

VII. Discussion and Analysis of Financial Status and Operating Results and Risk Management

1. Financial Status

Nonconsolidated Financial Statements

Item	Year	2018	2017	Difference	
				Amount	%
Current Assets		\$ 37,889,542	\$ 37,077,396	\$ 812,146	2.19
Investment		2,067,913	2,300,786	(232,873)	(10.12)
Fixed Assets		61,980,853	58,663,021	3,317,832	5.66
Intangible Assets		1,162,204	1,249,649	(87,445)	(7.00)
Other Assets		494,989	367,576	127,413	34.66
Total Assets		103,595,501	99,658,428	3,937,073	3.95
Current Liabilities		18,580,671	21,788,688	(3,208,017)	(14.72)
Long-term Liabilities		31,937,463	28,186,311	3,751,152	13.31
Total Liabilities		50,518,134	49,974,999	543,135	1.09
Capital Stock		7,791,466	7,791,466	0	0.00
Capital Surplus		127,734	119,593	8,141	6.81
Retained Earnings		33,361,411	30,555,478	2,805,933	9.18
Other shareholders' Equity & Treasury Stock		(277,385)	(405,727)	128,342	31.63
Equity Belong to Parent Company		41,003,226	38,060,810	2,942,416	7.73
Non-Controlling Interests		12,074,141	11,622,619	451,522	3.88
Total Shareholders' Equity		53,077,367	49,683,429	3,393,938	6.83
Reason for Major Difference:					
1. Increased of other assets: Increased of deferred tax property. .					
2. Increased of other shareholders' equity and treasury stock: 2018 overseas subsidiaries gains from accounting standard conversation.					
Note: The listed numbers were from consolidated report and audited by CPA using IFRS.					

2. Operating Results

(1) Comparison and Analysis Table for Operating Results for Last Two Years

Nonconsolidated Financial Statements

Unit: NT\$ Thousands

Item \ Year	2018	2017	Increase (Decrease)	Difference (%)	Analysis
Net Sales	\$ 68,039,379	\$ 59,632,083	\$ 8,407,296	14.10	
Cost of Sales	54,209,337	46,933,571	7,275,766	15.50	
Gross Profit	13,830,042	12,698,512	1,131,530	8.91	
Operating Expenses	4,046,388	3,624,488	421,900	11.64	
Operating Income	9,783,654	9,074,024	709,630	7.82	
Non-Operating Income/Expenses	(348,317)	(186,746)	(161,571)	(86.52)	1
Net Income Before Tax	9,435,337	8,887,278	548,059	6.17	
Income Tax Expense	1,922,775	1,596,003	326,772	20.47	2
Net Income	\$ 7,512,562	\$ 7,291,275	\$ 221,287	3.03	
Analysis of Difference over 20%					
1. Increased in non-operating income/expenses due to increase of non-financial assets lost					
2. Increased in income tax expenses primarily due to increase in profit before tax.					

(2) Revenue Forecast and Financial Impact:

World Semiconductor Trade Statistics (WSTS) estimated 2019 global semiconductor market is going to grow 2.6% from 2018 and reach US\$490.1 billion. IEK estimated 2019 Taiwan semiconductor market is going to grow 5.0%. Smartphone and PC remained the two major application of semiconductor products and demands growth have slowdown. 2019 estimated shipment for smartphone expects to grow 5.3% and PC grow 1.4%. WSTS estimated 2019 sales growth rate for optical component, sensor, discrete devices, analog IC, Logic IC, and micro-component are going to be 6.8%, 5.1%, 3.9%, 3.8%, 3.8%, and 3.0% respectively. Memory product sales is going to decline 0.3% in 2019. Data center, industrial, and automotive products are going to take heavier weight as the development of AI and IoT progress. Semiconductor products manufactured in China is going to exceed CNY\$200 billion before 2020.

PTI is expecting mild growth in DRAM, NAND Flash, and Logic in 2019.

2019 Sales forecast as below:

Services	Forecast Volume
Assembly	11.0 billion pcs
Testing	7.0 billion pcs
Bumping	800 k wafers
Chip Probing	3.6 k wafers
SSD +SIP	8 million pcs

3. Cash Flow

(1) Cash Flow Analysis for 2018

Unit: NT\$ Thousand

Beginning Cash Balance 1/1/2018	2018 Cash Flow from Operating Activities	2018 Cash Flow from Investing Activities	2018 Cash Flow from Financing Activities	Currency Exchange for Cash and Cash Equivalent	Ending Cash Balance 12/31/2018
17,716,582	20,207,098	(16,191,623)	(3,383,088)	195,173	18,544,142
2018 Cash Flow Analysis : (1) Operating Activities: Increase cash inflow from change in 2018 depreciation and profit. (2) Investing Activities: Increase of cash outflow was due to acquisition of real estate, property and equipments in 2018. (3) Financing Activities: The increase of cash outflow was due to change in cash dividends payout in 2018.					

(2) Cash Flow Improvement Plan

Not applicable.

(3) Cash Flow Estimation for 2019

Unit: NT\$ Thousand

Beginning Cash Balance 1/1/2019	Estimated 2019 Cash Flow from Operating Activities	Estimated 2019 Cash Outflow	Estimated Ending Cash Balance 12/31/2019	Funding for Cash Flow Shortage	
				Investing Activities	Finance Activities
18,544,142	18,000,000	18,000,000	18,544,142	—	—
1. 2019 Cash Flow Analysis: (1) Operating Activities: The cash inflow is from 2019 estimated net income and depreciation. (2) Investing Activities: The cash flow is for acquisition of real estate, property, and equipment in 2019. (3) Financing Activities: The cash flow is for 2019 cash dividends payout and payback bank loan. 2. Funding for Cash Flow Shortage: Not Applicable.					

4. Effects of Major Capital Expenditures on Financial Status in Most Recent Year

(1) Major Capital Expenditures and Sources of Capital

Majority of 2018 PTI capital expenditures were for acquiring real estate, property and equipments. The sources of capital were from the Company's own funds and bank loans. In order to stay competitive, PTI has constantly devoted on production efficiency modification, new technology research, upgrade equipments, and capacity expansion to meet customer satisfaction.

5. Investment Policy in Recent Years, Main Causes for Profits or Losses, Improvement Plans, and Investment Plans for the Coming Year

PTI's investment policies conform with its strategies of deep cultivation of core business, strengthening of strategic alliance relationships with major clients and expansion of related industries, excepting to increase return on equity through the investment gains.

Powertech Technology (Japan) Ltd. was established to target for Japan market and future growth. PTI's Board has authorized the Chairman to fund the Japan operation no more than US\$132 m (JPY 14,520 billion) to acquire 39.6% of Tera Probe Inc. and 100% of Micron Akita, Inc.

Public offering of JPY 1,100 a share was offered to acquire Tera Probe, Inc. shares. 47.84% of Tera Probe, Inc. shares were purchased total at JPY\$4,884 million by end of May 2017. PTI consolidated holding 59.44% of Tera Probe, Inc. with 47.84% new purchased shares and 11.6% existing shares.

Acquisition of Akita was completed by beginning of Aug 2017 at US\$48.92 million. The new entity was named Powertech Technology Akita Inc.. Powertech Technology Japan Ltd., the holding company of Powertech Technology Akita Inc., agreed to increase investment of JPY 980 million and accumulated investment at JPY 5,736.99 million and 6,202 shares.

The above investment were consolidated with parent company, therefore, no investment gain or lost in 2018.

Future investment plan will justify with industry condition and potential growing opportunities. Under the direction of strengthen the relationship of alliance and supply chain networking, the Board of Directors will carefully consider all the investment proposals.

6. Risk Analysis and Assessment in the Recent Year and as of Publication Date of Annual Report

(1) Effects of Changes in Interest Rates, Foreign Exchange Rates and Inflation on Corporate Finance, and Future Response Measures:

1. Interest Rate

The semiconductor packaging and testing industry where our company is in is capital intensive therefore large fund is required for the Company to invest into fixed assets. Besides the Company's own funds, the sources of the Company's funding are primarily bank loans, thus the Company's profitability is affected by interest rate movement. To

minimize this risk, PTI compares the level of interest rates of its bank loans on a regular basis with market average rate and negotiate timely with the correspondent banks to obtain better interest rates to ensure the financing costs are at comparatively low level.

2. Foreign Exchange Rate:

(1) Effects

Exportation account for 79.79% of 2018 PTI's net sales, so the majority of trade were conducted in foreign currency and US dollars is the most common currency used. Majority of equipments and raw materials were mainly trade in US dollars and Japanese yen as well. Both import and export were affected by currency exchange rate fluctuate. 2018 net foreign exchange gains were about NT\$ 215.34 million.

(2) Future Response Measures

- Foreign currencies from exporting income balance out with importing expenses which creates mutual hedging effects to eliminate exchange rate risks.
- Finance staff collected information regarding changes of foreign exchange rates, including supply and demand of foreign currencies, monetary tightness condition of the correspondent banks, and trend analysis of exchange rates, which will then serve as reference information to respond to future exchange rate movements.
- To timely purchase foreign currencies based on the Company's future foreign currency requirements, in order to determine the cost and reduce the impact of movements in exchange rates.
- To use the bank credit at the right time to convert foreign currency loans to NT dollars borrowing.
- To apply financial instruments such as derivatives of forward exchange to avoid the risks of changes in exchange rates leading to exchange loss on assets, liabilities and future transactions denominated by foreign currencies.

3. Inflation:

No significant impact of inflation on the PTI's profitability and business operations in 2018.

(2) Policies, Main Causes of Gain or Loss and Future Response Measures with Respect to High-risk, High-leveraged Investments, Lending or Endorsement Guarantees, and Derivatives Transactions:

1. PTI has not engaged in any high-risk or high-leveraged investments.
2. PTI proposed and approved by board to authorized Chairman to lend Powertech Technology (Singapore) Pte. Ltd. US\$50 m in 2014. Board had reduced the endorsement and guarantees limit to US\$30 m in Mar 2016 after review its funding needs. According to Article of Incorporation, PTI and its subsidiary should not endorse

and guarantee to a single entity more than 10% and 50% PTI's net worth. As of Dec 31, 2018 net worth was NT\$41.00 b, and the cap for endorsement and guarantee were NT\$4.10 b and NT\$20.50 b which were all above the amount lent out.

3. 8th Annual 5th Board meeting on Mar 16, 2018 approved to lend Powertech Technology (Suzhou) Ltd. no more than US\$24 million and Powertech Technology (Singapore) Pte. Ltd. no more than US\$30 million at the period no longer than 1 year for capacity expansion at estimated annual interest rate 2.2%. As the date of printing, actual lending amount was US\$20.5 million (NT\$631.9 million) for Powertech Technology (Suzhou) Ltd. and US\$21.0 million (NT\$647.3 million) for Powertech Technology (Singapore) Pte. Ltd..

As of Dec 31 2018, PTI net worth was NT\$41.0 billion and lending amount were NT2.0 billion and NT\$4.1 billion for separated entities which were below the lending regulation maximum. The lending for Tera Probe, Inc. JPY 560 million (NT\$ 155.9 million) also meet the lending regulation.

4. No major currency exchange gain or loss from currency investment as of the date of printing.

(3) Future Research and Development Plans and R&D Expenses from Expected Investments

The Company has put much emphasis on the development of talents since its establishment. Setting up a R&D department in 1998 and the R&D technology center in 2006, PTI has continually introduced new processes and technologies of packaging and testing. To adapt to the future semiconductor memory device trend towards being versatile, high-speed, highly reliable and high density and the development of new products of our customers, PTI will proactively develop and introduce new technologies in the future. PTI budgets to invest in R&D about NT\$1.7 b in 2018 and expects to spend more budgeted amount.

(4) Effects of and Response to Changes in Policies and Regulations Relating to Corporate Finance and Sales.

PTI has always pay close attention to any international and domestic policies changes, and PTI will make appropriate modifications to the operating systems when necessary. During 2014 and as of the publication date of this annual report, there is no significant change or impact of law on PTI's operations.

(5) Effects of and Response to Changes in Technology and in Industry Relating to Corporate Finance and Sales:

The semiconductor industry, where PTI belongs to, is under rapid changes in products and technology. To adapt to these rapid changes, PTI needs to upgrade its processes and develop new technologies constantly, upgrade its equipments, and expand its capacities in

a timely manner. To reduce the risks of overexpansion at the same time keep up with the product development trend, PTI has established collaborative relationships and co-op with strategic alliances with major customers to develop advanced technology capabilities. In addition, PTI has invested in related industries to form a complete supply chain network and diversify the risks caused by market changes. PTI also strengthen its cost control and cash management skills to maintain competitiveness and eliminate the impacts of changes in technology and in industry relating to corporate finance and sales.

(6) The Impact of Changes in Corporate Image on Corporate Risk Management, and the Company's Response Measures:

Since the establishment of the Company, PTI has consistently maintained an ethical business practices, and has actively strengthened its internal and quality management to build up customer trusts. PTI has a good corporate image and there has been no corporate crisis in recent years caused by changes in corporate image.

(7) Expected Benefits from, Risks Relating to and Response to Merger and Acquisition Plans

No plan of merger and acquisition as of the date of printing.

(8) Expected Benefits from, Risks Relating to and Response to Factory Expansion Plans

Hsin Chu Science Park Plant III is under construction and expect to complete by first half of 2020. The new facility is dedicated for Fan-Out Panel-Level packages (FOPLP).

(9) Risks Relating to and Response to Excessive Concentration on Supply Sources and Customer

The supply sources and major customers of the Company have been disclosed in related sections of this report. As the concentration level of the upper stream memory IC markets gets intense, sales of the downstream packaging and testing providers will get more concentrated. PTI has proactively developed new customers, collaborative relationships, and strategic alliances with existing customers to eliminate the highly customer concentrated risks. PTI has also actively reached out to non-memory IC packaging and testing business. The results are noticeable. In terms of supply sources, PTI has been actively seeking qualified alternative suppliers to reduce the risks of excessive concentration.

(10) Effects, Risks, and Solution for Share Transfers of Shareholders With 10% Or More Shares: None

(11) Effects, Risks, and Solution of Changes in Control over the Company: None.

(12) For litigation or non-litigious matters, clearly state if the Company or the Company's directors, supervisors, president, actual person in charge, shareholders with 10% shareholdings or more, and affiliated companies that have been concluded or pending

major litigations, non-litigation or administrative litigation matters, whose outcome may have major impact on shareholders' equity or securities prices:

1. The Company's major litigations, non-litigation or administrative litigation matters: None.
2. Major litigations, non-litigation or administrative litigation matters of the Company's directors, supervisors, president, actual person in charge, shareholders with 10% shareholdings or more and affiliated companies: None.

(13) Other Important Risks and Remedies: None.

7. Other Important Matters: None.