Investor Conference
Aug, 2020

Disclaimer

- 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 form 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.

TXC over 36 years **in Timing Industry**

- **Founded in 1983,** Headquarters in Taiwan
- **Listed in Taiwan Stock Exchange,** 2000
- **Ranked No. 3 in Worldwide Timing Market,** CS&A 2019
- **Ranked No. 1 in Worldwide MHz Crystal Market,** CS&A 2012 ~ 2019
- **Preferred Supplier for Tier 1 in Network and Telecom Markets,** 2008 ~ 2019
- **Steady Growth in Automotive Market, 11% CAGR,** 2012 ~ 2019
- **Smallest and Innovative Sensors Integration by Ceramic Packaging,** 2013
- **Market Leader in Product Miniaturization,** 2012 ~ 2020

Mission
To achieve a **Win-Win-Win** partnership
in the **Supplier-TXC-Customer** relationships

Worldwide Timing Market Shares

Strong Market Penetration

2018 Rank	2019 Rank	Company Name	Revenue (USD :M)		Percent Change	Market Share (%)	
			2018	2019		2018	2019
1	1	Seiko Epson	$365	$355	-2.7%	11.7%	11.7%
2	2	NDK	$358	$336	-6.0%	11.5%	11.1%
4	**3**	**TXC**	**$272**	**$281**	**3.3%**	**8.7%**	**9.2%**
3	4	KCD	$285	$257	-10.0%	9.1%	8.4%
5	5	KDS	$191	$192	0.2%	6.1%	6.3%
6	6	Microchip (Vectron)	$176	$171	-3.0%	5.7%	5.6%
7	7	Murata	$94	$89	-6.0%	3.0%	2.9%
9	8	Harmony	$92	$88	-4.6%	2.9%	2.9%
8	9	Hosonic	$94	$86	-8.3%	3.0%	2.8%
11	10	SiTime	$85	$84	-1.1%	2.7%	2.8%
		Others	$1,110	$1,103	-0.6%	35.6%	36.3%
		Total Revenue	**$3,122**	**$3,041**	-2.6%	100%	100%

Source: CS&A July 2020

Manufacturing Facilities

Economy of Scale Productions

1991

✔ Automotive IATF 16949

Taiwan, Ping Cheng (PCF)

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

1999

✔ Automotive IATF 16949

China, Ningbo (NGB)

- kHz/MHz Crystal
- TSX
- OSC

2013

China, Chongqing (CKG)

- MHz Crystal

- 3 manufacturing facilities
- 200+ automated production lines
- 350M+ monthly capacity(Timing Devices)
- 3,250 employees (PCF-1,060、NGB-1,330、CKG-860)
- 2 R&D centers (PCF, NGB)
- 500+ engineers

Sales & Labs

Localized Service, Responsive and Dedicate

Europe

- ✔ Germany

China

- ✔ Ningbo
- Chongqing
- ✔ Shenzhen
- ✔ Shanghai
- Suzhou
- Beijing
- Wuhan

Taiwan

- ✔ Ping Cheng
- Peitou

Japan

- ✔ Yokohama
- Osaka

America

- ✔ San Jose
- Los Angeles

✔ Technical & lab supports

Product Portfolios

Timing and Sensors

Timing (Crystals and Oscillators)

Metal Can

Glass Seal

Crystal Oscillators
(XO)

SAW Oscillators
(SO)

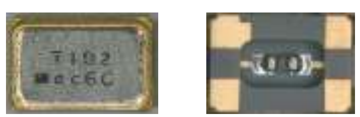
Seam Seal

Tuning Fork

Voltage Controlled Oscillators
(VCXO)

Temperature Compensated Oscillators
(TCXO/S3TCXO)

Temperature Sensor Crystal
(TSX)



Oven Controlled Oscillators
(OCXO)

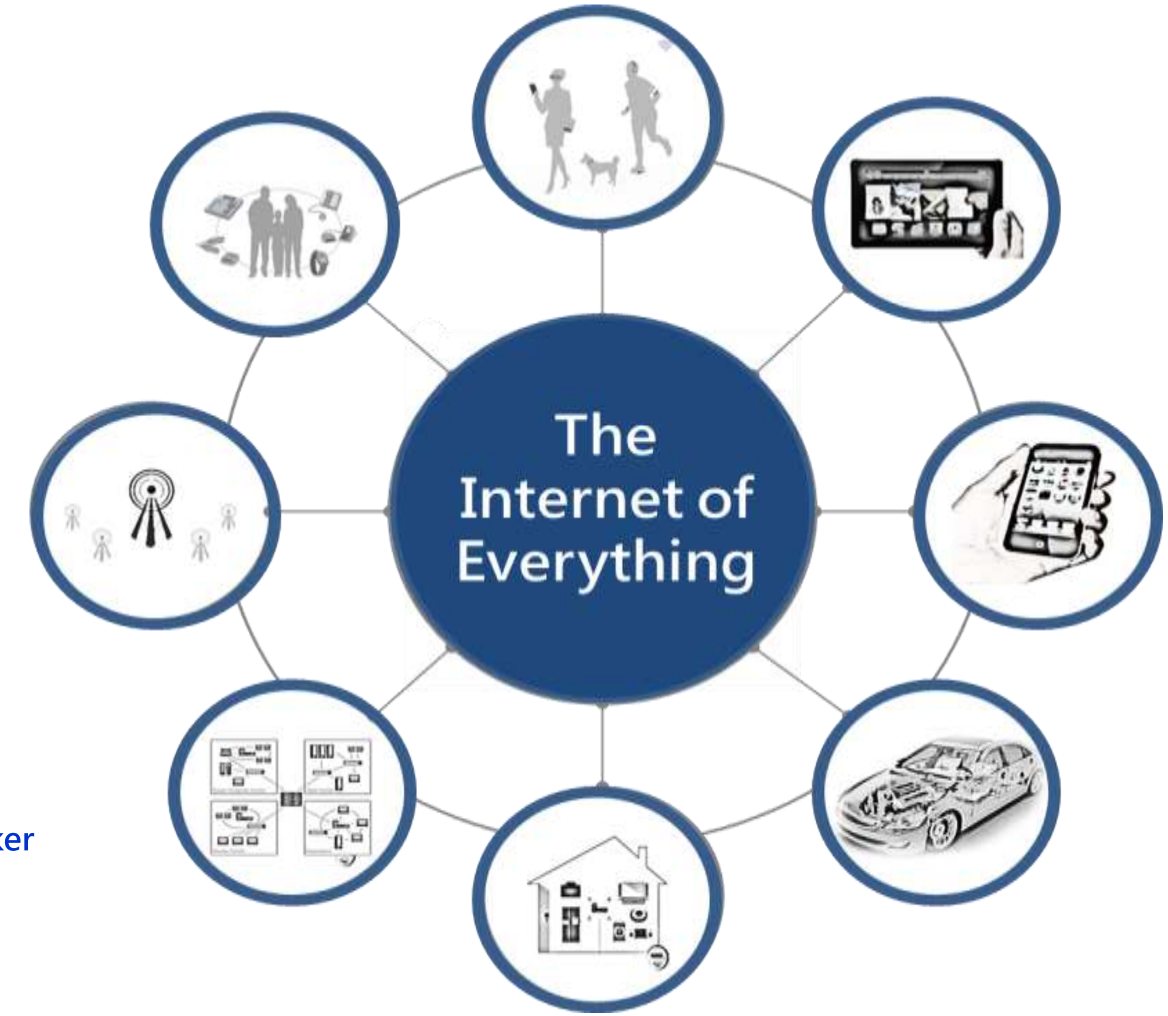
Active Low EMI Oscillators
(EMI XO)

Sensors

Proximity and Light Sensor

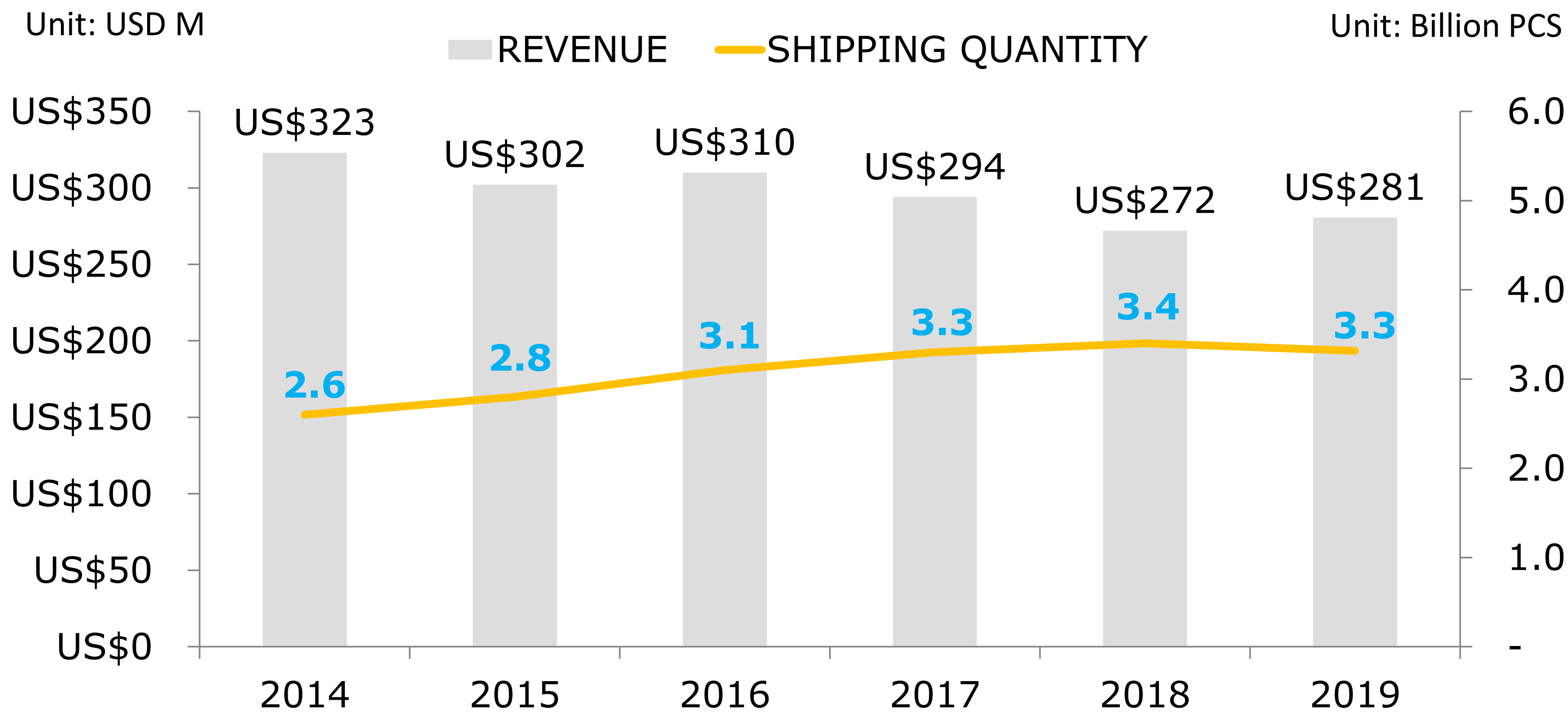
μBolometer
Coming in 2020 2H

Product Applications



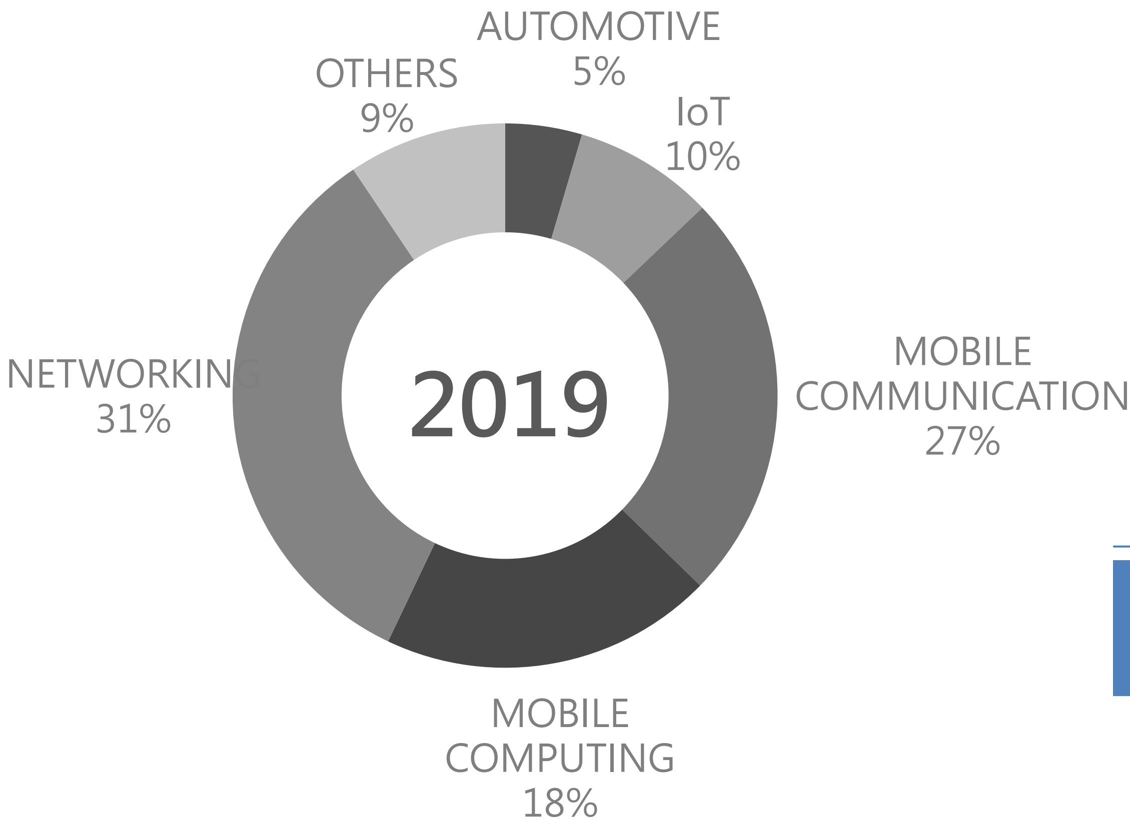
Sales & Shipping Records

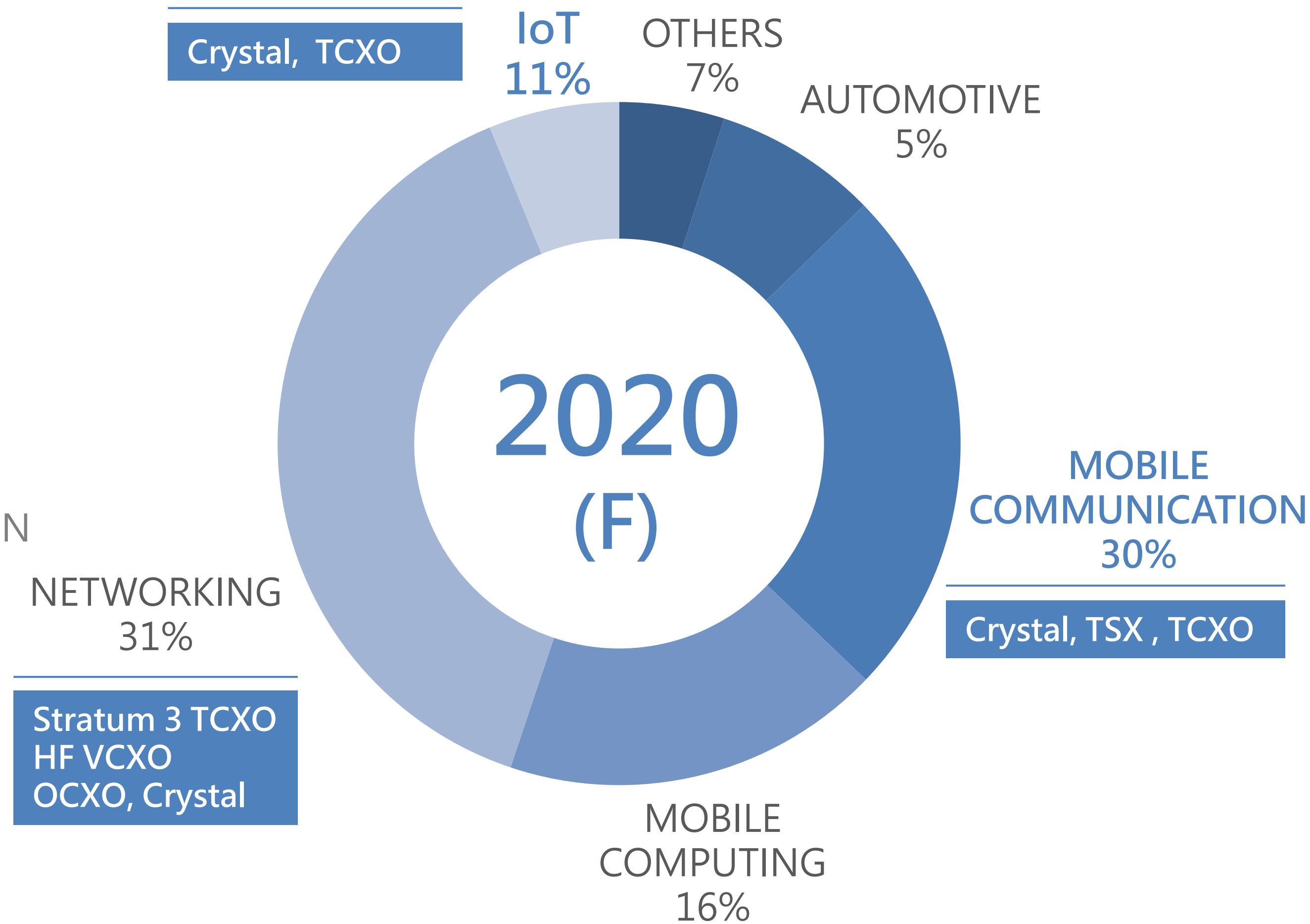
Steady and Organic Volume Growth



TXC’s Revenue by Market Segments

Actual and Forecast (F)



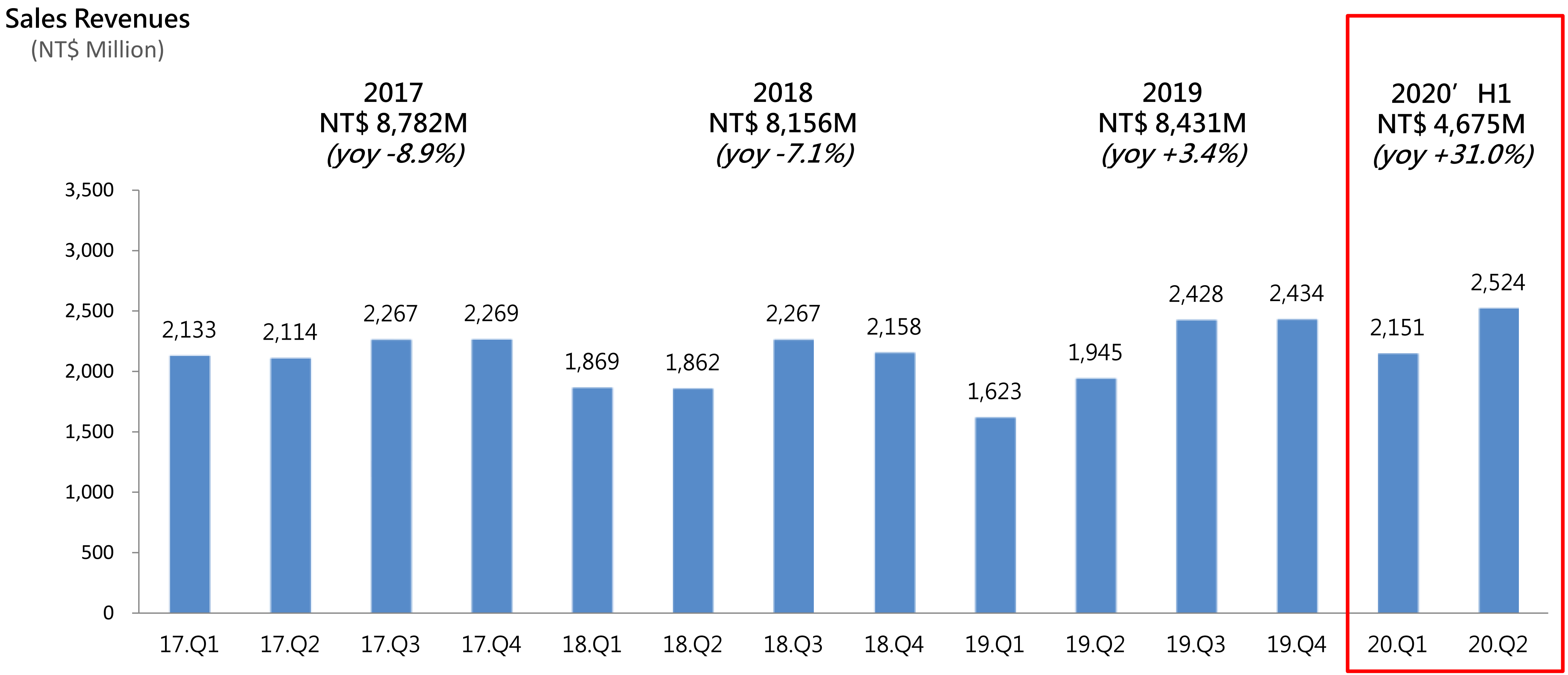


Financial Performance

P&L, EPS, DPS, CAPEX

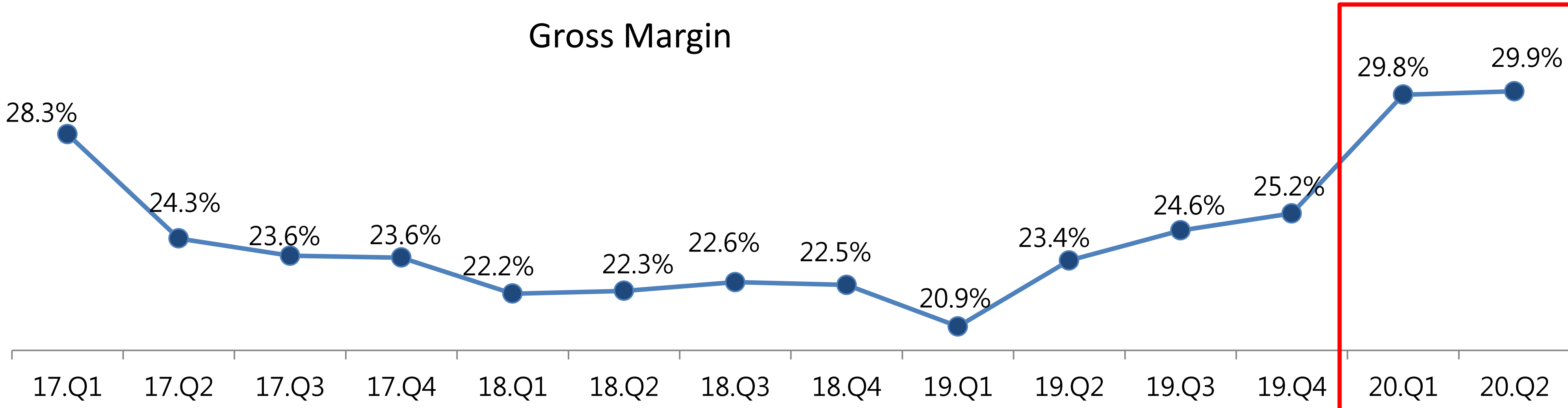
Quarterly Performance

Sales Revenues



Quarterly Performance

Gross Margin (%)



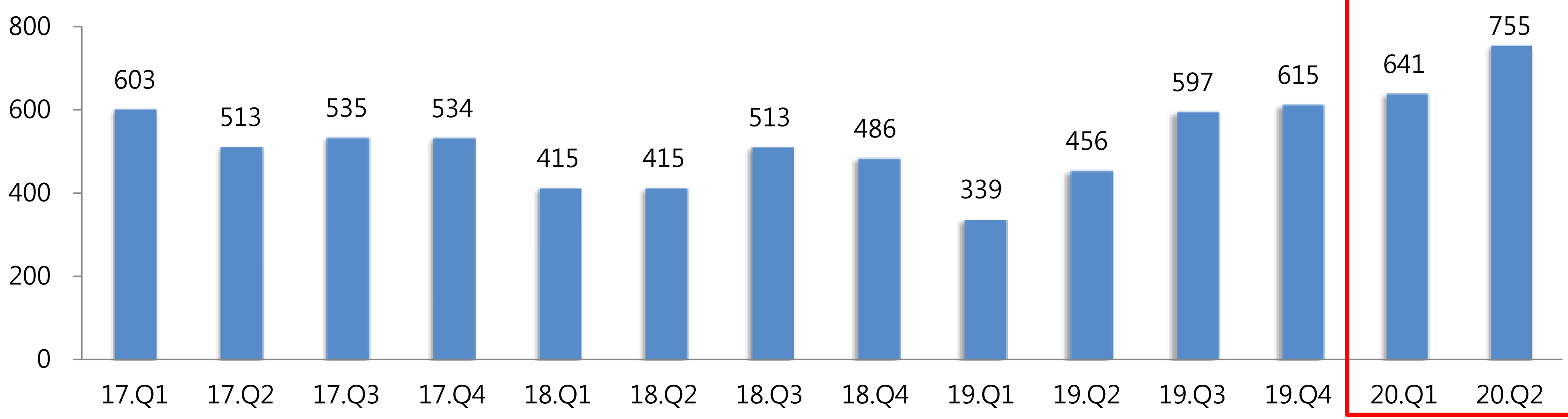
2017
NT$ 2,186M
(yoy -14.4%)

2018
NT$ 1,828M
(yoy -16.4%)

2019
NT$ 2,007M
(yoy +9.8%)

2020' H1
NT$ 1,396M
(yoy +75.5%)

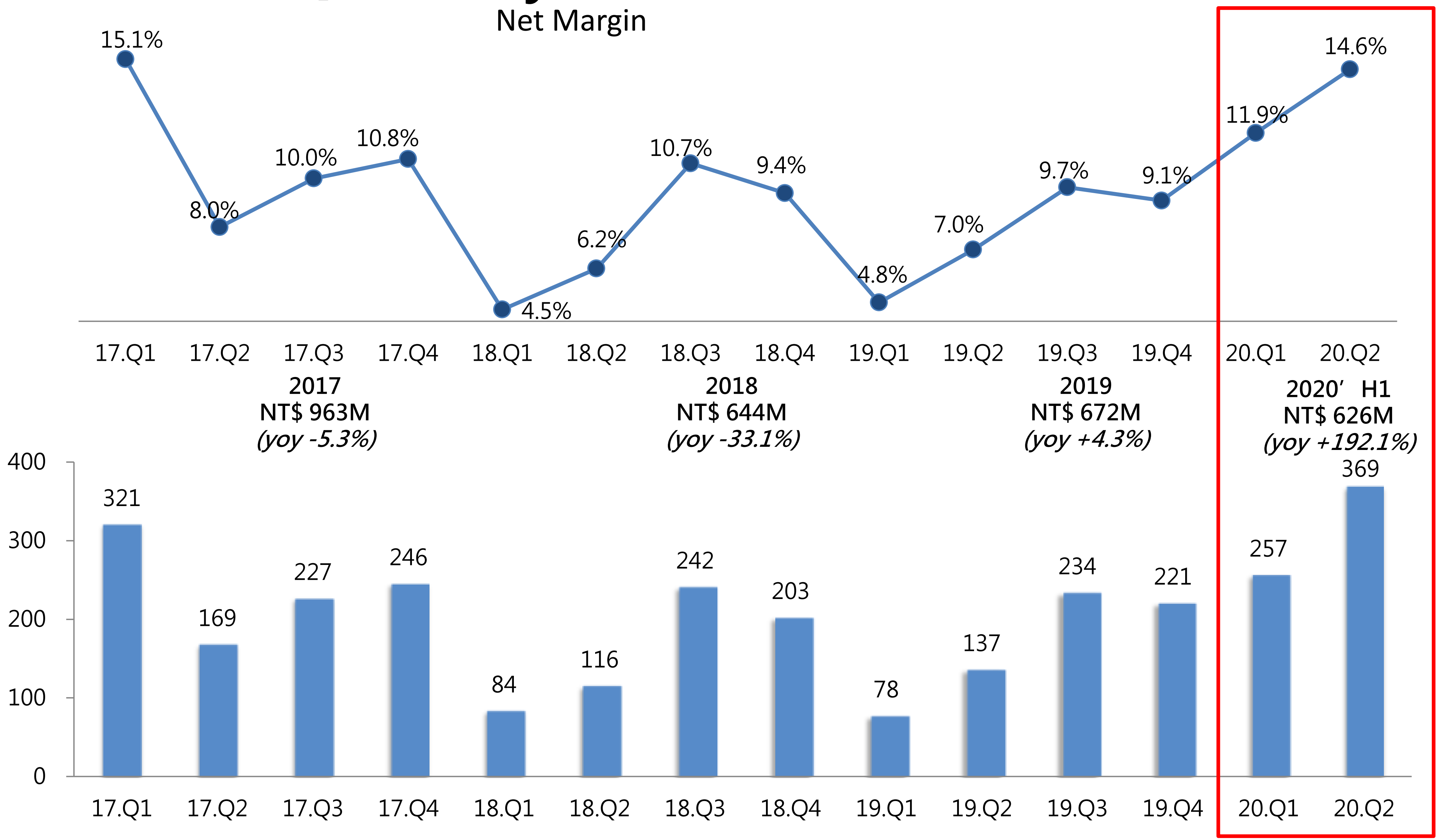
Gross Profit
(NT$ Million)



Quarterly Performance

Net Margin
(%)

Net Profit
(NT$ Million)



Income Statement

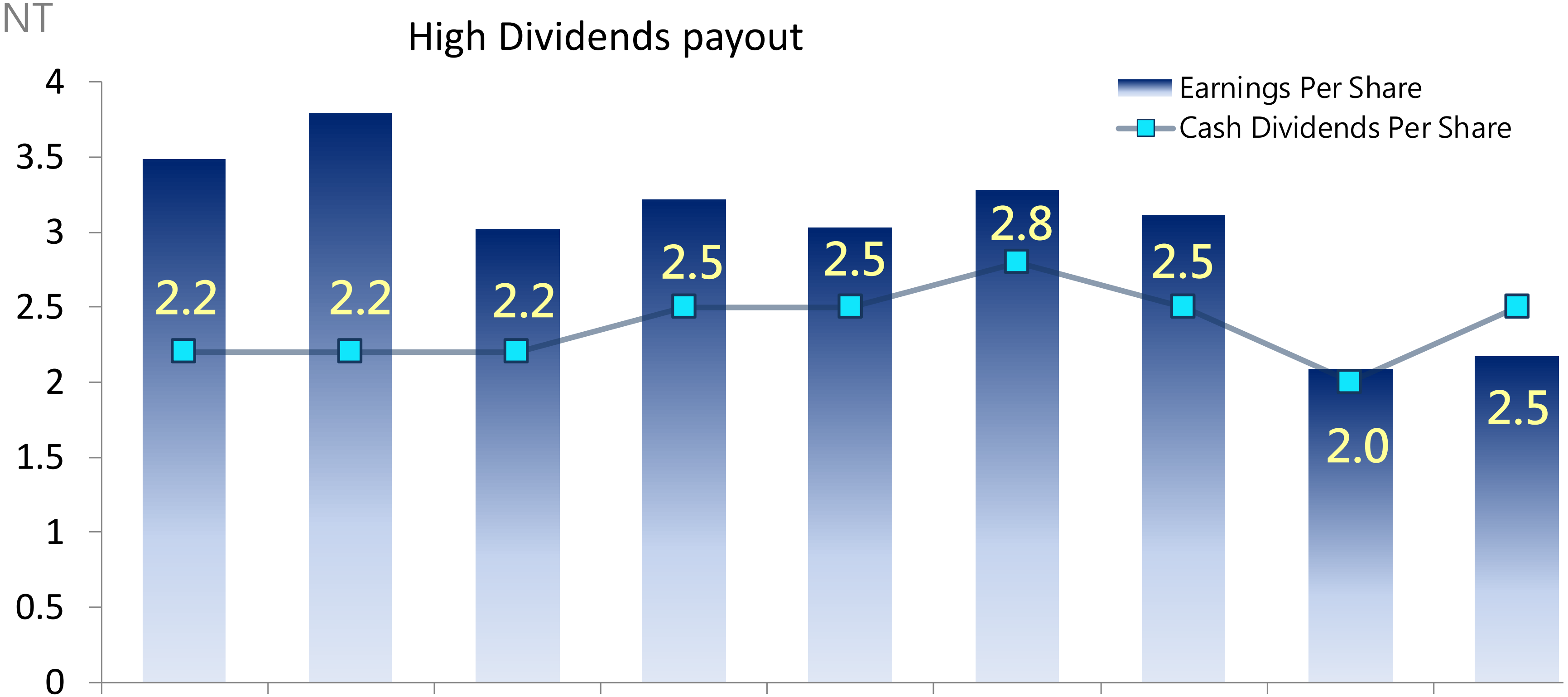
Unit：NT$ in Million	2016	2017	2018	2019	2020 Q1	2020 Q2
Net Revenue	9,637	8,782	8,156	8,431	2,151	2,524
Gross Profit	2,554	2,186	1,828	2,007	641	755
Operating Profit	1,114	802	533	632	276	357
Non-Operating Items	78	273	200	132	22	56
Income before Tax	1,192	1,075	733	765	298	412
Net Income to Shareholders of the Parent Company	1,016	963	644	672	257	369
Basic EPS (NT$)	3.28	3.11	2.08	2.17	0.83	1.19
Gross Margin(%)	26.5%	24.9%	22.4%	23.8%	29.8%	29.9%
OPEX(%)	14.9%	15.8%	15.9%	16.3%	16.9%	15.8%
Operating Margin(%)	11.6%	9.1%	6.5%	7.5%	12.8%	14.1%
Income before Tax Margin(%)	12.4%	12.2%	9.0%	9.1%	13.9%	16.3%
Net Profit Margin(%)	10.5%	11.0%	7.9%	8.0%	11.9%	14.6%

Balance Sheet

Unit：NT$ Million	2016	2017	2018	2019	2020 Q1	2020 Q2
Cash & Marketable Securitie	2,093	2,331	1,305	1,986	2,059	1,981
NR+AR	3,085	2,651	2,726	2,889	2,704	2,868
Inventories	1,520	1,504	1,817	2,039	2,400	2,580
Current Assets	8,818	7,983	7,117	7,945	8,229	8,672
PP&E	4,278	4,370	4,111	4,054	4,070	4,315
Total Assets	14,842	13,403	12,562	13,369	13,817	14,556
Current Liabilities	3,156	2,277	2,089	2,797	2,753	4,318
Non-current Liabilities	1,913	1,961	1,722	1,875	2,104	1,819
Total Liabilities	5,069	4,238	3,811	4,671	4,857	6,137
Total Shareholders' Equity	9,773	9,165	8,751	8,698	8,960	8,419
A/R Turnover Days	114	119	120	122	119	101
Inventory Turnover Days	79	84	96	110	134	128
A/P Turnover Days	65	73	74	85	98	82
Current Ratio(%)	279.4%	350.6%	340.7%	284.1%	298.9%	200.8%
Debt Ratio(%)	34.2%	31.6%	30.3%	34.9%	35.2%	42.2%
Book Value Per Share(NT$)	31.55	29.59	28.25	28.08	28.93	27.18

EPS and DPS

Unit: $NT



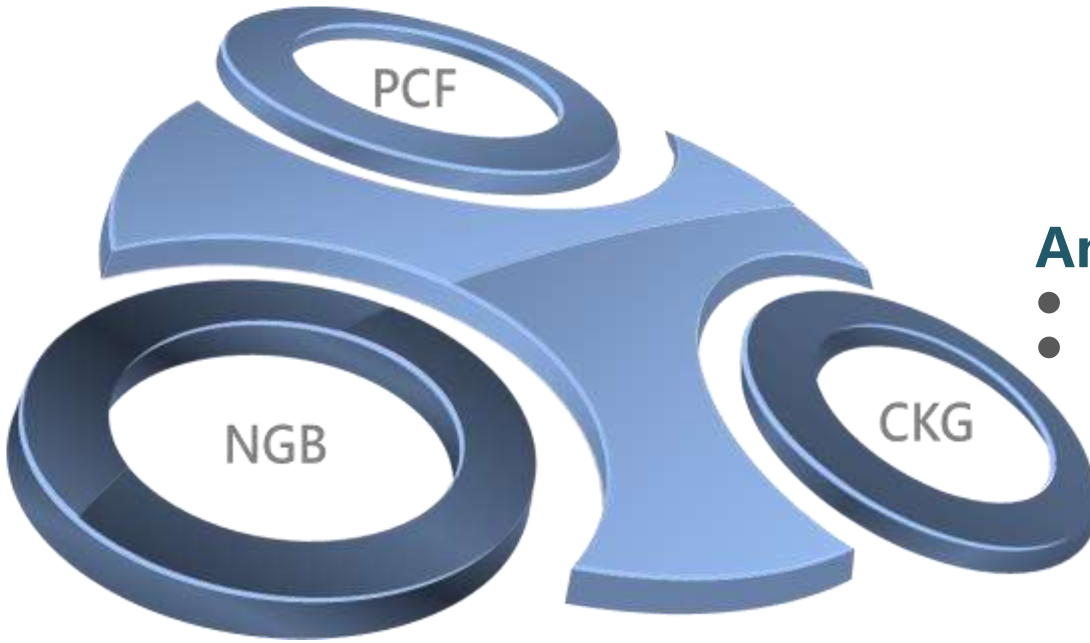
	2011	2012	2013	2014	2015	2016	2017	2018	2019
Earnings Per Share	3.48	3.79	3.02	3.21	3.03	3.28	3.11	2.08	2.17
Cash Dividends Per Share	2.2	2.2	2.2	2.5	2.5	2.8	2.5	2.0	2.5
Stock Price (Apr.)	43.6	46.0	43.6	39.9	41.1	44.5	39.0	36.0	44.0
Payout Ratio(%)	63.2	58.0	72.8	77.9	82.5	85.4	80.4	96.2	115.2
Yields(%)	5.1	4.8	5.1	6.3	6.1	6.3	6.4	5.6	5.7

2020 Capital Expenditure

Expand the Economy of Scale

Capacity expansion for new products, and to satisfy market demands

Amount: NT$360M
- MEMS
- Miniature SMD Crystal



Amount: NT$370M
- Facility
- Miniature SMD Crystal

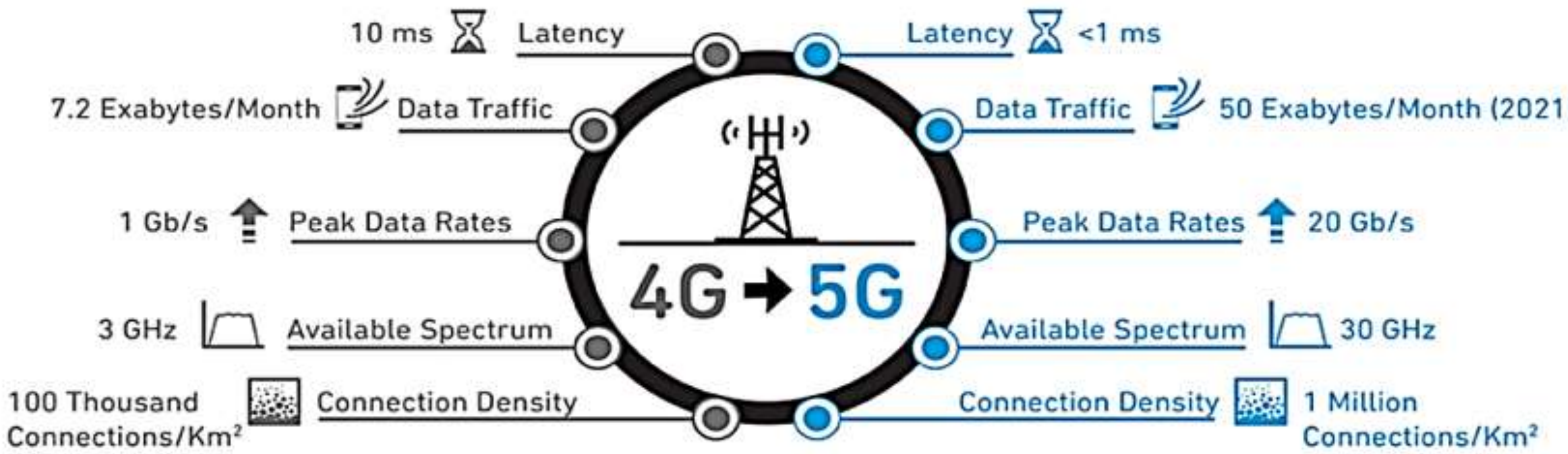
Amount: NT$430M
- Miniature SMD Crystal
- SMD Oscillator

Total Amount: NT$1,160M

Growth Potential

- The development of new product lines

From 4G to 5G



QORVO, 2017

5G Use Cases – Drivers

- **eMBB (增强移動寬帶)**
  Enhanced Mobile Broadband
- **mMTC (大規模裝置互聯)**
  Massive Machine Type. Communications
- **uRLLC (超可靠低延遲)**
  Ultra-Reliable and Low Latency Communications

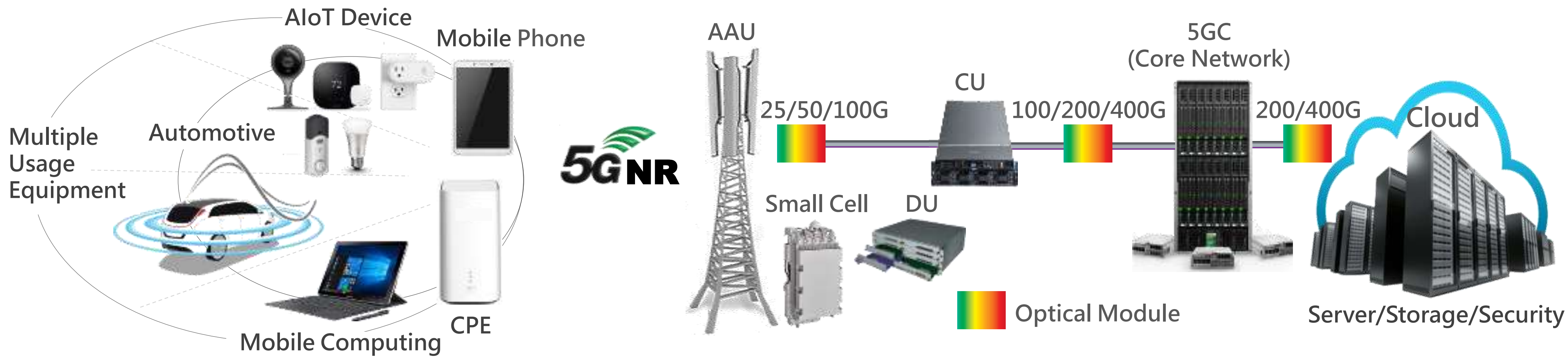
Ericsson, 2017 TPE 5G Summit

5G Complete Infrastructure & Device Ecosystem Development

Comprehensive Ecosystem

Network Infrastructure

Internet Data Center



TXC 5G Applications Product Trends

Device Interconnection	Infrastructure	Intelligence Platform
Mobile Phone (5G NR, GPS, Wi-Fi 6/6E, BT, NFC, etc.) **Mobile Computing** (NB, Tablet, Mobile Device, Server, etc.) **CPE** (5G NR, Wi-Fi 6, NB-IoT, LoRA, etc.)	**Macro Base Station** (AAU, DU/CU, Transport & Core) **Small Cell** (Micro, Pico, Femto, etc.) **Optical Module** (100/200/400G PAM4 & Coherent Solution)	**Smart Device** (Home, City, Industry, Logistic, Medical, etc.) **Edge Computing** (Server, CPU/GPU, MCU, etc.) **Automotive** (V2X & ADAS)

Support Roles in Timing Solution

<table>
<tr><td>• 5G NR • LTE • GPS • LoRA
• NB-IoT • Wi-Fi • BT • NFC</td><td>• Clock Synchronizer (SyncE & IEEE1588) • DSP
• Clock Generator • Jitter Attenuator • Ethernet</td></tr>
</table>

Crystal & Oscillator Specification Development Trend

<table>
<tr><td>• Miniature • Low Hysteresis
• High Frequency Accuracy & Stability
• High Temperature Operating</td><td>• Miniature
• Reliability
• Anti-Air Flow
• G-Sensitivity</td><td>• Ultra High Frequency Accuracy & Stability
• Ultra Low Phase Noise
• Ultra Low Jitter
• High Temperature Operating</td></tr>
</table>

Crystal & Oscillator Type Demand

<table>
<tr><td>• XTAL/HF XTAL
• TSX
• XO
• TCXO/S3TCXO</td><td>• XTAL/HF XTAL
• XO/Differential XO/VCXO
• TCXO/S3TCXO
• OCXO</td></tr>
</table>

TXC Total Solutions for 5G Application

Solution	Size	Key Parameters	5G Main Application
OCXO	9775/1409	Stability, ±10 ppb	**Infrastructure** (AAU, DU/CU, Core, Optical)
S3TCXO	5032/7050	Stability, ±0.28 ppm	
TCXO	1612 – 2520	Phase Noise@100kHz, -166dBc/Hz	
VCXO	2520 – 7050	Phase Jitter@12k - 20MHz, 0.05 ps	**Intelligence Platform** (Smart Device, Edge Computing, Automotive)
Diff XO	2520 – 7050	Phase Jitter@12k - 20MHz, 0.05 ps	
PLL XO	2520 – 7050	Frequency, 10MHz - 2.1GHz	
XO	1612 – 2520	Phase Jiter@12k - 20MHz, 0.3 ps	**Device Interconnection** (Mobile Phone, Mobile, Computing, CPE)
TSX	1210 – 2520	Frequency, 19.2 – 76.8MHz	
Crystal	1008 – 5032	Frequency, 8 – 320MHz	

TXC Automotive Application Focus & Solutions

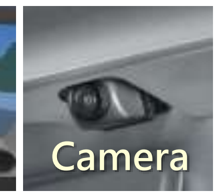
Infotainment & Telematics System
Crystal/XO: 5-10 units

Security Electronic System
Crystal/XO: 7-12 units

Safety Electronic System
Crystal/XO: 8-14 units

Tire Pressure Monitoring System
Crystal: 5 units (4T & 1R)

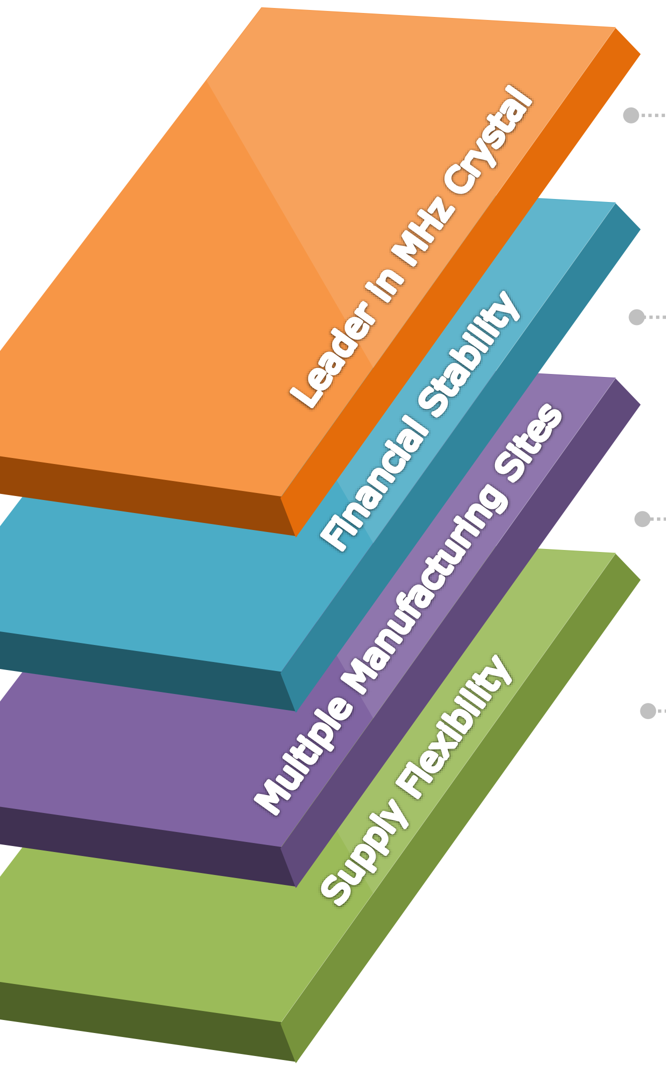
Advanced Driver Assistance System
Crystal/XO: 10-16 units



Crystal (AEC-Q200 Compliant)			Oscillator (AEC-Q100 Compliant)	
Glass (G0)	Seam (G1)	TSX (G2)	XO (G1)	TCXO (G2)
AX(8.0x4.5mm, 2pad) AA(5.0x3.2mm, 2pad) AV(3.2x2.5mm, 2/4 pad) AR(2.0x1.6mm, 2pad)	AB(5.0x3.2mm, 4pad) AM(3.2x2.5mm, 4pad) AZ(2.5x2.0mm, 4pad) AY(2.0x1.6mm, 4 pad) AJ(1.6x1.2mm, 4 pad)	AE(2.5x2.0mm, 4pad) AF(2.0x1.6mm, 4pad) AG(1.6x1.2mm, 4pad)	AU(3.2x2.5mm, CMOS) AW(2.5x2.0mm, CMOS) AN(2.0x1.6mm, CMOS) A5(1.6x1.2mm, CMOS)	AQ(3.2x2.5mm, CS) AL(2.5x2.0mm, CS) AK(2.0x1.6mm, CS)

G0: -40 to 150 °C
G1: -40 to 125 °C
G2: -40 to 105 °C
G3: -40 to 85 °C

TXC Competitive Advantages



No. 1 Largest Suppler in MHz Crystal for 7 Consecutive Years and Leading Edge Technology in Crystal Miniaturization.

Out of Top 5 Ranking Suppliers TXC is the only Profitable and Financially Healthy with Organic Growth without acquisitions.

TXC Manufactures MHz Crystal in all three manufacturing facilities to offset potential impacts caused by natural disasters.

Quick response and fulfillment to customer requirements

No. 1 **Largest Supplier in MHz Crystals**

TXC is Currently the No. 1 Largest Suppliers in the World for MHz Crystal alone.

No. 1 **Largest Supplier Outside Japan**

TXC is Currently No. 1 Largest Supplier in Frequency Control Products outside of Japan and introduced healthy competition into the Frequency market.

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