2

#### Date: 28 February 2025, 1:00 PM – 5:30 PM

### Venue: <u>PBA Systems</u> - <u>National Semiconductor Translation and Innovation Centre (NSTIC)</u>

Time	Agenda	Venue		
1:30PM	Transport pick up at MBS	Sands Expo and Convention Centre (Marina Bay Sands)		
1:30PM- 2:00PM	Arrival at PBA Systems			
	Welcome Address & Introduction to PBA Systems			
2:25PM -3:15PM	Visit PBA Systems	PBA Systems		
3:15PM - 3:30PM	Gather at PBA Systems for Group photo-taking			
3:30PM -4:00PM	Transport pick up to National Semiconductor Translation and Innovation Centre (NSTIC)			
4:00PM – 5:30PM	Visit National Semiconductor Translation and Innovation Centre (NSTIC)	National Semiconductor Translation and Innovation Centre (NSTIC		





### **Concurrent Activities**

### **Happy Hour**

#### >>> Secure your seat

>>>More Details

Join us for an exclusive Happy Hour at the exhibition, where guests can unwind with drinks and light bites. Set in a premium atmosphere, this event is designed to foster meaningful networking and collaboration between our esteemed exhibitors and distinguished VIP visitors. It's the perfect opportunity to connect, share ideas, and build valuable relationships in a relaxed, informal setting.

Date: 27 February 2025Time: 16:30-18:00Venue: VIP Lounge, L1, Sands Expo & Convention Center (Marina Bay Sands), SingaporeAttendee: All visitors & exhibitors

### Gala Dinner (By Invitation Only)

Join us for an exclusive Gala Dinner, an evening of elegance and distinction, dedicated to celebrating the visionaries and leaders of the photonics industry. This prestigious event will bring together top executives from leading photonics companies, renowned research institutions, and influential industry associations, offering a unique opportunity to network and honor those shaping the future of photonics.

Date: 26 February 2025 Time: 18:00-21:00



Sands Expo and Convention Centre, Singapore



### Connect with Over 5,000 Industry Peers at APE 2025

Part of APE 2025 Visitor Registration List

#### (updated as of 24 Jan 2025)

- A<sup>\*</sup>STAR
- ACCURATE MACHINERY
- ACCUSYS
- ACE OPTICAL
- ACEXON TECHNOLOGIES
   CITADEL SECURITIES
- AEROTECH
- AGC ASIA PACIFIC
- ALPHA X TECHNOLOGY
- AMA
- AMAZON LAB126
- ANRITSU
- APPLE INC
- APPLIED MATERIALS
- APTUS CORPORATION
- ARIMA LASERS
- ASMPT
- BEAUMEDIC AESTHETIC
- BECTON DICKINSON
- BELL ELECTRONICS
- BIZLINK
- BROADCOM
- BYTEDANCE

- CAIRNHILL METROLOGY
- CANON SINGAPORE
- CATVISION
- CETM
- - COHERENT
  - CONEX HEALTHCARE
  - CORNING
  - DELO
  - DELTA OPTICS
  - DENSELIGHT
  - DEXERIALS
  - DWA COMMUNICATION SYSTEM
  - DYNAVUE TECHNOLOGY
  - EDMUND OPTICS
  - EINST TECHNOLOGY
  - EXCELITAS TECHNOLOGIES
  - EXPOTRANS
  - FERROTEC CORPORATION
  - FESTO
  - FI GROUP
  - FLEXIV

- FORUS HEALTH
- FOSTEC
- FOUNTYL TECHNOLOGIES
- GALASEMI
- GARDY ELECTRONICS
- HITACHI
- HOYA
- IDI LASER
- INFINEON
- INTEL
- I-PHOTONICS UAB
- ISA TECHNOLOGY
- KAIST
- KEYENCE
- KINCHIT TECHNOLOGIES
- KINERGY
- KOMAX SINGAPORE
- KOWA SKYMECH
- LASERTEK
- LECI
- LEUZE ELECTRONIC

**GATEWAY TO PHOTONICS IN ASIA** 

LIGHTELLIGENCE

- LINKFAB TECHNOLOGIES
- LINTESTECH
- LITE-ON
- LUMILEDS SINGAPORE
- MASSTRON
- MESA OUANTUM
- MIDWEST OPTICAL SYSTEMS
   STMICROELECTRONICS
- MITSUBISHI ELECTRIC
- MITUTOYO ASIA PACIFIC
- MMLSYSTEMS
- OHARA OPTICAL
- OPHIT
- OPTOSIGMA
- PALOMAR TECHNOLOGIES
- PANOPTICS
- PEPPERL+FUCHS
- PHAOS TECHNOLOGY
- PINNACLE TECH
- PIXELLIGENT
- POLYTEC
- OORVO
- OUALIVON TECHNOLOGIES

- RAITH ASIA
- SAMBA LABS
- SANWA SEIMITSU
- SFO TECHNOLOGIES

TITAN SMARTTECH

VALES PHOTONICS

VISIONSEMICON

TOFAN INTERNATIONAL

TRILOGY TECHNOLOGIES

YAMAICHI ELECTRONICS

ZERO-ERROR SYSTEMS

SOITEC MICROELECTRONICS

SUNLUX TECHNOVATIONS

THERMO FISHER SCIENTIFIC

TONLEX GLASS TECHNOLOGY

TECNISCO ADVANCED MATERIALS

WAVELENGTH OPTO-ELECTRONIC

and many more...

31

>>> Download the list

WINTECH NANO-TECHNOLOGY

SGINNOVATE



Sands Expo and Convention Centre, Singapore



### **Premium Service for Visitors**

#### **Delegation Registration**

#### >>> Download the delegation form

It's designed for enterprises, associations, institutes, and colleges wishing to organize delegation groups of 3 or more people, including staff or members involved in R&D, production, processing, manufacturing, procurement, or supply chain, to visit APE.

#### Benefits of Delegation ( ≥3 Delegates)

- ✓ Free admission
- ✓ Free eCatalogue 2025
- ✓ Pre-show Guide
- $\checkmark$  Delegation Visiting Gift
- ✓ VIP Matchmaking Service (Available Upon Souring Request in Advance)

*Note:* Please fill the form out and send to Eileen Chen at <u>eileen.chen@informa.com</u>





### **VIP Buyer Program**

>>> Register as a VIP Buyer

The APE VIP Buyer Program offers exclusive, tailored VIP services for key buyers and senior decision-makers in the photonics industry. This program is designed for individuals with specific sourcing or purchasing needs, primarily targeting **top management, sourcing and supply chain professionals, R&D engineers,** and those in **production and manufacturing**.

APE provides verified buyers with a **FREE business matchmaking** service by arranging on-site meetings in the VIP lounge.



Sands Expo and Convention Centre, Singapore



# Discover How Photonics Technologies Empower Key Application Industries





### Application of Photonics Technology in the Optical Communication Industry

**26 - 28 February 2025** Sands Expo and Convention Centre, Singapore

\*This is a partial list of exhibits, presented in no particular order.

Optical Chip			otical Subassembly	Optica	l Component		
Active Component Chip       Laser Chip     Def       •VCSEL Chip     •PII       •DML Chip     •AP       •EML Chip     •EE       •EEL Chip     •LA       •Silicon Optical Chip     •LA       •Thin-Film Lithium     •TJA	comp           rector Chip         •PLC C           I Chip         •WDM           D Chip         •Optic           Chip         •Optic           plifier Chip         •Optic	hip ·Cerami Chip ·Cerami al Switch ·Micro-C Compon al · ·Metalliz Jator Chip · Assemb	Heat Sink Connector ptical Fiber Optic Quic ent Connector ed Optical Fiber y Window Cover Sink Interconnect Ass	Hybrid Light Source, k -VCSEL ter Emitting Diod ter Laser Diode ster Narrow Linev al Tunable Laser embly Britterful Ja	-Semiconductor Optical Amplifier e -Fiber Amplifier width Optical Detectors r -PIN Photodetector	Others •High-Speed LCOS Spatial Light Modulator •Electro-absorption Modulated Transmitter •Thin-Film Lithium Niobate Modulator	Passive Optical Component •Optical Fiber Connector •PLC Splitter •Optical Switch •Optical Isolator •Wavelength Division Multiplexer/Demultiplexer (WDM/DWDM) •Optical Attenuator (FOA/VOA)
Optical Fiber Materia ptical Fiber Coating aterial Uigned Aramid Yarn ptical Fiber Wid-Span J Uishing Fluid ptical Fiber Uishing Powder ptical Fiber Uishing Powder Dia Powder Uishing Powder Dia Powder Dia Powder Uishing Powder Dia P	kkable hkable oint hkable leeve rikable Cap riber -Nulti-Mode O Fiber -Plastic Optica -Quartz Optica -Grbium-Dope Optical Fiber	Cable olutdoor Optical Cable olutdoor Optical Cable oluta Cable Data Center Optical Cable Data Center Optical Cable Miniature Distribution Optical Cable optical Cable	Module         therr           •400G Optical         •Full           Module         Module           •800G Optical         •10G           Module         Serie           •100G Optical Module         •Plug           t         •Coherent Optical         •50G           Module         Module         Module	a-wide Passband mal AWG Module Range of Optical ile Series and 25G s Optical Module Front-Haul Optical ile	ptical Switch •Optical Terminal Equipment Subsyst Equipment •DWDM al Transmission •High-In nent Transm al Connection •Optical ment Monitor Access Equipment System	Pulse Analyzer Amplification/Protection em Open Access System tegration WDM ission System Cable Automatic ing and Management	• Ethernet Switch       • Core Aggregation         • Layer 3 Network       • Core Aggregation         • Switch       • Integrated         • Optical Access       Intelligent Cabinet         • Data Center Switch       • Micro-Modular Data         • Data Center Switch       • Center         • Data Center Switch       • Center         • Network/Server       Cabinet
Wire and Cable	Active Cable •Copper High-Speed Cable •Straigh Network Cable Cable •Coaxial	t Copper •Polyurethane C		strument ·Communi •High-Perfo	ication Testing Instrument op ormance Spectrometer R ormance Bit Error Rate W	hernet Tester scilloscope apid Scanning Test System 'avelength Scanning Test Syster	•Optoelectronic Network Analyzer •Signal Quality Analyzer •Fiber Fusion Splicer n
			Production & Manufactu	uring			
Cable Production Equipme	<u>nt</u>	$\sim 10^{10}$	ctor Material / Equipment and Ma	-			
•Numerical control quartz tu rod shaping grinder •Patch Cord Production Equip •Automatic Fiber Double Dru Winder •Fiber Coil Winding Machine •Optical Fiber Grinding Equip •Wire Winding and Tying Mac •Fully Automatic Labeling Mac	Machine •High-Speed Coloring •Cable Jacket Extrusi •Copper Wire Twistir •Wire Cutting Machine thine Assembly Machine	Machine -Indium Phos on Machine -Gallium Nitri gg Machine -Gallium Arse te -Monocrystal spltacle Silicon -Organic Germ nding and -Germanium	le •Photoresist nide •Photomask •Lithium Niobate Single- Crystal Thin Film •Passive Component Vafer •Silicon Photonics	Equipment P Chip Cleaving Machine A Chip Tester O Pick-and-Place Machine C Cleaning Machine A Slicing Machine Al	ng D Automatic Eutectic Bonder D Automatic Eutectic Bonder Jutomatic Wire Bonder Dptical Wire Bonding Machine Lentrifugal Debubbling Machine Jutomatic Optical Path Lignment Machine Dptical Coupling Glue Dispenser	•Wafer Cutter •Wafer Testing System •High-Precision Die Bonder •Coating Equipment •Vacuum Drying Oven •Parallel Sealing Machine •Helium Mass Spectrometer Leak Detector	APE-



Interferometer

### Application of Photonics Technology in the Semiconductor Industry

26 - 28 February 2025 Sands Expo and Convention Centre, Singapore

	*This is a partial list of exhibits, presented in no particular order.
Semiconductor Material         Silicon Wafer       Material         •B-inch Back-Illuminated Hybrid Bonding Wafer       -Indium Phosphide / Gallium Nitride/Gallium Arsenide Epitaxial Layer       -CSOP Ceramic Packaging Shell         •VCSEL/InGaAs Epitaxial Wafer       -Indium Nibotae Single Crystal Thin Film       -CSOP Ceramic Packaging Shell         •Infrared Temperature Sensor Wafer       Crystal Thin Film       -Co-fired Ceramic)         •SIC Polishing Slurry       -Ginding Material       -Hotoresist         •SIC Polishing Slurry       -Biamond Grinding Fluid       -Photoresist Verification         •Silurry       -Diamond Grinding Fluid       -Photoresist UV Imprint Photoresist         •Polyurethane Series Polishing Pad       Discs       -Photoresist	Optoelectronics<
Sapphire Polishing Pad Target / UV Anti- reflective Coating Sputtering Target Metal Oxide Semiconductor Target UV Debonding Film Management Substrate Substrate Silicon Nitride Ceramic Substrate Silicon Nitride Ceramic Substrate S	Optical Communication Component       Optical Component       -United Display Component       -Valanche Photodiode         -Active Optical Component       -Optical Component       -United Display Component       -Valanche Photodiode         -Packaging & Testing Equipment       -Packaging & Testing Equipment       -Packaging & Testing Equipment
Manufacturing Equipment         Lithography / Etching Equipment         -SIC Polishing Slurry         -Silco Diskide         Polishing Slurry         -Polishing Slurry         -Polishing Slurry         -Polishing Pad         -Sapphire Polishing Pad         -Sapphire Polishing Machines / PVD Equipment         -CMP Polishing Machines / PVD Equipment         -CMP Polishing Machines / PVD Equipment         -CMP Polishing Machine -PVD Coating Equipment         -CMP Polishing Machine -PVD Coating Equipment         -PVD Cating Machine -PVD Coating Equipment         -PVD Coating Equipment -Rolit-to-Roll PVD Vacuum Coating Equipment         -Putable Polishing Machine -Putable Electroplating Equipment         -PVD Coating Equipment -Putable Polishing Machine -Putable Polishing Machine -Putable Electroplating Equipment         -PVD Coating Equipment -Putable Polishing Equipment         -Putable Polishing Pad         -PVD Coating Equipment         -PVD Coating Equipment         -Plasma Enhanced CVD Equipment         -Plasma Cleaner -Single Wafer Cleaner         -Single Wafer Cleaner         -Single Wafer Cleaner         -Single Wafer Cleaner	Dickaging & resting Equipment         Dinning / Lamination machine       Coupling Machine         - Fully Automatic Thinning Machine       - Automatic Optical Path Coupling Machine       - Moder in Bonding Machine         - Water Thinning Machine       - Automatic Optical Path Coupling Machine       - High-Precision Chip Bonding Machine       - High-Speed Die Bonder         - Water Thinning Machine       - Water Thinning Machine       - Water Thinning Machine       - Multi-Line Mechanical LiDAR       - Multi-Li
Measuring & Test Instrument           Testing / Measurement Instrument         Interferometer         Profiler           •Temperature Cycling Test Chamber (Hot and Cold         •Multi-wavelength Laser •Vertical Laser         •3D Optical Profiler •Une Laser Profiler •Vertical Laser Interferometer         •3D Optical Profiler •Vertical Laser Probe-Based Surface Profiler	Probe Station       Measuring Instrument       Spectrometer       Infrared Thermal Imaging       Microscope       Optical Inspection Equipment         •VCSEL Wafer Probe Station       •Wafer Warp and Stress Measuring Instrument       •Cooling Spectrometer       •Infrared Thermal Imaging       •3D Imaging Microscope       •Mask AOI Equipment         •Station       •High-Precision Vision Station       •Cooling Spectrometer       •Infrared Detection       •JIrfrared Detection       •AOI Intelligent Appearance Inspection Equipment         •Probe Testing Equipment       •3D Topography       •Picometer       •ASIC-based thermal       •Semiconductor Wafer AOI

Measuring Instrument

imaging core solution

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回溯规论规

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**TO APE 2025** 

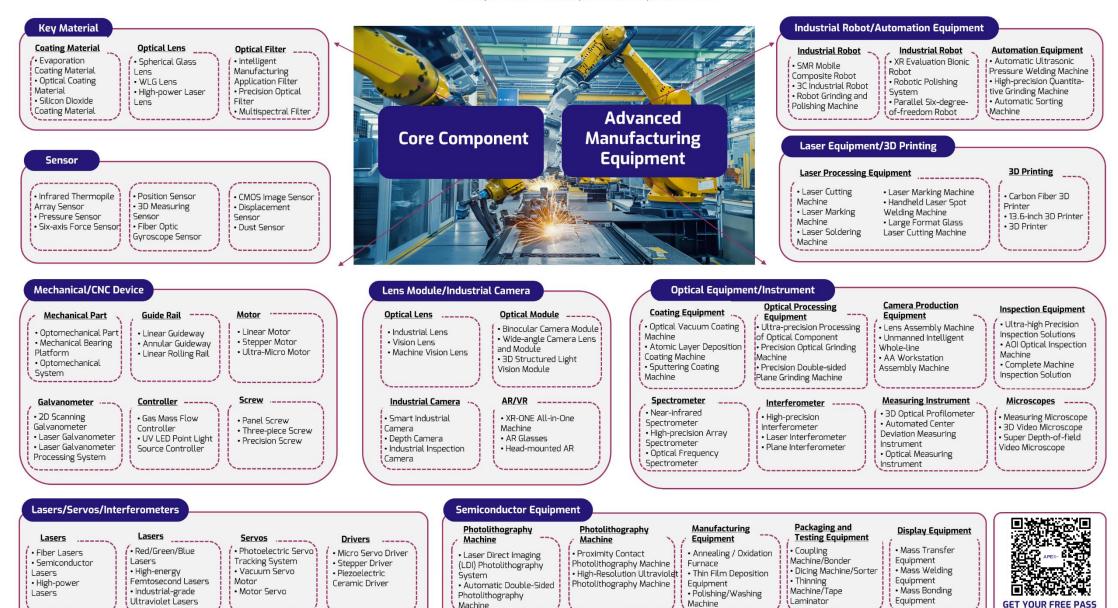
>>> Register <u>as a Visitor</u>

#### APE Asia Photonics Expo

### Application of Photonics Technology in the Advanced Manufacturing Industry

**26 - 28 February 2025** Sands Expo and Convention Centre, Singapore

\*This is a partial list of exhibits, presented in no particular order.



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### Application of Photonics Technology in the Robotics Industry

26 - 28 February 2025 Sands Expo and Convention Centre, Singapore

\*This is a partial list of exhibits, presented in no particular order. **Key Material** Optical Material Display Material -----Laser Material LiDAR Core Component Hvdrophilic Film Organic Luminescent Material Laser Galvanometer Mirror •Laser Wafer Array SPAD Sensor GET YOUR FREE PASS Optical Glass Strip Microcrystalline Glass Fiber Crvstal Laser Protective Lens Area Array SPAD Detector •Optical Coating Material •Anti-Reflection and High-**TO APE 2025**  Integrated TOF LiDAR Receiver Chip •Fast Axis Collimating Lens •Multi-Junction VCSEL Array •Optical Window •LIDAR EEL Chip Transmission Coating Collimator / Focus lens LiDAR Scanning Module •Hemispheric, Hyper •OLED Light-focusing High-•Semiconductor Laser Chip •Fresnel Lens •FMCW LiDAR Dedicated MEMS Hemispheric Dome refractive Layer Semiconductor Laser Diode •Fiber Lens Mirror •Spherical Lens •ITO Target Material High Uniformity Beam Sampling Bessel Beam Diffraction •Cylindrical Lens Grating •Metal Oxide Semiconductor Axis Conical Mirror Ultra-precision Optical Broadband Gold-plated Grating Target Material Beam Expander Component **Production & Manufacturing** Robot •SMR Mobile Composite Robot •XR Evaluation of Bionic **Core Component** •Non-invasive Physical Robot Examination Robot Six-degree-of-freedom Single-Axis Robot Parallel Robot Industrial Sensor -----3D Vision Lidar ------ Industrial Robot Robot Vacuum Industrial Grade LiDAR •Multi-Line Mechanical Vibration Sensor Fiber Optic •3D Structural Light Vision •IoT Solution Robot Grinding and Polishing Screw Robot Solid-State LiDAR CMOS Image Sensor Lidar Acceleration Sensor Module Machine •MID Composite Robot Pressure Sensor •Single-wire High-speed LiDAR ToF LiDAR CMOS Image Sensor •3D Binocular Stereo Vision •Vision Sensor Force Sensor •LiDAR Light Source - EEL & TOF Ranging Sensor Single Point Ranging CMOS Industrial Module LVDT Displacement VCSEL •3D Vision Al Chip Lidar Automation Equipment Sensor Sensor •Ultra-wide Angle Blind Spot •DTOF LIDAR •3D TOF Fiber Bragg Grating Precision Electric Linear 6D Force Torque Sensor Flexible Gripper Lidar Sensor High-load Gripper Displacement Slide Table Pneumatic Gripper Axis Precision Electric •High Vacuum Ball Valve Displacement Stage Industrial Camera MEMS Sensor Motor -----Display Screen -----•XYZTR Manual Slide Table Fully Automatic Chip Four-sided •UVW Alignment Platform Appearance Inspection Equipment Industrial Camera •XY Micro-Linear Motor Platform LNP Linear Motor •3D-dToF Sensor •Silicon-based OLED Micro •Ultra-high-speed Industrial Camera •XY Micro-Linear Motor Automated Standard Edition •Single-photon 1D-dToF Sensor •DD Motor Stepper Motor Display Platform Sorter •4K Industrial Camera Hollow Cup Motor Miniature DC Hollow Cup Motor Two-Dimensional •Micro-LED Miniature Micro \_\_\_\_\_ Infrared Camera •Sealed Spindle Rotary Table Motor ISMC Micro Servo Driver Electromagnetic Actuated Display High-speed Camera Servo Servo Driver MEMS •Seamless U-shaped (Wedge-Laser Equipment -----•Industrial Grade RGB-D ToF Camera Indexing disk motor servo Optoelectronic Encoder MEMS Mirror shaped) Folding Screen Laser Cutting Machine •MEMS Galvanometer Small Size Alignment Motor Servo •Flexible Micro-LED Display Handheld Laser Marker 3D Laser Marker Line Laser Profiler Solder Ball Welding Machine Laser Etching Reducer/Controller ----- Laser Solder Welding Machine Equipment Guide Rail Light Source \_\_\_\_\_ Laser Linear Guide Rail •Full Spectrum Light Source Spatially Coupled Fiber Laser Optical Fiber Laser Hollow Cup Planetary Reducer •Transmissive Light Source High-energy Picosecond Infrared Laser •XYZ Axis Linear Ball Guide Rail Solid-state Laser Low-Temperature Reducer •VR Series Cross Roller Guide Rail All-solid-state High-energy Picosecond Semiconductor Light Source Semiconductor Motor Semiconductor Equipment TGHK Circular Guide Rail •Laser Light Source -----l aser DC Reducer Motor Laser TGHK Vertical Circular Guide Rail •High-power RF Laser Beam Adjustable Continuous Fiber Industrial Vision Light Source DC Brushless Motor Three-wavelength Spatial Chip Coupling System Precision Arc Cross Roller Guide •Multifunctional High-speed •Solid-State UV Laser Laser •DC Brushed Hollow Cup Motor Optical Coupling Module Butterfly Laser Automatic Rail Picosecond Pulse Light Source Super luminescent •High-power Quasi-continuous Fiber Piezo Automatic Optical Path Coupling System •Anti-creep Cross Roller Guide Rail •DNP Light Source Light Emitting Diode Laser Controller/Amplifier/Driver Coupling Machine Micron Die Bonder Cross Roller Guide Rail High Reliability Femtosecond Fiber •Detector Light Source Crystal Oscillation type Coupling Alignment System White Laser Series Light Source Deposition Controller Laser

>>> Register as a Visitor

Humanoid Robot



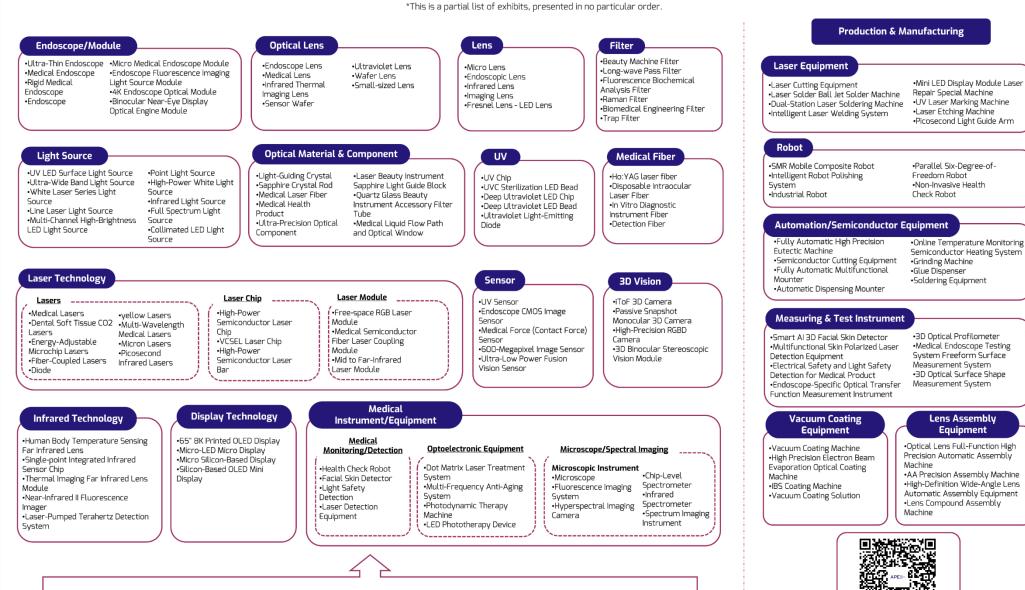
### Application of Photonics Technology in the Medical Industry

#### **26 - 28 February 2025** Sands Expo and Convention

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Centre, Singapore



Endoscopes/Medical Equipment/Medical Beauty Equipment/Medical Robot



### Application of Photonics Technology in the Consumer Electronics Industry

**26 - 28 February 2025** Sands Expo and Convention Centre, Singapore

*This is a partial list of exhibits, presented in no particular order.	

#### **Optical Material & Component**

(	Optical Material	Optical Material	Optical Component	Filter	Optical Lens	Glass	Sapphire	Coating Material
	<ul> <li>Aluminum/Lanthanum/Yttrium</li> <li>Oxide</li> <li>Magnesium Fluoride</li> <li>Lithium Niobate/Lithium Tantalate</li> <li>Grinding &amp; Polishing Material</li> <li>Polishing/Grinding Pad</li> </ul>	<ul> <li>Quartz Material</li> <li>Display Material</li> <li>TOPM</li> <li>Curing Adhesive</li> <li>Resin</li> <li>Ink</li> </ul>	<ul> <li>Flat Optical Component</li> <li>Quartz Glass Optical</li> <li>Component</li> <li>Spherical/Aspherical Lens</li> <li>Polishing Slice</li> <li>Prism</li> </ul>	Optical Coated Filter     Camera Filter     Infrared Cut-off     Filter     Colored Filter     Blue Glass Filter	Fresnel Lens     Camera Lens     Glass/Plastics Lens     Optical Waveguide Lens     AR/VR Curved Lens     Infrared Optical Lens	<ul> <li>Blue Glass</li> <li>Glass Rod</li> <li>Colored Glass</li> <li>Screen Printed Glass</li> <li>Wafer-Level Glass</li> <li>Nano-Crystalline Glass</li> </ul>	<ul> <li>Wafer</li> <li>Square Tile</li> <li>Crystal Rod</li> <li>Sapphire Wafer</li> <li>Crystal Material</li> <li>Optical Window</li> </ul>	<ul> <li>Evaporation Coating</li> <li>Material</li> <li>Optical Coating</li> <li>Black Coating</li> <li>Absorptive Film</li> <li>Optical Grade Nano</li> </ul>
	•Target Material •Ceramic/Aluminum Substrate	Insulating/Heat Dissipation Accessories	•High Reflection Mirror •Beamsplitter	•Narrow Band Filter •ND Filter	•High Definition Anti- reflection Lens	•Ultra-Hard Coated Optical Glass	Light Guide Block	Anti-Fog Coating

Core Component							
Camera Module		AR/VR	Sensor				Infrared Technology
-Biometric Recognition Camera -Laptop Camera -Ultra-short Focal Optical Lens -Video Conference Lens -AR/VR Lens -Machine Vision Lens	•Hybrid Anti-Vibration Module •High-pixel Periscope Module	All-in-One Solution •See-through All-in-One Solution •Binocular Split-Type AR Solution •High-definition head-mounted 3D display •Lightweight Smart Glasses •Industrial AR Smart Glasses •AR Holographic Smart Goggles	3D Vision -3D dToF Sensor -3D Structured Light Vision Module -3D Binocular Stereo Vision Module -3D Imaging Core Component -IoT Solution -TOF Ranging Sensor		MEMS Sensor +RGB Color Sensor •Material Sensor •NDIR CO2 Sensor •2D Electro-dynamic MEMS Mirror •Digital Bone Conduction Microphone	Image Sensor •Time-of-Flight (ToF) CMOS Image Sensor •Image sensor for smartphone main camera •Contact Image Sensors (CIS) and Module	Thermal Imaging Solution     Pyroelectric Infrared Sensor     Infrared Temperature     Measurement Module
TOC	•GDOF Binocular Module •Sensor Shift	Core Component •AR/VR Optical Module •Arrayed Waveguide Grating Module		Display Panel/Module	VCSEL •Multi-Junction VCSEL Ar		Optical Component / Optical Assembly
	•Vision Surface Light Source	•Wavéguide Near-eye Display Module •Monocular Near-eye Display Optical Module •VR Pancake Optical Module •AR Diffractive Waveguide	•Optical Waveguide AR Glasses •AR Optical Module Folding Screen	•OLED •Micro LED Display Chip •Mini Display Module •Glass Back Cover	<ul> <li>VCSEL Semiconductor L</li> <li>VCSEL Array for LiDAR</li> <li>Stacked built-in Driver V</li> </ul>	/CSEL Packaging	•Capacitor •Ceramic Ferrule •Fast Connector •Ceramic Substrate/Housing
•Transmissive Light Source	•Multispectral Imaging Module •Light Source for Image Testing	•1D/2D Gratings Arrayed Waveguide Module	<ul> <li>Laser TV/Projector</li> </ul>	I COS Modulo	Next-generation Spectra     Integrated Photoelectric     VCSEL Projection Light I	Diode VCSEL	•Package Housing

#### Production & Manufacturing

Industrial/Flexible Robot	<b>Optical Processing Equipment</b>	Lens Assembly Equipment	Laser Processing	Automation Equipment	Vacuum Coating Equipment	Measuring & Test Instrument	Inspection Equipment
•Online Vision Adhesive		•Lens Assembly Line •High-definition Wide-angle Lens	Machine	EFEM Wafer Detection Platform     Fully Automatic High-speed     Online Dispensing Machine     High-speed Vertical Forming     Back-Sealing Machine     Pad Bending     Unmanned Intelligent Packaging     Production Line	to-roll Vacuum Coating Equipment •Magnetron Sputtering Optical Coating Equipment •Vacuum Coating Machine	Zeiss Industrial Microscope Series     -JD Optical Profiler     Compact High Precision Optical     Transfer Function Measurement     Instrument     Surface Topography Measurement     Instrument Testing Chamber	Lens Parameter Detector     Non-contact Detector     Industrial Lens MTF Detector     Lens Thickness Measurement Equipment

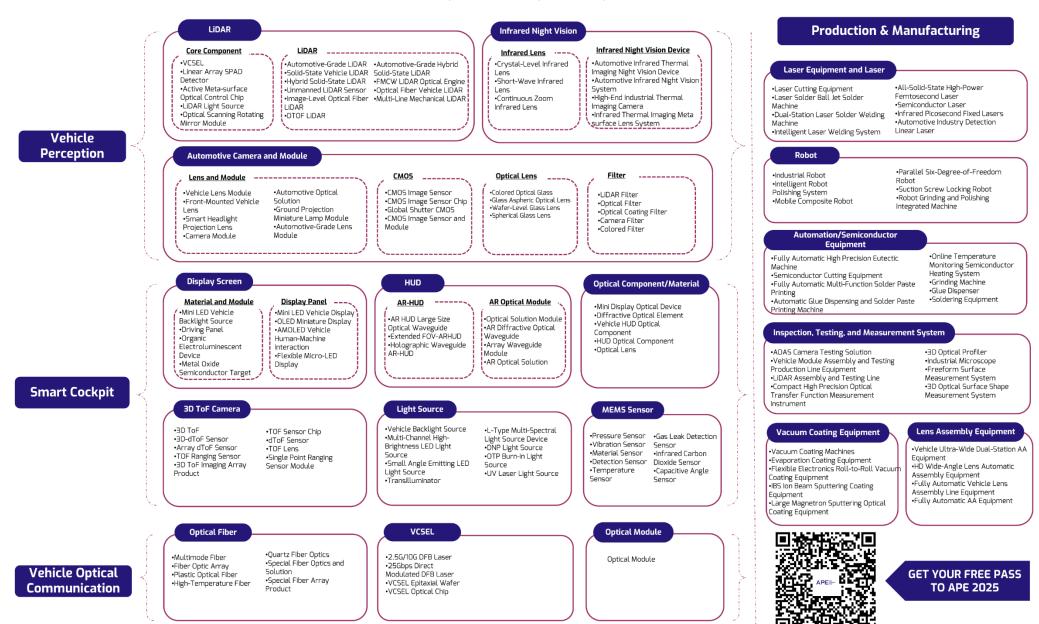
Part of AP	E Visiting Co	mpanies from C	onsumer Electroni	s Industry					
Consumer Apple Sony Samsung	Electronics _ TCL HUAWEI Xiaomi	OPPO iFLYTEK Transsion	TINNO BBK Panasonic	AR/VR VIVO Tencent Pico	LAWAKEN Xreal DPVR	Meta-Bounds RAYNEO Guangli	Smart Home SKYWORTH Gotech	GREE Midea FONTILE	
Lenovo	ZTE	KONKA	Fanasonic	ByteDance	Pimax		NARWAL DAIKIN	Hitachi	GET YOUR FREE PAS TO APE 2025





#### Application of Photonics Technology in the Intelligent Driving Industry

\*This is a partial list of exhibits, presented in no particular order.





### Application of Photonics Technology in the Energy Industry

**TO APE 2025** 

\*This is a partial list of exhibits, presented in no particular order. Material Raw Material Lithium Battery \_\_\_\_\_ Infrared Thermal Imaging Infrared Optical Component Near-Space Perovskite Ceramic Target •Custom-Made Optical STATE GRID •Handheld Infrared Thermal Imager •Quartz Glass Photovoltaic Cells Component •On-board VOCs Gas Emission Visualization SiO or SiO2 •High-Energy-Density Lithium- Ultraviolet-Transparent Optical CSG Inspection System Strontium Carbonate lon Batteries Filter •Fully Automatic Tool-type Thermal Imager Tungsten •Long-Cycle Quasi-Solid-State Lithium •UV Photography Filter •UAV Infrared Thermal Imaging Payload Energy China •Ultra-Pure Tellurium Lithium Metal Batteries •Telecentric Lens •Explosion-proof Infrared Gas Leak Detector Flexible Batteries / High-Purity Sulfur Battery Welding Field Lens •Mining Safety Dual-spectrum Ball Machine SEC Crystal •Fluoride Optical Component •"A" Class Three-phase Power Quality Analyzer •Thermal Imaging Binocular Heavy-duty Pan-tilt CSG • •Online Monitoring Product **Production & Manufacturing** Schneider **Optical Fiber Communication** Automation Equipment Laser Processing Equipment / Laser \_\_\_\_\_ Electric Super Sensing Optical Cable •Handheld/3D Laser Solid-state UV Laser Mechanical Clamps •Wide Spectral Range Special Fiber and Fiber Engraver Picosecond Infrared Laser Electromagnetic Valve Shanghai Solder Ball Welding System Pulsed Fiber Laser •Electrical Proportional Valve •Large Mode Field Mirror Fiber Machine Semiconductor Laser High Load Gripper Electric •Fiber Bragg Grating Array •Fully Automatic Laser •Fiber Femtosecond Laser •Automatic Ultrasonic Aluminum Wire SUNWODA •Outdoor Optical Cable Round Cutting Machine Mid-infrared Solid-state Welding Machine CNOOC •High Temperature Resistant Optical Fiber UV Laser Machine Laser •Three-axis Curved and Large-area Dynamic CATL Power Optical Cable Precision Cutting Machine
 Femtosecond UV 30W Laser, Focusing Scanning and Control System China Huaneng Copper Deformed Wire Vacuum Coating Equipment Semiconductor Equipment BYD SABIC Multi-chip Intelligent Mounting Equipment Thin Film Solar Cell Pilot Production Line Lidar LISHEN Die Bonder Nano-coating Preparation KINWONG •Electron Beam Evaporation Coating Equipment Wafer Inspection Equipment Solid-state LiDAR Chemical Vapor Deposition Equipment Gotion •Ultrasonic Spraying Equipment •Thermal Imaging Panoramic Radar CSCEC •Thermal Resistance Evaporation Coating Equipment •Annealing Furnace/Adhesive Equipment •Aircraft Cabin Laser Wind Measurement Radar •Plasma Surface Treatment Equipment/Cleaner BAK Ion Beam Sputtering Coating Machine •UAV-mounted Integrated LiDAR Hyperspectral GIEC Vacuum Reflow Soldering Furnace •Monolithic PVD Coating Equipment Imaging System Coupling Platform IAD-Assisted Evaporation Coating Machine HAN'S SLE •Ground-based Wind Measurement LiDAR NCEPU •Wind Measurement LiDAR Module FDB UESTC Industrial Sensor Measuring & Test Instrument CABRI Infrared Combustible Gas Sensor Infrared Technology 3D Vision/Inspection Equipment ----- Eastar Optical Fiber Accelerometer Sensor •Non-standard Vision Inspection •New Energy Power Battery Coarse ( •Infrared Thermal Imager Displacement Sensor Infrared Thermal Imaging Telescope Equipment Aluminum Wire Bonding Tensile Hithium Intelligent Electrostatic Sensor •High-speed Vision Inspection Testing System Handheld Infrared Thermal Imager •Distance Measuring Sensor •New Energy Storage and Detection Equipment •Welding In-Process Inspection CR MICRO •3D Optical Profiler Products System •3D Optical Surface •Wireless Network Cylinder Machine Three-dimensional Surface Tianneng Measurement System Profilometer Image Measurement Microscope Power CALB Test Chamber/Test Machine Gas Analysis/Leak Detector Network .\_\_\_\_\_ Laser Tracker High Voltage Accelerated Aging Test Chamber Helium Mass Spectrometer Leak Rapid Temperature Change Test Chamber Detector •Cold and Hot Shock Test Chamber •Airtightness Leak Detector Vibration Test Machine •High Sensitivity Photoacoustic Comprehensive Environmental Test Chamber Spectroscopy Trace Gas Monitor Impact Test Machine •Laser Material Intelligent Analyzer •Multi-functional Push-pull Force Tester GET YOUR FREE PASS

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### Application of Photonics Technology in the Lighting/Displays Industry

**26 - 28 February 2025** Sands Expo and Convention Centre, Singapore

\*This is a partial list of exhibits, presented in no particular order.

Material				Cor	nponent				
•Plastic •Crystal •Copper, Tungsten, Aluminum	•Substrate •Target Material •Photoresist •Coating •Encapsulation Material •Heat Dissipation Accessories	•Grinding Wheel •Luminescent Material •Coating Material •Dielectric Material •Polishing Material •Thermal Conductive Material	<ul> <li>Printing Resin</li> <li>OLED Light-collecting High Refractive Index Film</li> <li>OLED Display Material</li> <li>Polyimide (PI) Material</li> <li>LED Substrate Wafer</li> </ul>	Lase •Red, Lase •Pho	e niconductor r Diode /Green/Blue r Diode todiode er Diode Module	Sensor •Range Sensor •Micro Spectral Sensor •TO-Can Sensor •Intelligent Electrostatic Sensor	Light Source •Full Spectrum Light Source •LED Light Source •White Laser Series Light Source •Transmissive Light Source	LED Bead •UV LED Bead	GET YOUR FREE PASS TO APE 2025
Chip/Module icro-LED Display Chip ini Display Chip ED Chip aser Chip	•Ground Projection Small Module •Laser Lighting Module •Projector Lens Module •Semiconductor Laser Mo •Laser Engraving Module	+Foldab +LCD Va Display dule +Live St Termin •Gamin	r <b>Terminal</b> le Phone Screen ariable Curve reaming Display al g Laptop Display lar Waveguide AR	•Movie Glasses •Naked-eye 3D Display •Flexible OLED •Mini LED In-ve •Surgical Navig Positioning Sys	Holographic In-vehicle HMI hicle Display gation and	Micro Display •OLED Micro Disp •Micro-LED Displa •Micro-Led Micro	ay •TFT (AM Display •Passive (	ni-LED Driven Backş ) Driven Backplane PM) Driven Backpla Backlight Copper C	ine
AR/VR I-in-One erspective VR All-in-One lution nocular Split AR Solutior D Head-mounted 3D splay R/VR Glasses dustrial AR Smart asses R Holographic Smart vim Goggles	Optical Module •AR/VR Optical Mod •Array Waveguide N •Waveguide Near-ey Display Module •Monocular Near-ey Optical Module •VR Pancake Optical •AR Diffractive Wav •Array Waveguide N with One-dimension dimensional Grating	ule Module /e Display Module e Display Module eguide fodules eguide al / Two-	ay Equipment nductor Equipment rinting Complete Verificatio ED Wafer Laser Detachme D Wafer Laser Stealth Cutt D Mass Welding Equipment ED Mass Bonding Equipment Dual-plate Screen Printing Coating Machine le Screen Hard-to-Hard Bo ent ecision Labeling Machine utomatic Drawer-type Debi	nt Equipment ing Equipment t t Machine nding	One-click Graph     Virtual Distance     Rapid Ultra-higl     Microscope     Spectral Bright     Vacuum Coating	ctron Spectrometer ical Measurement Instru- Measurement Instrum- n Resolution Two-photor ness and Colorimeter <b>g Machine</b> ynamic Spray Coating Ec g Equipment	ent •Laser Etching/Marł n Machine •Programmable Log •Three-axis Scannin System •Three-dimensional	odule Laser Repair king/Welding gic Controller g and Control	•Spectrometer •Phase Difference Tester •Stress Birefringence Detection Equipment





### Traffic Guide

Marina Bay Sands Singapore Address: 10 Bayfront Avenue, Singapore 018956

### > Metro

#### Marina Bay Sands is located at Bayfront MRT station (CE1/DT16).

MRT services to/from Bayfront MRT station operate daily from approximately 6am to 12am midnight. The station connects to the Circle and Downtown Line of Singapore's Mass Rapid Transit (MRT) train system.

MRT Exits: Exit C & D: Sands Expo & Convention Centre (3-minute walk) Exit E: Sands Expo & Convention Centre

### > Car & Taxi

**Pick-Up/Drop-Off Points:** Outside Sands Expo & Convention Centre

### > Car Park Entrance

Bayfront Link, next to Sands Expo & Convention Centre (South Entrance)





### **Hotel Reservation**

### For Hotel Reservation Only

Burnaby Solutions Pte Ltd (a licensed travel agency with Singapore Tourism Board) Service Hotline: +65 69110855 Email: enquiry@burnaby-solutions.com For Hotel Reservations, visit: https://register.burnaby-solutions.com/v2/booking/step1\_all/405

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### **GATEWAY TO PHOTONICS IN ASIA**

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