暉盛科技股份有限公司

Nano Electronics and Micro System Technologies, Inc.

興櫃前法人說明會

Pre-IPO Institutional Investor Briefing

2024年3月12日

2024.03.12

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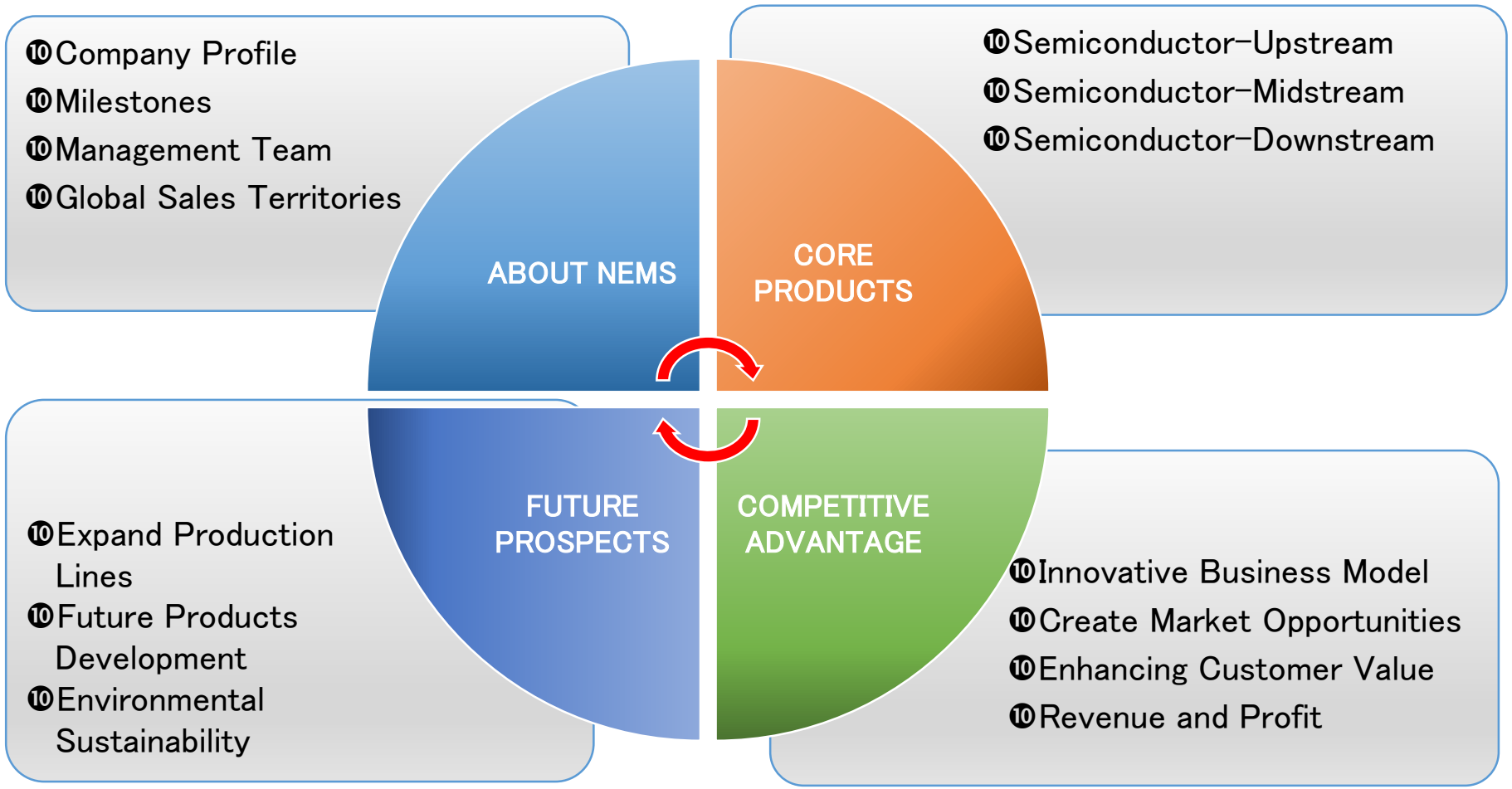
Outline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ABOUT NEMS

Company Profile

暉盛科技股份有限公司

Stock Symbol：7730

Nano Electronics and Micro System Technologies, Inc.

Founded：2002

Headquarter Location：Tainan City, Taiwan

Capital：NTD 288.6 Million

President ：Sung, Jun-I

Major Business : Our main focus is on research and development of advanced plasma technology, with a mission to provide cutting-edge technical services. We develop various plasma equipment capable of surface cleaning, modification, etching, and drilling processes for a wide range of materials.

Plasma – Chemical Magician

Charcoal in Plasma?

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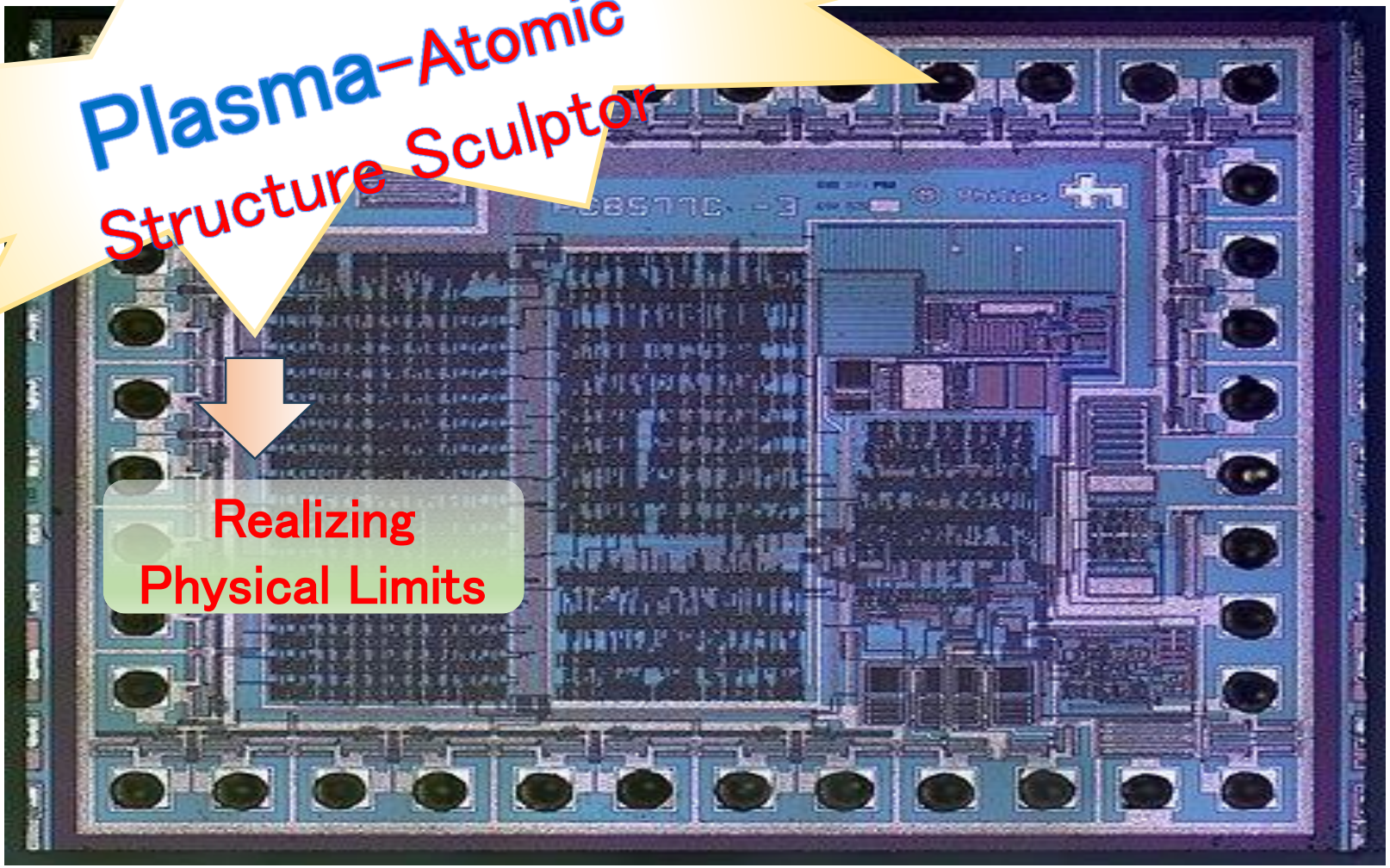
GLOW THE FUTURE

Plasma-Atomic Structure Sculptor



Realizing
Physical Limits

Management Team

Jun-I Sung
President
Bachelor’ s Degree, Department of Electronics, National Taiwan University of Science and Technology.
Specialty: Electronic Engineering.
Seniority: 22 Years.

Winson Hsu
General Manager
Ph.D., Department of Chemical Engineering, National Cheng Kung University.
Specialty: Plasma Technology.
Seniority: 22 Years.

Alan Tsai
Manager, Finance and Accounting Department.
Master’ s Degree, Department of Accounting, National Chengchi University.
Specialty: Finance, Accounting
Seniority: 2 Years.

Management Team

Kelvin Chiu
Department Manager, Marketing & Sales Department.
Master’s Degree, Department of Aero-Astronautical Engineering, National Cheng Kung University.
Specialty: International Trade.
Seniority: 22 Years.

Yong-Hau Foo
Department Manager, Production Department.
Master’s Degree, Department of Resources Engineering, National Cheng Kung University.
Specialty: Plasma, System Design.
Seniority: 22 Years.

Gary Liang
Senior Manager, R&D Department.
Ph.D., Department of Chemical Engineering, National Cheng Kung University.
Specialty: Plasma, Semiconductor Technology.
Seniority: 5 Years.

Milestones

2002
NEMS Established

With patented high-density plasma technology, the technical team established a professional plasma equipment manufacturing company

2003
Equipment Selling

Selling various types of plasma equipment to the electronics industry, including semiconductors, printed circuit boards, and flat panel displays.

2004
AP Successfully Developed

Successfully developed multiple atmospheric Plasma Equipment

2006
Cross Industry Development

Introducing plasma technology and equipment into various non-electronic fields, such as biomedicine, plastics, golf, automotive lighting, footwear, waste gas, and wastewater treatment.

2010
Global Market

Obtained certification from the leading US semiconductor company, opening up sales in the European and American markets.

2012
Equipment Upgrade

Completed the development of In-line and Reel-to-Reel Plasma Desmear Machines and successfully sold them to multiple leading Japanese, American and European PCB manufacturers.

2017
5G Supply Chain

Introducing plasma technology and equipment into the high-frequency material processes of the 5G supply chain.

2018
5G Certifications Milestone

Obtained certification for plasma equipment from the leading US semiconductor company , successfully selling plasma polarization equipment to 5G under-screen fingerprint recognition chip processes.

2020
High-Efficiency Plasma Etching Machine

Successfully developed and sold various types of high-efficiency plasma etching machines.

2025
Enhance ESG Strategy

Providing plasma energy-saving and carbon-reducing solutions, as well as creating new energy solutions, to contribute to the sustainable operation of enterprises (ESG).

2030
Peaks Challenges

Leading cutting-edge plasma technology to establish a global leadership brand in plasma technology.

Global Sales Territories

- Steady and Stable Progress Over 22 Years.
- Operate with Integrity to Serve Customers.
- Become One of the Leading Global Plasma Equipment Manufacturers.

CORE PRODUCTS

Core Products-Semiconductor Applications

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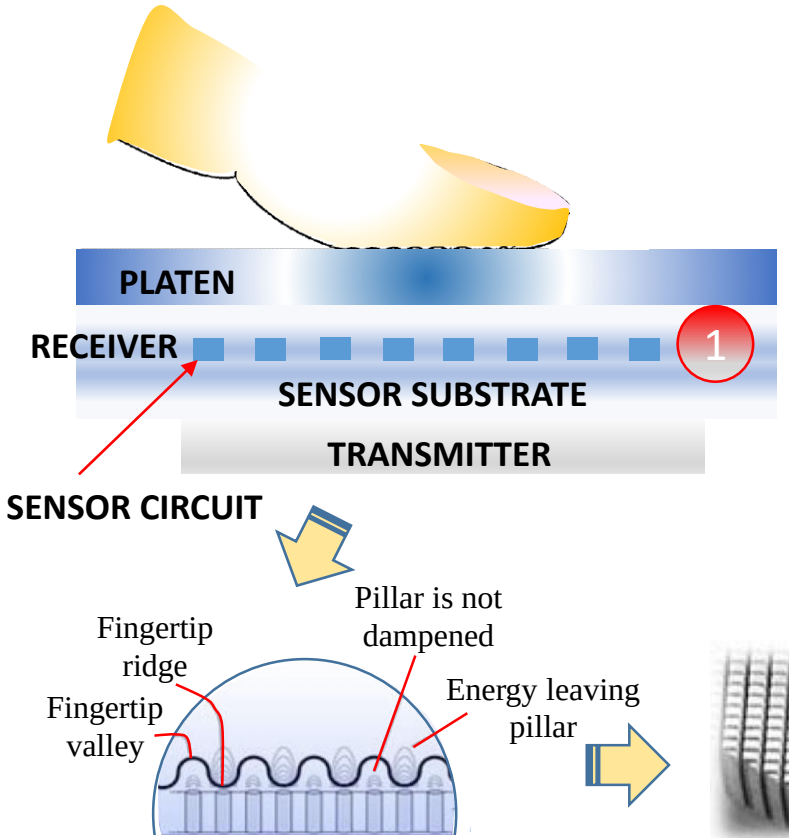
GLOW THE FUTURE

NEMS Products on Semiconductor Applications					
Industry Chain	Upstream	Midstream			Downstream
Applications	Fingerprint Identification Sensor	Wafer Manufacturing	Wafer Reclaim	Advanced Packaging	Flip-Chip Substrate
Key Process	PVDF、PZT polarization	Grinding Thinning Dicing	Wafer Reclaim	FOWLP FOPLP EMIB CoWoS	ABF、BT & Glass Substrate COF
Key Plasma Technology	Plasma Polarization	Plasma Cleaning / Descuming	Plasma Cleaning / Etching	Plasma Cleaning / Etching	Plasma Cleaning / Etching / Drilling

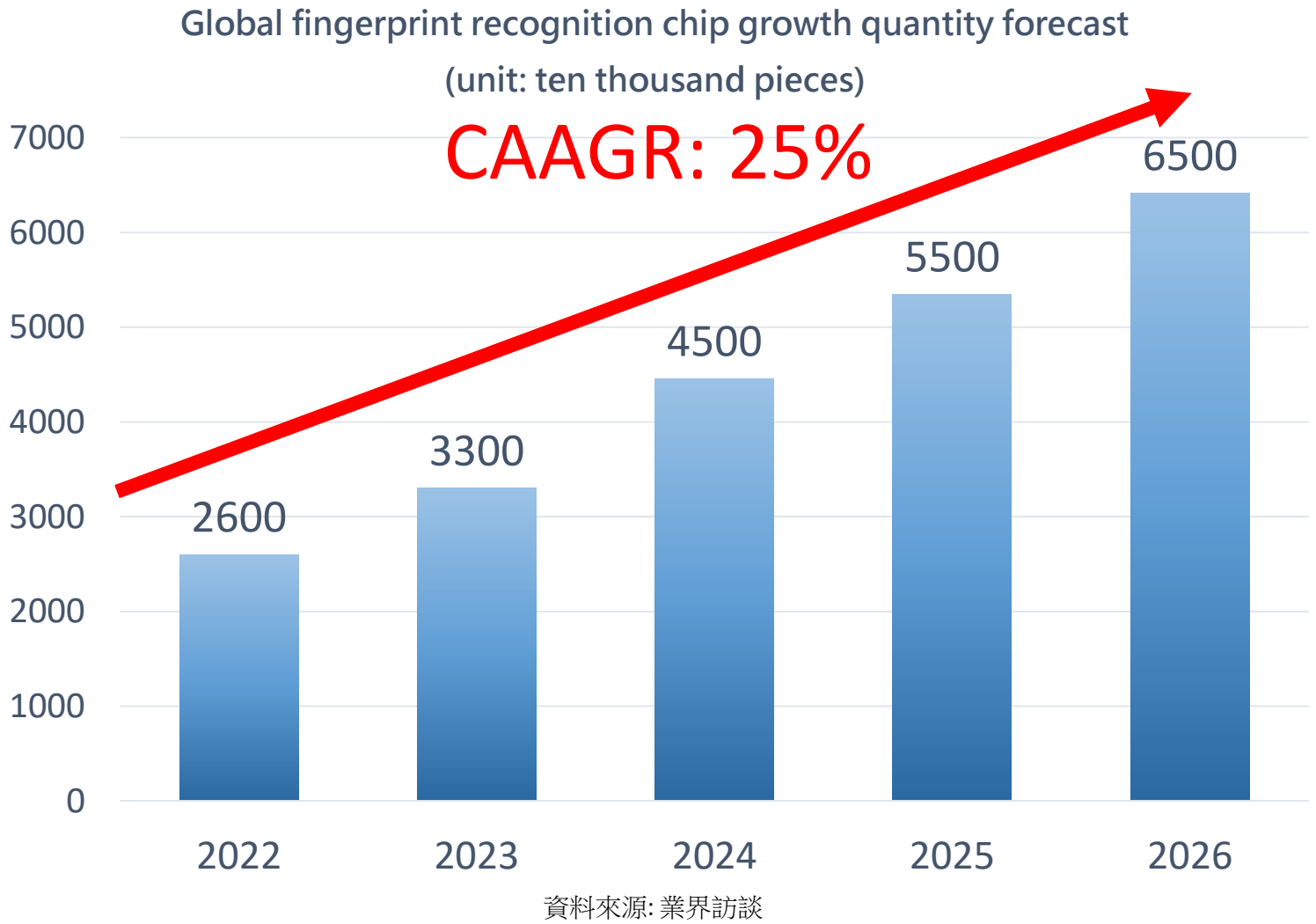
Core Products-Semiconductor Upstream-Fingerprint Identification

Fingerprint Identification of Mobile Devices



1 : Plasma polarization

Core Products-Semiconductor Upstream-Fingerprint Recognition



資料來源: 業界訪談

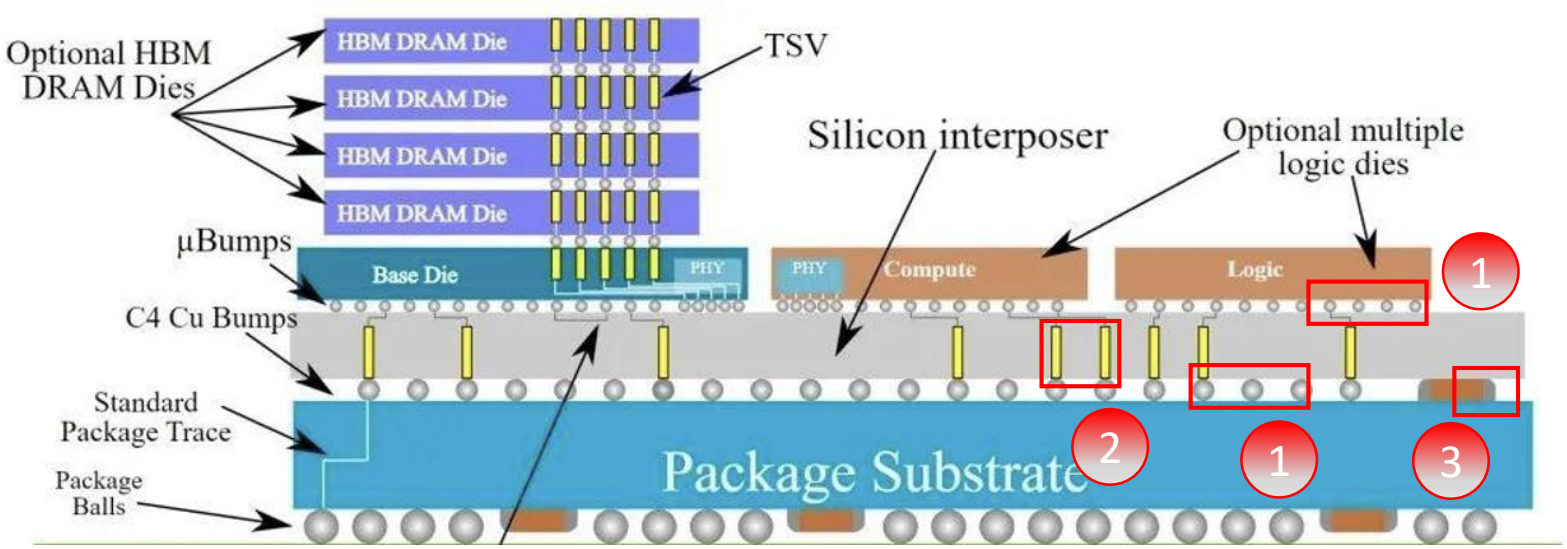
- **2022 Demand: 26 million pieces.**
(Primarily from Korean smartphones, followed by Chinese smartphones, with a small amount from Japanese smartphones.)

- **2023 Demand: 33 million pieces.**
(Primarily from Korean smartphones, followed by American smartphones, with a small amount from Chinese and Japanese smartphones.)

- **2024 Demand: 45 million pieces, with an estimated growth of 35%.**
(Primarily from Korean smartphones, followed by Chinese and American smartphones, with a small amount from Japanese smartphones.)

- **An estimated growth of 20% is expected for both 2025 and 2026.**

Core Products-Semiconductor Midstream--CoWoS

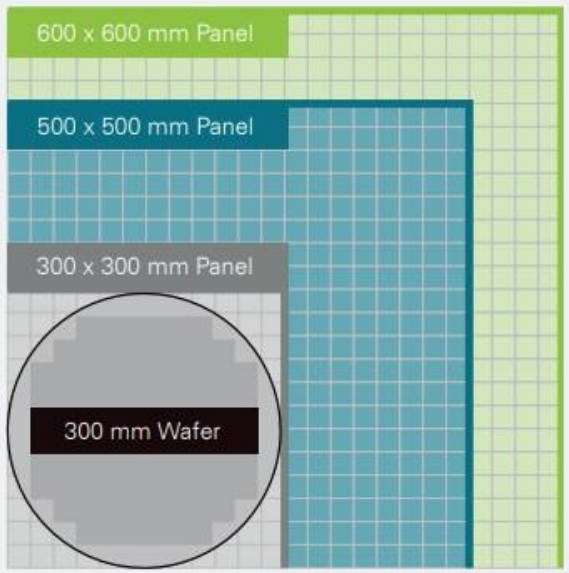


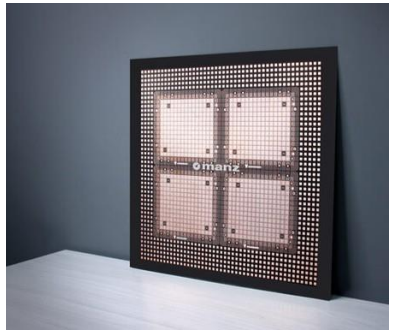
1：Underfill_Plasma cleaning

2：TSV_Plasma etching

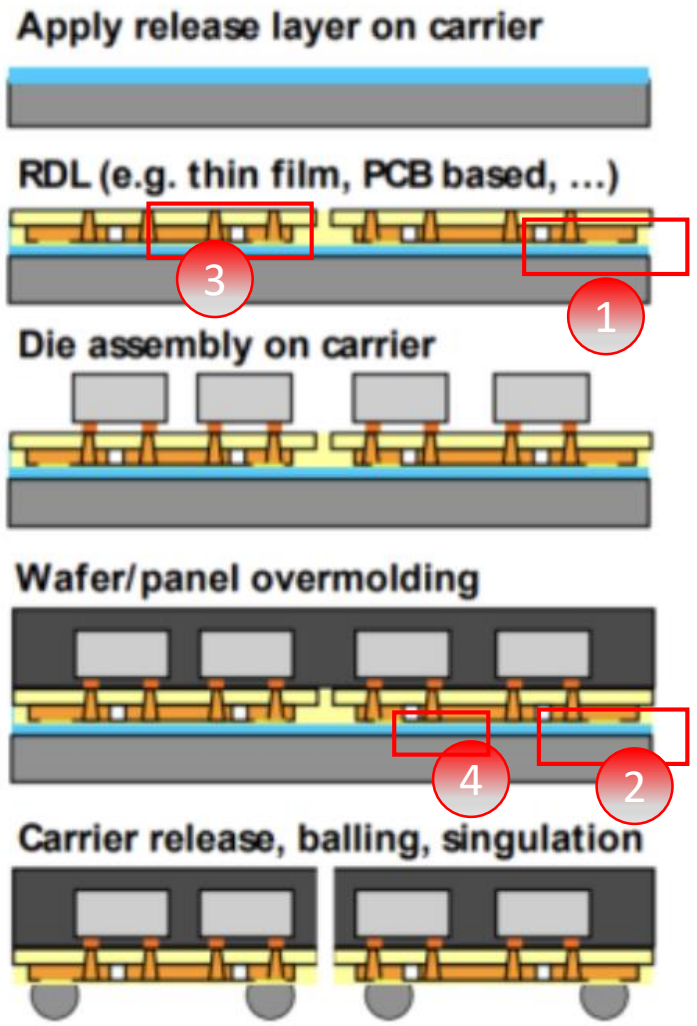
3：Substrate_Plasma cleaning

Core Products-Semiconductor Midstream-FOPLP





資料來源:manz



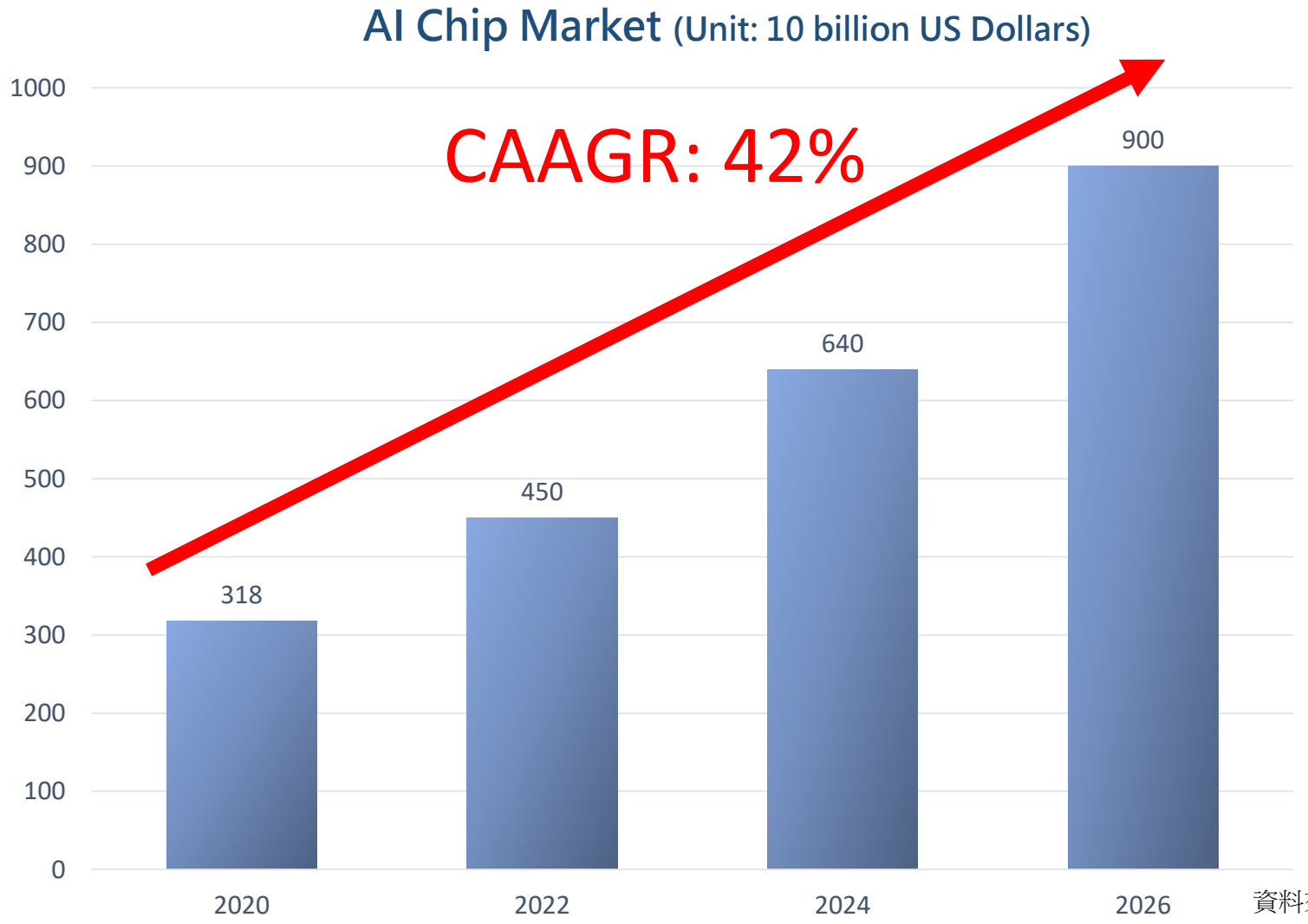
1：Underfill_Plasma cleaning

2：De-bond_Plasma cleaning

3：Before sputter_Plasma descum

4：Glass recycle_Plasma cleaning

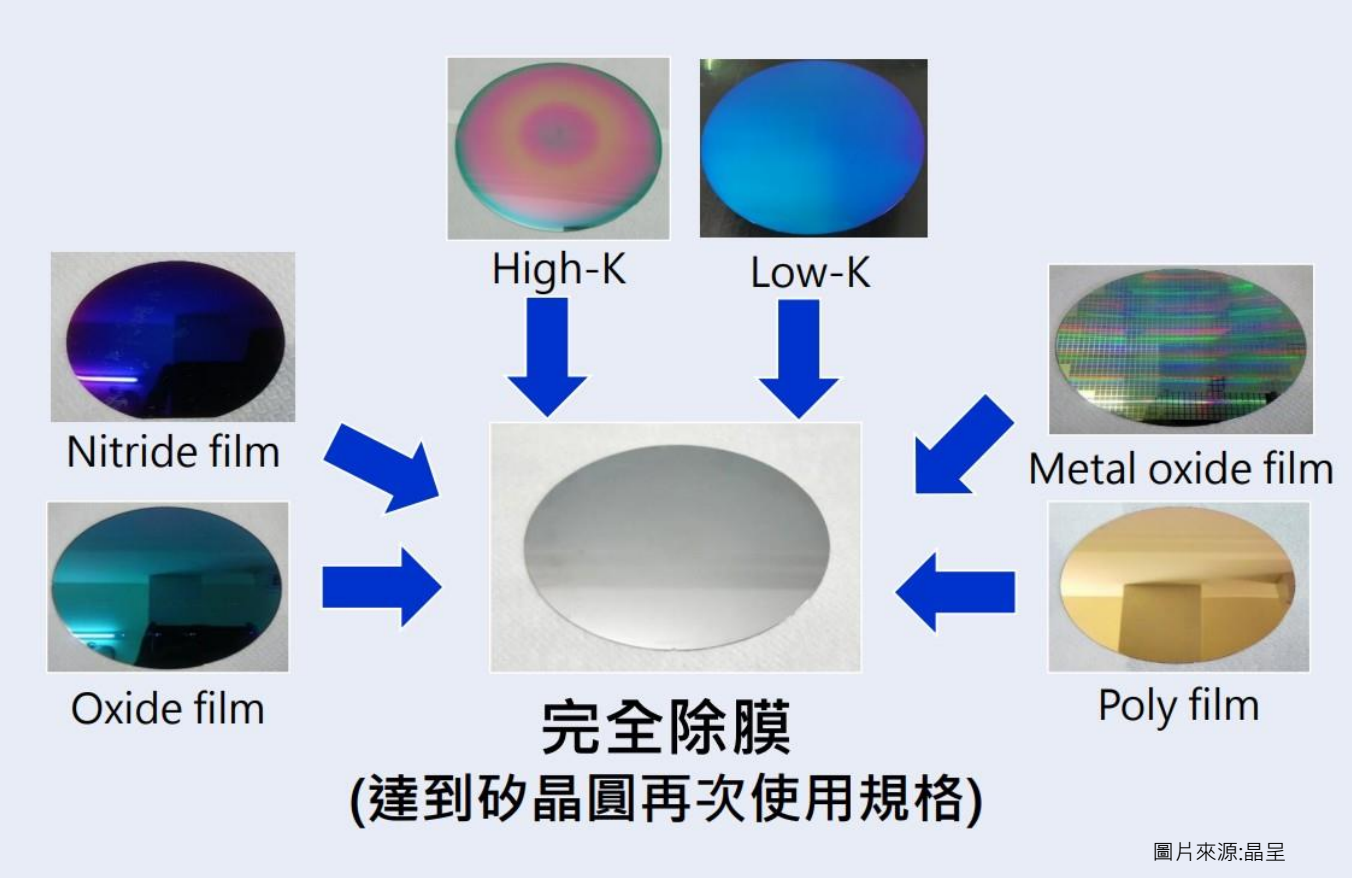
Core Products-Semiconductor Midstream--CoWoS



- **With various conditions such as data, computing power, etc., in place, the development and application of technologies such as Machine Learning have propelled the advancement of Artificial Intelligence (AI) by leaps and bounds.**
- **The demand for AI chips will be constrained by the production capacity of CoWoS.**

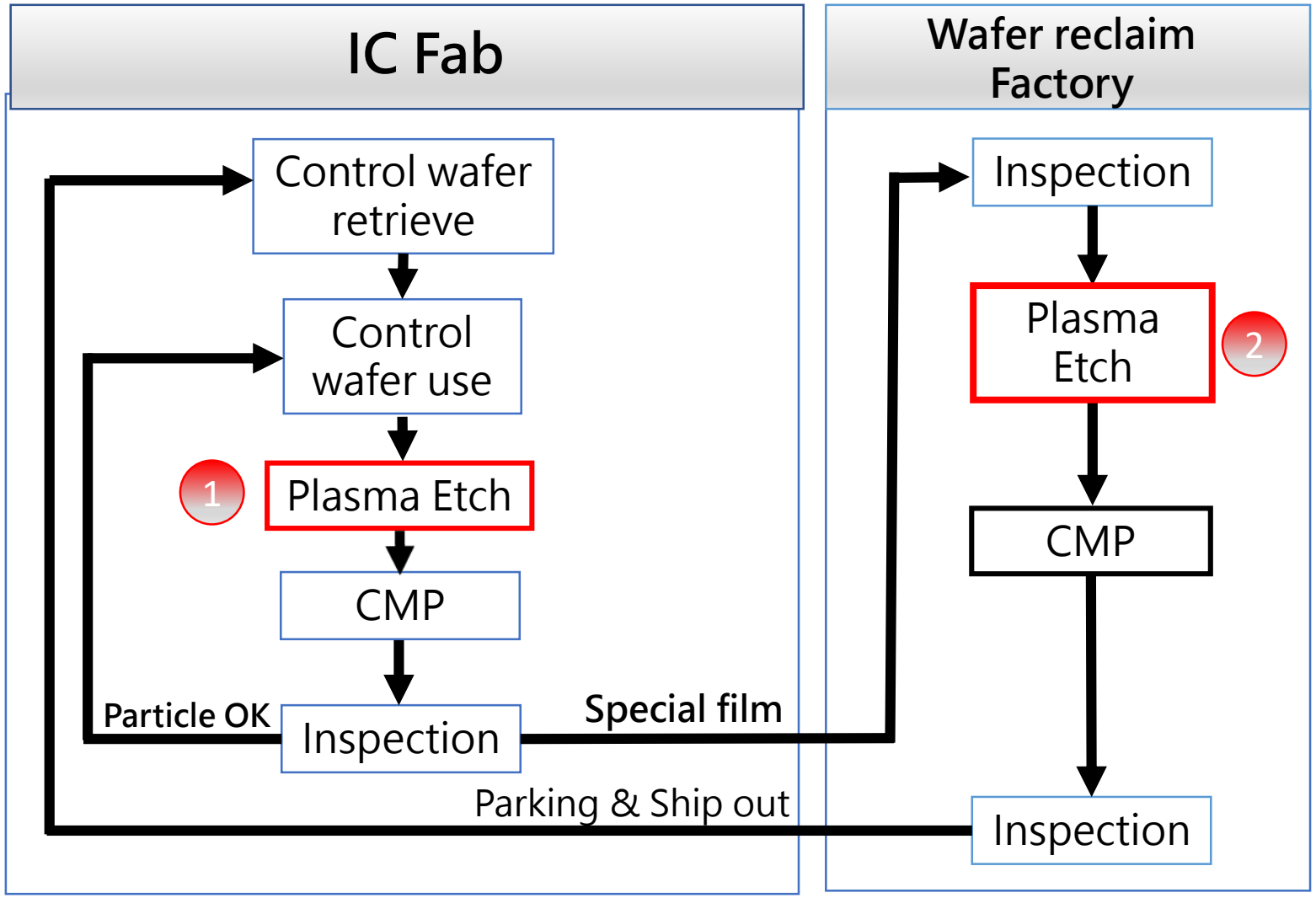
資料來源：Merrill Lynch

Core Products-Semiconductor Midstream-Wafer Reclaim



- **ICP RIE Etching the film on the surface of the wafer replaces the wet chemical cleaning and film removal process, reducing the cost of chemical agents/pure water usage and wastewater treatment.**
- **Can remove film of Nitride, Poly-Si, SiC, SiO2, Low/High K.**
- **Film removal rate of the Control Wafer can be raised from 60% to 100%.**

Core Products-Semiconductor Midstream-Wafer Reclaim

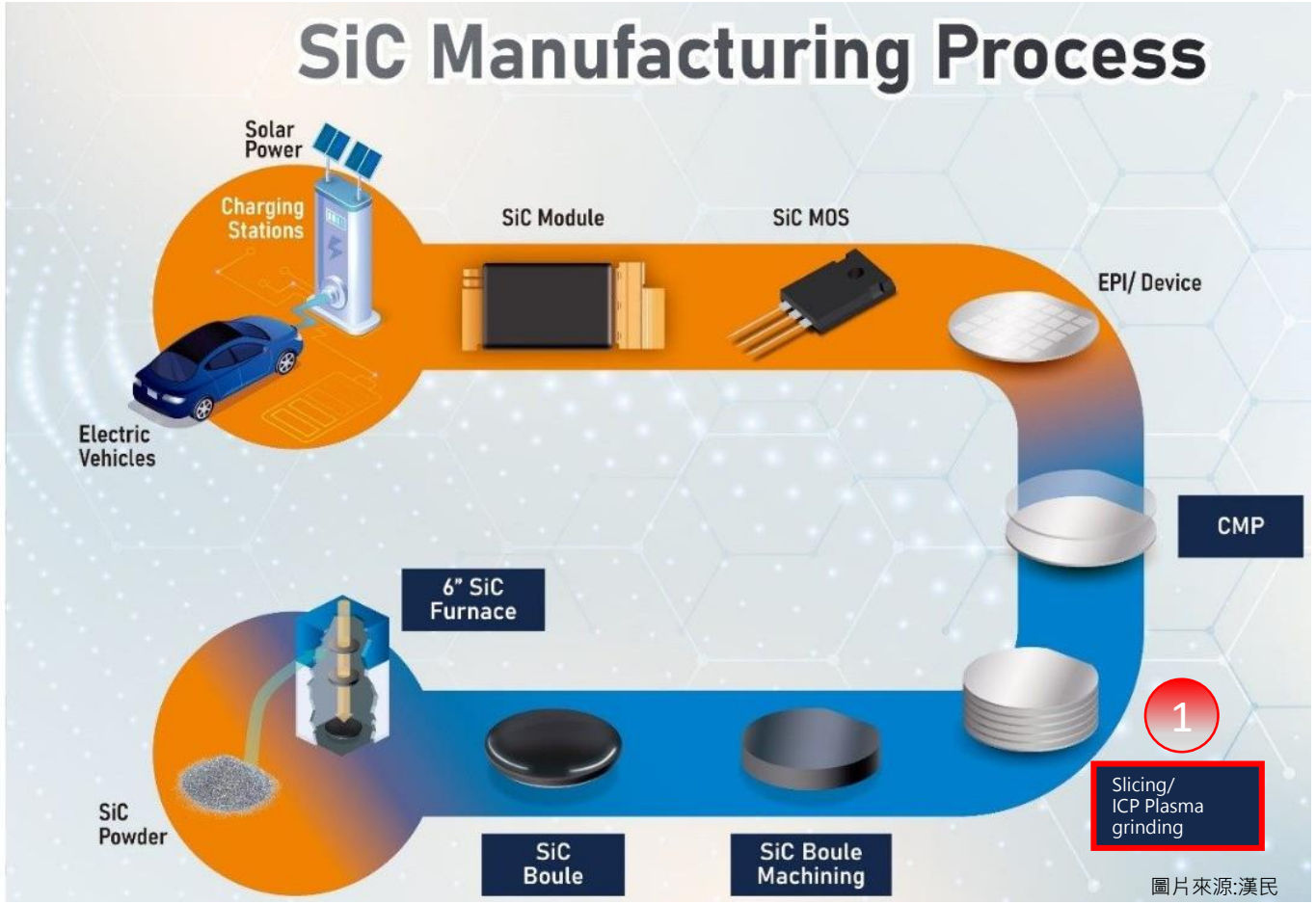


1 2 : Wafer plasma etching

Core Products-Semiconductor Midstream-Wafer Reclaim

- **Each 300mm Fab is estimated to have a monthly capacity of 40,000 wafers.**
- **The demand for wafer recycling exceeds 20,000 wafers per month.**
- **By 2024, there will be 181 300mm fabs in the global market.**
- **Global demand for wafer recycling exceeds 3 million wafers per month.**
- **With increasingly advanced processes, the usage of block control wafers increases, coupled with ESG requirements, the demand for wafer recycling film removal will continue to rise.**

Core Products-Semiconductor Midstream-SiC Process

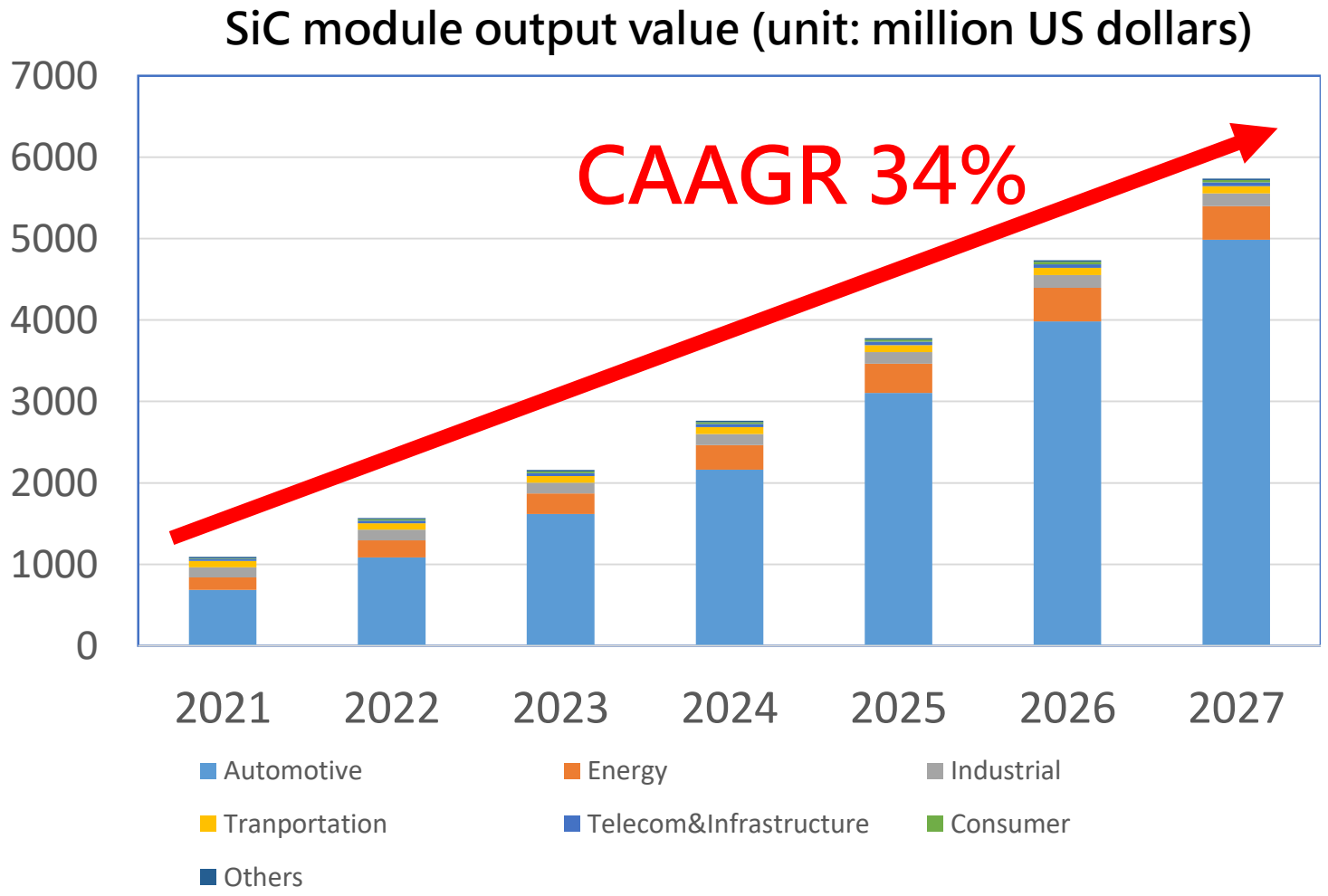


1：SiC Plasma etching

Core Products-Semiconductor Midstream-SiC Process

The global silicon carbide (SiC) power module market is growing beyond expectations.

- ✓ **The widespread use of SiC power modules in electric vehicles will lead to faster charging speeds and longer range.**
- ✓ **Additionally, the growth of green energy equipment and 5G base stations in the future will also drive the growth of SiC power modules.**

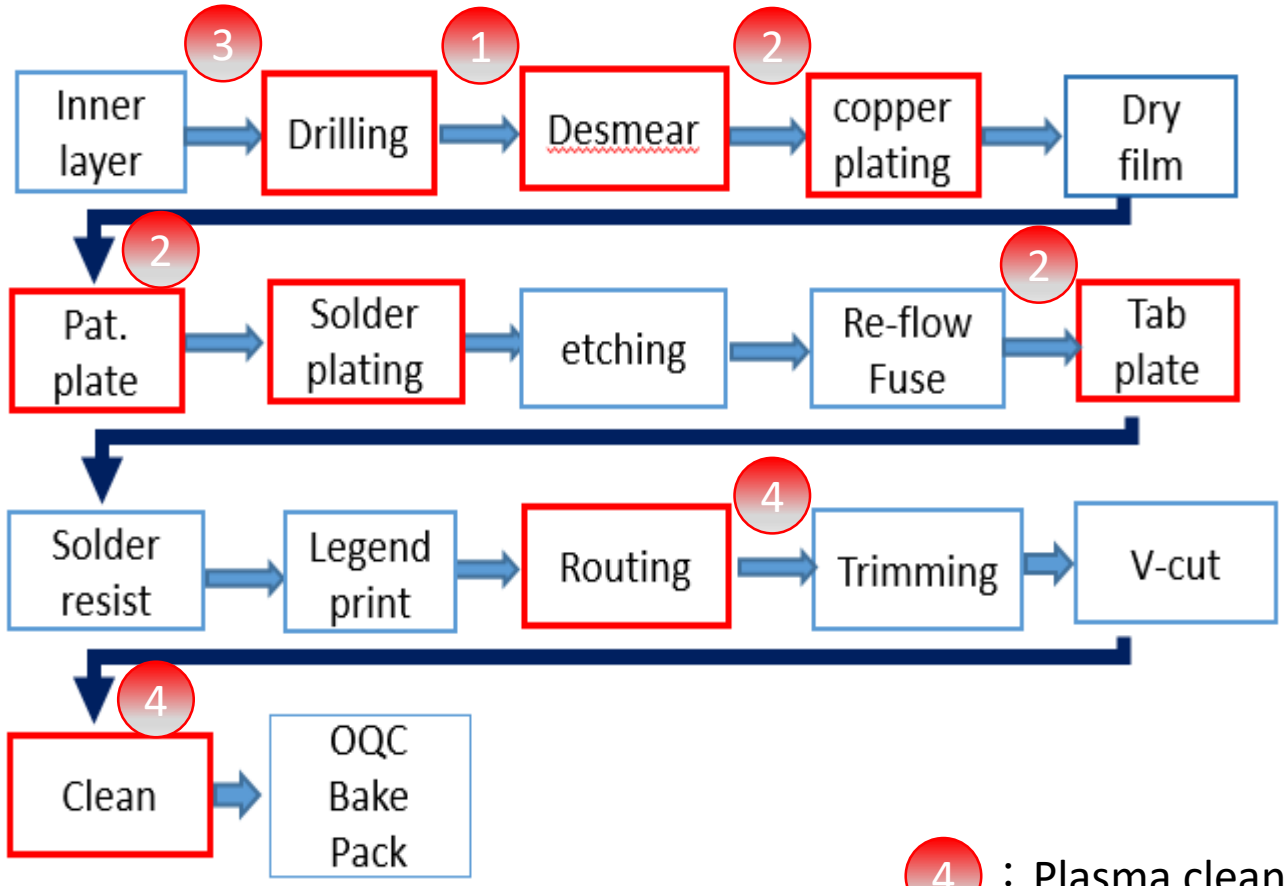


Source: Yole

Core Products-Semiconductor Downstream-Substrate (ABF/BT)

2 ：Plasma cleaning

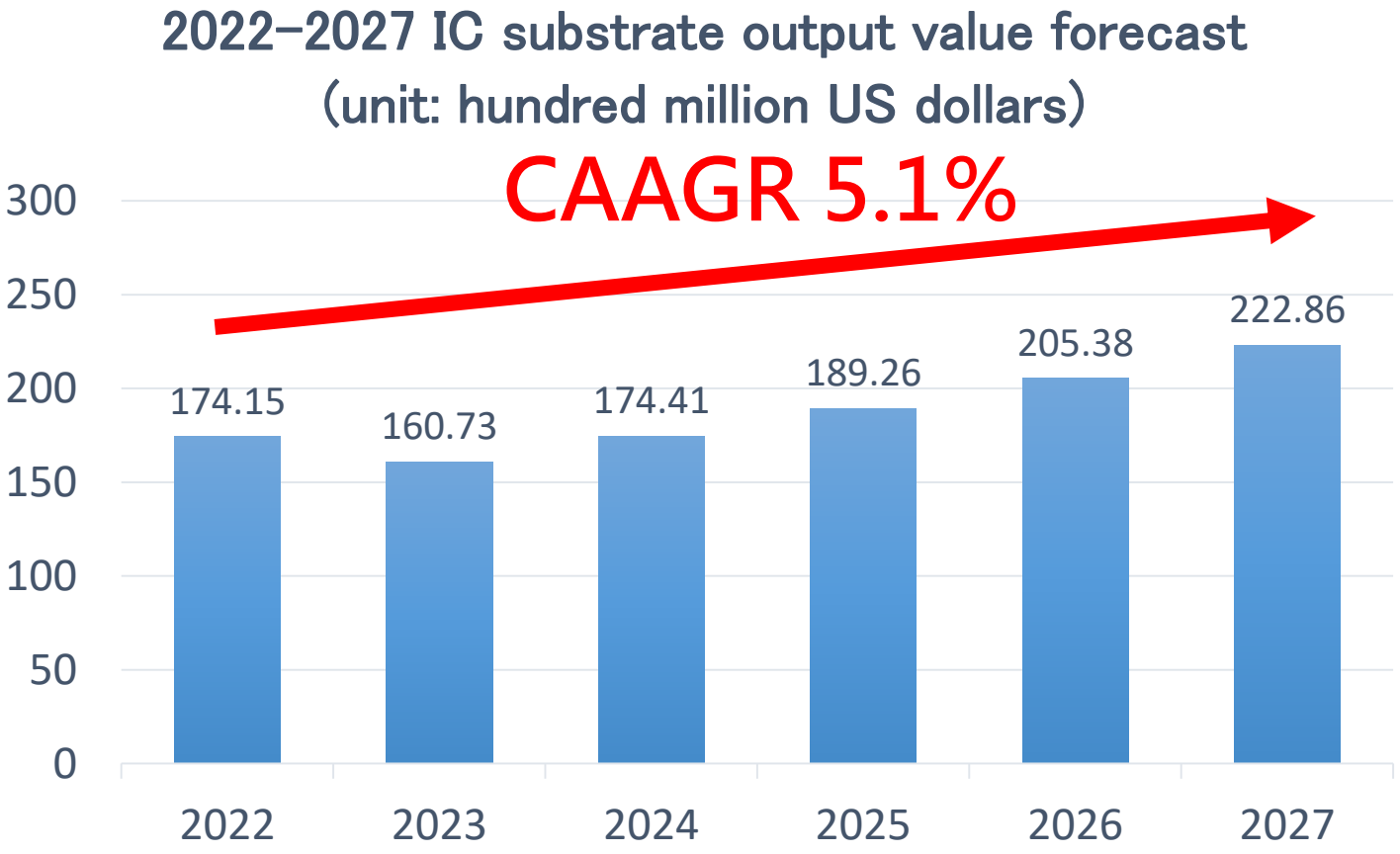
3 ：Plasma driling

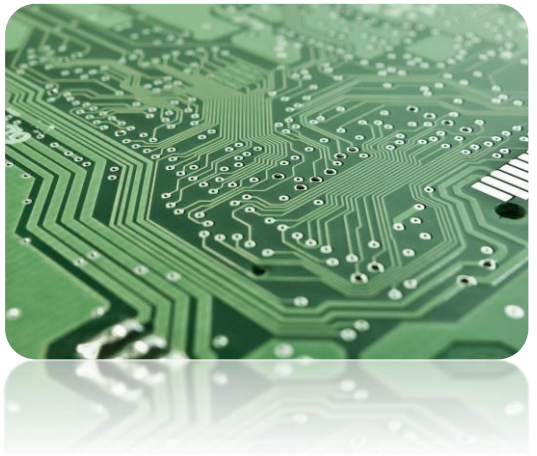


4 ：Plasma cleaning

1 ：Plasma desmear

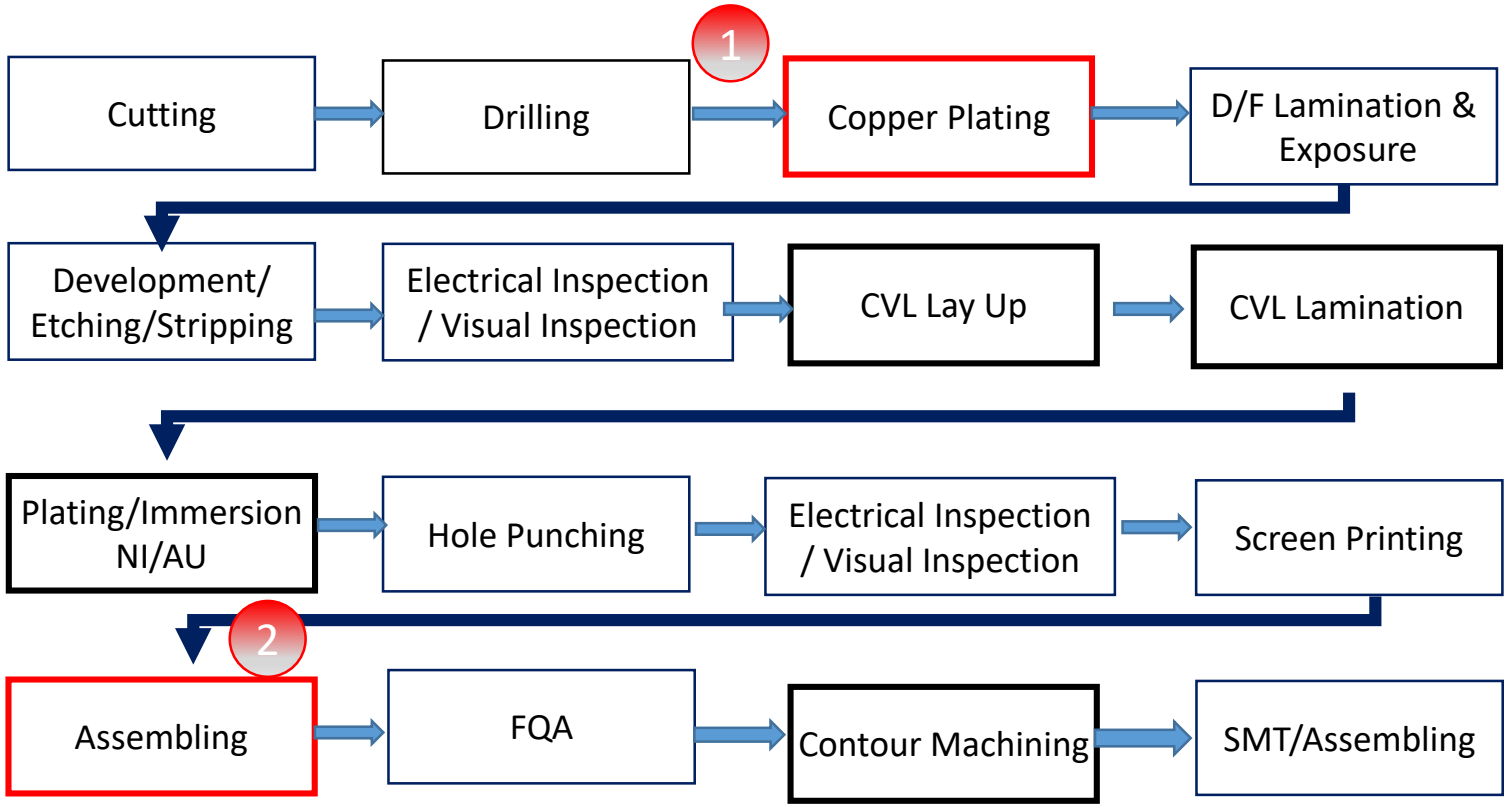
Core Products-Semiconductor Downstream-Substrate (ABF/BT)





Source: Prismark

Core Products-Semiconductor Downstream-Substrate （COF）

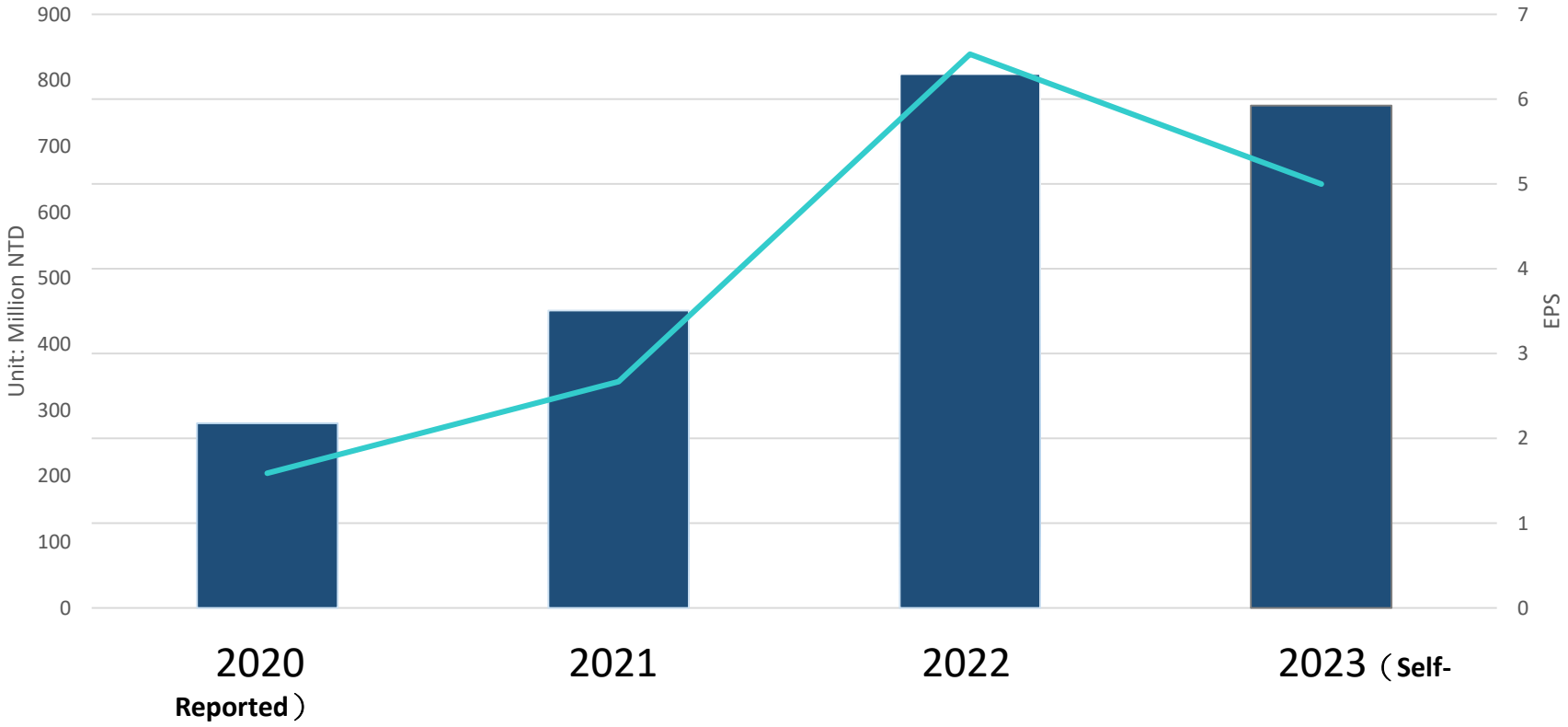


1 ：Plasma desmear

2 ：Plasma cleaning

COMPETITIVE ADVANTAGE

Revenue and Profit



Revenue (Unit: Thousand)	279,922	450,936	809,578	762,039
EPS	1.59	2.67	6.53	5.0

- **Deep collaboration with global semiconductor brand giants.**
- **Actively expanding presence domestically and internationally.**
- **Embracing the trend of energy conservation, carbon reduction, environmental protection, and sustainability.**

Competitive Advantage-Business Model

Key Collaborative Partners:
- Large semiconductor foundries.
- Semiconductor equipment and material suppliers.
- Research institutions and universities.

Key Activities:
- Continuous technical research and innovation.
- Manufacturing high-quality equipment and providing customized solutions.
- Customer relationship management, establishing brand reputation.

Key Resources:
- Advanced plasma technology research and development capabilities and intellectual property.
- Efficient production and testing facilities.
- Professional technical and sales teams.
- Stable supply chain and partner network.

Value Propositions:
- To become a leader in plasma technology in the semiconductor field.
- Creating maximum benefits for customers through intelligent production and optimized solutions.
- Providing reliable, long-term technical support and services.

Core Values:
- Integrity and honesty
- Quality commitment
- Continuous innovation
- Customer trust

Patent Layout:
- Possession of multiple high-density plasma and semiconductor process patents, ensuring a leading technological position.
- Laying the foundation for the company's competitive advantage and market expansion.

Customer Relationships:
- Providing customized solutions and consulting services to enhance customer reliance and satisfaction.
- Establishing customer service and technical support systems to provide prompt response and issue resolution.

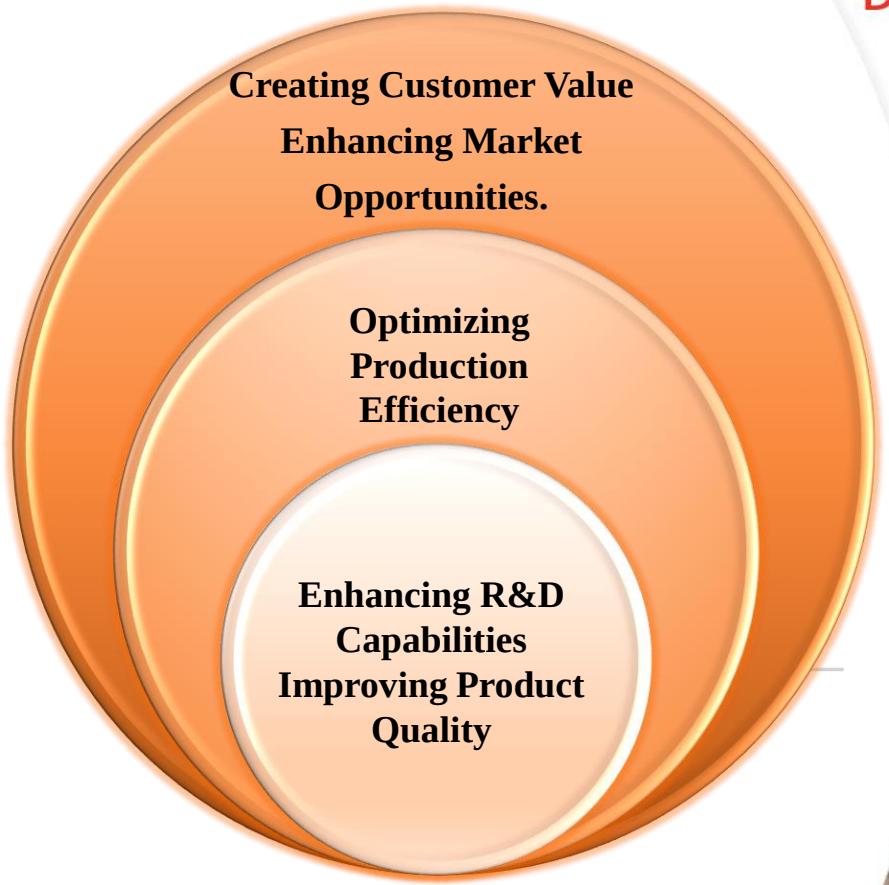
Channels:
- Direct sales team.
- Agents and distributors.
- Industry exhibitions and conferences.

Target Customers:
- Semiconductor manufacturing companies, such as large wafer fabs.
- Advanced material manufacturers and research institutions.
- Electronics components and integrated circuit manufacturers.

Cost Structure:
- Research and development investment.
- Production and operational costs.
- Sales and marketing expenses.
- Customer service and technical support.

Revenue Streams:
- Sales of plasma equipment and related technical solutions.
- Provision of technical services, maintenance, upgrades, and long-term technical support contracts.
- Research and development collaborations and technology licensing.

Competitive Advantage-Create Customer Values



Establish Analysis Laboratory

FUTURE PROSPECTS

Future Prospects

2002 ~ 2020

- Semiconductor-Packaging
- PCB-Rigid/Flexible Boards
- Optoelectronics-LED, LCD, Touch Panel
- Bio-Medical- Blood Sugar Tester
- Civil Industries-Shoes, Golf Ball, Plastic

2021 ~ 2023

- Semiconductor-Packaging, Fingerprint Recognition
- PCB-Rigid Boards, Flexible Boards, IC Substrates (ABF, BT)

2024

- Semiconductor-Advanced Packaging (CoWoS, EMIB, PLP), Wafer Reclaim
- PCB- IC Substrates (ABF, Glass, BT), Flexible Boards

2025 ~ 2030

- Semiconductor-Advanced Packaging, Wafer Reclaim (continued from 2024)
- PCB- IC Substrates, Flexible Boards (continued from 2024)
- The Third Generation Semiconductor- SiC
- Environmental Sustainability-Energy, Waste Treatment, Waste Gas Treatment.
- Bio-Medical-Plasma Applications

Thanks for your attention