Macronix International Co., Ltd. and Subsidiaries

Consolidated Financial Statements for the Years Ended December 31, 2018 and 2017 and Independent Auditors' Report

DECLARATION OF CONSOLIDATION OF FINANCIAL STATEMENTS OF AFFILIATES

The entities that are required to be included in the consolidated financial statements of Macronix International Co., Ltd. as of and for the year ended December 31, 2018 under the “Criteria Governing Preparation of Affiliation Reports, Consolidated Business Reports and Consolidated Financial Statements of Affiliated Enterprises” are all the same as those included in the consolidated financial statements prepared in conformity with the International Financial Reporting Standards 10 “Consolidated Financial Statements”. In addition, all the relevant information required to be disclosed in the consolidated financial statements have been disclosed. Hence, we do not prepare a separate set of consolidated financial statements.

Very truly yours,

Macronix International Co., Ltd.

By

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Miin Wu
Chairman

March 12, 2019

Deloitte.

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INDEPENDENT AUDITORS' REPORT

The Board of Directors and the Shareholders
Macronix International Co., Ltd.

Opinion

We have audited the accompanying consolidated financial statements of Macronix International Co., Ltd. and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated balance sheets as of December 31, 2018 and 2017, and the consolidated statements of comprehensive income, changes in equity and cash flows for the years then ended, and the notes to the consolidated financial statements, including a summary of significant accounting policies (collectively referred to as the "consolidated financial statements").

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2018 and 2017, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with the Regulations Governing the Preparation of Financial Reports by Securities Issuers, and International Financial Reporting Standards (IFRS), International Accounting Standards (IAS), IFRIC Interpretations (IFRIC), and SIC Interpretations (SIC) endorsed and issued into effect by the Financial Supervisory Commission of the Republic of China.

Basis for Opinion

We conducted our audits in accordance with the Regulations Governing Auditing and Attestation of Financial Statements by Certified Public Accountants and auditing standards generally accepted in the Republic of China. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with The Norm of Professional Ethics for Certified Public Accountant of the Republic of China, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the year ended December 31, 2018. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Key audit matters for the Company's consolidated financial statements for the year ended December 31, 2018 are stated as follows:

Recognition of revenue

The Group operates principally as a supplier of memory chips. For the year ended December 31, 2018, the revenue recognized was NT$36,953,032 thousand, increasing by 8% compared to that of last year. Due to the market rebound of memory chips, the Group released certain sales orders by temporarily increasing the credit line. As such, this gives the rise of the potential risk of overstating sales. We therefore considered that testing the existence and occurrence of sales is a key audit matter of the current period.

Our audit procedures performed included, but not limited to, the following:

1. We evaluated the appropriateness of the Group's accounting policies relating to revenue recognition;

2. We understood the internal controls over the approval of sales order and shipping and test the effectiveness of those internal controls;

3. We sampled the sales documents to inspect sales details, including related transaction documents and cash collections in the audited period and the subsequent period;

4. We verified if any deviant occurred in those parties when the sales were recorded and cash was received;

5. We assessed the significant sales return or sales discount taking place in the subsequent period.

Valuation of inventory

The Group provides ROM products, NOR Flash, and NAND Flash, which are widely used in consumer electronics. As of December 31, 2018, inventory was NT$17,949,234 thousand, accounting for 30% of the total assets in the consolidated balance sheet. With the current rapid changes in technology and the improvements in manufacturing technologies, demand for memory chip market could change significantly and thereby, results in inventory obsolescence. Since inventory valuation and estimates of net realizable value of inventory are subject to management's judgment, they are considered as accounting estimates with relatively high uncertainty. Therefore, valuation of inventory has been identified as a key audit matter. Refer to notes 4 (f), 5 (a), and 13 to the consolidated financial statements for the details of accounting policy, accounting judgment, key sources of estimation uncertainty and the related information about the valuation of inventory.

Our key audit procedures performed in respect of the above area included the following:

1. We understood and assessed the adequacy of the policy and procedures for the inventory valuation adopted by the management.

2. We obtained data on the assessment of lower cost or net realizable value and selected sample data, and we tested the reasonableness of net realizable value by comparing inventory carrying amounts to recent selling prices; we tested the accuracy of allowance for inventory loss by comparing net realizable value with carrying amounts. We obtained the inventory aging report, and we tested the accuracy and completeness of the report by agreeing the age interval, quantity, and amount to the supporting documents of inbound inventory. We assessed the reasonableness of allowance for inventory loss by recalculating the amount in accordance with the stated valuation policy for the inventory.

3. We performed a retrospective review of inventory movements to evaluate the reasonableness of inventory obsolescence reserve policy and policy on scrapping of inventories.

Other Matter

We have also audited the parent company only financial statements of Macronix International Co., Ltd. as of and for the years ended December 31, 2018 and 2017 on which we have issued an unmodified opinion.

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with the Regulations Governing the Preparation of Financial Reports by Securities Issuers, and International Financial Reporting Standards (IFRS), International Accounting Standards (IAS), IFRIC Interpretations (IFRIC), and SIC Interpretations (SIC) endorsed and issued into effect by the Financial Supervisory Commission of the Republic of China and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance, including the audit committee, are responsible for overseeing the Group's financial reporting process.

Auditors' Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the auditing standards generally accepted in the Republic of China will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with the auditing standards generally accepted in the Republic of China, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

1. Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

2. Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.

3. Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

4. Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Group to cease to continue as a going concern.

5. Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

6. Obtain sufficient and appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision, and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements for the year ended December 31, 2018 and are therefore the key audit matters. We describe these matters in our auditors' report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partners on the audit resulting in this independent auditors' report are Ming Hui Chen and Ching Pin Shih.

Deloitte & Touche
Taipei, Taiwan
Republic of China

March 12, 2019

Notice to Readers

The accompanying consolidated financial statements are intended only to present the consolidated financial position, financial performance and cash flows in accordance with accounting principles and practices generally accepted in the Republic of China and not those of any other jurisdictions. The standards, procedures and practices to audit such consolidated financial statements are those generally applied in the Republic of China.

For the convenience of readers, the independent auditors' report and the accompanying consolidated financial statements have been translated into English from the original Chinese version prepared and used in the Republic of China. If there is any conflict between the English version and the original Chinese version or any difference in the interpretation of the two versions, the Chinese-language independent auditors' report and consolidated financial statements shall prevail.

MACRONIX INTERNATIONAL CO., LTD. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS
DECEMBER 31, 2018 AND 2017
(In Thousands of New Taiwan Dollars)

	2018		2017	
ASSETS	**Amount**	**%**	**Amount**	**%**
CURRENT ASSETS				
Cash and cash equivalents (Notes 4, 6 and 35)	$ 13,611,502	23	$ 8,633,183	20
Notes receivable and trade receivables, net (Notes 4, 12 and 35)	3,786,498	7	4,978,143	11
Receivables from related parties, net (Notes 4, 35 and 36)	695,028	1	732,888	2
Other receivables (Notes 4, 12, 35 and 36)	169,916	-	132,004	-
Inventories (Notes 4, 5 and 13)	17,949,234	30	9,872,170	22
Financial assets measured at amortized cost - current (Notes 4, 8 and 35)	26,832	-	-	-
Other current assets (Notes 17 and 19)	438,280	1	184,168	1
Total current assets	36,677,290	62	24,532,556	56
NON-CURRENT ASSETS				
Financial assets at fair value through other comprehensive income (FVTOCI) - non-current (Notes 3, 4, 7 and 35)	1,601,941	3	-	-
Available-for-sale financial assets - non-current (Notes 3, 4, 9 and 35)	-	-	2,053,087	5
Financial assets measured at cost - non-current (Notes 3, 4, 10 and 35)	-	-	90,641	-
Financial assets measured at amortized cost - non-current (Notes 3, 4, 8 and 35)	22,360	-	-	-
Debt investments with no active market - non-current (Notes 3, 11 and 35)	-	-	27,390	-
Property, plant and equipment (Notes 4, 15 and 37)	19,308,675	33	16,258,622	37
Intangible assets (Notes 4 and 16)	45,223	-	45,808	-
Deferred tax assets (Notes 4, 5 and 29)	1,184,101	2	997,664	2
Other financial assets - non-current (Notes 4, 18, 35 and 37)	190,510	-	168,505	-
Other non-current assets (Notes 17 and 19)	18,721	-	19,626	-
Total non-current assets	22,371,531	38	19,661,343	44
TOTAL	$ 59,048,821	100	$ 44,193,899	100
LIABILITIES AND EQUITY				
CURRENT LIABILITIES				
Contract liabilities (Notes 3 and 27)	$ 14,913	-	$ -	-
Notes payable and trade payables (Notes 21 and 35)	2,613,758	4	2,787,531	6
Payables to related parties (Notes 35 and 36)	8,926,201	15	3,414,139	8
Accrued employees' compensation and remuneration of directors (Notes 28, 35 and 36)	2,292,435	4	1,130,162	3
Payables for purchases of equipment (Note 35)	964,872	2	673,604	1
Other payables (Notes 22 and 35)	1,446,095	2	1,469,264	3
Other payables to related parties (Notes 35 and 36)	425	-	-	-
Current tax liabilities (Notes 4, 5 and 29)	187,612	-	2,030	-
Provisions - current (Notes 4 and 24)	28,517	-	311,027	1
Current portion of long-term borrowings (Notes 20, 35 and 37)	3,334,772	6	3,178,666	7
Other current liabilities (Note 23)	342,629	1	93,446	-
Total current liabilities	20,152,229	34	13,059,869	29
NON-CURRENT LIABILITIES				
Long-term borrowings (Notes 20, 35 and 37)	5,885,318	10	4,859,729	11
Net defined benefit liabilities (Notes 4, 5 and 25)	1,640,817	3	1,610,438	4
Other non-current liabilities (Note 23)	10,100	-	7,516	-
Total non-current liabilities	7,536,235	13	6,477,683	15
Total liabilities	27,688,464	47	19,537,552	44
EQUITY ATTRIBUTABLE TO SHAREHOLDERS OF THE PARENT (Notes 4 and 26)				
Share capital				
Ordinary shares	18,402,919	31	18,049,385	41
Share capital to be cancelled	(1,249)	-	(1,627)	-
Total share capital	18,401,670	31	18,047,758	41
Capital surplus	(56,241)	-	(207,088)	-
Retained earnings				
Legal reserve	541,360	1	-	-
Special reserve	74,275	-	-	-
Unappropriated earnings	13,461,892	23	5,413,602	12
Total retained earnings	14,077,527	24	5,413,602	12
Other equity	(903,872)	(2)	1,560,451	3
Treasury shares	(159,061)	-	(159,061)	-
Equity attributable to shareholders of the parent	31,360,023	53	24,655,662	56
NON-CONTROLLING INTERESTS (Note 26)	334	-	685	-
Total equity	31,360,357	53	24,656,347	56
TOTAL	$ 59,048,821	100	$ 44,193,899	100

The accompanying notes are an integral part of the consolidated financial statements.

MACRONIX INTERNATIONAL CO., LTD. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
FOR THE YEARS ENDED DECEMBER 31, 2018 AND 2017
(In Thousands of New Taiwan Dollars, Except Earnings Per Share)

	2018		2017	
	Amount	**%**	**Amount**	**%**
NET OPERATING REVENUE (Notes 4, 27 and 36)	$ 36,953,032	100	$ 34,196,916	100
OPERATING COSTS (Notes 11, 25, 28 and 36)	23,026,713	62	21,562,205	63
GROSS PROFIT	13,926,319	38	12,634,711	37
OPERATING EXPENSES (Notes 25, 28 and 36)				
Selling and marketing expenses	1,400,549	4	1,272,309	4
General and administrative expenses	1,756,892	5	1,574,883	4
Research and development expenses	4,259,540	11	4,034,313	12
Total operating expenses	7,416,981	20	6,881,505	20
INCOME FROM OPERATIONS	6,509,338	18	5,753,206	17
NON-OPERATING INCOME AND EXPENSES				
Other income (Notes 4, 28 and 36)	2,661,551	7	143,515	-
Other gains and losses (Notes 28 and 32)	236,851	1	(144,642)	-
Finance costs (Notes 4 and 28)	(143,353)	(1)	(215,602)	(1)
Total non-operating income and expenses	2,755,049	7	(216,729)	(1)
INCOME BEFORE INCOME TAX FROM CONTINUING OPERATIONS	9,264,387	25	5,536,477	16
INCOME TAX EXPENSE (Notes 4 and 29)	271,538	1	19,168	-
NET INCOME FOR THE YEAR	8,992,849	24	5,517,309	16
OTHER COMPREHENSIVE INCOME (LOSS)				
Items that will not be reclassified subsequently to profit or loss:				
Remeasurement of defined benefit plans	(79,122)	-	(91,188)	-
Unrealized loss on investments in equity instruments at FVTOCI (Notes 26 and 35)	(958,735)	(3)	-	-
Items that may be reclassified subsequently to profit or loss:				
Exchange differences on translating foreign operations (Note 26)	94,809	1	(76,624)	-
Unrealized gain on available-for-sale financial assets (Note 26)	-	-	774,460	2
Other comprehensive income (loss) for the year, net of income tax	(943,048)	(2)	606,648	2
TOTAL COMPREHENSIVE INCOME FOR THE YEAR	$ 8,049,801	22	$ 6,123,957	18

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MACRONIX INTERNATIONAL CO., LTD. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
FOR THE YEARS ENDED DECEMBER 31, 2018 AND 2017
(In Thousands of New Taiwan Dollars, Except Earnings Per Share)

	2018		2017	
	Amount	**%**	**Amount**	**%**
NET INCOME (LOSS) ATTRIBUTABLE TO:				
Shareholders of the parent	$ 8,993,006	24	$ 5,517,847	16
Non-controlling interests	(157)	-	(538)	-
	$ 8,992,849	24	$ 5,517,309	16
TOTAL COMPREHENSIVE INCOME ATTRIBUTABLE TO:				
Shareholders of the parent	$ 8,049,958	22	$ 6,124,501	18
Non-controlling interests	(157)	-	(544)	-
	$ 8,049,801	22	$ 6,123,957	18
EARNINGS PER SHARE (Note 30)				
Basic	$ 4.94		$ 3.06	
Diluted	$ 4.65		$ 2.97	

The accompanying notes are an integral part of the consolidated financial statements. (Concluded)

MACRONIX INTERNATIONAL CO., LTD. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
FOR THE YEARS ENDED DECEMBER 31, 2018 AND 2017
(In Thousands of New Taiwan Dollars)

	Equity Attributable to Shareholders of the Parent														
	Share Capital				Retained Earnings			Other Equity							
	Shares (Thousands)	Ordinary Shares	Share Capital to be Cancelled	Capital Surplus	Legal Reserve	Special Reserve	Unappropriated Earnings (Accumulated Deficit)	Exchange Differences on Translating Foreign Operations	Unrealized Gain (Loss) on Available-for-sale Financial Assets	Unrealized Gain (Loss) on Financial Assets at FVTOCI	Employees' Unearned Compensation	Treasury Shares	Total	Non-controlling Interests	Total Equity
BALANCE AT JANUARY 1, 2017	3,615,354	$ 36,153,535	$ (7,654)	$ 340,713	$ -	$ -	$ (18,651,070)	$ (8,565)	$ 956,774	$ -	$ (306,958)	$ (159,061)	$ 18,317,714	$ 1,686	$ 18,319,400
Net income (loss) for the year ended December 31, 2017	-	-	-	-	-	-	5,517,847	-	-	-	-	-	5,517,847	(538)	5,517,309
Other comprehensive income (loss) for the year ended December 31, 2017, net of income tax	-	-	-	-	-	-	(91,188)	(76,618)	774,460	-	-	-	606,654	(6)	606,648
Total comprehensive income (loss) for the year ended December 31, 2017	-	-	-	-	-	-	5,426,659	(76,618)	774,460	-	-	-	6,124,501	(544)	6,123,957
Capital reduction to cover accumulated deficit	(1,865,107)	(18,651,070)	-	-	-	-	18,651,070	-	-	-	-	-	-	-	-
Issue of restricted shares to employees	57,476	574,756	-	(561,699)	-	-	(13,057)	-	-	-	-	-	-	-	-
Compensation cost of restricted shares for employees	-	-	-	(8,258)	-	-	-	-	-	-	221,358	-	213,100	-	213,100
Retirement of restricted shares for employees	(2,784)	(27,836)	6,027	21,809	-	-	-	-	-	-	-	-	-	-	-
Increase (decrease) in non-controlling interests	-	-	-	347	-	-	-	-	-	-	-	-	347	(457)	(110)
BALANCE AT DECEMBER 31, 2017	1,804,939	18,049,385	(1,627)	(207,088)	-	-	5,413,602	(85,183)	1,731,234	-	(85,600)	(159,061)	24,655,662	685	24,656,347
Effect of retrospective application	-	-	-	-	-	-	2,158,766	(146,758)	(1,731,234)	112,903	-	-	393,677	-	393,677
ADJUSTED BALANCE AT JANUARY 1, 2018	1,804,939	18,049,385	(1,627)	(207,088)	-	-	7,572,368	(231,941)	-	112,903	(85,600)	(159,061)	25,049,339	685	25,050,024
Legal reserve	-	-	-	-	541,360	-	(541,360)	-	-	-	-	-	-	-	-
Special reserve	-	-	-	-	-	74,275	(74,275)	-	-	-	-	-	-	-	-
Cash dividends distributed by the Company - $1 per share	-	-	-	-	-	-	(1,804,776)	-	-	-	-	-	(1,804,776)	-	(1,804,776)
Share dividends distributed by the Company - $0.2 per share	36,095	360,955	-	-	-	-	(360,955)	-	-	-	-	-	-	-	-
Net income (loss) for the year ended December 31, 2018	-	-	-	-	-	-	8,993,006	-	-	-	-	-	8,993,006	(157)	8,992,849
Other comprehensive income (loss) for the year ended December 31, 2018, net of income tax	-	-	-	-	-	-	(79,122)	94,809	-	(958,735)	-	-	(943,048)	-	(943,048)
Total comprehensive income (loss) for the year ended December 31, 2018	-	-	-	-	-	-	8,913,884	94,809	-	(958,735)	-	-	8,049,958	(157)	8,049,801
Disposal of investments in equity instruments designated as at fair value through other comprehensive income	-	-	-	-	-	-	(99,070)	-	-	99,070	-	-	-	-	-
Compensation cost of restricted shares for employees	-	-	-	141,885	-	-	(143,924)	-	-	-	65,622	-	63,583	-	63,583
Retirement of restricted shares for employees	(742)	(7,421)	378	7,043	-	-	-	-	-	-	-	-	-	-	-
Change in capital surplus from investments in subsidiaries and joint ventures accounted for using equity method	-	-	-	1,919	-	-	-	-	-	-	-	-	1,919	-	1,919
Decrease in non-controlling interests	-	-	-	-	-	-	-	-	-	-	-	-	-	(194)	(194)
BALANCE AT DECEMBER 31, 2018	1,840,292	$ 18,402,919	$ (1,249)	$ (56,241)	$ 541,360	$ 74,275	$ 13,461,892	$ (137,132)	$ -	$ (746,762)	$ (19,978)	$ (159,061)	$ 31,360,023	$ 334	$ 31,360,357

The accompanying notes are an integral part of the consolidated financial statements.

MACRONIX INTERNATIONAL CO., LTD. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED DECEMBER 31, 2018 AND 2017
(In Thousands of New Taiwan Dollars)

	2018	2017
CASH FLOWS FROM OPERATING ACTIVITIES		
Income before income tax	$ 9,264,387	$ 5,536,477
Adjustments for:		
Depreciation expense	2,093,048	1,944,114
Amortization expense	27,322	28,241
Impairment loss recognized on trade receivables	-	53
Finance costs	143,353	215,602
Interest income	(45,991)	(25,547)
Dividend income	(105,698)	(86,724)
Compensation cost of employee restricted shares	63,583	213,100
Gain on disposal of property, plant and equipment	(35,884)	(9,747)
Gain on disposal of intangible assets	-	(8,333)
(Gain) loss on disposal of investments	(180)	2,517
Impairment loss on non-financial assets	-	1,485
Net (gain) loss on foreign currency exchange	(158,383)	237,665
Changes in operating assets and liabilities		
Notes receivable and trade receivables	1,225,401	(1,939,296)
Receivables from related parties	68,270	(206,942)
Other receivables	(35,763)	(10,406)
Inventories	(8,077,064)	(2,784,753)
Other current assets	(254,106)	18,033
Contract liabilities	(37,770)	-
Notes payable and trade payables	(182,143)	212,840
Payables to related parties	5,306,901	2,287,080
Payables for employees' compensation and director's remuneration	1,162,273	1,130,162
Other payables	1,999	303,574
Other payables to related parties	(407)	-
Provisions	(31,668)	90,908
Other current liabilities	32,900	27,807
Net defined benefit liabilities	(48,743)	(14,037)
Cash generated from operations	10,375,637	7,163,873
Interest received	43,843	24,325
Dividend received	105,695	86,714
Interest paid	(161,174)	(219,644)
Income tax paid	(272,393)	(20,777)
Net cash generated from operating activities	10,091,608	7,034,491
CASH FLOWS FROM INVESTING ACTIVITIES		
Proceeds from the disposal of financial assets at fair value through other comprehensive income	43,582	-
Payments for financial assets measured at amortized cost	(22,965)	-
Payments for debt investments with no active market	-	(26,916)
Proceeds from disposal of financial assets measured at cost	-	5,357
Disposal of subsidiaries	-	(3,892)

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MACRONIX INTERNATIONAL CO., LTD. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED DECEMBER 31, 2018 AND 2017
(In Thousands of New Taiwan Dollars)

	2018	2017
Payments for property, plant and equipment	$ (4,861,806)	$ (2,220,308)
Proceeds from disposal of property, plant and equipment	36,963	19,351
Increase in refundable deposits	(2,970)	(2,042)
Decrease in refundable deposits	858	1,148
Payments for intangible assets	(26,768)	(50,373)
Disposal of intangible assets	-	13,000
(Increase) decrease in other financial assets	(19,772)	6,784
Decrease in other non-current assets	905	747
Net cash used in investing activities	(4,851,973)	(2,257,144)
CASH FLOWS FROM FINANCING ACTIVITIES		
Proceeds from short-term borrowings	-	971,597
Repayments of short-term borrowings	-	(1,371,597)
Proceeds from long-term borrowings	4,800,000	10,386,886
Repayments of long-term borrowings	(3,621,981)	(12,265,577)
Proceeds from guarantee deposits received	3,353	6,495
Refund of guarantee deposits received	(310)	(987)
Decrease in other non-current liabilities	(792)	(816)
Distribution of cash dividends	(1,804,776)	-
Increase in non-controlling interests	2,623	349
Net cash used in financing activities	(621,883)	(2,273,650)
EFFECT OF EXCHANGE RATE CHANGES ON THE BALANCE OF CASH AND CASH EQUIVALENTS HELD IN FOREIGN CURRENCIES	360,567	(238,853)
NET INCREASE IN CASH AND CASH EQUIVALENTS	4,978,319	2,264,844
CASH AND CASH EQUIVALENTS AT THE BEGINNING OF THE YEAR	8,633,183	6,368,339
CASH AND CASH EQUIVALENTS AT THE END OF THE YEAR	$ 13,611,502	$ 8,633,183

The accompanying notes are an integral part of the consolidated financial statements. (Concluded)

1. GENERAL INFORMATION

Macronix International Co., Ltd. (the "Company") was incorporated in the Republic of China (ROC) in December 9, 1989 and commenced business in December 1989. The Company operates principally as a designer, manufacturer and supplier of integrated circuits (ICs) and memory chips. The Company also performs design, research and development, consultation and trade of relevant products.

The Company's shares have been listed on the Taiwan Stock Exchange (TWSE) since March 15, 1995.

The consolidated financial statements are presented in the Company's functional currency, the New Taiwan dollar.

2. APPROVAL OF FINANCIAL STATEMENTS

The consolidated financial statements were approved by the Company's board of directors and were authorized for issue on March 12, 2019.

3. APPLICATION OF NEW, AMENDED AND REVISED STANDARDS AND INTERPRETATIONS

a. Initial application of the amendments to the Regulations Governing the Preparation of Financial Reports by Securities Issuers and the International Financial Reporting Standards (IFRS), International Accounting Standards (IAS), Interpretations of IFRS (IFRIC), and Interpretations of IAS (SIC) (collectively, the IFRSs) endorsed and issued into effect by the FSC

Except for the following, whenever applied, the initial application of the amendments to the Regulations Governing the Preparation of Financial Reports by Securities Issuers and the IFRSs endorsed and issued into effect by the FSC would not have any material impact on the Group's accounting policies:

1) IFRS 9 "Financial Instruments" and related amendment

IFRS 9 supersedes IAS 39 "Financial Instruments: Recognition and Measurement" and makes consequential amendments to IFRS 7 "Financial Instruments: Disclosures" and other standards. IFRS 9 sets out the requirements for the classification, measurement and impairment of financial assets and hedge accounting. Refer to Note 4 for information relating to the relevant accounting policies.

The Company retrospectively adopted the classification, measurement and impairment of financial assets and postponed the adoption of general hedge accounting. IFRS 9 does not apply to financial assets that were derecognized before January 1, 2018.

<u>Classification, measurement and impairment of financial assets and financial liabilities</u>

The Company elects not to restate prior reporting periods when applying the requirements for the classification, measurement and impairment of financial assets and financial liabilities under IFRS 9 with the cumulative effect of the initial application recognized at the date of initial application.

The impact on measurement categories, carrying amounts and related reconciliation for each class of the Company's financial assets and financial liabilities as of January 1, 2018 when retrospectively applying IFRS 9 is detailed below:

	Measurement Category		Carrying Amount	
Financial Asset	**IAS 39**	**IFRS 9**	**IAS 39**	**IFRS 9**
Equity securities	Cost - non-current	Fair value through other comprehensive income - non-current	$ 90,641	$ 484,318
	Available-for-sale	Fair value through other comprehensive income - non-current	2,053,087	2,053,087
Time deposits with original maturities exceeding 1 year	Debt investments with no active market	Amortized cost	27,390	27,390
Notes receivable, accounts receivable and other receivables	Loans and receivables	Amortized cost	4,978,143	4,978,143

	Carrying Amount as of December 31, 2017	Adjustments Arising from Initial Application	Adjusted Carrying Amount as of January 1, 2018
Impact on assets, liabilities and equity			
Financial assets at fair value through profit or loss - non-current	$ -	$ 2,537,405	$ 2,537,405
Available-for-sale financial assets - non-current	2,053,087	(2,053,087)	-
Financial assets measured at amortized cost - non-current	-	27,390	27,390
Financial assets measured at cost - non-current	90,641	(90,641)	-
Debt investments with no active market - non-current	27,390	(27,390)	-
Others	42,022,781	-	42,022,781
Total assets	$ 44,193,899	$ 393,677	$ 44,587,576
Total liabilities	$ 19,537,552	$ -	$ 19,537,552
Retained earnings	$ 5,413,602	$ 2,158,766	$ 7,572,368
Other equity	1,560,451	(1,765,089)	(204,638)
Others	17,682,294	-	17,682,294
Total equity	$ 24,656,347	$ 393,677	$ 25,050,024

As equity investments that were previously classified as available-for-sale financial assets under IAS 39 are not held for trading, the Company elected to designate all of these investments as at FVTOCI under IFRS 9. As a result, the related other equity - unrealized gain (loss) on available-for-sale financial assets of NT$1,731,234 thousand is reclassified and resulted in an increase in other equity - unrealized gain (loss) on financial assets at FVTOCI.

For those equity investments previously classified as financial assets measured at cost under IAS 39, since these investments were designated as at FVTOCI under IFRS 9, the value of such investments should be remeasured at fair value, and the adjustments resulted in an increase in other equity - unrealized gain (loss) on financial assets at FVTOCI of NT$393,677 thousand.

For those equity investments previously classified as available-for-sale financial assets (including financial assets measured at cost) under IAS 39, the impairment losses that the Company had recognized have been accumulated in retained earnings. Since these investments were designated as at FVTOCI under IFRS 9 and no impairment assessment is required, the adjustments resulted in an increase in other equity - unrealized gain (loss) on financial assets at FVTOCI of NT$112,903 thousand and an increase in retained earnings of NT$2,158,766 thousand on January 1, 2018.

Notes receivable, trade receivables and other receivables that were previously classified as loans and receivables under IAS 39 were classified as financial assets measured at amortized cost with an assessment of expected credit losses under IFRS 9, because these investments were held within a business model whose objective is achieved by both the collecting of contractual cash flows and the selling of financial assets.

2) IFRS 15 "Revenue from Contracts with Customers" and related amendment

IFRS 15 establishes principles for recognizing revenue that apply to all contracts with customers, and will supersede IAS 18 "Revenue", IAS 11 "Construction Contracts" and a number of revenue-related interpretations. Refer to Note 4 for information relating to the relevant accounting policies.

The Group, under IFRS 15, obtains control of the specified goods or services before they are transferred to the customers and, therefore, is acting as a principal in the transaction. Prior to the application of IFRS 15, the Group considered whether the goods or services exposed the Group to significant risks and rewards as a principal in the transaction.

Under IFRS 15, the net effect of revenue recognized and consideration received and receivable is recognized as a contract asset or a contract liability. Prior to the application of IFRS 15, deferred revenue was reduced when revenue was recognized for the relevant contract under IAS 18.

For a sale with a right of return, the Group will recognize a refund liability (other liability). Prior to the application of IFRS 15, return provisions are recognized when recognizing revenue.

The Group elects to retrospectively apply IFRS 15 to contracts that are not complete on January 1, 2018 and recognize the cumulative effect of the change in the retained earnings on January 1, 2018.

The impact on assets, liabilities and equity as of January 1, 2018 from the initial application of IFRS 15 is set out below:

	As Originally Stated	**Adjustments Arising from Initial Application**	**Restated**
Provisions - current	$ 311,027	$ (250,842)	$ 60,185
Contract liabilities - current	-	52,683	52,683
Other current liabilities	104,034	198,159	302,193
Impact on total liabilities		$ -	

The impact of continuing the application of IAS 18 instead of IFRS 15 for the year ended December 31, 2018 is detailed as follows:

Impact on assets, liabilities and equity

	December 31, 2018
Decrease in contract liabilities - current	$ (14,913)
Increase in provisions - current	306,291
Decrease in other current liabilities	(291,378)
Increase (decrease) in liabilities	$ -

b. The IFRSs issued by IASB and endorsed by FSC which will be effective in 2019

New, Revised or Amended Standards and Interpretations (the "New IFRSs")	Effective Date Announced by the IASB (Note 1)
Annual Improvements to IFRSs 2015-2017 Cycle	January 1, 2019
Amendments to IFRS 9 "Prepayment Features with Negative Compensation"	January 1, 2019 (Note 2)
IFRS 16 "Leases"	January 1, 2019
Amendments to IAS 19 "Plan Amendment, Curtailment or Settlement"	January 1, 2019 (Note 3)
Amendments to IAS 28 "Long-term Interests in Associates and Joint Ventures"	January 1, 2019
IFRIC 23 "Uncertainty Over Income Tax Treatments"	January 1, 2019

Note 1: Unless stated otherwise, the above New IFRSs are effective for annual periods beginning on or after their respective effective dates.

Note 2: The FSC permits the election for early adoption of the amendments starting from 2018.

Note 3: The Company shall apply these amendments to plan amendments, curtailments or settlements occurring on or after January 1, 2019.

1) IFRS 16 "Leases"

IFRS 16 sets out the accounting standards for leases that will supersede IAS 17 and a number of related interpretations.

Definition of a lease

Upon initial application of IFRS 16, the Group will elect to apply IFRS 16 only to contracts entered into (or changed) on or after January 1, 2019 in order to determine whether those contracts are, or contain, a lease. Contracts identified as containing a lease under IAS 17 and IFRIC 4 will not be reassessed and will be accounted for in accordance with the transitional provisions under IFRS 16.

The Group as lessee

Upon initial application of IFRS 16, the Group will recognize right-of-use assets and lease liabilities if the right-of-use assets meet the definition for all leases on the consolidated balance sheets except for those whose payments under low-value and short-term leases will be recognized as expenses on a straight-line basis. On the consolidated statements of comprehensive income, the Group will present the depreciation expense charged on right-of-use assets separately from the interest expense accrued on lease liabilities; interest is computed using the effective interest method. On the consolidated statements of cash flows, cash payments for the principal portion of lease liabilities will be classified within financing activities; cash payments for the interest portion will be classified within operating activities. Currently, payments under operating lease contracts are recognized as expenses on a straight-line basis. Cash flows for operating leases are classified within operating activities on the consolidated statements of cash flows. Leased assets and finance lease payables are recognized for contracts classified as finance leases.

The Group anticipates applying IFRS 16 retrospectively with the cumulative effect of the initial application of this standard recognized on January 1, 2019. Comparative information will not be restated.

The Group as lessor

Except for sublease transactions, the Group will not make any adjustments for leases in which it is a lessor and will account for those leases with the application of IFRS 16 starting from January 1, 2019.

The Group subleases its leasehold park dormitory to a third party. Such a sublease is classified as an operating lease under IAS 17. The Group will assess the sublease classification on the basis of the remaining contractual terms and conditions of the head lease and sublease on January 1, 2019.

Anticipated impact on assets, liabilities and equity

	Carrying Amount as of December 31, 2018	Adjustments Arising from Initial Application	Adjusted Carrying Amount as of January 1, 2019
Prepayments for leases - current	$ 438,280	$ (506)	$ 437,774
Prepayments for leases - non-current	18,721	(18,721)	-
Right-of-use assets	-	1,110,709	1,110,709
Total effect on assets	$ 457,001	$ 1,091,482	$ 1,548,483
Lease liabilities - current	$ -	$ 114,615	$ 114,615
Lease liabilities - non-current	-	976,867	976,867
Total effect on liabilities	$ -	$ 1,091,482	$ 1,091,482

As of the date the consolidated financial statements were authorized for issue, the Group access that have no material impact on the Group's financial position and financial performance.

c. New IFRSs in issue but not yet endorsed and issued into effect by the FSC

New IFRSs	Effective Date Announced by IASB (Note 1)
Amendments to IFRS 3 "Definition of a Business"	January 1, 2020 (Note 2)
Amendments to IFRS 10 and IAS 28 "Sale or Contribution of Assets between An Investor and Its Associate or Joint Venture"	To be determined by IASB
IFRS 17 "Insurance Contracts"	January 1, 2021
Amendments to IAS 1 and IAS 8 "Definition of Material"	January 1, 2020 (Note 3)

Note 1: Unless stated otherwise, the above New IFRSs are effective for annual periods beginning on or after their respective effective dates.

Note 2: The Group shall apply these amendments to business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after January 1, 2020 and to asset acquisitions that occur on or after the beginning of that period.

Note 3: The Group shall apply these amendments prospectively for annual reporting periods beginning on or after January 1, 2020.

As of the date the consolidated financial statements were authorized for issue, the Group is continuously assessing the possible impact that the application of other standards and interpretations will have on the Group's financial position and financial performance, and will disclose the relevant impact when the assessment is completed.

4. SUMMARY OF SIGNIFICANT ACCOUNTING POLICY

a. Statement of compliance

The consolidated financial statements have been prepared in accordance with the Regulations Governing the Preparation of Financial Reports by Securities Issuers and IFRSs as endorsed and issued into effect by the FSC.

b. Basis of preparation

The consolidated financial statements have been prepared on the historical cost basis except for financial instruments which are measured at fair value and defined benefit liabilities.

The fair value measurements, which are grouped into Levels 1 to 3 based on the degree to which the fair value measurement inputs are observable and based on the significance of the inputs to the fair value measurement in its entirety, are described as follows:

1) Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities;

2) Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for an asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices); and

3) Level 3 inputs are unobservable inputs for an asset or liability.

c. Classification of current and non-current assets and liabilities

Current assets include:

1) Assets held primarily for the purpose of trading;

2) Assets expected to be realized within 12 months after the reporting period; and

3) Cash and cash equivalents unless the asset is restricted from being exchanged or used to settle a liability for at least 14 months after the reporting period.

Current liabilities include:

1) Liabilities held primarily for the purpose of trading;

2) Liabilities due to be settled within 12 months after the reporting period, even if an agreement to refinance, or to reschedule payments, on a long-term basis is completed after the reporting period and before the consolidated financial statements are authorized for issue; and

3) Liabilities for which the Group does not have an unconditional right to defer settlement for at least 12 months after the reporting period. Terms of a liability that could, at the option of the counterparty, result in its settlement by the issue of equity instruments do not affect its classification.

Assets and liabilities that are not classified as current are classified as non-current.

d. Basis of consolidation

The consolidated financial statements incorporate the financial statements of the Company and the entities controlled by the Company (i.e. its subsidiaries).

Income and expenses of subsidiaries acquired or disposed of during the period are included in the consolidated statement of profit or loss and other comprehensive income from the effective dates of acquisitions up to the effective dates of disposals, as appropriate.

When necessary, adjustments are made to the financial statements of subsidiaries to bring their accounting policies into line with those used by the Company.

All intra-group transactions, balances, income and expenses are eliminated in full upon consolidation. Total comprehensive income of subsidiaries is attributed to the owners of the Company and to the non-controlling interests even if this results in the non-controlling interests having a deficit balance.

Changes in the Group’s ownership interests in subsidiaries that do not result in the Group losing control over the subsidiaries are accounted for as equity transactions. The carrying amounts of the interests of the Group and the non-controlling interests are adjusted to reflect the changes in their relative interests in the subsidiaries. Any difference between the amount by which the non-controlling interests are adjusted and the fair value of the consideration paid or received is recognized directly in equity and attributed to the owners of the Company.

When the Group loses control of a subsidiary, a gain or loss is recognized in profit or loss and is calculated as the difference between (i) the aggregate of the fair value of the consideration received and any investment retained in the former subsidiary at its fair value at the date when control is lost and (ii) the assets (including any goodwill) and liabilities and any non-controlling interests of the former subsidiary at their carrying amounts at the date when control is lost. The Group accounts for all amounts recognized in other comprehensive income in relation to that subsidiary on the same basis as would be required if the Group had directly disposed of the related assets or liabilities.

Before 2018, the fair value of any investment retained in a former subsidiary at the date when control is lost is regarded as the fair value on initial recognition of financial assets at fair value through profit or loss or, when applicable, the cost on initial recognition of an investment in an associate or a joint venture.

See Note 12 and Table 5 for the detailed information of subsidiaries (including the percentage of ownership and main business).

e. Foreign currencies

In preparing the financial statements of each individual group, transactions in currencies other than the entity’s functional currency (foreign currencies) are recognized at the rates of exchange prevailing at the dates of the transactions.

At the end of each reporting period, monetary items denominated in foreign currencies are retranslated at the rates prevailing at that date. Exchange differences on monetary items arising from settlement or translation are recognized in profit or loss in the period in which they arise.

Non-monetary items measured at fair value that are denominated in foreign currencies are retranslated at the rates prevailing at the date when the fair value was determined. Exchange differences arising from the retranslation of non-monetary items are included in profit or loss for the period except for exchange differences arising from the retranslation of non-monetary items in respect of which gains and losses are recognized directly in other comprehensive income, in which cases, the exchange differences are also recognized directly in other comprehensive income.

Non-monetary items that are measured at historical cost in a foreign currency are not retranslated.

For the purpose of presenting consolidated financial statements, the functional currencies of the Company and the Group (including subsidiaries and associates that use currency different from the currency of the Company) are translated into the presentation currency - the New Taiwan dollar as follows: Assets and liabilities are translated at the exchange rates prevailing at the end of the reporting period; income and expense items are translated at the average exchange rates for the period. The resulting currency translation differences are recognized in other comprehensive income (attributed to the owners of the Company and non-controlling interests as appropriate).

f. Inventories

Inventories consist of raw materials, supplies, finished goods, merchandise and work-in-process and are stated at the lower of cost or net realizable value. Inventory write-downs are made by item, except where it may be appropriate to group similar or related items. Net realizable value is the estimated selling price of inventories less all estimated costs of completion and costs necessary to make the sale. Inventories are recorded at standard cost and adjusted to approximate weighted - average cost on the balance sheet date.

g. Investments in associates

An associate is an entity over which the Group has significant influence and that is neither a subsidiary nor a joint venture.

The Group uses the equity method to account for its investments in associates.

Under the equity method, an investment in an associate is initially recognized at cost and adjusted thereafter to recognize the Group's share of the profit or loss and other comprehensive income of the associate. The Group also recognizes the changes in the Group's share of equity of associates attributable to the Group.

When the Group applies the equity method to account for its investments in an associate or a joint venture which is an investment entity, the Group may elect to retain the fair value of investment interests in subsidiaries of the investment-entity associate or joint venture. The election is made separately for each investment-entity associate or joint venture at the later of the date on which (a) the investment-entity associate or joint venture is initially recognized, (b) the associate or joint venture becomes an investment entity, or (c) the investment-entity associate or joint venture first becomes a parent.

Any excess of the cost of acquisition over the Group's share of the net fair value of the identifiable assets and liabilities of an associate at the date of acquisition is recognized as goodwill, which is included within the carrying amount of the investment and is not amortized. Any excess of the Group's share of the net fair value of the identifiable assets and liabilities over the cost of acquisition, after reassessment, is recognized immediately in profit or loss.

When the Group subscribes for additional new shares of the associate at a percentage different from its existing ownership percentage, the resulting carrying amount of the investment differs from the amount of the Group's proportionate interest in the associate. The Group records such a difference as an adjustment to investments with the corresponding amount charged or credited to capital surplus - changes in the Group's share of equity of associates. If the Group's ownership interest is reduced due to the additional subscription of the new shares of associate, the proportionate amount of the gains or losses previously recognized in other comprehensive income in relation to that associate is reclassified to profit or loss on the same basis as would be required if the investee had directly disposed of the related assets or liabilities. When the adjustment should be debited to capital surplus, but the capital surplus recognized from investments accounted for by the equity method is insufficient, the shortage is debited to retained earnings.

When the Group's share of losses of an associate equals or exceeds its interest in that associate (which includes any carrying amount of the investment accounted for by the equity method and long-term interests that, in substance, form part of the Group's net investment in the associate), the Group discontinues recognizing its share of further losses. Additional losses and liabilities are recognized only to the extent that the Group has incurred legal obligations, or constructive obligations, or made payments on behalf of that associate.

The entire carrying amount of an investment (including goodwill) is tested for impairment as a single asset by comparing its recoverable amount with its carrying amount. Any impairment loss recognized is not allocated to any asset, including goodwill, that forms part of the carrying amount of the investment. Any reversal of that impairment loss is recognized to the extent that the recoverable amount of the investment subsequently increases.

The Group discontinues the use of the equity method from the date on which its investment ceases to be an associate. Any retained investment is measured at fair value at that date and the fair value is regarded as its fair value on initial recognition as a financial asset. The difference between the previous carrying amount of the associate attributable to the retained interest and its fair value is included in the determination of the gain or loss on disposal of the associate. The Group accounts for all amounts previously recognized in other comprehensive income in relation to that associate on the same basis as would be required if that associate had directly disposed of the related assets or liabilities.

When a group entity transacts with its associate, profits and losses resulting from the transactions with the associate are recognized in the Group' consolidated financial statements only to the extent that interests in the associate are not related to the Group.

h. Property, plant, and equipment

Property, plant and equipment are stated at cost, less accumulated depreciation and accumulated impairment loss.

Depreciation on property, plant and equipment is recognized using the straight-line method. Each significant part is depreciated separately. The estimated useful lives, residual values and depreciation methods are reviewed at the end of each reporting period, with the effects of any changes in estimates accounted for on a prospective basis.

On derecognition of an item of property, plant and equipment, the difference between the sales proceeds and the carrying amount of the asset is recognized in profit or loss.

i. Intangible assets

1) Intangible assets acquired separately

Intangible assets with finite useful lives that are acquired separately are initially measured at cost and subsequently measured at cost less accumulated amortization and accumulated impairment loss. Amortization is recognized on a straight-line basis. The estimated useful life, residual value, and amortization method are reviewed at the end of each reporting period, with the effect of any changes in estimates accounted for on a prospective basis. Intangible assets with indefinite useful lives that are acquired separately are measured at cost less accumulated impairment loss.

2) Internally-generated intangible assets - research and development expenditure

Expenditure on research activities is recognized as an expense in the period in which it is incurred.

An internally-generated intangible asset arising from the development phase of an internal project is recognized if, and only if, all of the following have been demonstrated:

a) The technical feasibility of completing the intangible asset so that it will be available for use or sale;

b) The intention to complete the intangible asset and use or sell it;

c) The ability to use or sell the intangible asset;

d) How the intangible asset will generate probable future economic benefits;

e) The availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset; and

f) The ability to measure reliably the expenditure attributable to the intangible asset during its development.

The amount initially recognized for internally-generated intangible assets is the sum of the expenditure incurred from the date when the intangible asset first meets the recognition criteria listed above. Subsequent to initial recognition, they are measured on the same basis as intangible assets that are acquired separately.

3) Derecognition of intangible assets

On derecognition of an intangible asset, the difference between the net disposal proceeds and the carrying amount of the asset is recognized in profit or loss.

j. Impairment of tangible and intangible assets other than goodwill and assets related to contract costs

At the end of each reporting period, the Group reviews the carrying amounts of its tangible and intangible assets, excluding goodwill, to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss. When it is not possible to estimate the recoverable amount of an individual asset, the Group estimates the recoverable amount of the cash-generating unit to which the asset belongs. Corporate assets are allocated to the smallest group of cash-generating units on a reasonable and consistent basis of allocation.

Intangible assets with indefinite useful lives and intangible assets not yet available for use are tested for impairment at least annually, and whenever there is an indication that the asset may be impaired.

The recoverable amount is the higher of fair value less costs to sell and value in use. If the recoverable amount of an asset or cash-generating unit is estimated to be less than its carrying amount, the carrying amount of the asset or cash-generating unit is reduced to its recoverable amount, with the resulting impairment loss recognized in profit or loss.

Before the Group recognizes an impairment loss from assets related to contract costs, any impairment loss on inventories related to the contract applicable under IFRS 15 shall be recognized in accordance with applicable standards. Then, impairment loss from the assets related to the contract costs is recognized to the extent that the carrying amount of the assets exceeds the remaining amount of consideration that the Group expects to receive in exchange for related goods or services less the costs which relate directly to providing those goods or services and which have not been recognized as expenses. The assets related to the contract costs are then included in the carrying amount of the cash-generating unit to which they belong for the purpose of evaluating impairment of that cash-generating unit.

When an impairment loss is subsequently reversed, the carrying amount of the corresponding asset, cash-generating unit or assets related to contract costs is increased to the revised estimate of its recoverable amount, but only to the extent of the carrying amount that would have been determined had no impairment loss been recognized for the asset, cash-generating unit or assets related to contract costs in prior years. A reversal of an impairment loss is recognized in profit or loss.

k. Financial instruments

Financial assets and financial liabilities are recognized when the Group becomes a party to the contractual provisions of the instruments.

Transaction costs that are directly attributable to the acquisition or issue of financial assets and financial liabilities (other than financial assets and financial liabilities at fair value through profit or loss) are added to or deducted from the fair value of the financial assets or financial liabilities, as appropriate, on initial recognition. Transaction costs directly attributable to the acquisition of financial assets or financial liabilities at fair value through profit or loss are recognized immediately in profit or loss.

1) Financial assets

All regular way purchases or sales of financial assets are recognized and derecognized on a settlement date basis.

a) Measurement category

<u>2018</u>

Financial assets are classified into the following categories: Financial assets measured at amortized cost and investments in equity instruments at FVTOCI.

i. Financial assets measured at amortized cost

Financial assets that meet the following conditions are subsequently measured at amortized cost:

i) The financial assets are held within a business model whose objective is to hold financial assets in order to collect contractual cash flows; and

ii) The contractual terms of the financial assets give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Subsequent to initial recognition, financial assets measured at amortized cost, including cash and cash equivalents and trade receivables measured at amortized cost, are measured at amortized cost, which equals the gross carrying amount determined using the effective interest method less any impairment loss. Exchange differences are recognized in profit or loss.

Interest income is calculated by applying the effective interest rate to the gross carrying amount of a financial asset, except for:

i) Purchased or originated credit-impaired financial assets, for which interest income is calculated by applying the credit-adjusted effective interest rate to the amortized cost of such a financial asset; and

ii) Financial assets that have subsequently become credit-impaired, for which interest income is calculated by applying the effective interest rate to the amortized cost of such a financial asset.

Cash equivalents include time deposits with original maturities, which are highly liquid, readily convertible to a known amount of cash and are subject to an insignificant risk of changes in value. These cash equivalents are held for the purpose of meeting short-term cash commitments.

ii Investments in equity instruments at FVTOCI

On initial recognition, the Group may make an irrevocable election to designate investments in equity instruments as at FVTOCI. Designation at FVTOCI is not permitted if the equity investment is held for trading or if it is contingent consideration recognized by an acquirer in a business combination.

Investments in equity instruments at FVTOCI are subsequently measured at fair value with gains and losses arising from changes in fair value recognized in other comprehensive income and accumulated in other equity. The cumulative gain or loss will not be reclassified to profit or loss on the disposal of the equity investments; instead, they will be transferred to retained earnings.

Dividends on these investments in equity instruments are recognized in profit or loss when the Group’s right to receive the dividends is established, unless the dividends clearly represent a recovery of part of the cost of the investment.

<u>2017</u>

Financial assets are classified into the following categories: Financial assets at fair value through profit or loss, available-for-sale financial assets, and loans and receivables.

i Financial assets at fair value through profit or loss

Financial assets are classified as at fair value through profit or loss when the financial asset is either held for trading or it is designated as at fair value through profit or loss.

Financial assets at fair value through profit or loss are stated at fair value, with any gains or losses arising on remeasurement recognized in profit or loss. The net gain or loss recognized in profit or loss does not incorporate any dividend or interest earned on the financial asset. Fair value is determined in the manner described in Note 35.

Investments in equity instruments under financial assets at fair value through profit or loss that do not have a quoted market price in an active market and whose fair value cannot be reliably measured and derivatives that are linked to and must be settled by delivery of such unquoted equity instruments are subsequently measured at cost less any identified impairment loss at the end of each reporting period and presented in a separate line item as financial assets carried at cost. If, in a subsequent period, the fair value of the financial assets can be reliably measured, the financial assets are remeasured at fair value. The difference between the carrying amount and the fair value is recognized in profit or loss.

ii Available-for-sale financial assets

Available-for-sale financial assets are non-derivatives that are either designated as available-for-sale or are not classified as loans and receivables, held-to-maturity investments or financial assets at fair value through profit or loss.

Available-for-sale financial assets are measured at fair value. Changes in the carrying amounts of available-for-sale monetary financial assets relating to changes in foreign currency exchange rates, interest income calculated using the effective interest method and dividends on available-for-sale equity investments are recognized in profit or loss. Other changes in the carrying amount of available-for-sale financial assets are recognized in other comprehensive income and will be reclassified to profit or loss when the investment is disposed of or is determined to be impaired.

Dividends on available-for-sale equity instruments are recognized in profit or loss when the Group's right to receive the dividends is established.

Available-for-sale equity investments that do not have a quoted market price in an active market and whose fair value cannot be reliably measured and derivatives that are linked to and must be settled by delivery of such unquoted equity investments are measured at cost less any identified impairment loss at the end of each reporting period and presented in a separate line item as financial assets carried at cost. If, in a subsequent period, the fair value of the financial assets can be reliably measured, the financial assets are remeasured at fair value. The difference between the carrying amount and fair value is recognized in other comprehensive income on financial assets. Any impairment losses are recognized in profit and loss.

iii Loans and receivables

Loans and receivables (including trade receivables, cash and cash equivalent, other receivables and long-term receivables) are measured at amortized cost using the effective interest method, less any impairment, except for short-term receivables when the effect of discounting is immaterial.

Cash equivalent includes time deposits which are highly liquid, readily convertible to a known amount of cash and are subject to an insignificant risk of changes in value. These cash equivalents are held for the purpose of meeting short-term cash commitments.

b) Impairment of financial assets

<u>2018</u>

The Group recognizes a loss allowance for expected credit losses on financial assets measured at amortized cost (including trade receivables).

The Group always recognizes lifetime expected credit losses (i.e. ECLs) for trade receivables and lease receivables. For all other financial instruments, the Group recognizes lifetime ECLs when there has been a significant increase in credit risk since initial recognition. If, on the other hand, the credit risk on such a financial instrument has not increased significantly since initial recognition, the Group measures the loss allowance for that financial instrument at an amount equal to 12-month ECLs.

Expected credit losses reflect the weighted average of credit losses with the respective risks of a default occurring as the weights. Lifetime ECLs represent the expected credit losses that will result from all possible default events over the expected life of a financial instrument. In contrast, 12-month ECLs represent the portion of lifetime ECLs that is expected to result from default events on a financial instrument that are possible within 12 months after the reporting date.

The Group recognizes an impairment gain or loss in profit or loss for all financial instruments with a corresponding adjustment to their carrying amount through a loss allowance account, except for investments in debt instruments that are measured at FVTOCI, for which the loss allowance is recognized in other comprehensive income and does not reduce the carrying amount of the financial asset.

2017

Financial assets, other than those at fair value through profit or loss, are assessed for indicators of impairment at the end of each reporting period. Financial assets are considered to be impaired when there is objective evidence that, as a result of one or more events that occurred after the initial recognition of the financial asset, the estimated future cash flows of the investment have been affected.

For financial assets carried at amortized cost, such as trade receivables, assets are assessed for impairment on a collective basis even if they were assessed not to be impaired individually. Objective evidence of impairment for a portfolio of receivables could include the Group's past experience of collecting payments, an increase in the number of delayed payments in the portfolio past the average credit period of 60 days, as well as observable changes in national or local economic conditions that correlate with default on receivables.

For financial assets carried at amortized cost, the amount of the impairment loss recognized is the difference between the asset's carrying amount and the present value of estimated future cash flows, discounted at the financial asset's original effective interest rate.

For financial assets measured at amortized cost, if, in a subsequent period, the amount of the impairment loss decreases and the decrease can be related objectively to an event occurring after the impairment was recognized, the previously recognized impairment loss is reversed through profit or loss to the extent that the carrying amount of the investment at the date the impairment is reversed does not exceed what the amortized cost would have been had the impairment not been recognized.

For available-for-sale equity investments, a significant or prolonged decline in the fair value of the security below its cost is considered to be objective evidence of impairment.

For all other financial assets, objective evidence of impairment could include significant financial difficulty of the issuer or counterparty, breach of contract, such as a default or delinquency in interest or principal payments, it becoming probable that the borrower will enter bankruptcy or financial re-organization, or the disappearance of an active market for that financial asset because of financial difficulties.

When an available-for-sale financial asset is considered to be impaired, cumulative gains or losses previously recognized in other comprehensive income are reclassified to profit or loss in the period.

In respect of available-for-sale equity securities, impairment loss previously recognized in profit or loss is not reversed through profit or loss. Any increase in fair value subsequent to an impairment loss is recognized in other comprehensive income.

For financial assets that are carried at cost, the amount of the impairment loss is measured as the difference between the asset's carrying amount and the present value of the estimated future cash flows discounted at the current market rate of return for a similar financial asset. Such impairment loss will not be reversed in subsequent periods.

The carrying amount of the financial asset is reduced by the impairment loss directly for all financial assets with the exception of trade receivables, where the carrying amount is reduced through the use of an allowance account. When a trade receivable and other receivables are considered uncollectable, it is written off against the allowance account. Subsequent recoveries of amounts previously written off are credited against the allowance account. Changes in the carrying amount of the allowance account are recognized in profit or loss except for uncollectable trade receivables that are written off against the allowance account.

c) Derecognition of financial assets

The Group derecognizes a financial asset only when the contractual rights to the cash flows from the asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another party.

If the Group neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the Group recognizes its retained interest in the asset and any associated liability for amounts it may have to pay. If the Group retains substantially all the risks and rewards of ownership of a transferred financial asset, the Group continues to recognize the financial asset and also recognizes a collateralized borrowing for the proceeds received.

Before 2018, on derecognition of a financial asset in its entirety, the difference between the asset's carrying amount and the sum of the consideration received and receivable and the cumulative gain or loss which had been recognized in other comprehensive income is recognized in profit or loss. Starting from 2018, on derecognition of a financial asset at amortized cost in its entirety, the difference between the asset's carrying amount and the sum of the consideration received and receivable is recognized in profit or loss. On derecognition of an investment in a debt instrument at FVTOCI, the difference between the asset's carrying amount and the sum of the consideration received and receivable and the cumulative gain or loss which had been recognized in other comprehensive income is recognized in profit or loss. However, on derecognition of an investment in an equity instrument at FVTOCI, the difference between the asset's carrying amount and the sum of the consideration received and receivable is recognized in profit or loss, and the cumulative gain or loss which had been recognized in other comprehensive income is transferred directly to retained earnings, without recycling through profit or loss.

2) Equity instruments

Equity instruments issued by the Group are recognized at the proceeds received, net of direct issue costs.

Repurchase of the Company's own equity instruments is recognized in and deducted directly from equity. No gain or loss is recognized in profit or loss on the purchase, sale, issue or cancellation of the Company's own equity instruments.

3) Financial liabilities

a) Subsequent measurement

Except the following situation, all financial liabilities are measured at amortized cost using the effective interest method.

i Financial liabilities at fair value through profit or loss

Financial liabilities are classified as at fair value through profit or loss when the financial liability is either held for trading or it is designated as at fair value through profit or loss.

Financial liabilities held for trading are stated at fair value, with any gain or loss arising on remeasurement recognized in profit or loss. The net gain or loss recognized in profit or loss does not incorporate any interest or dividend paid on the financial liability. Fair value is determined in the manner described in Note 35.

b) Derecognition of financial liabilities

The difference between the carrying amount of the financial liability derecognized and the consideration paid, including any non-cash assets transferred or liabilities assumed, is recognized in profit or loss.

4) Derivative financial instruments

The Group enters into foreign exchange forward contracts to manage its exposure to foreign exchange rate risks, including foreign exchange forward contracts.

Derivatives are initially recognized at fair value at the date the derivative contracts are entered into and are subsequently remeasured to their fair value at the end of each reporting period. The resulting gain or loss is recognized in profit or loss immediately unless the derivative is designated and effective as a hedging instrument, in which event the timing of the recognition in profit or loss depends on the nature of the hedge relationship. When the fair value of derivative financial instruments is positive, the derivative is recognized as a financial asset; when the fair value of derivative financial instruments is negative, the derivative is recognized as a financial liability.

Before 2017, derivatives embedded in non-derivative host contracts were treated as separate derivatives when they met the definition of a derivative; their risks and characteristics were not closely related to those of the host contracts; and the contracts were not measured at FVTPL. Starting from 2018, derivatives embedded in hybrid contracts that contain financial asset hosts that is within the scope of IFRS 9 are not separated; instead, the classification is determined in accordance with the entire hybrid contract. Derivatives embedded in non-derivative host contracts that are not financial assets that is within the scope of IFRS 9 (e.g. financial liabilities) are treated as separate derivatives when they meet the definition of a derivative; their risks and characteristics are not closely related to those of the host contracts; and the host contracts are not measured at FVTPL.

l. Provisions

Provisions are measured at the best estimate of the discounted cash flows of the consideration required to settle the present obligation at the end of the reporting period, taking into account the risks and uncertainties surrounding the obligation.

m. Revenue recognition

<u>2018</u>

The Group identifies contracts with customers, allocates the transaction price to the performance obligations and recognizes revenue when performance obligations are satisfied.

For contracts entered into with the same customer (or related parties of the customer) at or near the same time, those contracts are accounted for as a single contract if the goods or services promised in the contracts are a single performance obligation.

1) Revenue from the sale of goods

Revenue from the sale of goods comes from sales of Memory products and wafer fabrication. Sales of Memory products and wafer fabrication are recognized as revenue when the goods are delivered to the customer's specific location because it is the time when the customer has full discretion over the manner of distribution and price to sell the goods, and has the primary responsibility for sales to future customers and bears the risks of obsolescence. Trade receivables are recognized concurrently. For Memory products and wafer fabrication, revenue is recognized when the goods are delivered to the customer's specific location, and the transaction price received is recognized as a contract liability until the goods have been delivered to the customer.

The Group does not recognize revenue on materials delivered to subcontractors because this delivery does not involve a transfer of control.

2) Revenue from the rendering of services

As the Group provides rendering services, the related revenue is recognized when services are rendered. Payment for installation services is not due from the customer until the installation services are complete, and therefore, contract assets are recognized over the period in which the installation services are performed. The contract assets are reclassified to trade receivables when the installation is complete.

<u>2017</u>

Revenue is measured at the fair value of the consideration received or receivable. Revenue is reduced for estimated customer returns, rebates and other similar allowances. Allowance for sales returns and liability for returns are recognized at the time of sale based on the seller's reliable estimate of future returns and based on past experience and other relevant factors.

1) Sale of goods

Revenue from the sale of goods is recognized when all the following conditions are satisfied:

a) The Group has transferred to the buyer the significant risks and rewards of ownership of the goods;

b) The Group retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods sold;

c) The amount of revenue can be measured reliably;

d) It is probable that the economic benefits associated with the transaction will flow to the Group; and

e) The costs incurred or to be incurred in respect of the transaction can be measured reliably.

The Group does not recognize sales revenue on materials delivered to subcontractors because this delivery does not involve a transfer of risks and rewards of materials ownership.

2) Rendering of services

Service income is recognized when services are provided.

Revenue from a contract to provide services is recognized by reference to the stage of completion of the contract. The stage of completion of the contract is determined by the contractual rates as labor hours and direct expenses are incurred.

3) Royalties

Royalty revenue is recognized on an accrual basis in accordance with the substance of the relevant agreement provided that it is probable that the economic benefits will flow to the Group and the amount of revenue can be measured reliably. Royalty arrangements that are based on production, sales and other measures are recognized by reference to the underlying arrangement.

4) Dividend and interest income

Dividend income from investments is recognized when the shareholder's right to receive payment has been established provided that it is probable that the economic benefits will flow to the Group and the amount of income can be measured reliably.

Interest income from a financial asset is recognized when it is probable that the economic benefits will flow to the Group and the amount of income can be measured reliably. Interest income is accrued on a time basis, by reference to the principal outstanding and at the effective interest rate applicable.

n. Leasing

Leases are classified as finance leases whenever the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee. All other leases are classified as operating leases.

1) The Group as lessor

Rental income from operating leases is recognized on a straight-line basis over the term of the relevant lease.

2) The Group as lessee

Operating lease payments are recognized as an expense on a straight-line basis over the lease term.

3) Leasehold land for own use

When a lease includes both land and building elements, the Group assesses the classification of each element separately as a finance or an operating lease separately based on the assessment as to whether substantially all the risks and rewards incidental to ownership of each element have been transferred to the Group. The minimum lease payments are allocated between the land and the building elements in proportion to the relative fair values of the leasehold interests in the land element and building element of the lease at the inception of the lease.

If the allocation of the lease payments can be made reliably, each element is accounted for separately in accordance with its lease classification. When the lease payments cannot be allocated reliably between the land and building elements, the entire lease is generally classified as a finance lease unless it is clear that both elements are operating leases, in which case the entire lease is classified as an operating lease.

o. Borrowing costs

Borrowing costs directly attributable to an acquisition, construction or production of qualifying assets are added to the cost of those assets, until such time as the assets are substantially ready for their intended use or sale.

Other than stated above, all other borrowing costs are recognized in profit or loss in the period in which they are incurred.

p. Employee benefits

1) Short-term employee benefits

Liabilities recognized in respect of short-term employee benefits are measured at the undiscounted amount of the benefits expected to be paid in exchange for the related service.

2) Retirement benefits

Payments to defined contribution retirement benefit plans are recognized as an expense when employees have rendered services entitling them to the contributions.

Defined benefit costs (including service cost, net interest and remeasurement) under defined benefit retirement benefit plans are determined using the projected unit credit method. Service cost (including current service cost) and net interest on the net defined benefit liability are recognized as employee benefit expenses in the period they occur. Remeasurement, comprising actuarial gains and losses, the effect of the changes to the asset ceiling and the return on plan assets (excluding interest), is recognized in other comprehensive income in the period in which they occur. Remeasurement recognized in other comprehensive income is reflected immediately in retain earnings and will not be reclassified to profit or loss.

Net defined benefit liability represents the actual deficit in the Group's defined benefit plan. Any surplus resulting from this calculation is limited to the present value of any refunds from the plans or reductions in future contributions to the plans.

3) Other long-term employee benefits

Other long-term employee benefits are accounted for in the same way as the accounting required for defined benefit plan except that remeasurement is recognized in profit or loss.

4) Termination benefits

A liability for a termination benefit is recognized at the earlier of when the Group can no longer withdraw the offer of the termination benefit and when the Group recognizes any related restructuring costs.

q. Share-based payment arrangements

The fair value at the grant date of the equity-settled share-based payments is expensed on a straight-line basis over the vesting period, based on the Group's best estimates of the number of shares or options that are expected to ultimately vest, with a corresponding increase in capital surplus - employee share options or other equity - employees' unearned compensation. It is recognized as an expense in full at the grant date if vesting immediately.

When restricted shares for employees are issued, other equity - employees' unearned compensation are recognized on the grant date, with a corresponding increase in capital surplus - restricted shares for employees.

At the end of each reporting period, the Group revises its estimate of the number of equity instruments expected to vest. The impact of the revision of the original estimates is recognized in profit or loss such that the cumulative expense reflects the revised estimate, with a corresponding adjustment to the capital surplus - employee share options or capital surplus-restricted share option.

r. Treasury shares

The parent company's shares held by subsidiaries is reclassified to treasury shares from investment accounted for using equity method and recognized with the original investment cost. Cash dividends earned by subsidiaries are write-off with investment income and adjust capital surplus-treasury share transaction.

s. Taxation

Income tax expense represents the sum of the tax currently payable and deferred tax.

1) Current tax

According to the Income Tax Law, an additional tax at 10% of unappropriated earnings is provided for as income tax in the year the shareholders approve to retain the earnings.

Adjustments of prior years' tax liabilities are added to or deducted from the current year's tax provision.

2) Deferred tax

Deferred tax is recognized on temporary differences between the carrying amounts of assets and liabilities and the corresponding tax bases used in the computation of taxable profit.

Deferred tax liabilities are generally recognized for all taxable temporary differences. Deferred tax assets are generally recognized for all deductible temporary differences, unused loss carry forward and unused tax credits for purchases of machinery, equipment and technology, research and development expenditures and personnel training expenditures to the extent that it is probable that taxable profits will be available against which those deductible temporary differences can be utilized.

Deferred tax liabilities are recognized for taxable temporary differences associated with investments in subsidiaries and associates, except where the Group is able to control the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred tax assets arising from deductible temporary differences associated with such investments and interests are only recognized to the extent that it is probable that there will be sufficient taxable profits against which to utilize the benefits of the temporary differences and they are expected to reverse in the foreseeable future.

The carrying amount of deferred tax assets is reviewed at the end of each reporting period and reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow all or part of the asset to be recovered. A previously unrecognized deferred tax asset is also reviewed at the end of each reporting period and recognized to the extent that it has become probable that future taxable profit will allow the deferred tax asset to be recovered.

Deferred tax liabilities and assets are measured at the tax rates that are expected to apply in the year which the liability is settled or the asset realized, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period. The measurement of deferred tax liabilities and assets reflects the tax consequences that would follow from the manner in which the Group expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities.

3) Current and deferred taxes

Current and deferred taxes are recognized in profit or loss, except when they relate to items that are recognized in other comprehensive income or directly in equity, in which case, the current and deferred taxes are also recognized in other comprehensive income or directly in equity, respectively.

5. CRITICAL ACCOUNTING JUDGMENTS AND KEY SOURCES OF ESTIMATION UNCERTAINTY

In the application of the Group's accounting policies, management is required to make judgments, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered relevant. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the year in which the estimate is revised if the revision affects only that period or in the period of the revision and future years if the revision affects both current and future years.

a. Write-down of inventory

The net realizable value of inventory is the estimated selling price in the ordinary course of business less the estimated costs of completion and disposal. The estimation of net realizable value was based on current market conditions and the historical experience with product sales of a similar nature. Changes in market conditions may have a material impact on the estimation of the net realizable value.

b. Income taxes

The realizability of the deferred tax asset mainly depends on whether sufficient future profits or taxable temporary differences will be available. In cases where the actual future profits generated are less than expected, a material reversal of deferred tax assets may arise, which would be recognized in profit or loss for the period in which such a reversal takes place.

6. CASH AND CASH EQUIVALENTS

	December 31	
	2018	2017
Cash on hand	$ 74	$ 188
Checking accounts and demand deposits	8,890,666	6,137,700
Cash equivalents		
Time deposits	4,720,762	2,495,295
	$ 13,611,502	$ 8,633,183

7. FINANCIAL ASSETS AT FAIR VALUE THROUGH OTHER COMPREHENSIVE INCOME - 2018

	December 31, 2018
Non-current	
Investments in equity instruments at FVTOCI	
Domestic investments	
Listed shares	$ 1,002,225
Unlisted shares	295,529
	1,297,754
Foreign investments	
Listed shares	264,804
Unlisted shares	39,383
	$ 1,601,941

These investments in equity instruments are not held for trading. Instead, they are held for medium- to long-term strategic purposes. Accordingly, the management elected to designate these investments in equity instruments as at FVTOCI as they believe that recognizing short-term fluctuations in these investments' fair value in profit or loss would not be consistent with the Group's strategy of holding these investments for long-term purposes. These investments in equity instruments were classified as available-for-sale under IAS 39. Refer to Notes 3, 9 and 10 for information relating to their reclassification and comparative information for 2017.

The Group sold their holdings of ordinary shares in Key ASIC Bhd at a fair value $43,582 thousand in July and August 2018. The related unrealized loss on financial assets at FVTOCI of NT$99,070 thousand under other equity was transferred to retained earnings.

The Group recognized a dividend income of NT$105,698 thousand for the year ended December 31, 2018, which was related to the carrying amount of NT$1,297,754 thousand in investments held as of December 31 2018.

8. FINANCIAL ASSETS MEASURED AT AMORTIZED COST - 2018

	December 31, 2018
Current	
Time deposits with original maturities exceeding 1 year	$ 26,832
Non-current	
Time deposits with original maturities exceeding 1 year	$ 22,360

As of December 31, 2018, the interest rate of time deposits with original maturities exceeding 1 year was 2.73%. The deposits were classified as debt investments with no active market under IAS 39. Refer to Notes 3 and 11 for information relating to their reclassification and comparative information for 2017.

9. AVAILABLE-FOR-SALE FINANCIAL ASSETS - 2017

	December 31, 2017
Non-current	
Domestic investments	
Listed shares	$ 1,411,374
Foreign investments	
Listed shares	641,713
	$ 2,053,087

10. FINANCIAL ASSETS MEASURED AT COST - 2017

	December 31, 2017
Non-current	
Domestic unlisted ordinary shares	$ 58,500
Overseas unlisted ordinary shares	32,141
	$ 90,641
Classified according to financial asset measurement categories	
Available-for-sale financial assets	$ 90,641

Management believed that the fair value of the above unlisted equity investments held by the Group could not be reliably measured because the range of reasonable fair value estimates was so significant. Therefore, the fair values were measured at cost less impairment at the end of the reporting period.

11. DEBT INVESTMENTS WITH NO ACTIVE MARKET - 2017

	December 31, 2017
Non-current	
Time deposits with original maturity exceeding 1 year	$ 27,390

As of December 31, 2017, the interest rate of time deposits with original maturities exceeding 1 year was 2.73%.

12. NOTES RECEIVABLE, TRADE RECEIVABLES AND OTHER RECEIVABLES

	December 31 2018	December 31 2017
Trade receivables		
Total amount of trade receivables measured at amortized cost	$ 3,803,310	$ 4,994,955
Less: Allowance for impairment loss	(16,812)	(16,812)
	$ 3,786,498	$ 4,978,143
Other receivables		
Tax receivable	$ 107,305	$ 123,558
Others	62,611	8,446
	$ 169,916	$ 132,004

a. Trade receivables

2018

The average credit period for sales of goods was 60 days.

In determining the recoverability of a trade receivable, the Group evaluates each customer's credibility and financial position and considers any change in the credit quality of the trade receivable since the date credit was initially granted to the end of the reporting period.

The Group applies the simplified approach to provisions for expected credit losses prescribed by IFRS 9, which permits the use of a lifetime expected credit loss provision for all trade receivables. The expected credit losses on trade receivables are estimated using a provision matrix by reference to past default experience with the respective debtors and an analysis of the debtors' current financial positions, adjusted for factors that are specific to the debtors, general economic conditions of the industry in which the debtors operate and an assessment of both the current as well as the forecasted direction of the conditions at the reporting date. The Group estimates expected credit losses based on the number of days for which receivables are past due. As the Group's historical credit loss experience shows significantly different loss patterns for different customer segments, the provision for losses based on past due status of receivables is not further distinguished according to the different segments of the Group's customer base.

The Group writes off a trade receivable when there is information indicating that the debtor is experiencing severe financial difficulty and there is no realistic prospect of recovery of the receivable. For trade receivables that have been written off, the Group continues to engage in enforcement activity to attempt to recover the receivables which are due. Where recoveries are made, they are recognized in profit or loss.

The aging of trade receivables is as follows:

	December 31, 2018
Neither past due nor impaired	$ 3,495,246
Past due but not impaired	
Within 60 days	278,639
61-120 days	137
Over 120 days	12,476
	$ 3,786,498

The above aging schedule was based on the past due days from the end of the credit term.

As of December 31, 2018, the Group did not hold collateral for most of its receivables.

The movements of the allowance for doubtful trade receivables are as follows:

	December 31, 2018
Balance at December 31, 2018	$ 16,812

2017

The average credit period for sales of goods was 60 days. In determining the recoverability of a trade receivable, the Group evaluates each customer's credibility and financial position and considers any change in the credit quality of the trade receivable since the date credit was initially granted to the end of the reporting period.

Before trading with any new customer, the Group assesses the potential customer's credit quality and defines credit limits based on an internal credit scoring system.

For the trade receivables balances that were past due at the end of the reporting period, the Group had not recognized an allowance for impairment loss, because there was not a significant change in credit quality and the amounts were still considered recoverable.

The aging of notes receivable and trade receivables was as follows:

	December 31, 2017
Neither past due nor impaired	$ 4,836,700
Past due but not impaired	
Within 60 days	134,372
61-120 days	5,343
Over 120 days	1,728
	$ 4,978,143

The above aging schedule was based on the past due days from the end of the credit term.

The movements of the allowance for doubtful trade receivables was as follows:

	Individually Assessed for Impairment	Assembly Assessed for Impairment	Total
Balance at January 1, 2017	$ 17,460	$ -	$ 17,460
Add: Impairment losses recognized on receivables	53	-	53
Less: Amounts written off during the year as uncollectable	(53)	-	(53)
Less: Impairment losses reversed	(648)	-	(648)
Balance at December 31, 2017	$ 16,812	$ -	$ 16,812

The Group recognized impairment loss on trade receivables amounting to NT$16,812 thousand as of December 31, 2017. This amount mainly related to customers that were experiencing severe financial difficulties. The Group did not hold any collateral over these balances.

b. Other receivables

No allowance for impairment loss of other receivables was recognized since the other receivables of the Group were not past due and the Group assessed that there was no uncertainty of recoverability.

13. INVENTORIES

	December 31	
	2018	2017
Finished goods and merchandise	$ 1,368,130	$ 923,904
Work in progress	15,664,313	8,361,909
Raw materials	916,791	586,357
	$ 17,949,234	$ 9,872,170

The reversal of inventory write-downs resulting from the increase in net realizable value was included in the cost of goods sold as below.

	December 31	
	2018	2017
Inventory write-downs recognized (reversed)	$ 1,589,462	$ (528,612)

14. SUBSIDIARIES

Subsidiaries included in the consolidated financial statements

As of December 31, 2018, the Company has direct and indirect majority ownership over the following subsidiaries: Run Hong Investment, Ltd. (Run Hong), Hui Ying Investment, Ltd. (Hui Ying), Mxtran Inc. (Mxtran), Macronix America Inc. (MXA), Macronix (BVI) Co., Ltd. (MXBVI), Mxtran Holding (Samoa) Co., Ltd. (Mxtran Samoa), Mxtran (H.K.) Holding Co., Limited (Mxtran HK), New Trend Technology Inc. (NTTI), Macronix (Asia) Limited (MX Asia), Macronix Pte. Ltd. (MPL), Macronix Europe NV. (MXE), Macronix (Hong Kong) Co., Limited (MXHK) and Macronix Microelectronics (Suzhou) Co., Ltd. (MXm).

			% of Ownership	
			December 31	
Investor	**Investee**	**Nature of Activities**	**2018**	**2017**
The Company	Run Hong	Investment company	100.00	100.00
The Company	Hui Ying	Investment company	100.00	100.00
The Company and Run Hong	Mxtran	Combi-SIM IC and the related service	94.84	94.84
The Company	MXA	Sales and marketing	100.00	100.00
The Company	MXBVI	Investment holding company	100.00	100.00
Mxtran	Mxtran Samoa	Investment holding company	100.00	100.00
Mxtran Samoa	Mxtran HK	Investment holding company	100.00	100.00
MXBVI	NTTI	IC design	100.00	100.00
MXBVI	MX Asia	Investment holding company	100.00	100.00
MXBVI	MPL	After-sales service	100.00	100.00
MXBVI	MXE	After-sales service	100.00	100.00
MXBVI	MXHK	Sales and marketing	100.00	100.00
MXHK	MXm	Development of integrated circuit system and software	100.00	100.00

15. PROPERTY, PLANT AND EQUIPMENT

	Years Ended December 31, 2018					
	Balance, Beginning of Year	**Additions**	**Disposals**	**Net Exchange Differences**	**Reclassification**	**Balance, End of Year**
Cost						
Freehold land	$ 1,252,911	$ -	$ -	$ 21,013	$ -	$ 1,273,924
Buildings	24,472,226	-	3,162	(4,603)	424,311	24,888,772
Machinery equipment	85,198,564	-	454,143	-	2,492,403	87,236,824
Research and development equipment	3,229,384	4,137	40	(624)	611,653	3,844,510
Transportation equipment	23,224	2,020	8,294	(47)	7,080	23,983
Leasehold improvements	40,132	-	-	25	-	40,157
Miscellaneous equipment	1,157,900	7,101	8,259	(223)	42,405	1,198,924
Advance payments and construction in progress	2,587,750	5,125,344	-	15	(3,577,852)	4,135,257
	117,962,091	$ 5,138,602	$ 473,898	$ 15,556	$ -	122,642,351
Accumulated depreciation and impairment						
Freehold land	369,767	$ -	$ -	$ 11,865	$ -	381,632
Buildings	19,837,641	376,192	3,162	(1,221)	-	20,209,450
Machinery equipment	78,465,322	1,489,345	454,142	-	75,533	79,576,058
Research and development equipment	1,872,724	192,851	40	(503)	(75,533)	1,989,499
Transportation equipment	21,575	1,589	7,362	36	-	15,838
Leasehold improvements	37,191	1,218	-	(7)	-	38,402
Miscellaneous equipment	1,099,249	31,853	8,113	(192)	-	1,122,797
	101,703,469	$ 2,093,048	$ 472,819	$ 9,978	$ -	103,333,676
Carrying amount at December 31, 2018	$ 16,258,622					$ 19,308,675

	Years Ended December 31, 2017						
	Balance, Beginning of Year	Additions	Disposals	Net Exchange Differences	Individual Group Entity Effects	Reclassification	Balance, End of Year
Cost							
Freehold land	$ 1,307,700	$ -	$ -	$ (54,789)	$ -	$ -	$ 1,252,911
Buildings	24,387,886	-	1,215	(2,574)	-	88,129	24,472,226
Machinery equipment	82,761,938	-	510,111	-	-	2,946,737	85,198,564
Research and development equipment	5,971,627	4,312	188,559	(285)	(6,888)	(2,550,823)	3,229,384
Transportation equipment	24,990	-	2,650	(16)	-	900	23,224
Leasehold improvements	41,540	-	478	(930)	-	-	40,132
Miscellaneous equipment	1,148,741	5,433	34,506	(2,130)	(2,000)	42,362	1,157,900
Advance payments and construction in progress	385,626	2,729,454	-	(25)	-	(527,305)	2,587,750
	116,030,048	$ 2,739,199	$ 737,519	$ (60,749)	$ (8,888)	$ -	117,962,091
Accumulated depreciation and impairment							
Freehold land	400,705	$ -	$ -	$ (30,938)	$ -	$ -	369,767
Buildings	19,477,378	361,921	1,214	(444)	-	-	19,837,641
Machinery equipment	75,819,885	1,377,584	509,457	-	-	1,777,310	78,465,322
Research and development equipment	3,665,960	171,397	180,988	(255)	(6,080)	(1,777,310)	1,872,724
Transportation equipment	23,119	1,121	2,650	(15)	-	-	21,575
Leasehold improvements	34,366	4,105	478	(802)	-	-	37,191
Miscellaneous equipment	1,108,176	27,986	33,128	(1,972)	(1,813)	-	1,099,249
	100,529,589	$ 1,944,114	$ 727,915	$ (34,426)	$ (7,893)	$ -	101,703,469
Carrying amount at December 31, 2017	$ 15,500,459						$ 16,258,622

For the year ended December 31, 2018 and 2017, no indication of an impairment loss was present and no impairment assessment was performed.

The carrying amount of the freehold land in the United States which was unutilized by the Group as of December 31, 2018 and 2017 was US$9,579 thousand, respectively.

The above items of property, plant and equipment are depreciated on a straight-line basis over their estimated useful lives as follows:

Buildings	
Main buildings	31-40 years
Electronic equipment	11-20 years
Facility equipment	15 years
Landscape engineering	20 years
Machinery equipment	11 years
Research and development equipment	5-11 years
Transportation equipment	5 years
Leasehold improvements	6-16 years
Miscellaneous equipment	2-16 years

Property, plant and equipment pledged as collateral for bank borrowings are set out in Note 37.

16. INTANGIBLE ASSETS

	Years Ended December 31, 2018					
	Balance, Beginning of Year	Additions	Disposals	Net Exchange Differences	Impairment Loss	Balance, End of Year
Cost						
Software	$ 89,003	$ 26,768	$ 28,698	$ (199)	$ -	$ 86,874
Licenses	4,743	-	4,743	-	-	-
Others	24,722	-	11,722	-	-	13,000
	118,468	$ 26,768	$ 45,163	$ (199)	$ -	99,874
Accumulated amortization and impairment						
Software	52,945	$ 22,989	$ 28,698	$ (168)	$ -	47,068
Licenses	4,743	-	4,743	-	-	-
Others	14,972	4,333	11,722	-	-	7,583
	72,660	$ 27,322	$ 45,163	$ (168)	$ -	54,651
Carrying amounts at December 31, 2018	$ 45,808					$ 45,223

	Years Ended December 31, 2017					
	Balance, Beginning of Year	Additions	Disposals	Net Exchange Differences	Impairment Loss	Balance, End of Year
Cost						
Software	$ 166,776	$ 37,373	$ 115,006	$ (140)	$ -	$ 89,003
Licenses	10,739	-	5,994	-	-	4,745
Others	15,820	13,000	4,100	-	-	24,720
	193,335	$ 50,373	$ 125,100	$ (140)	$ -	118,468
Accumulated amortization and impairment						
Software	142,034	$ 24,729	$ 115,006	$ (143)	$ 1,331	52,945
Licenses	5,904	167	1,328	-	-	4,743
Others	15,573	3,345	4,100	-	154	14,972
	163,511	$ 28,241	$ 120,434	$ (143)	$ 1,485	72,660
Carrying amounts at December 31, 2017	$ 29,824					$ 45,808

Intangible assets are amortized on a straight-line basis over their estimated useful lives as follows:

Software	3-6 years
Licenses	1 years
Others	3 years

17. PREPAYMENTS FOR LEASES

	December 31	
	2018	2017
Current assets (included in other current assets)	$ 506	$ 516
Non-current assets (included in other non-current assets)	18,721	19,626
	$ 19,227	$ 20,142

Prepaid lease payments include payments for land use rights for land located in mainland China. The Group has obtained the land use right certificates.

18. OTHER FINANCIAL ASSETS

	December 31	
	2018	**2017**
Non-current		
Restricted time deposits (Note 37)	$ 157,665	$ 134,231
Refundable deposits (Note 35)	14,167	11,934
Long-term receivables	18,678	22,340
	$ 190,510	$ 168,505

19. OTHER ASSETS

	December 31	
	2018	**2017**
Current		
Prepayments	$ 435,237	$ 180,825
Offset against business tax payable	2,537	2,827
Prepayments for leases	506	516
	$ 438,280	$ 184,168
Non-current		
Prepayments for leases	$ 18,721	$ 19,626

20. BORROWINGS

Long-term borrowings

	December 31	
	2018	**2017**
Secured borrowings		
Loans from financial institutions	$ 7,354,650	$ 6,638,754
Unsecured borrowings		
Loans from financial institutions	1,887,500	1,430,000
	9,242,150	8,068,754
Less: Current portion	3,334,772	3,178,666
Less: Arrangement fees	22,060	30,359
Long-term borrowings	$ 5,885,318	$ 4,859,729
Interest rate	1.23%-1.97%	1.48%-2.21%

Borrowing Type	Repayment Terms	December 31 2018	December 31 2017
Secured syndicated loan denominated in NT$	From December 2017 to December 2022.	$ 6,100,000	$ 5,300,000
Secured bank borrowing denominated in NT$	From September 2017 to September 2022.	468,750	500,000
Unsecured bank borrowing denominated in NT$	From August 2017 to February 2019.	87,500	350,000
Secured bank borrowing denominated in NT$	From January 2015 to January 2020.	78,719	141,694
Secured bank borrowing denominated in JPY	From March 2014 to March 2019.	7,181	34,098
Unsecured bank borrowings denominated in NT$	From September 2018 to December 2019	800,000	-
Secured bank borrowings denominated in NT$	From September 2018 to September 2021	700,000	-
Unsecured bank borrowings denominated in NT$	From September 2018 to September 2020	400,000	-
Unsecured bank borrowings denominated in NT$	From September 2018 to September 2021	300,000	-
Unsecured bank borrowings denominated in NT$	From September 2018 to September 2020	300,000	-
Unsecured bank borrowing denominated in NT$	Pay off in January 2018.	-	210,000
Secured bank borrowing denominated in NT$	Pay off in February 2018.	-	6,000
Unsecured bank borrowing denominated in NT$	Pay off in April 2018.	-	70,000
Unsecured bank borrowing denominated in NT$	Pay off in August 2018.	-	800,000
Secured bank borrowing denominated in NT$	Pay off in September 2018.	-	290,000
Secured bank borrowing denominated in NT$	Pay off in October 2018.	-	200,000
Secured bank borrowing denominated in NT$	Pay off in December 2018.	-	166,962
Less: Current portion		3,334,772	3,178,666
Less: Arrangement fee		22,060	30,359
Total long-term borrowings		$ 5,885,318	$ 4,859,729

To repay the vested liabilities, to purchase equipment or machinery and increase operating funds, the Group signed a 5-year syndicated loan agreement with 7 financial institutions in November 2017 with a total amount of NT$7.7 billion.

The Group had provided notes as refundable guarantees for syndicated loan mentioned above that will be cancelled upon termination of the guarantee.

In addition, the Group's floating borrowing rate on the above borrowing is reset every one to three months.

The loan agreement requires the maintenance of a current ratio, debt ratio, and interest coverage ratio based on the Group's semi-annual and annual consolidated financial statements. For the year ended December 31, 2018, the Group had met the financial ratio covenants.

The details of assets pledged as collateral for long-term loans are set in Note 37.

21. NOTES PAYABLE AND TRADE PAYABLES

	December 31	
	2018	2017
Notes payable	$ -	$ 826
Trade payables	2,613,758	2,786,705
	$ 2,613,758	$ 2,787,531

The Group has financial risk management policies in place to ensure that all payables are paid within the pre-agreed upon credit terms.

22. OTHER PAYABLES

	December 31	
	2018	2017
Payables for bonuses	$ 256,201	$ 253,777
Payables for patents	214,709	180,449
Payables for maintenance and repairs	207,623	181,744
Others	767,562	853,294
	$ 1,446,095	$ 1,469,264

23. OTHER LIABILITIES

	December 31	
	2018	2017
Current		
Refund liabilities (Note 27)	$ 306,291	$ -
Receipts under custody	34,582	38,361
Others	1,756	55,085
	$ 342,629	$ 93,446
Non-current		
Guarantee deposits	$ 10,091	$ 6,715
Others	9	801
	$ 10,100	$ 7,516

24. PROVISIONS

	December 31	
	2018	2017
Current		
Employee benefits (a)	$ 28,517	$ 60,185
Customer returns and rebates (b) (c)	-	250,842
	$ 28,517	$ 311,027

	Employee Benefits	Customer Returns and Rebates	Total
Balance at January 1, 2018	$ 60,185	$ 250,842	$ 311,027
Effect of retrospective application of IFRS 15	-	(250,842)	(250,842)
Additional provisions recognized	28,414	-	28,414
Reversing un-usage balances/usage	(60,181)	-	(60,181)
Net exchange differences	99	-	99
Balance at December 31, 2018	$ 28,517	$ -	$ 28,517

a. The provision for employee benefits represents vested long service leave entitlements accrued.

b. For contracts with customers in 2017 that begin, the provision for customer returns and rebates was based on historical experience, management’s judgment and other known reasons for estimated product returns and rebates that may occur in the year. The provision was recognized as a reduction of operating income in the year in which the related goods were sold.

c. Starting from 2018, the Group recognizes the estimation of sales returns and allowances as a refund liability upon initial application of IFRS 15. As of December 31, 2018, the refund liability in the amount of NT$306,291 is classified under other current liabilities.

25. RETIREMENT BENEFIT PLANS

a. Defined contribution plans

The Company and the subsidiary Mxtran adopted a pension plan under the Labor Pension Act (LPA), which is a state-managed defined contribution plan. Under on the LPA, the Group makes monthly contributions to employees’ individual pension accounts at 6% of monthly salaries and wages.

The Group’s subsidiaries in Hong Kong, the USA, Europe, Japan, Korea, Singapore and China are required to contribute a specified percentage of payroll costs to the retirement benefit scheme to fund the benefits. The only obligation of the Group with respect to the retirement benefit plan is to make the specified contributions.

b. Defined benefit plans

The defined benefit plan adopted by the Company in accordance with the Labor Standards Law is operated by the government. Pension benefits are calculated on the basis of the length of service and average monthly salaries of the 6 months before retirement. The Company contributes amounts equal to 2% of total monthly salaries and wages to a pension fund administered by the pension fund monitoring committee. Pension contributions are deposited in the Bank of Taiwan in the committee's name. Before the end of each year, the Group assesses the balance in the pension fund. If the amount of the balance in the pension fund is inadequate to pay retirement benefits for employees who conform to retirement requirements in the next year, the Group is required to fund the difference in one appropriation that should be made before the end of March of the next year. The pension fund is managed by the Bureau of Labor Funds, Ministry of Labor (the "Bureau"); the Group has no right to influence the investment policy and strategy.

The amounts in the consolidated balance sheets in respect of the Group's defined benefit plans were as follows:

	December 31	
	2018	**2017**
Present value of defined benefit obligation	$ 1,890,484	$ 1,842,116
Fair value of plan assets	(710,318)	(665,599)
Net defined benefit liability	$ 1,180,166	$ 1,176,517

Movements in net defined benefit liability were as follows:

	Present Value of Defined Benefit Obligation	**Fair Value of the Plan Assets**	**Net Defined Benefit Liabilities (Assets)**
Balance at January 1, 2017	$ 1,881,728	$ 757,286	$ 1,124,442
Defined benefit cost			
Current service cost	6,168	-	6,168
Net interest expense	27,942	-	27,942
Return on plan assets	-	11,308	(11,308)
Recognized in profit or loss	34,110	11,308	22,802
Remeasurement			
Return on plan assets	-	(4,189)	4,189
Actuarial loss - experience adjustments	63,292	-	63,292
Actuarial loss - change in financial assumptions	-	-	-
Recognized in other comprehensive income	63,292	(4,189)	67,481
Contributions from the employer	-	31,304	(31,304)
Benefits paid	(137,014)	(130,110)	(6,904)
Balance at December 31, 2017	1,842,116	665,599	1,176,517

(Continued)

	Present Value of Defined Benefit Obligation	Fair Value of the Plan Assets	Net Defined Benefit Liabilities (Assets)
Defined benefit cost			
Current service cost	$ 5,875	$ -	$ 5,875
Net interest expense	27,316	-	27,316
Return on plan assets	-	9,910	(9,910)
Recognized in profit or loss	33,191	9,910	23,281
Remeasurement			
Return on plan assets	-	17,836	(17,836)
Actuarial loss - experience adjustments	17,672	-	17,672
Actuarial loss - change in financial assumptions	52,580	-	52,580
Recognized in other comprehensive income	70,252	17,836	52,416
Contributions from the employer	-	72,048	(72,048)
Benefits paid	(55,075)	(55,075)	-
Balance at December 31, 2018	$ 1,890,484	$ 710,318	$ 1,180,166

(Concluded)

An analysis by function of the amounts recognized in profit or loss in respect of the defined benefit plans is as follows:

	For the Year Ended December 31	
	2018	2017
Operating costs	$ 12,600	$ 12,406
Selling and marketing expenses	1,260	1,203
General and administration expenses	4,283	4,075
Research and development expenses	5,138	5,103
	$ 23,281	$ 22,787

Through the defined benefit plans under the Labor Standards Law, the Group is exposed to the following risks:

1) Investment risk: The plan assets are invested in domestic/ and foreign/ equity and debt securities, bank deposits, etc. The investment is conducted at the discretion of the Bureau or under the mandated management. However, in accordance with relevant regulations, the return generated by plan assets should not be below the interest rate for a 2-year time deposit with local banks.

2) Interest risk: A decrease in the government/corporate bond interest rate will increase the present value of the defined benefit obligation; however, this will be partially offset by an increase in the return on the plan’s debt investments.

3) Salary risk: The present value of the defined benefit obligation is calculated by reference to the future salaries of plan participants. As such, an increase in the salary of the plan participants will increase the present value of the defined benefit obligation.

The actuarial valuations of the present value of the defined benefit obligation were carried out by qualified actuaries. The significant assumptions used for the purposes of the actuarial valuations were as follows:

	December 31	
	2018	2017
Discount rate	1.25%	1.50%
Expected rate of salary increase	3.00%	3.00%
Expected return on plan assets increase	1.25%	1.50%

If possible reasonable change in each of the significant actuarial assumptions will occur and all other assumptions will remain constant, the present value of the defined benefit obligation would increase (decrease) as follows:

	For the Year Ended December 31	
	2018	2017
Discount rate		
0.50% increase	$ (105,932)	$ (107,722)
0.50% decrease	$ 114,591	$ 116,885
Expected rate of salary increase		
0.50% increase	$ 121,893	$ 114,570
0.50% decrease	$ (113,520)	$ (106,740)

The sensitivity analysis presented above may not be representative of the actual change in the present value of the defined benefit obligation as it is unlikely that the change in assumptions would occur in isolation of one another as some of the assumptions may be correlated.

	December 31	
	2018	2017
The expected contributions to the plan for the next year	$ 31,032	$ 32,243
The average duration of the defined benefit obligation	11.7 years	12.3 years

The Group maintains a separate executive pension plan and the net periodic pension costs were NT$9,173 thousand and NT$11,396 thousand for the years ended December 31, 2018 and 2017, respectively.

Movements in net defined benefit liability were as follows:

	Present Value of Defined Benefit Obligation
Balance at January 1, 2017	$ 407,634
Defined benefit cost	
Current service cost	6,683
Net interest expense	4,713
Recognized in profit or loss	11,396

(Continued)

	Present Value of Defined Benefit Obligation
Remeasurement	
Actuarial loss - experience adjustments	$ 23,706
Actuarial loss - changes in financial assumptions	-
Recognized in other comprehensive income	23,706
Benefits paid	(9,455)
Balance at December 31, 2017	433,281
Defined benefit cost	
Current service cost	2,745
Net interest expense	6,428
Recognized in profit or loss	9,173
Remeasurement	
Actuarial loss - experience adjustments	21,240
Actuarial loss - changes in financial assumptions	5,748
Recognized in other comprehensive income	26,988
Benefits paid	(9,455)
Balance at December 31, 2018	$ 459,987

(Concluded)

An analysis by function of the amounts recognized in profit or loss in respect of the defined benefit plans is as follows:

	For the Year Ended December 31	
	2018	2017
General and administration expenses	$ 9,173	$ 11,396

The actuarial valuations of the present value of the defined benefit obligation of executive pension plan were carried out by qualified actuaries. The significant assumptions used for the purposes of the actuarial valuations were as follows:

	December 31	
	2018	2017
Discount rate	1.25%	1.50%
Expected rate of salary increase	-	-
Expected return on plan assets increase	1.25%	1.50%

26. EQUITY

a. Share capital

Ordinary shares

	December 31	
	2018	2017
Number of shares authorized (in thousands)	6,550,000	6,550,000
Shares authorized	$ 65,500,000	$ 65,500,000
Number of shares issued and fully paid (in thousands)	1,840,292	1,804,939
Shares issued	$ 18,402,919	$ 18,049,385

Fully paid ordinary shares, which have a par value of $10, carry one vote per share and carry a right to dividends.

The Company resolved, in the May 26, 2017 shareholder's meeting, a capital reduction for offsetting the accumulated deficit to improve the Company's financial structure. The capital reduction will amount to NT$18,651,070 thousand, representing 1,865,107 thousand shares and approximately 51% of the Company's original share capital. The reduction was approved by the FSC on June 26, 2017 and went into effect upon approval. Per the authority granted in the shareholders' meeting, the chairman of the Company determined June 29, 2017 as the basis date of the capital reduction. After the reduction, the paid-in capital would be NT$18,058,953 thousand, equivalent to 1,805,895 thousand shares.

A total of 864,704 thousand shares and 650,000 thousand shares of the Company's authorized shares were reserved for the issuance of convertible bonds and employee share options.

b. Capital surplus

	December 31	
	2018	2017
May be used to offset a deficit, distributed as cash dividends, or transferred to share capital (1)		
Issuance of ordinary shares	$ -	$ -
Donations	37	37
Treasury share transactions	6,422	6,422
	$ 6,459	$ 6,459
May be used to offset a deficit only		
Changes in percentage of ownership interests in subsidiaries (2)	$ 4,609	$ 4,609
Treasury share transactions	21,999	20,080
	$ 26,608	$ 24,689
May not be used for any purpose		
Employee restricted shares	$ (89,308)	$ (238,236)

1) Such capital surplus may be used to offset a deficit; in addition, when the Company has no deficit, such capital surplus may be distributed as cash dividends or transferred to share capital (limited to a certain percentage of the Company's paid-in capital and once a year).

2) Such capital surplus arises from changes in capital surplus of subsidiaries accounted for by using the equity method.

c. Retained earnings and dividend policy

The Company's Articles of Incorporation, in May 26, 2017, state that, where the Company made profit in a fiscal year, the profit shall be first utilized for paying taxes, offsetting losses of previous years, setting aside a legal reserve 10% of the remaining profit (until the amount of the legal reserve equals the amount of the Company's paid-in capital), setting aside or reversing a special reserve in accordance with the laws and regulations, and then any remaining profit together with any undistributed retained earnings shall be used by the Company's board of directors as the basis for proposing a distribution plan, which should be resolved in the shareholders' meeting for the distribution of dividends and bonuses to shareholders. The Company state the policies on the distribution of employees' compensation and remuneration of directors state by the Company's Articles of Incorporation refer to "Employees' compensation and remuneration of directors" in Note 28 (f).

The Company is classified under the capital intensive industry. In accordance with the long-term financial program of the Company, the above shareholders' dividends can be retained as undistributed earnings, and then be distributed in the future, as determined by the shareholders at the Annual General Meeting.

Distributions shall be prioritized to take the form of cash dividends. Nevertheless, it still depends on the Company's financial, sales or operating condition. The Company's Articles of Incorporation provide that no more than 50% of the current year's total amount of distributable earnings can be distributed in the form of share dividends.

The appropriation of earnings to a legal reserve shall be made until the legal reserve equals the Company's paid-in capital. The legal reserve may be used to offset any deficit. If the Company has no deficit and the legal reserve has exceeded 25% of the Company's paid-in capital, the excess may be transferred to capital or distributed in cash.

Items referred under Rule No. 1010047490 issued by the FSC and in the directive titled "Questions and Answers for Special Reserves Appropriated Following Adoption of IFRSs" should be appropriated to or reversed from a special reserve by the Company.

The appropriation of earnings for 2017 is subject to the resolution of the shareholders' meeting to be held on June 14, 2018. The appropriation and dividends per share were as follows:

	Appropriation of Earnings	Dividends Per Share (NT$)
Legal reserve	$ 541,360	
Special reserve	74,275	
Cash dividends	1,804,776	$ 1.0
Share dividends	360,955	0.2

The appropriation of earnings for 2018 is subject to the resolution of the shareholders' meeting to be held on March 12, 2019. The appropriation and dividends per share were as follows:

	Appropriation of Earnings	Dividends Per Share (NT$)
Legal reserve	$ 899,301	
Special reserve	932,777	
Cash dividends	2,208,200	$ 1.2

The appropriation of earnings for 2018 are subject to the resolution of the shareholders' meeting to be held on June 18, 2019.

d. Special reserve

	For the Year Ended December 31, 2018
Beginning at January 1	$ -
Appropriations in respect of Treasury shares	74,275
Balance at December 31	$ 74,275

e. Other equity items

1) Exchange differences on translating foreign operations

	For the Year Ended December 31	
	2018	2017
Balance at January 1	$ (85,183)	$ (8,565)
Effect of retrospective application of IFRS 9	(146,758)	-
Exchange differences on translating foreign operations	94,809	(76,618)
Balance at December 31	$ (137,132)	$ (85,183)

2) Unrealized gain on available-for-sale financial assets

	Amount
Balance at January 1, 2017	$ 956,774
Unrealized gain on available-for-sale financial assets	774,460
Balance at December 31, 2017	$ 1,731,234
Balance at January 1, 2018 (IAS 39)	$ 1,731,234
Effect of retrospective application of IFRS 9	(1,731,234)
Balance at January 1, 2018 (IFRS 9)	$ -

3) Unrealized gain (loss) on financial assets at FVTOCI

	For the Year Ended December 31, 2018
Balance at January 1 (IAS 39)	$ -
Effect of retrospective application of IFRS 9	112,903
Balance at January 1 (IFRS 9)	112,903
Unrealized loss on financial assets at FVTOCI	(958,735)
Other comprehensive income recognized in the period	(845,832)
Cumulative unrealized gain on the disposal of equity instruments transferred to retained earnings	99,070
Balance at December 31	$ (746,762)

4) Employees' unearned compensation

In the meetings of shareholders on June 18, 2014 and June 16, 2016, the shareholders approved a restricted share plan for employees. Refer to Note 31 for the information on restricted shares issued.

	For the Year Ended December 31	
	2018	**2017**
Balance at January 1	$ (85,600)	$ (306,958)
Issuance of shares	-	-
Share-based payment expenses recognized	63,583	213,100
Adjustments for change of turnover rate	2,039	8,258
Balance at December 31	$ (19,978)	$ (85,600)

f. Non-controlling interests

	For the Year Ended December 31	
	2018	**2017**
Balance at January 1	$ 685	$ 1,686
Share of loss for the year	(157)	(538)
Other comprehensive income (loss) for the year		
Exchange difference on translating the financial statement of foreign entities	-	(6)
Non-controlling interest relating to outstanding vested share options held by the employees of subsidiaries	(194)	-
Disposal of subsidiaries	-	(457)
Balance at December 31	$ 334	$ 685

g. Treasury shares

The Company's shares held by its subsidiaries at December 31, 2018 and 2017 were as follows:

Name of Subsidiary	**Number of Shares Held (In Thousands)**	**Carrying Amount**	**Market Price**
December 31, 2018			
Hui Ying	1,957	$ 159,061	$ 35,904
December 31, 2017			
Hui Ying	1,918	$ 159,061	$ 84,786

The Company's shares held by subsidiaries are regarded as treasury shares; shareholder's rights are retained, except for the rights to participate in any share issuances for cash and to vote.

The Company implemented a capital reduction on June 29, 2017, with 1,918 thousand treasury shares remaining after the reduction; refer to Note 26 (a).

27. REVENUE

a. Segmentation of revenue from contracts with customers

	For the Year Ended December 31	
	2018	2017
Product type		
Flash	$ 23,326,091	$ 23,315,458
ROM	11,166,453	8,416,942
Foundry	2,445,263	2,432,297
Others	15,225	32,219
	$ 36,953,032	$ 34,196,916

b. Contract balances

	For the Year Ended December 31, 2018
Contract liabilities (classified as current liabilities)	$ 14,913

The changes in the contract liability balances primarily result from the timing difference between the satisfaction of the performance obligations and the customer's payment.

The Group recognized revenue from the beginning balance of contract liabilities as follows:

	For the Year Ended December 31, 2017
From the beginning balance of contract liabilities	
Sale of goods	$ 52,337

28. NET PROFIT (LOSS) FROM CONTINUING OPERATIONS

a. Other income

	For the Year Ended December 31	
	2018	2017
Dividend income	$ 105,698	$ 86,724
Interest income	45,991	25,547
Intellectual property income	2,473,600	-
Others	36,262	31,244
	$ 2,661,551	$ 143,515

b. Other gains and losses

	For the Year Ended December 31	
	2018	2017
Net foreign exchange gains (losses)	$ 245,559	$ (121,898)
Gains (losses) on disposal of investments	180	(2,517)
Impairment losses	-	(1,485)
Others	(8,888)	(18,742)
	$ 236,851	$ (144,642)

c. Finance costs

	For the Year Ended December 31	
	2018	2017
Interest on loans	$ 159,779	$ 215,690
Other interest expenses	1,223	18
Less: Amounts included in the cost of qualifying assets	(17,649)	(106)
	$ 143,353	$ 215,602

Information about capitalized interest was as follows:

	For the Year Ended December 31	
	2018	2017
Capitalized interest	$ 17,649	$ 106
Capitalization rate	1.45%	0.90%

d. Depreciation and amortization

	For the Year Ended December 31	
	2018	2017
An analysis of depreciation by function		
Operating costs	$ 1,769,580	$ 1,610,991
Operating expenses	323,468	333,123
	$ 2,093,048	$ 1,944,114
An analysis of amortization by function		
Operating costs	$ 9,226	$ 14,616
Operating expenses	18,096	13,625
	$ 27,322	$ 28,241

e. Employee benefits expense

	For the Year Ended December 31	
	2018	**2017**
Post-employment benefits (Note 25)		
Defined contribution plans	$ 252,800	$ 244,551
Defined benefit plans	32,454	34,182
	285,254	278,733
Share-based payments		
Equity-settled	63,583	213,100
Other employee benefits	7,359,029	6,750,582
Total employee benefits expense	$ 7,707,866	$ 7,242,415
An analysis of employee benefits expense by function		
Operating costs	$ 3,572,337	$ 3,339,106
Operating expenses	4,135,529	3,903,309
	$ 7,707,866	$ 7,242,415

f. Employees' compensation and remuneration of directors

In compliance with the Articles of Incorporation on May 26, 2017, the Company accrued employees' compensation and remuneration of directors at the rates of 15% and no higher than 2%, respectively, of net profit before income tax, employees' compensation, and remuneration of directors. For the years ended December 31, 2018 and 2017, the employees' estimated compensation and the remuneration of directors and supervisors for having been resolved by the board of directors on March 12, 2019 and March 16, 2018, respectively, were as follows:

Amount

	For the Year Ended December 31	
	2018	**2017**
Employees' compensation	$ 1,669,586	$ 997,202
Remuneration of directors	$ 222,611	$ 132,960

If there is a change in the amounts after the annual consolidated financial statements were authorized for issue, the differences are recorded as a change in the accounting estimate.

It was accumulated deficit in the years ended December 31, 2016, consequently, there is no amount of employees' compensation and remuneration of directors to be distributed.

There is no difference between the actual amount of employees' compensation and remuneration of directors paid and the amount recognized in the consolidated financial statements for the years ended December 31, 2018 and 2017.

Information on the employees' compensation and remuneration of directors resolved by the Company's board of directors in 2019 and 2018 is available at the Market Observation Post System website of the Taiwan Stock Exchange.

29. INCOME TAXES RELATING TO CONTINUING OPERATIONS

a. Major components of income tax expense (benefit) recognized in profit or loss

	For the Year Ended December 31	
	2018	2017
Current tax		
In respect of the current year	$ 26,359	$ 19,976
Income tax on unappropriated earnings	184,257	-
Overseas income tax	247,360	-
Deferred tax		
In respect of the current year	(186,438)	(808)
Income tax expense recognized in profit or loss	$ 271,538	$ 19,168

A reconciliation of accounting loss and income tax expenses were as follows:

	For the Year Ended December 31	
	2018	2017
Income before tax from continuing operations	$ 9,624,388	$ 5,536,477
Income tax expense calculated at the statutory rate (For the year ended of 2018 and 2017 applicable for 20% and 17% respectively.)	$ 1,875,074	$ 956,334
Non-deductible expenses in determining taxable income	7,321	138,201
Non-taxable income	(23,193)	(84,181)
Realized loss on investment	(296,074)	(82,414)
Income tax unappropriated earnings	184,257	-
Unrecognized deductible temporary differences	(1,476,755)	(457,733)
Recognized (unrecognized) loss carryforwards	908	(451,039)
Income tax expense recognized in profit or loss	$ 271,538	$ 19,168

In 2017, the applicable corporate income tax rate used by the Group in the ROC is 17%. However, the Income Tax Act in the ROC was amended in 2018 and the corporate income tax rate was adjusted from 17% to 20% effective in 2018. In addition, the rate of the corporate surtax applicable to 2018 unappropriated earnings will be reduced from 10% to 5%.

As the status of 2019 appropriations of earnings is uncertain, the potential income tax consequences of 2018 unappropriated earnings which add 5% are not reliably determinable.

b. Current tax assets and liabilities

	December 31	
	2018	2017
Current tax assets		
Tax refund receivable	$ 107,305	$ 4,378
Current tax liabilities		
Income tax payable	$ 187,612	$ 2,030

c. Deferred tax assets and liabilities

The Group offset certain deferred tax assets and deferred tax liabilities which met the offset criteria.

The movements of deferred tax assets and deferred tax liabilities were as follows:

For the year ended December 31, 2018

	Opening Balance	Recognized in Profit or Loss	Closing Balance
Deferred tax assets			
Temporary differences			
Unrealized expense and losses	$ 4,826	$ 191	$ 5,017
Loss carryforwards	992,838	186,246	1,179,084
	$ 997,664	$ 186,437	$ 1,184,101

For the year ended December 31, 2017

	Opening Balance	Recognized in Profit or Loss	Closing Balance
Deferred tax assets			
Temporary differences			
Unrealized expense and losses	$ 4,018	$ 808	$ 4,826
Loss carryforwards	992,838	-	992,838
	$ 996,856	$ 808	$ 997,664

d. Deductible temporary differences, unused loss carryforwards and unused investment credits for which no deferred assets have been recognized in the consolidated balance sheets

	December 31	
	2018	2017
Loss carryforwards		
Expire in 2018	$ -	$ 131,497
Expire in 2019	653,619	659,371
Expire in 2020	82,441	82,441
Expire in 2021	131,050	131,050
Expire in 2022	184,390	184,390
Expire in 2023	97,389	2,783,339
Expire in 2024	1,303,149	6,267,507
Expire in 2025	2,587,948	2,587,948
Expire in 2026	2,902,299	3,112,795
Expire in 2027	66,966	66,231
Expire in 2028	4,541	-
	$ 8,013,792	$ 16,006,569

(Continued)

	December 31	
	2018	2017
Investment credits		
Research and development expenditures	$ 257,783	$ 147,545
Deductible temporary differences	$ 18,639,093	$ 12,205,241

(Concluded)

The unrecognized investment credits will expire in 2019.

e. Information about unused investment credits and unused loss carry-forwards

As of December 31, 2018, investment credits comprised of:

Law and Statutes	Tax Credit Source	Remaining Creditable Amount	Expiry Year
Statute for Industrial Innovation	Research and development expenditures	$ 66,573	2018
Statute for Industrial Innovation	Research and development expenditures	191,210	2019
		$ 257,783	

Loss carryforwards as of December 31, 2018 comprised of:

Unused Tax Amount	Expiry Year
$ 130,724	2019
16,488	2020
26,210	2021
36,878	2022
205,690	2023
1,253,501	2024
517,590	2025
580,460	2026
13,393	2027
908	2028
$ 2,781,842	

f. Income tax assessments

The Company’s tax returns through 2016 have been assessed by the tax authorities.

30. EARNINGS PER SHARE

Unit: NT$ Per Share

	For the Year Ended December 31	
	2018	**2017**
Basic earnings per share	$ 4.94	$ 3.06
Diluted earnings per share	$ 4.65	$ 2.97

The weighted average number of shares outstanding used for the earnings per share computation was adjusted retroactively for the issuance of bonus shares on September 1, 2018. The basic and diluted earnings per share adjusted retrospectively for the year ended December 31, 2017, were as follows:

Unit: NT$ Per Share

	Before Retrospective Adjustment	**After Retrospective Adjustment**
Basic earnings per share	$ 3.12	$ 3.06
Diluted earnings per share	$ 3.03	$ 2.97

The income and weighted average number of ordinary shares outstanding in the computation of earnings per share from continuing operations were as follows:

Net Income for the Year

	For the Year Ended December 31	
	2018	**2017**
Income for the year attributable to owners of the Company	$ 8,993,006	$ 5,517,847

Weighted average number of ordinary shares outstanding (in thousand shares):

	For the Year Ended December 31	
	2018	**2017**
Weighted average number of ordinary shares in computation of basic earnings per share	1,822,137	1,801,061
Effect of potentially dilutive ordinary shares:		
Restricted shares to employees	15,406	34,842
Employees' compensation or bonus issue to employees	95,189	22,561
Weighted average number of ordinary shares in computation of diluted earnings per share	1,932,732	1,858,464

Since the Group offered to settle compensation or bonuses paid to employees in cash or shares, the Group assumed the entire amount of the compensation or bonus will be settled in shares and the resulting potential shares were included in the weighted average number of shares outstanding used in the computation of diluted earnings per share, as the effect is dilutive. Such dilutive effect of the potential shares is included in the computation of diluted earnings per share until the number of shares to be distributed to employees is resolved in the following year.

31. SHARE-BASED PAYMENT ARRANGEMENTS

a. Employee share option plan

Mxtran

Approved by the board of directors of Mxtran on August 12, 2011, Mxtran was authorized to issue employee share options for 2,344 thousand units. For each share option, the holder may subscribe for one new share of ordinary shares of Mxtran. The options are valid for six years and exercisable at certain percentages after the second anniversary from the grant date. For any subsequent changes in Mxtran's capital surplus, the exercise price is adjusted accordingly.

Information on employee share options is as follows:

	For the Year Ended December 31	
	2017	
	Number of Options (In Thousands)	**Weighted-average Exercise Price (NT$)**
Balance at January 1	688	$ 10.00
Options cancelled	(688)	-
Balance at December 31	-	10.00

Options granted were priced using the Black-Scholes pricing model and the inputs to the model were as follows:

Grant-date share price (NT$)	$ 3.23
Exercise price (NT$)	10.00
Expected volatility	44.82%
Expected life (years)	4.25
Expected dividend yield	-
Risk-free interest rate	1.11%

For the years ended December 31, 2017, the compensation costs recognized were $0. As of December 31, 2017, the estimated percentages of forfeiture due to termination of employment over the remaining vesting period was 0%.

b. Restricted share plan for employees

Information on share plan for employees were as follows:

Approved Date	Grant Shares (Thousand)	Board of Directors Approved Grant Shares (Thousand)	Grant Date	Issued Date	Issued Shares (Thousand)	Fair Value
2014/06/18	123,251	38,365	2014/08/28	2014/12/25	37,301	$ 7.76
		62,213	2015/03/16	2015/07/22	61,279	6.82
2016/06/16	123,535	58,971	2016/10/25	2017/01/03	57,476	4.73

To meet the vesting conditions, an employee has to meet performance and other conditions over the vesting period, as follows:

1) Remain employed by the Company within one year after the grant date; and has a current year's performance rating of "successful" (or higher) - 40% of restricted shares will be vested;

2) Remain employed by the Company within two years after the grant date; and has a current year's performance rating of "successful" (or higher) - 30% of restricted shares will be vested;

3) Remain employed by the Company within three years after grant date; and has a current year's performance rating of "successful" (or higher) - 30% of restricted shares will be vested.

In addition to the vesting conditions, the limitations are as follows:

1) Employees, except for inheritance, should not sell, transfer, pledge, donate or in any other way dispose of the shares.

2) The shares should be held in a share trust.

3) Except for the above two paragraphs, the other rights of the restricted share plan for employees, which include, but are not limited to, dividends, bonuses, the distribution rights of the legal reserve and capital surplus, share options of cash capital, voting rights of shareholders, etc., are the same as the Group's issued ordinary shares.

4) The dividends of restricted share plan for employees are not restricted by existing conditions.

When employees do not reach the vesting conditions of restricted share plan for employees during the year, the Company will recover and cancel the shares.

Information on restricted share plan for employees was as follows:

	Number of Shares (In Thousands)	
	For the Year Ended December 31	
	2018	**2017**
Balance at January 1	24,461	103,593
Vested	(15,970)	(32,719)
Forfeited (Notes 1 and 2)	(704)	(3,676)
Cancelled by capital reduction (Note 3)	-	42,737
Balance at December 31	7,787	24,461

Note 1: The forfeited shares for the year ended December 31, 2018 consisted of 125 thousand shares not yet cancelled and 579 thousand shares already cancelled.

Note 2: The forfeited shares for the year ended December 31, 2017 consisted of 163 thousand shares that are not yet cancelled, 2,018 thousand shares already cancelled, and 1,495 thousand shares representing the difference between granted and issued shares as of October 25, 2016.

Note 3: The number of shares cancelled in proportion to the capital reduction on June 29, 2017 was 42,737 thousand.

For the years ended December 31, 2018 and 2017, the compensation costs recognized were NT$63,583 thousand and NT$213,100 thousand, respectively.

32. DISPOSAL OF SUBSIDIARIES

On March 22, 2017, INFOMAX filed for liquidation per the resolution reached in its shareholders' meeting; therefore, the Group has no control over INFOMAX as well as the subsidiaries of INFOMAX.

a. Analysis of assets and liabilities on the date of losing control

	March 22, 2017
Current assets	
Cash and cash equivalents	$ 3,892
Other receivables	365
Others	26,792
Non-current assets	
Property, plant and equipment	995
Current liabilities	
Other payables	(822)
Net assets disposed of	$ 31,222

b. Loss on disposal of subsidiaries

	Year Ended December 31, 2017
Fair value of interest retained	$ 22,889
Net assets disposed of	(31,222)
Non-controlling interests	459
Loss on disposal	$ (7,874)

33. OPERATING LEASE ARRANGEMENTS

a. The Group as lessee

Operating leases relate to leases of land, offices, employee dormitories and office equipment with lease terms between 1 and 50 years. The Group does not have a bargain purchase options to acquire the leased land, offices, employee dormitories and office equipment at the expiration of the lease periods.

The future minimum lease payments of non-cancellable operating lease commitments were as follows:

	December 31	
	2018	2017
Not later than 1 year	$ 101,377	$ 90,693
1 - 5 years	319,190	294,905
Later than 5 years	752,158	757,101
	$ 1,172,725	$ 1,142,699

The lease payments recognized in profit or loss for the current year were as follows:

	For the Year Ended December 31	
	2018	2017
Minimum lease payments	$ 134,096	$ 125,691

b. The Group as lessor

Operating leases relate to the sole building owned by the Group with lease terms between 2 to 5 years. All operating lease contracts contain market review clauses in the event that the lessee exercises its option to renew. The lessee does not have bargain purchase options to acquire the property at the expiration of the lease periods.

The future minimum lease revenue from non-cancellable operating leases was as follows:

	December 31	
	2018	2017
Not later than 1 year	$ 3,738	$ 279
1 - 5 years	6,198	291
	$ 9,936	$ 570

34. CAPITAL MANAGEMENT

The Group manages its capital to ensure that the Group will be able to operate under the premises of going concerns and growth while maximizing the return to shareholders through the optimization of the debt and equity balance.

The Group's strategy for managing the capital structure is to lay out the plan of product development and expand the market share considering the growth and the magnitude of industry and further developing an integral plan founded on the required capacity, capital outlay, and magnitude of assets in long-term development. Ultimately, considering the risk factors such as the fluctuation of the industry cycle and the life cycle of products, the Group determines the optimal capital structure by estimating the profitability of products, operating profit ratio, and cash flow based on the competitiveness of products.

The management of the Group periodically examines the capital structure and contemplates on the potential costs and risks involved while exerting different financial tools. In general, the Group implements prudent strategy of risk management.

35. FINANCIAL INSTRUMENTS

a. Fair value of financial instruments not measured at fair value

The management considers that the carrying amounts of financial assets and financial liabilities recognized in the consolidated financial statements approximate their fair values or their fair values cannot be reliably measured.

b. Fair value of financial instruments measured at fair value on a recurring basis

1) Fair value hierarchy

December 31, 2018

	Level 1	Level 2	Level 3	Total
Financial assets at FVTOCI				
Equity securities				
Securities listed in the ROC	$ 1,002,225	$ -	$ -	$ 1,002,225
Securities listed in other countries	264,804	-	-	264,804
Securities unlisted	-	-	334,912	334,912
	$ 1,267,029	$ -	$ 334,912	$ 1,601,941

December 31, 2017

	Level 1	Level 2	Level 3	Total
Available-for-sale financial assets				
Equity securities				
Securities listed in ROC	$ 1,411,374	$ -	$ -	$ 1,411,374
Securities listed in other countries	641,713	-	-	641,713
	$ 2,053,087	$ -	$ -	$ 2,053,087

There were no transfers between Level 1 and Level 2 in the current and prior periods.

2) Reconciliation of Level 3 fair value measurements of financial assets

For the year ended December 31, 2018

Financial Assets	Financial Assets at FVTOCI Equity Investments
Balance at January 1	$ 484,318
Total gain recognized in other comprehensive (unrealized gain on financial assets at FVTOCI)	(149,406)
Balance at December 31	$ 334,912
Unrealized loss	$ (149,406)

3) Valuation used in Level 3 fair value measurement

The fair values of equity securities listed in the ROC and other countries was arrived at using either the asset-based approach or based on the multiplier evaluated in the active market by the market approach and adjustments of liquidity.

c. Categories of financial instruments

	December 31	
	2018	**2017**
Financial assets		
Loans and receivables (i)	$ -	$ 14,672,113
Available-for-sale financial assets (ii)	-	2,143,728
Financial assets measured at amortized cost (iii)	18,502,646	-
Financial assets measured at FVTOCI	1,601,941	-
Financial liabilities		
Financial liabilities measured at amortized cost (iv)	25,463,876	17,513,095

i) The balances included loans and receivables measured at amortized cost, which comprise cash and cash equivalents, debt investments with no active market, notes receivable and trade receivables (including receivables from related parties), other receivables and other financial assets.

ii) The balances included the carrying amount of available-for-sale financial assets measured at cost.

iii) The balances included financial liabilities measured at amortized cost, which comprise cash and cash equivalents, notes receivable and trade receivables (including receivables from related parties), other receivables and other financial assets.

iv) The balances included financial liabilities measured at amortized cost, which comprise short-term loans, notes payable and trade payables (including payables to related parties), other payables (including other payables to related parties), accrued employees' compensation and remuneration of directors, payables for purchases of equipment and long-term loans (including current portion).

d. Financial risk management objectives and policies

The Group manages its exposure to risks relating to the operations through market risk, credit risk, and liquidity risk with the objective to reduce the potentially adverse effects the market uncertainties may have on its financial performance.

The plans for material treasury activities are reviewed by management in accordance with procedures required by relevant regulations or internal controls. During the implementation of such plans, the Group must comply with certain treasury procedures that provide guiding principles for overall financial risk management.

1) Market risk

The Group's activities exposed it primarily to the financial risks of changes in foreign currency exchange rates (see (a) below), interest rates (see (b) below), and other price risk (see (c) below).

a) Foreign currency risk

The Group had foreign currency sales and purchases, which exposed the Group to foreign currency risk. Exchange rate exposures were managed within approved policy parameters utilizing foreign exchange forward contracts.

Sensitivity analysis

The Group was mainly exposed to the USD and JPY.

The sensitivity analysis of rate is for the transactions in currencies other than the entity's functional currency (i.e. foreign currencies) which are recognized at the rates of exchange prevailing at the end of each reporting period.

The following table details the Group's sensitivity to a 3% and 10% increase in the New Taiwan dollars (i.e. the functional currency) against the USD and JPY, respectively. The sensitivity rates used are 3% and 10% when reporting foreign currency risk internally to key management personnel.

	USD Impact		**JPY Impact**	
	For the Year Ended December 31		**For the Year Ended December 31**	
	2018	**2017**	**2018**	**2017**
Pre-tax profit decrease (increase)	$ 55,846	$ 106,626	$ (63,561)	$ 35,238

The Group's sensitivity analysis of the impact of the New Taiwan dollar fluctuating against the JPY showed an increase for the year ended December 31, 2018, due to the increase in the purchase amount that resulted in an increase in the balance of accounts payable in foreign currencies at the end of the period.

b) Interest rate risk

The Group is exposed to interest rate risk from outstanding bank loans. Interest rates of the Group's long-term bank loans are floating, and changes in interest rates would affect the future cash flows but not the fair value.

The sensitivity analysis of interest is performed based on the financial liabilities exposed to cash flow interest rate risk at the end of each reporting period.

If interest rates had been 50 basis points higher/lower, the Group's pre-tax loss for the years ended December 31, 2018 and 2017 would decrease/increase by NT$46,211 thousand and NT$40,344 thousand, respectively.

c) Other price risk

The Group was exposed to equity price risk through its investments in equity securities. Equity investments are held for strategic rather than trading purposes. The Group does not actively trade these investments.

Sensitivity analysis

A sensitivity analysis of equity prices is performed based on the fair values of equity investments at the end of each reporting period.

If equity prices had been 10% higher/lower, equity for the years ended December 31, 2018 and 2017 would have increase/decrease by NT$160,194 thousand and NT$205,309 thousand, respectively, as a result of the changes in fair value of available-for-sale investments.

2) Credit risk

Credit risk refers to the risk that counterparty will default on its contractual obligations resulting in financial loss to the Group. The Group's exposure to credit risk mainly arises from trade receivables - operating, bank deposits, and other financial instruments. Credit risk is managed separately for business related and financial related exposures.

Business related credit risk

In order to maintain the credit quality of trade receivables, the Group has established procedures to monitor and limit exposure to credit risk on trade receivables.

Credit evaluation is performed in the consideration of the relevant factors, such as financial condition, external and internal credit scoring, historical experience, and economic conditions, which may affect the customer's paying ability. The Group holds some of the credit enhancements such as prepayments and collateral to mitigate its credit risks.

Trade receivables consisted of a large number of customers, spread across diverse industries and geographical areas.

As of December 31, 2018 and 2017, the Group's ten largest customers accounted for 50% and 51% of its total trade receivables (including receivables from related parties), respectively. The Group believed that the concentration of credit risk is relatively insignificant for the remaining trade receivables.

Financial credit risk

The Group's exposure to financial credit risk which pertained to bank deposits and other financial instruments were evaluated and monitored by Corporate Treasury function. The Group only deals with creditworthy counterparties and banks so that no significant credit risk was identified.

3) Liquidity risk

The objective of liquidity risk management is to ensure the Group has sufficient liquidity to fund its business requirements of cash and cash equivalents and the unused of financing facilities associated with existing operations.

The table below summarizes the maturity profile of the Group's financial liabilities based on contractual and undiscounted payments, including principal and estimated interest.

December 31, 2018

	On Demand or Less than 1 Year	1-3 Years	3-5 Years	5+ Years	Total
Non-derivative financial liabilities					
Non-interest bearing	$ 16,550,077	$ -	$ -	$ -	$ 16,550,077
Interest bearing	3,479,800	4,530,019	1,529,733	-	9,539,552
	$ 20,029,877	$ 4,530,019	$ 1,529,733	$ -	$ 26,089,629

December 31, 2017

	On Demand or Less than 1 Year	1-3 Years	3-5 Years	5+ Years	Total
Non-derivative financial liabilities					
Non-interest bearing	$ 9,474,700	$ -	$ -	$ -	$ 9,474,700
Interest bearing	3,315,848	2,691,562	2,398,833	-	8,406,243
	$ 12,790,548	$ 2,691,562	$ 2,398,833	$ -	$ 17,880,943

The amounts included above for variable interest rate instruments for both non-derivative financial assets and liabilities was subject to change if changes in variable interest rates were to differ from those estimates of interest rates determined at the end of the reporting period.

36. TRANSACTIONS WITH RELATED PARTIES

Balances and transactions between the Company and its subsidiaries, which are related parties of the Company, have been eliminated on consolidation and are not disclosed in this note. Besides information disclosed elsewhere in the other notes, details of transactions between the Group and other related parties are disclosed below.

a. Related parties and their relationships associated with the Company:

Related Parties	Relationship with the Company
Modiotek Co., Ltd. (Modiotek)	Associates (Note)
MegaChips Corporation (MegaChips)	Key management personnel
Ardentec Corporation (Ardentec)	The Group is its major management authority
TM Technology, Inc. (TMTECH)	Others
Etron Technology, Inc. (Etron)	Others
Macronix Education Foundation (MXIC Education)	Others

Note: In the May 26, 2017 shareholders' meeting, the decision for the liquidation of Modiotek and the election of its liquidator were resolved. The Group has hence lost its significant influence over Modiotek and Modiotek's subsidiaries.

b. Operating revenues

Line Items	Related Parties Categories/Name	For the Year Ended December 31 2018	2017
Sales	Key management personnel		
	MegaChips	$ 11,104,912	$ 8,657,954
	Others	604	1,058
	Associates	-	41
		$ 11,105,516	$ 8,659,053

Sales prices for the related parties were not comparable to those for external customers as the Group was the sole provider of these customers. The sales terms for the related parties were between 30 to 60 days after monthly closing, similar to those with external customers.

c. Purchases

Related Parties Categories/Name	For the Year Ended December 31 2018	2017
Key management personnel		
MegaChips	$ 11,056,200	$ 5,595,024

Materials purchased from related parties were for manufacturing process. The payment term was 30 days after monthly closing and after acceptanceof materials.

d. Receivables from related parties

Line Items	Related Parties Categories/Name	December 31 2018	2017
Receivables from related parties, net	Key management personnel		
	MegaChips	$ 695,028	$ 732,888
Other receivables	Key management personnel		
	MegaChips	$ 5	$ -

The outstanding trade receivables from related parties are unsecured. For the years ended December 31, 2018 and 2017, no impairment loss was recognized for trade receivables from related parties.

e. Payables to related parties

Line Items	Related Parties Categories/Name	December 31 2018	2017
Payables to related parties	Key management personnel		
	MegaChips	$ 8,849,935	$ 3,339,853
	The Group is its major management authority	76,266	74,286
		$ 8,926,201	$ 3,414,139
Other payables to related parties	Other		
	Etron	$ 425	$ -

The outstanding trade payables from related parties are unsecured and will be settled in cash.

f. Other transactions with related parties

Line Items	Related Parties Categories/Name	For the Year Ended December 31 2018	2017
Manufacturing expenses	The Group is its major management authority		
	Ardentec	$ 269,306	$ 257,879

(Continued)

Line Items	Related Parties Categories/Name	For the Year Ended December 31 2018	2017
Operating expenses	Others		
	MXIC Education	$ 21,368	$ 11,000
	Others	867	-
	Associates	-	1
		$ 22,235	$ 11,001
IT service revenue	Associates		
	Modiotek	$ -	$ 330
Rental revenue	Associates		
	Modiotek	$ -	$ 963

(Concluded)

The manufacturing expense of related parties were comparable to those with other vendors. The payment term was 75 days after monthly closing.

The Group leases offices to associates (rentals are classified under other gains and losses). The amount of lease payment was based on the office space leased by each related party and was collected on a monthly basis.

Under certain contracts, the Group provided the IT service to above related parties. The specifically negotiated terms were not comparable to those with external customers.

g. Compensation of key management personnel

	For the Year Ended December 31 2018	2017
Short-term benefits	$ 675,119	$ 471,986
Post-employment benefits	9,173	11,400
Share-based payments	8,965	27,257
Other long-term employee benefits	(2)	116
	$ 693,255	$ 510,759

The remuneration of key executives was determined by the remuneration committee based on the performance of individuals and market trends.

37. ASSETS PLEDGED AS COLLATERAL OR FOR SECURITY

The following assets were provided as collateral for bank borrowings, the tariff of imported raw materials guarantees, natural gas agreements, and land lease agreements:

	December 31 2018	2017
Property, plant and equipment, net	$ 9,927,203	$ 10,244,901
Pledge deposits (classified as other financial assets - non-current)	157,665	134,231
	$ 10,084,868	$ 10,379,132

38. SIGNIFICANT CONTINGENT LIABILITIES AND UNRECOGNIZED COMMITMENTS

In addition to those disclosed in other notes, significant commitments and contingencies of the Group as of December 31, 2018 and 2017 were as follows:

a. As of December 31, 2018 and 2017, unused letters of credit amounted to approximately NT$0 thousand and NT$405,485 thousand, respectively.

b. Unrecognized commitments are as follows:

	December 31	
	2018	2017
Acquisition of property, plant and equipment	$ 6,819,449	$ 655,993

c. In January 2016, the Company entered into a phase-change memory technology development agreement with IBM, and the agreement is from January 2016 to January 2019. Under the agreement, both parties share the related expenditures of the technology development, and all payments have been made by the Company. In January 2019, the Company againsigned an agreement with IBM to continue the joint development of phase-change memory technology, and the agreement is January 2019 to January 2022.

d. In March 2017, the Company filed a complaint with the International Trade Commission and the US District Court in the Southern District of California against Toshiba Corporation and its subsidiaries for infringement of the Company's US patents. Toshiba Corporation ("Toshiba") subsequently filed a petition in the US Patent Trial and Appeal Board for the Inter Partes Review of certain claims of US Patent, No. 6788602 and No. 8035417, claiming that they were invalid. In October 2017, Toshiba also filed a complaint in Taiwan against the Company for infringement of its Taiwan patents. In November 2017, Toshiba filed a complaint in the Japan Patent Office for infringement of its Japan patents. In April 2018, the Company filed a complaint in the Taiwan Intellectual Property Court against Toshiba Corporation and its subsidiaries for infringement of the Company's patents. Regarding the aforementioned cases, both parties have settled, and have been announced in October 2018. (Please refer to at the Market Observation Post System website of the Taiwan Stock Exchange, http://mops.twse.com.tw/mops/web/t05st01).

39. SIGNIFICANT ASSETS AND LIABILITIES DENOMINATED IN FOREIGN CURRENCIES

The Group's significant financial assets and liabilities denominated in foreign currencies aggregated by the foreign currencies other than functional currencies and the related exchange rates between foreign currencies and respective functional currencies were as follows:

December 31, 2018

	Foreign Currencies	Exchange Rate	Carrying Amount
Financial assets			
Monetary items			
JPY	$ 29,851,090	0.2782	$ 8,304,573
USD	121,931	30.715	3,745,111
			$ 12,049,684

(Continued)

	Foreign Currencies	Exchange Rate	Carrying Amount
Financial liabilities			
Monetary items			
JPY	$ 32,135,822	0.2782	$ 8,940,186
USD	61,324	30.715	1,883,567
			$ 10,823,753

(Concluded)

December 31, 2017

	Foreign Currencies	Exchange Rate	Carrying Amount
Financial assets			
Monetary items			
JPY	$ 14,757,728	0.2642	$ 3,898,992
USD	188,955	29.76	5,623,301
			$ 9,522,293
Financial liabilities			
Monetary items			
JPY	13,423,969	0.2642	$ 3,546,613
USD	69,526	29.76	2,069,094
			$ 5,615,707

For the years ended December 31, 2018 and 2017, realized and unrealized net foreign exchange (losses) gains were NT$245,559 thousand and NT$(121,898) thousand, respectively. It is impractical to disclose net foreign exchange losses by each significant foreign currency due to the variety of the foreign currency transactions and functional currencies of the Group.

40. SEPARATELY DISCLOSED ITEMS

Information on significant transactions and information on investees:

a. Financing provided to others: None

b. Endorsements/guarantees provided: None

c. Marketable securities held (excluding investment in subsidiaries, associates and joint ventures): Table 1 (attached)

d. Marketable securities acquired and disposed of at costs or prices of at least NT$300 million or 20% of the paid-in capital: None

e. Acquisition of individual real estate at costs of at least NT $300 million or 20% of the paid-in capital: None

f. Disposal of individual real estate at prices of at least NT$300 million or 20% of the paid-in capital: None

g. Total purchases from or sales to related parties amounting to at least NT$100 million or 20% of the paid-in capital: Table 2 (attached)

h. Receivables from related parties amounting to at least NT$100 million or 20% of the paid-in capital: Table 3 (attached)

i. Trading in derivative instruments: None

j. Intercompany relationships and significant intercompany transactions: Table 4 (attached)

k. Information on investees: Table 5 (attached)

l. Information on investments in mainland China

   1) Information on any investee company in mainland China, showing the name, principal business activities, paid-in capital, method of investment, inward and outward remittance of funds, shareholding ratio, investment gains or losses, carrying amount of the investment at the end of the period, repatriation of investment gains or losses, and limit on the amount of investment in the mainland China area: Table 6 (attached)

   2) Any of the significant transactions with investee companies in mainland China, either directly or indirectly through a third area, and their prices, payment terms, and unrealized gains or losses: Table 4 (attached)

41. SEGMENT INFORMATION

Information reported to the chief operating decision maker for the purposes of resource allocation and assessment of segment performance emphasizes on the types of goods or services delivered or provided. Considering the nature of the product and the process of manufacture, the management integrated those divisions of similar operation functions into one operation segment. The reporting segments of the Group were as follows:

Memory products and wafer fabrication

IC design

There was no material difference between the accounting policies of the reportable segment and those described in Note 4.

a. Segment revenues and results

The following was an analysis of the Group's revenue and results from continuing operations by reportable segment.

	Segment Net Operating Revenue		Segment Income (Loss) from Operations and Net Income (Loss)	
	For the Year Ended December 31		For the Year Ended December 31	
	2018	2017	2018	2017
Memory products and wafer fabrication	$ 36,944,132	$ 34,184,459	$ 6,508,358	$ 5,759,447
IC design	8,900	12,457	980	(6,241)
Total	$ 36,953,032	$ 34,196,916	6,509,338	5,753,206
Other income			2,661,551	143,515
Other gains and losses			236,851	(144,642)
Finance costs			(143,353)	(215,602)
Income before tax			$ 9,264,387	$ 5,536,477

b. Segment total assets and liabilities

	December 31	
	2018	2017
Segment assets		
Memory products and wafer fabrication	$ 57,664,018	$ 43,016,576
IC design	10,192	11,155
Total segment assets	57,674,210	43,027,731
Uncollected assets	1,374,611	1,166,168
Consolidated total assets	$ 59,048,821	$ 44,193,899
Segment liabilities		
Memory products and wafer fabrication	$ 18,277,034	$ 11,495,026
IC design	3,719	2,093
Total segment liabilities	18,280,753	11,497,119
Uncollected liabilities	9,407,711	8,040,433
Consolidated total liabilities	$ 27,688,464	$ 19,537,552

For the purpose of monitoring segment performance and allocating resources between segments:

1) All assets were allocated to reportable segments other than interests in associates accounted for using the equity method, other financial assets, and current and deferred tax assets. Assets used jointly by reportable segments were allocated on the basis of the revenue earned by individual reportable segments; and

2) All liabilities were allocated to reportable segments other than borrowings and other financial liabilities. Liabilities for which reportable segments are jointly liable were allocated in proportion to segment assets.

c. Geographical information

The Group operates in two principal geographical areas - Taiwan and China.

The Group's net operating revenue from external customers by location of operations and information about its non-current assets by location of assets are detailed below.

	Revenue from External Customers		Non-current Assets	
	Year Ended December 31		December 31	
	2018	2017	2018	2017
Taiwan	$ 29,889,845	$ 26,493,795	$ 18,872,753	$ 15,825,984
China	5,460,127	6,292,478	202,258	209,012
Others	1,603,060	1,410,643	297,608	289,060
	$ 36,953,032	$ 34,196,916	$ 19,372,619	$ 16,324,056

Non-current assets exclude financial instruments and deferred tax assets.

d. Information about major customers

Single customers who contributed 10% or more to the Group's revenue were as follows:

	For the Year Ended December 31	
	2018	2017
Customer A	$ 11,104,912	$ 8,657,954

TABLE 1

MACRONIX INTERNATIONAL CO., LTD. AND SUBSIDIARY

MARKETABLE SECURITIES HELD
DECEMBER 31, 2018
(In Thousands of New Taiwan Dollars, Unless Stated Otherwise)

Holding Company Name	Type and Name of Marketable Securities	Relationship with the Holding Company	Financial Statement Account	December 31, 2018				Shares as Collateral
				Shares/Units (In Thousands)	Carrying Amount	Percentage of Ownership(%)	Fair Value	
The Company	Shares							
	Ardentec Corporation	The Company serves as member of its board of directors	Financial assets at FVTOCI - non-current	35,951,871	$ 934,749	7.33	$ 934,749	None
	United Industrial Gases Co., Ltd.	None	〃	6,671,877	267,075	3.06	267,075	None
	Aetas Technology Inc.	None	〃	145,850	-	0.29	-	None
	Zowie Technology Co., Ltd.	None	〃	20,426	-	0.12	-	None
	Quality Test System Inc.	None	〃	4,538,333	-	14.64	-	None
MXBVI	Shares							
	Chipbond Technology Corporation	None	Financial assets at FVTOCI - non-current	1,088,319	67,476	0.17	67,476	None
	Tower Semiconductor Ltd.	None	〃	584,893	264,804	0.56	264,804	None
	Global Strategic Investment Fund (Cayman)	None	〃	490,000	16,405	2.52	16,405	None
	Global Strategic Investment Fund (Samoa)	None	〃	1,739,783	22,978	4.90	22,978	None
Hui Ying	Shares							
	Macronix International Co., Ltd.	The Company	Financial assets at FVTOCI - non-current	1,956,619	35,904	0.11	35,904	None
	Raio Technology Co., Ltd.	None	〃	1,165,690	28,454	10.14	28,454	None

TABLE 2

MACRONIX INTERNATIONAL CO., LTD. AND SUBSIDIARY

TOTAL PURCHASES FROM OR SALES TO RELATED PARTIES AMOUNTING TO AT LEAST NT$100 MILLION OR 20% OF THE PAID-IN CAPITAL
FOR THE YEAR ENDED DECEMBER 31, 2018
(In Thousands of New Taiwan Dollars, Unless Stated Otherwise)

Buyer	Related Party	Relationship	Transaction Details				Abnormal Transaction		Notes/Accounts Receivable (Payable)		Note
			Purchase/ Sale	Amount	% to Total	Payment Terms	Unit Price	Payment Term	Ending Balance	% to Total	
The Company	MegaChips Corporation	Its subsidiary, Shun Ying Investment, is represented in MXIC's board of directors	Sales	$ 11,104,912	31	30 days after monthly closing	Note 36	Note 36	$ 695,028	16	-
	MXHK	Indirect subsidiary	Sales	4,983,410	14	45 days after monthly closing	Note 36	Note 36	379,948	9	-
	MXA	Subsidiary	Sales	1,416,231	4	Net 60 days	Note 36	Note 36	132,915	3	-
	MegaChips Corporation	Its subsidiary, Shun Ying Investment, is represented in MXIC's board of directors	Purchase	11,056,200	61	30 days after monthly closing and after acceptance of materials	Note 36	Note 36	8,849,935	77	-
MXHK	The Company	Indirect subsidiary	Purchase	US$ 166,643	100	45 days after monthly closing	No material difference	No material difference	US$ 12,375	100	-
MXA	The Company	Subsidiary	Purchase	US$ 47,132	100	Net 60 days	No material difference	No material difference	US$ 4,327	100	-

TABLE 3

MACRONIX INTERNATIONAL CO., LTD. AND SUBSIDIARY

RECEIVABLES FROM RELATED PARTIES AMOUNTING TO AT LEAST NT$100 MILLION OR 20% OF THE PAID-IN CAPITAL
DECEMBER 31, 2018
(In Thousands of New Taiwan Dollars, Unless Stated Otherwise)

Company Name	Related Party	Relationship	Ending Balance	Turnover Rate	Overdue		Amounts Received in Subsequent Period	Allowance for Impairment Loss
					Amount	Action Taken		
The Company	MegaChips Corporation	Its subsidiary, Shun Ying Investment, is represented in MXIC's board of directors	$ 695,028	15.55 times	$ -	-	JPY 2,455,944 thousand	$ -
	MXHK	Indirect subsidiary	379,948	6.79 times	-	-	US$ 9,190 thousand	-
	MXA	Subsidiary	132,915	8.07 times	-	-	US$ 3,207 thousand	-

TABLE 4

MACRONIX INTERNATIONAL CO., LTD. AND SUBSIDIARY

INTERCOMPANY RELATIONSHIPS AND SIGNIFICANT TRANSACTIONS
FOR THE YEAR ENDED DECEMBER 31, 2018
(In Thousands of New Taiwan Dollars, Unless Stated Otherwise)

Investee Company	Counterparty	Relationship (Note 1)	Transaction Details			
			Financial Statement Accounts	Amount	Payment Terms	% to Total Revenues or Assets
MXIC	MXHK	1	Sales	$ 4,983,410	Note 2	13
			Notes receivable and trade receivables	379,948		1
	MXE	1	Operating expenses	148,877		-
			Other payables	51,940		-
	MXA	1	Sales	1,416,231	Note 2	4
			Operating expenses	228,565		1
			Notes receivable and trade receivables	132,915		-
			Other payables	78,108		-
	Mxtran	1	Rental revenue	435	Note 3	-
	MX Asia	1	Operating expenses	97,019		-
			Other payables	22,786		-
MXHK	MXm	3	Operating expenses	265,270		1

Note 1: The transactions from the parent company to the subsidiary are denoted as 1.
The transactions from the subsidiary to the parent company are denoted as 2.
The transactions between two subsidiaries are denoted as 3.

Note 2: The sales price refers to the agreed upon product price for the end customer.

Note 3: The Company leased office space to related parties and collected rental revenue according to the floor space per month.

Note 4: The transaction terms with related parties were 30 to 60 days after monthly closing and were similar to those with third parties.

TABLE 5

MACRONIX INTERNATIONAL CO., LTD. AND SUBSIDIARY

INFORMATION ON INVESTEES
FOR THE YEAR ENDED DECEMBER 31, 2018
(In Thousands of New Taiwan Dollars, Unless Stated Otherwise)

Investor Company	Investee Company	Location	Main Businesses and Products	Original Investment Amount		Balance as of December 31, 2018			Net Income (Loss) of the Investee	Share of Profit (Loss)	Note
				December 31, 2018	December 31, 2017	Shares	%	Carrying Amount			
The Company	MXA	San Jose, California, USA.	Sales and marketing	$ 2,640	$ 2,640	100,000	100.00	$ 153,352	$ 46,907	$ 46,907	Subsidiary
	MXBVI	Tortola, British Virgin Islands	Investment holding company	7,348,057	7,348,057	212,048,000	100.00	1,894,118	70,848	70,848	Subsidiary
	Hui Ying	Taipei, Taiwan	Investment	500,000	500,000	-	100.00	61,346	8,394	6,475	Subsidiary
	Run Hong	Taipei, Taiwan	Investment	984,432	984,432	-	100.00	13,819	(150)	(150)	Subsidiary
	Mxtran	Hsinchu, Taiwan	Combi-SIM IC and related services	755,287	755,287	69,627,323	90.43	5,853	(3,043)	(2,752)	Subsidiary
MXBVI	NTTI	San Jose, California, USA.	IC design	882,141	874,418	26,850,000	100.00	299,389	(6,697)	Note	Subsidiary
	MXE	Belgium	After-sales service	2,106	2,106	999	100.00	119,095	9,352	Note	Subsidiary
	MPL	Singapore	After-sales service	3,291	3,291	174,000	100.00	19,458	1,030	Note	Subsidiary
	MXHK	Hong Kong	Sales and marketing	378,427	378,427	89,700,000	100.00	740,677	54,904	Note	Subsidiary
	MX Asia	Cayman Island	Investment holding company	26,325	26,325	700,000	100.00	64,441	4,365	Note	Subsidiary
Run Hong	Mxtran	Hsinchu, Taiwan	Combi-SIM IC and related services	40,318	40,318	3,393,200	4.41	285	(3,043)	Note	Subsidiary
Mxtran	Mxtran Samoa	Samoa	Investment holding company	35,979	35,979	1,170,000	100.00	1,058	2	Note	Subsidiary
Mxtran Samoa	Mxtran HK	Hong Kong	Investment holding company	23,880	23,880	6,152,000	100.00	450	1	Note	Subsidiary

Note: Under relevant regulations, no disclosure of investment gain (loss) is needed.

MACRONIX INTERNATIONAL CO., LTD. AND SUBSIDIARY

INFORMATION ON INVESTMENT IN MAINLAND CHINA
FOR THE YEAR ENDED DECEMBER 31, 2018
(In Thousands of New Taiwan Dollars, Unless Stated Otherwise)

Investee Company	Main Businesses and Products	Paid-in Capital	Method of Investment	Accumulated Outward Remittance for Investment from Taiwan as of January 1, 2018	Remittance of Funds		Accumulated Outward Remittance for Investment from Taiwan as of December 31, 2018	Net Income (Loss) of the Investee	% Ownership for Direct or Indirect Investment	Investment Gain (Loss) (Note 1)	Carrying Amount as of December 31, 2018	Accumulated Repatriation of Investment Income as of December 31, 2018
					Outward	Inward						
MXm	Development of integrated circuit system and software	$ 296,160	MXHK (Note 2)	$ 296,160	$ -	$ -	$ 296,160	$ 21,563	100	$ 21,563	$ 379,925	$ -

Accumulated Outward Remittance for Investment in Mainland China as of December 31, 2018	Investment Amount Authorized by the Investment Commission, MOEA	Upper Limit on the Amounts of Investment Stipulated by Investment Commission, MOEA
$ 296,160	$ 296,160	(Note 3)

Note 1: The amount was recognized based on the unreviewed financial statements of the investee company.

Note 2: The Company invested in a company located in mainland China indirectly through the existing company in a third country.

Note 3: As the Company has obtained the certificate of being qualified for operating headquarters issued by the Industrial Development Bureau, MOEA in March 2017, the upper limit on investments in mainland China pursuant to "Principle of investment or Technical Cooperation in Mainland China" is not applicable.