MPI CORPORATION

旺矽科技股份有限公司
6223.TT

READY FOR THE TEST™

免責聲明

The information herein contains forward-looking statements. We have based these forward-looking statements on our current expectations and projections about future events. Although we believe that these expectations and projections are reasonable, such forward-looking statements are inherently subject to risks, uncertainties and assumptions about us, including, among other things: the intensely competitive Semi-conductor, and LED industries and markets; Cyclical nature of the semiconductor industry; Risks associated with global business activities; General economic and political conditions. All financial figures discussed herein are prepared pursuant to IFRS. All audited figures will be publicly announced upon the completion of our audited process.

MPI 部門概覽

Probe Card

Photonics Automation

Advanced Semiconductor Test

Thermal Test

Celadon Systems

MPI 全球據點

MPI Locations

Worldwide

MPI America
CA, USA (2017)

MPI Suzhou
Jiangsu, CN (2017)

Celadon Systems
MN, USA (2021)

Taiwan

Headquarters
Hsinchu, TW (2000)

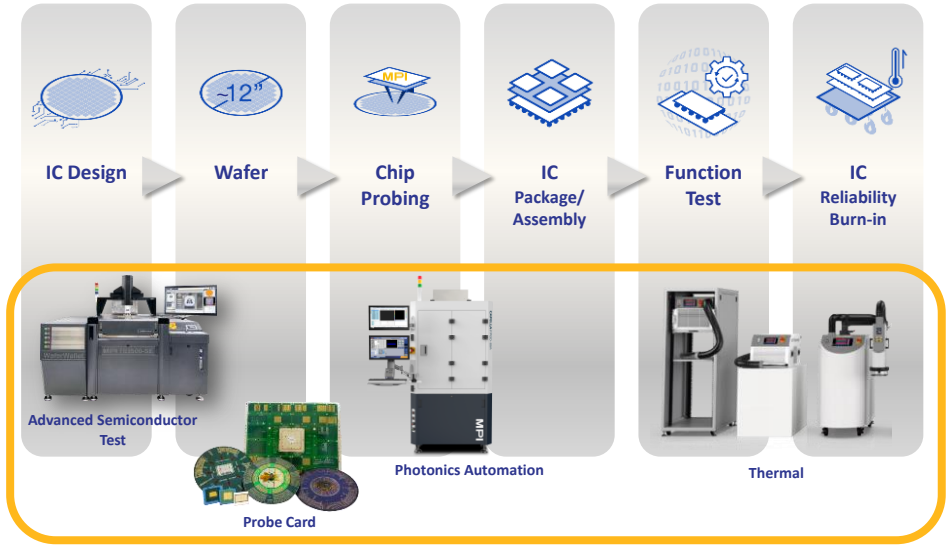
Luzhu Office
Kaohsiung, TW (2006)

2nd Production Site
Hsinchu, TW (2012)

Xinpu Office
Hsinchu, TW (2014)

3rd Production Site
Hsinchu, TW (2021)

MPI-The Powerhouse of Testing Solutions



議程

Business Contents

Probe Card

Photonics Automation

Thermal & AST

Financial Statements

MPI CORPORATION

半導體事業部
(探針卡)

READY FOR THE TEST™

MPI Probe Card

Advanced Wafer Sort Test Solutions

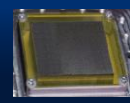
Vertical / MEMS Probe Card

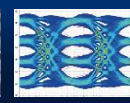
Cantilever Probe Card

Features


Fine Pitch


MEMS


High Pin Count


High Speed

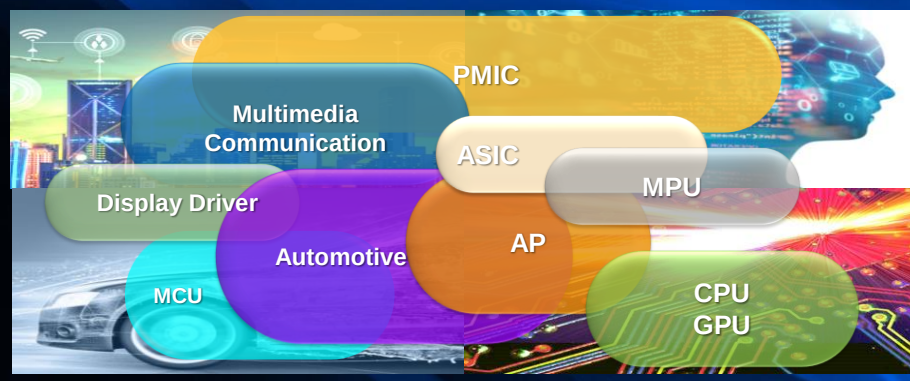

Substrate


Hand-wired

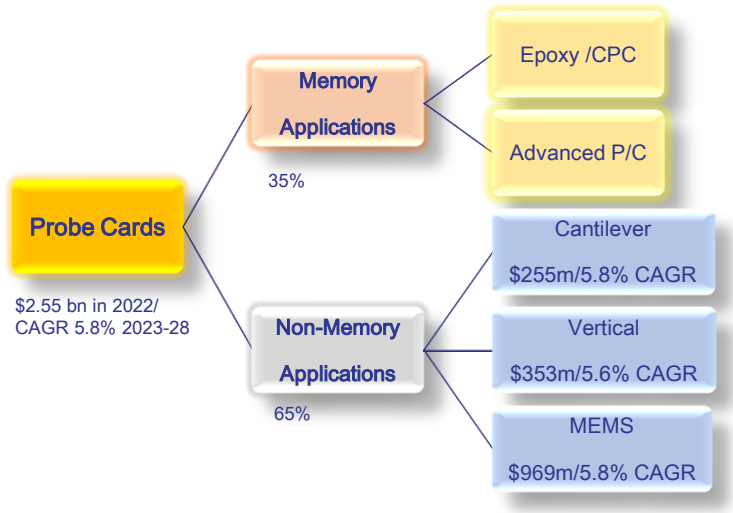

RF

MPI Probe Card

Full range of products for the applications
sufficient coverage solutions to IC markets

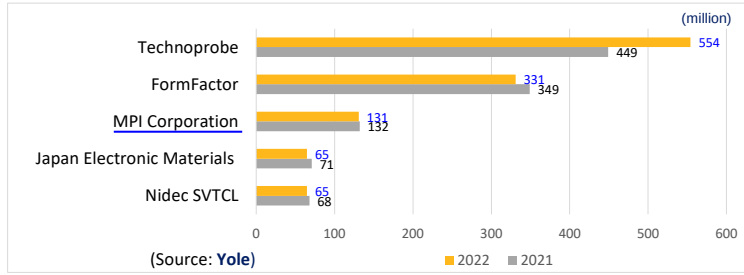


Global Probe Card Market Update



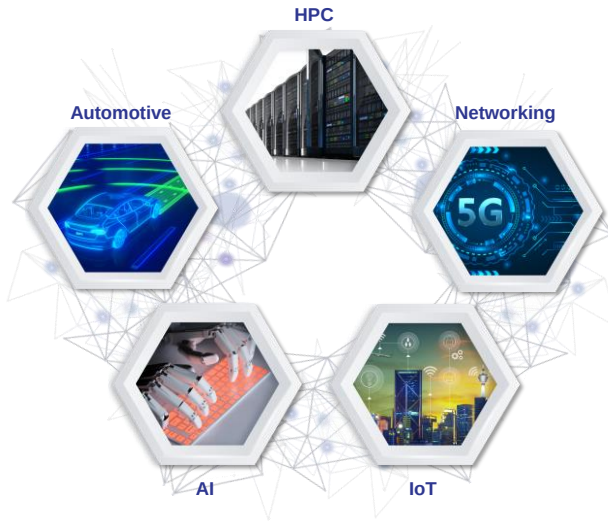
前五大非記憶體探針卡供應商

(Rank)		2017	2018	2019	2020	2021	2022
Technoprobe	Italy	2	2	2	2	1	1
FormFactor, Inc.	USA	1	1	1	1	2	2
MPI Corporation	Taiwan	3	3	3	3	3	3
Japan Electronic Materials	Japan	4	4	5	5	4	4
Nidec SVTCL	Singapore	5	5	4	4	5	5



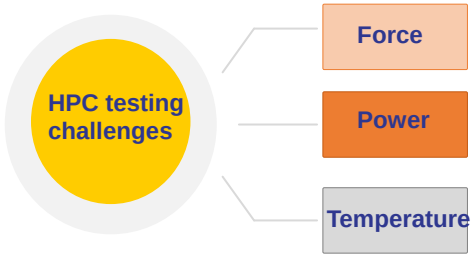
HPC 需求

The demand of HPC (High Performance Computing) growth rapidly.



HPC 挑戰

High Force, High Power, and High Temperature are the challenges for HPC testing.



3rd Annual SWTest Asia | Taiwan, October 27-28, 2022

Source: TSMC

Interface Technical Complexity Check in

Complexity Trends are on pace to be at 2022 targets(1 Cycle) or in some cases beyond

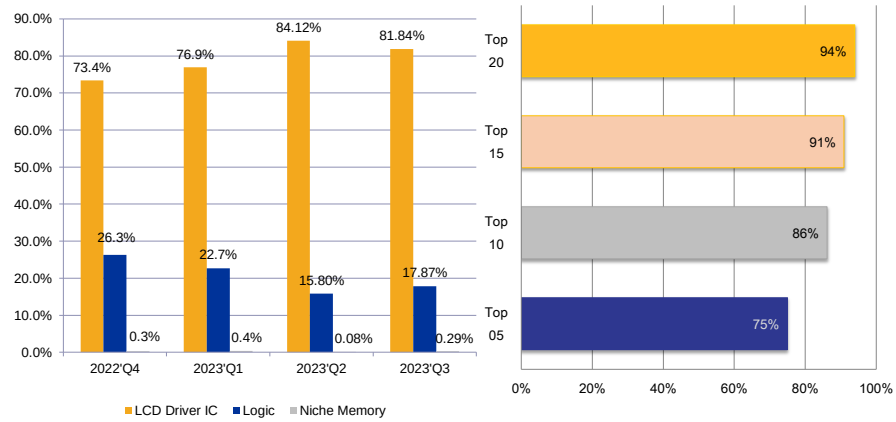
"2x4 Scaling"=2xPins, 2xPerformance, every 4 years

		2018	2022	2026
		Level 4	Level 5	Level 6
Pin Density	Pin Pitch	90um	70um	50um
	Total Contact Force	80kg	150kg	250kg
I/O Speed	Digital	32Gpbs	64Gpbs	128Gpbs
	RF/mmWave	< 12 GHz	29 GHz	+60 GHz
Device Power	Main Power	900 mV	750mV	625mV
	Single Rail	35A	50A	100A
	Impedance	2.2 mOhm	1.4 mOhm	0.8 mOhm
Thermal	Self Heating	75 W		
	Operating Range	0 to +80C	0 to +105C	-20 to +125C
Most Expensive Probe Card		$400K*	>$500K	>$700K

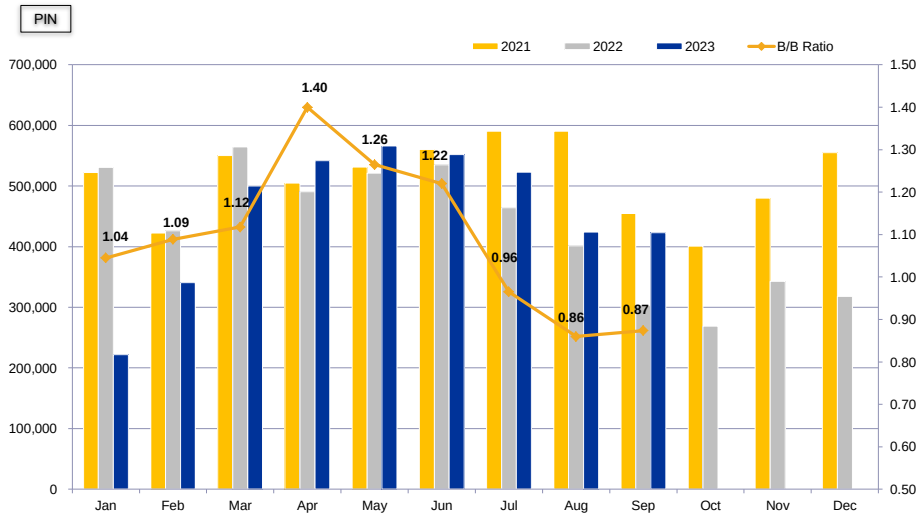
Source:Teradyne

Source:VLSI Research

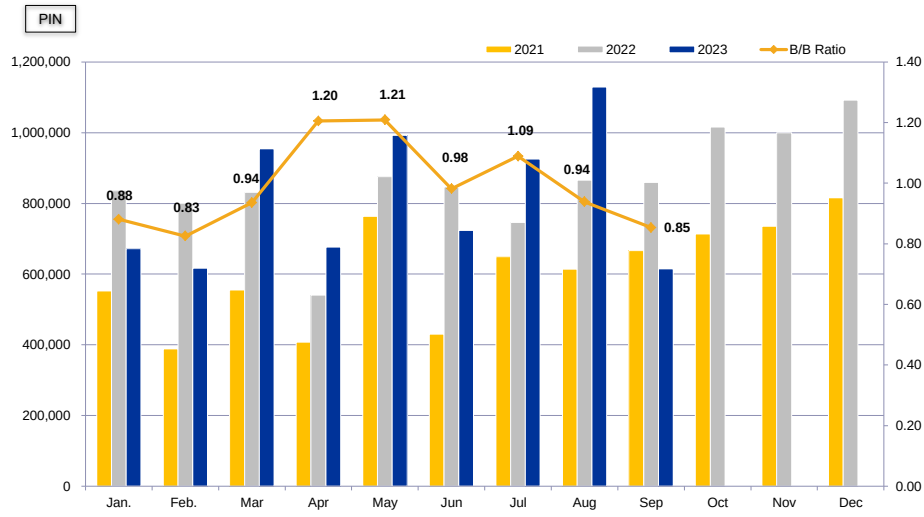
出貨產品結構及主要客戶



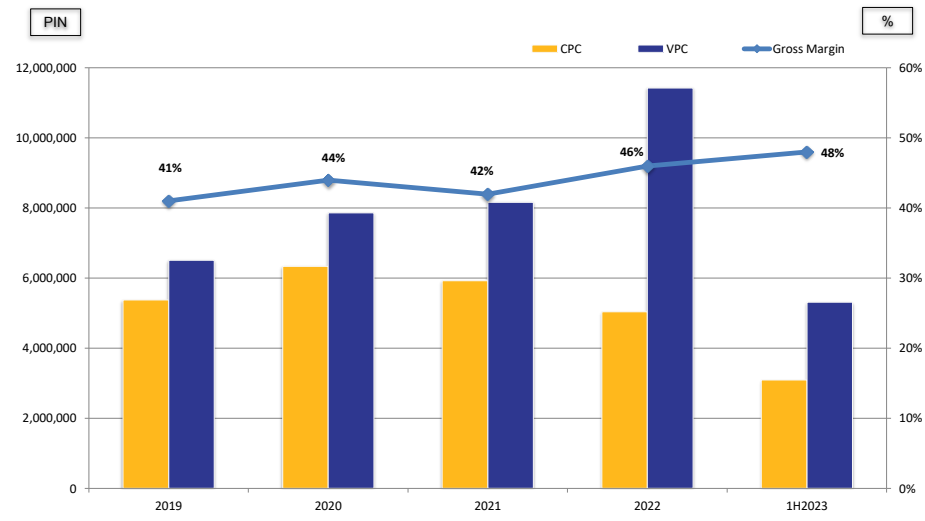
CPC月出貨針數及月接單出貨比



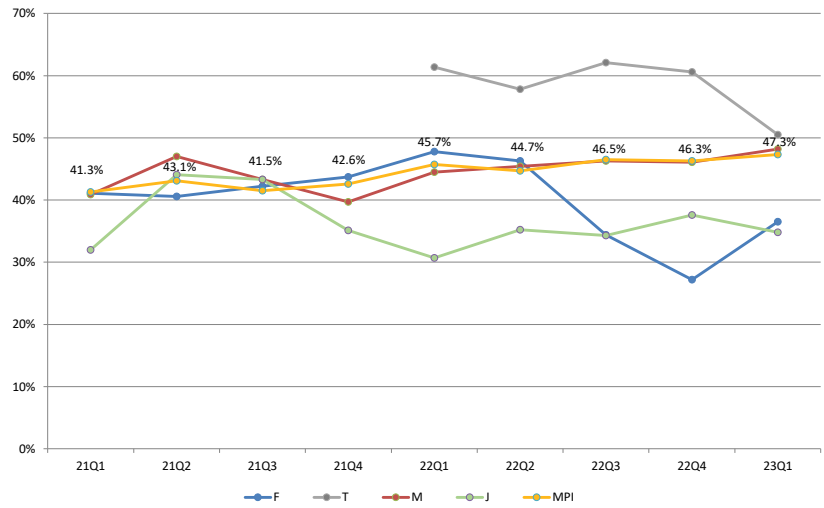
VPC月出貨針數及月接單出貨比



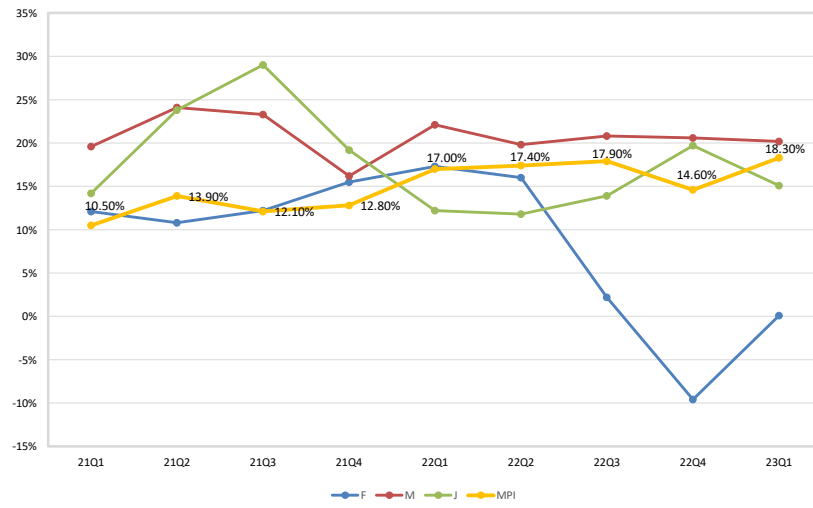
CPC及VPC成長趨勢



全球同業毛利率



全球同業營利率



MPI Probe Card

Our Customer

The MPI is committing more than 800 customers globally to contribute to industrial development as well as providing testing industry advanced technology needs.

MPI CORPORATION

發光二極體事業部
(LED)

READY FOR THE TEST™

產品概覽

- **High Power VCSEL Wafer Testing**
  Wafer / Board Prober Development
  Testing methodology Development
- **High Power VCSEL PKG Testing**
  PKG Handler Development
  Testing methodology Development
- **VCSEL / Photo-Detector Testing**
  Wafer / Board Prober Development
  Testing methodology Development
- **RF Character**
  Wafer Level RF Testing Integration
- **SiPh Die/PKG Platform**
  SiPh Handler Development
- **uLED Mass Production Methodology**
  Wafer prober for large quantity die testing method
- **Panel testing platform development**
  Panel / Panel in-process testing platform

發展計畫

Optical Sensing	Optical Communications	Micro Display
➢ Focus on Sensing VCSEL Testing ➢ Production Wafer Prober in Low Temperature ➢ High Power Measurement Tool and Technology Development ➢ Flip Chip Wafer VCSEL testing Solution ➢ Package / Hybrid Device testing tool	➢ Focus on VCSEL/Photodetector Testing ➢ Wafer Prober for Dark / Responsivity / Capacity measurement ➢ RF Measurement Capability Development ➢ SiPh package testing approaching	➢ Lab and production wafer testing tool development ➢ Contacting Accuracy Improvement ➢ Innovative testing methodology ➢ Optical measurement in production methodology

MPI CORPORATION

Thermal/AST

READY FOR THE TEST™

MPI Thermal

Hot and Cold Air Flow
Environmental Temperature Test

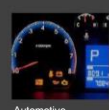
-100°C +300°C

ThermalAir Series

Temperature Testing Systems

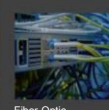
Applications & Industry Segments

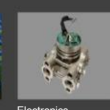

Semiconductor

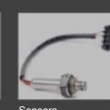

Automotive


Aerospace


Telecommunications


Fiber Optic


Electronics


Sensors


Advanced Technology

Thermal: 客戶導向

- **Innovational Temperature System 創新的溫度測試系統**

Ongoing R&D investments in platforms and improvements leads MPI to meet customer demands. Thermal systems have a number of patents to provide efficient energy saving products that helps clients to fulfill ESG responsibility.

- **Top Skillful RD Team 頂尖優秀專業的研發團隊**

MPI's thermal solutions are developed by industry veterans with over 100 years of combined experience.

- **Deep Cooperation with Leading Customers for Engineering and Production demand**

與世界領導級大廠深度合作, 提供工程及量產需求

Product application expands to automotive , 5G/RF communication , fiber optic , and sensing fields.

AST:獨特的市場領導者

- **Unique Global Position 全球獨特的市場地位**

Combining Analytical probing solution and RF measurement core technology , MPI is top solution provider for full range hi-frequency response measurement.

- **VOC Design 客戶導向設計**

Design based on Voice of the customer to full-fill customers' needs.

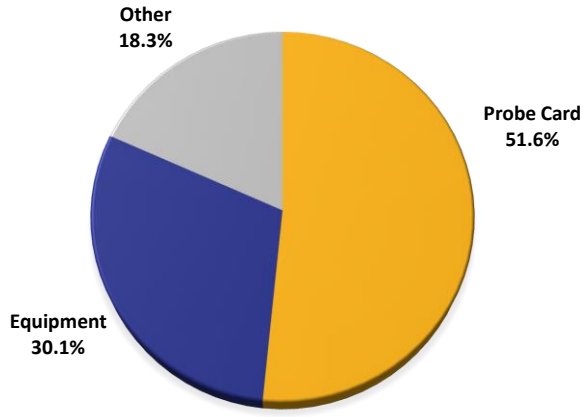
- **Complete Solution 提供完整的解決方案**

Various series of products to cover wide range applications include Device Modeling, RF & mmW, WLR, High-Power, Failure Analysis, Extreme temperature test …etc.

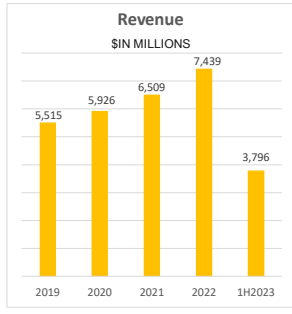
MPI CORPORATION

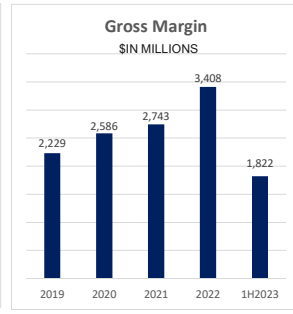
財務報表

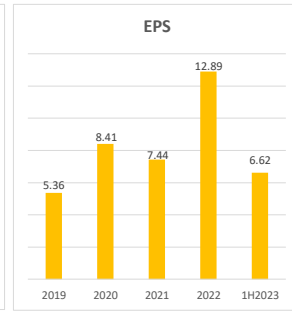
1H 2023出貨分布



營業表現





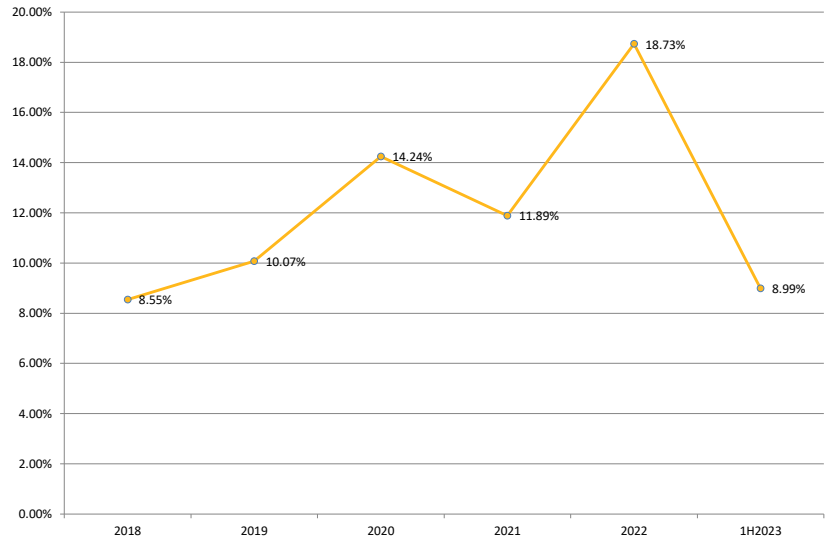


Continuous revenue growth driven by high customer satisfaction

Margin expansion is the result of strong RD investment

Accelerating profit earning shows MPI's shareholder commitment

股東權益報酬率



資產負債表

NT$ Million	1H 2023		1H 2022	
Cash and Cash Equivalents	1,993	17%	1,589	15%
Fixed Assets	5,396	46%	4,418	42%
Total Assets	11,765	100%	10,401	100%
LT Debt	953	8%	1,091	11%
Shareholders' Equity	6,924	59%	6,286	60%
EBITDA	739	19%	738	21%

*EBITDA=operating income + depreciation & amortization expenses

綜合損益表

NT$Million	1H 2023		1H 2022	
Net Sales	3,796,614	100%	3,588,079	100%
Cost of Goods Sold	1,973,971	52%	1,963,111	55%
Gross Profit	1,822,643	48%	1,624,968	45%
Operating Expense	1,106,169	29%	1,003,009	28%
Operating Income	716,474	19%	621,959	17%
Investment Income & Others	22,557		116,871	
Net Income (after tax)	622,676	16%	607,788	17%
EPS (after tax)	6.62		6.46