



汎銓科技 AI晶片分析平台

www.msscorgs.com



MSS Company Overview

- This report contained herein is the exclusive intelligent property of MSSCORPS CO., LTD and shall not be distributed, copied, reproduced, or disclosed in whole or in part without prior permission.
本報告為汎銓科技股份有限公司之智慧財產權，非經本公司書面授權許可，不得透露或使用本報告，亦不得複印、複製或轉變成其他任何形式使用。
- The results in this report are solely based on data, information, and/or samples provided by the applicant. All contents in this report shall be treated as whole, separated usage (texts or images) is invalid.
本報告僅就委託者之委託事項提供分析結果，報告分離使用無效。
- This report is for reference only. Please consult MSSCORPS CO., LTD first for other purposes, such as advertisement, sales promotion, notarial, or lawsuit.
本報告所載事項僅作參考資料，若貴公司擬作為廣告、商業推銷、公證、法律訴訟之用途，請先諮詢本公司同意。

免責聲明 Disclaimer

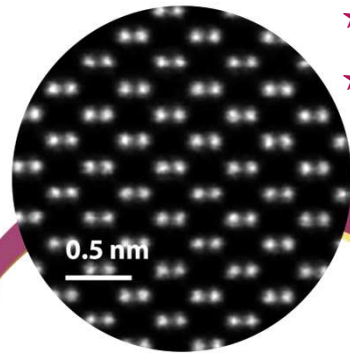
- This presentation includes forward-looking statements. All statements, other than statements of historical facts, that address activities, events or developments that Material Science Service Corp. expects or anticipates will or may occur in the future (including but not limited to projections, targets, estimates and business plans) are forward-looking statements.
- MSS's actual results or developments may differ materially from those indicated by these forward-looking statements as a result of various factors and uncertainties, including but not limited to market demand, change in legal, financial and regulatory frameworks, government policies, financial market conditions, and other risks and factors beyond our control.
- MSS does not undertake any obligation to publicly update any forward-looking statement to reflect events or circumstances after the date on which any such statement is made or to reflect the occurrence of unanticipated events.

MSS' s Four Key Growth Drivers

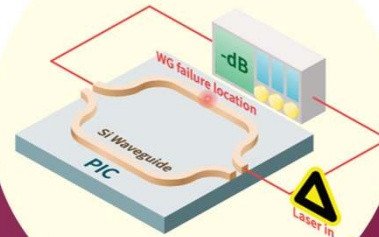
Expand Dedicated Capacity for AI Customers」

- ★ Phase 3 expansion to be completed by the end of July
- ★ Phase 4 under discussion
- ★ Phase 5 under planning

Global Expansion: A global operating footprint has been established across Taiwan, Mainland China, the U.S., and Japan, supporting synchronized and rapid growth.



Advanced Materials Analysis
for Angstrom-Node Processes



Silicon Photonics: MSS has secured patents in Taiwan, the U.S., Japan, and Korea for its photonic loss-detection technology.

- ★ Three proprietary measurement systems have been developed and installed in-house, supporting ongoing silicon photonics measurement services.
- ★ The MSS HG demonstration system is scheduled to be deployed to a dedicated silicon photonics customer area in September for customer evaluation, followed by a live measurement demonstration on November 5.
- ★ For joint development of measurement equipment, MSS has formally signed an agreement with one leading international test and measurement equipment manufacturer, while cooperation with two additional global equipment manufacturers is progressing on a customer-by-customer basis.

★ Patent Licensing.....

Deepening Technology Capabilities in the Angstrom Era

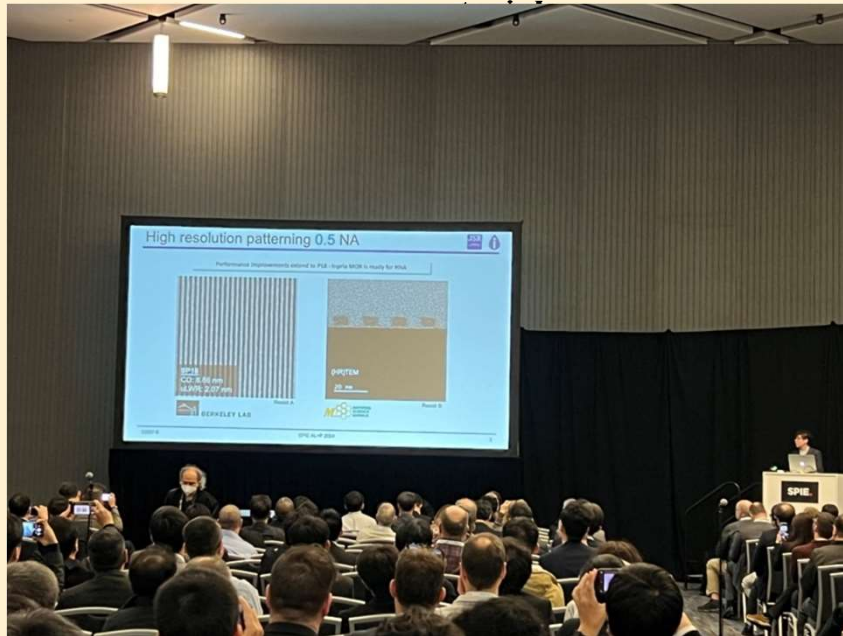


Continue expanding our expertise in advanced analytical technologies, including MOR materials analysis, with APT now in operation and beginning to generate revenue contributions.

MOR – Ultra-Sensitive Materials Analysis

Entering High-NA EUV Next-Generation Materials Analysis

Establishing a strategic entry point into advanced



Atomic-Scale Analysis Technology: APT

Providing atomic-scale compositional and defect analysis capabilities

Pushing the frontier of analytical technology

APT：原子級精度的先進製程材料分析技術

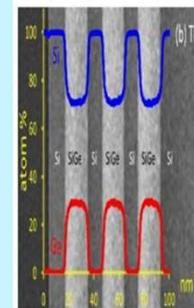
EDN
TAIWAN

作者：汎銓科技

類別：設計揭密

2025-12-09

(0) 評論



原子針尖斷層影像儀(APT)具備原子級空間解析與高靈敏度化學分析能力，能精確重建三維原子分佈，以因應先進製程與埃米級材料分析挑戰...

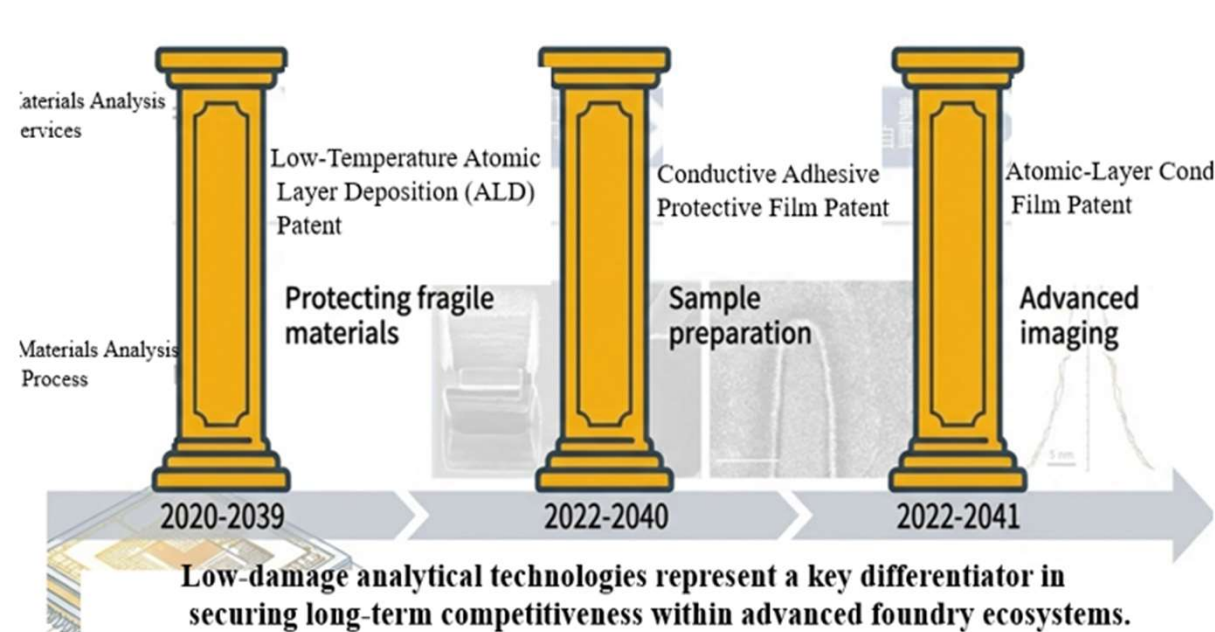
SAC-TEM Advanced Facility & Equipment



Installation of High-End TEM Systems to Significantly Enhance Materials Analysis Capabilities and Support Advanced Process R&D and Mass Production

The SAC facility is built to world-class standards for materials analysis, featuring a comprehensive environmental control system and dedicated space for precision instrument installation. The facility design meets the semiconductor industry's stringent requirements for vibration control and electromagnetic shielding.

Strategic Patent Portfolio Builds a Strong Technology Barrier for MSS



2026 and Beyond – Four Strategic Growth Engines

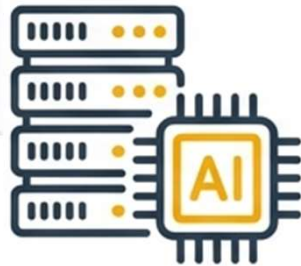


Scaling the Zhubei AI Client Hub to Support Tier-1 AI Industry Leaders

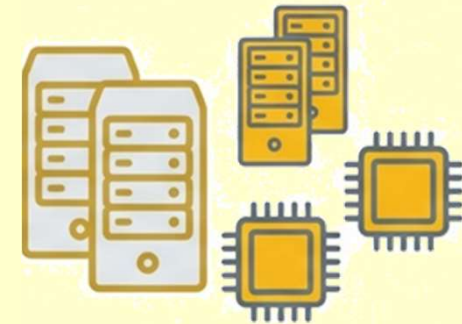
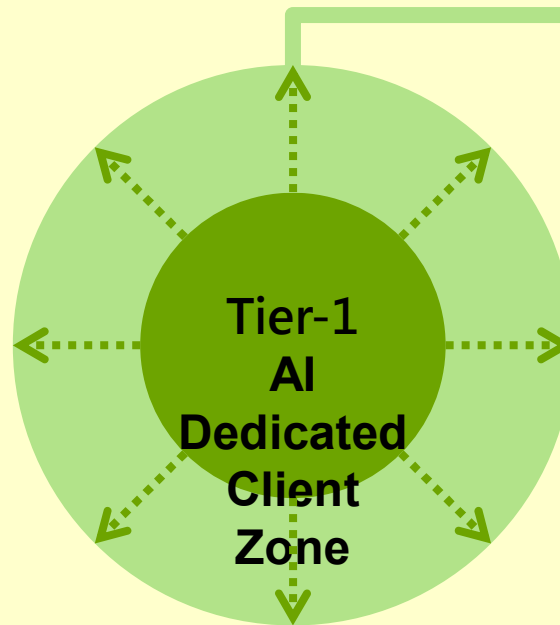
Expansion of the Tial-1 AI Client Zone

Tier-1 AI customers have partnered with MSSCORPS to establish a dedicated **AI Client Zone**, with continued expansion underway.

Amid explosive growth in AI chip demand, requirements for advanced packaging and heterogeneous integration analysis have increased significantly. MSSCORPS has become a key strategic partner to leading U.S. AI semiconductor manufacturers.



- Exclusive AI Zone:** Premium security protocols and priority production support
- Sustained Tier-1 Growth Momentum:** Continued expansion of demand from leading AI players
- Strategic Co-Development:** Early involvement in advanced AI chip and silicon photonics innovation

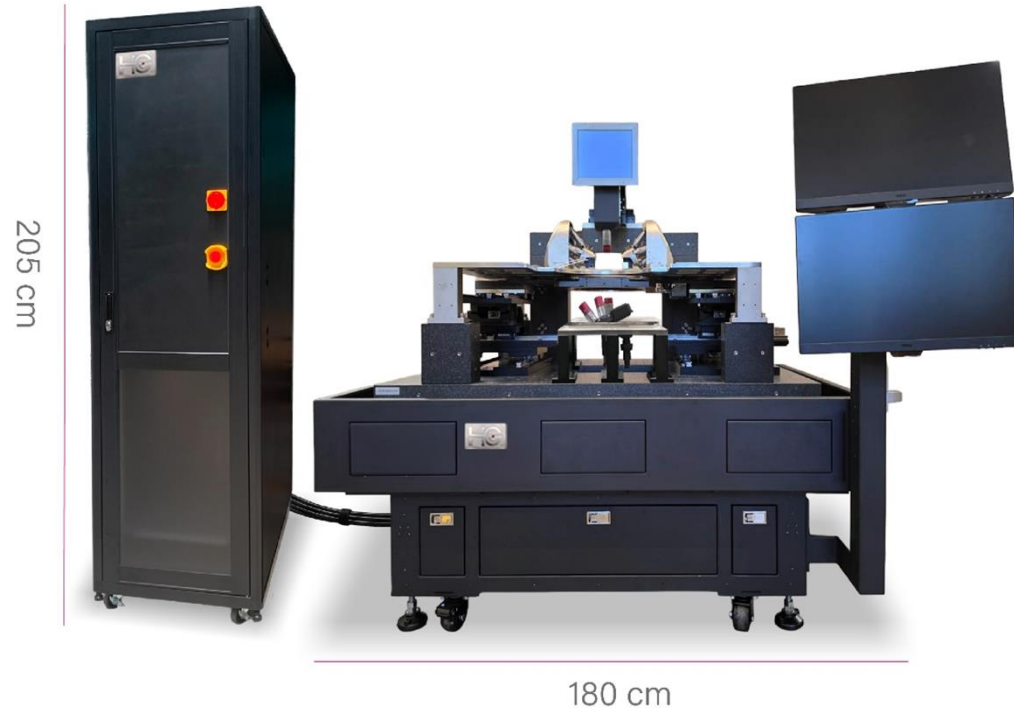


MSS HG (Helmet Gecko)

MSS In-House Equipment – Actual Installation



Commercial Version



Standard Functions

1. Automatic optical-window positioning
2. Optical loss measurement (IL / RL)
3. Optical-damage / light-leakage localization
4. Scanning power measurement
5. Optical power measurement (50 mW / 17 dBm)

Optional Functions:

1. Optical Frequency Domain Reflectometry (OFDR)
2. High-power measurement (up to 1,000 mW)
3. High-power automatic polarization controller
4. Photoluminescence Detection (PLD)
5. Multi-channel optical switch measurement
6. OVNA measurement (70 / 110 / 170 GHz)
7. Eye-diagram measurement (50 / 70 / 110 / 110 GHz)
8. BERT module (64 / 120 GBd)

Customer categories	Client commissioned projects	MSS HG device configuration
FAB (PIC wafer fabrication)	Support R&D characterization / Spice Model calibration / FA Lab Debug	Prober stage, optical loss detection device, standard Tester configuration, optional Tester configuration...
PIC chip design company (IC design)	PIC component parameter confirmation Product Data Sheet / Debug	Prober stage, optical loss detection device, standard Tester configuration, optional Tester configuration...
CPO Packaging Plant	Optical path debugging,...	Prober stage, optical loss detection device, standard Tester configuration, optional Tester configuration...
Optical module manufacturer / system manufacturer	CPO module Debug, ...	Prober stage, optical loss detection device, standard Tester configuration, optional Tester configuration...

Tester Standard function :

1. Automated Laser Coupling Platform
2. Optical Loss Measurement (IL / RL)
3. Optical Loss and Leakage Location
4. Frequency Sweep Laser Measurement
5. Optical Intensity Variation Measurement (50 mW / 17 dBm)

Tester Optional Features:

1. Optical Frequency Domain Reflectometry (OFDR)
2. High Power Measurement (1000 mW)
3. High Power Automatic Polarizer
4. Optical Polarization Measurement (PDL)
5. Switch Multichannel Measurement
6. OVNA Measurement (70 / 110 / 170 GHz)
7. Eye Diagram Measurement (50 / 70 / 110 GHz)
8. BERT Module (64 G / 128 GBd)

MSS Silicon Photonics Strategic Positioning :

From RD debug to mass-production inspection, MSS is building a global patented platform for optical-loss localization.

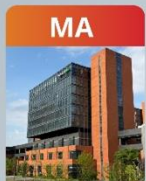
★ MSS focuses on RD and FA debug.

★ For mass-production optical-loss and light-leakage localization, MSS will work with international equipment vendors through patent licensing to enable production-line testing.

- ✓ MSS does not compete with production-line equipment vendors; instead, MSS positions itself as their strategic partner.
- ✓ MSS' s goal is to build a patent platform.
- ✓ MSS HG is responsible for the RD and FA markets.
- ✓ The mass-production market will be scaled up through a licensing model.
- ✓ Looking ahead, MSS expects to generate revenue across the silicon photonics value chain through **analytical services, equipment sales, co-development of mass-production equipment, and patent licensing.**



Global Operations Sites



MA

Shanghai Lab



MA

Nanjing Lab



MA

Shenzhen Lab



MA

Kawasaki Lab



MA / FA

MSS USA Headquarters



JP

TW

Headquarters

Central Lab

FA/ SA/ SiPh

MA

US



Zhubei Lab 3 (Coming Soon)

MA/ FA/ AI Zone



Zhubei Lab 2

MA



Zhubei Lab 1

FA/ AI Zone



RA Testing Center

RA



Southern Science Park Lab

MA



SAC-TEM Center

MA (14A/10A)

New Lab in Shanghai

2026'8月 汎銓科技上海廠區

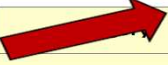
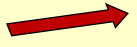
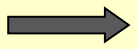
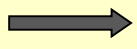


Video

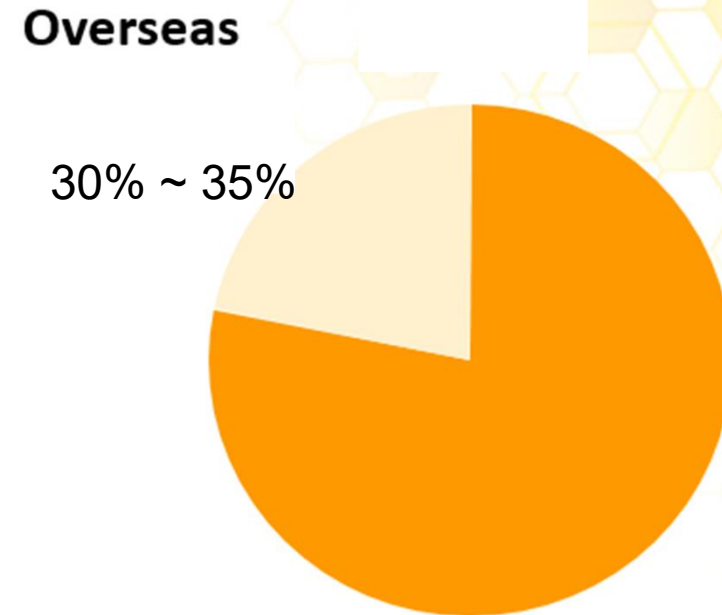
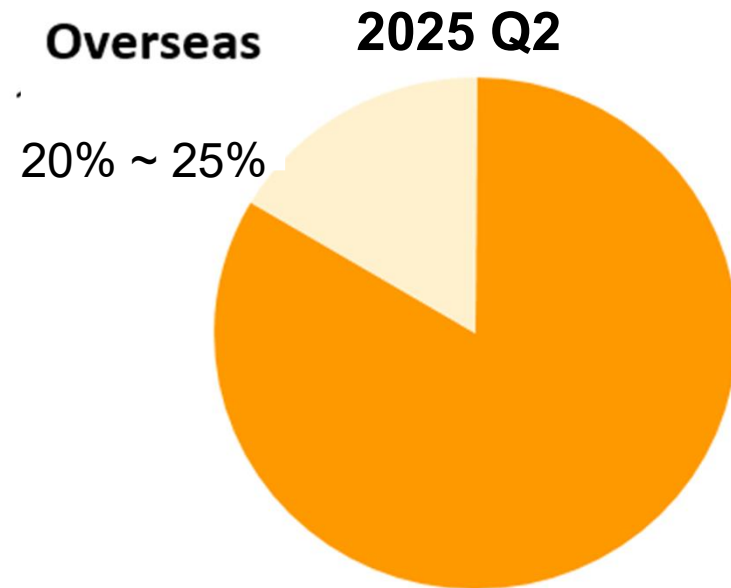
Semiconductor equipment/materials research and development



MSS Analytical Technology Categories & Growth Potential

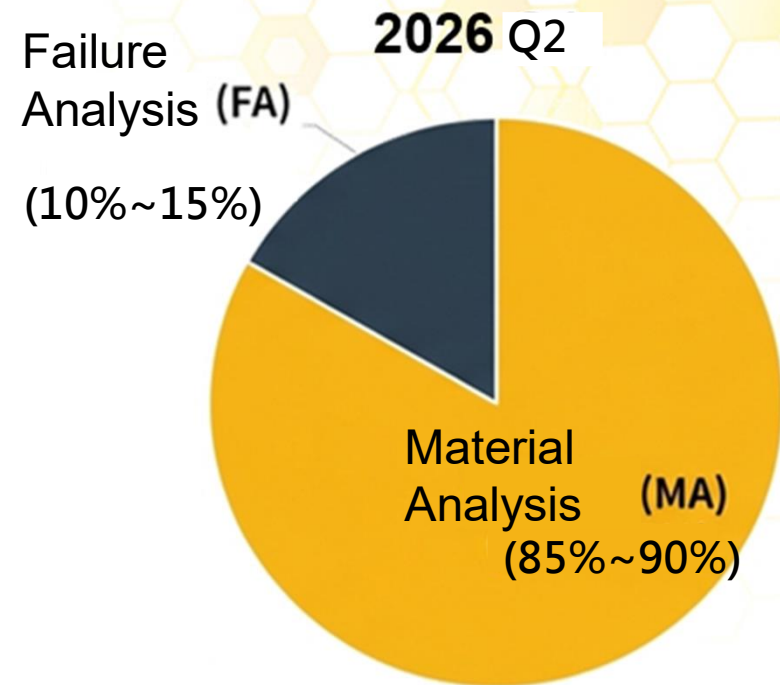
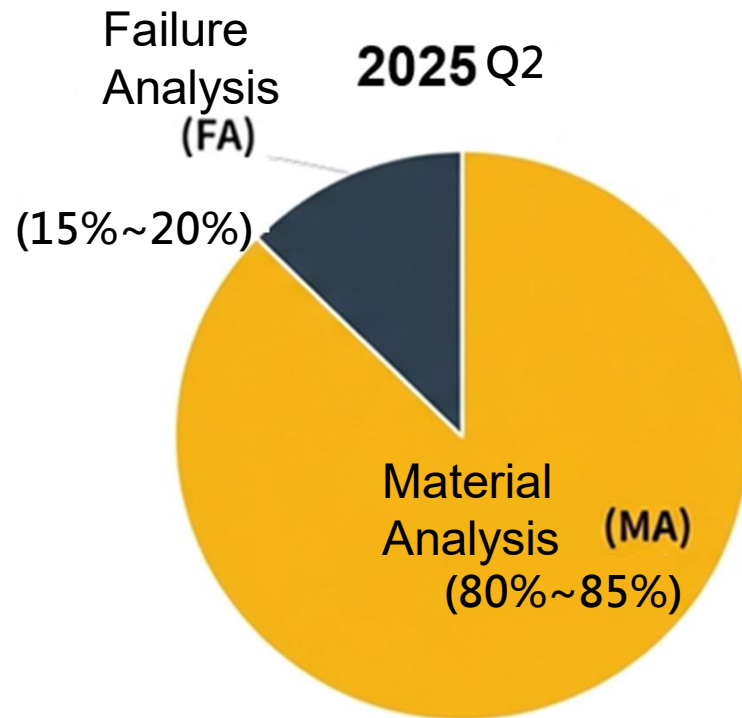
	Type	Technology Name	MSS Strengths	2025 Jan–July Revenue Share	2026 Jan–July Revenue Share	2026–2027 Outlook Expected Growth
 Advanced Process (Angstrom Era)	MA	PR (Photoresist) Protection Technology	3rd-Generation EUV PR Protection Technology	52.7% (Jan–July) NT\$89.75M/mo	43.7% (Jan–July) NT\$90.43M/mo	
	MA		Advanced PR Protection Technology			
	MA		Sample Preparation for Selective-Deposition Materials / Advanced Material Testing Platform			
	MA	Low-k Protection Technology	BEOL: Low-k Structure Protection Technology			
	MA		BEOL: Low-k Dielectric Damage Analysis Technology			
	MA		Novel Two-Dimensional (2D) Material Analysis Methods			
	MA	Ultra-Thin Specimen Preparation Method	Ultra-Thin Specimen Protection Method			
	MA		FEOL: Bonding State Analysis of GAA Etch By-products			
	MA		MEOL: ALE Etch Product Comparison Platform / Precision Etch Depth Verification Technology			
	MA	Automated Metrology	High Aspect Ratio Structure TEM Analysis Technology			
Mature Process	MA	ML Ball Height / ML Defect	AI-Based Automated Metrology / Etch Depth & Profile Data Analytics Platform	9.3% (Jan–July) NT\$15.79M/mo	7.2% (Jan–July) NT\$14.81M/mo	
	MA		Optical Component Analysis Technology: ML Ball Height / ML Defect			
	MA		Integrated Lens Analysis for Wearable AR/VR Products			
	MA	Compound Semiconductor	Quantitative Epitaxial Defect Analysis Technology			
	MA		Carrier Concentration Distribution Imaging in Compound Semiconductors			
	MA	OLED	Integrated Stress Analysis Technology			
	MA	CCL/FCCL	Layer-Resolved Imaging Technology for Ultra-Low-Contrast Structural Materials			
IC Failure Analysis	FA	Compound Semiconductor	Flexible Material Slicing Technology	10.1% (Jan–July) NT\$16.87M/mo	8.0% (Jan–July) NT\$16.54M/mo	
	FA		General Materials Analysis (SEM / FIB CS / Reverse MA / SIMS)			
	FA		High-Voltage, High-Temperature Measurement (1000 V, 300 °C)			
	FA	Circuit Edit Technology	Ultra-Thin Sample Preparation Technology for EFA (Electrical Failure Analysis)			
	FA		Signal Lead Technology			
	FA		Backside Signal Lead Technology			
	FA		External Attachment of Multiple Passive Components			
	MA		Precision Local RDL Removal Technology			
Silicon Photonics & AI Chips	FA	Silicon Photonics Optoelectronic Testing	Flip-Chip Backside FIB Technology / 5 nm IC Backside	7.9% (Jan–July) NT\$13.52M/mo	8.1% (Jan–July) NT\$16.75M/mo	
	FA		General Failure Analysis (Decap / Delayer / Electrical / CRD / IC Reverse / SAT / 3D X-ray / RA)			
	FA		Silicon Photonics / Large-Area Rapid Cutting / Conductive Coating / Low-Curtaining Sample Preparation			
	MA	Advanced Packaging	Silicon Photonics Characteristics & Optical Attenuation Inspection / Waveguide / μ Lens			
	FA		Silicon Photonics Optical Anomaly Localization / Dark-Field & Light-Leakage Inspection			
	FA	Advanced-Process IC Failure	12-inch Silicon Photonics Optical Test Platform: Fully Automated Optical Alignment Scanning & Coupling / High-Power Light Source / Temperature / Device Characteristics Table			
	FA	Advanced Packaging	PFIB / Hybrid Metal Bond / TSV Analysis Technology			
Overseas	MA	Special ALD Coating / Ultra-Thin Specimen Technology	3 nm Process De-layering Technology / μ m-to-nm Localization / Ion-Beam Pre-Preparation for E-Beam Probe	20.2% (Jan–May) NT\$34.39M/mo	33.1% (Jan–May) NT\$68.40M/mo	
	MA		Large IC Package-to-Substrate Separation Technology / THz-TDR Open-Circuit / Thermal XYZ Localization / 3D X-ray / High-Ball-Count BGA (10k+)			
Silicon Photonics Test Equipment	Sales & Licensing	"Optical Loss Detection Device" Technology	Three self-built systems already provide stable service supporting silicon photonics R&D analysis for multiple customers; expanding the business model by leveraging existing technology to assemble and produce the required equipment for sale to customers	—	—	

Key Institutional Investor Focus: Changes in Market Landscape



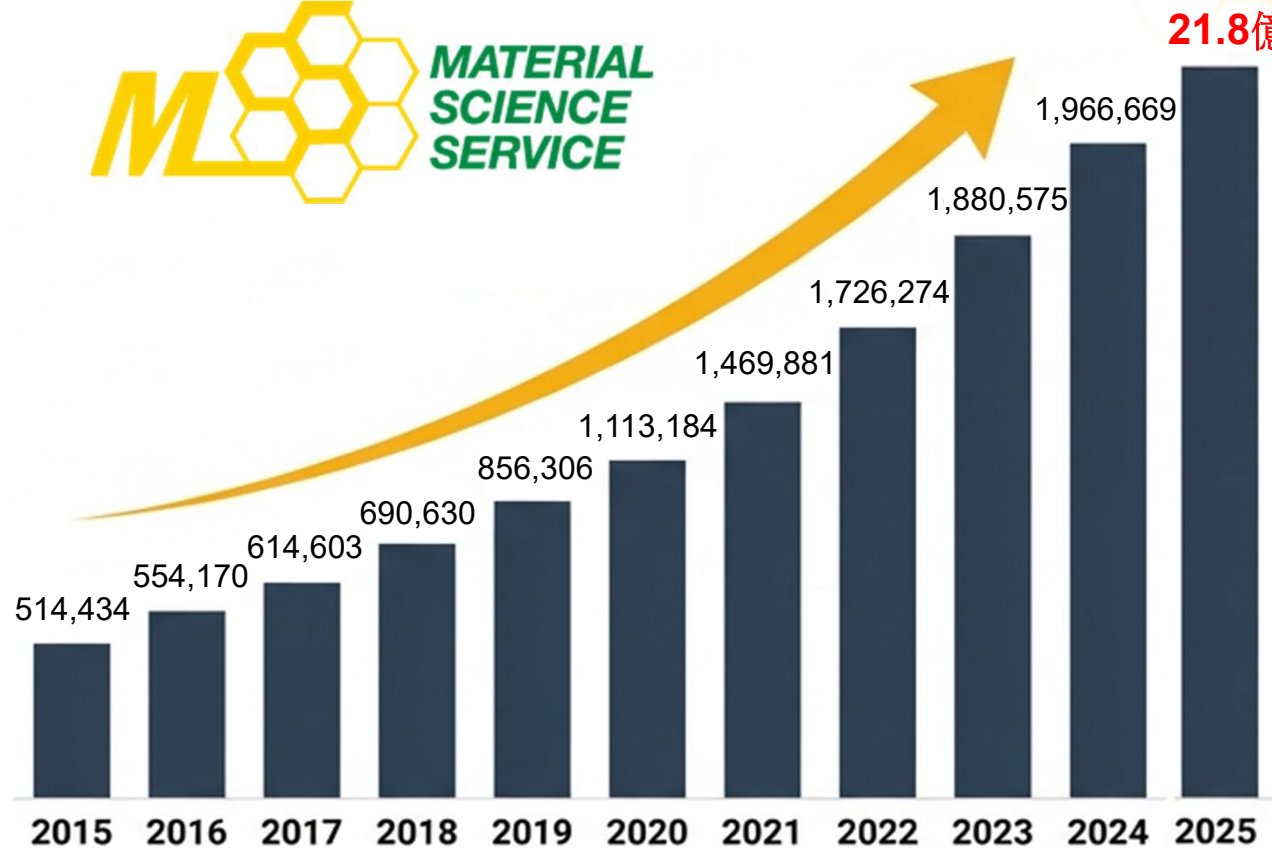
- ◆ Changing global market dynamics are opening new growth avenues and influencing our strategic positioning.
- ◆ Revenue exposure to Mainland China continues to rise, driven by accelerated semiconductor development and increasing demand for advanced materials characterization services

Key Institutional Investor Focus: Changes in Market Mix



Sustained >80% Mix of High-Barrier MA Services
Ensuring a Structurally Superior Gross Margin Profile

Strategic Inflection Point: From Steady Profit to Structural Explosion



Four Major Growth Drivers for 2026



Angstrom Generation



Silicon Photonics



AI Zone (Expansion of US Clients)

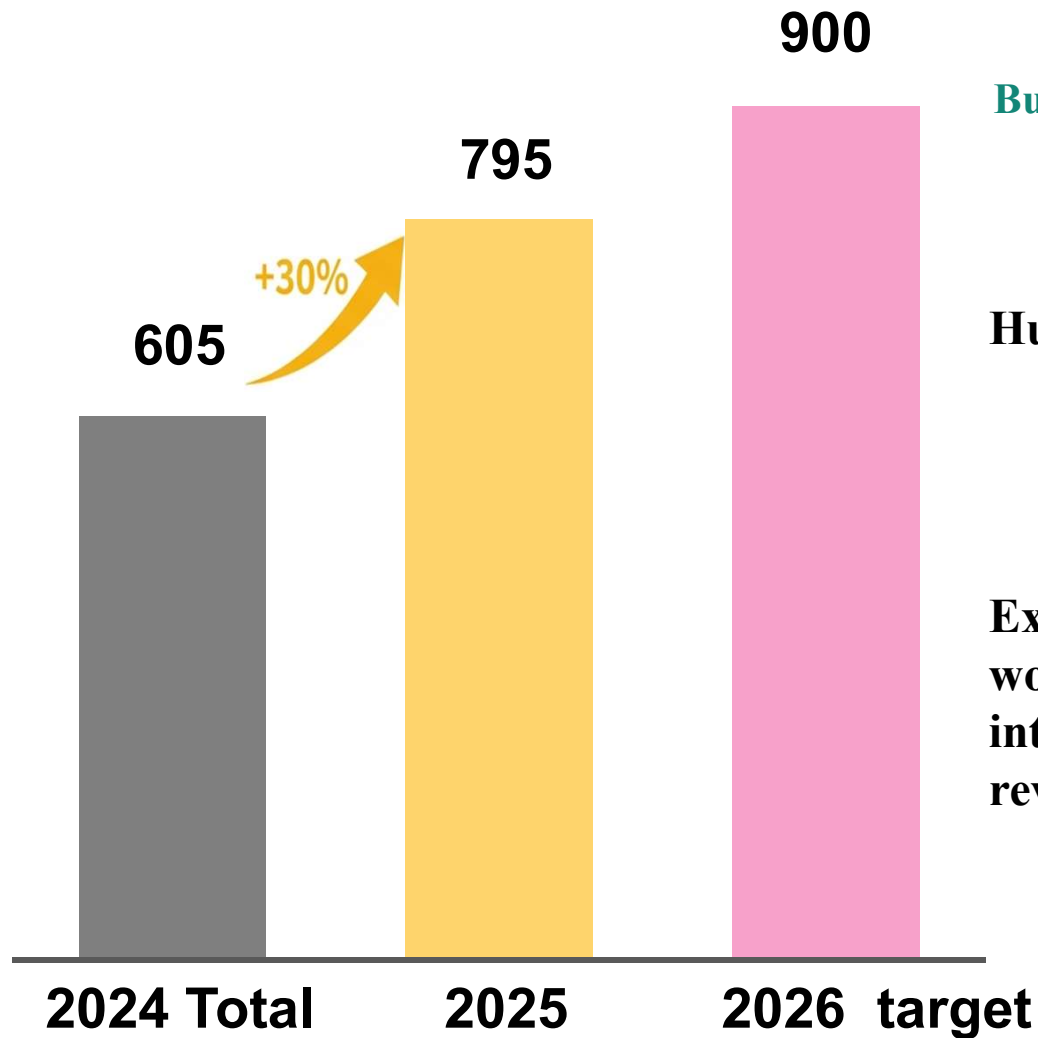


Global Layout

2015-2025 Revenue Compound

Growth Rate (CAGR) 14.5%

Talent Arms Race: Preparing for Explosive Demand in 2026



Strategic Investment in Human Capital.
Building a Strong Foundation for Sustainable Future Growth

Human Capital as a Growth Multiplier

- Scaling high-end technical talent aligned with advanced-node demand
- Strengthening silicon photonics testing and R&D capabilities

Execution capacity begins with people — workforce readiness directly translates into scalable production output and revenue growth.

Company Overview

MSSCORPS CO., LTD. (MSS)

Established
July 27, 2005

Listed
Officially listed on
August 31, 2022

Founder
Gino Liu Chairman / President

NT\$544 Million

Capital
NTD

869

Employees
Technical and Engineering Teams

Core Service Offerings

- **Materials Analysis (MA)**- Providing advanced process R&D support to foundries and equipment/material suppliers
- **Failure Analysis (FA)**- Assisting IC design houses and manufacturers in rapid root cause identification and defect resolution

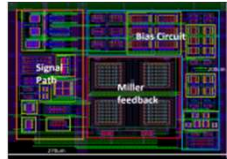
The role of MSS in the semiconductor industry supply chain-FA

Item & Positioning

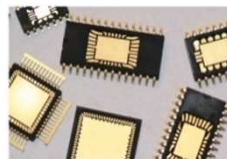
Content

Failure
analysis
service

(IC Hospital)



IC Design /
Photomask



Packaging /
Substrate /
Flexible Board
/ PCB
Applications

Resolving IC Design Errors and Identifying Root Causes of IC Failures to Accelerate Time-to-Market

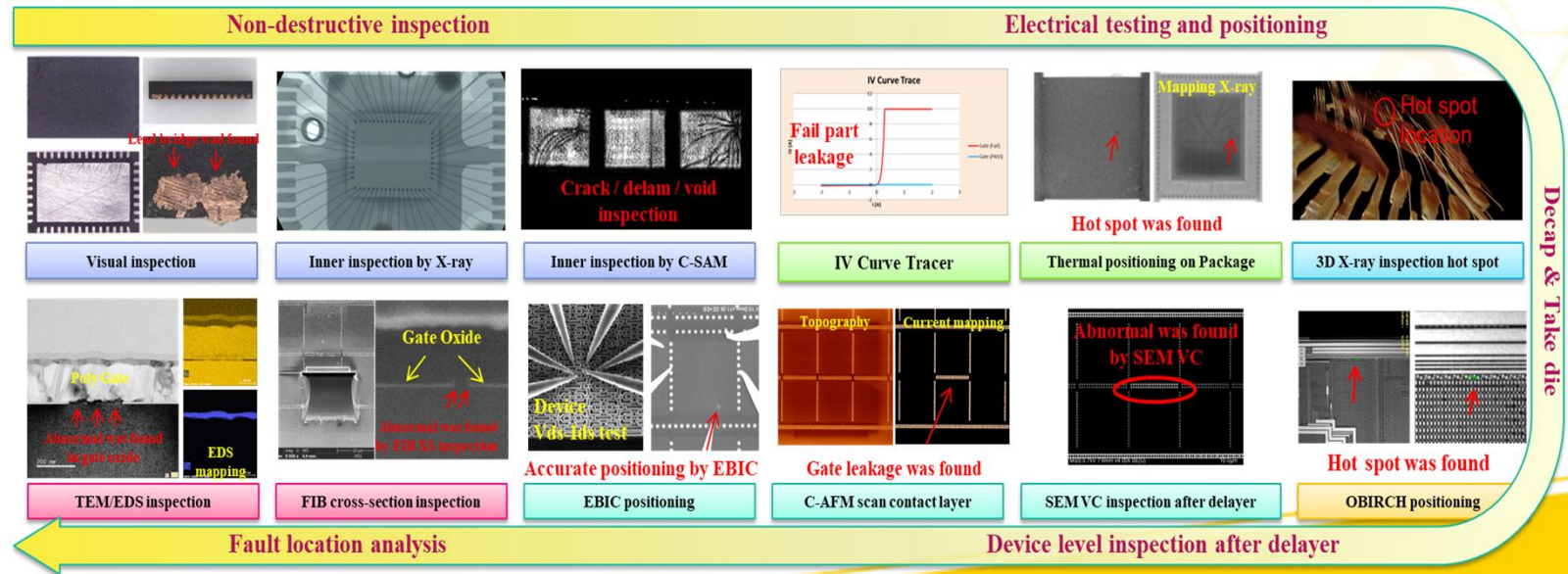
- IC debugging and repair, enabling designers to pinpoint design flaws and validate corrective actions
- Post-production analysis of defective units, including re-measurement, fault localization, structural and compositional analysis using EFA & PFA technologies to determine root causes

MSSCORPS' Low-Damage Analytical Technologies

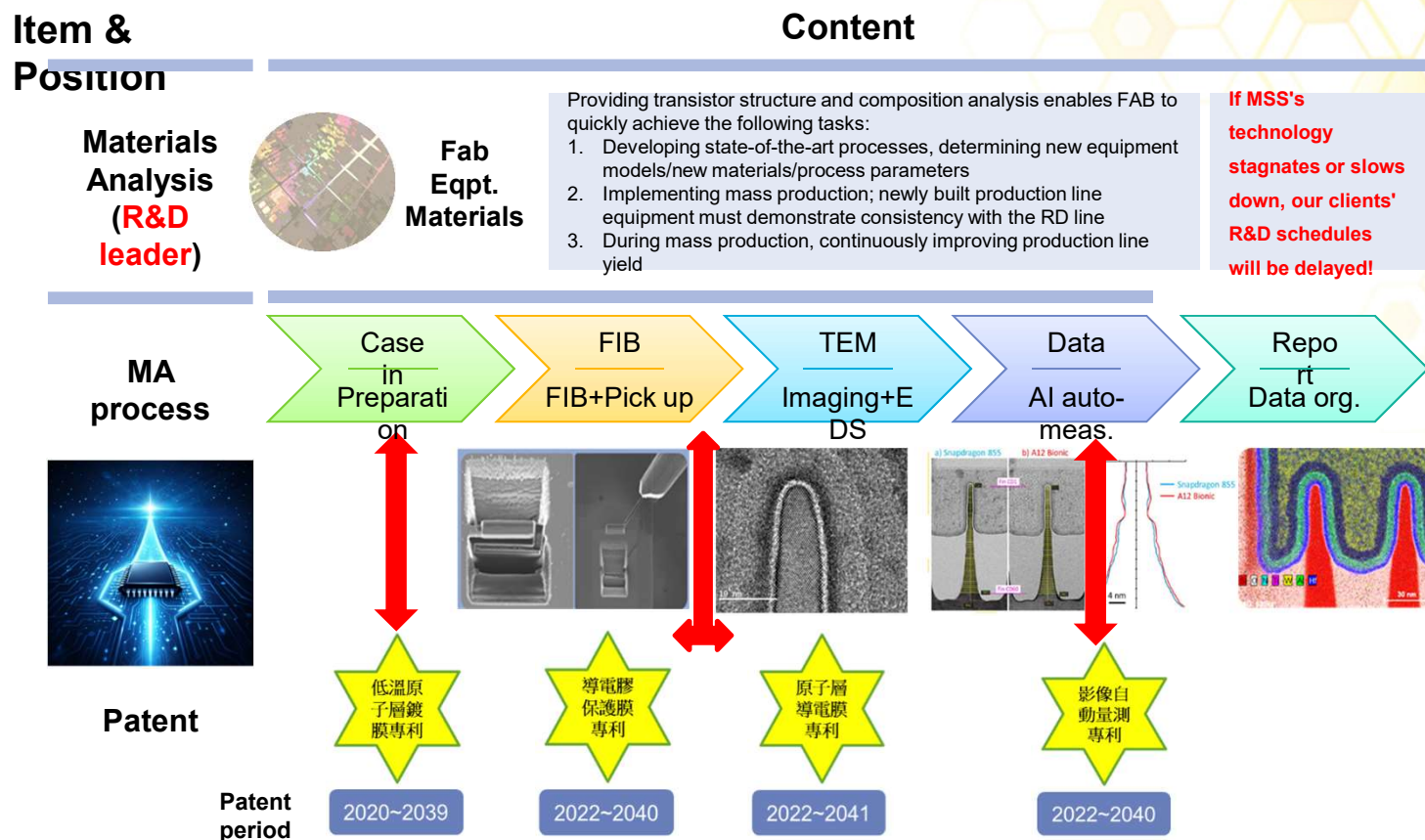
- Originated from leading foundry requirements and extended downstream across the semiconductor ecosystem
- Increasing material diversity, hardness variation, thinner layers, and weaker interlayer bonding demand advanced protection techniques
- Developed proprietary protection processes and patents to minimize thermal and electrical interference and prevent human-induced defects

Failure
analysis
Process

如何找到失效點?



The role of MSS in the semiconductor industry supply chain-MA





MSSCORPS

Silicon Photonics "Optical Loss Detection Device" - Invention Patent

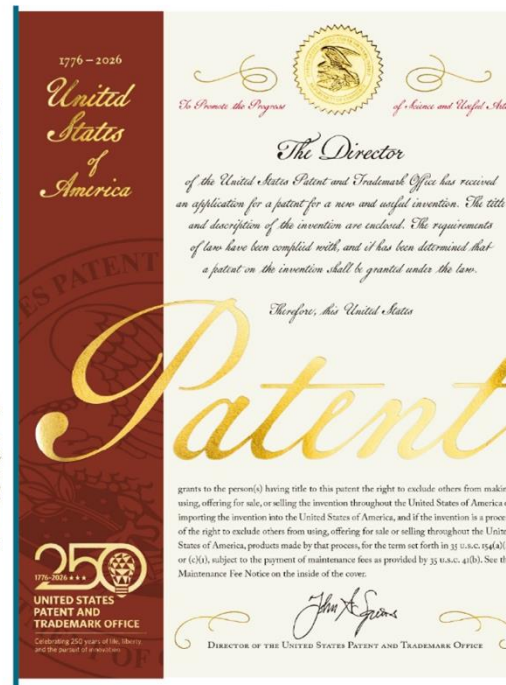
Certificates in Taiwan, Japan, and the United States



Taiwan



Japan



US

 USO12607539B2	
(12) United States Patent Liu et al.	(10) Patent No.: US 12,607,539 B2 (45) Date of Patent: Apr. 21, 2026
(54) DEVICE FOR DETECTING OPTICAL LOSS	(56) References Cited U.S. PATENT DOCUMENTS 5,655,041 A * 8/1997 Forrest G03B 6/30 37,290,11 6,469,529 B1 * 10/2002 Bruce G01R 31/211 35,475,423 (Continued) FOREIGN PATENT DOCUMENTS CA 284,684 C * 10/2019 A61M 39/26 10,662,018 A 4/2004 (Continued) OTHER PUBLICATIONS Office Action mailed to Corresponding Taiwanese Patent Application No. 112133805 dated Jul. 2, 2024. (Continued) Primary Examiner —Mohamed K Amara (74) Attorney, Agent, or Firm —Rosenberg, Klein & Lee (57) ABSTRACT A device for detecting optical loss includes a first light-guiding cable, a second light-guiding cable, a light detector, at least one angle-adjusting bracket, and a first emission microscope. The first light-guiding cable is connected with a light generator. The light detector is connected with the second light-guiding cable. When the light generator generates a light beam, the light beam is emitted to a semiconductor light-guiding chip through the first light-guiding cable. The semiconductor light-guiding chip guides the light beam to the second light-guiding cable. The light detector receives the light beam through the second light-guiding cable to retrieve the energy of the light beam. The first emission microscope captures the leakage position of the semiconductor light-guiding chip where the light beam is emitted from the semiconductor light-guiding chip.
(68) Field of Classification Search CPC G01M 11/0214; G01M 11/331; G01M 11/33; G01M 11/0207; G01M 11/30; (Continued)	15 Claims, 6 Drawing Sheets



感謝各位先進的聆聽

Thank you for listening, and welcome your guidance

Q&A