



SIWARD GROUP

Siward Investor Conference

SIWARD Company Presentation

Oct. 24th 2019



PATIENCE CONFIDENCE CONCENTRIC

Agenda

14:30~16:00

➡	Topic	Speaker
➡	Welcome	JM Tseng
➡	Company Presentation	(Video)
➡	Financial Report	Catherine Yu
➡	Sales & Market Trend	Catherine Yu
➡	Developing	Caton Hsu
➡	Summary Q&A	JM Tseng

- **Financial Report**
Financial performance, Dividends policy

Balance Sheet



Unit: NTD'000	H1 2019	2018	H1 2018
Current Assets	2,006,285	1,955,173	2,032,576
Total Assets	4,148,906	4,119,949	4,193,188
Current Liabilities	634,992	457,329	740,525
Total Liabilities	1,236,414	1,044,775	1,267,134
Total Equity	2,912,492	3,075,174	2,926,054
Debt ratio(%)	30%	25%	30%
Current ratio(%)	316%	428%	274%
Quick ratio(%)	226%	304%	201%
Book Value Per Share (NTD)	18.22	19.24	18.31

Statement of Comprehensive Income



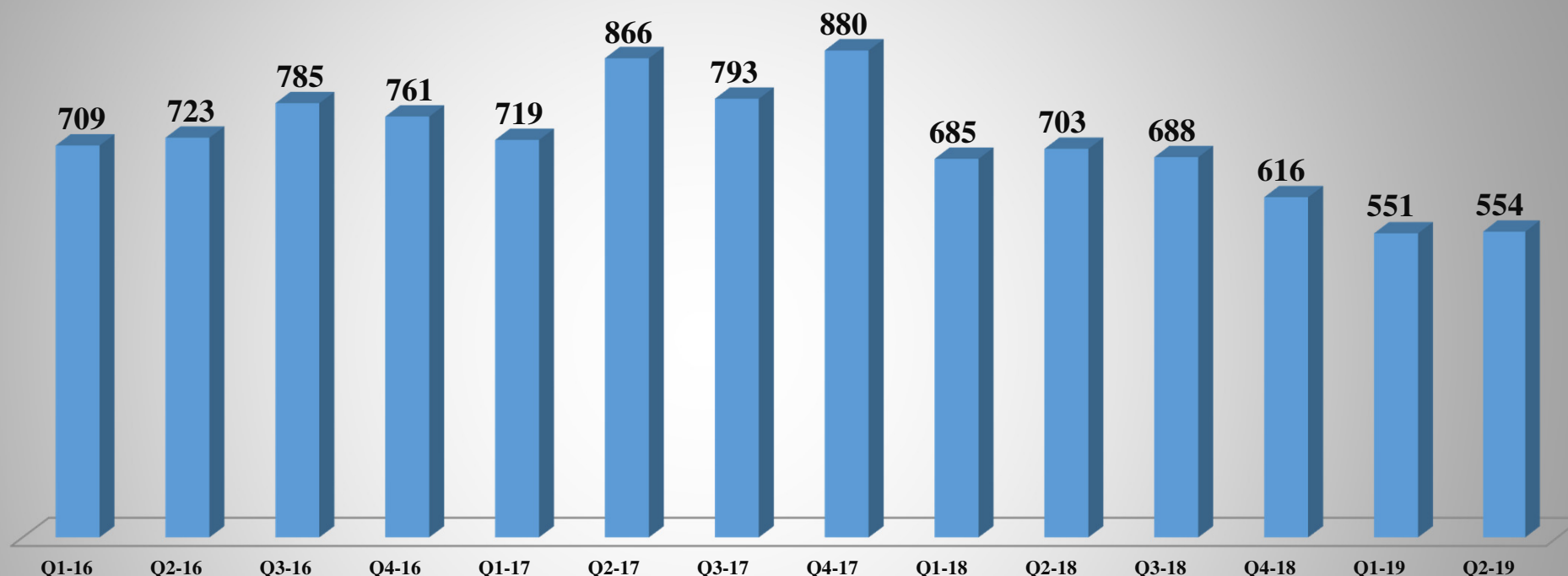
Unit: NTD'000	2018	2017	Growth(%)	H1 2019	H1 2018	Growth(%)
Revenue	2,691,882	3,258,695	-17.4%	1,105,563	1,388,166	-20.4%
Gross Profit	577,204	544,507	6.0%	223,655	266,735	-16.2%
Operating Profit	217,489	202,783	7.3%	62,492	95,637	-34.7%
Income before tax	298,364	206,383	44.6%	92,695	149,837	-38.1%
Net Income	259,983	171,685	51.4%	74,429	128,801	-42.2%
Gross Margin(%)	21.4%	16.7%	28.3%	20.2%	19.2%	5.3%
Operating Margin(%)	8.1%	6.2%	29.8%	5.7%	6.9%	-18.0%
Net Margin(%)	9.7%	5.3%	83.3%	6.7%	9.3%	-27.4%
ROE(%)	8.7%	5.9%	48.4%	2.5%	4.4%	-43.5%
EPS(NTD)	1.63	1.05	55.2%	0.47	0.81	-42.0%

Quarterly performance-Revenue



Revenue

Unit: NTD Million



	Q1-16	Q2-16	Q3-16	Q4-16	Q1-17	Q2-17	Q3-17	Q4-17	Q1-18	Q2-18	Q3-18	Q4-18	Q1-19	Q2-19
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Revenue(QoQ)	5.3%	2.0%	8.6%	-3.1%	-5.5%	20.4%	-8.4%	11.0%	-22.2%	2.6%	-2.1%	-10.5%	-10.6%	0.5%
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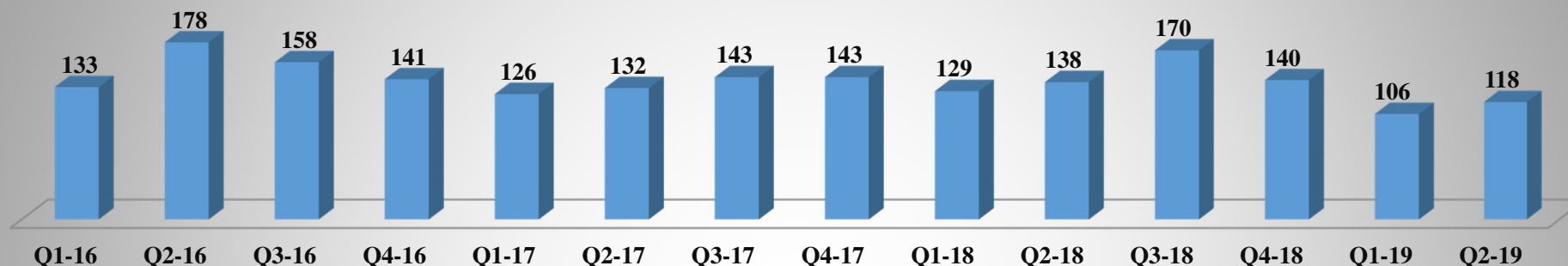
Revenue(YoY)	0.6%	10.4%	3.3%	13.1%	1.4%	19.8%	1.0%	15.6%	-4.7%	-18.8%	-13.2%	-30.0%	-19.6%	-21.2%
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Quarterly Performance-Gross Profit

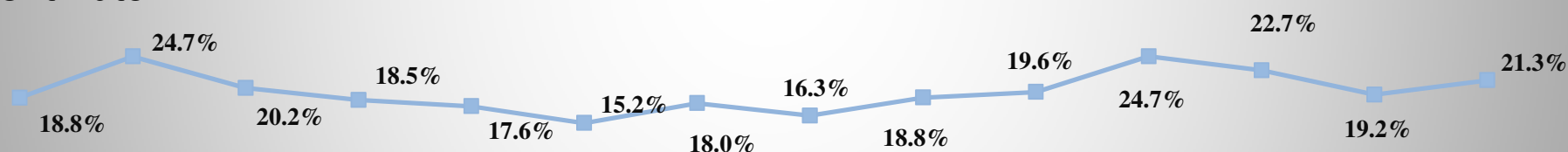


Gross Profit

Unit: NTD Million



Gross Profit Rate



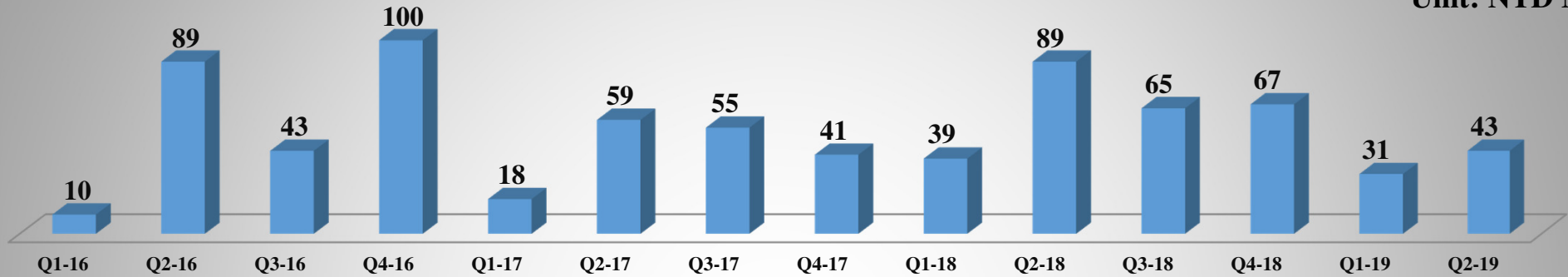
	Q1-16	Q2-16	Q3-16	Q4-16	Q1-17	Q2-17	Q3-17	Q4-17	Q1-18	Q2-18	Q3-18	Q4-18	Q1-19	Q2-19
	Q1-16	Q2-16	Q3-16	Q4-16	Q1-17	Q2-17	Q3-17	Q4-17	Q1-18	Q2-18	Q3-18	Q4-18	Q1-19	Q2-19
Gross Profit (QoQ)	-25.3%	33.8%	-11.2%	-10.8%	-10.6%	4.8%	8.3%	0.0%	-9.8%	7.0%	23.2%	-17.6%	-24.3%	11.3%
Gross Profit (YoY)	-7.0%	27.1%	9.7%	-20.8%	-5.3%	-25.8%	-9.5%	1.4%	2.4%	4.5%	18.9%	-2.1%	-17.8%	-14.5%

Quarterly Performance-Net Profit

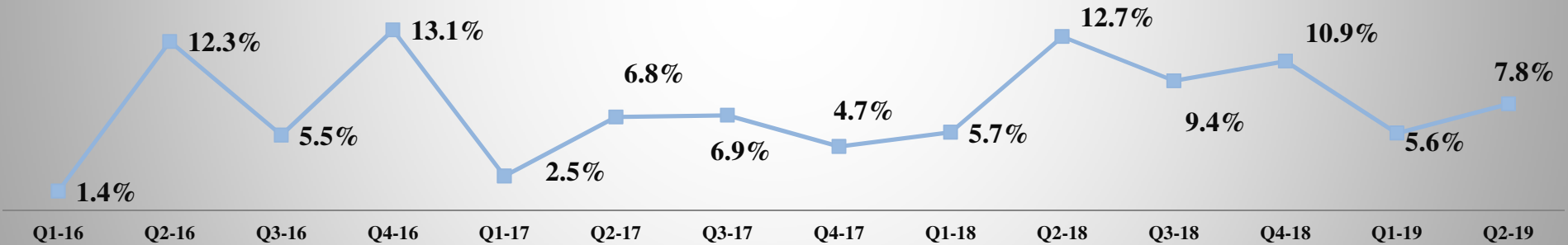


Net Profit

Unit: NTD Million



Net Profit Rate



Net Profit
(QoQ)

Net Profit
(YoY)

	Q1-16	Q2-16	Q3-16	Q4-16	Q1-17	Q2-17	Q3-17	Q4-17	Q1-18	Q2-18	Q3-18	Q4-18	Q1-19	Q2-19
Net Profit (QoQ)	-80.6%	772.8%	-55.5%	139.9%	-80.9%	172.1%	1.8%	-32.8%	22.2%	122.4%	-25.4%	15.1%	-48.3%	38.0%
Net Profit (YoY)	-80.0%	53.4%	-56.6%	104.1%	80.0%	-33.7%	27.9%	-59.0%	116.7%	50.8%	18.2%	63.4%	-20.5%	-51.7%

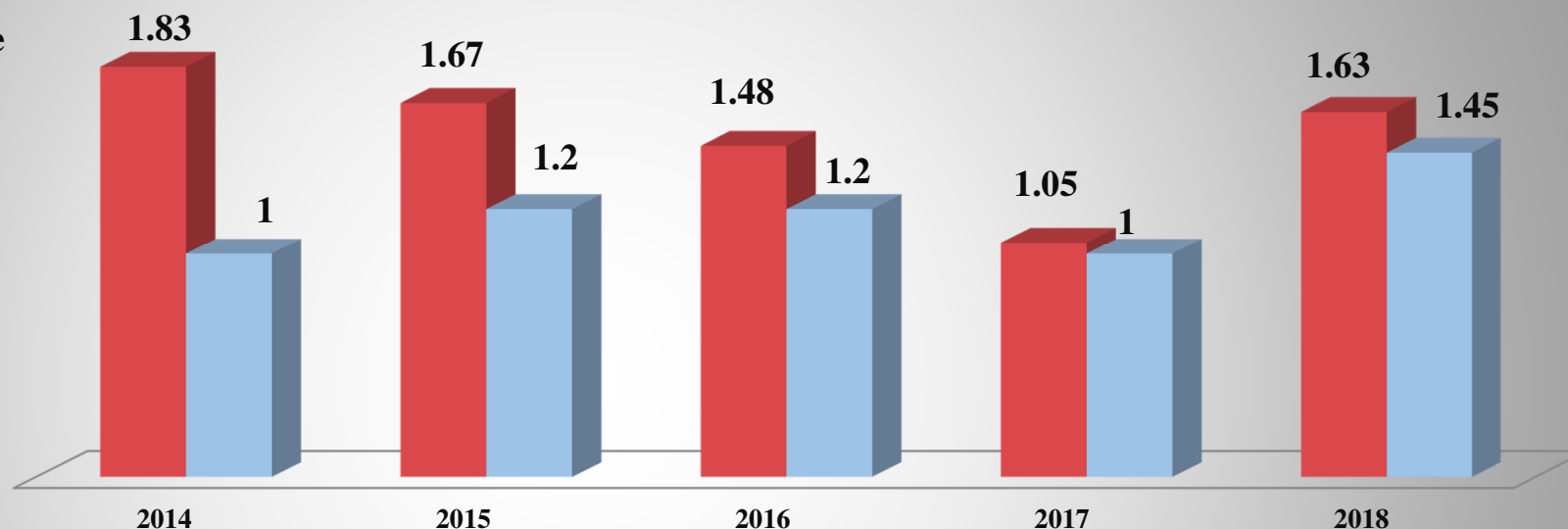
Dividend Policy



■ Earnings Per Share

■ Cash Dividends Per Share

EPS and DPS



Unit : NTD	2014	2015	2016	2017	2018
Earnings Per Share	1.83	1.67	1.48	1.05	1.63
Cash Dividends Per Share	1	1.2	1.2	1	1.45
Avg. Stock Price	19.64	19.85	18.8	20.9	19.59
Payout ratio(%)	54.64	71.86	81.08	95.24	88.96
Yields(%)	5.09	6.05	6.38	4.78	7.40

- Sales & Market Trend
...X' tal products

Who We Are

Innovative Timing solutions for things that connect the world



CY2017 revenues **\$104** million

Listed: TWSE

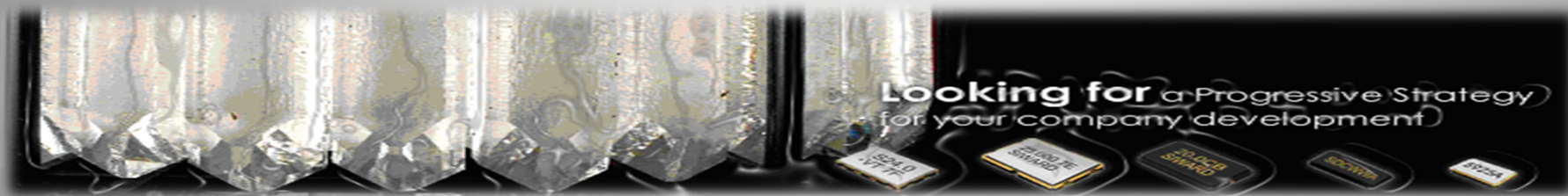
1000+ employees worldwide

40+ R&D engineers

4 manufacturing sites

7 sales & marketing offices

Our Products



Synthetic Quartz



Crystal 石英晶振

Metal Can



Glass Weld



Ceramic seam



Tuning Fork



Oscillator 振盪器

Crystal Osc



Voltage-controlled oscillator (VCXO)



TCXO

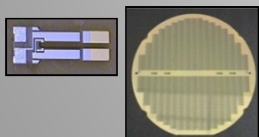


(VC)TCXO



Tuning Fork wafer

3" MEMS Wafer Processing



Manufacturing sites



Manufacturing sites

HQ, Taichung Taiwan



Manufacturing:

- RD Center
- Manufacture
- Sales Office

● Crystal



● Tuning Fork Xtal



● OSC



● (VC)TCXO

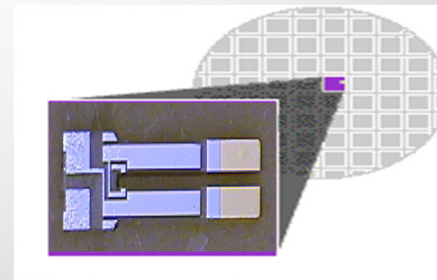


Zhunan Taiwan

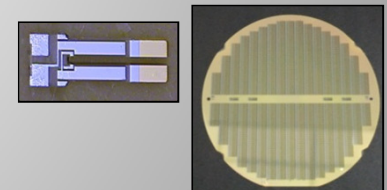


Manufacturing:

● MEMS wafer



3" MEMS Wafer Processing



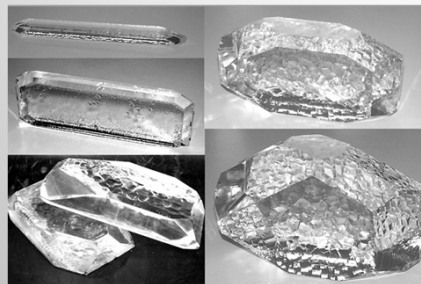
Manufacturing sites

Tainan Taiwan



Manufacturing:

- Synthetic Quartz Bar



Suizhou (Taiward) China



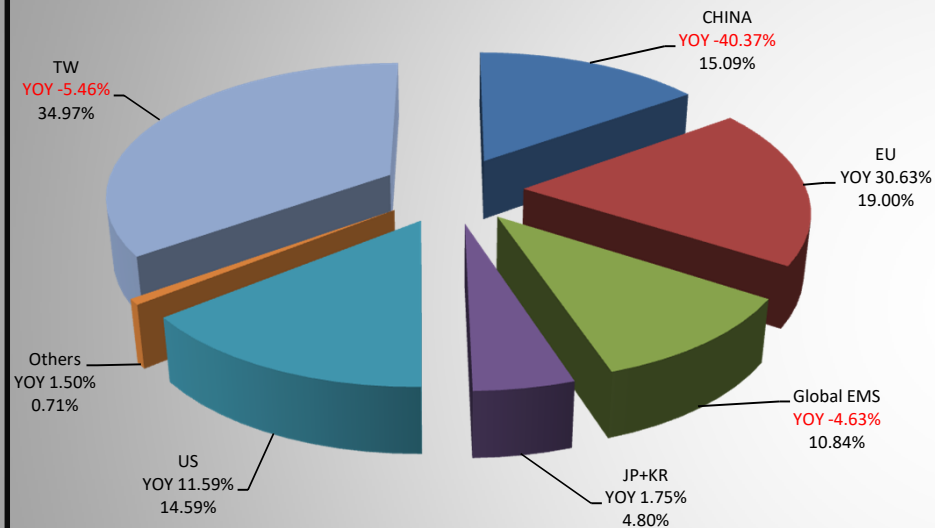
Manufacturing:

- Crystal
- Tuning Fork Xtal

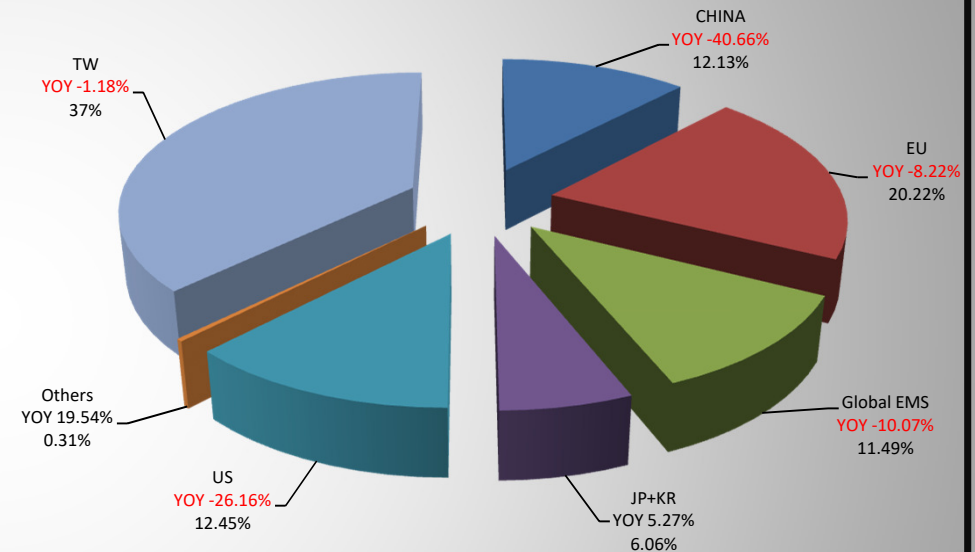


Revenue by Area

Y2018 ~H1 Revenue by Area(NTD)



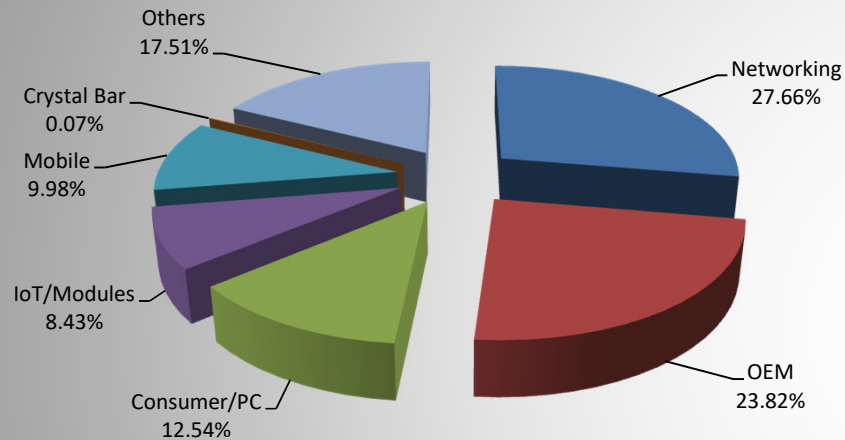
Y2019 ~H1 Revenue by Area(NTD)



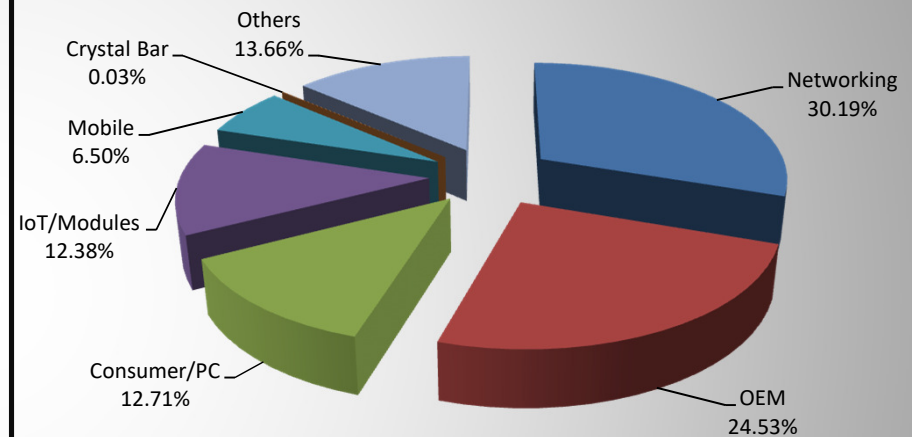
1. Y2019 H1 BP 10.62 billion, the reach rate is 85.31% ◦

Revenue by Market Segments

Revenue by Market Segments_Y2018 H1



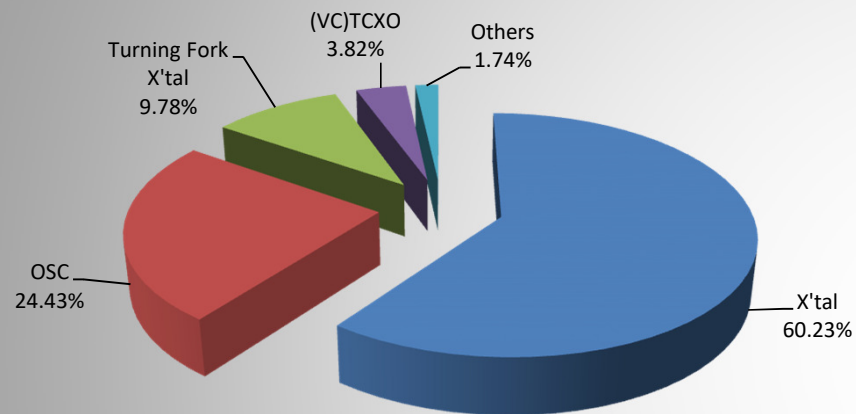
Revenue by Market Segments_Y2019 H1



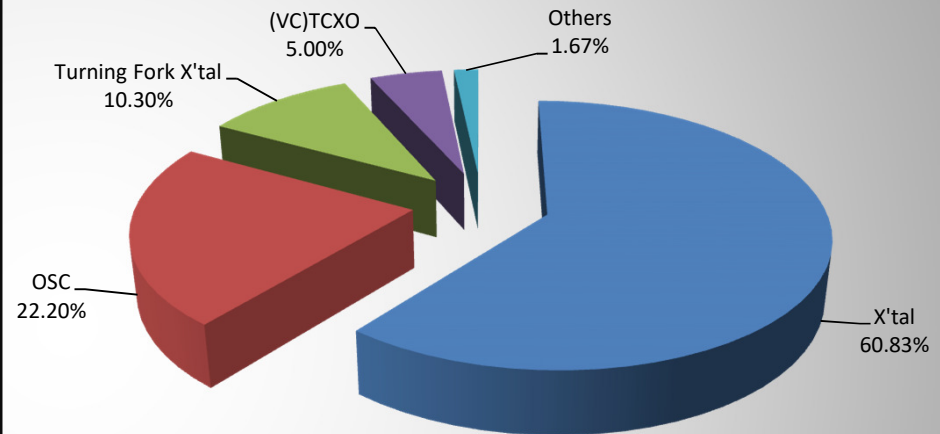
- Focus on networking industry(mobile 、 broad-band cable 、 wireless router 、 gateway 、 STB..etc) continue to growth 。
- IoT/wearable device/TWS/modules application drives for miniature products demands 。

Revenue by Product Types

Revenue by Product Types_2018 H1



Revenue by Product Types_2019 H1



- Crystal are the major products , maintained at 60% of the revenue ◦

Core Technologies

Precision Quartz Device Technology

High precision
Miniaturization

Synthetic Quartz Growing Technology

High Quality
Optical Level

Quartz MEMS Technology

Photo Lithography
Microelectronic Engineering

Immunoassay Technology

Reliable
High sensitivity



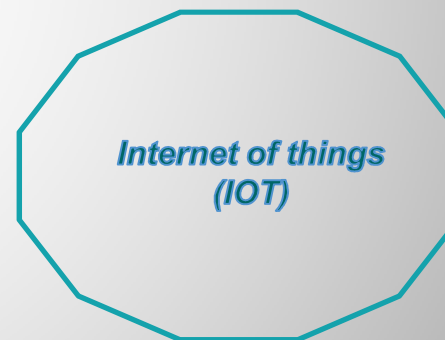
Development of product lines

— 、 The development of Siward's technology: The quartz crystal is oriented toward miniaturization. At present, the smallest crystal is mass-produced at 1.2x1.0mm. The wafer fabrication is toward the MEMS photolithography process to produce miniaturized wafers.

Miniature and low profile 1.2x1.0x0.3mm Crystals



Market



Development of product lines

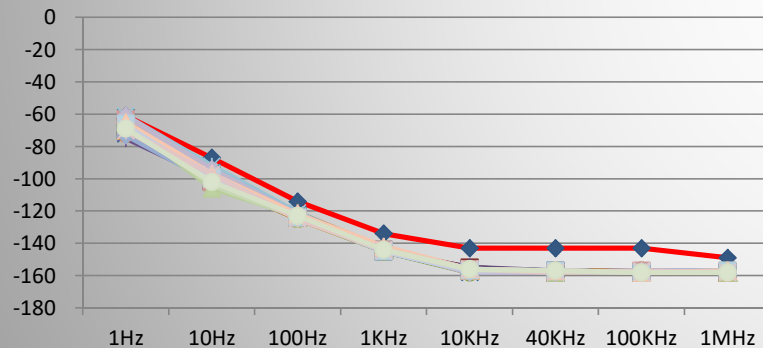
二、The oscillator parts:

((1) Development of high frequency (100MHz~250MHz), low phase noise, and low jitter XO/VCXO development towards the baseband chip fabricated using MESA technology.

((2) Development of a temperature-compensated oscillator (TCXO) for professional satellite positioning systems and automotive applications.



Low phase noise



Surface Enhance Raman scattering Chip

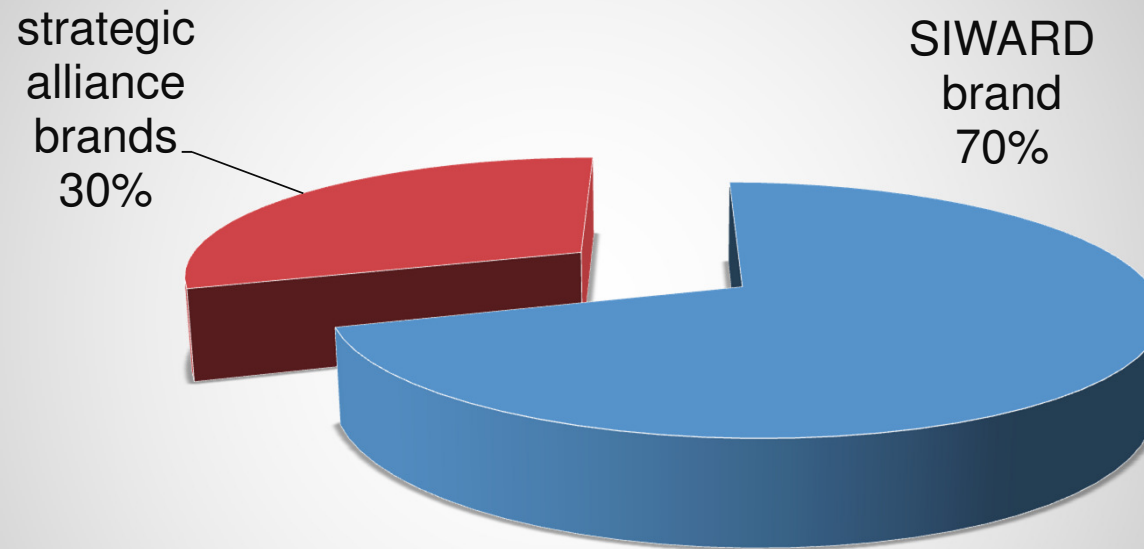


Investment & Alliance Strategy



Brand Strategy

Brand Strategy

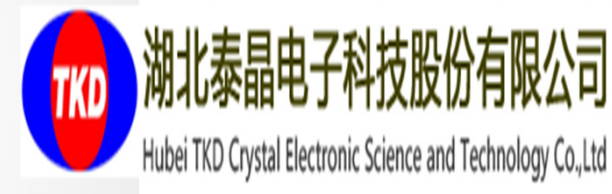


Investment & Alliance Strategy



Alliance Strategy

The combination of Rakon's technology and Siward's manufacturing will enable the capability of producing middle & high end products ◦



The alliance of SIWARD and the China largest Tunning Fork manufacturer enhanced the competitiveness of Siward to provide cost sensitive products to the market ◦

轉投資策略 Investment & Alliance Strategy

5G applications



5G applications are based on base stations, user terminals, and various networking devices (such as the Internet of Things for Vehicles, etc.). In collaboration with Rakon, Siward will develop quartz components (crystals, oscillators, TCXO... etc.) for base station network-related applications. 5G market network will be expected to build in 2020.

SPACE & DEFENCE



TELECOMMUNICATIONS



GLOBAL POSITIONING



Investment & Alliance Strategy

Wi-Fi 6

At the same time, we will develop Wi-Fi 6 to follow Wi-Fi Certified 6 approved plan from Wi-Fi Alliance. That's the newest IEEE802.11ax plan.



- **Developing**
IVD products

Developing

IVD(in vitro diagnostic) products

Patent

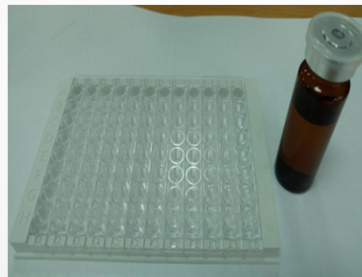
Seven patents have owned about inorganic nanoparticles/ biosensor chip/ sensing device ...

Product List



A. Molecular Adsorbing Superformer (MAS™)

Instead of traditional coating overnight step, SIWARD MAS™ only takes 5~30 minutes to coating antigen/antibody/protein/peptide. It extremely shortens experiment hours and you can obtain the ELISA experiment data in one day.



B. Highly sensitive ELISA signal Enhanced reagent

Gold nanoparticles conjugated avidin-HRP was design to replace the avidin-HRP reagent of the original ELISA step that is a General Purpose Reagent basing on interaction of avidin and biotin. In the ELISA experiment, the sensitivity can be improved five to twenty times by using the SIWARD ELISA Signal Enhanced Reagent and SIWARD Microplate together.

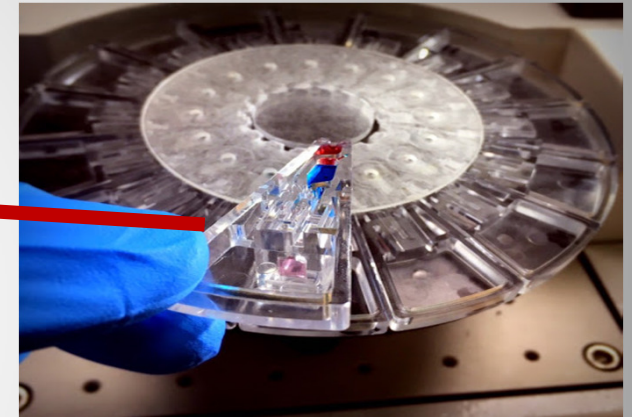
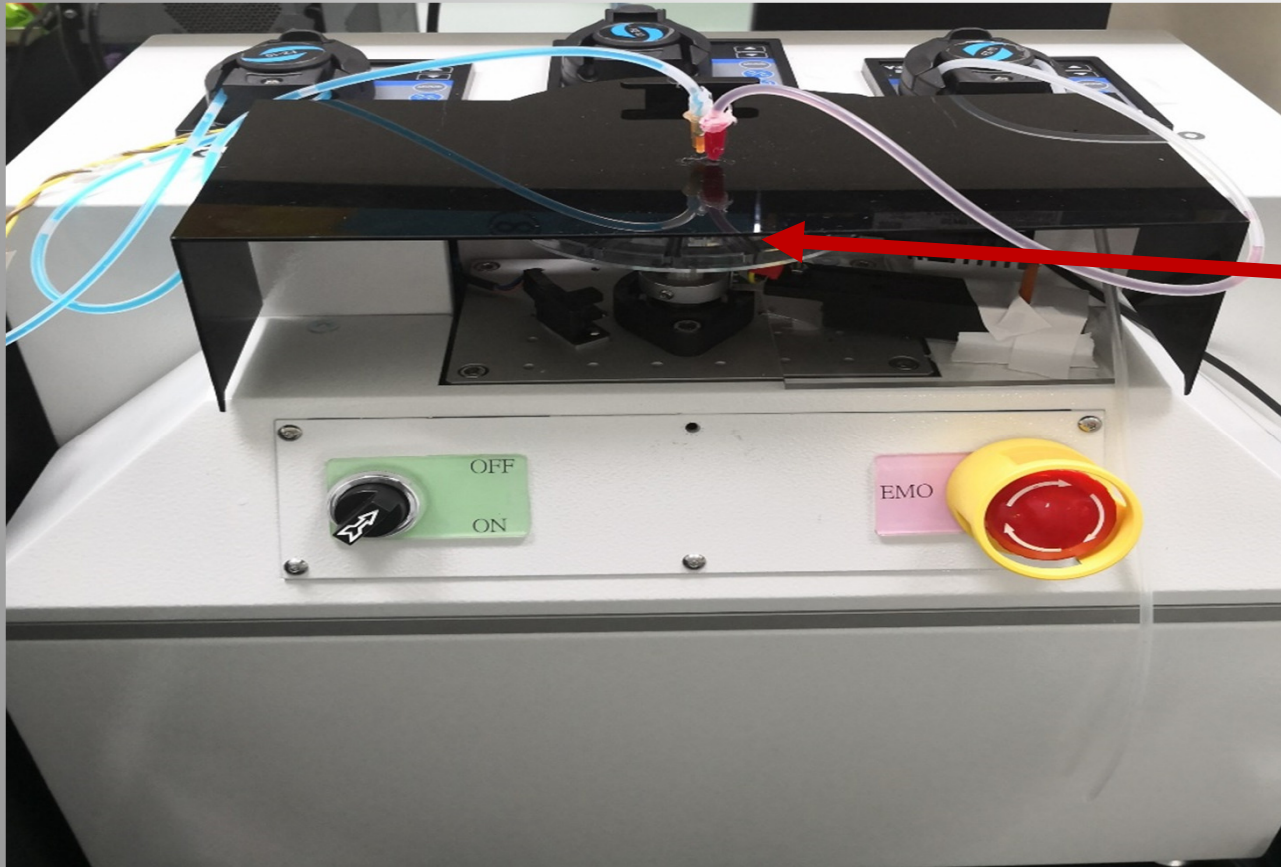


C. High throughput screening LSPR Kit

According to Localized surface plasmon (LSPR) principle, it can decrease assay time and just need 30-45 minutes to finish work. It adapted to apply in high throughput and urgent target assay.

Developing

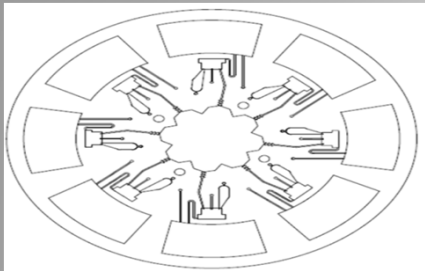
microfluidic screening chip



Automated Centrifugal immunoassay & microfluidic screening chip

Developing

microfluidic screening chip



Automated Centrifugal immunoassay & microfluidic screening chip

Automated Centrifugal device



Blue teeth



Upload to cloud computing

STWARD

- 1. Dengue fever screening chip
- 2. Influenza screening
- 3. Myocardial infarction (Hs-Tn I)
- 4. Economic animal virus screening

Business plan:

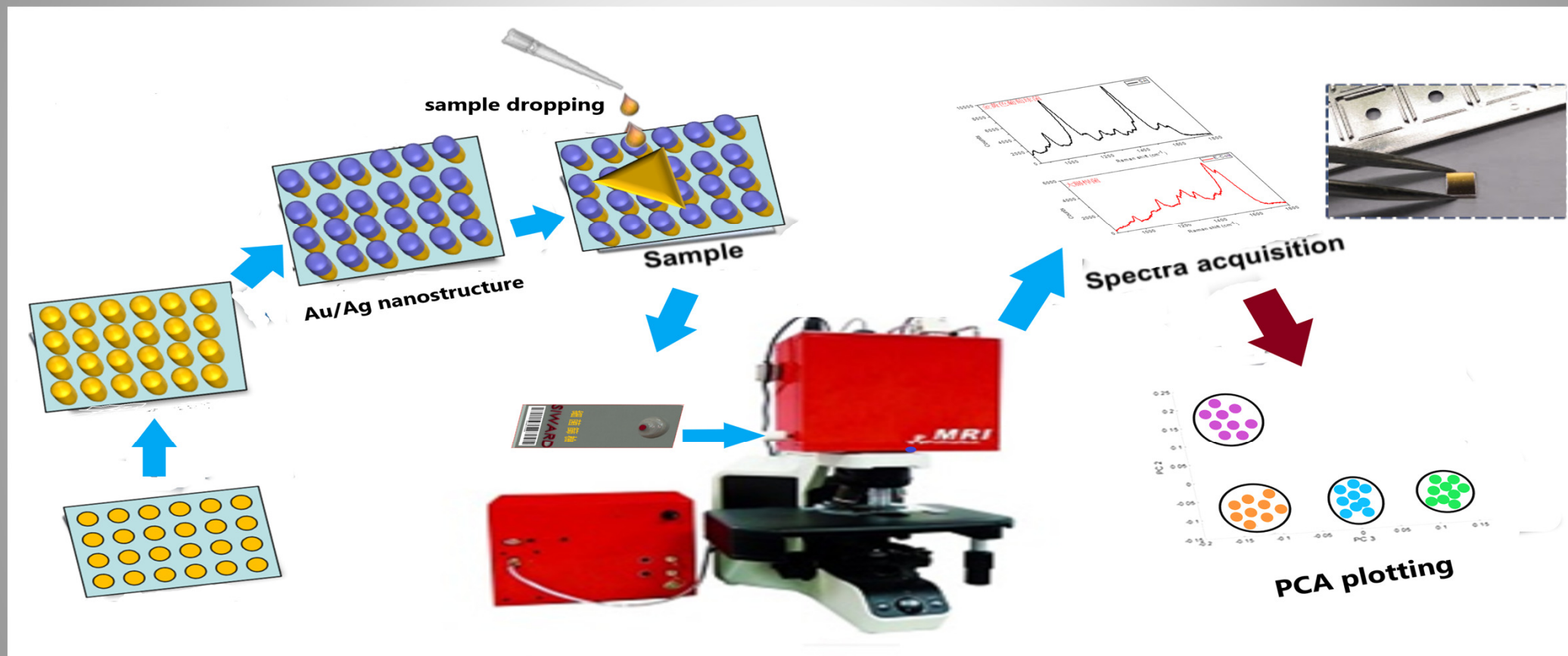
Chip: self-organized development of biochip, and supplying biochip to major antibody companies for research and development of assay, new drug development, and evaluation of economic animal titers.

Detection device: automated centrifugal optical detection device

Cloud database platform: Data upload preset cloud database platform, long-term monitoring and data integration, etc.

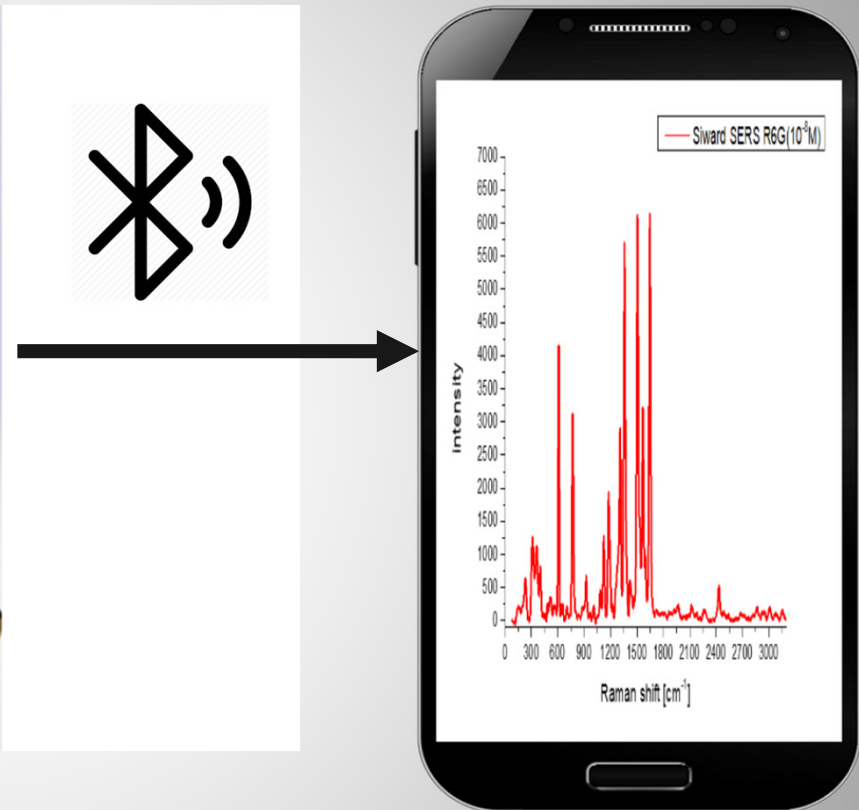
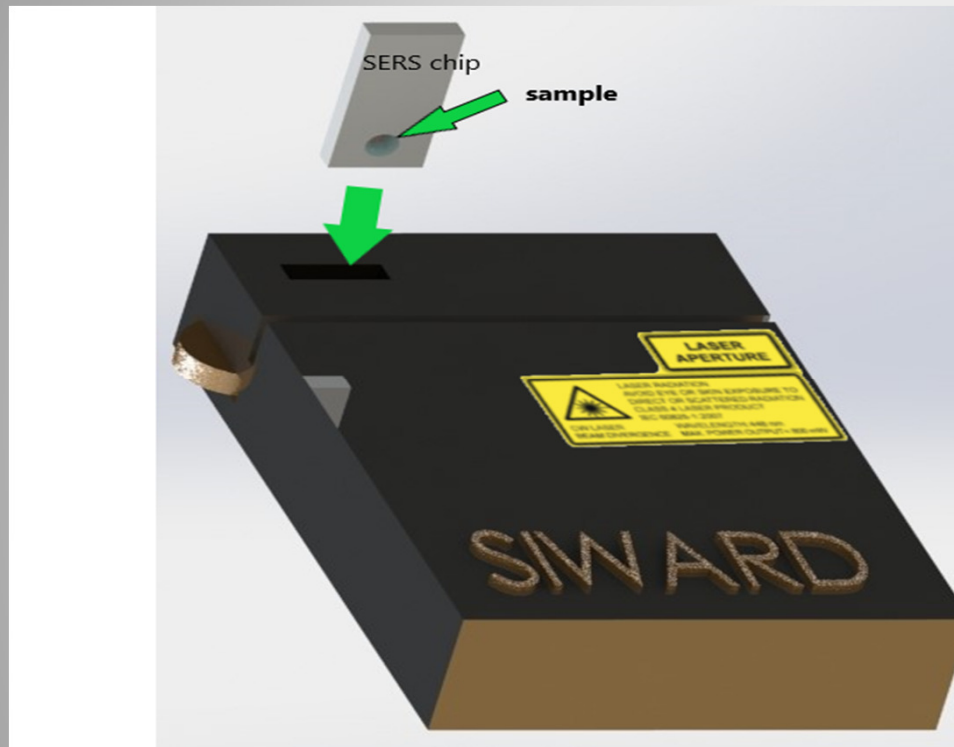
Developing

Surface Enhance Raman scattering Chip (SERS Chip)



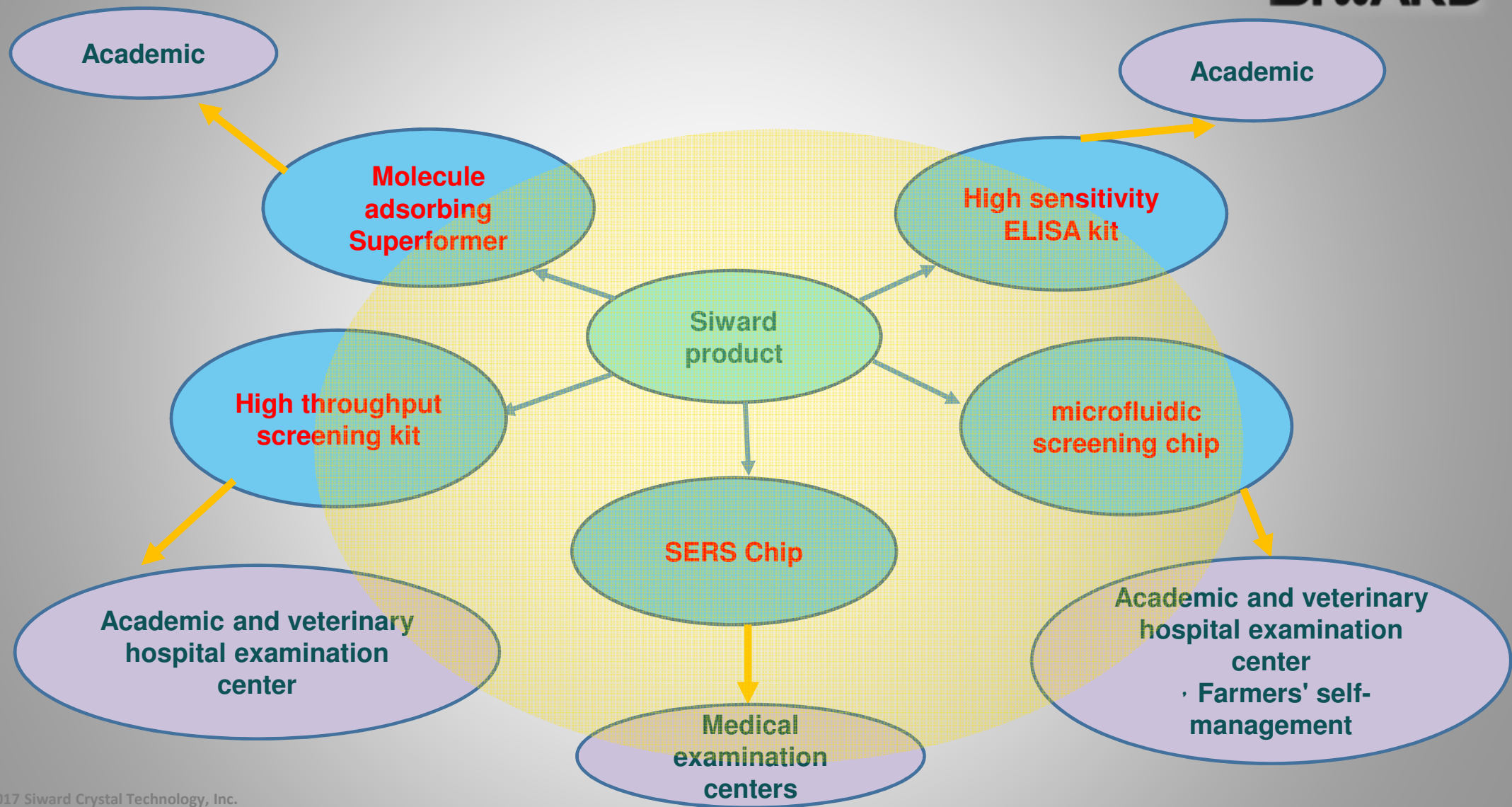
SERS chip protocol

Developing Future designing



Application :
Source: blood, urine, saliva, sweat, tears, and etc..
Item: Bacteria, viruses, drug residues, and etc.

產品推展計畫



- **Q&A**
Investor Conference

Thank You
for your attention!

www.seward.com

The logo for Seward, featuring a red triangle above the word "SEWARD" in a bold, sans-serif font. Below the word "SEWARD" is the tagline "Passion. Excellence. Commitment." in a smaller, red font.