

Zhen Ding Technology Holding (4958 TT)

Investor Presentation

June, 2024

- Zhen Ding Technology Holding's statements of its current expectations are forward looking statements subject to significant risks and uncertainties and actual results may differ materially from those contained in the forward-looking statements.
- Except as required by law, we undertake no obligation to update any forward-looking statement, whether as a result of new information, future events, or otherwise.

Zhen Ding (ZDT) at a Glance



No. 1

PCB Manufacturer Worldwide

2006 Founded
(Former Foxconn
Advanced Tech, 1978)

Taoyuan, Taiwan
Headquarter

46,693 Employees
(as of Dec. 31, 2023)



26 Facilities

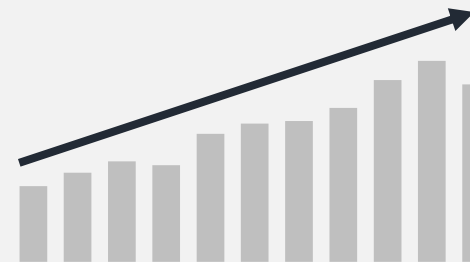
Located in Mainland China,
Taiwan and India

NT\$ 151.4bn

Revenue in 2023 (-11.6% YoY)

+9%

2013-2023年
Revenue CAGR



1,648

Accumulated Valid Patents

3,528

Accumulated Filing
Patents (as of Dec. 31, 2023)



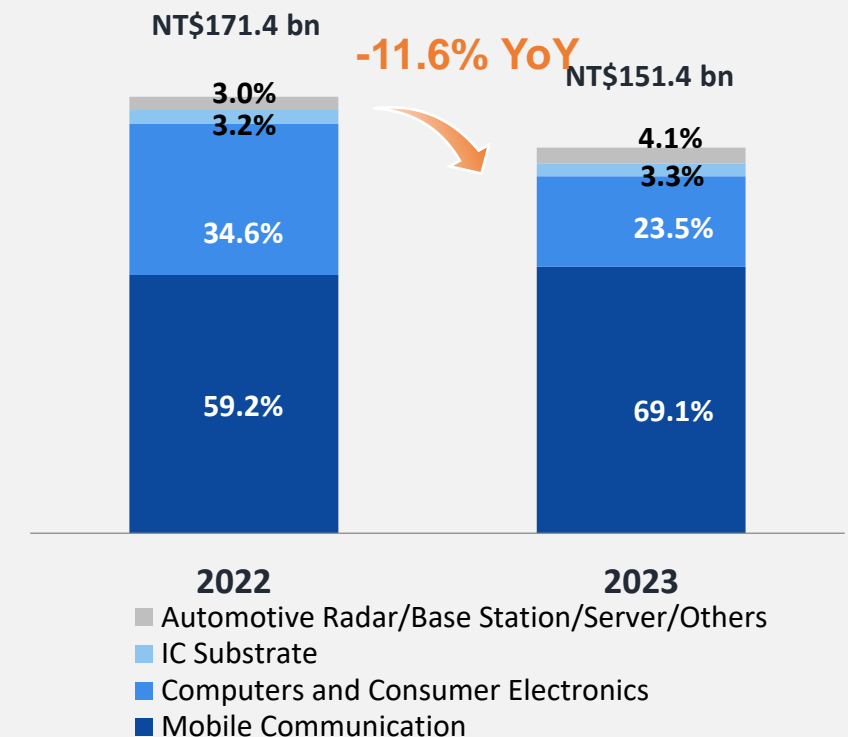
NT\$ 113.6bn

(Market Cap as of May 15, 2024)

14.7%

10yr Average ROE

Revenue Breakdown – By Applications



Why Invest in ZDT?

1

World's largest PCB manufacturer with stable long-term growth:

ZDT has become the world's largest PCB manufacturer since 2017. We have achieved a 9% revenue CAGR during 2013-2023.

2

Leverage One ZDT synergies to further widen the market share gap:

With One ZDT as the core strategy, we will continue to drive steady growth by leveraging the synergies from one-stop shopping. Our global PCB market share was 7.0% in 2023, and we aim to increase it to 10% by 2030.

3

Aggressive expansion in IC substrate:

We plan to invest NT\$60 billion capex for IC substrates in 2022-2027. We strive to become one of the top five global IC substrate suppliers by 2030.

4

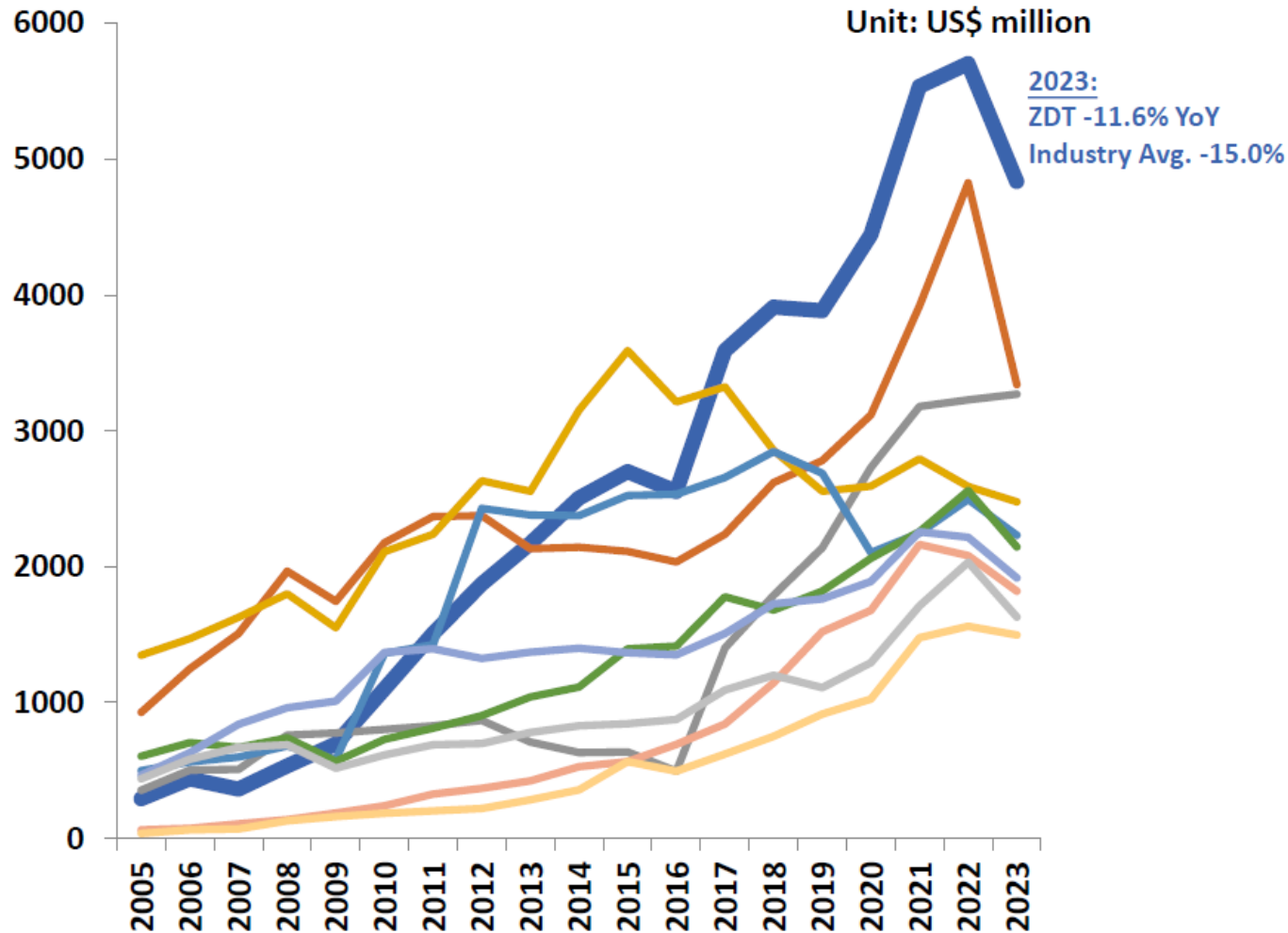
Global manufacturing footprint:

In addition to the three major manufacturing campuses in Mainland China, we also own manufacturing plants in Taiwan and India, and are constructing a new plant in Thailand. In the future, we will keep expand our global manufacturing bases to serve diversified customer needs.

World's Largest PCB Manufacturer with Stable Long-term Growth

ZDT Outperforms Industry Average, Maintaining #1 Position

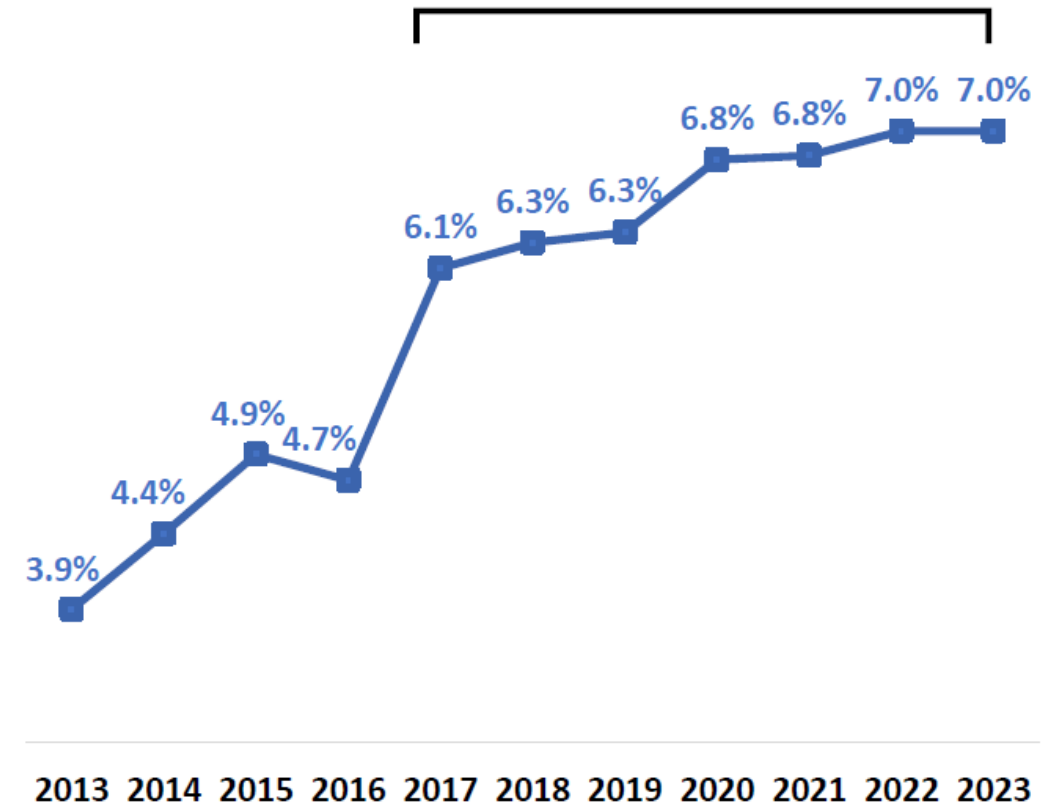
2023 Global Top 10 PCB Companies Revenue Trends



Source : NT Information ; Prismark (2024/02)

ZDT Maintains a Leading Market Share in the PCB Industry

Maintain at Global #1 for 7 Consecutive Years



Source : Prismark

1Q24 Review and Outlook

1

1Q24 revenue increased by 3.06% YoY, returning to the annual growth track:

In 1Q24, Zhen Ding's computer and consumption electronics, automotive/server/base station revenue achieved double-digit annual growth, while IC substrate revenue increased by three-digits and hit a single-quarter record high. As the company previous statement that it will continuing the tone of product structure adjustment, the product portfolio will continue to be dispersed into multiple applications under the One ZDT strategy..

2

2024 revenue is return to growth and is expected to accelerate in 2025. The revenue momentum of IC substrates, servers, and automotive applications is on the rise:

AI Server products have been contributing revenue in 2023 and will continue to expand customer share in 2024. In terms of automotive, all ADAS radars, domain control boards and power battery-related are made deployments. We look good at IC substrate, servers and automotive will achieve double-digit growth in the coming years.

3

Zhen Ding has a well-established presence in the mobile phones and computers, covering foldable phone, AI phones and AI PCs:

As a global leading manufacturer of high-end PCB, Zhen Ding collaborates with multiple customers to deliver foldable phones and is actively working with customer to develop new products in the AI phone and AI PC. We expect the demand for high-end PCBs with fine lines and high-layer counts PCB will continue increasing in the coming future.

4

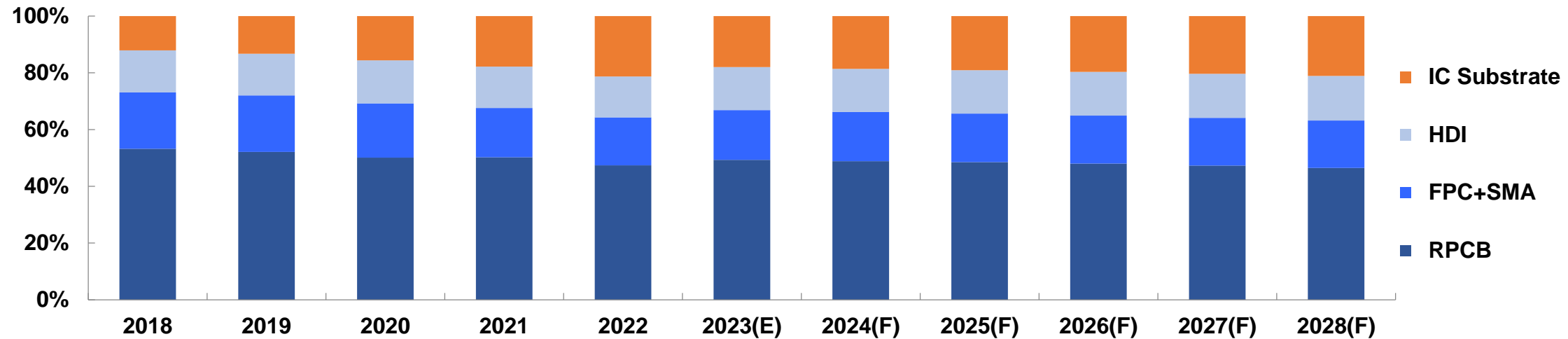
The first phase of the new fab in Thailand will focus on server, automotive and optical transceiver, providing high-end RPCB/HDI products:

Currently, the construction is progressing according to plan, with the goal of entering trial production in 1H25 and mass production in a small scale in 2H25. Once the production capacity is established, our global deployment will be further enhanced.

Leverage One ZDT Synergies to Further Widen the Market Share Gap

Aim to Reach 10% Global PCB Market Share by 2030

All PCB Segments to Resume Growth in 2024



產品	項目	2018	2019	2020	2021	2022	2023(E)	2024(F)	2025(F)	2026(F)	2027(F)	2028(F)	2023-2028 CAGR
RPCB	Value	33,225	31,969	32,674	40,641	38,720	34,292	35,659	37,554	39,240	40,724	42,005	4.1%
	%	53.2%	52.1%	50.1%	50.2%	47.4%	49.3%	48.9%	48.5%	48.0%	47.3%	46.5%	
FPC+SMA	Value	12,395	12,195	12,483	14,058	13,842	12,191	12,649	13,225	13,828	14,458	15,117	4.4%
	%	19.9%	19.9%	19.1%	17.4%	16.9%	17.5%	17.3%	17.1%	16.9%	16.8%	16.7%	
HDI	Value	9,222	9,008	9,874	11,811	11,763	10,536	11,095	11,806	12,563	13,369	14,226	6.2%
	%	14.8%	14.7%	15.1%	14.6%	14.4%	15.2%	15.2%	15.3%	15.4%	15.5%	15.7%	
IC Substrate	Value	7,554	8,139	10,188	14,410	17,415	12,498	13,568	14,772	16,083	17,511	19,065	8.8%
	%	12.1%	13.3%	15.6%	17.8%	21.3%	18.0%	18.6%	19.1%	19.7%	20.3%	21.1%	
Total		62,396	61,311	65,219	80,920	81,740	69,517	72,971	77,358	81,715	86,062	90,413	5.4%
YoY Change (%)		6.0%	-1.7%	6.4%	24.1%	1.0%	-15.0%	5.0%	6.0%	5.6%	5.3%	5.1%	

Source : Prismark(2024/2) ; 2025~2028 data is calculated based on Prismark's estimation.

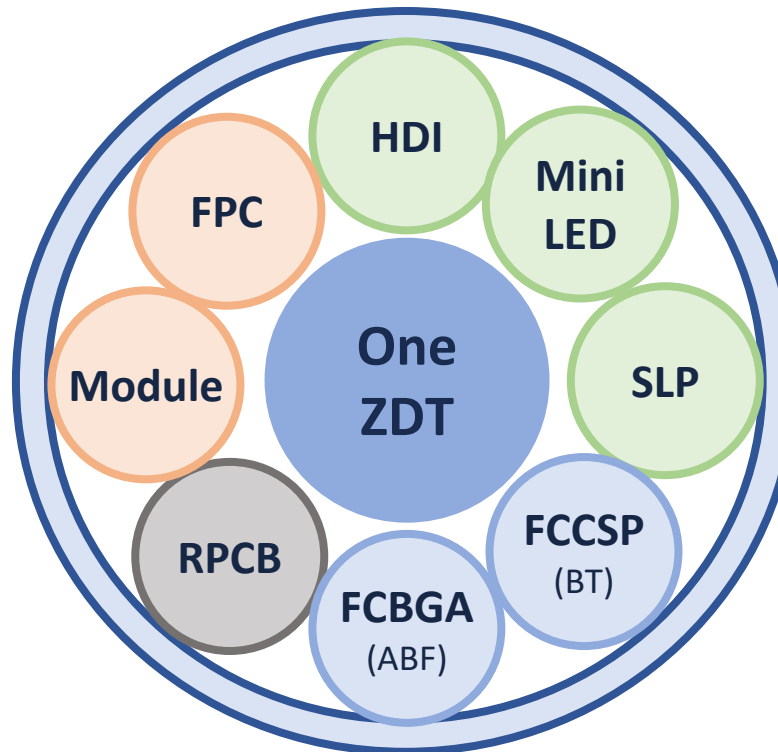
One ZDT : One Stop Shopping Synergies

FPC (+Module)

- 5G Applications
- AR/VR Metaverse
- New Energy
- Intelligent Vehicles
- Next-gen Display

RPCB(+Base Station + Automotive PCB + Server)

- High Performance Computing
- 5G Base Station
- Next-gen Radar PCB
- Intelligent Vehicles
- High-end Server & AI



HDI(+SLP+Mini LED)

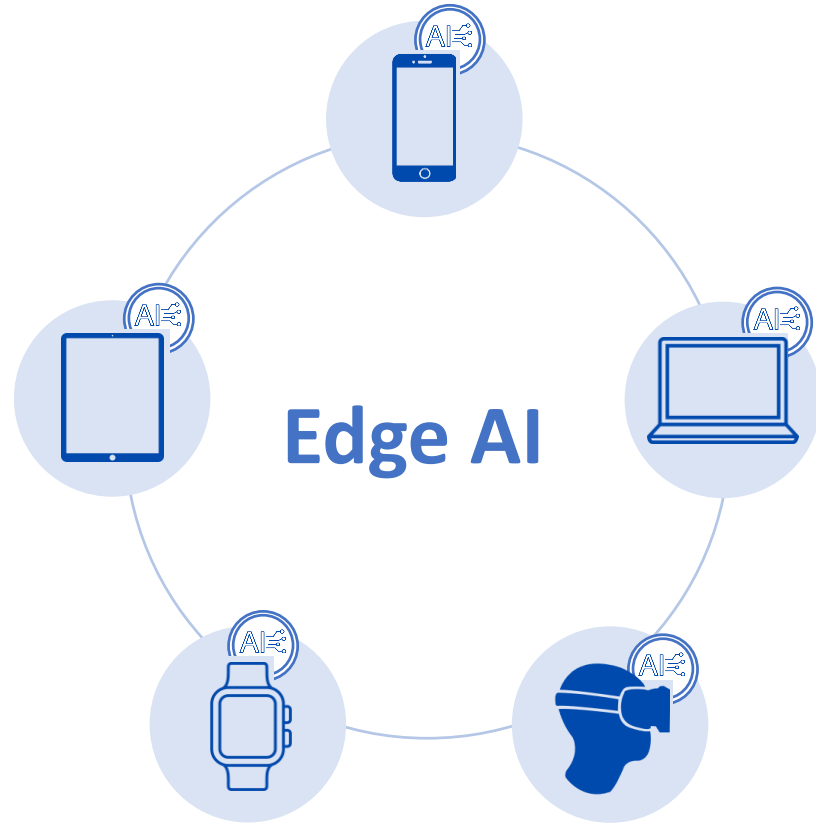
- Advanced HDI, SLP
- NB 、Automotive HDI
- 5G AiP 、SiP
- AR/VR Metaverse
- Mini LED/Micro LED

IC Substrate (FCCSP+FCBGA)

- 5G Chips
- Cloud HPC
- Server & AI
- AR/VR Metaverse
- Intelligent Vehicles

The diversification of AI applications will increase design complexity for PCBs, driving growing demand for IC substrates, high-end HDI, and FPC.

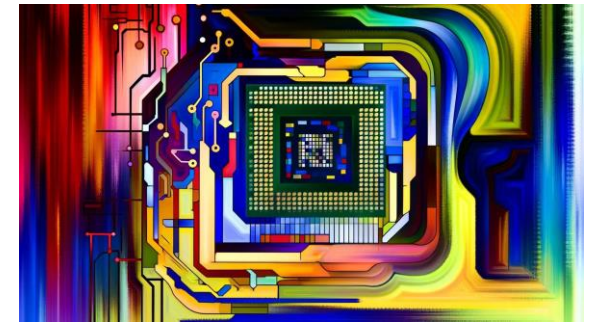
ZDT: Strong Competitive Advantage under the Edge AI Trend



Execute various AI applications, including real-time translation, voice note assistants and image editing assistants.

The human-machine interface is evolving towards diversification, including sound, gestures and eye movements.

The design of PCB and IC substrate become more complex, with growing demand for fine lines and high layer counts products.

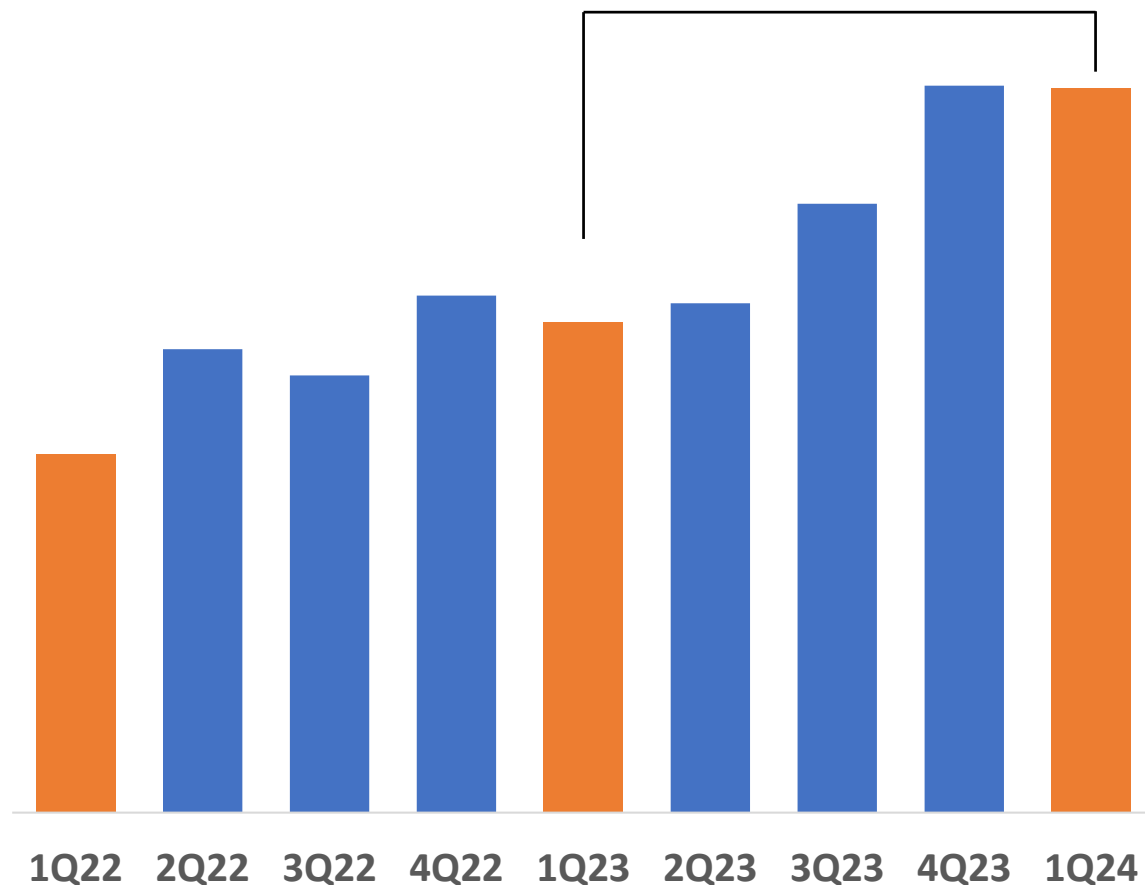


Zhen Ding is a leading manufacturer of high-end PCB and IC substrates. We have a strong competitive advantage under the Edge AI trend.

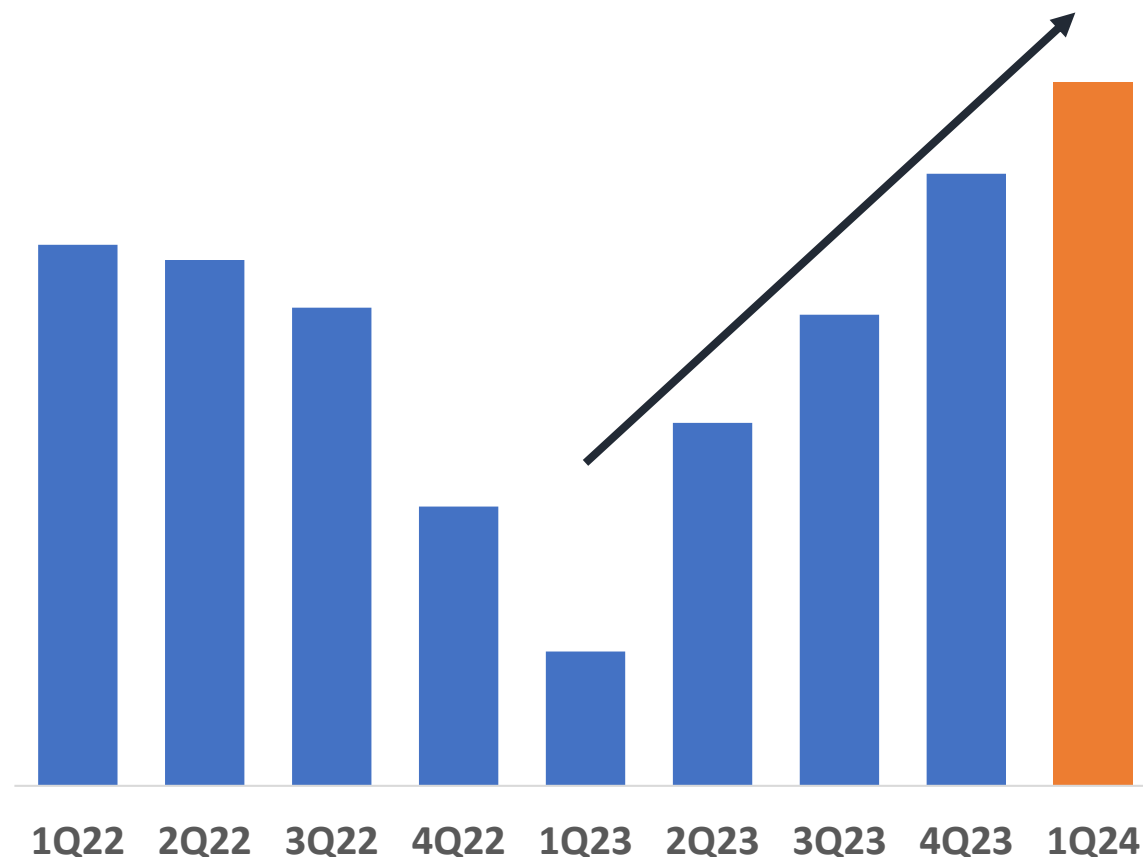


1Q24 ZDT's revenue for automotive/server/base station increasing 26.5% YoY

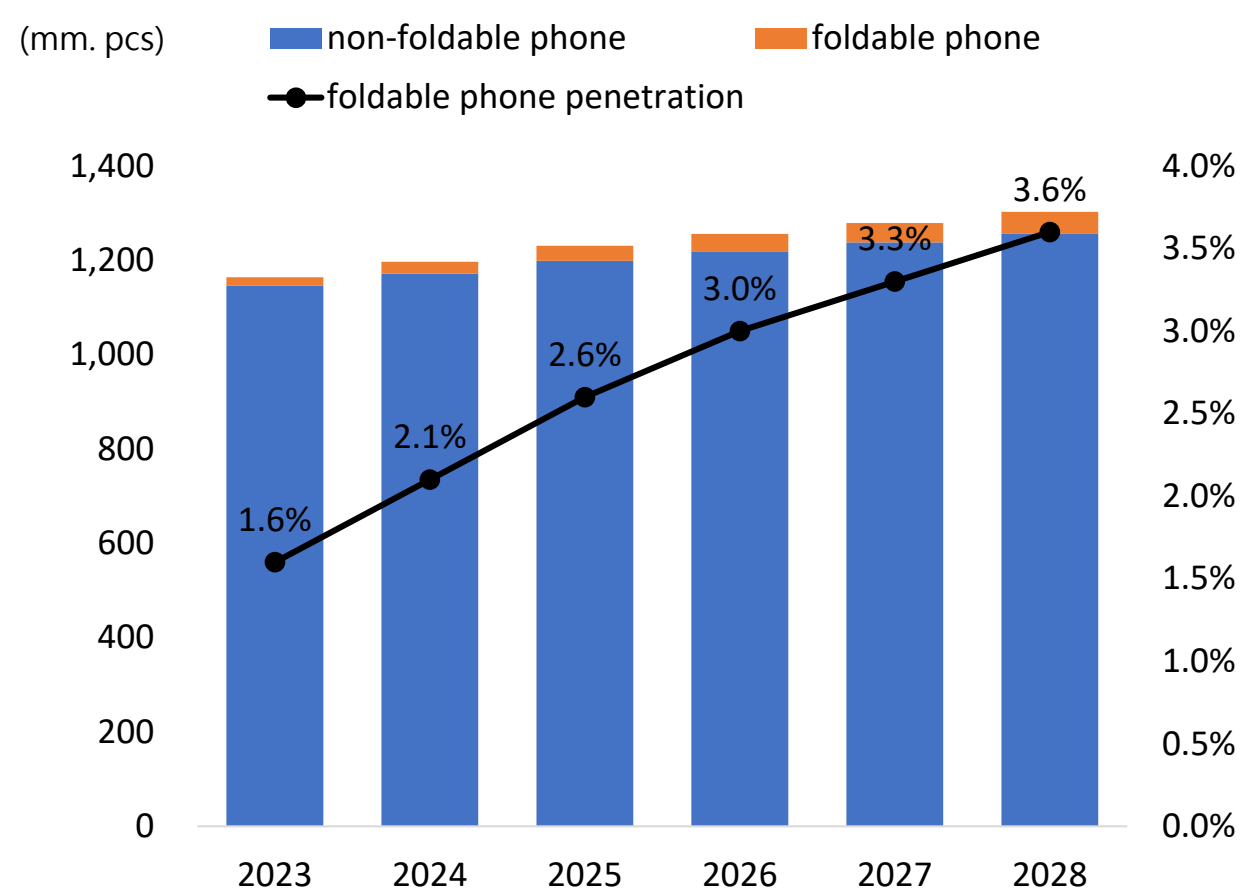
+26.5% YoY



ZDT's 1Q24 revenue for IC Substrate reached a record high

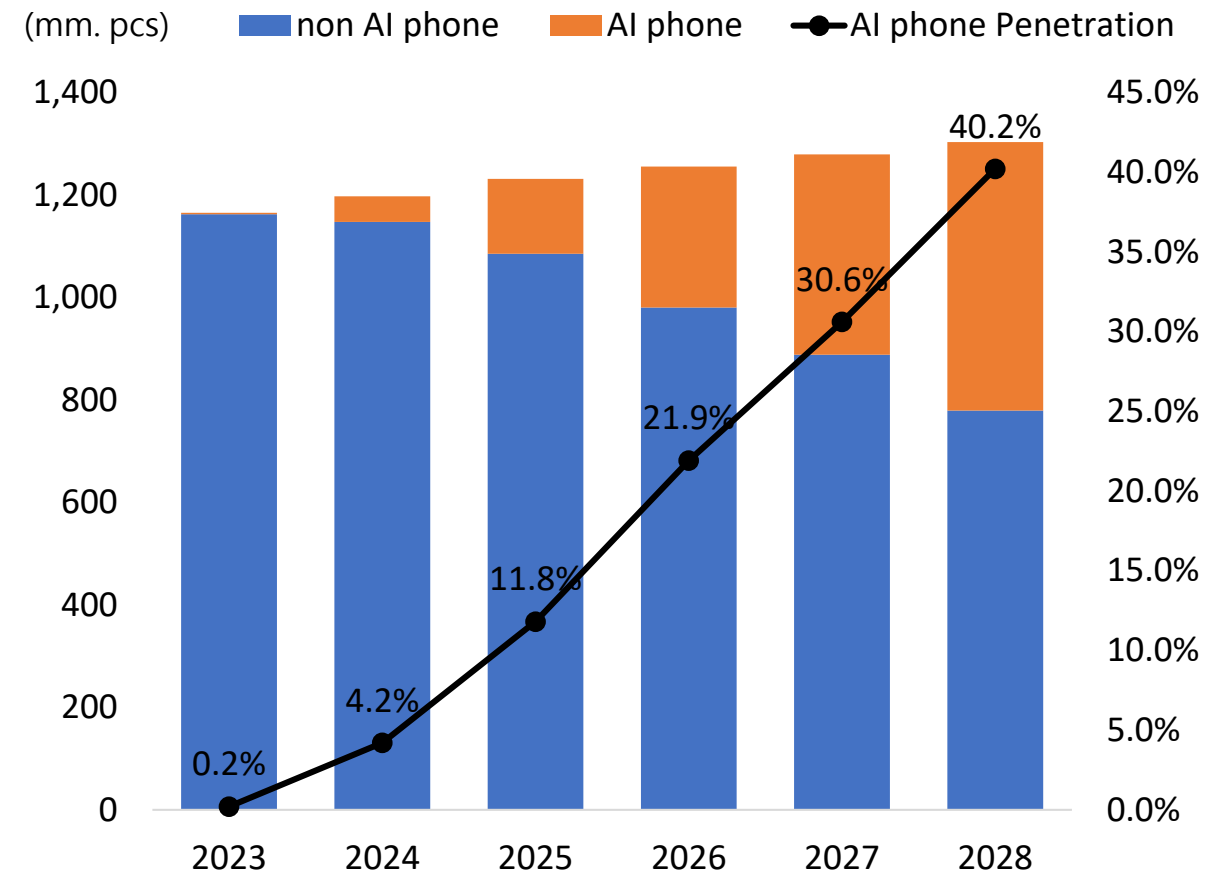


Global Foldable Phone Market Scale : ZDT has delivered to multiple customer



資料來源：IDC(2024/2)

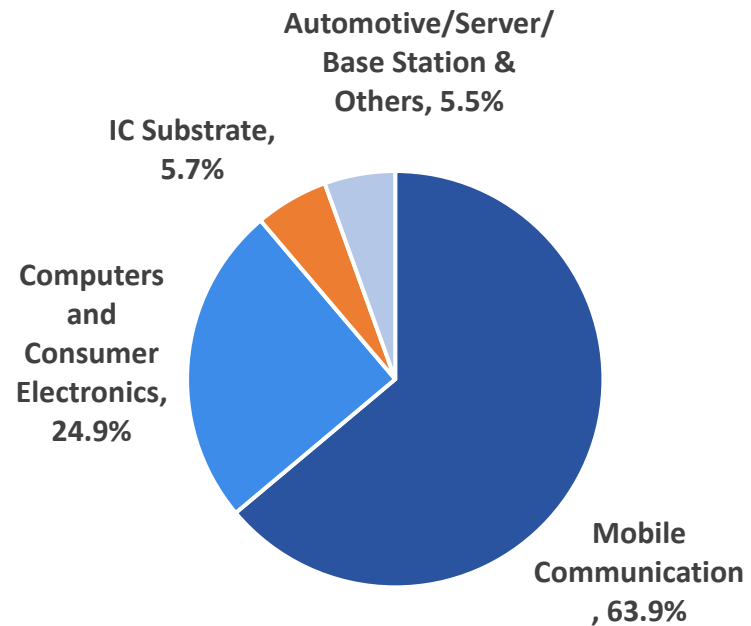
Global AI phone Market Scale : ZDT actively collaborates with customers to develop new products



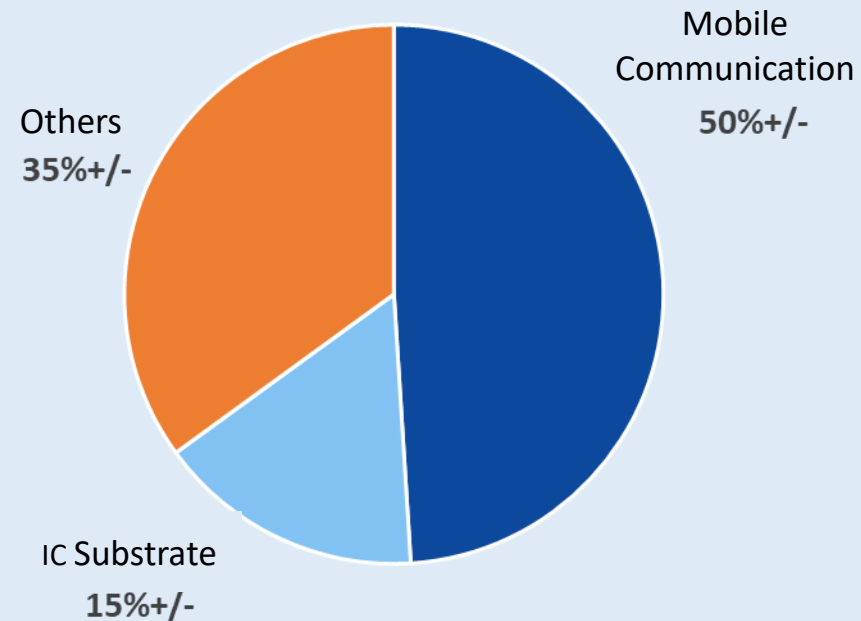
資料來源：IDC(2024/2)

Aim to Reach 10% Global PCB Market Share by 2030

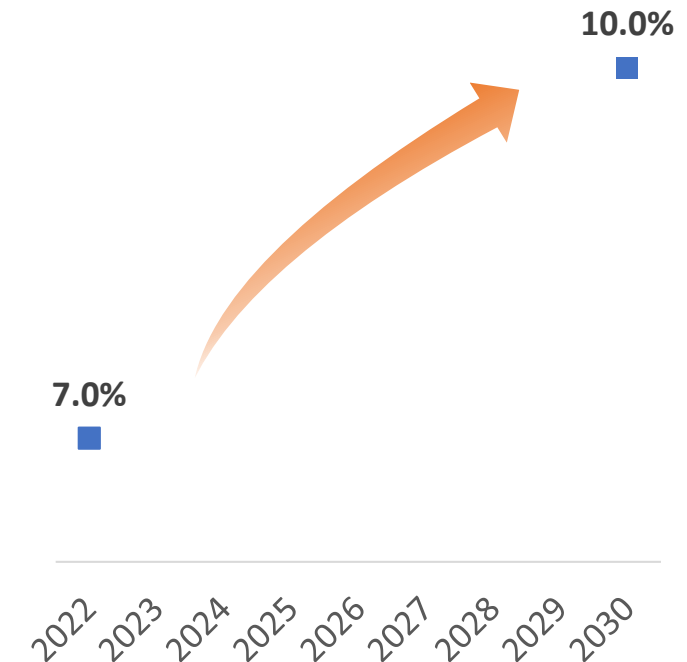
1Q24 Revenue \$32.5 bn



2027 Target Revenue by Application



Aim to Reach 10% Global Market Share by 2030



Aggressive Expansion in IC Substrate

Aim to Become One of the Top Five in the World by 2030

IC Substrate Business Update

1

IC substrate revenue hit a new quarterly high in 1Q24, entering a rapid growth phase:

- IC substrate business accounted for 5.7% of revenue in 1Q24. The company still targets a CAGR over 50% for 2023-2027. IC substrates are expected to contribute approximately 15%+/- to consolidate revenue by 2027.

2

Utilization rate of BT substrate continues to rise, reaching profitability for the quarter, with automotive application now in mass production:

- BT substrate are mainly used in mobile processors, memory and RF modules, closely work with first tier customers. The utilization rate of BT substrate exceeded 80% in 1Q24, leading to profitability for the quarter.
- ETS fine-line 6/8um is expected to enter mass production by the end of this year. Newly developed DDR-5 and NAND substrates will also enter mass production quarterly in 2024. All products meet on par with Tier 1 players.

3

ABF substrates have obtained customer qualifications and entered mass production, with revenue and utilization rate expected to increase quarter by quarter this year:

- In terms of ABF substrates, the demand for AI and automotive is strong. We are actively expanding our presence in these two major areas, and we have obtained customer qualifications and entered mass production. We expect that ABF revenue and capacity utilization rates will increase quarter by quarter this year.
- For ABF substrates, we have collaborated with customers to develop high-end substrates for Chiplet. Currently, we are shipping products with 18-20 layers and a maximum body size of 92mm x 92mm to customers. Our yield has been on par with Tier 1 ABF substrate suppliers. We have shipped 102mm x 102mm body size to customers for testing.

4

We have a distinct advantage in fulfilling international customers' "China for China" demand:

- To increase market share, international customers need to gradually deploy local production capacity in the mainland China market. We have the most advanced IC substrate fabs in mainland China, which can fulfill international customers' "China for China" demand. This is our distinct advantage in the IC substrate industry.

AI

**High-speed
Computing**

**Data
Transmission**

AI applications require high-speed computing capabilities and the integration of fast read-write memory.

Chip Solution

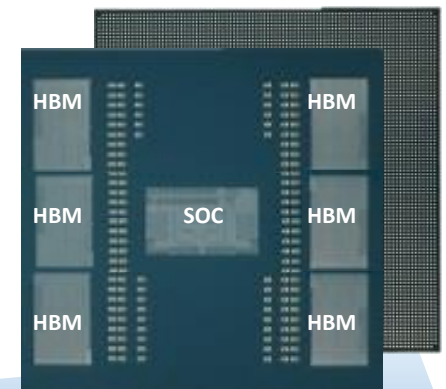
**Single SOC
(System on Chip)**

Larger die size, more complicated manufacturing process, and higher costs

Chiplet






Chiplet packaging increases efficiency

Chiplet Substrate



IC Substrate Technology

**Zhen Ding's
IC Substrate**

High Layer Counts	Large Body Size	Micro-drilling	Fine Line	Surface Finish Process
 18~20 Layers	 90x90 ~ 95x95mm	 40~60 um	 9~15 um	 Low roughness, high cohesion

Intelligence



DCU

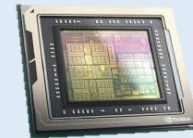
- Autopilot DCU
- Cockpit DCU

Sensor

- mmWave Radar
- Laser Radar
- Camera

Chip

Autopilot AI Chip
Smart Cockpit Chip
DCU Chip



CMOS
Storage Chip
ADAS Chip

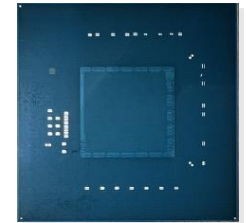


Packaging

FCBGA
CSP

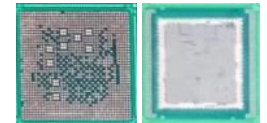
ZDT's IC Substrate

FCBGA



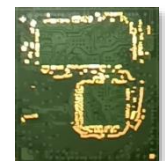
4~18L
17x17~75x75mm

FCCSP



2~4L
7x7~27x27mm

WBCSP



2~4L
7x7~27x27mm

Connectivity



Communication Module

Remote Communication Box

Internet of Vehicle

- 5G Module

Smart Cockpit Chip



CSP

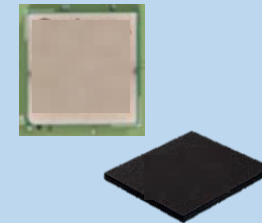
Information



Display System

- HUD
- AR/VR
- NFC

Smart Cockpit Chip
Storage Chip

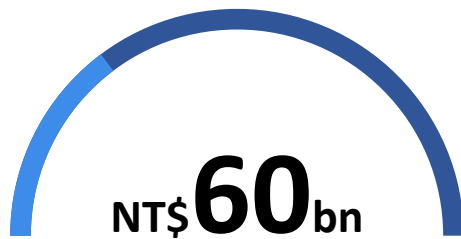


FCBGA
CSP

IC Substrate Capacity Expansion Plan

		2023				2024				2025				2026			
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
SZ ABF Substrate Plant (Two Fabs’ floor area in total: 170,000 m²)	Fab 1 (Mid-to high-end products)	Installation															
		Sample certification															
		Mass production, target yield: comparable to tier 1 peers										Full utilization, target yield: comparable to tier 1 peers					
	Fab 2 (High end products)											Installation					
												Sample certification					
													Mass production				
QHD BT Substrate Plant (Two Fabs’ floor area in total: 60,000 m²)	Fab 1	Industry Leading Quality															
	Fab 2	Mass Production			Utilization at 80%+					Industry Leading Quality							

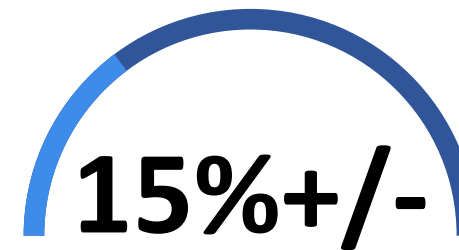
IC Substrate Goals



IC Substrate Capex:
Plan to invest NT\$60bn
from 2022~2027



IC Substrate Revenue:
2023~2027 Revenue
CAGR >50%



IC Substrate Revenue:
Account for 15 %+/- of
company's consolidated
revenue in 2027

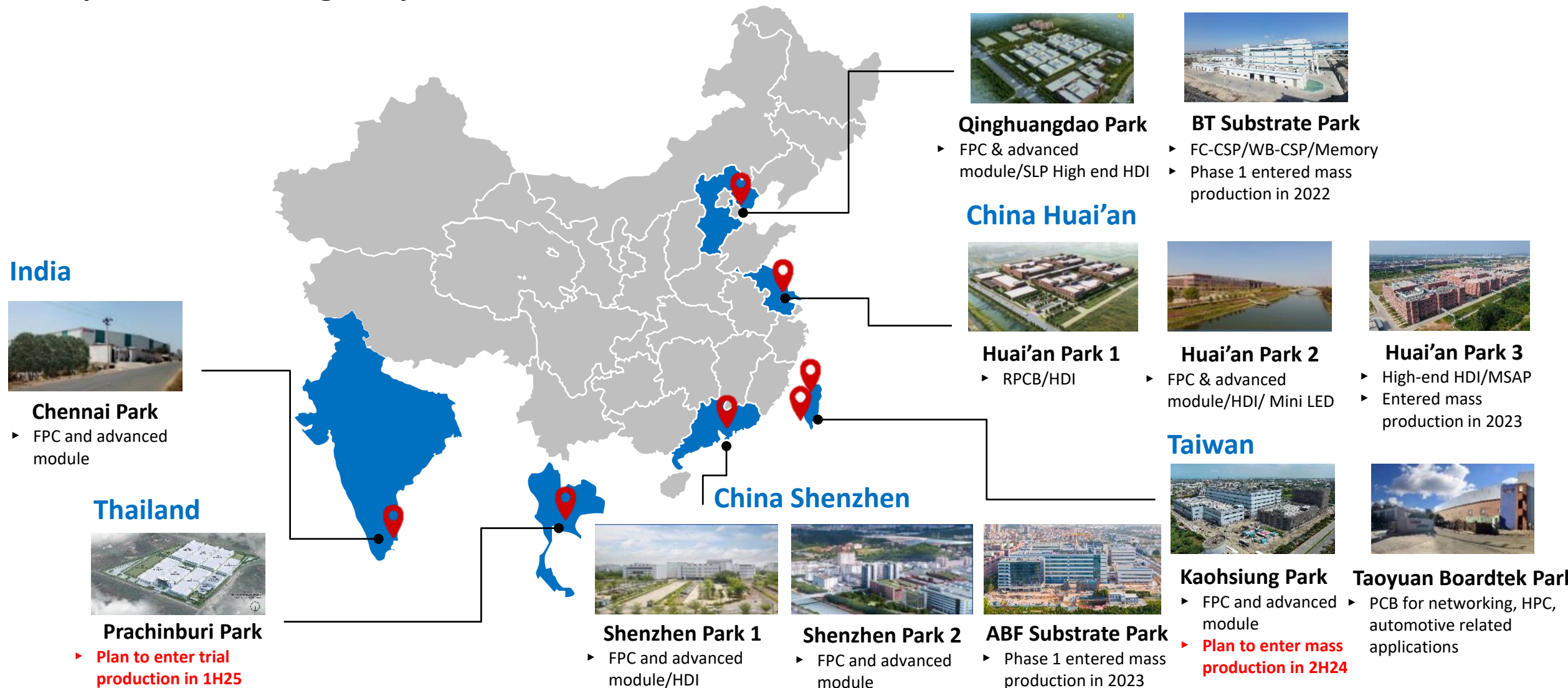


**IC Substrate Market
Share:**
Aim to become one of the
global top 5 companies in the
IC substrate market in 2030

Global Manufacturing Footprint

Six Major Global Manufacturing Campuses

Multiple manufacturing campuses to fulfill clients' needs



Global Manufacturing Footprint is advancing step by step with actively construction in Thailand according to the plan

(last Dec.) Phase I : high-end RPCB/HDI



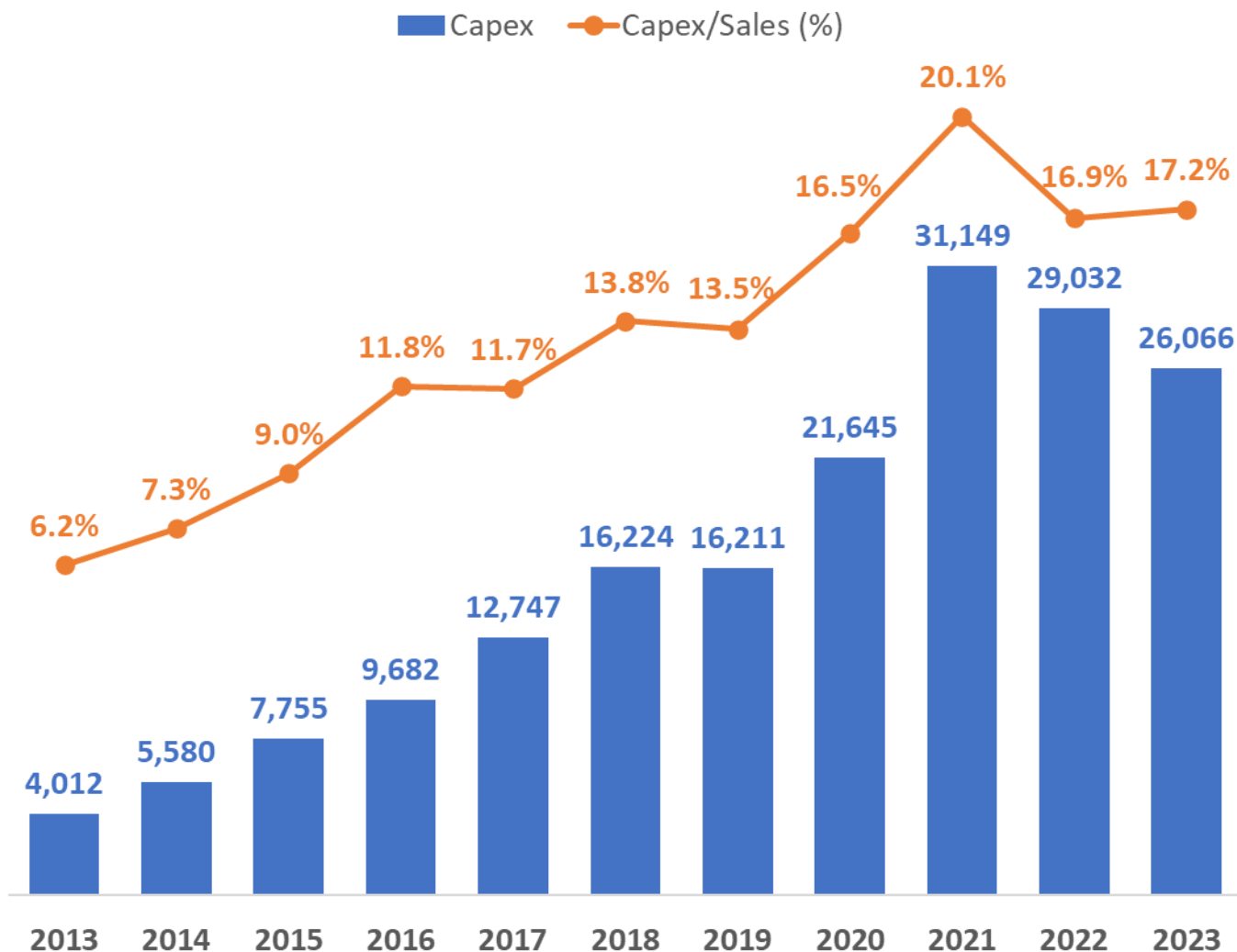
(currently) Phase I : high-end RPCB/HDI



- Trial production in 1H25 and mass production in small-scale in 2H25.
- Phase I will focus on server, automotive and optical transceiver, providing high-end RPCB/HDI products.
- It will be ZDT's key manufacturing site in Southeast Asia.

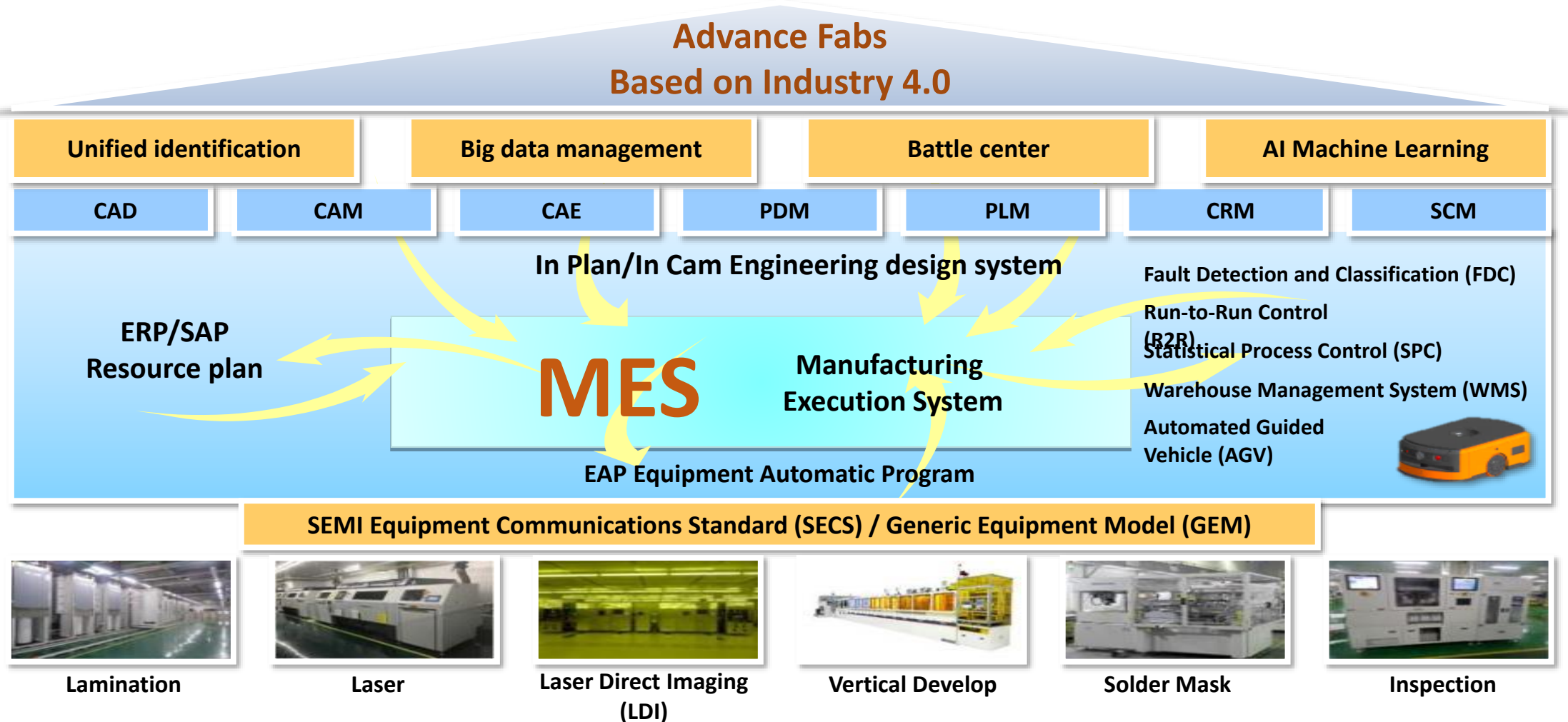


Continued Capacity Expansion, Pursuing Stable Growth



- As the world's largest PCB manufacturer, we keep positioning ourselves as a growth-oriented business, continually adopting early deployment of production capacity to meet customers' need.
- Continually investing in KH and Thailand, laying the foundation for long-term growth.

Introduce Smart Manufacturing into Each Plant Step by Step



Under the One ZDT strategy, we have been introducing smart manufacturing into each plant step by step. Currently, Huai'an Park 3 is the 9th smart fab. These fabs have significant improvements in yields and efficiency.

EPS + ESG – Improvement of ESG Ratings

► Corporate Governance Evaluation Ranking

Ranked between 6% to 20% in the 2023 Corporate Governance Evaluation for listed companies and **re-selected for inclusion in the TWSE Corporate Governance 100 Index.**

► S&P Global ESG Rating

In 2023, Zhen Ding's S&P ESG Score improved to 73 and was **selected as the only PCB company in the S&P Global Sustainability Yearbook** for the second consecutive year.

► Sustainalytics ESG Risk Rating

Zhen Ding's 2023 Sustainalytics ESG Risk Ratings improved from 17.8 to 15.6, classified as **low risk.**

► ISS ESG Rating

ISS has upgraded Zhen Ding's ESG Rating from "C" to "C+," granting Zhen Ding **"Prime" status.**

► CDP

In 2023, Zhen Ding received a 'B' rating from CDP for climate change, marking a one-notch improvement from last year. Additionally, we achieved an **'A-' leadership** rating for water security, also advancing by one notch compared to the previous year.

► FTSE Russell ESG Rating

Zhen Ding's FTSE Russell ESG Rating reached 4.3 (out of 5) and ranked in the **4th place among all listed companies in Taiwan.**

Financial Summary

1Q24 Financial Results

(Unit: NT\$ million, unless otherwise stated)

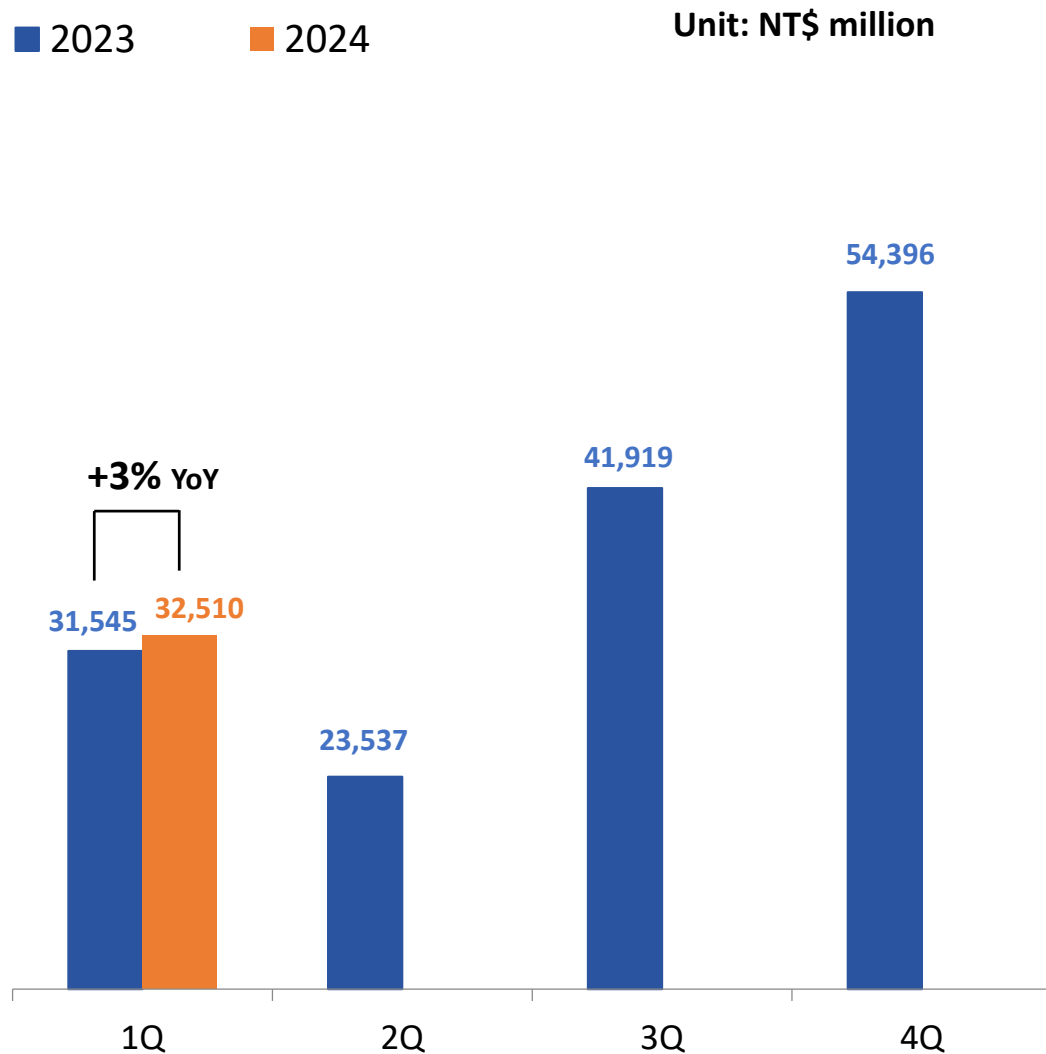
	1Q24	1Q23	YoY (%)
Revenue	32,510	31,545	3.1%
Gross Profit	5,337	5,075	5.2%
Gross Margin	16.4%	16.1%	+0.3ppts
Operating Expense	4,594	3,857	19.1%
Operating Profit	743	1,219	-39.1%
Operating Margin	2.3%	3.9%	-1.6ppts
Non-Operating Income/Expense	755	(318)	
Net Income	1,436	863	66.4%
Net Margin	4.4%	2.7%	+1.7ppts
Net Income to Parent	977	504	94.1%
EPS (NT\$) ⁽¹⁾	1.03	0.53	
Research and Development Expenses	2,634	1,939	+35.9%
Depreciation and Amortization	4,231	3,958	+6.9%
Cash Inflow Generated from Operations	8,262	11,746	-29.7%
Cash and Cash Equivalents ⁽²⁾	72,995	68,703	6.2%
ROE (%) ⁽³⁾	4.2%	2.6%	+1.6ppts

Note: (1) Weighted Average Shares outstanding as of 1Q24: 944,956 thousands shares (2) Including current financial assets at amortized cost (time deposits, etc.)

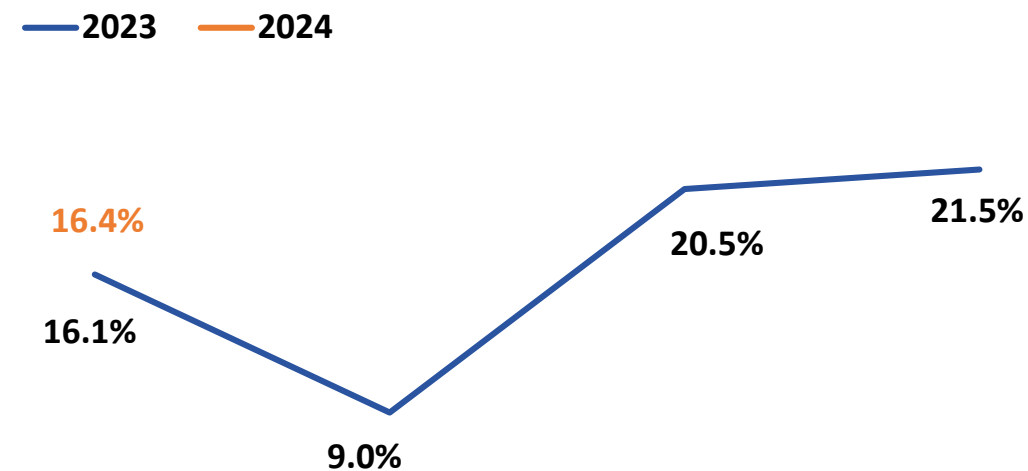
(3) ROE is annualized data calculated based on the average of equity attributable to owners of parent

Quarterly Operation Result

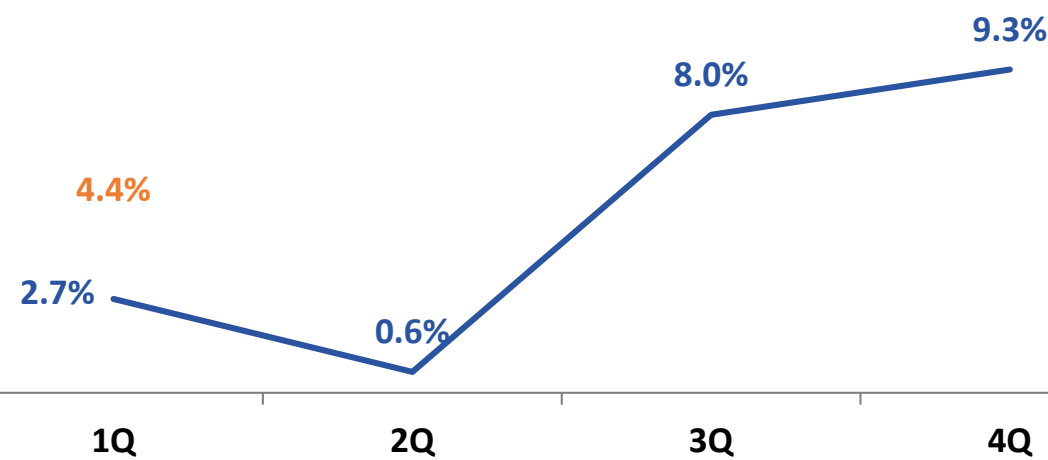
Revenue



Gross Margin (%)

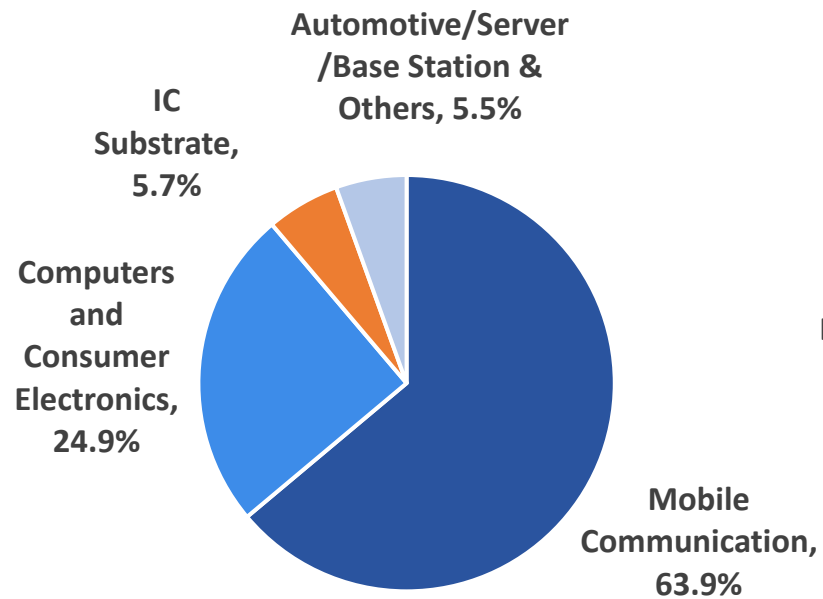


Net Margin (%)

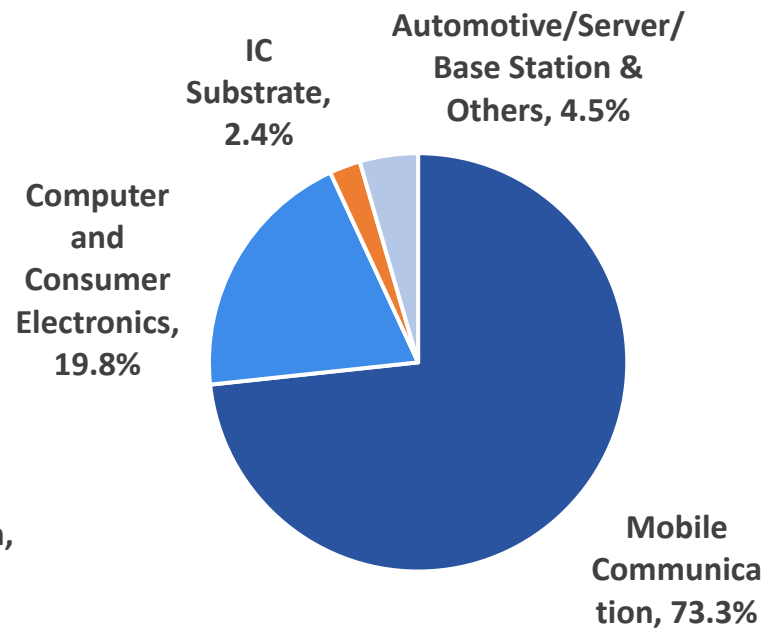


Revenue Breakdown – By Applications

1Q24 Revenue NT\$ 32.5 bn



1Q23 Revenue NT\$31.5 bn



By Application	1Q24 Revenue YoY%
Mobile Communication	-10.1%
Computer and Consumer Electronics	+29.5%
IC Substrate	+144.2%
Automotive/Server/Base Station & Others	+26.5%

Consolidated Balance Sheet and Key Indices

(Unit: NT\$ million)

	2024-3-31		2023-3-31		change	
	Amount	%	Amount	%	Amount	%
Cash and Cash Equivalents ⁽²⁾	72,995	30.0%	68,703	29.7%	4,292	6.25%
Notes & Accounts Receivable	20,856	8.6%	19,062	8.2%	1,794	9.41%
Inventories	15,858	6.5%	13,985	6.0%	1,873	13.39%
Property, Plant and Equipment ⁽³⁾	110,806	45.6%	108,666	47.0%	2,140	1.97%
Total Assets	243,253	100.0%	231,417	100.0%	11,836	5.11%
Debt	54,143	22.3%	50,255	21.7%	3,888	7.74%
Notes & Accounts Payable	33,230	13.7%	34,625	15.0%	-1,395	-4.03%
Total Liabilities	104,632	43.0%	101,592	43.9%	3,040	2.99%
Total Equity	138,652	57.0%	129,824	56.1%	8,828	6.80%

Key Indices

A/R Turnover Days	70	71
Inventory Turnover Days	57	59
Current Ratio (X)	1.82	1.41
PPE Turnover (X) ⁽⁴⁾	1.18	1.18

Note : (1) Weighted average shares outstanding as of 1Q24 : 944,956 thousand shares (2) Including current financial assets at amortized cost (time deposits, etc.)

(3) Property, Plant and Equipment includes investment property (4) PPE Turnover = annualized net revenue / average net property, plant and equipment.

2013-2023 Financial Summary

Unit: NT\$ million

Period	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Revenue	64,483	75,954	85,738	82,393	109,238	117,913	120,068	131,279	155,022	171,356	151,398
Gross Profit	11,894	14,323	16,427	12,542	17,833	26,061	27,222	26,584	30,537	39,888	27,459
Net Income	5,471	6,735	7,731	3,456	6,772	11,536	12,402	11,508	13,694	20,535	9,432
Net Income to Parent	5,471	6,735	7,731	3,456	5,172	8,448	8,685	8,095	9,651	14,197	6,189
Depreciation & Amortization	3,742	4,293	4,850	5,295	5,679	6,820	7,955	8,405	11,875	14,638	16,323
EPS (NT\$)	7.41	9.12	9.80	4.29	6.43	10.50	9.93	8.90	10.21	15.02	6.550
DPS (NT\$)	3.00	3.67	4.50	2.20	3.30	4.46	4.50	4.50	5.00	6.00	3.275
Payout Ratio (%)	40.5%	40.2%	45.9%	51.3%	51.3%	42.5%	45.3%	50.6%	49.0%	40.0%	50.0%
Cash and Cash Equivalents*	10,016	23,482	31,572	30,241	33,296	49,154	43,071	46,775	35,179	57,599	65,970
Property, Plant and Equipment	27,843	30,073	32,074	32,262	36,681	41,913	46,243	68,177	86,073	104,814	109,965
Capital	7,386	7,386	8,047	8,047	8,047	8,047	9,022	9,470	9,470	9,470	9,470
ROE (%)	23.77%	23.33%	20.82%	8.59%	14.49%	17.30%	14.72%	11.84%	12.59%	16.67%	7.10%
Debt Ratio (%)	64.06%	62.54%	53.70%	59.72%	55.33%	44.25%	35.41%	42.56%	42.01%	42.87%	44.67%

* Including current financial assets at amortized cost (time deposits, etc.)

Q&A



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THANK YOU