

# Zhen Ding Technology Holding (4958 TT)

## 3Q23 Financial Results

November 6<sup>th</sup>, 2023

- 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.



# AGENDA

- 1 3Q23 Financial Results
- 2 Company Strategy
- 3 Business Roadmap and Execution of IC Substrate



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Zhen Ding Tech. Holding

# 3Q23 Financial Results

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# 3Q23 Financial Results

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

	3Q23	2Q23	3Q22	QoQ (%)	YoY (%)
Revenue	41,919	23,537	50,004	78.1%	-16.2%
Gross Profit	8,583	2,123	12,986	304.3%	-33.9%
<b>Gross Margin</b>	<b>20.5%</b>	<b>9.0%</b>	<b>26.0%</b>	<b>+11.5ppts</b>	<b>-5.5ppts</b>
Operating Expense	5,008	4,011	4,919	24.9%	1.8%
Operating Profit	3,575	(1,888)	8,067		-55.7%
<b>Operating Margin</b>	<b>8.5%</b>	<b>-8.0%</b>	<b>16.1%</b>	<b>+16.5ppts</b>	<b>-7.6ppts</b>
Non-Operating Income/Expense	222	1,393	345	-84.0%	-35.5%
Net Income	3,349	150	7,172	2,127.3%	-53.3%
<b>Net Margin</b>	<b>8.0%</b>	<b>0.6%</b>	<b>14.3%</b>	<b>+7.4ppts</b>	<b>-6.3ppts</b>
Net Income to Parent	2,271	(90)	4,985		-54.4%
<b>EPS (NT\$) <sup>(1)</sup></b>	<b>2.40</b>	<b>-0.09</b>	<b>5.27</b>		
Cash Inflow Generated from Operations	5,143	3,471	8,410	47.8%	-39.0%
Capital Expenditures	4,801	6,758	8,217	-29.0%	-41.6%
Cash and Cash Equivalents <sup>(2)</sup>	59,979	59,916	48,957	0.1%	22.5%
<b>ROE(%) <sup>(3)</sup></b>	<b>10.0%</b>	<b>0.5%</b>	<b>23.8%</b>	<b>+9.5ppts</b>	<b>-13.8ppts</b>

Note : (1) Weighted Average Shares outstanding as of 3Q23 : 944,956 thousand 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

# 1Q~3Q23 Financial Results

	(Unit: NT\$ million, unless otherwise stated)		
	1-3Q23	1-3Q22	YoY (%)
Revenue	97,002	118,454	-18.1%
Gross Profit	15,781	25,975	-39.2%
<b>Gross Margin</b>	<b>16.3%</b>	<b>21.9%</b>	<b>-5.7ppts</b>
Operating Expense	12,875	12,222	5.3%
Operating Profit	2,905	13,753	-78.9%
<b>Operating Margin</b>	<b>3.0%</b>	<b>11.6%</b>	<b>-8.6ppts</b>
Non-Operating Income/Expense	1,298	1,995	-35.0%
Net Income	4,362	13,678	-68.1%
<b>Net Margin</b>	<b>4.5%</b>	<b>11.6%</b>	<b>-7.0ppts</b>
Net Income to Parent	2,685	9,492	-71.7%
<b>EPS (NT\$) <sup>(1)</sup></b>	<b>2.84</b>	<b>10.04</b>	
Cash Inflow Generated from Operations	20,360	29,853	-31.8%
Capital Expenditures	19,485	23,462	-20.0%
Cash and Cash Equivalents <sup>(2)</sup>	59,979	48,957	22.5%
<b>ROE(%) <sup>(3)</sup></b>	<b>4.4%</b>	<b>15.1%</b>	<b>-10.7ppts</b>

Note : (1) Weighted Average Shares outstanding as of 3Q23 : 944,956 thousand shares

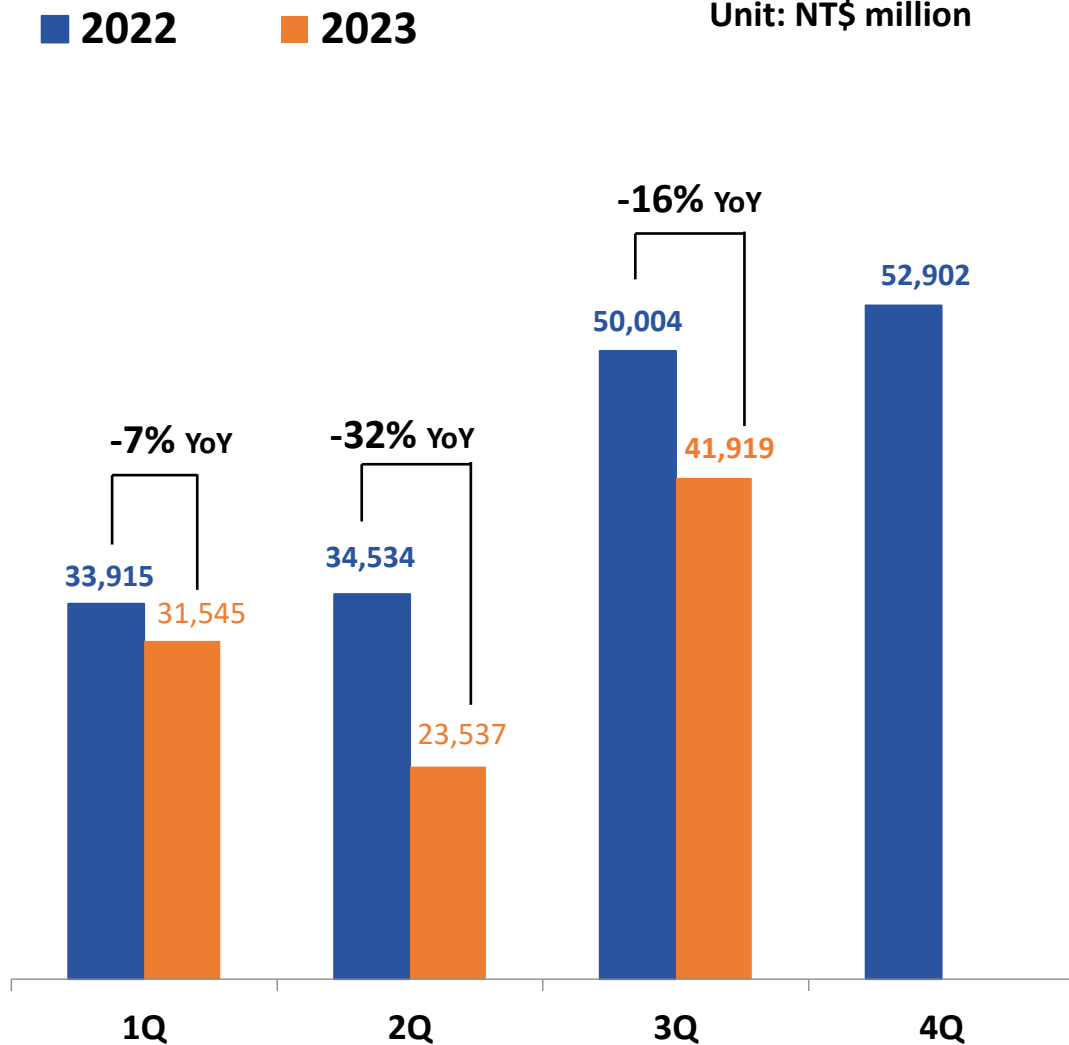
(2) Including current financial assets at amortized cost (time deposits, etc.)

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# Quarterly Operation Result

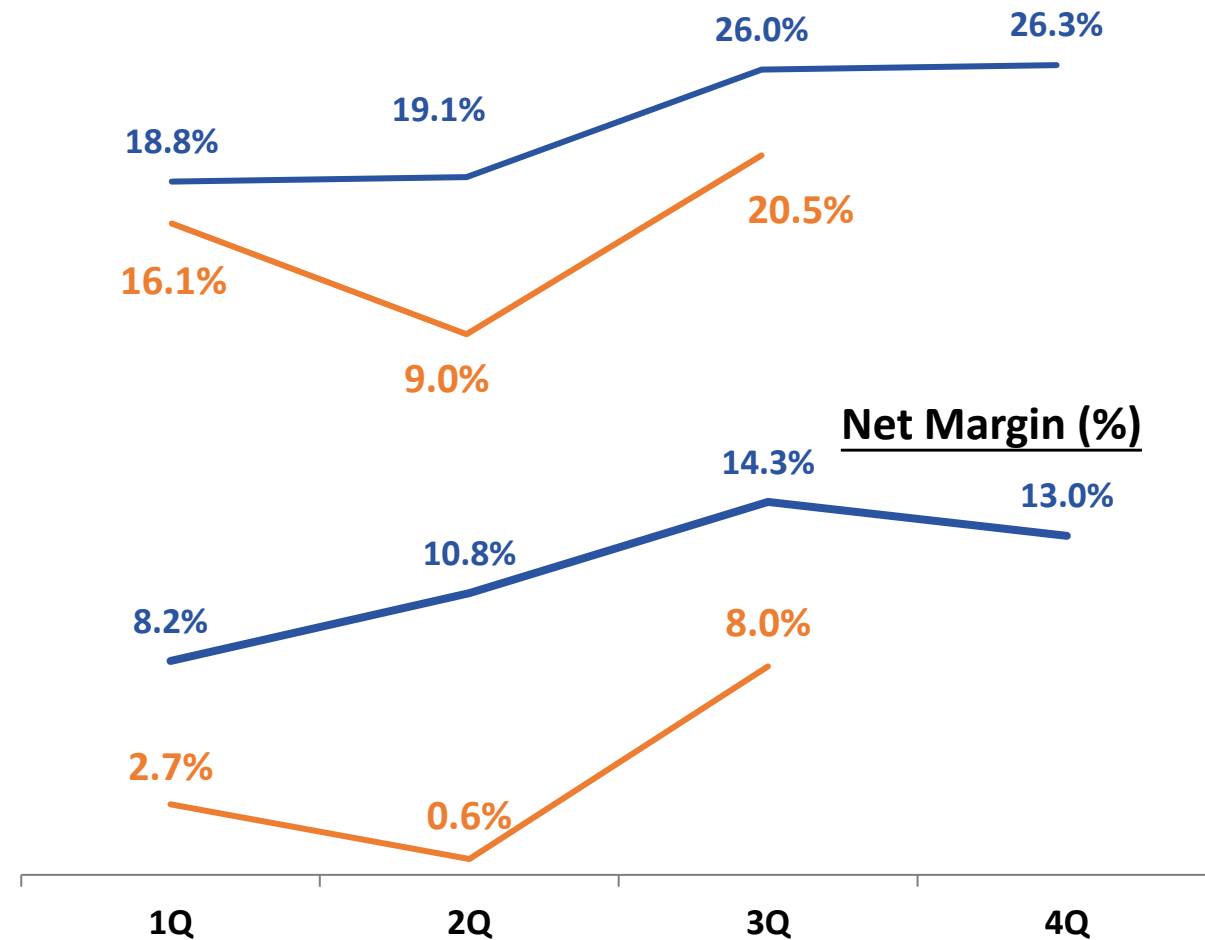
Revenue

Unit: NT\$ million

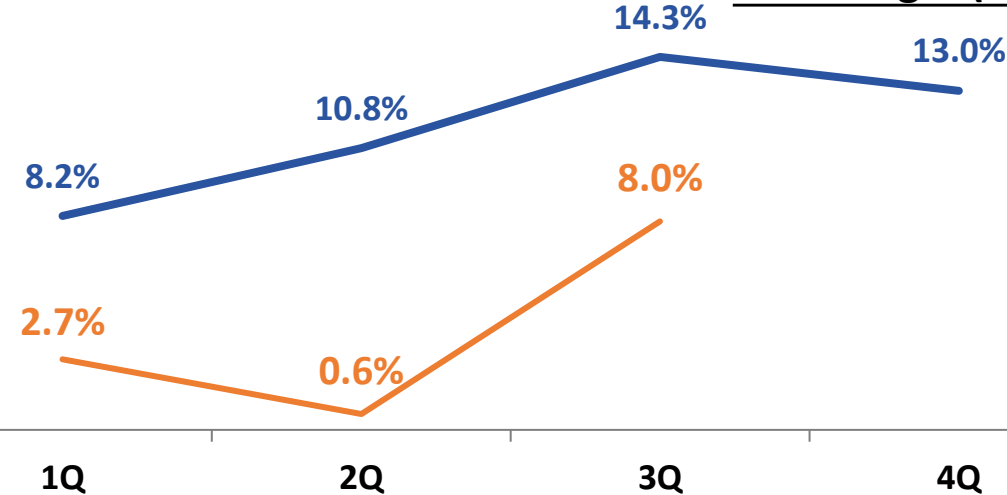


Gross Margin (%)

— 2022 — 2023

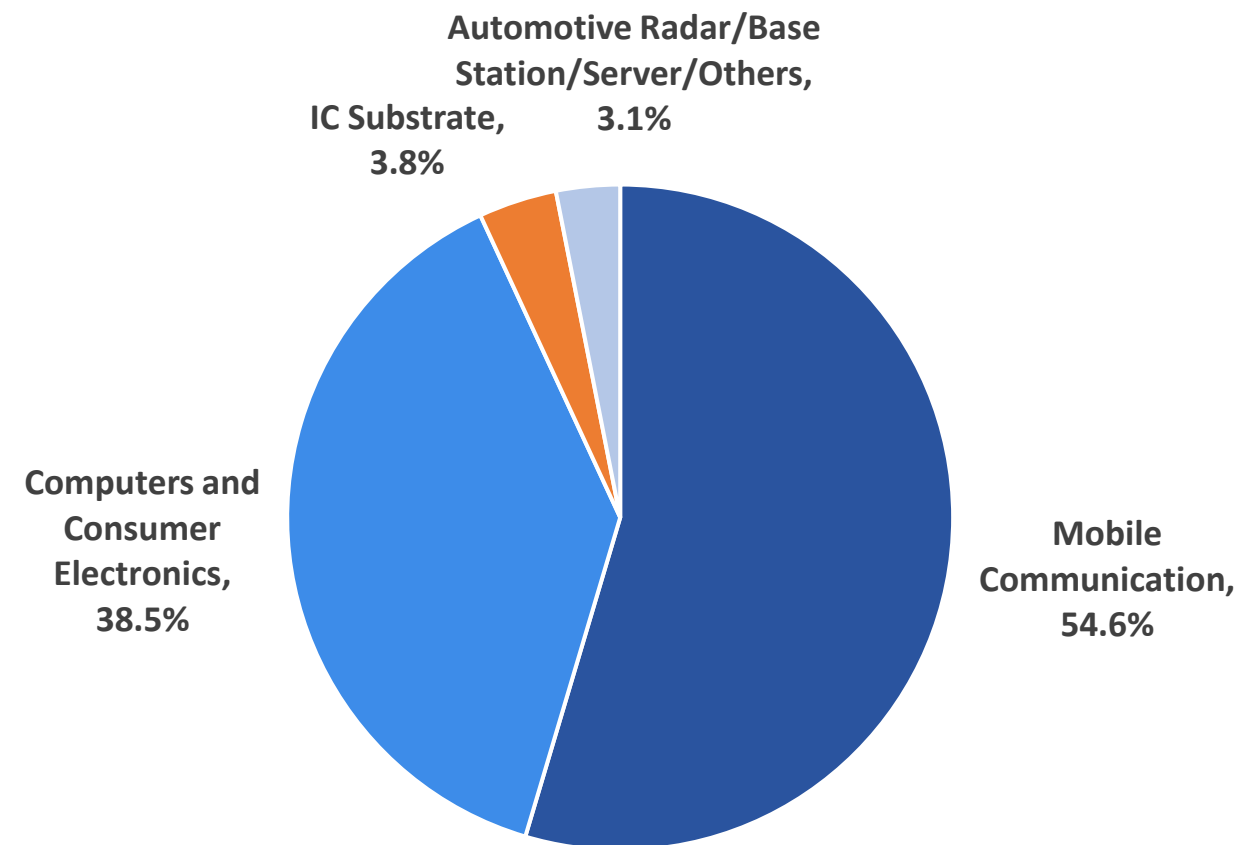


Net Margin (%)

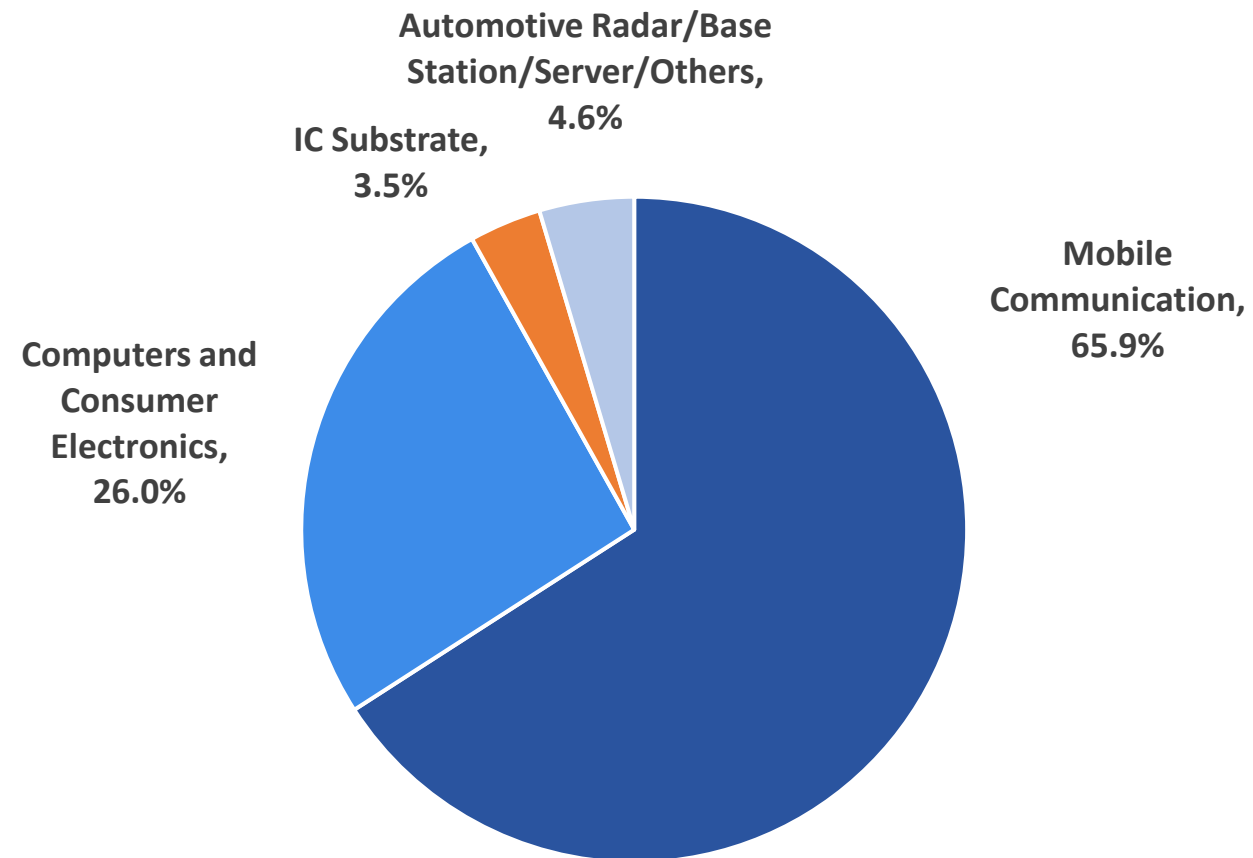


# Revenue Breakdown – By Applications

1Q-3Q22 Revenue NT\$118.5bn



1Q-3Q23 Revenue NT\$97.0bn





# Consolidated Balance Sheet and Key Indices

	2023-9-30		2022-9-30		Unit: NT\$ million Change	
	Amount	%	Amount	%	Amount	%
Cash and Cash Equivalents <sup>(2)</sup>	59,979	24.2%	48,957	21.3%	11,022	+2.9ppts
Notes & Accounts Receivable	32,141	13.0%	36,326	15.8%	-4,185	-2.8ppts
Inventories	22,311	9.0%	24,053	10.5%	-1,742	-1.5ppts
Property, Plant and Equipment <sup>(3)</sup>	112,780	45.5%	99,514	43.3%	13,266	+2.2ppts
<b>Total Assets</b>	<b>247,800</b>	<b>100%</b>	<b>229,707</b>	<b>100.0%</b>	<b>18,093</b>	
Debt	51,640	20.8%	46,515	20.3%	5,125	+0.6ppts
Notes & Accounts Payable	44,196	17.8%	39,774	17.3%	4,422	+0.5ppts
<b>Total Liabilities</b>	<b>113,329</b>	<b>45.7%</b>	<b>101,874</b>	<b>44.3%</b>	<b>11,455</b>	
<b>Total Equity</b>	<b>134,471</b>	<b>54.3%</b>	<b>127,833</b>	<b>55.7%</b>	<b>6,638</b>	<b>-1.4ppts</b>

## Key Indices

A/R Turnover Days	87	85	2
Inventory Turnover Days	72	65	7
Current Ratio (x)	1.41	1.52	(0.11)
PPE Turnover (x) <sup>(4)</sup>	1.21	1.70	(0.49)

Note : (1) Weighted Average Shares outstanding as of 3Q23 : 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

# 2011-2022 Financial Summary

Unit: NT\$ million

Period	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Revenue	44,280	55,369	64,483	75,954	85,738	82,393	109,238	117,913	120,068	131,279	155,022	171,356
Gross Profit	6,993	10,775	11,894	14,323	16,427	12,542	17,833	26,061	27,222	26,584	30,537	39,888
Net Income	2,356	4,056	5,471	6,735	7,731	3,456	6,772	11,536	12,402	11,508	13,694	20,535
Net Income to Parent	2,356	4,056	5,471	6,735	7,731	3,456	5,172	8,448	8,685	8,095	9,651	14,197
Depreciation & Amortization	3,008	3,375	3,742	4,293	4,850	5,295	5,679	6,820	7,955	8,405	11,875	14,638
EPS (NT\$)	3.30	5.49	7.41	9.12	9.80	4.29	6.43	10.50	9.93	8.90	10.21	15.02
DPS (NT\$)	1.50	2.50	3.00	3.67	4.50	2.20	3.30	4.46	4.50	4.50	5.00	6.00
Payout Ratio (%)	45.5%	45.5%	40.5%	40.2%	45.9%	51.3%	51.3%	42.5%	45.3%	50.6%	49.0%	40.0%
Cash and Cash Equivalents*	4,084	8,756	10,016	23,482	31,572	30,241	33,296	49,154	43,071	46,775	35,179	57,599
Property, Plant and Equipment	27,097	26,637	27,843	30,073	32,074	32,262	36,681	41,913	46,243	68,177	86,073	104,814
Capital	6,699	7,034	7,386	7,386	8,047	8,047	8,047	8,047	9,022	9,470	9,470	9,470
ROE (%)	15.34%	21.27%	23.77%	23.33%	20.82%	8.59%	14.49%	17.30%	14.72%	11.84%	12.59%	16.67%
Debt Ratio (%)	67.03%	66.28%	64.06%	62.54%	53.70%	59.72%	55.33%	44.25%	35.41%	42.56%	42.01%	42.87%

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



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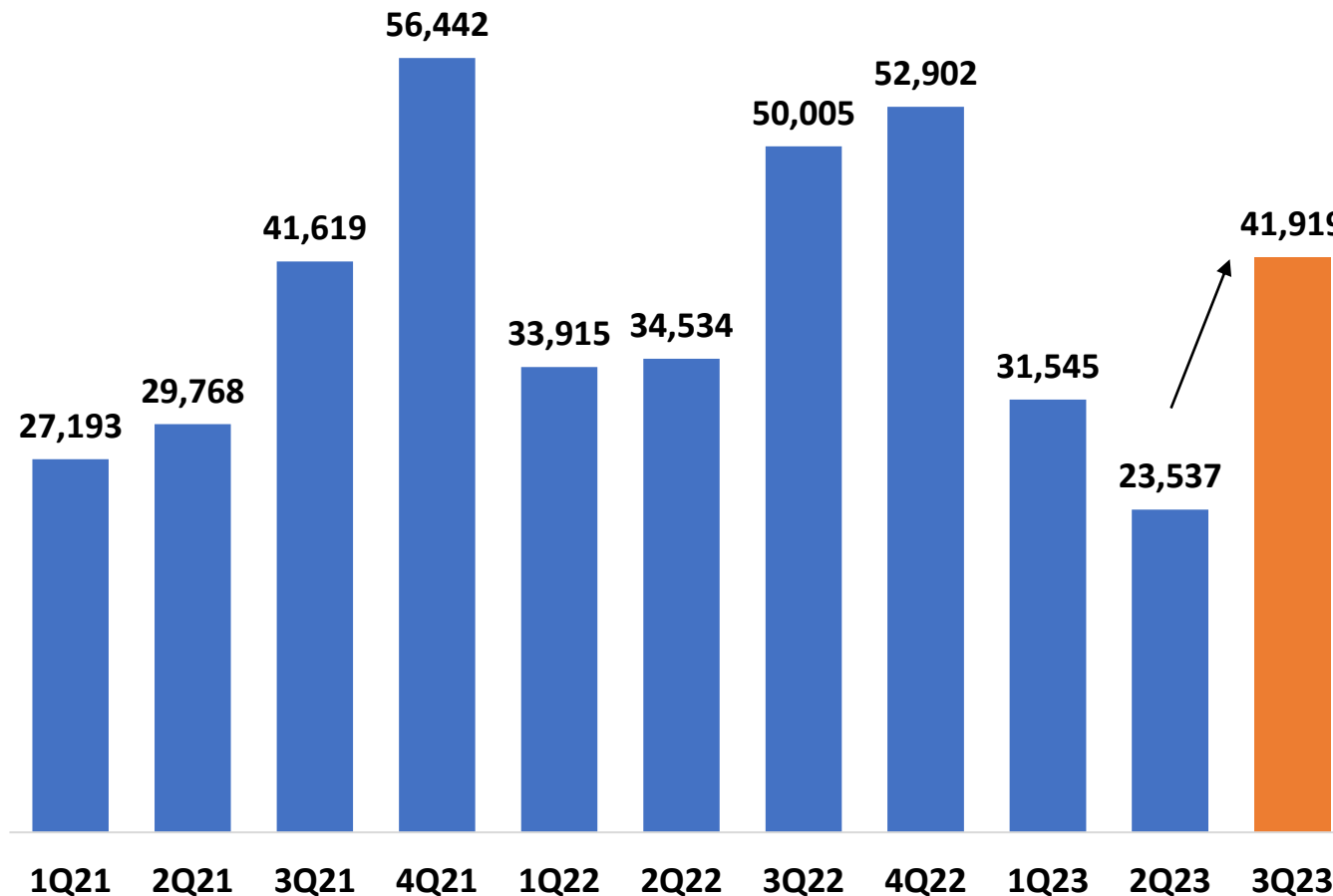
# Company Strategy

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# Bottomed Out in 1H23; Moderate Recovery in 2H23

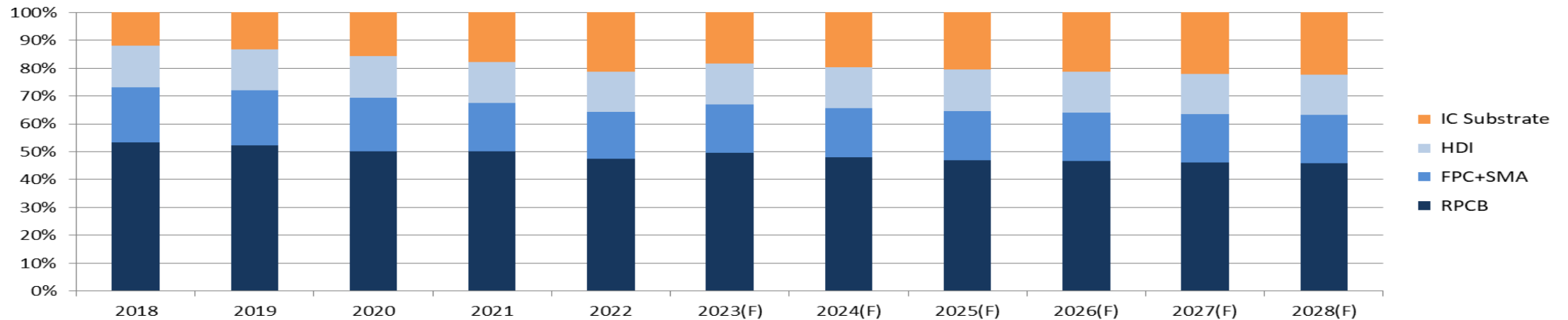
## ZDT's Quarterly Revenue

Unit: NT\$ million



- **We faced headwinds in 1H23 and focused on product development and operational efficiency optimization:** Affected by weak demand in consumer electronics and customer product transitions, our 1H23 revenue decreased in line with industry trends. However, during this period, we have been focusing on product development and efficiency optimization. These efforts drove a year-on-year increase in gross margin for Mobile Communication products despite the economic downturn in the first half of the year.
- **Expect a moderate recovery in 2H23:** Driven by the preparation of inventories for customers' new products, 3Q23 revenue for Mobile Communication and Computers & Consumer Electronics both increased by over 80% QoQ. Meanwhile, revenue for IC Substrate and Automotive Radar/Base Station/Server also delivered double-digit QoQ growth. That said, our overall utilization rate has maintained at a high level currently, and we expect a moderate recovery in the 2H23.

# All PCB Segments Will Resume Growth Next Year



Unit: US\$ million

Product	Item	2018	2019	2020	2021	2022	2023(F)	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	34,542	34,986	36,576	39,025	41,768	42,486	4.20%
	%	53.20%	52.10%	50.10%	50.20%	47.40%	49.69%	47.98%	47.04%	46.61%	46.23%	45.97%	
FPC+SMA	Value	12,395	12,195	12,483	14,058	13,842	12,032	12,813	13,644	14,530	15,473	15,860	5.70%
	%	19.90%	19.90%	19.10%	17.40%	16.90%	17.31%	17.57%	17.55%	17.35%	17.13%	17.16%	
HDI	Value	9,222	9,008	9,874	11,811	11,763	10,131	10,795	11,503	12,257	13,061	13,361	5.70%
	%	14.80%	14.70%	15.10%	14.60%	14.40%	14.57%	14.80%	14.80%	14.64%	14.46%	14.46%	
IC Substrate	Value	7,554	8,139	10,188	14,410	17,415	12,809	14,327	16,024	17,923	20,046	20,720	10.10%
	%	12.10%	13.30%	15.60%	17.80%	21.30%	18.43%	19.65%	20.61%	21.40%	22.19%	22.42%	
Total		62,396	61,311	65,219	80,920	81,740	69,514	72,921	77,747	83,735	90,348	92,427	5.90%
YoY Change (%)		6.04%	-1.74%	6.37%	24.07%	1.01%	-14.96%	4.90%	6.62%	7.70%	7.90%	2.30%	

Source : Prismark (2023/10) \*Forecast Data is calculated based on Prismark's estimation

# Our One ZDT Growth Strategy

Keep creating One ZDT synergies

Product

Offer complete product lines for diversified applications. Co-develop products with customers and provide them best product solutions

Manufacture

Multiple manufacturing sites to fulfill clients' needs, offering flexibility in adjusting capacity

Management

Introduce smart management system into each fab in phases to optimize production efficiency and yield

Talent

Develop comprehensive talent training and promotion programs. Flexibly assign outstanding talents to help develop new business units

Develop new application markets with customers

ADAS



Cloud Datacenter



Low-earth-orbit Satellite



Metaverse







- Based on current customer orders and those in development, ZDT aims to achieve **double-digit** revenue CAGR for server applications over the next five years.
- Growth Strategy:
  - Increase the order allocation at existing customers
  - Offer products for new server platforms of all three major architectures
  - In response to the China+1 customer demand, we certifies the Huai'an and BoardTek fabs simultaneously, and will transfer the technology to the Thailand fab in the future.
  - Gradually upgrade product portfolio and expand product applications from servers to storage/switch, and develop high-end GPU products.



- ZDT aims to be a key promoter of automotive autonomy, intelligence, and electrification. Leveraging a 40% market share in millimeter-wave radar shipments and the experience in mass-producing high-end automotive PCBs, ZDT aims to achieve **double-digit** revenue CAGR for automotive PCBs over the next five years.
- Growth Strategy:
  - Develop advanced applications for ADAS (4D millimeter-wave imaging) radar PCBs and high-end communication modules
  - Offer products for advanced ADAS Domain Control Unit and establish strategic partnerships with the world's top three companies
  - Increase the order allocation at existing customers for the FPC of EV batteries
  - Add new capacity in Thailand and onboard global customers



# The Four New Fabs to Drive Future Growth



**Qinghuangdao BT Substrate Fab:**  
FC-CSP/WB-CSP/Memory



**Shenzhen ABF Substrate Fab: FCBGA**



**Kaohsiung Luzhu Science Park:**  
FPC and Advanced Module Production Line



**Huai'an Park 3: High-end HDI/MSAP**





## Strategic Collaboration with Local Partner

- In response to customer demands and to expand the group's global footprint.
- Location will be in Prachinburi Province, Thailand.
- The groundbreaking ceremony is scheduled on December 12th, 2023. Phase 1 investment amount totaled US\$250 million.
- Plan to enter trail production in 1H25.



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# Business Roadmap and Execution of IC Substrate

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1

**Inventories for most BT customers have returned to roughly normal levels; ABF may start to recover at the end of the year:**

- Most BT customers' inventory days have returned to roughly normal levels, and we have made progress in winning important memory customers. As a result, we are optimistic about the recovery of the BT business.
- The ABF market continues to perform well in certain applications such as AI and HPC. Overall industry may start to recover at year-end.

2

**Reflecting the industry's supply and demand dynamics, the development of the IC substrate industry is expected to be delayed by 1.5 years from previous expectation:**

- The long-term prospects of the semiconductor industry remain promising. Leading companies such as TSMC and Intel continue to expand their production capacities.
- In terms of IC substrates, in the mid-to low-end market, there are many new entrants, and production capacity is largely concentrated in mainland China, lacking the ability and experience to expand internationally to serve global customers. In the mid-to high-end market, despite the fluctuations in the near term, the industry may still be in shortage in the mid-to long-term.

3

**Receiving certifications from international customers:**

- The semiconductor industry is predominantly reliant on international clients. We have been successfully obtaining certifications from international customers, including those from the United States, Europe, Japan, and China. Customers have shown a high level of recognition for our new smart fab.

4

**Focusing on developing high density and fine line products:**

- 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. Within just 6 months, our yield has improved to on par with Tier 1 ABF substrate suppliers. We plan to further advance our products to over 20 layers and over 100mm x 100mm body size in the future.
- For BT substrates, we can offer fine-line 6/8um Embedded Trace Substrate (ETS), and the yield is also on par with Tier 1 players.

## AI

**High-speed  
Computing**

**Data  
Transmission**

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

## Chip Solution

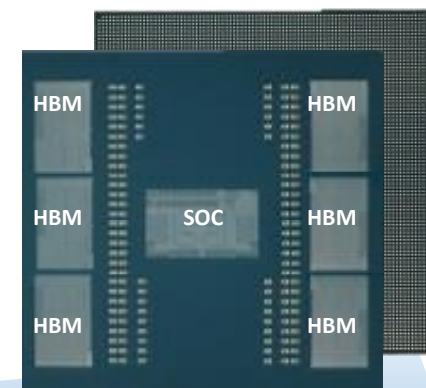
**Single SOC  
(System on Chip)**

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






**Chiplet**

Chiplet packaging increases efficiency

## Chiplet Substrate



### IC Substrate Technology

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

**Zhen Ding's  
IC Substrate**

# Automotive IC Substrate

## 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

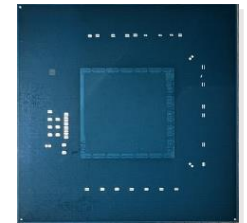


## Packaging

FCBGA  
CSP

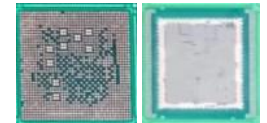
## ZDT's IC Substrate

### 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

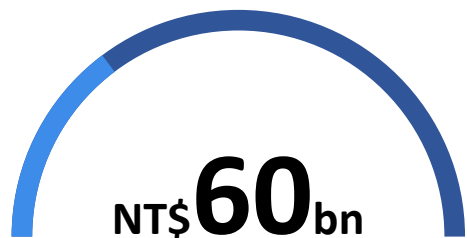


FCBGA  
CSP

# IC Substrate Capacity Expansion Plan

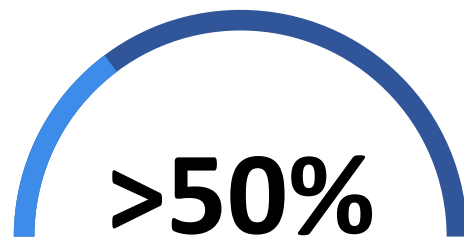
		2023				2024				2025				2026				
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	
<b>SZ ABF Substrate Plant</b> (Two Fabs’ floor area in total: 170,000 m²)	<b>Fab 1</b> (Mid to high-end products)	Installation																
		Sample certification																
		Mass production, target yield: comparable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

# IC Substrate Goals



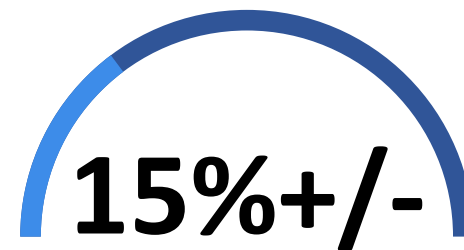
## IC Substrate Capex:

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



# Q&A

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