

旺矽科技股份有限公司 6223.TT

Presentation Disclaimer

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

Since 1995



Probe Card

Since 2001



Photonics Automation

Since 2014



Advanced Semiconductor Test

Since 2015



Thermal Test









Since 2021



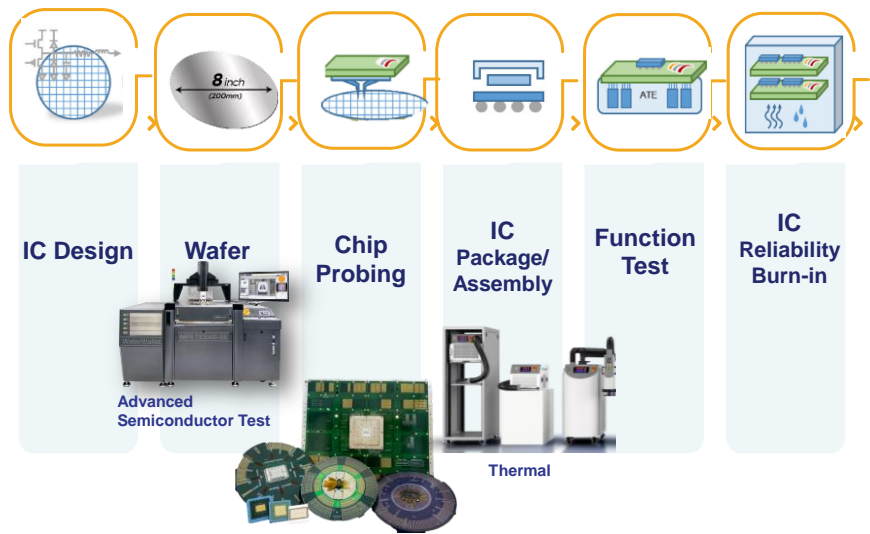
Celadon Systems

MPI 全球據點



| Worldwide | | | Taiwan | | | | |
|---|---|---|---|---|---|--|---|
|  |  |  |  |  |  |  |  |
| MPI America CA, USA (2017) | MPI Suzhou Jiangsu, CN (2017) | Celadon Systems MN, USA (2021) | Headquarters Hsinchu, TW (2000) | Luzhu Office Kaohsiung, TW (2006) | 2 nd Production Site Hsinchu, TW (2012) | Xinyu Office Hsinchu, TW (2014) | 3 rd Production Site Hsinchu, TW (2021) |

供應鏈概覽



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

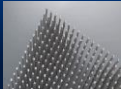
Cantilever Probe Card



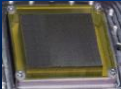
Features



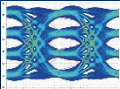
Fine Pitch



MEMS



High Pin Count



High Speed



Substrate



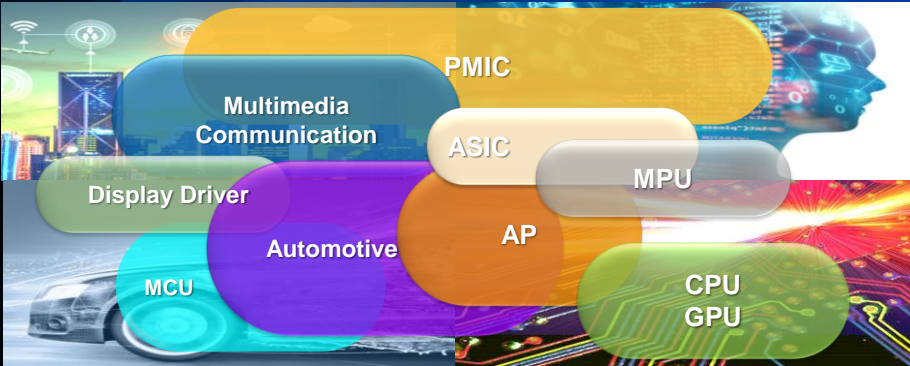
Hand-wired



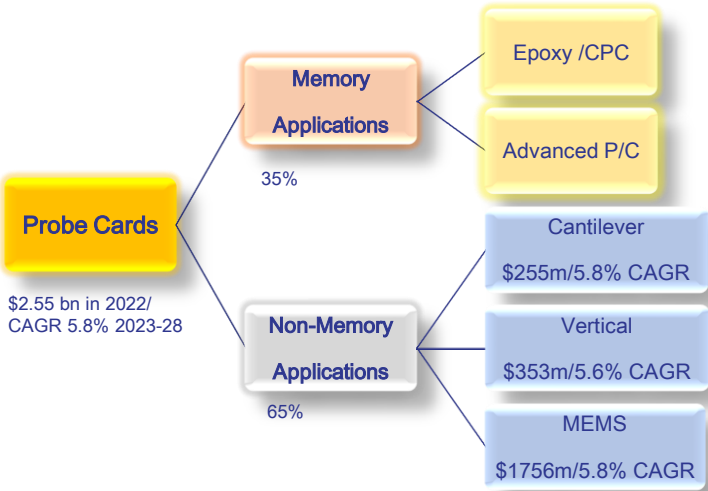
RF

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

Company Confidential C



全球探針卡市場概況

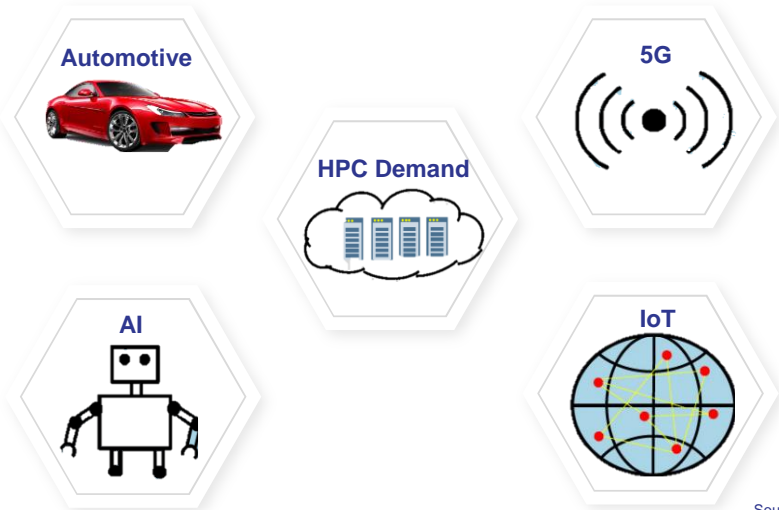


前十大探針卡供應商(2017-2022)

| (Rank) | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|------------------------------------|------|------|------|------|------|------|
| FormFactor, Inc. (USA) | 1 | 1 | 1 | 1 | 1 | 1 |
| Micronics Japan Co., Ltd. (Japan) | 2 | 3 | 3 | 3 | 3 | 3 |
| Technoprobe (Italy) | 3 | 2 | 2 | 2 | 2 | 2 |
| Japan Electronic Materials (Japan) | 4 | 4 | 4 | 4 | 4 | 4 |
| MPI Corporation (Taiwan) | 5 | 5 | 5 | 5 | 5 | 5 |
| SV TCL (Singapore) | 6 | 6 | 6 | 7 | 8 | 7 |
| Microfriend (Korea) | 7 | 10 | 10 | 10 | - | - |
| Korea Instrument (Korea) | 8 | 7 | 8 | 6 | 7 | 6 |
| Cascade Microtech (USA) | - | - | - | - | - | - |
| FEINMETALL (Germany) | 11 | 12 | 11 | 14 | - | - |

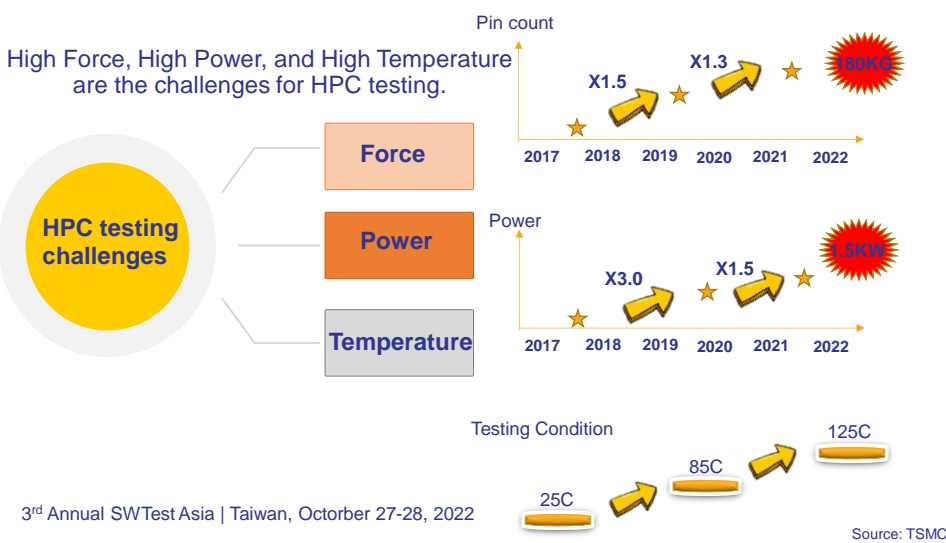
HPC 需求

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



Source: TSMC

HPC 挑戰



Interface Technical Complexity Check in

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

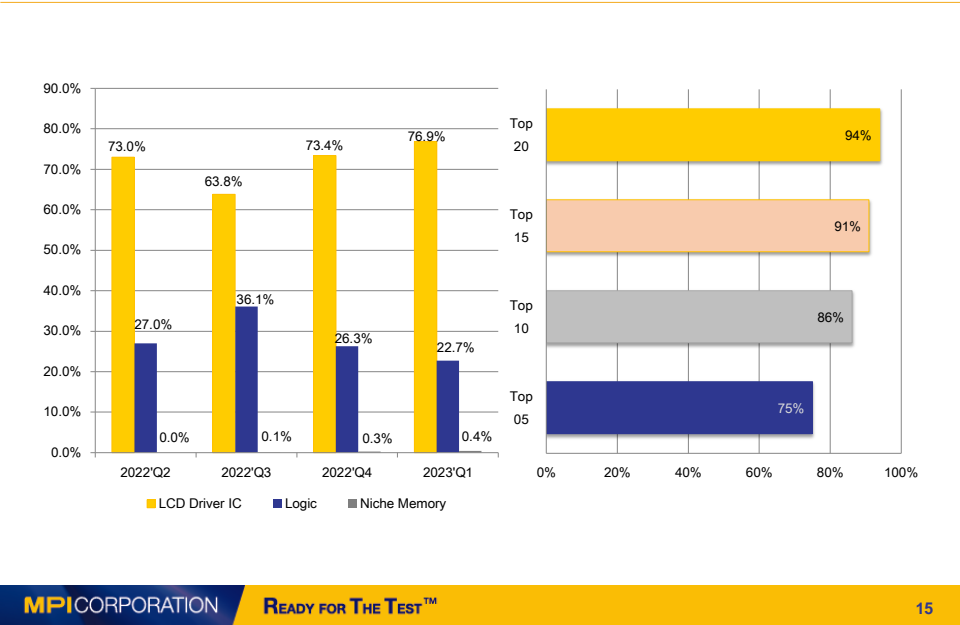
“2x4 Scaling”=2xPins, 2xPerformance, every 4 years



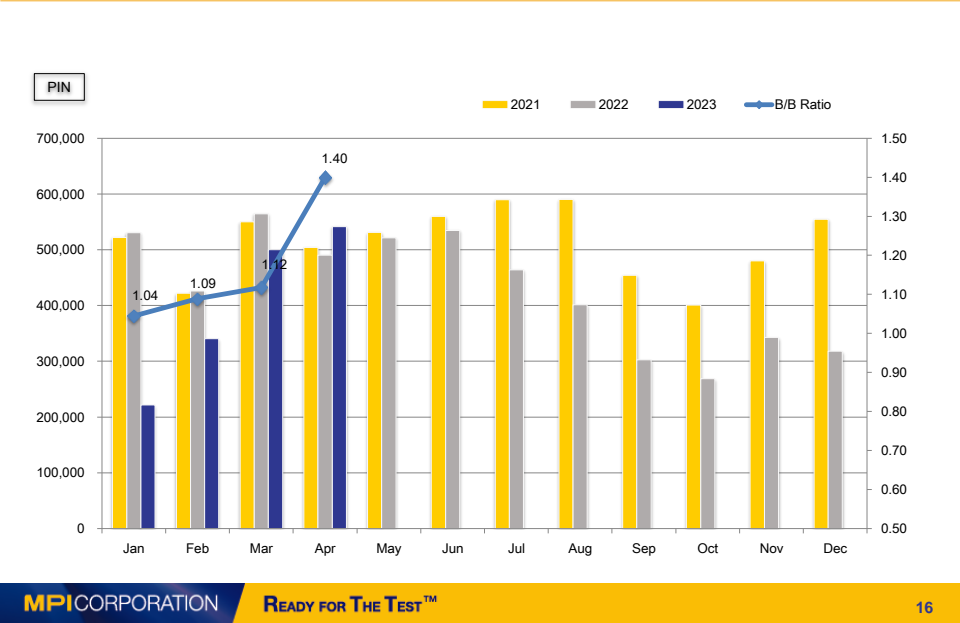
| | | 2018 | 2022 | 2026 |
|---------------------------|---------------------|-----------|------------|--------------|
| | | Level 4 | Level 5 | Level 6 |
| Pin Density | Pin Pitch | 90um | 70um | 50um |
| | Total Contact Force | 80kg | 150kg | 250kg |
| I/O Speed | Digital | 32Gpbs | 64Gpbs | 128Gpbs |
| | 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



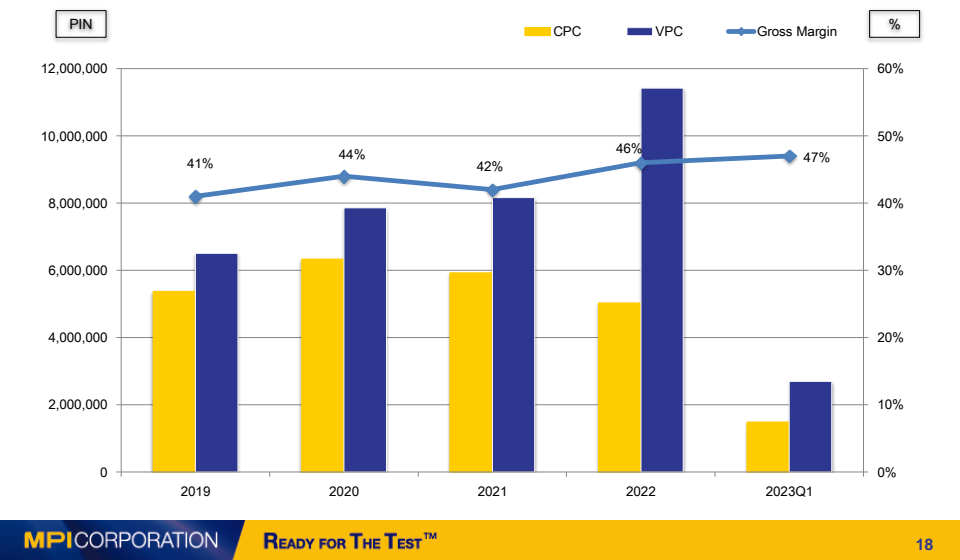
CPC月出貨針數及月接單出貨比



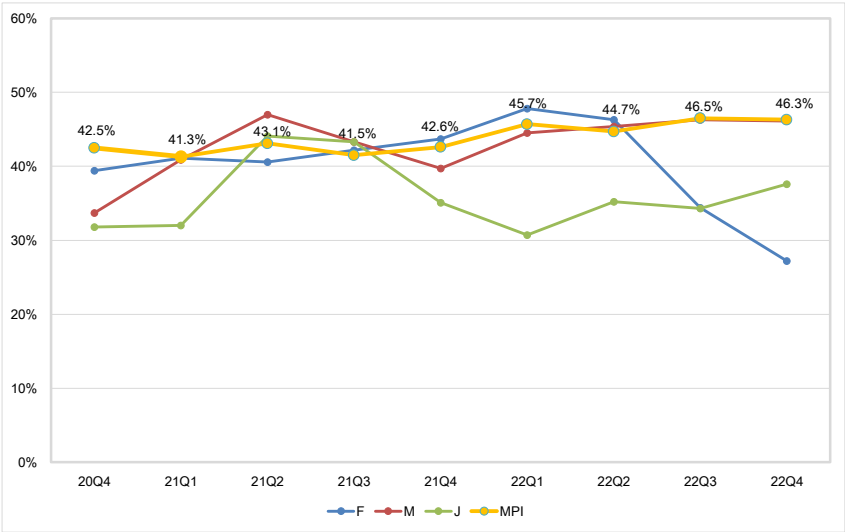
VPC月出貨針數及月接單出貨比



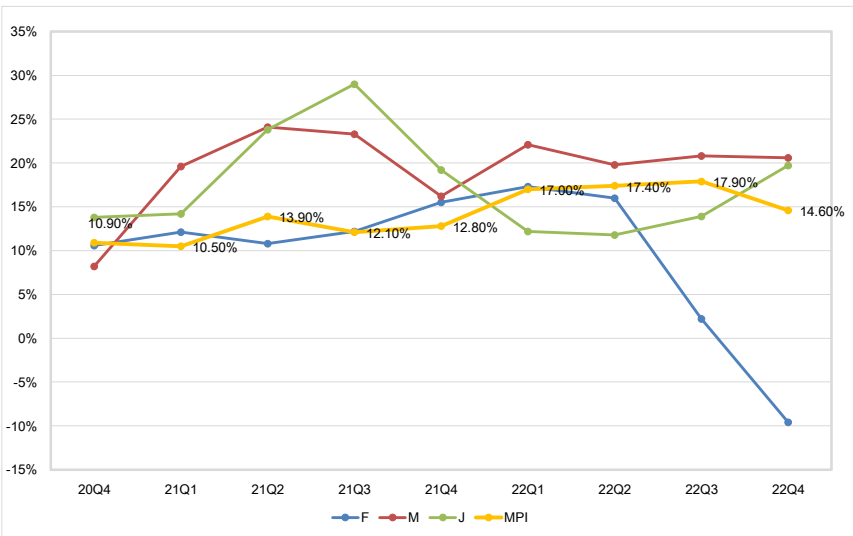
CPC及VPC成長趨勢



全球同業毛利率



全球同業營利率



MPI Probe Card

Company Confidential C

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.



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MPI CORPORATION

發光二極體事業部 (LED)

READY FOR THE TEST™

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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

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發展計畫



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



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

Contact Us

Sales & Service

1-800-368-6772

www.mpi-thermal.com

MPI Advanced Semiconductor Test

Engineering Probe Systems
and
RF Probe Products

50 – 300 mm

26 – 110 GHz

Applications & Industry Segments

- Device Characterization
- High Power
- RF & mmW
- Design Validation
- Failure Analysis
- Wafer Level Reliability
- Silicon Photonics
- Laser Cutter

MPI構思

■ To Combine Two Very Unique Values

■ The MPI Corporation

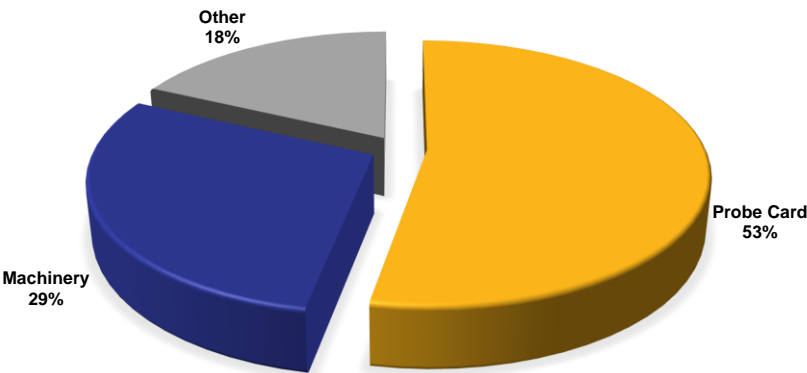
- Operational Excellence – High quality, on time
- Production Test Experience – 24/7 systems reliability
- Customer Centric – Highest value without compromise

■ Management & Market Expertise

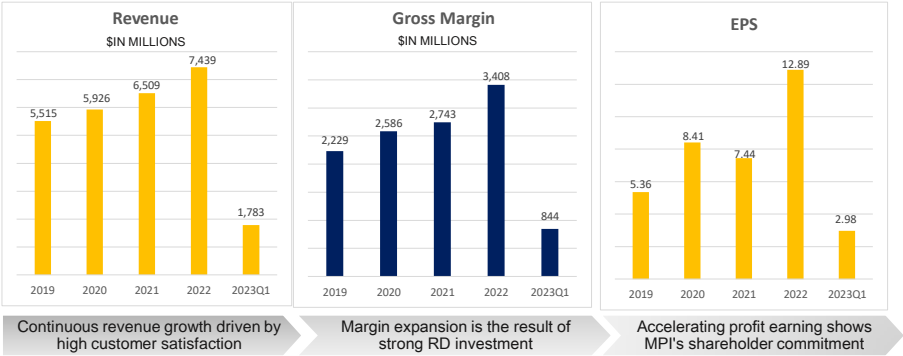
- More than 50 years together in Device Modeling, RF & mmW, WLR, High-Power, Failure Analysis, Thermal solutions...
- Visionary and Innovative Ideas
- Worldwide Partner Relationships

財務報表

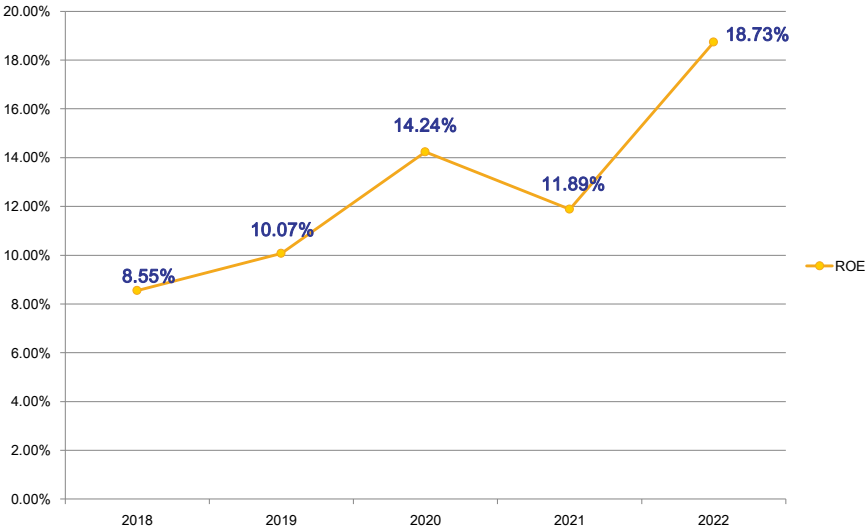
1Q23 出貨分布



營業表現



股東權益報酬率



資產

| NT\$Million | 2023' 1Q | | 2022' 1Q | |
|---------------------------|----------|------|----------|------|
| Cash and Cash Equivalents | 2,385 | 22% | 1,307 | 13% |
| Fixed Assets | 4,481 | 41% | 4,408 | 44% |
| Total Assets | 10,959 | 100% | 10,035 | 100% |
| LT Debt | 996 | 9% | 1,113 | 11% |
| Shareholders' Equity | 7,204 | 66% | 6,376 | 64% |
| EBITDA | 333 | 18% | 366 | 21% |

*EBITDA=operating income + depreciation & amortization expenses

營收

| NT\$Million | 1Q2023 | | 1Q2022 | |
|----------------------------|-----------|------|-----------|------|
| Net Sales | 1,783,537 | 100% | 1,720,155 | 100% |
| Cost of Goods Sold | 939,346 | 53% | 934,315 | 54% |
| Gross Profit | 844,191 | 47% | 785,840 | 46% |
| Operating Expense | 517,648 | 29% | 492,651 | 29% |
| Operating Income | 326,543 | 18% | 293,189 | 17% |
| Investment Income & Others | 6,864 | | 73,674 | |
| Net Income (before tax) | 279,721 | 15% | 306,230 | 18% |
| EPS | 2.98 | | 3.25 | |

MPICORPORATION



Thank You



<http://www.mpi-corporation.com>

READY FOR THE TEST™