



# TXC Corporation Investor Conference

# Disclaimer

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- Except for statements in respect of historical matters, the statements in this release are forward-looking statements. Such forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual performance, financial condition or results of operations of TXC to be materially different from what may be implied by such forward-looking statements.
- The financial forecasts and forward-looking statements in the release reflect the current belief of TXC as of the date of this release and TXC undertakes no obligation to update these forecasts and forward-looking statements for events or circumstances that occur subsequent to such date.
- 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.

# Market Leader with Sustainability



-  **40 Years in Timing Industry**, Founded in 1983 & Headquarters in Taiwan
-  **Listed in Taiwan Stock Exchange**, Since 2000
-  **Ranked No. 1 in Worldwide Timing Market**, QYR 2023, Jul
-  **Ranked No. 1 in Worldwide MHz Crystal Market**, QYR 2023, Jul & TXC Shipment
-  **Preferred Supplier for Tier 1 in Network Infrastructure Market**, 2008 ~ Present
-  **Global Ranking No. 3 in Automotive Market**, 54% YoY, 2022, QYR 2023, Jul
-  **Timing Industry Leader in Product Miniaturization**, 2012 ~ Present
-  **Smallest and Innovative Devices Integration by Ceramic Packaging**, Since 2013

# Timing Devices is Essential Key to All Electronics

 Making **Pu**lse to the Connections

Quartz offers the most Clear & Low Noise Clock to make every Connections Better

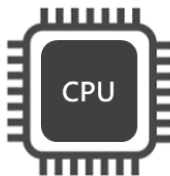
## Clock Reference/Generation

Radio Frequency



5G NR  
GPS  
Wi-Fi 6/BT  
NFC  
UWB

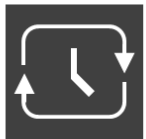
Electronic Devices



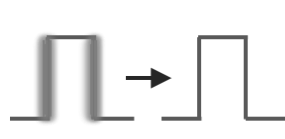
Interface  
GPU/MCU  
PMIC  
DRAM  
USB

## Clock Synchronization/Attenuation

Network Infrastructure & Enterprise Devices



SyncE & IEEE 1588



Access Network  
Front/Mid/Backhaul  
Core Network  
IDC  
Optical Module



Crystal

Seam Seal



Glass Seal



Tuning Fork



Temperature Sensor Crystal (TSX)



Oscillator

Crystal Oscillators (XO)

CMOS



Differential



Programmable



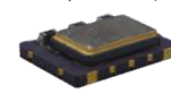
Voltage Controlled Oscillators (VCXO)



Temperature Compensated Oscillators (TCXO)



Temperature Compensated Oscillators (S3TCXO)



Oven Controlled Oscillators (OCXO)



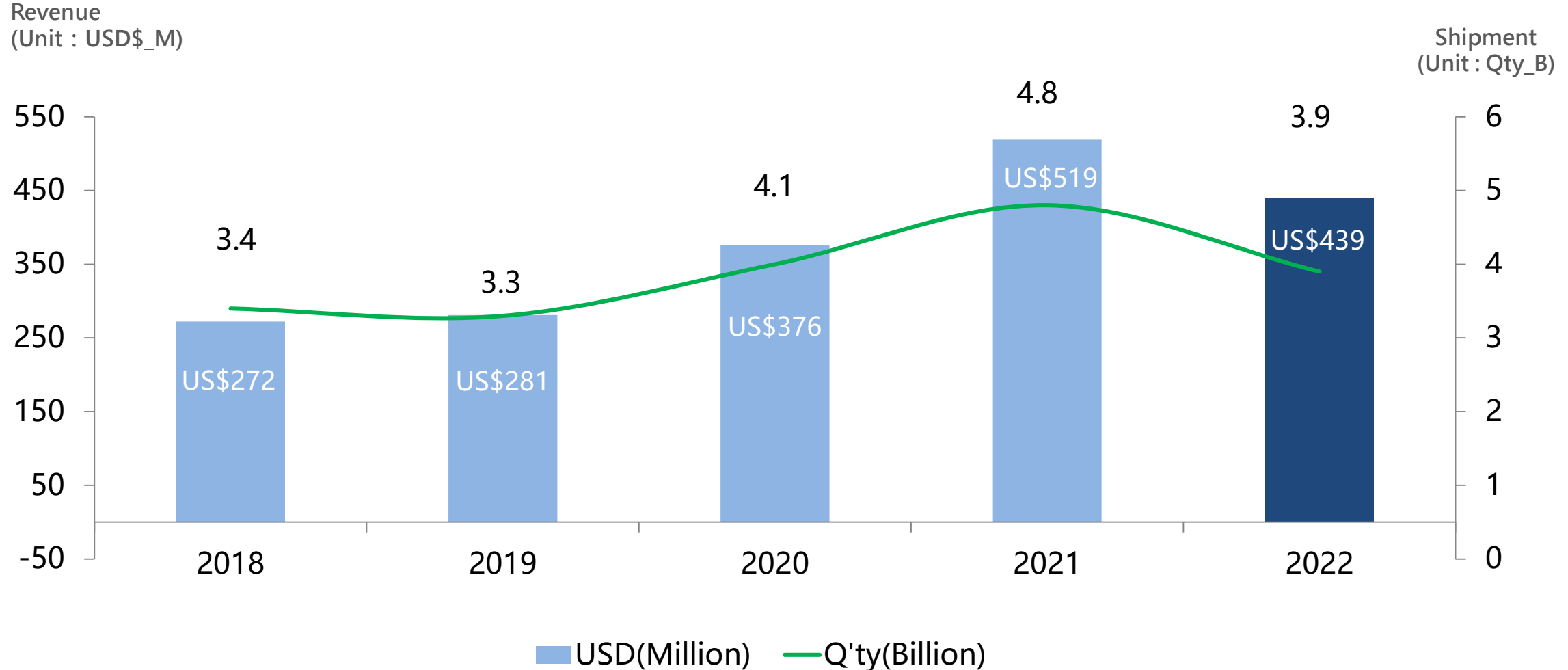
# Worldwide Timing Market Overview

Rank		Vendors	Revenue (Million_USD)			Market Share (%)	
2021	2022	Company Name	2021	2022	YoY%	2021	2022
1	1	TXC	\$519	\$442	-14.8%	11.7%	11.1%
2	2	Epson	\$425	\$379	-10.7%	9.6%	9.5%
3	3	NDK	\$366	\$352	-3.9%	8.3%	8.8%
4	4	KCD(Kyocera)	\$359	\$311	-13.4%	8.1%	7.8%
7	5	Sitime	\$218	\$283	29.6%	4.9%	7.1%
5	6	KDS	\$338	\$268	-20.6%	7.6%	6.7%
6	7	Microchip	\$222	\$226	2.1%	5.0%	5.7%
8	8	TKD	\$176	\$128	-26.8%	4.0%	3.2%
11	9	Rakon	\$121	\$114	-5.9%	2.8%	2.9%
13	10	Hosonic	\$113	\$110	-2.2%	2.6%	2.8%
Other Companies			\$1,565	\$1,375	-12.1%	35.4%	34.5%
<b>Total Revenue</b>			<b>\$4,422</b>	<b>\$3,988</b>	<b>-9.8%</b>	<b>100.00%</b>	<b>100.00%</b>

Source: QYR Research Jul. 2023

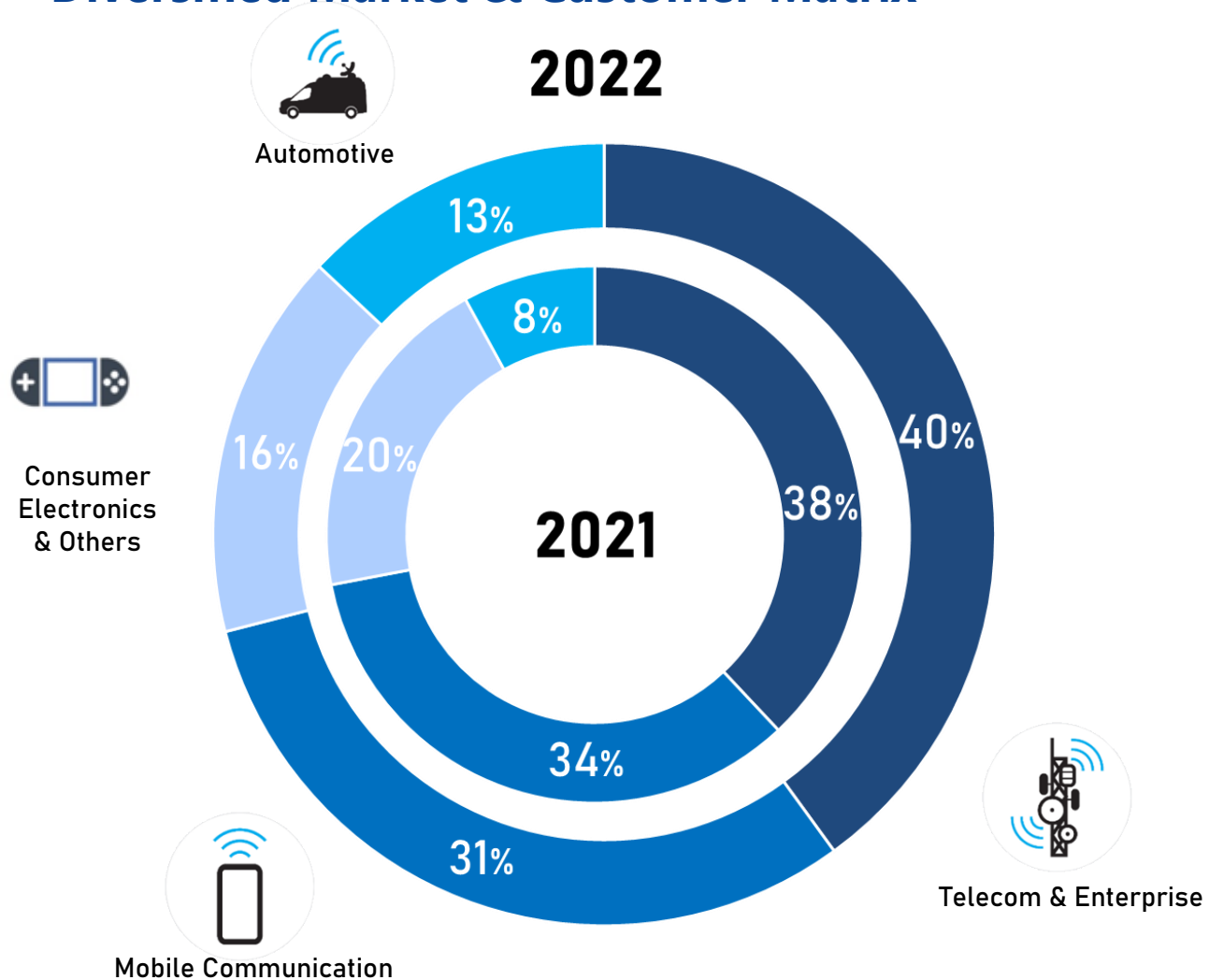
# Revenue Growth By Years

## Organic & Sustainable Business Expansion



# Revenue Growth By Segments

## Diversified Market & Customer Matrix



## Key Diversified Growth Drivers

### 5G Mobile Devices

Miniature Product , High Frequency Products

### 5G Telecom & Infrastructure

Precise & Ultra Low Phase Noise Oscillators

### High Speed Datacom

High Frequency & Low Phase Jitter Oscillators

### Vehicle Electrifications

Mass Adoption on Crystal & Oscillator for Autonomous Driving

# Global Presence

- ◆ R&D
- ◆ Manufacture Plant
- ◆ Sales Operation
- ★ Lab Service

3

R&D Centers

15

Sales Office

4

Plants



3,300 Employee



# Manufacture Facilities

1991

✓ Automotive IATF 16949



Taiwan, Ping Cheng (PCF)

- MHz Crystal
- TSX
- XO
- TCXO
- VCXO
- OCXO
- Sensors

1999

✓ Automotive IATF 16949



China, Ningbo (NGB)

- kHz/MHz Crystal
- TSX
- XO
- TCXO

2013



China, Chongqing (CKG)

- MHz Crystal
- TSX

2020

✓ Automotive IATF 16949



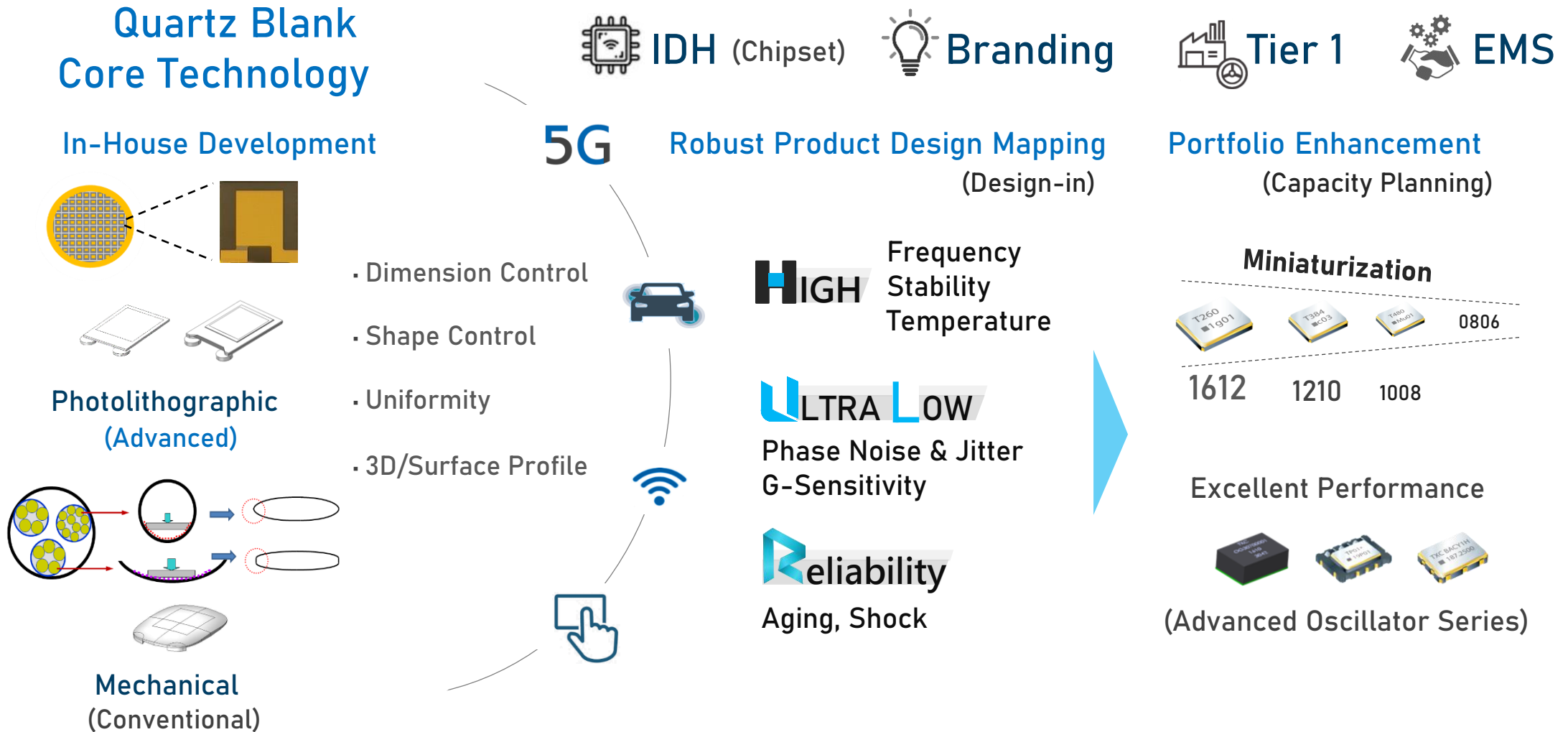
China, Ningbo (TETC)

- kHz/MHz Crystal
- XO

- 4 manufacturing facilities
- 200+ automated production lines
- 430M+ monthly capacity(Timing Devices)
- 3 R&D centers (PCF, NGB & CKG)
- 400+ engineers

# Our Core Competitiveness

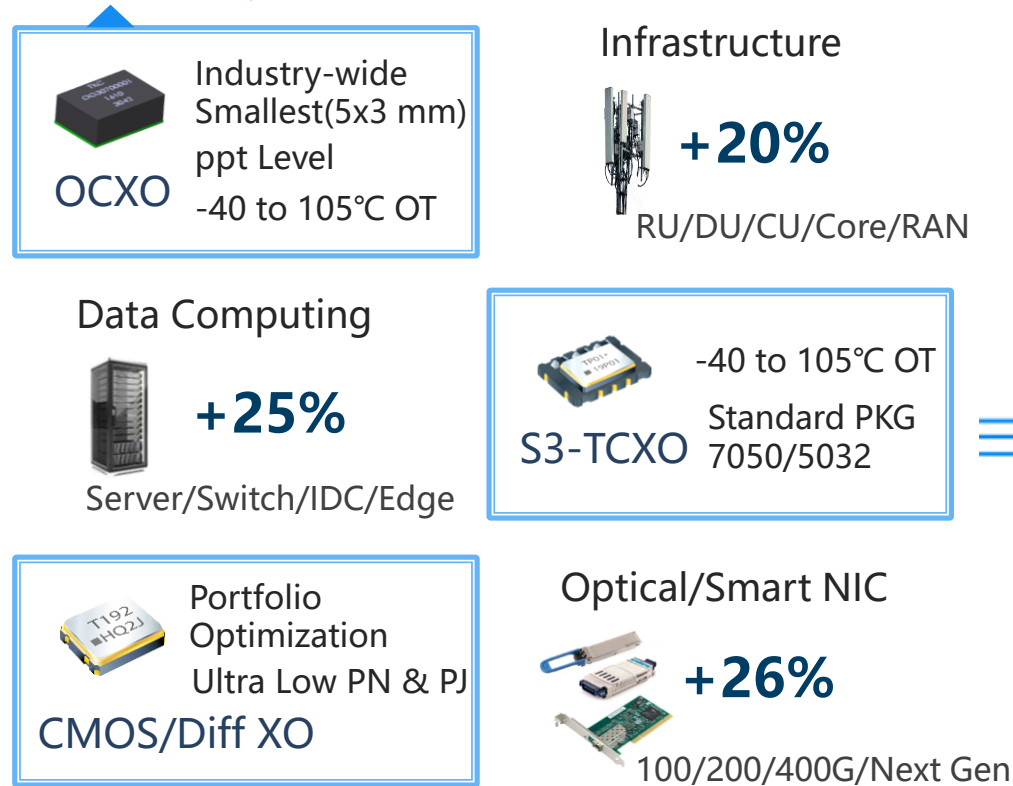
## Improvement and Enhancement of Technology



# Increase Data Traffic is folding Business growth

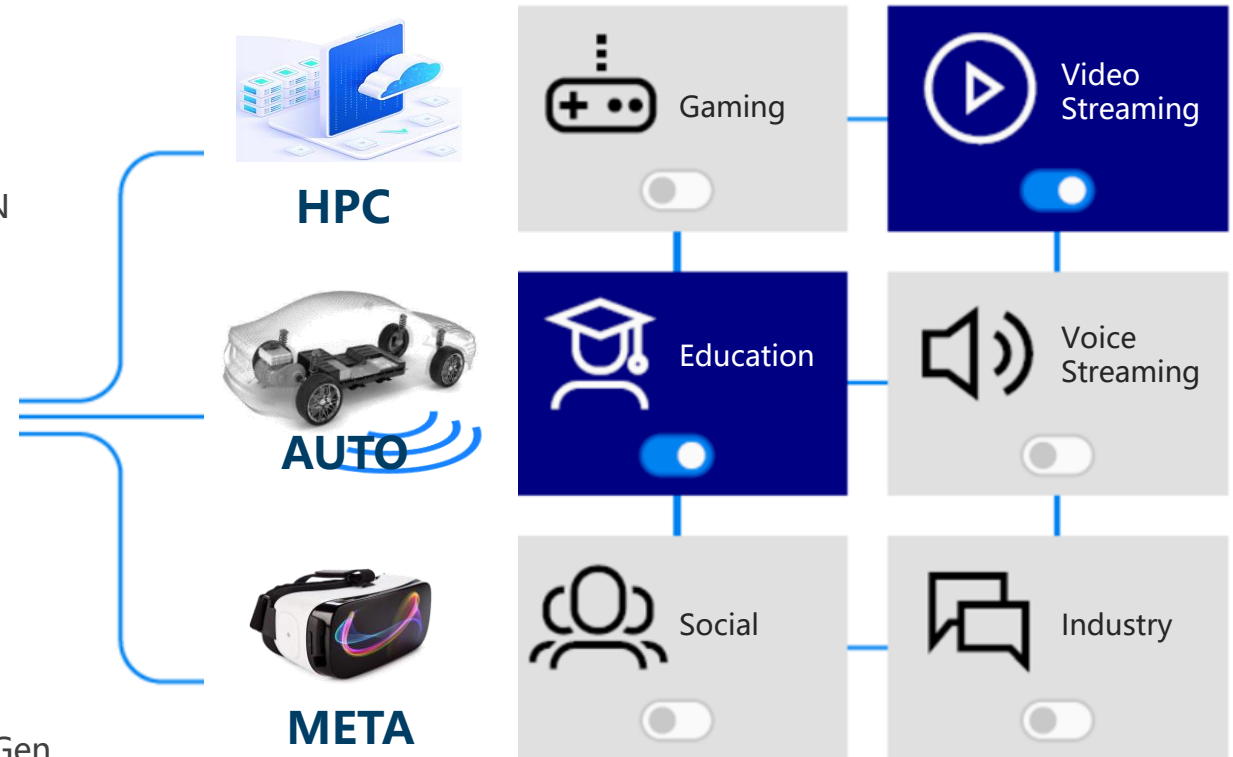
## Data Transmission Upgrade for Advanced Oscillators Deployment

**ThermSym Hercules Chronos Eros**



+% CAGR of equipment or device sales revenues projection during 2022-2025

Mobile Network Traffic Growing **3 – 5 times** in the Next 5 Years

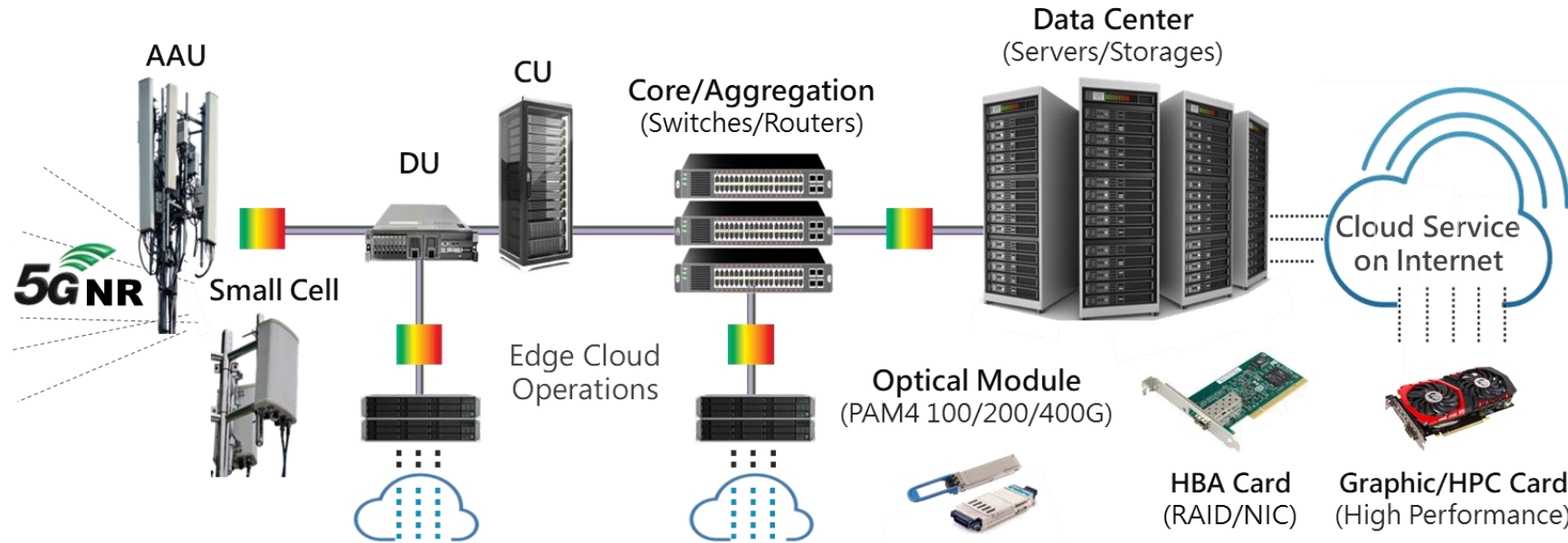


Data Traffic (EB per Month): 2021: **84**, 2024: **255**, 2027: **368**

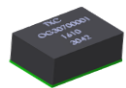
Source: Ericsson Mobility Report, June 2023

# Telecommunication & Enterprise

Extra High-Frequency, Ultra-Low Phase Noise & Jitter & Stability Performance



High Stability  
LTRA



OCXO

Stratum 3E  
ThermSym™, ±5~10 ppb



S3TCXO

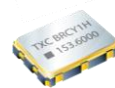
Stratum 3  
Stability, ±100 ppb



VCTCXO

Stratum 3  
Stability, ±280 ppb

LOW PJ & PN  
LTRA



VCXO

Phase Jitter@12k - 20MHz, 0.05 ps  
Phase Noise@10Hz, -80dBc/Hz



Diff XO

Phase Jitter@12k - 20MHz, 0.05~1.5 ps  
Phase Noise@10Hz, <-60dBc/Hz



CMOS XO

Frequency up to 2.1GHz



Programmable XO (XO Series Selection for LT)

# Mobile Connectivity & Devices Ecosystems

Miniature, Higher Frequency & Ultra Low Phase Noise



## HIGH Frequency Accuracy & Stability

World's Smallest Series



**MHz Crystal**

Miniature, 1.0 x 0.8 (mm)  
8 – 320 MHz

1612 1210 1008  
Next 0806



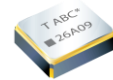
**TSX**(TH+Xtal)

Miniature, 1.6 x 1.2 (mm)  
19.2 – 76.8MHz



**XO**(CMOS/Differential/PLL)

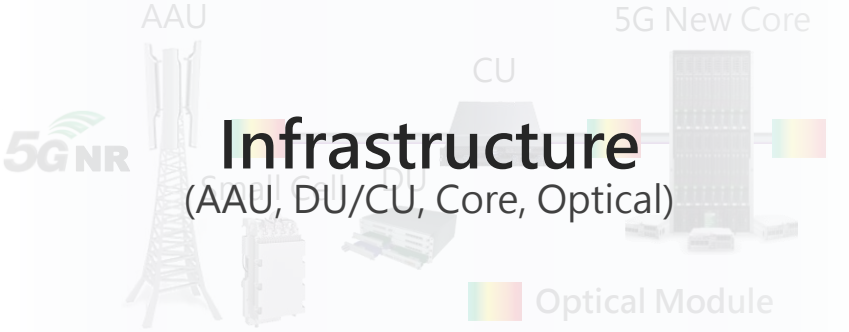


PJ@12k – 20MHz, 0.05 – 0.3 ps  
Low EMI CMOS XO



**TCXO**(CMOS/Clipped)

PN@100kHz, -166 dBc/Hz  
Stability, ±0.5 ppm

# Total Solutions for 5G Application

Solution	Size	Key Parameters	5G Main Application
OCXO	5032 – 1409	Stability, $\pm 5\sim 10$ ppb	 <p><b>Infrastructure</b> (AAU, DU/CU, Core, Optical)</p>
S3TCXO	5032/7050	Stability, $\pm 100$ ppb	
TCXO	1612 – 2520	Phase Noise@100kHz, -166dBc/Hz	
VCXO	2520 – 7050	Phase Jitter@12k - 20MHz, 0.05 ps	 <p><b>Intelligence Platform</b> (Smart Device, Edge Computing, Automotive)</p>
Diff XO	2520 – 7050	Phase Jitter@12k - 20MHz, 0.05 ps	
PLL XO	2520 – 7050	Frequency, 10MHz - 2.1GHz	
XO	1612 – 2520	Phase Jitter@12k - 20MHz, 0.3 ps	 <p><b>Device Interconnection</b> (Mobile Phone, Mobile, Computing, CPE)</p>
TSX	1210 – 2520	Frequency, 19.2 – 76.8MHz	
Crystal	1008 – 5032	Frequency, 8 – 320MHz	

# Trustworthy Quality for Mission Critical Scenarios



## Zero Risk Approach

(Lowest DPPM Target per Management Standard & System)

## IATF 16949 Certified & VDA 6.3 Mgt.

(Qualified Manufacture Facilities)

## Reliability

(AEC-Q100, AEC-Q200 & Other Specified Compliances)

## Product Robustness

(Design per Classification by Application, Refer to ASIL)

# Automotive Main Applications Deployment

IVI System  
Smart Cockpit  
AI Applications



Device Connectivity  
(Wi-Fi, BT, UWB, etc)  
Connected Car  
(5G/LTE, V2X, GNSS, etc)



Instrument Cluster  
Interior Control Unit  
Smart Key

## Infotainment

## Communication

## Security

Power Steering  
Braking System

## Safety



EV Applications  
BMS, OBC, Inverter

## Electric Vehicle



Camera  
Radar/Lidar

## ADAS



TPMS

## Reliability with AEC-Q100/200 & Other Specified Compliances



Seam Crystal

1.6 x 1.2 – 5.0 x 3.2 (mm)  
G3 – G1



Glass Crystal

2.0 x 1.6 – 8.0 x 4.5 (mm)  
G3 – G0



TSX

2.0 x 1.6 – 2.5 x 2.0 (mm)  
G3 – G2



XO

1.6 x 1.2 – 5.0 x 3.2 (mm)  
G3 – G1  
Low EMI



TCXO

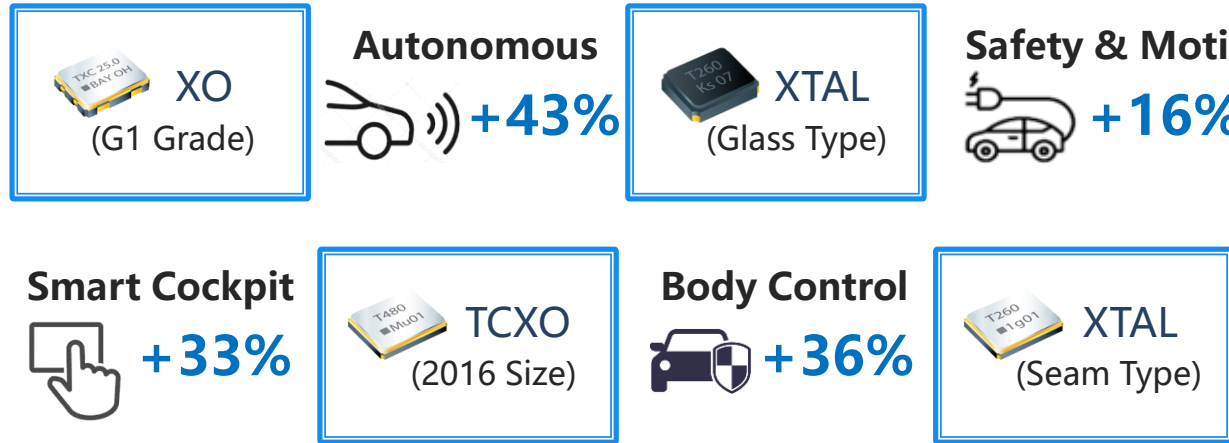
2.0 x 1.6 – 3.2 x 2.5 (mm)  
G3 – G2  
One Cavity Version



# Electrification & Smarter Vehicles

## Define Key Growth Applications with Strong Forecast & Projections

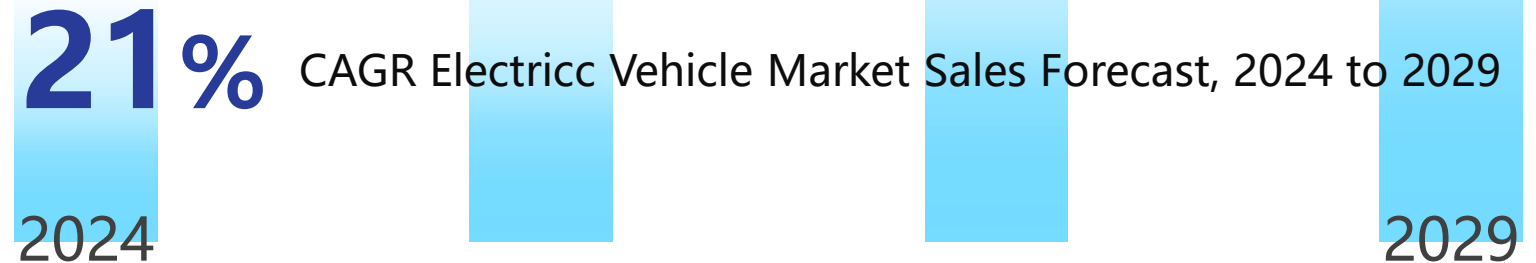
Automotive Grade, AEC-Q100, AEC-Q200 & Other Specified Compliances







+% CAGR of TXC Sales Estimation during 2022-2026



<Note: Reference to **AVG 30 PCS of Usage in Traditional Vehicle**>



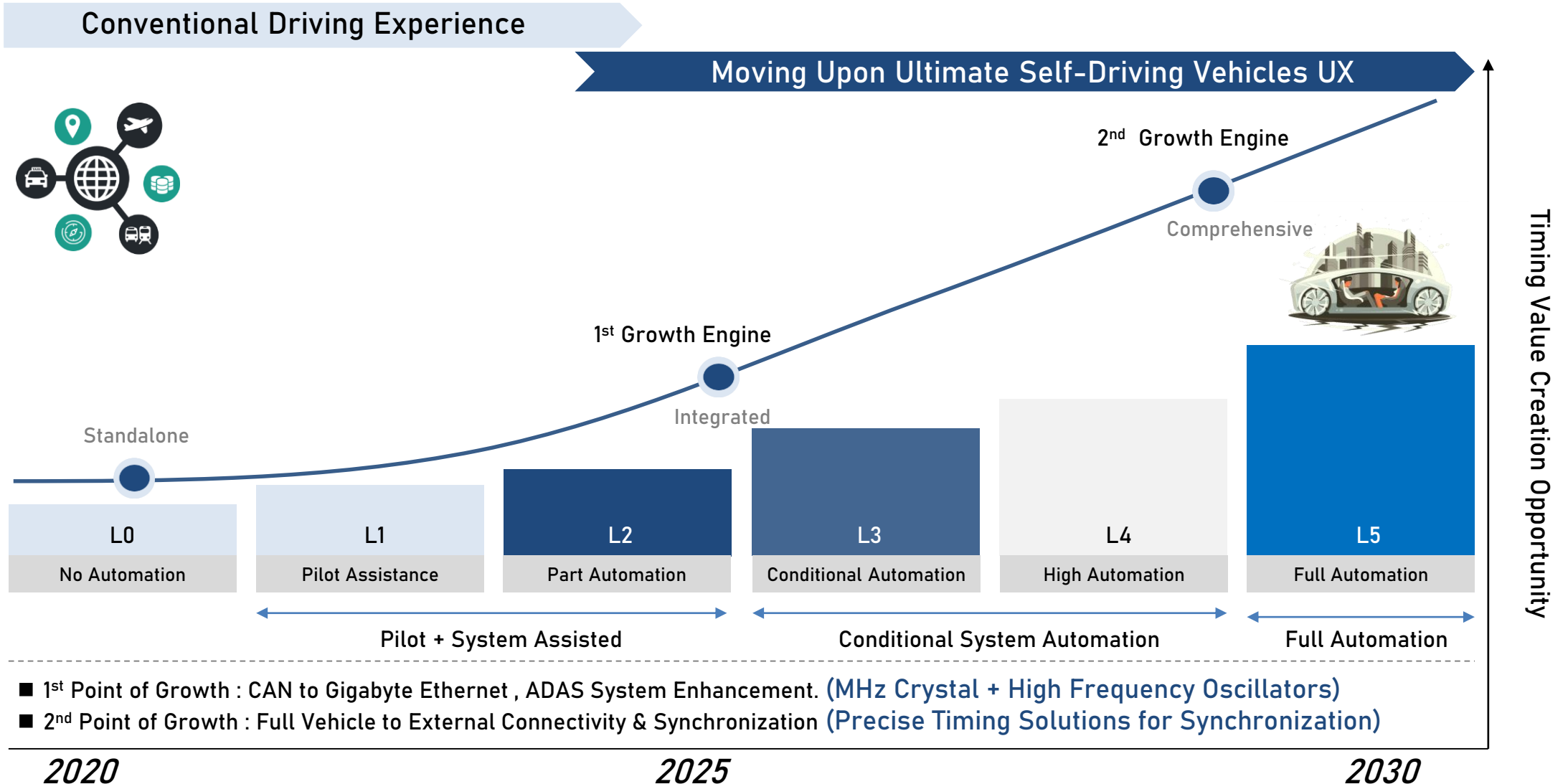
# Total Automotive Solutions

Type	Solution	MHz	Size	Grade	Application Focus
SMD Crystal	Glass (2/4 Pads)	4 – 62.4	3225 – 8045	G3 – G0	 <p><b>Glass, Seam</b> All Applications Related</p>
	Seam (4 Pads)	8 – 80	1612 – 5032	G3 – G1	
AEC-Q200 Compliant	kHz (TF) (2 Pads)	32.768 kHz	3215	G3 – G1	 <p><b>kHz (TF)</b> Infotainment, Security</p>
	TSX (4 Pads)	19.2/38.4/ 55.2	2016/2520	G3 – G2	
SMD Oscillator	XO <sup>※</sup> Low EMI XO (CMOS)	32k – 125 ※ 10 – 40	1612 – 5032 ※ 2016/2520	G3 – G1 ※ G3 – G1	 <p><b>TSX, TCXO</b> Infotainment, Communication</p>
	Diff XO (LVPECL/LVDS)	50 – 156.25	3225	G3 – G1	
AEC-Q100 Compliant	TCXO (Clipped Sinewave)	6 – 52	2016 – 3225	G3 – G2	 <p><b>XO Series</b> Infotainment, Security ADAS, EV Related</p>

Grade : Operating Temperature, G3: -40 to 85°C, G2: -40 to 105°C, G1: -40 to 125°C, G0: -40 to 150°C

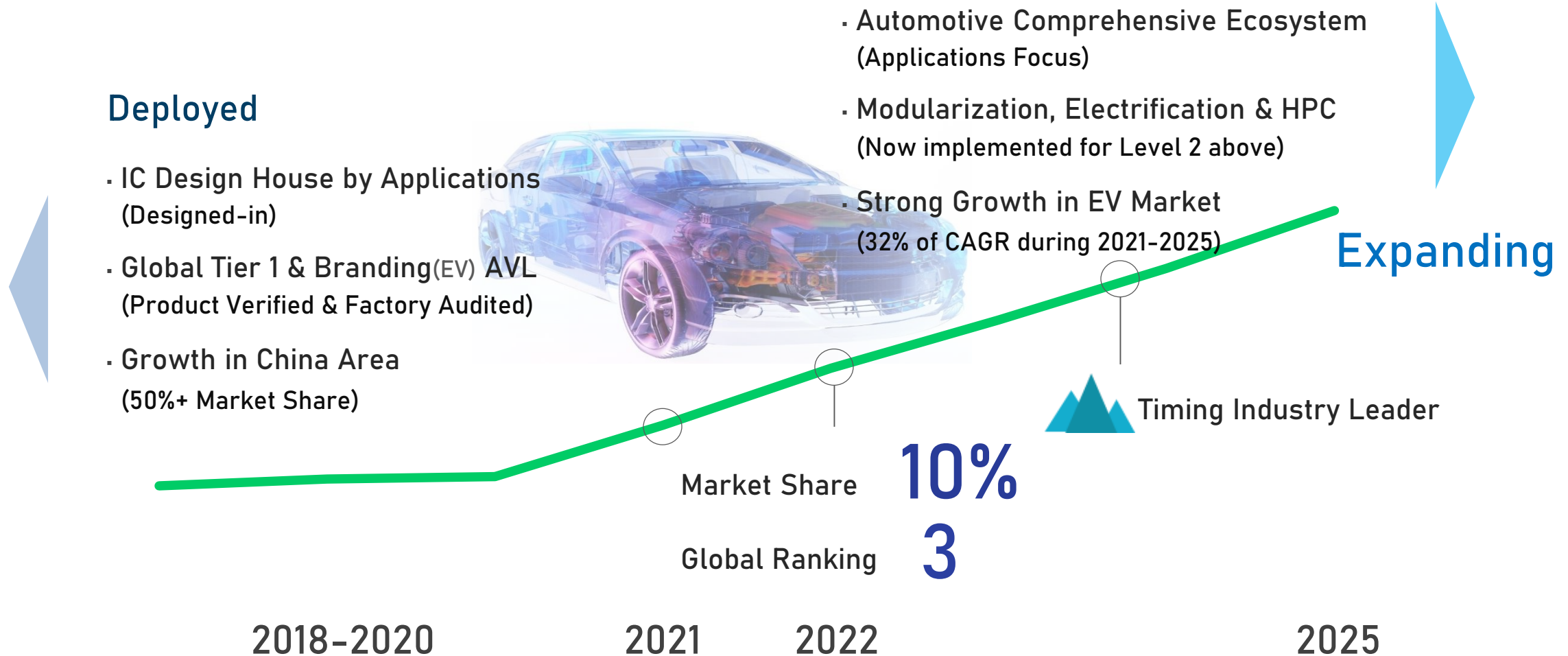
# Heading Toward Next Level - Autonomous Driving

## Self-Driving Boost Timing Demand with New Trendy Technology



# Deployment & Expansion

## Stronger Growth & Penetration of Automotive Market



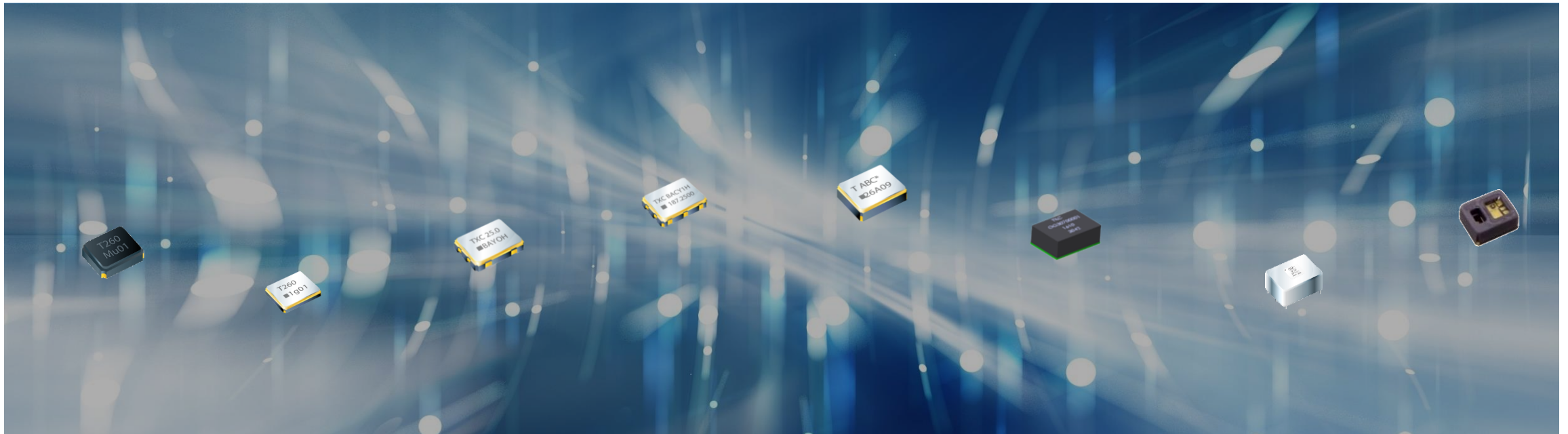
# Timing Solutions Cover All Requirements

Ultra High Frequency, Ultra Low Stability, Phase Noise & Jitter as Purest Clock Source

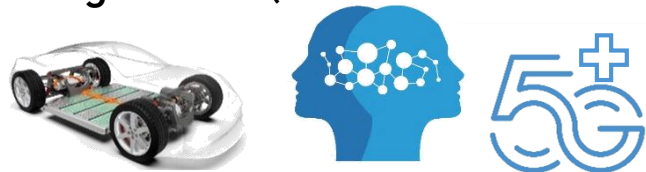


# Leading Timing Industry Moving Forward

**TXC** Evolved Sensing, Computing, & Communication Technology with AI-Embedded Devices



**Innovative Leadership in High Growth Rate Market Segments. (~10+% R&D Investment)**



**Precise Timing Solution for Telecommunication & Data Computing**



**Higher Frequency & Miniature in Communications**



# Statements of Comprehensive Income

Unit: NT\$ Million	(Property Excluded)				(Consolidated)			
	Q3'23	Q2'23	QoQ	YOY	Q3'23	Q2'23	QoQ	YOY
Net Revenue	3,072	2,422	26.8%	-10.4%	3,086	2,426	27.2%	-10.1%
Gross Profit	1,084	831	30.4%	-16.4%	1,087	832	30.6%	-16.7%
Operating Expenses	534	474	12.7%	-7.7%	537	477	12.5%	-8.2%
Operating Profit	550	357	53.9%	-23.4%	550	355	54.9%	-23.6%
Non-Operating Items	178	147	21.1%	-46.1%	171	141	21.2%	-47.8%
Income before Tax	728	504	44.3%	-30.6%	721	496	45.3%	-31.1%
Net Income	605	429	41.2%	-29.0%	598	421	42.2%	-29.8%
Basic EPS (NT\$)	1.95	1.38	41.3%	-29.1%	1.94	1.35	43.7%	-29.5%
Gross Margin(%)	35.27%	34.31%			35.22%	34.30%		
OPEX(%)	17.37%	19.55%			17.39%	19.66%		
Operating Margin(%)	17.90%	14.75%			17.83%	14.64%		
Income before Tax Margin(%)	23.70%	20.83%			23.37%	20.46%		
Net Profit Margin(%)	19.70%	17.70%			19.39%	17.34%		

# Statements of Comprehensive Income

Unit: NT\$ Million	(Property Excluded)			(Consolidated)		
	Q1~Q3'23	Q1~Q3'22	YOY	Q1~Q3'23	Q1~Q3'22	YOY
Net Revenue	7,790	10,136	-23.1%	7,810	10,162	-23.1%
Gross Profit	2,706	3,868	-30.0%	2,712	3,885	-30.2%
Operating Expenses	1,447	1,676	-13.7%	1,461	1,697	-13.9%
Operating Profit	1,258	2,191	-42.6%	1,251	2,188	-42.8%
Non-Operating Items	330	711	-53.5%	318	702	-54.7%
Income before Tax	1,589	2,902	-45.3%	1,569	2,890	-45.7%
Net Income	1,326	2,373	-44.1%	1,306	2,363	-44.7%
Basic EPS (NT\$)	4.28	7.66	-44.1%	4.22	7.63	-44.7%
Gross Margin(%)	34.73%	38.16%		34.73%	38.23%	
OPEX(%)	18.58%	16.54%		18.71%	16.70%	
Operating Margin(%)	16.15%	21.62%		16.02%	21.53%	
Income before Tax Margin(%)	20.39%	28.63%		20.08%	28.44%	
Net Profit Margin(%)	17.02%	23.41%		16.72%	23.25%	



# Balance Sheet

Unit: NT\$ Million	Sep. '23		Dec. '22		Sep. '22	
Item	Amount	%	Amount	%	Amount	%
Cash & Cash equivalents	3,521	18.9%	4,223	21.3%	3,608	18.0%
NR+AR	3,426	18.4%	3,557	17.9%	3,964	19.8%
Inventories	2,382	12.8%	2,700	13.6%	3,052	15.3%
Current Assets	10,289	55.3%	11,412	57.5%	11,565	57.8%
PP&E	5,970	32.1%	6,320	31.8%	6,313	31.6%
<b>Total Assets</b>	<b>18,596</b>	<b>100.0%</b>	<b>19,851</b>	<b>100.0%</b>	<b>20,002</b>	<b>100.0%</b>
Current Liabilities	4,534	24.4%	4,336	21.8%	4,703	23.5%
Non-current Liabilities	2,326	12.5%	3,042	15.3%	3,238	16.2%
<b>Total Liabilities</b>	<b>6,860</b>	<b>36.9%</b>	<b>7,378</b>	<b>37.2%</b>	<b>7,942</b>	<b>39.7%</b>
<b>Total Shareholders' Equity</b>	<b>11,736</b>	<b>63.1%</b>	<b>12,473</b>	<b>62.8%</b>	<b>12,061</b>	<b>60.3%</b>
A/R Turnover Days	123		106		108	
Inventory Turnover Days	136		120		124	
Inventory Turnover Days (exclu.)	124		105		105	
Current Ratio(%)	227%		263%		246%	
Debt Ratio(%)	36.9%		37.2%		39.7%	
Book Value Per Share(NT\$)	37.89		40.27		38.94	
ROA(%)	9.3%		14.0%		15.6%	
ROE(%)	14.4%		22.2%		25.4%	

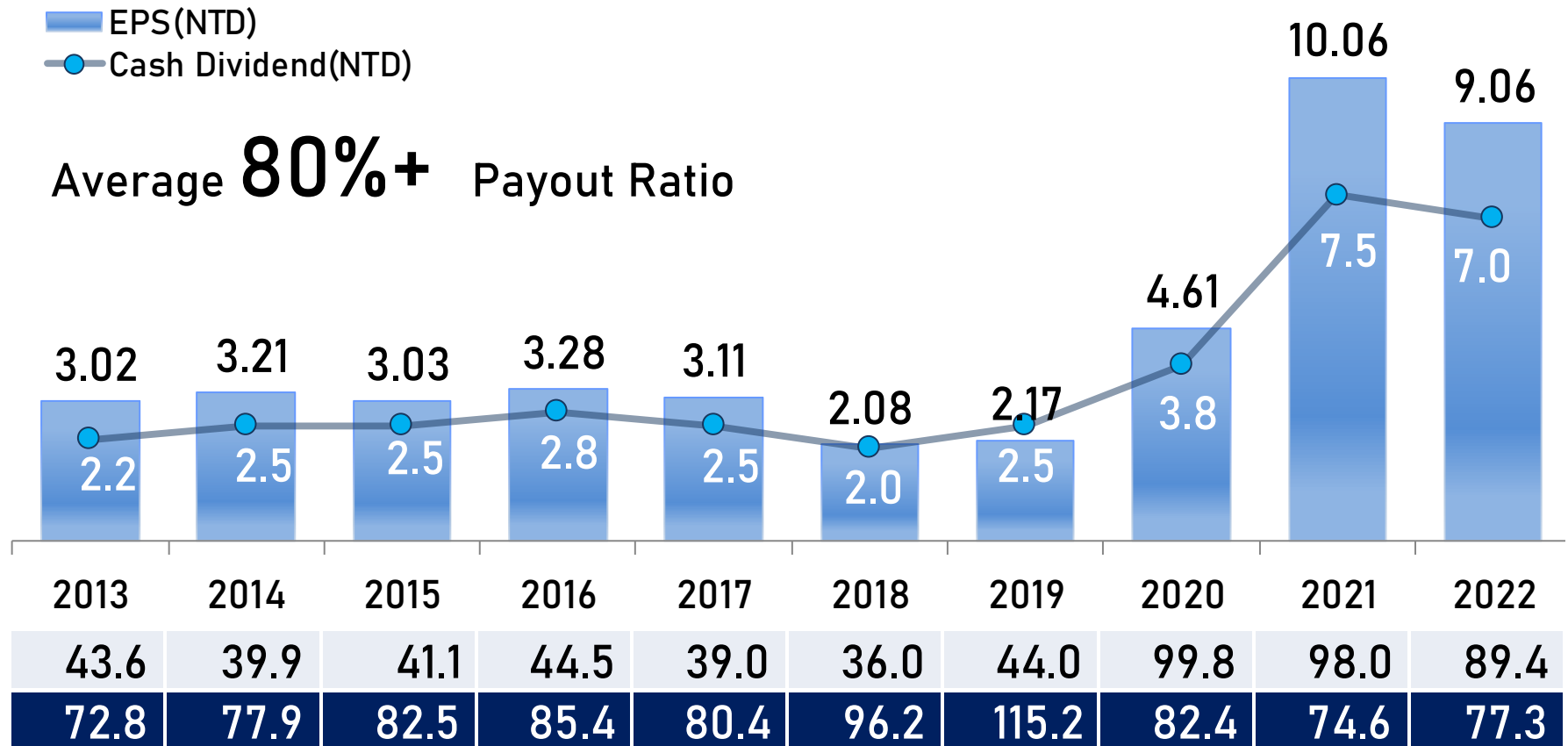
## 2023 月損益報告

單位:新台幣仟元

年/月(合併)	2023/1	2023/2	2023/3	2023/4	2023/5	2023/6	2023/7	2023/8	2023/9	2023/10	2023/11	2023/12	2023合計
營業收入	730,895	812,132	754,961	791,922	808,522	825,641	941,553	1,037,312	1,111,549	1,090,113	1,035,631	910,171	10,850,402
營業成本	469,934	548,354	492,293	516,237	529,684	550,597	608,979	677,685	722,315	702,013	641,987	566,893	7,026,971
營業毛利	260,961	263,778	262,668	275,685	278,838	275,044	332,574	359,627	389,234	388,100	393,644	343,278	3,823,431
營業費用	139,533	150,364	154,801	158,677	157,799	169,083	167,983	179,743	188,491	183,213	178,666	174,224	2,002,577
營業利益	121,428	113,414	107,867	117,008	121,039	105,961	164,591	179,884	200,743	204,887	214,978	169,054	1,820,854
營業外收支	(53,378)	24,842	41,461	30,952	39,243	79,349	35,872	67,709	82,281	23,661	(43,976)	(68,753)	259,263
稅前損益	68,050	138,256	149,328	147,960	160,282	185,310	200,463	247,593	283,024	228,548	171,002	100,301	2,080,117
稅前EPS	0.22	0.45	0.48	0.48	0.51	0.60	0.65	0.80	0.91	0.74	0.55	0.33	6.72

# EPS & DPS

High Dividends Payout, with Sustainable Business Growth



# 2024 CAPEX



## A+ Enhancements

- ✓ Core Technology
- ✓ Advanced Process



## Smart Factory

- ✓ Green & Renew Energy

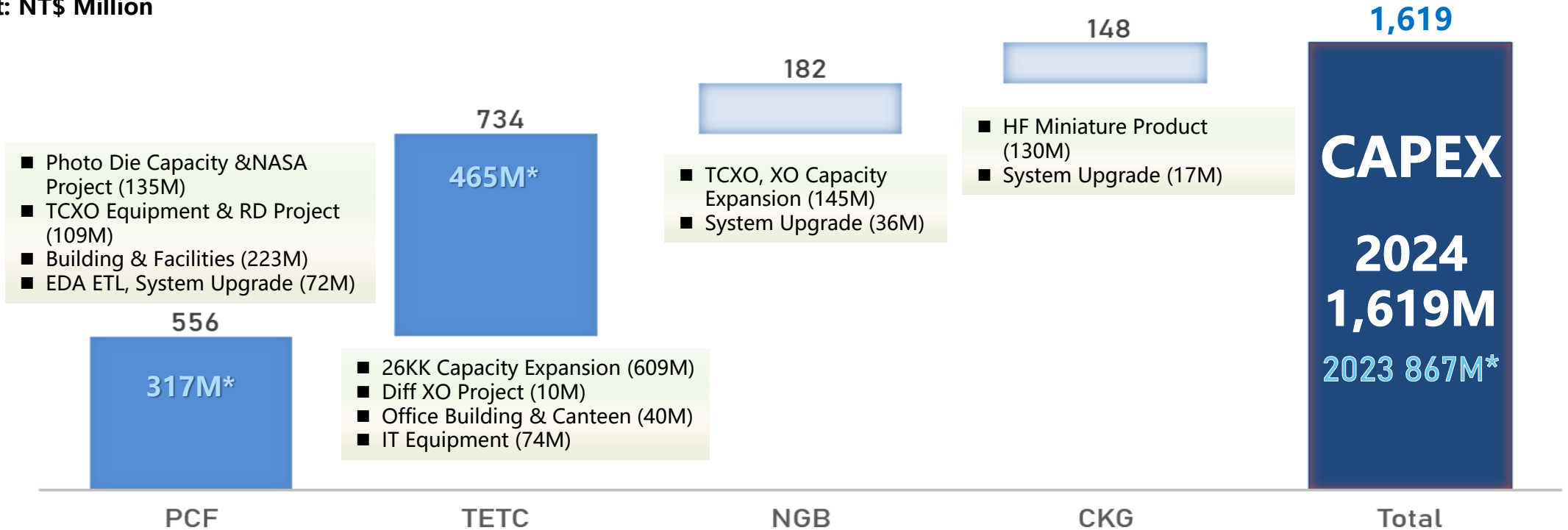


ZERO EMISSION

## Sustainability

- ✓ Environment
- ✓ Social Responsibility
- ✓ Governance

Unit: NT\$ Million











\*: 2023defferedcapex

# Healthy Growth with Value based Sustainability

Dedicate on Continuous Enhancement of Environment, Society, and Governance



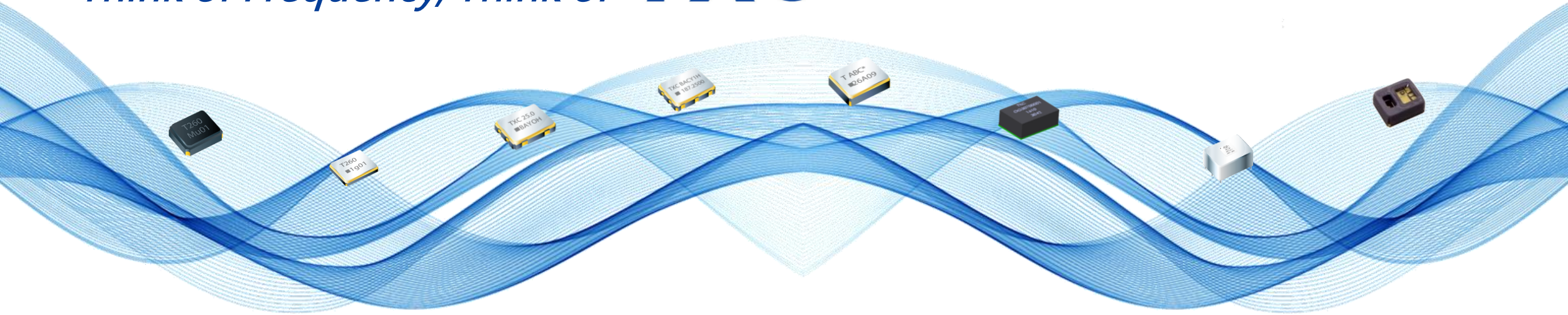
-  Top 6%~20% Listed Corporates of the 9<sup>th</sup> Corporate Governance Evaluation
-  Top 249 Enterprises of CommonWealth Magazine
-  The Excellent Enterprise Award in Taoyuan City
-  IDB the 4<sup>th</sup> Gender Mainstreaming Benchmark Manufacturer
-  BSI Sustainability Leader Award
-  "Conform to 1.5°C temperature control target" label from CommonWealth Magazine
-  Operating solar power generation system to switch to renewable energy.
-  ISO 14064 Greenhouse Gas Emissions Verification

## ESG Roadmap

- ISO 50001 Energy Management System Verification
- ISO 14067 product carbon footprint Verification
- 2030 RE25% , 2050 RE100% & Net Zero Carbon

# Thank You

*Think of Frequency, Think of* **TXC**





# Q&A Section

Thank You