



Precise Clock for Seamless Synchronization & Ultimate Data Transmission



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- The statements in respect of historical matters may contain unaudited information, which may have certain deficiency or weakness so as not to fairly present financial condition or the results of operations of TXC.





Introduction

Accelerating Key Growth of Al-Powered Ecosystem
Peter Lin, CEO

Fundamental of Artificial Intelligence

Data-Collecting, Inferencing, Training, Processing, and Communication

Diverged Purpose & Functions of AI, such as Generative AI, Machine Learning, and Neural Language play a very key role in future technology



Machine Learning Artificial Intelligence

will drive transformation across industries



The use of generative AI will increase productivity in all sectors to benefit and change the industry.

Collecting (Data Input & Processing)

End Devices Increase by Sensing



- **Data Collection**
- **Preprocessing**
- Prediction & Prevention

Training & Learning

AI – based Data Infrastructure



- Model Selection
- **Training**
- Validation and Testing

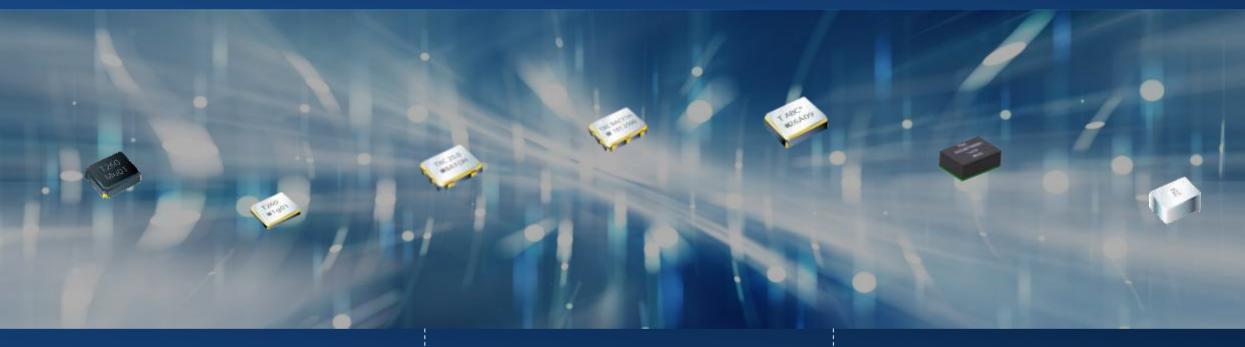
Inferencing & Communication

Adaptive Al Everywhere

- **Continuous Learning**
- Feedback Loops

Leading Timing Industry Moving Forward

Evolved Sensing, Computing, & Communication Technology with AI-Powered Ecosystem



Innovative Leadership
in High Growth Rate Market

in High Growth Rate Market Segments. (8~10+% R&D Investment) Precise Timing Solution
For Telecommunication & Data
Computing

Higher Frequency & Miniature
For Communications
Optimization



















Trends and Key Segments

Key Growth Factors & Market Outlook

Oak Yu, Marketing & Sales Center

Focus ON, Key Growth Segments

Al-Powered Ecosystem outcomes enormous opportunities

Revolutionized Technology To Accelerate and Enhance the AI-Powered Ecosystem



Al-Powered



Automotive



- ✓ From 5G to 5G-Advanced
- ✓ Upgrade on Communication Network
- ✓ Upgrade on Fundamental Infra
- ✓ Boost Network Efficiency

- ✓ Electrification on the way
- ✓ Autonomous Driving Vehicle

Key Growth Factors Behind Al-Powered Ecosystem

Define Our Targets By Focus Segments and Identify The Challenge We shall Overcome by all means as ONE TEAM

Compute

Hgh Density Computation

By Gathering Massive Data via process in response by intelligence inferencing.



Synchronize

Utra Low Network Latency



IEEE 1588 PTP SyncE (Protocol) TSN



Communicate

Seamless Data Transmission

By Ensuring that data bandwidth, transfer of Al is leading hyper-scalers to pour billions into data centers.























Key Ecosystem Segments Powered & Stack By Al

A system allow proliferative apps to provide assistance on multiple cases with Al-Powered applications. Industries will be revolutionized by multiple scenarios cases embedded with GAI-Powered contents.

Al-Powered Infrastructure



CAGR: 20.12% (from 2024 to 2029)

4

Al-Boosted Communications Innovative Technologies Acceleration



- Wide Area: 5G, 5G-RedCap, NTN
- Local Area: Wi-Fi / BT / UWB / LoPWAN
- Ethernet / SerDes / Optical Network

Edge Compute Devices



Device set: 29.7 billion (2028)

Al Drives Higher Performance in Data Infrastructure

Data bandwidth in speedy network with ultra low latency with limitless potential for hyper-scaling data network

MP Schedul	e 2022	2024	2026	2028	2030	2032	2034			
Equipment & Devices Transmission Capacity										
	Ethernet Switch	Chip Capacity	bps (bit/s) : bit per second							
	51.	2 Tbps	102.4 Tbps	204.8	Tbps	409.6 Tbps				
	Optical DSP	-								
CA STATE	40	OGbps 8	00 Gbps	1.6 Tbps	3.2 Tbps	6.4 Tbps				
	High Speed Netv	work Interface Ca								
1	200/	400 Gbps	800 Gbps	1.6 Tbp	s	3.2 Tbps				
	Transmission Protocols									
SerDes	Ethernet SerDes	5								
	56/11	2 Gbps	224 Gbps	448 0	Sbps	896 Gbps				
NVLink	Total Capacity, D	Pirect GPU to GPU								
	NVLink4, 900	Gbps NVLir	nk5, 1.8 Tbps	NVLink6, 3.	6 Tbps	NVLink7, 7.2	2 Tbps			
PCI>>>	PCle Generation	(Link Bandwidth								
EXPRESS	G5, 3	2 Gbps	G	6, 64 Gbps		G7, 128 Gbps				

Fundamental Outlook of Al Infrastructure

What we care is Not Only About Al-Server, it's about the whole overview of "How data been training and inferencing!?"



Key Applications Opportunities from AI Infrastructure



A/ML x16~32
Accelerator Card

Switch Tray



(Support 8x NC maximum per tray) (14.4TB/s support 16 Port w/400G)

SmartNC



For Network Data Security / Distribute>

Timing Product Key Trends

- ✓ Usage
- ✓ Product Matrix Diversified
- ✓ Product ASP +



Advanced Oscillator Family

- √ Higher Frequency (~312.5MHz)
- ✓ Miniature (~2.0x1.6mm)
- ✓ Ultra-Low Jitter (~50fs)



Precise Oscillator Family

- √ Higher Frequency (~156.25MHz)
- ✓ Ultra-Stability (~+/-10~150ppb)
- ✓ Anti-Air Flow Scenario

Fundamental Outlook of Al Infrastructure

The concept of Network Architecture can be referred to data center, enterprise, and carrier network deployment business.

Key Applications Opportunities from AI Infrastructure

Optical Module



(Maximum 64 port for 51.2T Switch)

ToR/Leaf Switch



(PCle Gen5 / 112G SerDes Support)

General-Purposed (Required Sets determined by Network deployment)

Security Firewall

(PCIe Gen5 / 112G SerDes Support)

★ (Low Latency / PTP optional) ★

Spine Switches



★(PTP/IEEE 1588) ★

Timing Product Key Trends

- Product Matrix Diversified
- ✓ Product ASP +



Advanced Oscillator Family

- √ Higher Frequency (~625MHz)
- ✓ Miniature (~2.0x1.6mm)
- ✓ Ultra-Low Jitter (~30fs)
- √ Tighter Stability (+/-20ppm)

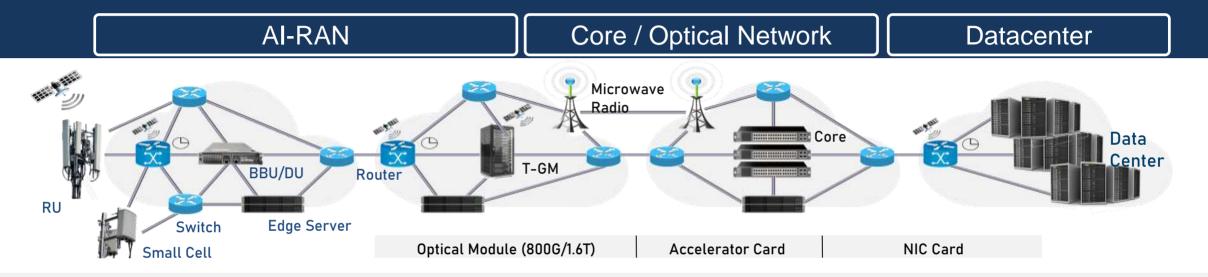


Precise Oscillator Family

- ✓ Ultra-Stability (~+/-10~150ppb)
- Extended Holdover (~24 hrs)

Revolutionize 5G-A RAN with Innovation

Expand Business by AI-Enhanced Driven Advanced Oscillators Product Family





Power Saving & Bandwidth Efficiency











Making Every Synchronization Better

Precise Oscillator for Seamless Data transmission with Real-time compensation

ThermSym Platform™

OE OG OH OK

14x9 mm 9x7 mm 7x5 mm 5x3mm

ThermSymEros
Industry smallest OCXO 5x3mm
ThermSymHecules
Industry Highest Ta up-to 105C
ThermSymChronos
Holdover 4~6 hours in 9x7mm

★New Precise Product Solution ★
Xterniti PlatformTM
Al-Powered OCXO



Xterniti

- Resonator temperature output
- Hysteresis Compensation
- Stratum 3 performs like stratum 2
- 24 hours < 1μs in constant Ta
- 8~24 hours < 1μs in dynamic Ta



Al-On Device By Connectivity & Computation

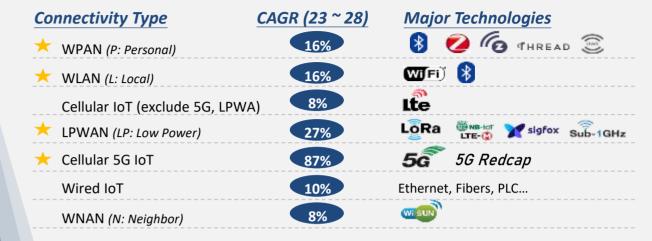
Optimized Solution Matrix

Hybrid Connectivity + Al On Devices will drive multiple mobile use cases at Edge side for end users

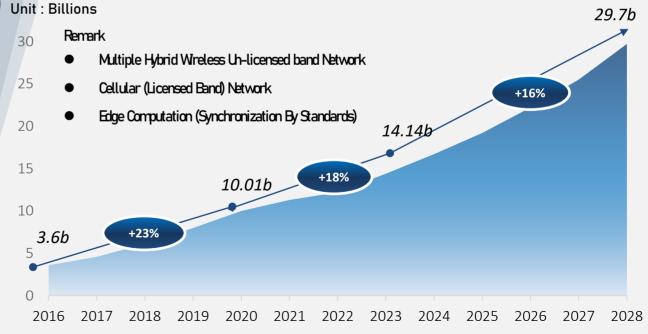


- ✓ New Generation Technology Adoption
- √ Usage+
- ✓ Product Matrix Diversified (Miniature + Higher Frequency)

Global IoT Connected Devices Market Trends By Technologies



Number of Global active IoT installed connections in Billions Unit



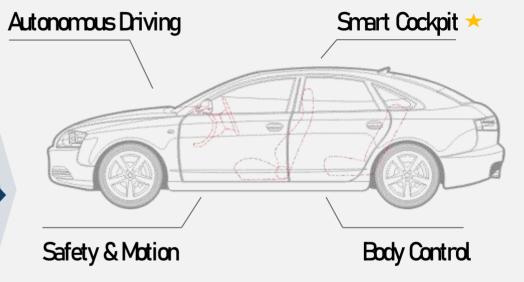
Expanding

Automotive Ecosystem Growth Applications

Automotive Blueprint Strategy

~25% of Total Sales





Key Growth Drivers By Applications & Scenarios

- Advancements in Autonomous Driving Technologies
- Connectivity and Infotainment System Upgrade
- Innovation in Vehicle-to-Everything

Key Target Applications & Products

- Key ADAS components for Autonomous Driving (Radar / Camera / HPC)
 - Standard Oscillators & High Frequency Advanced Oscillator
- Key Users Experience Enhancement (Fusion of Cockpit, Cluster, & Infotainment)
 - High Frequency Crystal & TSX <Telematics + Connectivity>
- Vehicle Electrification of Applications Giants (Global Tier 1)

Building Blueprints for Sustainable Growth

Comprehensive Automotive Ecosystem to Define Key Tier 1 to Boost up Our Revenue

2020 - NOW

NEAR TERM (2025 - 2027)

MID TERM (2027 - 2030~)

Review, Plan, & Execution of Blueprint

- Key Growth from Electric Vehicle Players
- Key Accounts Penetration
- Increase Market Allocation

Expanding of Blueprint

- Deployment of regional automotive customers
- Exploration of Tier 1 Suppliers for Automotive Brands
- Expand end customers by application
- IDH's reference design and promotion of end customers

2023 Market Share

Source: OYR Research Jul. 2024



Timing Industry Leader

Market Share 20%+



Comprehensive Al-Powered Ecosystem Blueprint Strategy



Automotive



Expanding Key Business Segments

Double % Growth of Total Sales

Advanced/Precise Oscillator Family

Telecom/Datacom for IDH & Tier1

25%+ Growth of Total Sales

High Freq/Advanced Oscillator Family/Crystal/TSX

ADAS/Smart Cockpit/EV for Tier1





Financial Performance

Financial Results, DPS, CAPEX, ESG

Muriel Chen, Financial Department

2023 Corporate Snapshot

Highlights

Key Market Segments

5G-A, Automotive, Al-Powered Comprehensive Ecosystem

Optimized Product Portfolio

Miniature / Higher Frequency / Tighter Stability / Low Phase Noise / Low Power Consumption

New Production Facilities

Initiate Oversea Facility Plan

Sales Revenue (USD\$)

\$350м

Automotive

16%

Miniature Product(%)

44% .

Qty shipped (pcs)

3.5_B

Mobile Communication

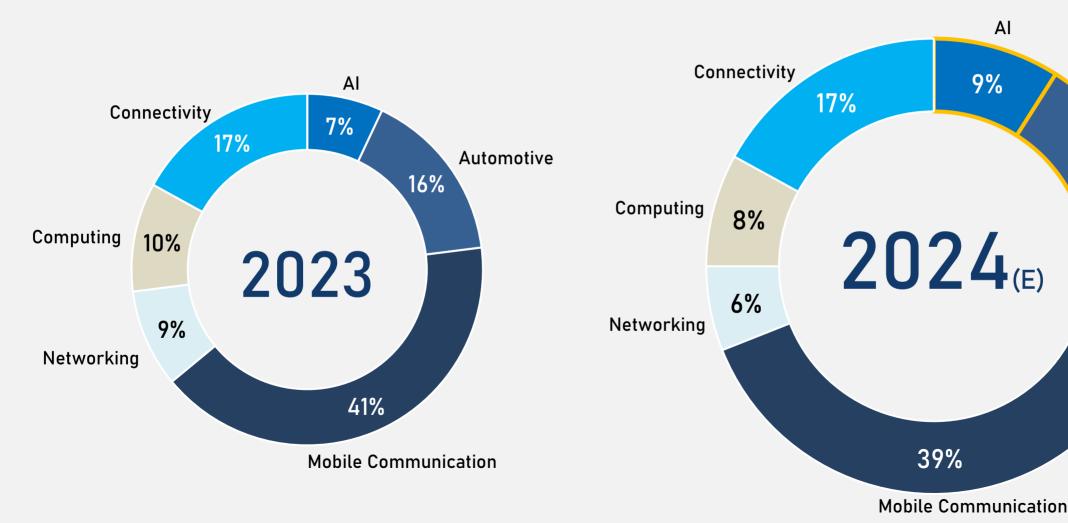
41%

Advanced Product %

17.4%

Key Industry Segment Breakdown

Focus on Potential Market with sustainable growth



Automotive

21%

Statements of Comprehensive Income

Growth with Stable & Health Financial Status

Unit: NT\$ Million	Q2'24	Q1'24	QoQ	YOY	H1'24	H1'23	YOY
Net Revenue	2,923	2,754	6.1%	20.5%	5,676	4,724	20.2%
Gross Profit	1,074	1,000	7.5%	29.1%	2,074	1,626	27.6%
Operating Expenses	562	534	5.2%	17.8%	1,096	925	18.5%
Operating Profit	512	466	10.0%	44.2%	978	701	39.6%
Non-Operating Items	113	181	-37.9%	-20.1%	294	147	100.5%
Income before Tax	625	647	-3.4%	25.9%	1,272	847	50.1%
Net Income	519	537	-3.4%	23.4%	1,056	707	49.3%
Basic EPS (NT\$)	1.67	1.73	-3.5%	23.7%	3.40	2.28	49.1%
Gross Margin(%)	36.75%	36.30%			36.53%	34.41%	
OPEX(%)	19.22%	19.39%			19.30%	19.58%	
Operating Margin(%)	17.53%	16.91%			17.23%	14.83%	
Income before Tax Margin(%)	21.39%	23.50%			22.41%	17.94%	
Net Profit Margin(%)	17.76%	19.51%			18.61%	14.97%	

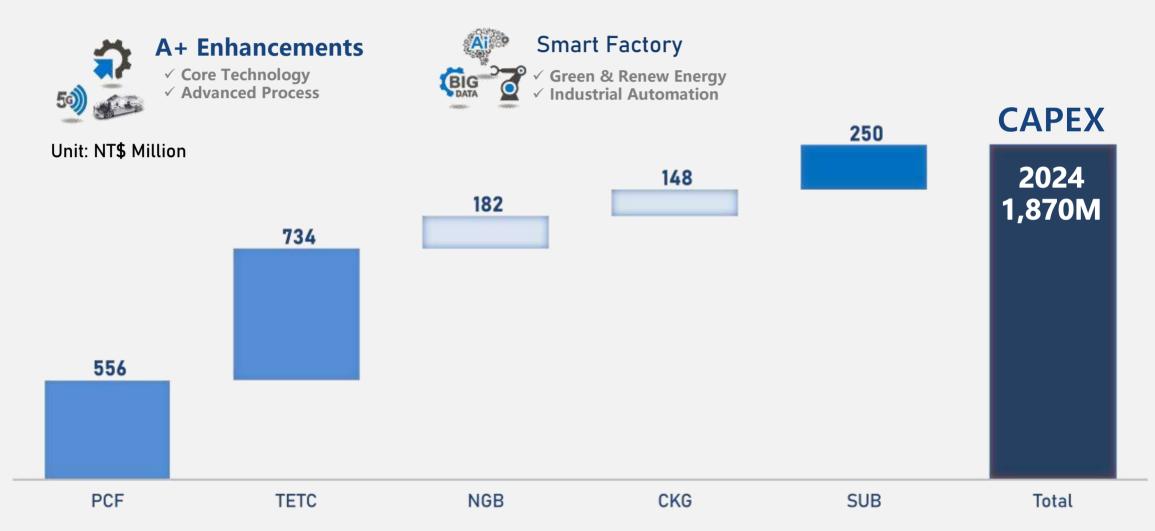
Balance Sheet

Growth with Stable & Health Financial Status

Unit: NT\$ Million	Jur	Jun. '24		Dec. '23		Jun. '23	
Item	Amount	Portion(%)	Amount	Portion(%)	Amount	Portion(%)	
Cash & Cash equivalents	5,646	26.1%	4,204	22.3%	4,501	23.6%	
NR+AR	3,050	14.1%	3,255	17.3%	2,646	13.9%	
Inventories	2,844	13.2%	2,470	13.1%	2,522	13.2%	
Current Assets	12,776	59.1%	10,812	57.4%	10,902	57.1%	
Total Assets	21,602	100.0%	18,822	100.0%	19,105	100.0%	
Current Liabilities	6,044	28.0%	4,768	25.3%	5,498	28.8%	
Non-current Liabilities	3,454	16.0%	2,180	11.6%	2,726	14.3%	
Total Liabilities	9,497	44.0%	6,949	36.9%	8,224	43.0%	
Total Shareholders' Equity	12,104	56.0%	11,874	63.1%	10,880	57.0%	
A/R Turnover Days	1	102		115		120	
Inventory Turnover Days	1:	135		135		154	
Current Ratio(%)	2	211%		227%		198%	
Debt Ratio(%)	44	44.0%		36.9%		43.0%	
ROA(%)	10	10.7%		9.1%		7.5%	
ROE(%)	17	17.6%		14.1%		12.1%	

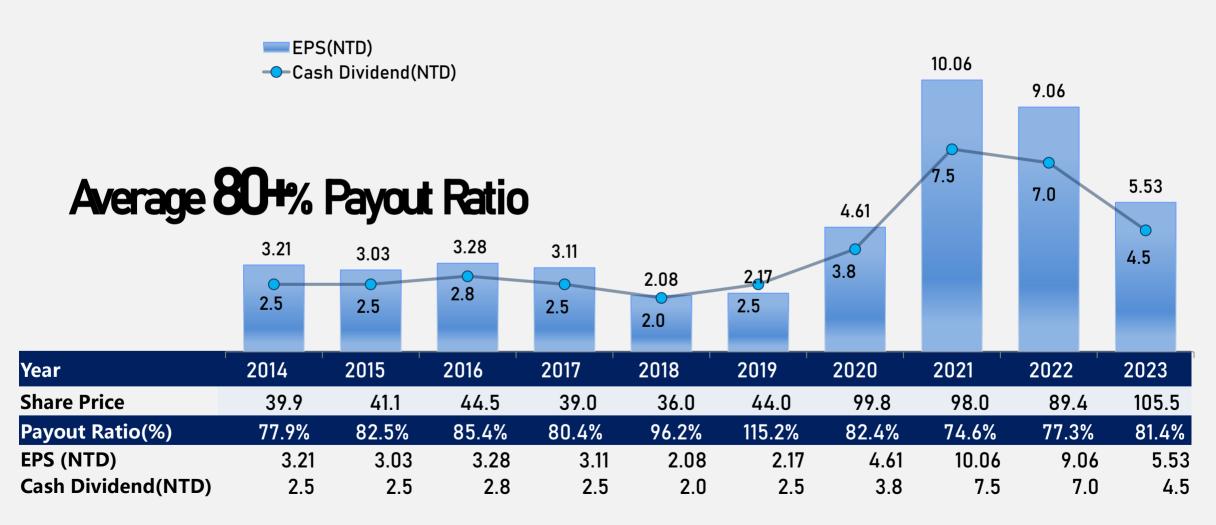
2024 CAPEX

Core technology enhancement, Smart Factory, Overseas Factory



EPS & DPS

High Dividends Payout, with Sustainable Business Growth



Environments, Sustainability, Governance

We Care, We Committee, We Dedicate

Healthy Growth with Value based Sustainability

2024 RE%

0/0 (On Schedul

Roadmap to Net Zero Carbon

RE 30 By 2030

RE100 By 2050





公司治理

Top 6%~20% Listed Corporates of the 10th Corporate Governance Evaluation

"Taiwan Best-in-Class 100"



"Conform to 1.5" C temperature control target" label from Common Wealth Magazine



ISO14064 / ISO14067 / ISO 50001

