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*Think of Frequency
Think of*



法人說明會
2014/6/4



Think of Frequency, Think of TXC

全球據點



- **14** 個業務及行銷據點, **150+** 個專業人員提供服務

生產基地



Taiwan, Ping Cheng (PCF)

- kHz/MHz Crystal
- TSX
- XO/SO/MO
- TCXO/VCTCXO
- VCXO
- OCXO
- RTC
- Sensors



China, Ningbo (NGB)

- kHz/MHz Crystal
- TSX
- XO



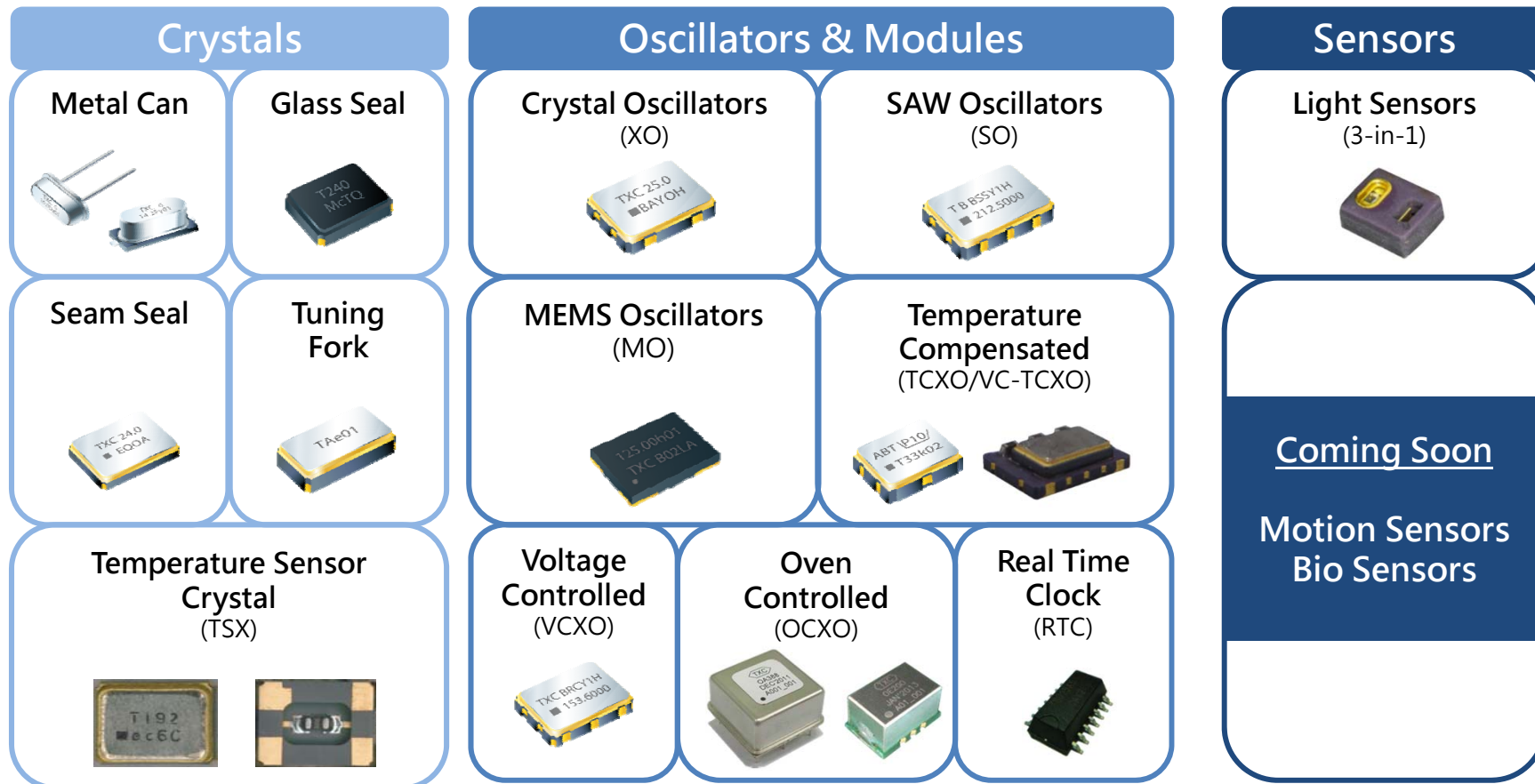
China, Chongqing (CKG)

- MHz Crystal

- 3 個生產基地
- 200+ 條自動化生產線
- 260M+ 月產能
- 2 個研發中心 (PCF, NGB)
- 400+ 個工程人員

產品組合

以完整的解決方案，創新及整合為持續性的競爭優勢



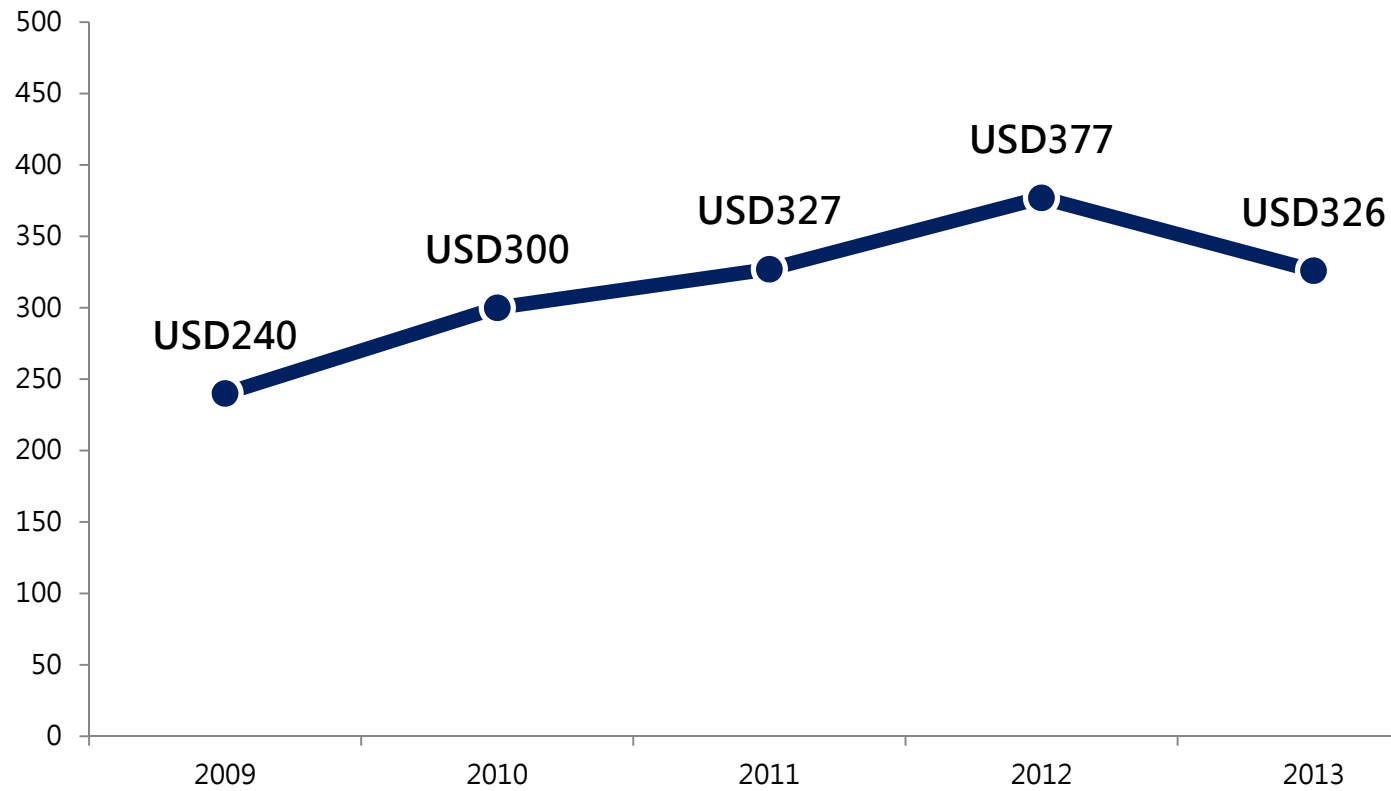
- 10,000+ 種產品變化

Diverse product
for long-term

營運績效

CAGR: 8%

USD: Million



淨利率

10%

12%

13%

11%

10%

2013年全球排名

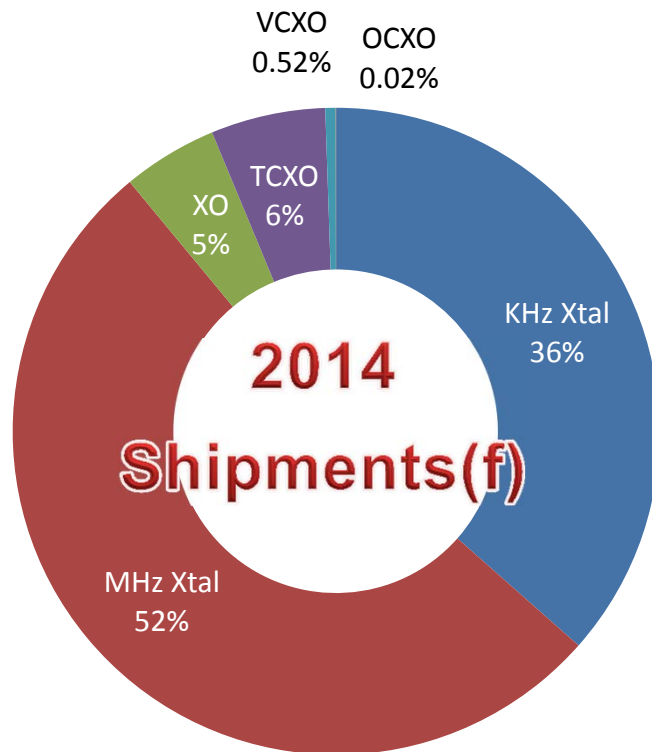
Rank	Company Name	Area	2011	2012	2013	(11-12) Change %	(12-13) Change %	2011 Market Share	2012 Market Share	2013 Market Share
1	Epson Toyocom	Japan	592	610	500	3.0%	-18.0%	16.7%	17.5%	15.3%
2	NDK	Japan	557	540	433	-3.1%	-19.8%	15.7%	15.5%	13.3%
3	TXC	Taiwan	327	377	326	15.3%	-13.5%	9.2%	10.8%	10.0%
4	KED	Japan	265	292	298	10.2%	2.1%	7.5%	8.4%	9.1%
5	KDS	Japan	389	309	260	-20.6%	-15.9%	11.0%	8.9%	8.0%
6	Ventron	USA	196	166	170	-15.3%	2.4%	5.5%	4.8%	5.2%
7	SiWard	Taiwan	90	97	96	7.8%	-1.0%	2.5%	2.8%	2.9%
8	Rakon	New Zealand	111	106	95	-4.5%	-10.4%	3.1%	3.0%	2.9%
9	Hosonic	Taiwan	101	92	94	-8.9%	2.2%	2.9%	2.6%	2.9%
10	River	Japan	52	73	66	-5.8%	-9.6%	1.5%	1.4%	2.0%
11	CTS	USA	53	55	61	3.8%	10.9%	1.5%	1.6%	1.9%
12	Murata(TEW)	Japan	59	57	59	-5.1%	3.5%	1.7%	1.6%	1.8%
13	Taitien	Taiwan	79	59	57	-25.3%	-3.4%	2.2%	1.7%	1.7%
14	Micro Crystal	Switzerland	63	58	55	-7.9%	-5.2%	1.8%	1.7%	1.7%
15	Pericom	USA	52	54	52	3.8%	-3.7%	1.5%	1.5%	1.6%
-	Others	-	553	570	642	-	-	15.6%	16.3%	19.7%
		Total Revenue	3,539	3,489	3,264	-1.4%	-6.4%			

Source: CS&A 2014.04



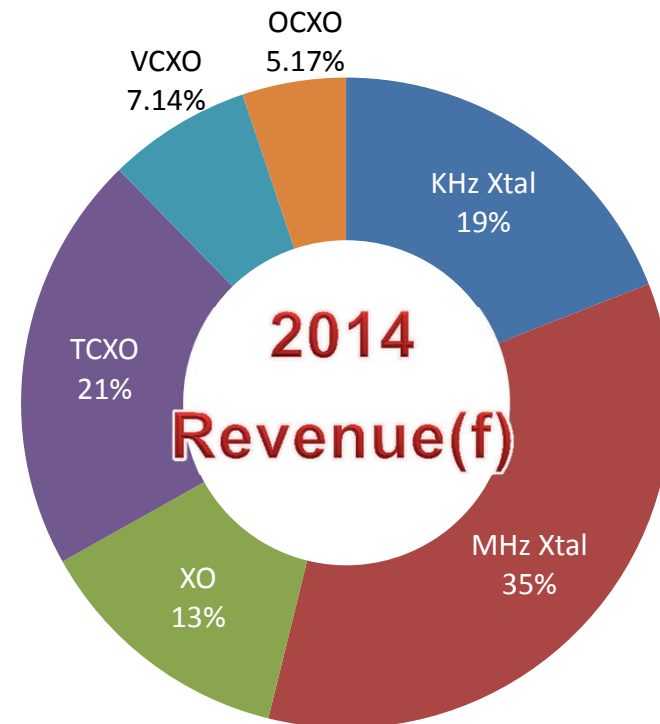
Think of Frequency, Think of TXC

全球石英元件銷售現況



2014(f) 年成長 1.6%

總量: 16,607 百萬顆



2014(f) 年成長 -0.8%

總金額: 3,237 百萬美元

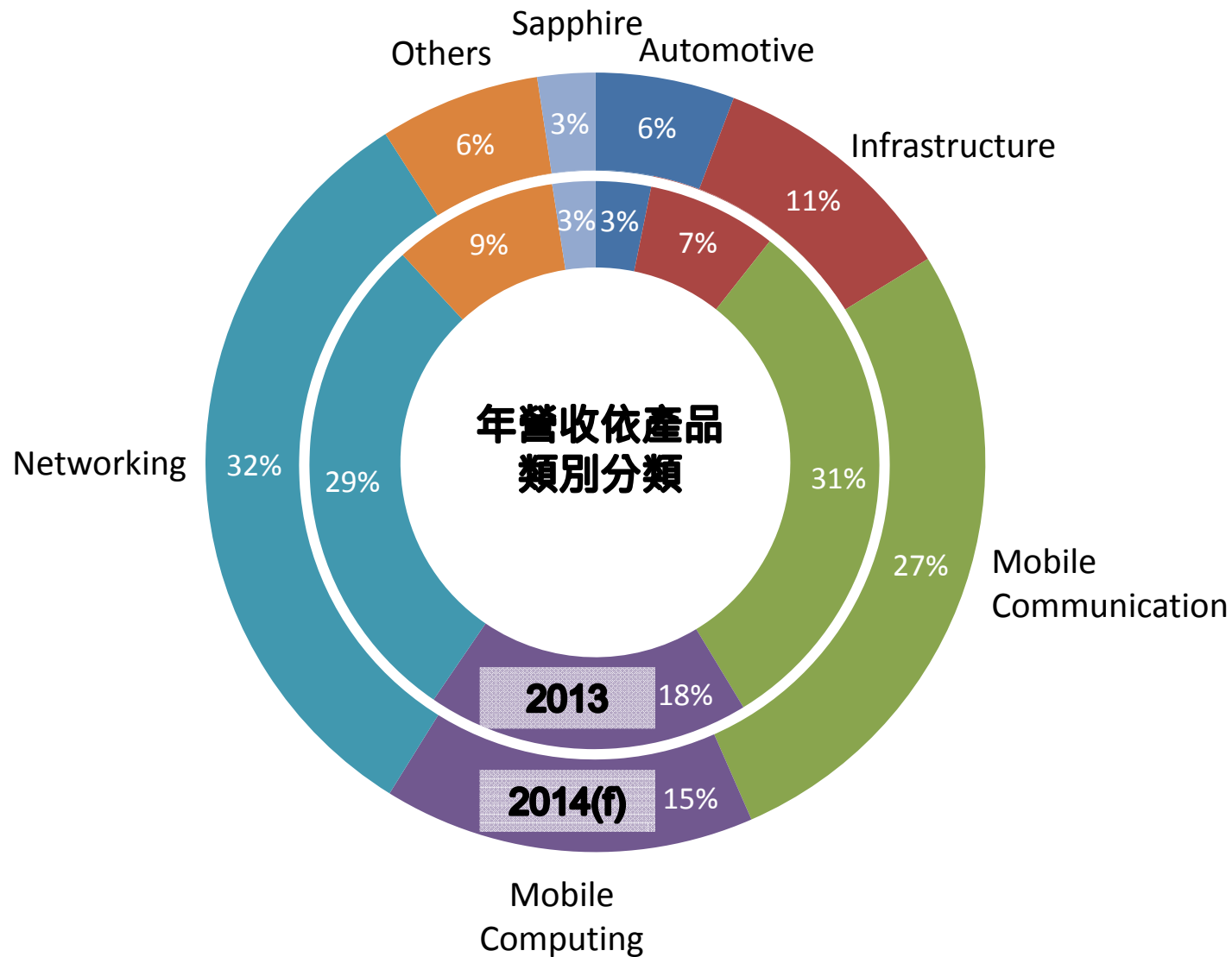
Source: CS&A 2014.04

台灣晶技於高階石英元件市場逐漸成長

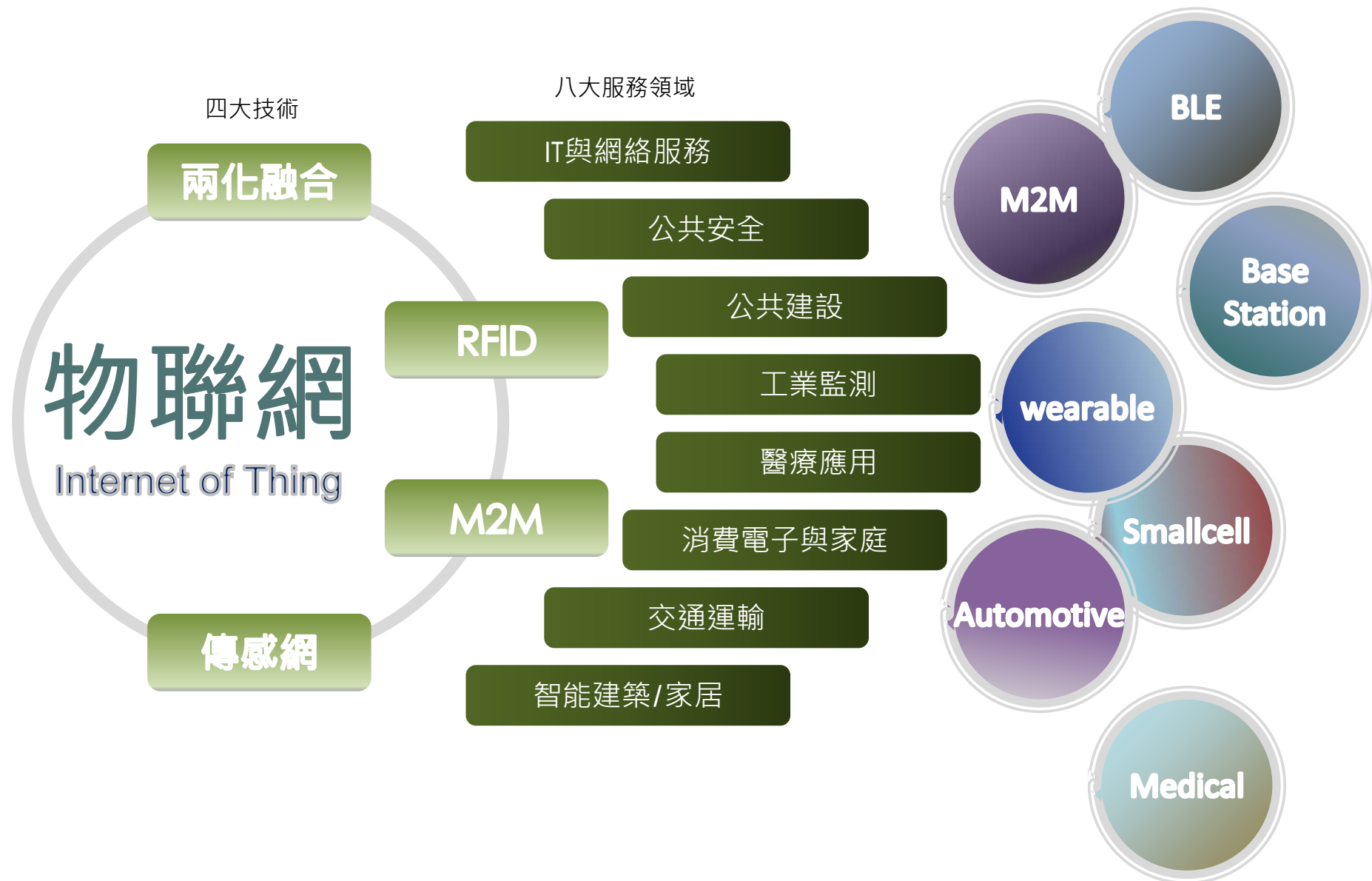


Source: CS&A 2014.04

台灣晶技-產品別銷售比重預估



市場焦點



基地台及微型基地台之解決方案

High end and precise performance products to fulfill

OCXO

Ultra Stability $\pm 3\text{ppb}$
Stratum 3/3E Grade

TCXO

High stability $\pm 100\text{ppb}$
Stratum 3

VCXO

Ultra Low Jitter 50fs
High Frequency $\leq 700\text{MHz}$

Migrating to LTE...
SDH/SONET

XO

Ultra Low Jitter 50fs
High Frequency $\leq 800\text{MHz}$

Crystal

Stability $\pm 10\text{ppm}$
Fund. Frequency $\leq 400\text{MHz}$

32kHz RTC

High Stability $\pm 5\text{ppm}$
Temperature Compensated

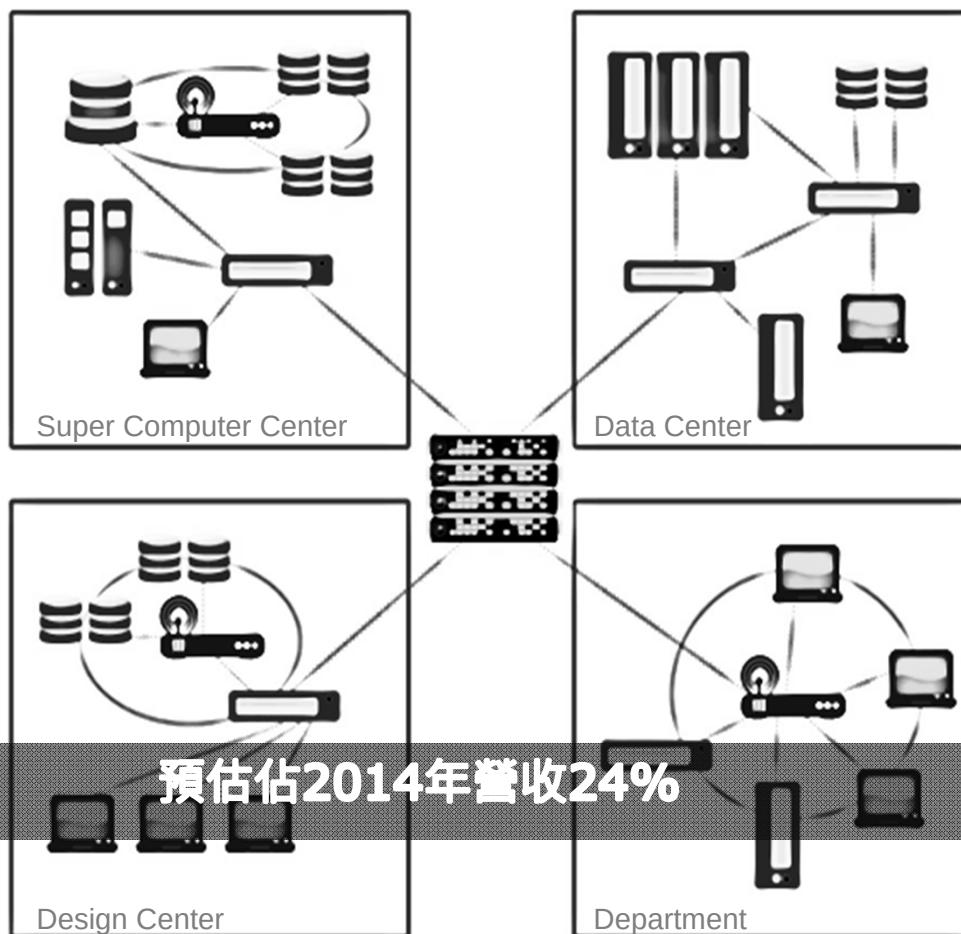


預估佔2014年營收11%

網通產品及數據中心之解決方案

High end and precise performance products to fulfill

High speed processing...
Gigabit Ethernet/Fiber Channel



VCXO

Ultra Low Jitter 50fs
High Frequency $\leq 700\text{MHz}$

XO, SO (SAW based)

Ultra Low Jitter 50fs
High Frequency $\leq 800\text{MHz}$

Crystal units

High Stability $\pm 10\text{ppm}$
High Frequency $\leq 400\text{MHz}$

32kHz RTC

High Stability $\pm 5\text{ppm}$
Temperature Compensated

無線及智慧家庭之解決方案

New, precise performance and miniature products to fulfill

Smartphone, M2M connecting...



預估佔2014年營收35%



LTE

WiFi

BT/BLE

Zigbee

GNSS

Sensor

Crystal units

Smallest and Thinnest
1.2x1.0x0.30mm

TSX

Smallest and Thinnest
1.6x1.2x0.55mm

XO, MO (MEMS based)

Low Jitter $\leq 1\text{ps}$
Smallest 2.0x1.6x 0.75mm

3-in-1 Light Sensors

ALS+PS+IR LED (Ceramic)
Smallest 2.5x2.0x1.0mm

32kHz RTC

High Stability $\pm 5\text{ppm}$
Temperature Compensated

TCXO

High stability $\pm 0.5\text{ppm}$
Miniature 1.6x1.2x0.55mm

智慧型醫療產品之解決方案

High end and precise performance products to fulfill

Healthcare monitoring...
BT/BLE, WiFi, GNSS
Sensor



預估佔2014年營收1%

3-in-1 Light Sensors

ALS+PS+IR LED (Ceramic)
Smallest 2.5x2.0x1.0mm

32kHz RTC

High Stability $\pm 5\text{ppm}$
Temperature Compensated

Crystal units

Smallest and Thinnest
1.2x1.0x0.30mm

TSX

Smallest and Thinnest
1.6x1.2x0.55mm

XO, MO (MEMS based)

Low Jitter $\leq 1\text{ps}$
Smallest 2.0x1.6x 0.75mm

TCXO

High stability $\pm 0.5\text{ppm}$
Miniature 1.6x1.2x0.55mm

汽車類產品之解決方案

Product Quality to fulfill

Smart connected car....

Infotainment,
(Telematics, GPS,
AV)

Safety Electronics
System (Airbag,
ABS, TPMS)

ADAS
(Advanced Driver
Assisted System)



預估佔2014年營收6%

Crystal units(AEC Q200)
Metal Can: G2
Glass: G0
Seam: G1

XO (AEC Q100)
Seam: G1

TCXO (AEC Q100)
Seam: G2

Notes:

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

無線及智慧型穿戴式產品之解決方案

Diversified, precise performance and miniature products to fulfill

Wearable technology...
BT/BLE, WiFi, GNSS
Sensor



預估佔2014年營收1%

Crystal units

Smallest and Thinnest
1.2x1.0x0.30mm

TSX

Smallest and Thinnest
1.6x1.2x0.55mm

XO, MO (MEMS based)

Low Jitter $\leq 1\text{ps}$
Smallest 2.0x1.6x 0.75mm

3-in-1 Light Sensors

ALS+PS+IR LED (Ceramic)
Smallest 2.5x2.0x1.0mm

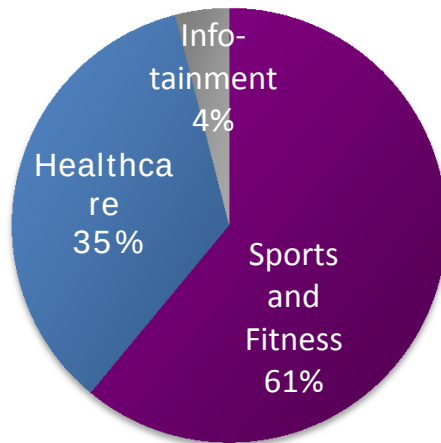
32kHz RTC

High Stability $\pm 5\text{ppm}$
Temperature Compensated

TCXO

High stability $\pm 0.5\text{ppm}$
Miniature 1.6x1.2x0.55mm

穿戴式產品市場



*MARKET VOLUME (in USD 2.5B)

WEARABLE MARKET comprises all technical end devices in the form of clothing and accessories. The central function is the recording and processing of data related to its user.

The market forecast of Wearable devices in 2014 will reach 100M+

- > Sport fitness 30M+
- > Healthcare 20M+
- > Infotainment 10M+



- > Devices for the measurement of movement, nutrition and vital functions
- > Example: Nike+ FuelBand, Garmin and Jawbone



Nike+ FuelBand



Jawbone UP



- > Technical solutions measuring, storing and sending data for diagnosing and treating patients
- > Example: Fitbit Flex



Fitbit Flex



- > Devices for the extension of smart phone & cloud brand functions
- > Example: Google Glasses and Sony Smartwatch 2



Sony Smartwatch 2



Google Glasses

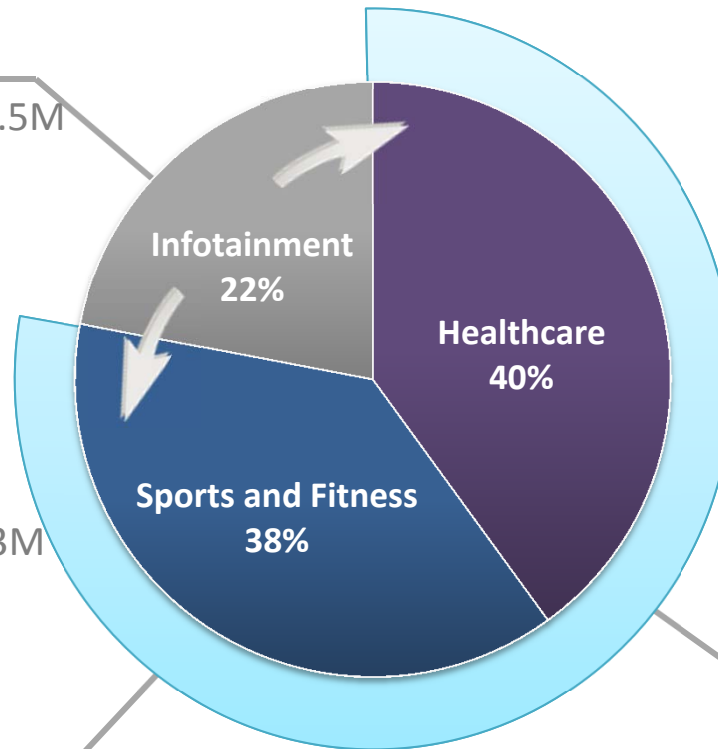
穿戴式產品焦點

2014



> TAM NT\$ 9.5M
> Brands
Apple
SONY
Google

> TAM NT\$16.3M
> Brands
Garmin
Nike
Jawbone



* Sport fitness 30M+
* Healthcare 20M+
* Infotainment 10M+

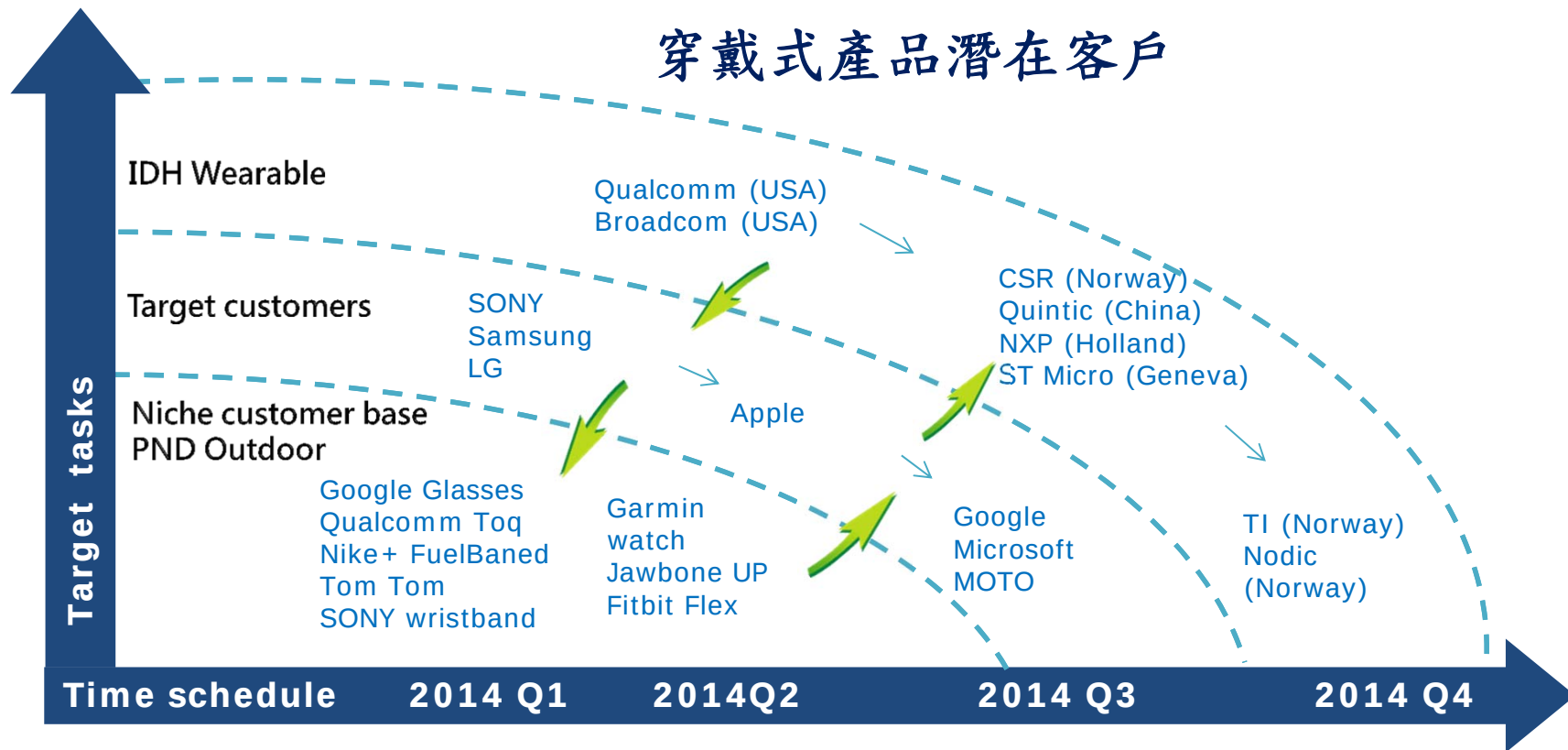
> TAM NT\$17.2M
> Brands
Fibit
SIRIIV
Sensoria (Smart Sock)
Misfit(Shine)
Bodymedia

(Unit:pcs)

TXC



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可能之相關應用

- BLE
- WiFi
- GPS
- NFC
- MCU
- CPU
- Motion Detection
- Ambient Detection
- Bio Info. Detection

Crystal Unit Wireless Communication System Performance

- Crystal
- Oscillator
- TCXO
- T/F

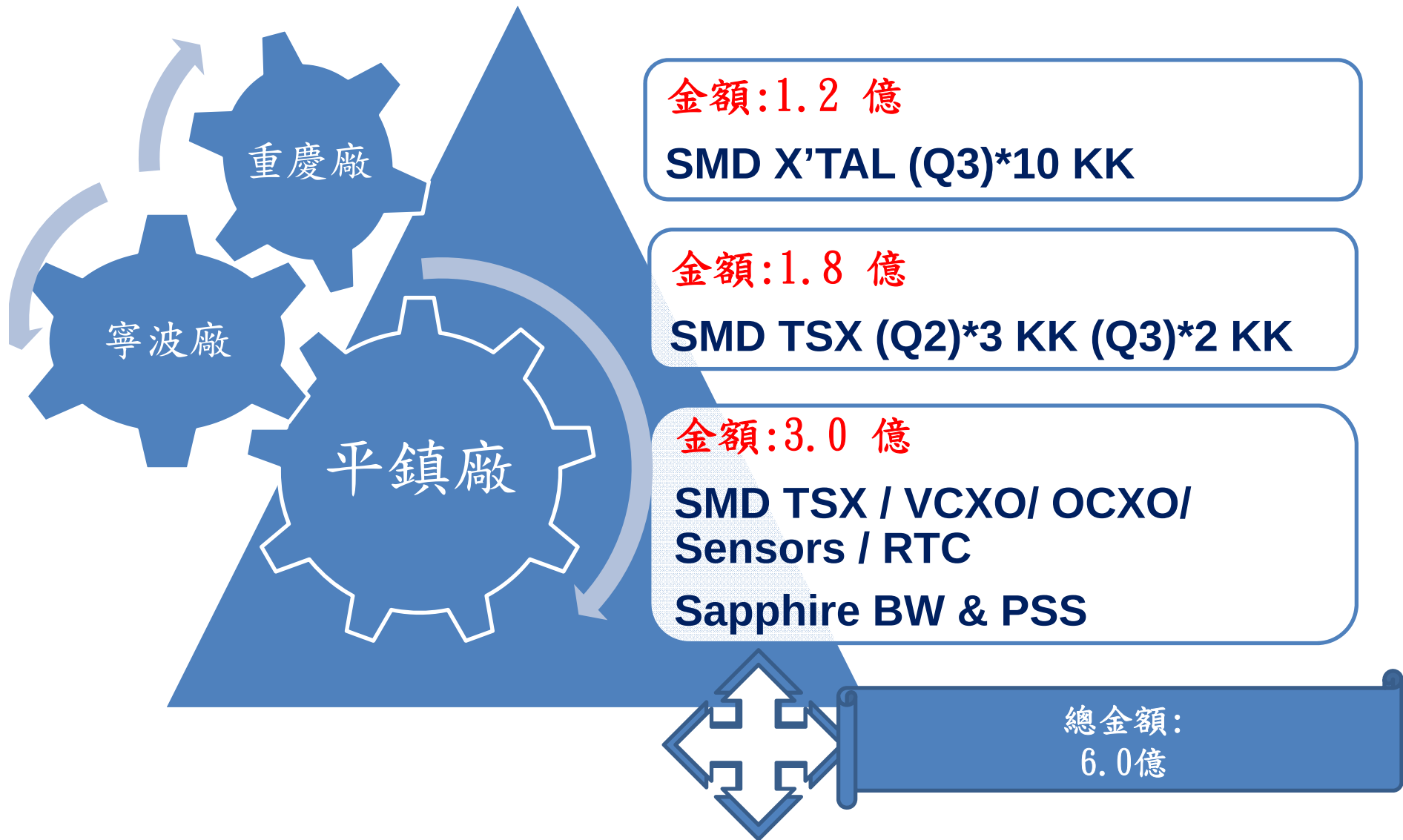
Sensor MEMS Sensor

- 3-axis accelerometer
- 3-axis gyroscope
- 3-axis magnetometer
- IR image sensor
- Micro-Microphone
- Oscillator

- Integrated combo chipset
- Improved transmission capacity and the effective distance
- Reduced power consumption
- Improved operational efficiency
- Smart system management
- Improved detected precision
- Size miniaturization
- Multi-axis data sensing

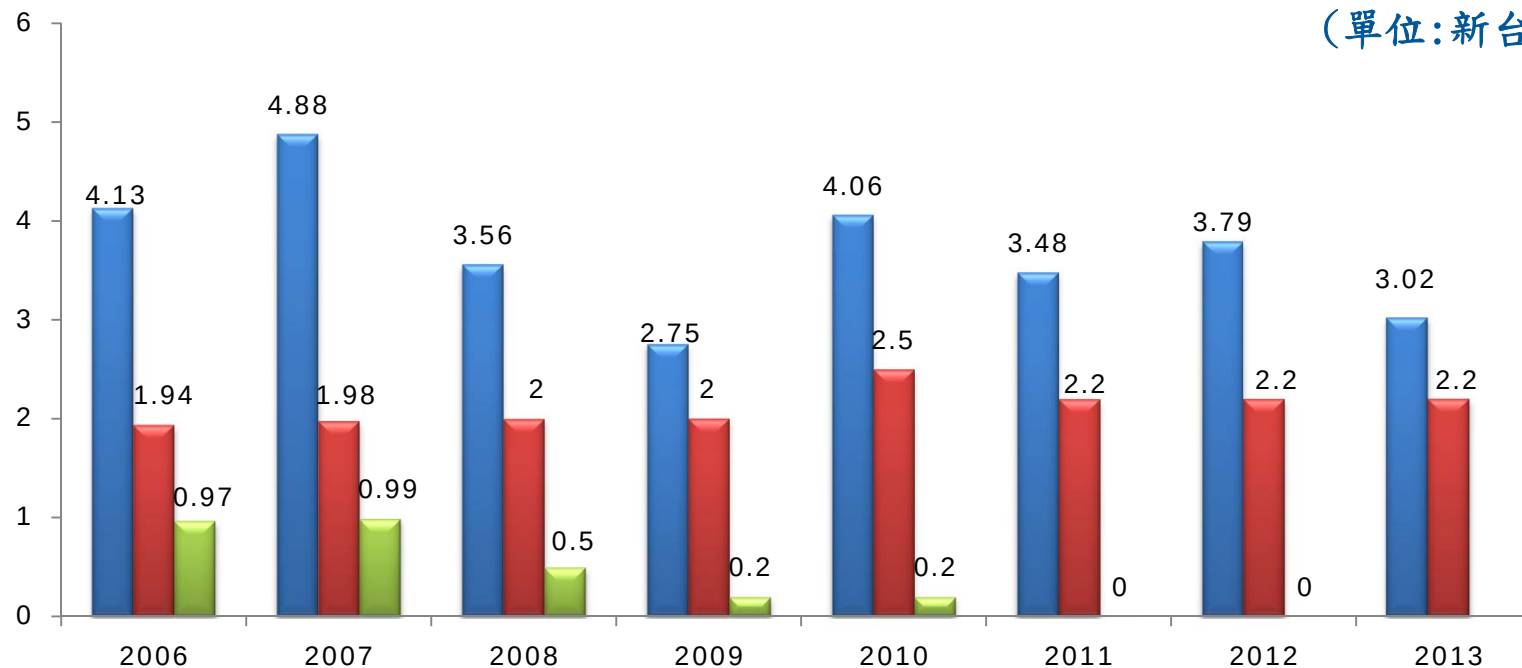
2014年資本支出

(單位:新台幣)



股利政策

(單位:新台幣元)



	2006	2007	2008	2009	2010	2011	2012	2013
每股盈餘	4.13	4.88	3.56	2.75	4.06	3.48	3.79	3.02
現金股利	1.94	1.98	2	2	2.5	2.2	2.2	2.2
股票股利	0.97	0.99	0.5	0.2	0.2	0	0	0
3/31股價	60.6	54.6	32	52.1	55.9	43.55	44.85	40.7
殖利率	3.20%	3.63%	6.25%	3.84%	4.47%	5.05%	4.91%	5.41%

營運總結

01

營收將逐季穩定成長;價格壓力趨於穩定

02

毛利率預估將維持略優於2013年以上的水準

03

汽車、網通及穿戴式相關之新產品將帶來新的營收動能

04

隨著雲端運算的發展，4G 應用將成為高階產品主要的成長動能

05

新產品將穩步切入市場，並帶來營收成長動力



Thank you