

APPLICATION OF PHOTONICS TECHNOLOGY IN THE SEMICONDUCTOR INDUSTRY

Asia Photonics Expo (APE), a world's leading comprehensive photonics platform, will be held at the Sands Expo and Convention Centre in Singapore from 26 to 28 February 2025. It focuses on cutting-edge technologies and emerging markets in the fields of optical communication, optics, laser, infrared, sensing, and display, including **optoelectronic chips, sensors, semiconductor materials, and semiconductor manufacturing/packaging and testing equipment**. It serves as a one-stop platform for professionals in the semiconductor industry to seek upstream and downstream products, innovative technologies, engage in trade negotiations, and facilitate procurement.

Exhibit Profile

Optoelectronic Chips: VCSEL chips, sensor chips, high-speed modulator chips, pump laser chips, DFB and EML chips, etc.

Sensors: MEMS sensors, image sensors, vision sensors, infrared sensors, laser sensors, etc.

Semiconductor

Semiconductor Materials: Indium phosphide, gallium nitride, gallium arsenide, monocrystalline silicon, organic germanium, wafers, silicon substrates, target materials, mold materials, grinding materials, etc.

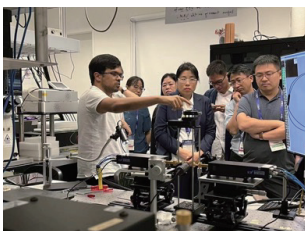
Semiconductor Equipment: Chip epitaxial equipment, chip dicing machines, pick-and-place machines, cleaning machines, scribing machines, semiconductor packaging and testing equipment, etc.

CONCURRENT ACTIVITIES



Gala Dinner

Over 120 top-level executives of our exhibitors and partners attended the gala dinner and took the opportunity to engage in high-level discussions, exchange ideas, and explore potential collaborations.



Site Tour

APE co-organized with Singapore University of Technology and Design and LUX Photonics Consortium to curate a site tour which attracted over 40 companies to join, aiming to link between academia and industry.



Happy Hours

It will be held at VIP lounge to facilitate the networking and collaboration between exhibitors and VIP visitors.

CONCURRENT CONFERENCES

Application Forum

A series of application programmes will be dedicated to showcasing the application fields within manufacturing, medical, consumer electronics, etc.

Industry Forum

Explore the cutting-edge optoelectronic technology and gain in-depth insights into its latest developments across various photonics application fields, thereby driving innovation in upstream and downstream products.



BOOTH APPLICATION



APE AT A GLANCE

*Only part of exhibits, listed in no order.

Semiconductor Material

Silicon Wafer	Material	Ceramics
<ul style="list-style-type: none"> 8-inch Back-illuminated Hybrid Bonding Wafer W-CSE/InGaAs Epitaxial Wafer Infrared Temperature Sensor Wafer 	<ul style="list-style-type: none"> Indium Phosphide / Gallium Nitride/Gallium Arsenide Epitaxial Layer Lithium Niobate Single Crystal Thin Film 	<ul style="list-style-type: none"> CoSP Ceramic Packaging Shell HTCC (High-Temperature Co-fired Ceramic) Laser Ceramic Reflector / Diffuser
Polishing Slurry / Pad	Grinding Material	Photoresist
<ul style="list-style-type: none"> SiC Polishing Slurry Silicon Dioxide Polishing Slurry Polysulfone Series Sapphire Polishing Pad 	<ul style="list-style-type: none"> Diamond Grinding Fluid Grinding Pad Fiber Optic Grinding Discs 	<ul style="list-style-type: none"> Heat-Assisted Verification Imprint Photoresist Full Range of Nanomprint Material
Target / UV Anti-reflective Coating	Substrate	Grinding Wheel / Solder Ball
<ul style="list-style-type: none"> Sputtering Target Metal Oxide Semiconductor Target UV Debonding Film 	<ul style="list-style-type: none"> Silicon Carbide Thermal Management Substrate Aluminum Oxide Ceramic Substrate Silicon Nitride Ceramic Substrate 	<ul style="list-style-type: none"> Thinning Grinding Wheel Resin Grinding Wheel Ceramic Diamond Grinding Wheel Silicon Nitride Ceramic Substrate Cold Solder Ball

Manufacturing Equipment

Lithography / Etching Equipment	Annealing Furnace / Oxidation Furnace	Thin Film Deposition Equipment
<ul style="list-style-type: none"> SiC Polishing Slurry Silicon Dioxide Polishing Slurry Polysulfone Series Sapphire Polishing Pad 	<ul style="list-style-type: none"> Vacuum Bridging Furnace De-gas Furnace Vacuum Reflow Furnace Wet Oxidation Furnace 	<ul style="list-style-type: none"> CVD Equipment Nano Film Layer Deposition System Linear Multi-chamber Thin Film Deposition System
Polishing Machines / PVD Equipment	CVD Equipment / Electroplating Equipment	Cleaning Machine
<ul style="list-style-type: none"> CMP Polishing Machine PVD Coating Equipment Roll-to-roll PVD Vacuum Coating Equipment 	<ul style="list-style-type: none"> CVD Equipment Plasma Enhanced CVD Equipment Water Electroplating Equipment 	<ul style="list-style-type: none"> Water Cleaning Machine Plasma Cleaner Single Water Cleaner Ultrasonic Cleaner

Measuring & Test Instrument

Testing / Measurement Instrument	Interferometer	Profiler
<ul style="list-style-type: none"> Temperature Cycling Test Chamber (Hot and Cold Shock Testes) Semiconductor Laser COS Testing Equipment 	<ul style="list-style-type: none"> Multi-wavelength Laser Interferometer Vertical Laser Interferometer Non-contact Laser Interferometer 	<ul style="list-style-type: none"> 3D Optical Profiler Line Laser Profiler Probe Based Surface Profiler

Packaging & Testing Equipment

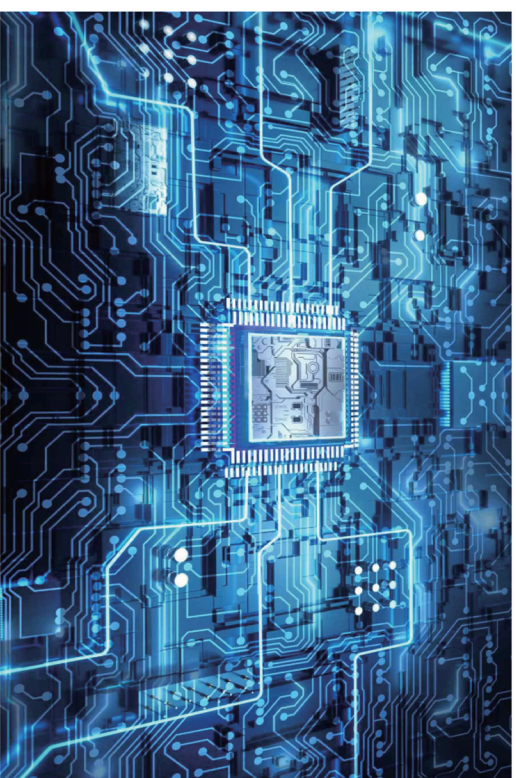
Thinning / Lamination machine	Coupling Machine	Bonding Machine
<ul style="list-style-type: none"> Fully Automatic Thinning Machine Water Thinning Machine Automatic Lamination Machine 	<ul style="list-style-type: none"> Automatic Optical Path Coupling Machine Waveguide Combiner System Coupling Alignment System 	<ul style="list-style-type: none"> High-Precision Chip Bonding Machine Wire Bonding Machine Multi-Function Bonding Machine
Mounting Machine / Oven	Sorter	Dicing Machine
<ul style="list-style-type: none"> Micro-Precision Mounter High-Precision Epoxy Mounter UVLED Oven Vacuum Pressure Oven 	<ul style="list-style-type: none"> Fully Automatic High-Precision Sorter Chip Sorter Water Laser Sorter 	<ul style="list-style-type: none"> LD/PSD Chip Dicing Machine Dual-Axis Precision Dicing Machine 8-inch Single-Axis Semi-Automatic Dicing Machine
Die Bonder	Cleaning / Welding / Cutting Equipment	MEMS Sensor
<ul style="list-style-type: none"> High-Speed Die Bonder COB Die Bonder Semiconductor Dual-Head Die Bonder 	<ul style="list-style-type: none"> Laser Cleaning Machine Solder Ball Welding Machine Fully Automatic PCB Laser Marking Machine Semiconductor Cutting Equipment 	<ul style="list-style-type: none"> Material Sensor Detection Sensor Temperature Sensor

Intelligent Sensor

LIDAR	3D Vision	Industrial Sensor
<ul style="list-style-type: none"> Multi-line Mechanical LIDAR Ultra-Wide Angle Blind Spot Laser Radar Single-point Ranging LIDAR 	<ul style="list-style-type: none"> CMOS Image Sensor 3D TOF (Time-of-Flight) Vision Sensor TOF Ranging Sensor Image Sensor and Module 	<ul style="list-style-type: none"> Gas Leakage Detection Sensor Infrared Carbon Dioxide Sensor Capacitive Angle Sensor
MEMS Sensor	Other Sensors	Optical Inspection Equipment
<ul style="list-style-type: none"> Material Sensor Detection Sensor Temperature Sensor 	<ul style="list-style-type: none"> Projector Module Micro Electrostatic Sensor Fiber Optic Gyroscope Sensor 	<ul style="list-style-type: none"> Mask AOI Equipment AOI Intelligent Appearance Inspection Equipment Semiconductor Wafer AOI

Optoelectronics

Optoelectronic Chip	Electronic Chip	Sensor Chip
<ul style="list-style-type: none"> APD Chip LD Chip 800G Silicon Optical Chip Detector Chip High-Speed Optical Detector Chip 800G DR8 Translating Chip 	<ul style="list-style-type: none"> LD Driver Chip TIA Chip DSP OLT Chip Automotive VCSEL Chip and Multi-Function VCSEL Chip 940nm TOF VCSEL Chip 	<ul style="list-style-type: none"> LiDAR VLR Chip SiPM High-Precision Multi-channel Signal Processing ASIC Chip 50-Megapixel Intelligent Temperature Sensing Chip
Optical Communication Component	Optical Display Component	Photodetector
<ul style="list-style-type: none"> Active Optical Component Passive Optical Component Optical Module 	<ul style="list-style-type: none"> LED TOLED MiniLED MicroLED 	<ul style="list-style-type: none"> Monochrome Photodiode Photomultiplier Tube PIN Photodiode



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