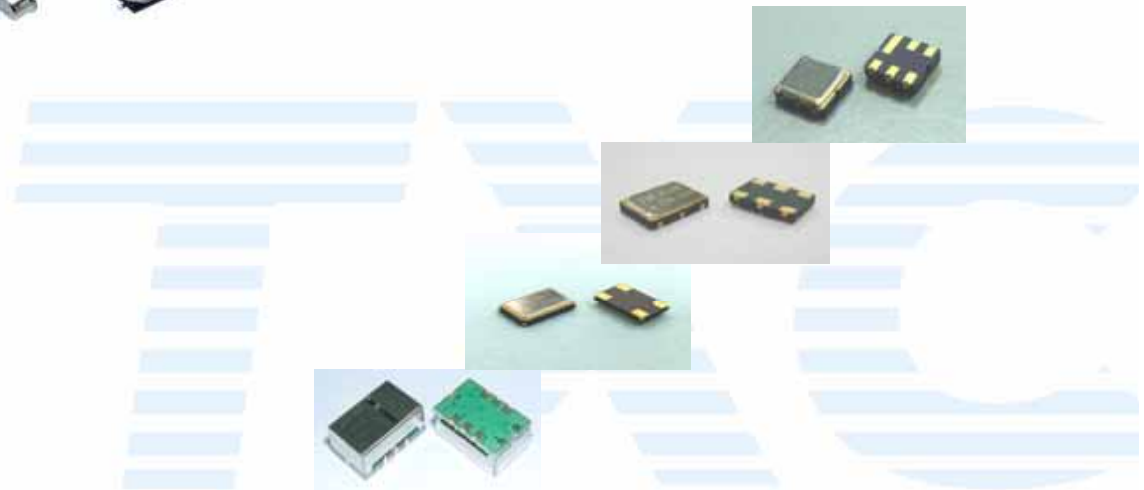
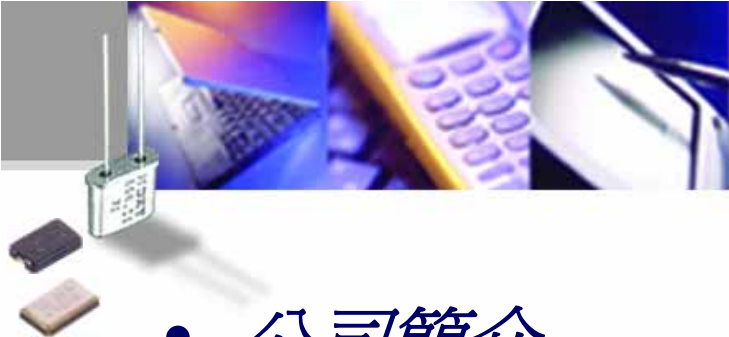




# 台灣晶技股份有限公司 *TxC Overview*

*May. 2007*




- 
- 公司簡介
  - 財務報告
  - 市場概況
  - 產品與技術概述
  - 資本支出
  - 其它重要事項





# 公司簡介



- 
- 台灣晶技為一專業之頻率控制元件製造商，自1983年12月成立以來，致力於插件式(DIP)與表面黏著式(SMD)石英晶體系列產品之研發、設計、生產與銷售。專事生產高精密、高品質之石英晶體(Crystals)、石英晶體振盪器(Crystal Oscillators)、表面聲波元件(SAW Devices)及時間模組(Timing Module)等 四大系列產品。
  - 多年來，我們始終以提升客戶價值為目標，提供客戶各種頻率控制元件到模組化設計(Design In)需求的完全整合方案，以滿足客戶全方位的需求；在價格、品質、交期、服務等方面，晶技的表現，始終超越客戶的期待。
  - [www.txccorp.com](http://www.txccorp.com)

# 產品介紹 Crystals



Resistance Weld



<b>6A</b>	<b>6B</b>	<b>6C</b>	<b>6E</b>
<b>49U</b>	<b>49S</b>	<b>49S/SMD</b>	<b>UM-1</b>

Resistance Weld



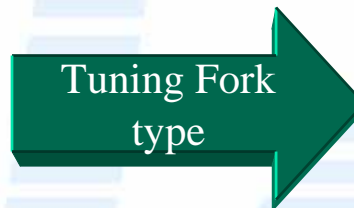
Seam Seal

<b>6Z</b>	<b>6P</b>	<b>6V</b>	<b>7B</b>	<b>7G</b>	<b>7M</b>
<b>12*5.5</b>	<b>7*5</b>	<b>6*3.5</b>	<b>5*3.2</b>	<b>4*2.5</b>	<b>3.2*2.5</b>

Glass Seal

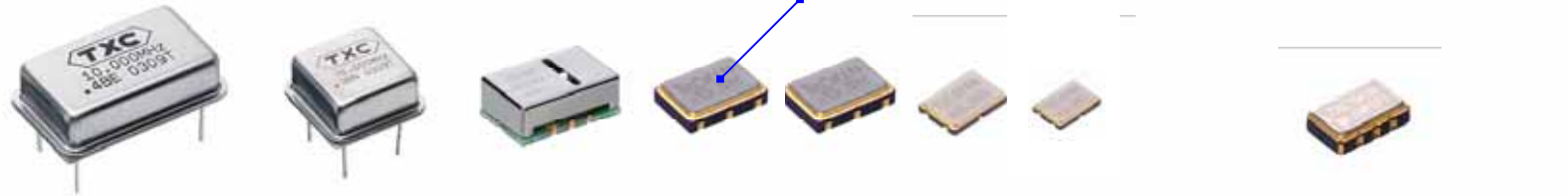


<b>6X</b>	<b>7A</b>
<b>8*4.5</b>	<b>5*3.2</b>



<b>9H (32 KHz)</b>
<b>T 2/3/6/7/9</b>

# 產品介紹 - Oscillator



	<b>6K/6M</b>	<b>7J</b>	<b>6N</b>	<b>7E</b>	<b>7C</b>	<b>7X</b>		<b>7P</b>
<b>CXO</b>	<b>Full/Half</b>	<b>14*9</b>	<b>7*5</b>	<b>7*5</b>	<b>5*3.2</b>	<b>3.2*2.5</b>		<b>TCXO 5*3.2</b>
		Also LVPECL/LVDS Up to 800 MHz	Also LVPECL/LVDS Up to 330 MHz					Clipped Sinewave



	<b>6R</b>	<b>7H</b>	<b>6U</b>
<b>VCXO</b>	<b>Full/Half</b>	<b>14*9</b>	<b>7*5</b>
	Also LVPECL/LVDS Up to 800 MHz	Also LVPECL/LVDS Up to 800 MHz	



<b>7K</b>
<b>OCXO (AT-Cut / SC-Cut)</b>

# 公司沿革



## Business

Founded- Capital **US\$ 95,000**

Listed in Main Board of Taiwan Security Exchange (Code- 3042)

IPO'ed Increased Capital to **US\$ 34.8M**

Implemented Oracle ERP

Authorized Capital: **US\$63 M**

Ranked **6<sup>th</sup>** Largest Crystal/Oscillator Manufacturer in the World

Ranked **8<sup>th</sup>** Largest Crystal/Oscillator Manufacturer in the World

## Quality

Green Product Policy & QS 9000

ISO 9001

ISO 14001

6 Sigma

TS16949- Taiwan and China Factories

1983

1984

1990

1991

1992

1993

1994

1995

1996

1997

1998

1999

2000

2001

2002

2003

2004

2005

2006

2007

Established SMD Production Lines

Established SAW Production Lines

Established TCXO Production Lines

Established OCXO, SONET and STC Product Lines

Completed new Ningbo Factory in China

Adding 6 lines

Expanding PC Factory 6 lines, Ningbo Factory 3 lines, total capacity can up to **112 M** per month

## Production



**Headquarter -** Taiwan Taipei

**Factories(2) -** Taiwan Ping-Cheng, China Ningbo  
**Sales FAEs(9) -** Taiwan Taipei  
 China Shanghai, Suzhou, Shenzhen, Beijing  
 USA LA, San Jose, Boise  
 Japan Yokohama

**Distributors(12)-** Europe-UK, Germany.....

**Reps(8)-** Korea, India, Singapore, Mexico.....

	Taiwai Ping-Cheng	China Nigbo	Total
<b>Number of Employees</b>	820	900	1,720





**2007 expected**

**Peitou Headquarters**  
 Taipei, Taiwan  
 1,568 Sq. M.  
 (16,900 Sq. Ft.)



**Ping Cheng Factory**  
 Taoyuan, Taiwan  
 17,800 Sq. M.  
 (192,000 Sq. Ft.)



**Ningbo Factory**  
 Zhejiang, China  
 56,000 Sq. M.  
 (603,000 Sq. Ft.)



	Units/Month
SMD Glass Crystal	20 M
SMD Seam Crystal	27 M
SMD CXO (Oscillator)	7 M
SMD TF (Tuning Fork)	6 M
49U Dip	4 M
49S Dip	30 M
49S SMD	18 M
<b>Total</b>	<b>112 M</b>

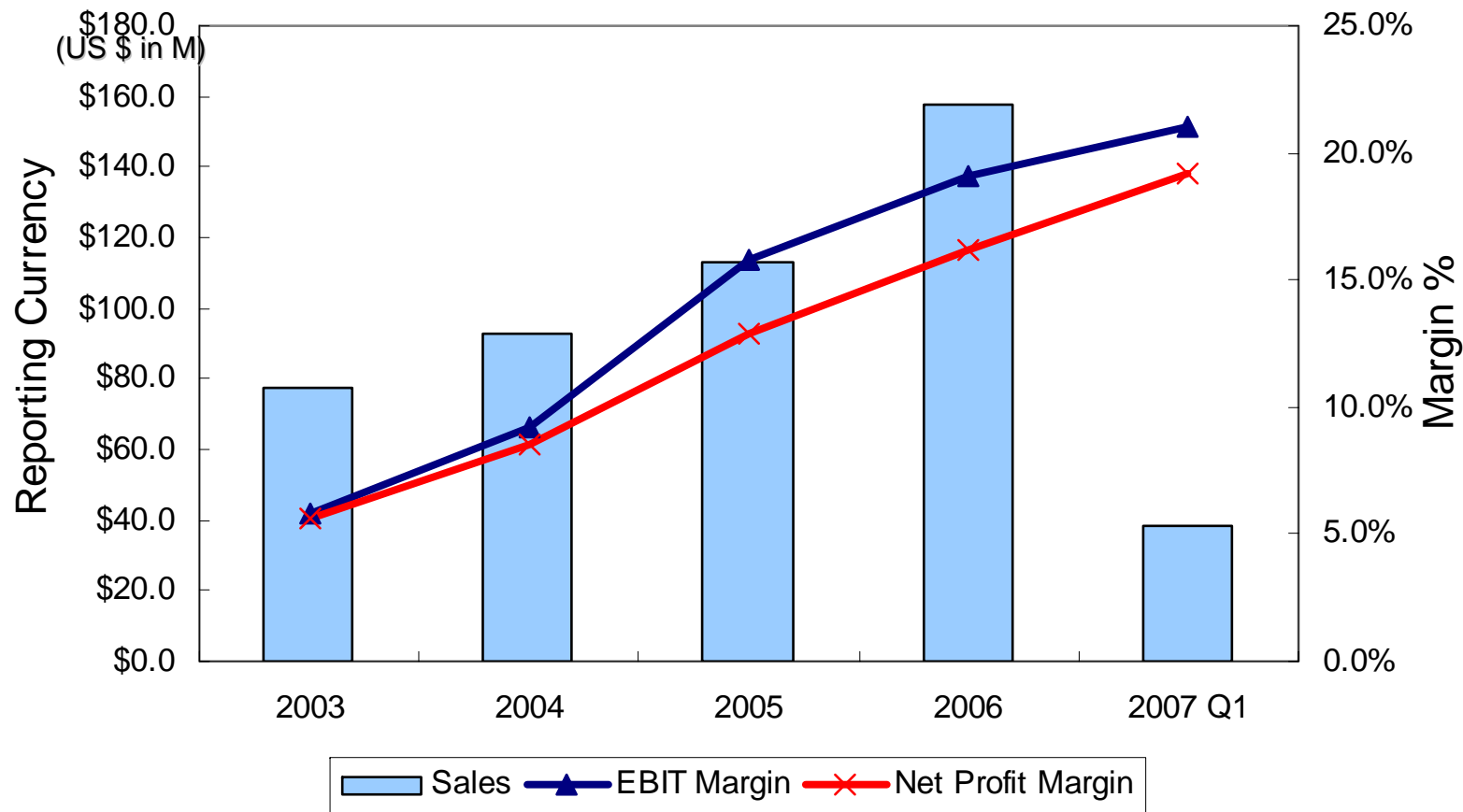
\*Employees: 816 in Taiwan, 820 in China as of 2/2/2007.



# 財務報告



# 近五年损益



Profitability	2003	2004	2005	2006	2007 Q1
Sales	77.5	92.6	113.0	157.8	38.49
Margin%	17.2%	20.7%	26.2%	28.9%	27.6%
EBIT Margin	5.8%	9.2%	15.8%	19.1%	21.0%
Net Profit Margin	5.6%	8.5%	12.9%	16.2%	19.2%

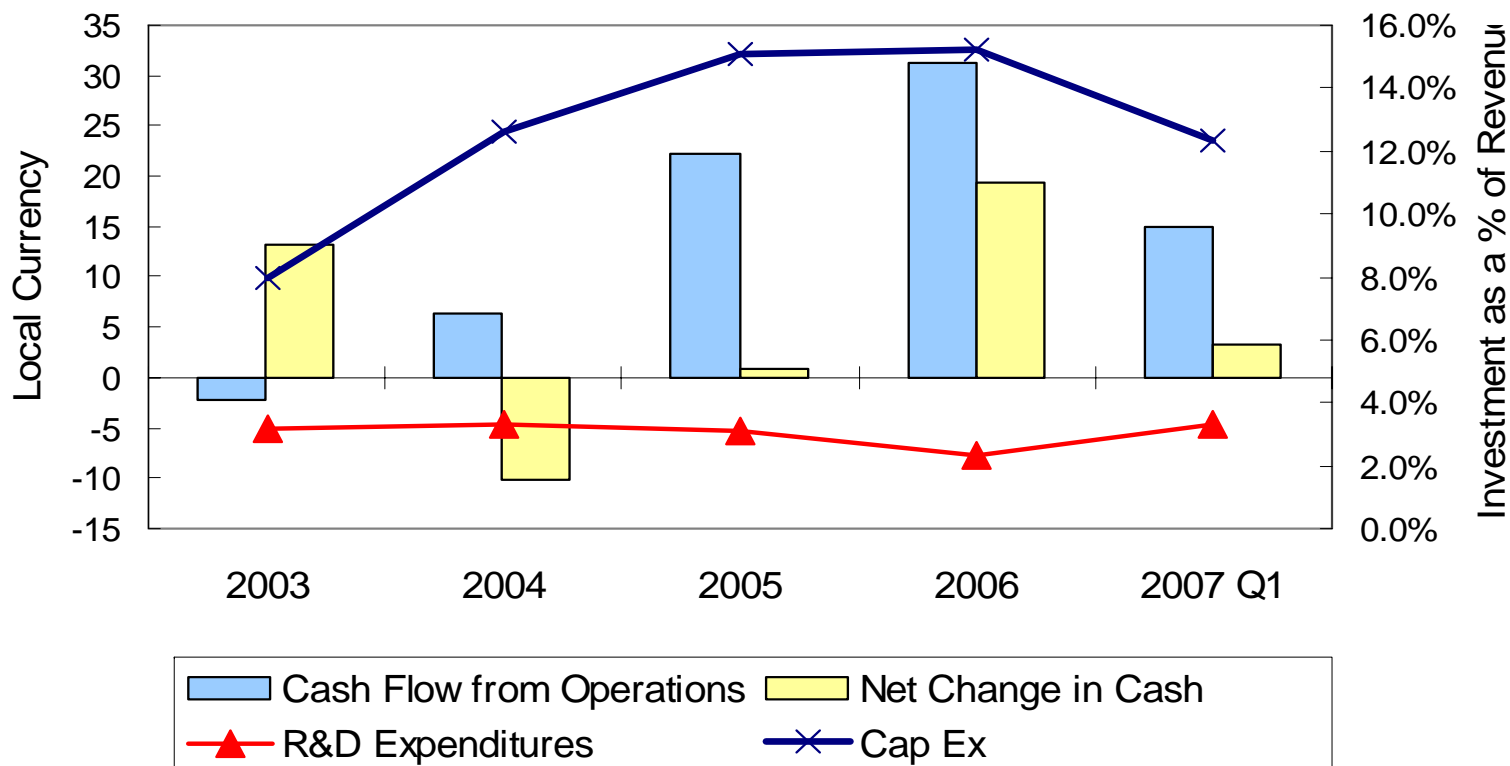
Think of Frequency, Think of TXC

TXC Proprietary

# 現金流量



(US \$ in M)



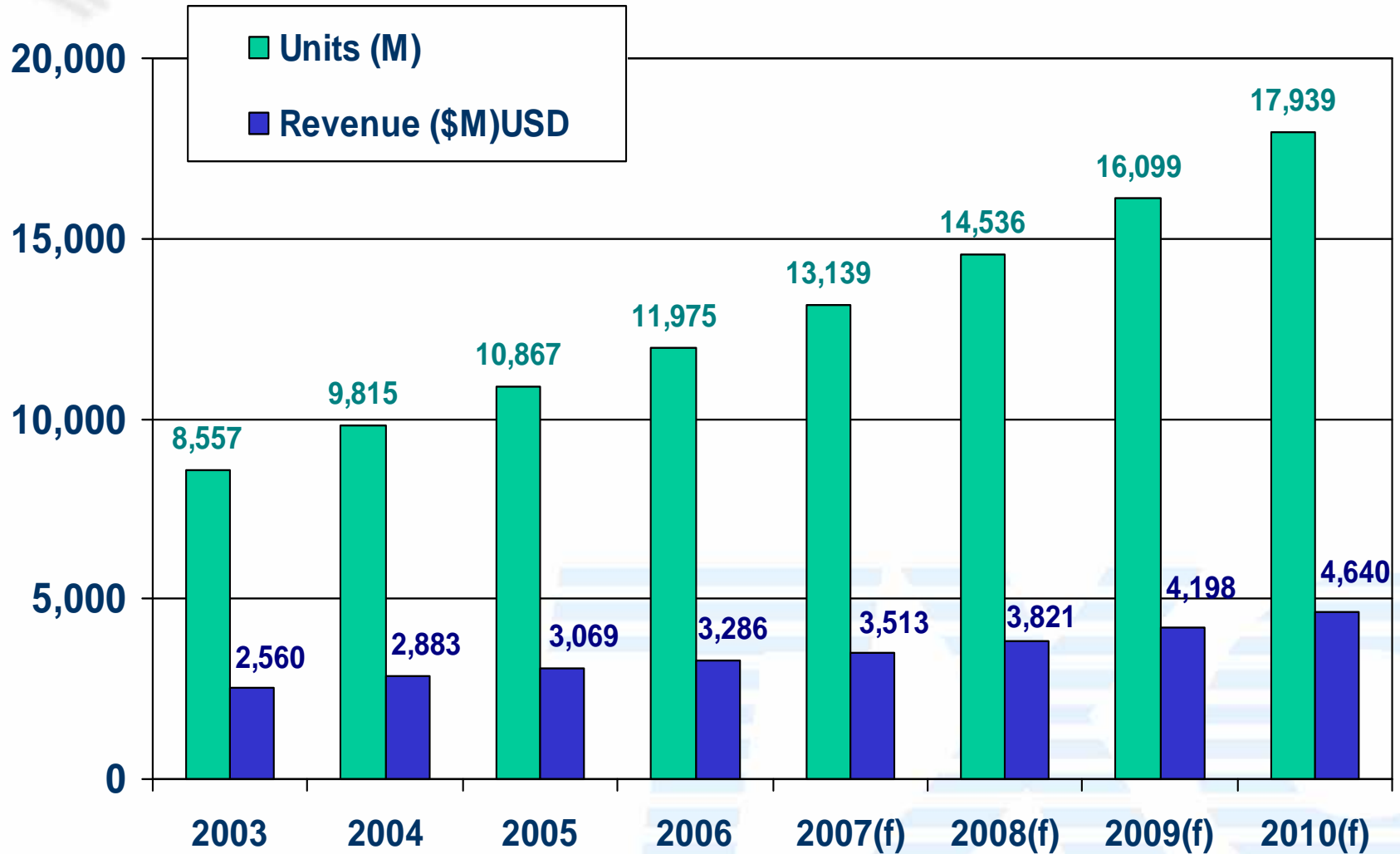
	2003	2004	2005	2006	2007 Q1
<b>Cash Flow from Operations</b>	-2.2	6.4	22.3	<b>31.3</b>	<b>15.0</b>
<b>Net Change in Cash</b>	13.2	-10.1	0.8	<b>19.4</b>	<b>3.3</b>
<b>R&amp;D Expenditures</b>	3.2%	3.3%	3.1%	<b>2.3%</b>	<b>3.3%</b>
<b>Cap Ex</b>	8.0%	12.6%	15.1%	<b>15.2%</b>	<b>12.3%</b>



# 市場概況



X'TAL & Oscillator growth trend :



Source : TIC

## Worldwide Revenue of the Top Crystal and Oscillator Suppliers (Millions of Dollars)

2005 Rank	2006 Rank	Company Name	2004 Revenue	2005 Revenue	2006 Revenue	% Change (04-05)	% Change (05-06)	2006 Market Share	Cumulative %
1	1	Epson Toyocom	570	589	645	3.3%	9.5%	19.6%	19.6%
2	2	NDK	478	515	626	7.7%	21.6%	19.1%	38.7%
3	3	Kyocera Kinseki	312	338	372	8.3%	10.1%	11.3%	50.0%
4	4	KDS	253	253	290	0.0%	14.6%	8.8%	58.8%
5	5	Vectron	183	188	211	2.7%	12.2%	6.4%	65.2%
6	6	<b>TXC</b>	<b>92</b>	<b>117</b>	<b>161</b>	<b>27.2%</b>	<b>37.6%</b>	<b>4.9%</b>	<b>70.1%</b>
7	7	TEW	85	83	88	-2.4%	6.0%	2.7%	72.8%
9	8	Micro Crystal	51	56	60	9.8%	7.1%	1.8%	74.6%
10	9	Rakon	50	53	59	6.0%	11.3%	1.8%	76.4%
8	10	River	60	63	59	5.0%	-6.3%	1.8%	78.2%
12	11	Pericom	21	45	49	114.3%	8.9%	1.5%	79.7%
14	12	Fox	38	39	48	2.6%	23.1%	1.5%	81.2%
13	13	Conner-Winfield	42	44	47	4.8%	6.8%	1.4%	82.6%
15	14	C-MAC	37	36	40	-2.7%	11.1%	1.2%	83.8%
		Other Companies	611	650	531	6.4%	-18.3%	16.2%	100.0%
		<b>Total Revenue</b>	<b>2,883</b>	<b>3,069</b>	<b>3,286</b>	<b>6.5%</b>	<b>7.1%</b>	<b>100.0%</b>	

Modified from CS&A

# 十大客戶



2005			2006		
	Customer	%		Customer	%
1	QUANTA COMPUTER Group.	11.7%	1	HON HAI PRECISION IND. Group.	16.5%
2	HON HAI PRECISION IND. Group.	8.2%	2	QUANTA COMPUTER Group.	8.7%
3	ASUSTEK COMPUTER Group.	7.5%	3	ASUSTEK COMPUTER Group.	8.1%
4	INVENTEC Corporation Group.	6.3%	4	COMPAL COMMUNICATIONS Inc.	6.6%
5	COMPAL COMMUNICATIONS Inc.	5.1%	5	INVENTEC Corporation Group.	6.5%
6	MOTOROLA BCS	4.5%	6	MOTOROLA Group.	4.6%
7	PREMIER IMAGE TECHNOLOGY Corporation	3.3%	7	SEAGATE TECHNOLOGY INTL.	3.7%
8	SEAGATE TECHNOLOGY INTL.	3.3%	8	COMPAL ECELECTRONICS,Inc. Group.	2.4%
9	MITAC INTERNATIONAL Corp.Group.	3.2%	9	ITF Co. Ltd	2.4%
10	COMPAL ECELECTRONICS,Inc. Group.	2.7%	10	UNIVERSAL. MICROELECTRONICS. CO., LTD.	2.3%
	SUB-TOTAL	55.9%		SUB-TOTAL	61.8%
	OTHERS	44.1%		OTHERS	38.2%
	SUM	100.0%		SUM	100.0%



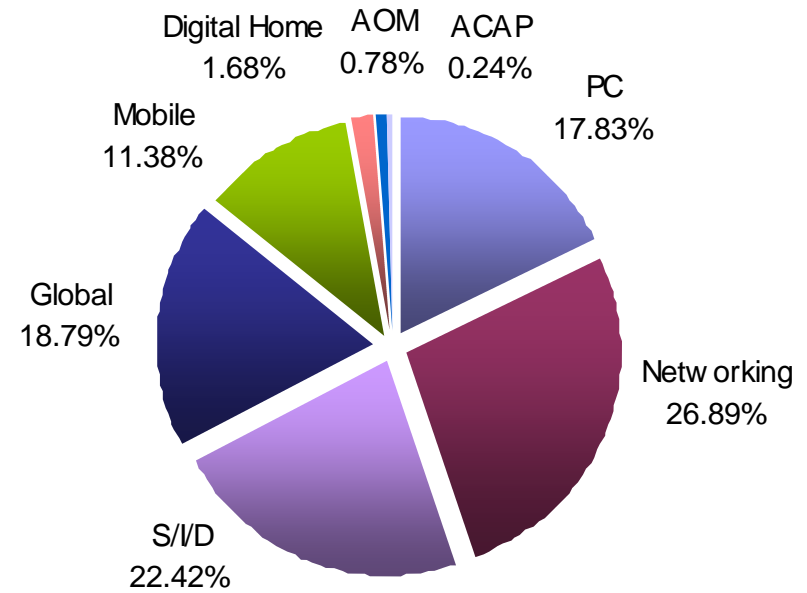
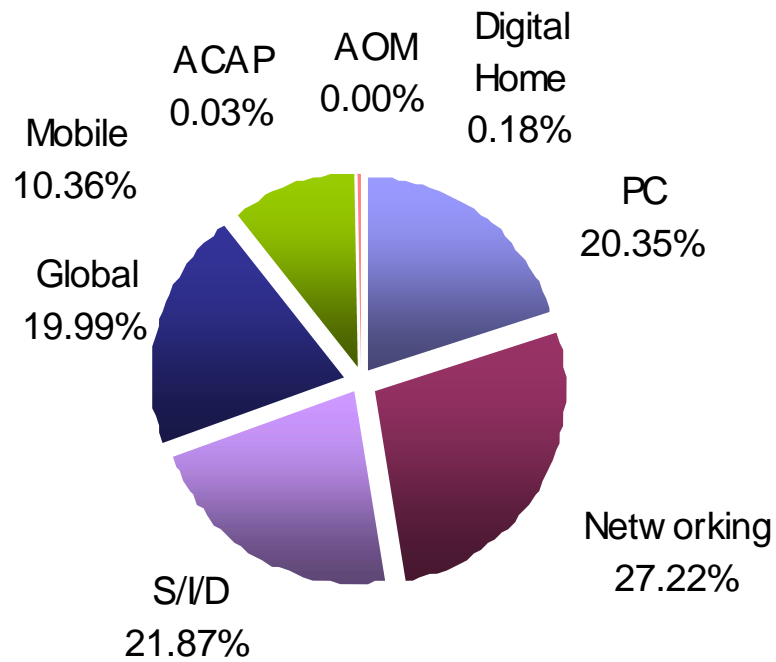
# 產業別營收比



**2006**

**2007 (fcst)**

\* **Sales Revenue USD\$ 158 M**



\* AOM: Advanced Oscillator Module

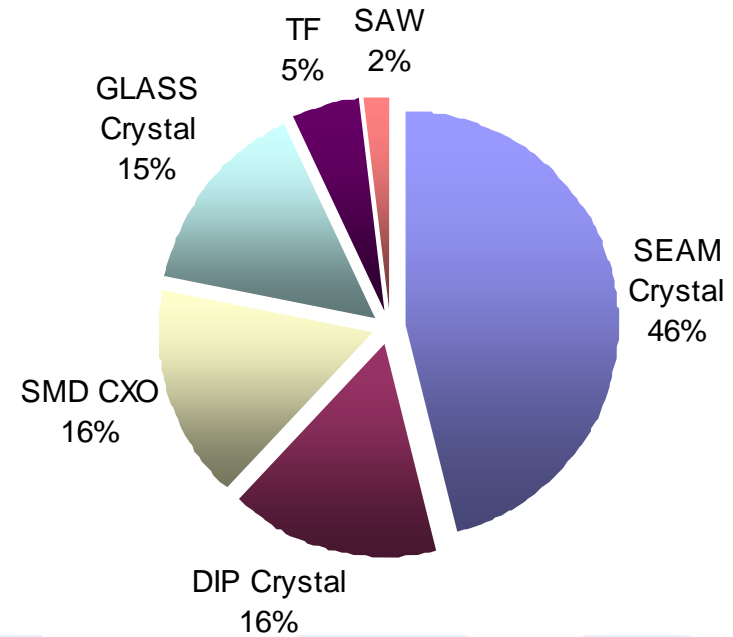
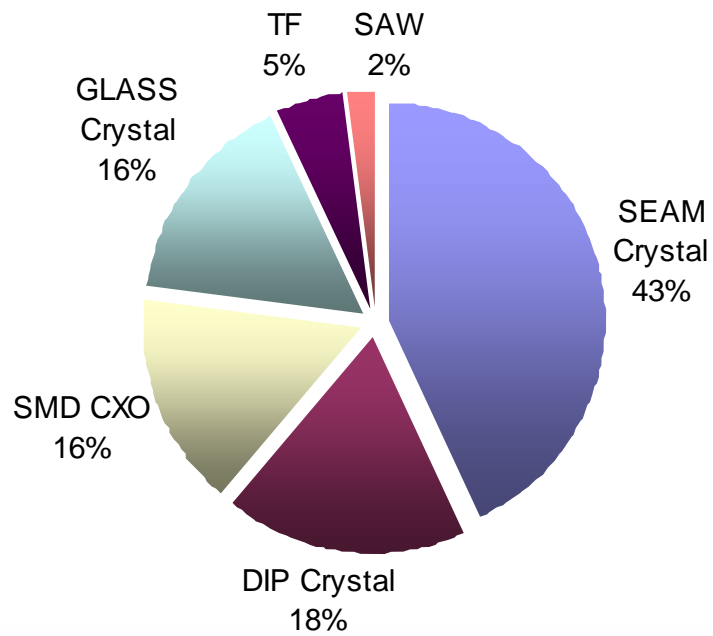
# 產品別營收比



**2006**

**2007 forecast**

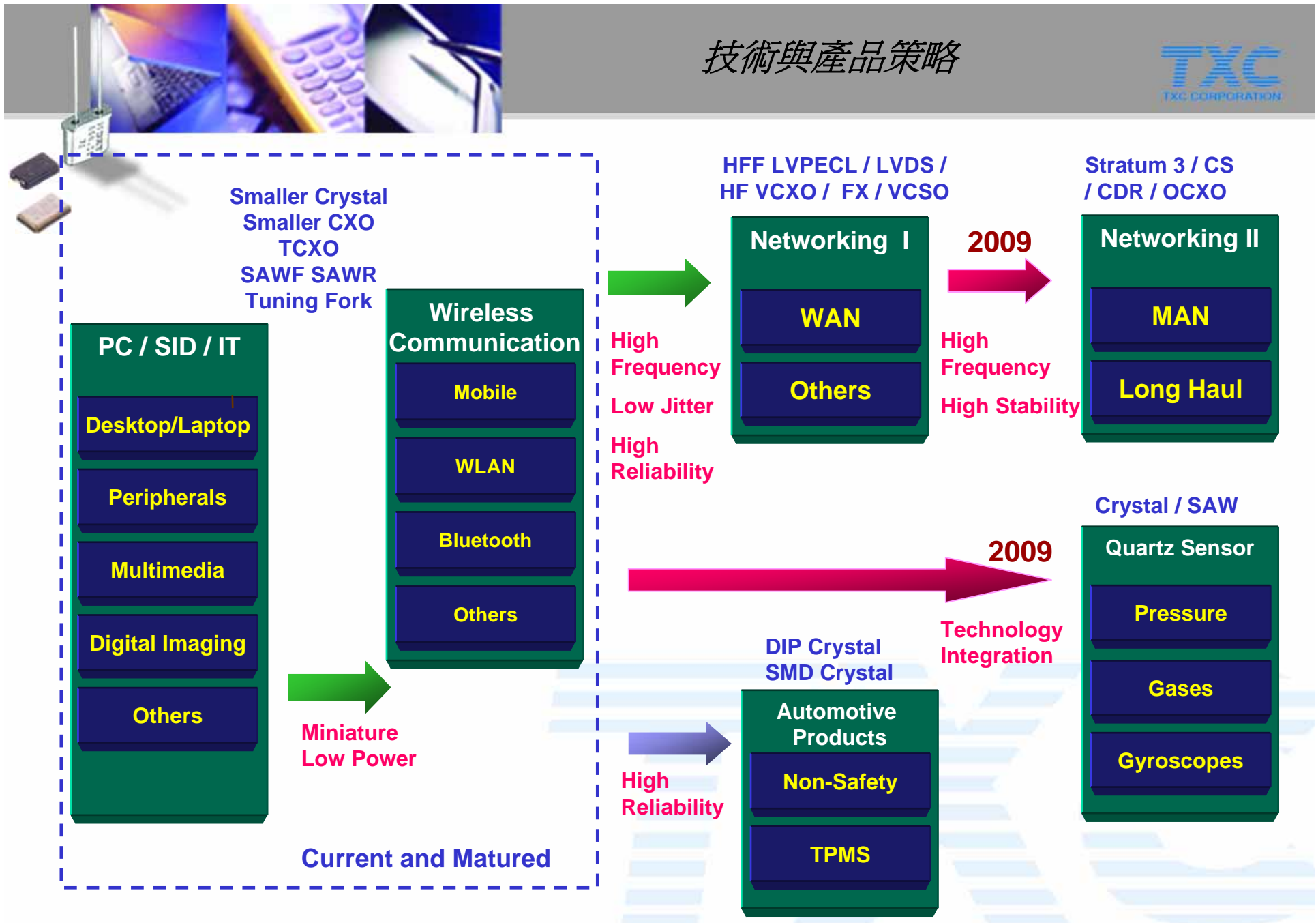
\* **Sales Revenue USD\$ 158 M**





# 技術與產品概述





# 產品發展



	2006	2007	2008
SMD Seam Crystal	7050/5032/3225/2520	2016	1610
SMD Glass Crystal	8045/5032	3225	
SMD CXO	7050/5032/3225/2520	2016	
Automotive Crystal/CXO	8045/5032/49S	7050	3225
SMD Tuning Fork	4115	3215	
SAWR/SAWF	5050/3838/3030	2520	
SMD HF CXO (PECL/LVDS)	7050	5032	
SMD VCXO (CMOS)	7050	5032	3225
SMD HF VCXO (PECL/LVDS)	7050	5032	
SMD Programmable CXO	7050/ 5032/3225		
SMD TCXO	5032	3225	2520
OCXO		Customized	
Timing Modules		Customized	

\* 5032→5.0x3.2, 3225→3.2x2.5 ...



	Technologies	2007				2008				2009			
		Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
<b>High Frequency Blanks and Device</b>	High fundamental blank design and simulation Double side Mesa blank etching technology High frequency device measurement technology	[Blue bar from Q1 to Q3]				[Blue bar from Q2 to Q4]				[Blue bar from Q1 to Q3]			
<b>High Stability Device</b>	High stable crystal process development Double rotation crystal blank technology Temperature characteristic evaluation system Active / passive components screening technology Metallization technology and conductive material development	[Green bar from Q1 to Q2]				[Green bar from Q2 to Q4]				[Green bar from Q1 to Q3]			
<b>Precision Device</b>	High precision measurement technology					[Orange bar from Q2 to Q4]							
<b>Low Noise Device</b>	Low noise / high performance ASIC development					[Dark blue bar from Q2 to Q3]							
<b>High Reliability</b>	Dynamic evaluation / monitor RA system MTTF simulation technology development	[Pink bar from Q1 to Q2]				[Pink bar from Q2 to Q3]							
<b>Quartz Sensors</b>	Chemical thin file coating technology Multi-FCP-chip packaging technology					[Light green bar from Q3 to Q4]				[Light green bar from Q3 to Q4]			



# 資本支出





- **Production Lines**

- 2nd and 3rd floors are arranged for production usage. The setting can accommodate 12 lines for future expansion

- **Offices**

- The rest of floors are reserved for other supporting function departments such as research/developing, purchasing, and quality assurance
- Also, an integrated testing lab. is also located in the new building to facilitate the testing process.







- **Factory expansion**

- Taiwan/ Taoyuan: 10KK/M capacity increased in 2006
- China/ Ningbo: 5KK/M capacity increased in 2006
- Additional 6KK/M capacity be increased in 2007/Q2
- Total capacity up to 112 KK/M in 2007/Q2
  - New lines only require 1~2 operators which is more cost-effective, and efficient when compared with the original arrangement that needs to equip with 8~10 operators.

- **AT crystal blank capacity expansion**

- Advanced processing will be implemented to achieve the capacity maximization in order to meet our expansion target.

- **Academic collaborations**
  - With the leading universities in Taiwan and China
- **Technology consultants**
  - With decades of experience in crystal blank technology and product miniaturization

Year	PE & RD Budget
2006	USD\$5.6M
2007	USD\$7.0M

# 資本支出



**2007**

*Unit:NT\$ Million*

<i>CapEx</i>	<i>Line</i>	<i>Amount \$</i>	<i>Date (F)</i>	<i>Capacity/M</i>	<i>Revenue/M (F)</i>
<i>SMD Seam X'tal (TWN) 3225 / 2520</i>	<i>2</i>	<i>120</i>	<i>1Q</i>	<i>2M</i>	<i>30</i>
<i>SMD Seam X'tal (TWN) 3225 / 2520 / 2016</i>	<i>4</i>	<i>210</i>	<i>2Q.3Q</i>	<i>4M</i>	<i>60</i>
<i>NGB factory expansion plant</i>		<i>250</i>			
<i>SMD X'tal (NGB) 5032 / 3225</i>	<i>3</i>	<i>120</i>	<i>2Q.3Q</i>	<i>3M</i>	<i>24</i>
<b><i>Total</i></b>	<b><i>9</i></b>	<b><i>700</i></b>		<b><i>9M</i></b>	<b><i>114</i></b>

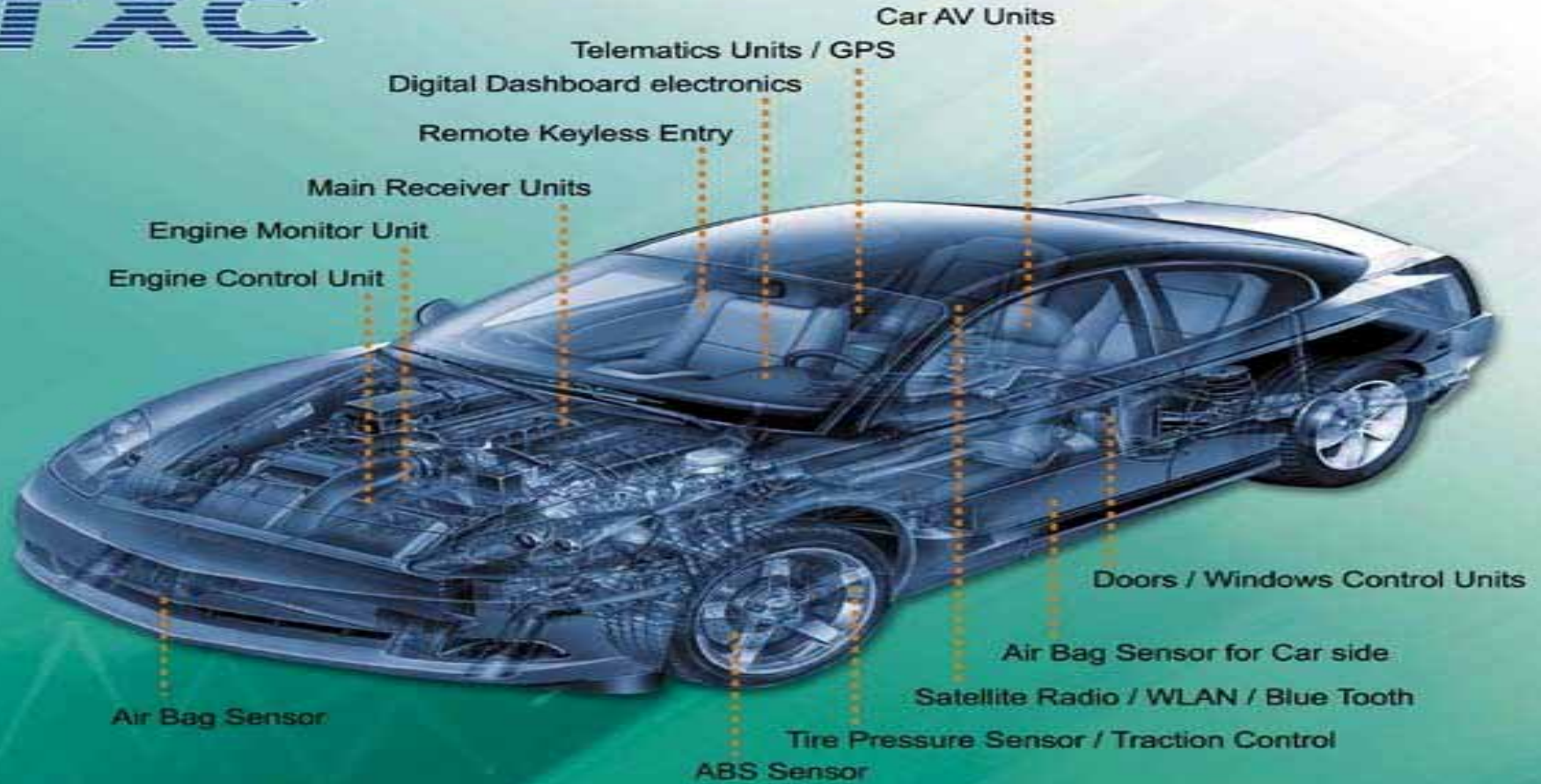
# 大陸寧波廠擴廠計劃



- *Factory in China Ningbo*
- *The new plant will be ready in 2008 Q2 and it can accommodate over 30 lines.*



# TXC



## Frequency Control Products Applied in Automotive Industry

	DIP Type	HC-49U / 6A Series
	DIP Type	HC-49S / 6B Series
	DIP Type	HC-49S SMD / 6C Series
	Resistance Welding Crystal	11.8 x 4.9mm / 6Z Series
	Seam Sealed Crystal	7 x 5mm / 6P Series
	Seam Sealed Crystal	6 x 3.5mm / 6V Series

	Seam Sealed Crystal	5 x 3.2mm / 7B Series
	Seam Sealed Crystal	3.2 x 2.5mm / 7M Series
	Glass Sealed Crystal	8 x 4.5mm / 6X Series
	Glass Sealed Crystal	5 x 3.2mm / 7A Series
	Glass Sealed J-Type	8 x 4.5mm

**Think of Frequency, Think of TXC**



## Q & A



***Thanks!***

