Stock Code:5483

Sino-American Silicon Products Inc. and Subsidiaries

Consolidated Financial Statements

With Independent Auditors' Report
For the Years Ended December 31, 2021 and 2020

Address: No.8, Industrial East Road 2, Science-Based Industrial Park, Hsinchu, Taiwan, R.O.C.

Telephone: (03)577-2233

The independent auditors' report and the accompanying consolidated financial statements are the English translation of the Chinese version prepared and used in the Republic of China. If there is any conflict between, or any difference in the interpretation of the English and Chinese language independent auditors' report and consolidated financial statements, the Chinese version shall prevail.

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Representation Letter

The entities that are required to be included in the combined financial statements of Sino-American Silicon Products Inc. as of and for the year ended December 31, 2021 under the Criteria Governing the Preparation of Affiliation Reports, Consolidated Business Reports, and Consolidated Financial Statements of Affiliated Enterprises are the same as those included in the consolidated financial statements prepared in conformity with International Financial Reporting Standards No. 10, "Consolidated Financial Statements", as endorsed by the Financial Supervisory Commission of the Republic of China. In addition, the information required to be disclosed in the combined financial statements are included in the consolidated financial statements. Consequently, Sino-American Silicon Products Inc. and Subsidiaries do not prepare a separate set of combined financial statements.

Company name: Sino-American Silicon Products Inc.
Chairman: Doris Hsu
Date: March 17, 2022

Independent Auditors' Report

To the Board of Directors of Sino-American Silicon Products Inc.:

Opinion

We have audited the consolidated financial statements of Sino-American Silicon Products Inc. and its subsidiaries ("the Group"), which comprise the consolidated balance sheets as of December 31, 2021 and 2020, the consolidated statements of comprehensive income, changes in equity and cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at December 31, 2021 and 2020, 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 with the International Financial Reporting Standards ("IFRSs"), International Accounting Standards ("IASs"), Interpretations developed by the International Financial Reporting Interpretations Committee ("IFRIC"), and the former Standing Interpretations Committee ("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 the 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 Certified Public Accountants Code of Professional Ethics in Republic of China ("the Code"), and we have fulfilled our other ethical responsibilities in accordance with the Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis of 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 of the current period. 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. Based on our judgment, the key audit matters that should be disclosed in this audit report are as follows:

1. Revenue recognition from contracts with customers

   Please refer to note 4(15) "Revenue recognition" for accounting policy and note 6(23) "Revenue from contracts with customers" of the consolidated financial statements for further information.

Description of key audit matter:

The Group's semiconductor segment revenues are derived from the sales of semiconductor materials and components. Revenue recognition is also dependent on whether the specified sales terms in each individual contract are met. In consideration of the high volume of sales transactions generated from world-wide operations, revenue recognition is one of the key areas our audit focused on.

How the matter was addressed in our audit:

In relation to the key audit matter above, we have performed certain key audit procedures that included understanding of revenue recognition policies and assessing whether revenue recognition policies are appropriate based on sales terms and revenue recognition criteria; understanding the design and process of implementation of internal controls and testing operating effectiveness; testing selected sales samples and agreeing to customer orders, delivery note and related documentation supporting sales recognition; testing sales cut-off, on a sample basis, for transactions incurred within a certain period before or after the balance sheet date by reviewing related sales terms, inspecting delivery documents, and other related supporting document to evaluate whether the revenue was recorded in proper period.

2. Goodwill impairment assessment

   Please refer to the note 4(13) "Impairment of non-financial assets" for accounting policy, note 5(2) "Significant accounting assumptions and judgments, and major sources of estimation uncertainty" for impairment assessment, and note 6(12) "Intangible assets" for further details.

   Description of key audit matter:

   The Group is in a capital intensive industry, with goodwill arising from business combinations. Moreover, the Group operates in an industry in which the operations are easily influenced by various external factors, such as market conditions and governmental policies. Therefore, the assessment of impairment of goodwill is necessary. The assessment procedures, including identification of cash-generating units, valuation models, selection of key assumptions and calculations of recoverable cash inflows, depend on the management's subjective judgments, which contained uncertainty in accounting estimations. Consequently, this is one of the key areas in our audit.

   How the matter was addressed in our audit:

   In relation to the key audit matter above, we have performed certain key audit procedures that included assessing triggering events identified by management for impairment indicators existing in a cash-generating unit, assessing whether the assumptions used for evaluating the recoverable amount are reasonable; evaluating the achievement of prior year financial forecasts; inspecting the calculations of recoverable amounts; assessing the assumptions used for calculating recoverable amounts and cash flow projections; performing sensitivity analysis based on key factors; assessing whether the accounting policies for goodwill impairment and other relevant information have been appropriately disclosed.

Other Matter

Sino-American Silicon Products Inc. has additionally prepared its parent-company-only financial statements as of and for the years ended December 31, 2021 and 2020, on which we have issued an unqualified 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 with the IFRSs, IASs, IFRIC, and 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 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 appropriate audit evidence regarding the financial information of the entities or business activities within the Company to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of 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 2021 consolidated financial statements of the current period 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 An-Chih Cheng and Mei-Yu Tseng.

KPMG

Taipei, Taiwan (Republic of China)
March 17, 2022

Notes to Readers

The accompanying consolidated financial statements are intended only to present the consolidated financial position, financial performance and cash flows in accordance with the 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 accepted and applied in the Republic of China.

The independent auditors' report and the accompanying consolidated financial statements are the English translation of the Chinese version prepared and used in the Republic of China. If there is any conflict between, or any difference in the interpretation of the English and Chinese language independent auditors' report and consolidated financial statements, the Chinese version shall prevail.

(English Translation of the Consolidated Financial Statements Originally Issued in Chinese)

Sino-American Silicon Products Inc. and subsidiaries

Consolidated Balance Sheets

December 31, 2021 and 2020

(Expressed in Thousands of New Taiwan Dollars)

	Assets	December 31, 2021 Amount	%	December 31, 2020 Amount	%
	Current assets:				
1100	Cash and cash equivalents (note 6(1))	$ 67,117,906	40	23,812,590	22
1110	Financial assets at fair value through profit or loss－current (note 6(2))	3,567	-	5,656,668	5
1136	Financial assets measured at amortized cost－current (notes 6(4) and 7)	331,609	-	277,895	-
1170	Notes and accounts receivable, net (notes 6(5) and (23))	9,820,400	6	8,332,156	8
1180	Accounts receivable due from related parties, net (notes 6(23) and 7)	68,760	-	75,253	-
130X	Inventories (note 6(6))	8,646,093	5	7,928,638	7
1476	Other financial assets－current (notes 8 and 9)	3,761,058	2	5,588,505	5
1479	Other current assets	1,470,021	1	1,019,319	1
		91,219,414	54	52,691,024	48
	Non-current assets:				
1513	Financial assets at fair value through profit or loss－non-current (note 6(2))	18,368,712	11	117,204	-
1517	Financial assets at fair value through other comprehensive income－non-current (note 6(3))	1,290,831	1	484,630	-
1550	Investments accounted for using equity method (note 6(7))	6,959,532	4	7,158,811	6
1600	Property, plant and equipment (notes 6(10), 7 and 8)	40,428,472	24	42,455,037	39
1755	Right-of-use assets (note 6(11))	845,228	1	832,865	1
1780	Intangible assets (note 6(12))	3,025,349	2	2,797,463	3
1840	Deferred tax assets (note 6(19))	1,978,955	1	2,312,821	2
1980	Other financial assets－non-current (notes 8 and 9)	1,387,023	1	306,137	-
1990	Other non-current assets	1,747,769	1	796,789	1
		76,031,871	46	57,261,757	52
	Total assets	**$ 167,251,285**	**100**	**109,952,781**	**100**

	Liabilities and Equity	December 31, 2021 Amount	%	December 31, 2020 Amount	%
	Current liabilities:				
2100	Short-term borrowings (notes 6(13) and 8)	$ 7,759,302	5	10,771,000	10
2120	Financial liabilities at fair value through profit or loss－current (note 6(2))	198,631	-	45,953	-
2130	Contract liabilities－current (notes 6(23) and 9)	7,410,209	4	3,763,986	3
2170	Notes and accounts payable	4,574,750	3	4,182,542	4
2180	Accounts payable to related parties (note 7)	11,172	-	21,852	-
2201	Payroll and bonus payable	3,512,267	2	3,183,647	3
2216	Dividends payable	3,751,986	2	3,751,986	3
2250	Provisions－current (notes 6(17) and 9)	363,611	-	243,646	-
2230	Current tax liabilities	2,151,532	1	2,092,828	2
2322	Long-term borrowings, current portion (note 6(14))	31,832	-	32,752	-
2399	Other current liabilities (note 6(16))	5,457,095	3	4,466,937	3
		35,222,387	20	32,557,129	28
	Non-Current liabilities:				
2527	Contract liabilities－non-current (notes 6(23) and 9)	22,348,972	13	14,132,126	13
2500	Non-current financial liabilities at fair value through profit or loss (notes 6(2) and (15))	178,637	-	-	-
2530	Convertible bonds (note 6(15))	26,143,969	16	-	-
2531	Bonds payable (note 6(15))	18,980,771	11	-	-
2540	Long-term borrowings (note 6(14))	999,044	1	1,048,064	1
2550	Provisions－non-current (note 6(17) and 9)	3,614,690	2	4,041,851	4
2570	Deferred tax liabilities (note 6(19))	4,897,351	3	4,974,407	5
2670	Other non-current liabilities (note 6(16))	865,094	1	1,045,615	1
2640	Net defined benefit liabilities (note 6(18))	1,837,432	1	2,484,107	2
		79,865,960	48	27,726,170	26
	Total liabilities	115,088,347	68	60,283,299	54
	Equity (note 6(20)):				
3110	Ordinary shares	5,862,217	4	5,862,217	5
3200	Capital surplus	18,304,186	11	19,481,234	18
3300	Retained earnings	9,809,686	6	6,213,241	6
3400	Other equity interest	(5,439,007)	(3)	(3,395,866)	(3)
	Total equity attributable to shareholders of the Company	28,537,082	18	28,160,826	26
36XX	Non-controlling interests (note 6(8))	23,625,856	14	21,508,656	20
	Total equity	52,162,938	32	49,669,482	46
	Total liabilities and equity	**$ 167,251,285**	**100**	**109,952,781**	**100**

See accompanying notes to consolidated financial statements.

(English Translation of the Consolidated Financial Statements Originally Issued in Chinese)

Sino-American Silicon Products Inc. and subsidiaries

Consolidated Statements of Comprehensive Income

For the years ended December 31, 2021 and 2020

(Expressed in Thousands of New Taiwan Dollars, Except for Earnings Per Share)

		2021		2020	
		Amount	**%**	**Amount**	**%**
4000	**Operating revenue** (notes 6(23) and 7)	$ 68,841,250	100	61,397,299	100
5000	**Operating costs** (notes 6(6), (10), (17), (18) and 7)	44,314,606	64	40,283,700	66
	Gross profit from operations	24,526,644	36	21,113,599	34
	Operating expenses (notes 6(10), (17), (18), (24) and 7):				
6100	Selling expenses	1,634,768	3	1,431,684	2
6200	Administrative expenses	2,647,334	4	3,020,051	5
6300	Research and development expenses	2,165,030	3	1,742,108	3
6450	Expected credit losses (reversal gains) (note 6(5))	(481)	-	(12,341)	-
	Total operating expenses	6,446,651	10	6,181,502	10
	Net operating income	18,079,993	26	14,932,097	24
	Non-operating income and expenses:				
7100	Interest income (notes 6(25) and 8)	147,798	-	259,875	-
7020	Other gains and losses (note 6(26))	(906,993)	(1)	1,177,485	2
7050	Finance costs (note 6(25))	(332,325)	-	(105,939)	-
7060	Share of profit (loss) of associates accounted for using equity method (note 6(7))	217,254	-	(25,328)	-
		(874,266)	(1)	1,306,093	2
	Income before income tax	17,205,727	25	16,238,190	26
7950	Less: Income tax expense (note 6(19))	4,590,337	7	3,527,128	5
	Net income	12,615,390	18	12,711,062	21
8300	**Other comprehensive income:**				
8310	**Items that will not be reclassified subsequently to profit or loss**				
8311	Gains (losses) on remeasurements of defined benefit plans (note 6(18))	174,627	-	(254,213)	-
8316	Unrealized gains (losses) from investments in equity instruments measured at fair value through other comprehensive income	327,822	-	88,257	-
8320	Share of other comprehensive income of associates and joint ventures accounted for using equity method	551,647	1	728,216	1
8349	Income tax related to components of other comprehensive income that will not be reclassified to profit or loss (note 6(19))	(108,652)	-	38,521	-
		945,444	1	600,781	1
8360	**Items that may be reclassified subsequently to profit or loss**				
8361	Exchange differences on translation of foreign operations	(6,242,067)	(9)	(139,362)	-
8370	Share of other comprehensive income of associates accounted for using equity method (notes 6(7) and (27))	(2,098)	-	3,680	-
8399	Income tax related to components of other comprehensive income that may be reclassified to profit or loss (note 6(19))	1,232,023	(2)	33,505	-
		(5,012,142)	(7)	(102,177)	-
8300	**Other comprehensive income (after tax)**	(4,066,698)	(6)	498,604	1
	Total comprehensive income	**$ 8,548,692**	**12**	**13,209,666**	**22**
	Net income attributable to:				
	Shareholders of Sino-American Silicon Products Inc.	$ 6,811,050	10	6,326,235	11
	Non-controlling interests	5,804,340	8	6,384,827	10
		$ 12,615,390	**18**	**12,711,062**	**21**
	Total comprehensive income attributable to:				
	Shareholders of Sino-American Silicon Products Inc.	$ 4,845,754	7	6,627,194	11
	Non-controlling interests	3,702,938	5	6,582,472	11
		$ 8,548,692	**12**	**13,209,666**	**22**
	Earnings per share (NT dollars) (note 6(22))				
	Basic earnings per share	**$**	**11.62**		**10.82**
	Diluted earnings per share	**$**	**11.56**		**10.71**

See accompanying notes to consolidated financial statements.

(English Translation of the Consolidated Financial Statements Originally Issued in Chinese)

Sino-American Silicon Products Inc. and subsidiaries

Consolidated Statements of Changes in Equity

For the years ended December 31, 2021 and 2020

(Expressed in Thousands of New Taiwan Dollars)

	Equity attributable to owners of parent														
				Retained earnings				Other equity interest							
	Ordinary shares	Share capital awaiting retirement	Capital surplus	Legal reserve	Special reserve	Unappropriated retained earnings	Total retained earnings	Exchange differences on translation of foreign financial statements	Gains (losses) on equity instrument measured at fair value through other comprehensive income	Unearned compensation cost	Others	Total other equity interest	Total	Non-controlling interests	Total equity
Balance at January 1, 2020	$ 5,862,367	(150)	21,072,595	462,354	513,302	2,591,235	3,566,891	(2,224,344)	(1,585,242)	(18,608)	(3,268)	(3,831,462)	26,670,241	21,945,800	48,616,041
Net income for the year	-	-	-	-	-	6,326,235	6,326,235	-	-	-	-	-	6,326,235	6,384,827	12,711,062
Other comprehensive income for the year	-	-	-	-	-	(113,136)	(113,136)	(100,694)	514,789	-	-	414,095	300,959	197,645	498,604
Comprehensive income for the year	-	-	-	-	-	6,213,099	6,213,099	(100,694)	514,789	-	-	414,095	6,627,194	6,582,472	13,209,666
Appropriation and distribution of retained earnings:															
Legal reserve	-	-	-	259,122	-	(259,122)	-	-	-	-	-	-	-	-	-
Special reserve	-	-	-	-	817,117	(817,117)	-	-	-	-	-	-	-	-	-
Cash dividends on ordinary shares	-	-	-	-	-	(3,566,749)	(3,566,749)	-	-	-	-	-	(3,566,749)	-	(3,566,749)
Stock dividends from capital surplus	-	-	(1,416,136)	-	-	-	-	-	-	-	-	-	(1,416,136)	-	(1,416,136)
Changes in equity of associates accounted for using equity method	-	-	(176,098)	-	-	-	-	-	-	-	2,893	2,893	(173,205)	-	(173,205)
Due to donated assets received	-	-	873	-	-	-	-	-	-	-	-	-	873	-	873
Changes in non-controlling interests	-	-	-	-	-	-	-	-	-	-	-	-	-	(6,252)	(6,252)
Compensation cost of issued restricted stock awards	-	-	-	-	-	-	-	-	-	18,608	-	18,608	18,608	-	18,608
Share retirement and awaiting retirement due to expiration of restricted stock awards	(150)	150	-	-	-	-	-	-	-	-	-	-	-	-	-
Cash dividends by subsidiary	-	-	-	-	-	-	-	-	-	-	-	-	-	(7,013,364)	(7,013,364)
Balance at December 31, 2020	5,862,217	-	19,481,234	721,476	1,330,419	4,161,346	6,213,241	(2,325,038)	(1,070,453)	-	(375)	(3,395,866)	28,160,826	21,508,656	49,669,482
Net income for the year	-	-	-	-	-	6,811,050	6,811,050	-	-	-	-	-	6,811,050	5,804,340	12,615,390
Other comprehensive income for the year	-	-	-	-	-	72,164	72,164	(2,580,496)	543,036	-	-	(2,037,460)	(1,965,296)	(2,101,402)	(4,066,698)
Comprehensive income for the year	-	-	-	-	-	6,883,214	6,883,214	(2,580,496)	543,036	-	-	(2,037,460)	4,845,754	3,702,938	8,548,692
Appropriation and distribution of retained earnings:															
Legal reserve	-	-	-	621,310	-	(621,310)	-	-	-	-	-	-	-	-	-
Special reserve	-	-	-	-	23	(23)	-	-	-	-	-	-	-	-	-
Cash dividends on ordinary shares	-	-	-	-	-	(3,286,769)	(3,286,769)	-	-	-	-	-	(3,286,769)	-	(3,286,769)
Cash dividends from capital surplus	-	-	(1,989,226)	-	-	-	-	-	-	-	-	-	(1,989,226)	-	(1,989,226)
Changes in equity of associates accounted for using equity method	-	-	(60,171)	-	-	-	-	-	-	-	(5,681)	(5,681)	(65,852)	-	(65,852)
Conversion rights of subsidiary's convertible bonds	-	-	871,666	-	-	-	-	-	-	-	-	-	871,666	831,804	1,703,470
Changes in non-controlling interests	-	-	-	-	-	-	-	-	-	-	-	-	-	1,407,638	1,407,638
Due to donated assets received	-	-	683	-	-	-	-	-	-	-	-	-	683	-	683
Cash dividends by subsidiary	-	-	-	-	-	-	-	-	-	-	-	-	-	(3,825,180)	(3,825,180)
Balance at December 31, 2021	**$ 5,862,217**	**-**	**18,304,186**	**1,342,786**	**1,330,442**	**7,136,458**	**9,809,686**	**(4,905,534)**	**(527,417)**	**-**	**(6,056)**	**(5,439,007)**	**28,537,082**	**23,625,856**	**52,162,938**

See accompanying notes to consolidated financial statements.

(English Translation of the Consolidated Financial Statements Originally Issued in Chinese)

Sino-American Silicon Products Inc. and subsidiaries

Consolidated Statements of Cash Flows

For the years ended December 31, 2021 and 2020

(Expressed in Thousands of New Taiwan Dollars)

	2021	2020
Cash flows from operating activities:		
Income before income tax	$ 17,205,727	16,238,190
Adjustments:		
Adjustments to reconcile profit (loss):		
Depreciation expenses	6,285,301	5,791,202
Amortization expenses	225,429	356,495
Expected credit reversal gains	(481)	(12,341)
Net loss (gain) on financial assets or liabilities at fair value through profit or loss	341,804	(457,709)
Interest expenses	332,325	105,939
Interest income	(147,798)	(259,875)
Dividend income	(286,232)	(13,216)
Share-based compensation cost	-	18,608
Shares of loss (gain) of associates accounted for using equity method	(217,254)	25,328
Losses (gains) on disposal of property, plant and equipment	(17,747)	1,126
Gains on disposal of investments	(113,180)	(34,165)
Reversal of impairment losses on financial assets	(3,454)	(22,519)
Recognition of impairment losses on non-financial assets	8,908	444,064
Recognition (reversal) of write-down of inventory	(48,093)	79,390
Reversal of provisions	(314,804)	(632,014)
Total adjustments	6,044,724	5,390,313
Changes in operating assets and liabilities:		
Notes and accounts receivable (including related parties)	(1,361,105)	112,146
Inventories	(517,907)	(609,735)
Prepayments	(1,094,824)	59,349
Other financial assets	(16,542)	(20,104)
Other operating assets	(59,534)	257,359
Contract liabilities	12,515,171	(3,513,125)
Notes and accounts payable (including related parties)	361,142	24,699
Net defined benefit liabilities	(428,715)	(173,424)
Other operating liabilities	1,203,461	(146,809)
Total changes in operating assets and liabilities	10,601,147	(4,009,644)
Total adjustments	16,645,871	1,380,669
Cash inflow generated from operations	33,851,598	17,618,859
Interest received	125,470	258,838
Dividends received	286,232	13,216
Interest paid	(84,820)	(106,332)
Income taxes paid	(3,196,179)	(3,203,771)
Net cash flows generated from operating activities	30,982,301	14,580,810

(Continued)

See accompanying notes to consolidated financial statements.

(English Translation of the Consolidated Financial Statements Originally Issued in Chinese)

Sino-American Silicon Products Inc. and subsidiaries

Consolidated Statements of Cash Flows(Continued)

For the years ended December 31, 2021 and 2020

(Expressed in Thousands of New Taiwan Dollars)

	2021	2020
Cash flows from investing activities:		
Acquisition of financial assets at fair value through other comprehensive income	(529,277)	(95,357)
Proceeds from capital reduction of financial assets at fair value through other comprehensive income	42,267	12,561
Acquisition of financial assets at amortized cost	(330,000)	-
Proceeds from disposal of financial assets at amortized cost	280,000	250,000
Acquisition of financial assets at fair value through profit or loss	(13,579,261)	(5,611,917)
Proceeds from disposal of financial assets at fair value through profit or loss	124	2,103,746
Acquisition of investments accounted for using equity method	(146,837)	(3,958,110)
Proceeds from disposal of investments accounted for using equity method	128,629	516,948
Cash dividends from investment accounted for using equity method	221,598	99,406
Acquisition of property, plant and equipment	(6,010,740)	(9,168,800)
Proceeds from disposal of property, plant and equipment	65,121	105,647
Acquisition of intangible assets	(6,256)	(3,631)
Net cash inflows from business combination	58,787	-
Decrease (increase) in other financial assets	785,902	(1,816,568)
Increase in other prepayments	(192,381)	-
Net cash flows used in investing activities	(19,212,324)	(17,566,075)
Cash flows from financing activities:		
Decrease (increase) in short-term loans	(3,011,698)	676,375
Repayments of long-term borrowings	(170,495)	(237,741)
Decrease in guarantee deposits	(34,658)	(156,243)
Repayment of the principal portion of lease liabilities	(203,538)	(198,464)
Cash dividends and capital surplus distribution	(5,275,995)	(2,931,109)
Proceeds from bonds offerings	46,812,845	-
Distribution of cash dividends for non-controlling interests	(3,825,180)	(5,313,154)
Donation surplus	683	873
Change in non-controlling interests	-	(6,252)
Net cash flows generated from (used in) financing activities	34,291,964	(8,165,715)
Effect of exchange rate changes on cash and cash equivalents	(2,756,625)	62,145
Net increase (decrease) in cash and cash equivalents	43,305,316	(11,088,835)
Cash and cash equivalents at beginning of period	23,812,590	34,901,425
Cash and cash equivalents at end of period	$ **67,117,906**	**23,812,590**

See accompanying notes to consolidated financial statements.

Sino-American Silicon Products Inc. and subsidiaries

Notes to the Consolidated Financial Statements

For the years ended December 31, 2021 and 2020

(Expressed in Thousands of New Taiwan Dollars, Unless Otherwise Specified)

1. Company history

Sino-American Silicon Products Inc. ("SAS" or "the Company") was incorporated in accordance with the Company Act of the Republic of China in January 1981. The address of its registered is No.8, Industrial East Road 2, Science Based Industrial Park, Hsinchu, Taiwan, R.O.C. The Company, as well as its subsidiaries (together referred to as the "Group"), mainly engages in the design, production, and sale of semi-conductor silicon materials and components, rheostat, optical and communications wafer materials; also the related technology, management consulting business, and technical services of the photo-voltaic power system generation and installation.

The Company's common stocks have been officially listed and traded on Taipei Exchange since March 2001.

For the purpose of reorganization and professional division of work and enhancing competitiveness and business performance, a resolution was reached at the shareholders' meeting on June 17, 2011 to have the semiconductor business and sapphire business (including the related assets, liabilities and business operations), by the way of incorporation and demerger, transferred to the Company' s 100% owned subsidiaries, GlobalWafers Co., Ltd. (hereinafter referred to as "GlobalWafers") and Sino Sapphire CO., LTD (hereinafter referred to as "Sino Sapphire") with the base date of demerger scheduled on October 1, 2011. The Company based on the net book value of the semi-conductor business shall pay a price of NT$38.5 per share for acquiring 180,000 thousand shares at NT$ 10 par value of GlobalWafers; also, based on the sapphire business net assets shall pay a price of NT$ 40 per share for acquiring 40,000 thousand shares at NT$ 10 par value of Sino Sapphire.

GlobalWafers's common shares have been listed on Taipei Exchange ("TPEx") since September 25, 2015, and were delisted from the Emerging Market at the same date.

The Group acquired all outstanding ordinary shares of SunEdison Semiconductor Limited (hereinafter referred to as SunEdison) on December 2, 2016 so that it acquired the control over SunEdison Semiconductor Limited and its subsidiaries. SunEdison is the world' s leading semiconductor wafer manufacturer and supplier. Since its inception, SunEdison has been a leader in wafer design and R&D technology. SunEdison's R&D and manufacturing bases are located throughout the United States, Europe and Asia to develop next generation high performance semiconductor wafers. Through this acquisition, the Group will be able to increase its global market share, customer base, other wafer technology and capacity and expand operations.

2. Approval date and procedures of the consolidated financial statements:

The consolidated financial statements were authorized for issue by the Board of Directors on March 17, 2022.

3. New standards, amendments and interpretations adopted:

(1) The impact of the International Financial Reporting Standards ("IFRSs") endorsed by the Financial Supervisory Commission, R.O.C. which have already been adopted.

The Group has initially adopted the following new amendments, which do not have a significant impact on its consolidated financial statements, from January 1, 2021:

- Amendments to IFRS 4 "Extension of the Temporary Exemption from Applying IFRS 9"
- Amendments to IFRS 9, IAS39, IFRS7, IFRS 4 and IFRS 16 "Interest Rate Benchmark Reform—Phase 2"

The Group has initially adopted the following new amendments, which do not have a significant impact on its parent-company-only consolidated financial statements, from April 1, 2021:

- Amendments to IFRS 16 "Covid-19-Related Rent Concessions beyond June 30, 2021"

(2) The impact of IFRS issued by the FSC but not yet effective

The Group assesses that the adoption of the following new amendments, effective for annual period beginning on January 1, 2022, would not have a significant impact on its consolidated financial statements:

- Amendments to IAS 16 "Property, Plant and Equipment－Proceeds before Intended Use"
- Amendments to IAS 37 "
- Annual Improvements to IFRS Standards 2018–2020
- Amendments to IFRS 3 "Reference to the Conceptual Framework"

(3) The impact of IFRS issued by IASB but not yet endorsed by the FSC

The following new and amended standards, which may be relevant to the Group, have been issued by the International Accounting Standards Board, but have yet to be endorsed by the FSC:

Standards or Interpretations	Content of amendment	Effective date per IASB
Amendments to IAS 1 "Classification of Liabilities as Current or Non-current"	The amendments aim to promote consistency in applying the requirements by helping companies determine whether, in the statement of balance sheet, debt and other liabilities with an uncertain settlement date should be classified as current (due or potentially due to be settled within one year) or non-current. The amendments include clarifying the classification requirements for debt a company might settle by converting it into equity.	January 1, 2023

Standards or Interpretations	Content of amendment	Effective date per IASB
Amendments to IAS 12 “Deferred Tax related to Assets and Liabilities arising from a Single Transaction”	The amendments narrowed the scope of the recognition exemption so that it no longer applies to transactions that, on initial recognition, give rise to equal taxable and deductible temporary differences.	January 1, 2023

The Group is evaluating the impact of its initial adoption of the abovementioned standards or interpretations on its consolidated financial position and consolidated financial performance. The results thereof will be disclosed when the Group completes its evaluation.

The Group does not expect the following other new and amended standards, which have yet to be endorsed by the FSC, to have a significant impact on its consolidated financial statements:

- Amendments to IFRS 10 and IAS 28 “Sale or Contribution of Assets Between an Investor and Its Associate or Joint Venture”
- IFRS 17 “ Insurance Contracts” and amendments to IFRS 17 “ Insurance Contracts”
- Amendments to IAS 1 “Disclosure of Accounting Policies”
- Amendments to IAS 8 “Definition of Accounting Estimates”

4. Summary of significant accounting policies:

The significant accounting policies presented in the consolidated financial statements are summarized below. Except for those specifically indicated, the following accounting policies were applied consistently throughout the periods presented in the consolidated financial statements.

(1) Statement of compliance

The consolidated financial statements have been prepared in accordance with the “ Regulations Governing the Preparation of Financial Reports by Securities Issuers” (hereinafter referred to as the Regulations), International Financial Reporting Standards, International Accounting Standards, IFRIC Interpretations, and SIC Interpretations endorsed and issued into effect by the Financial Supervisory Commission, R.O.C (hereinafter referred to as the “IFRSs endorsed by the FSC”).

(2) Basis of preparation

A. Basis of measurement

Expect for the following significant accounts, the consolidated financial statements have been prepared on a historical cost basis:

(a) Financial instruments at fair value through profit or loss are measured at fair value;

(b) Financial assets at fair value through other comprehensive income are measured at fair value;

(c) Cash-settled-shared-based payment liability is measured at fair value;

(d) The defined benefit liabilities (assets) are measured at fair value of the plan assets, less the present value of the defined benefit obligation and the asset ceiling, as explained in note 4(16).

B. Functional and presentation currency

The functional currency of each Group entity is determined based on the primary economic environment in which the entity operates. The consolidated financial statements are presented in New Taiwan dollars (NTD), which is the Company' s functional currency. All financial information presented in NTD has been rounded to the nearest thousand.

(3) Basis of consolidation

A. Principles of preparation of the consolidated financial statements

The consolidated financial statements comprise the Company and subsidiaries. Subsidiaries are entities controlled by the Group. The Group 'controls' an entity when it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity.

The financial statements of the subsidiaries are included in the consolidated financial statements from the date on which control commences until the date on which control ceases. Intra-group balances and transactions, and any unrealized income and expenses arising from intra-group transactions are eliminated in preparing the consolidated financial statements. The Group attributes the profit or loss and each component of other comprehensive income to the owners of the parent and to the non-controlling interests, even if this results in the non-controlling interests having a deficit balance.

The Group prepares consolidated financial statements using uniform accounting policies for alike transactions and other events in similar circumstances.

Changes in the Group's ownership interest in a subsidiary that do not result in a loss of control are accounted for as equity transactions. Any difference between the amount by which the non-controlling interests are adjusted and the fair value of the consideration paid or received will be recognized directly in equity, and the Group will attribute it to the owners of the parent.

When the Group loses control over a subsidiary, it derecognizes the assets (including any goodwill) and liabilities of the subsidiary, and any related non-controlling interests and other components of equity. Any interest retained in the former subsidiary is measured at fair value when control is lost, with the resulting gain or loss being recognized in profit or loss. The Group recognizes as gain or loss in profit or loss the difference between (i) the fair value of the consideration received as well as 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), liabilities of the subsidiary as well as any related non-controlling interests at their carrying amounts at the date when control is lost, as gain or loss in profit or loss. When the Group loses control of its subsidiary, it accounts for all amounts previously recognized in other comprehensive income in relation to that subsidiary on the same basis as would be required if it had directly disposed of the related assets or liabilities.

B. List of subsidiaries in the consolidated financial statements:

Name of Investor	Name of subsidiary	Business	Percentage of Ownership December 31, 2021	Percentage of Ownership December 31, 2020	Note
Sino-American Silicon Products Inc.	Sino Silicon Technology Inc. (SSTI)	Investment and triangular trade center with subsidiaries in China	100%	100%	
Sino-American Silicon Products Inc.	GlobalWafers	Manufacturing and trading of semiconductor silicon materials and components,	51.17%	51.17%	
Sino-American Silicon Products Inc.	Aleo Solar GmbH (Aleo Solar)	Solar cell manufacturing and sale and wholesale of electronic materials	100%	100%	
Sino-American Silicon Products Inc.	SAS Sunrise Inc.	Investment activities	100%	100%	
Sino-American Silicon Products Inc.	Sunrise PV Three Co., Ltd. (Sunrise PV Three)	Power generating business	100%	100%	
Sino-American Silicon Products Inc.	SAS Capital Co., Ltd. (SSH)	Investment activities	100%	100%	
Sino-American Silicon Products Inc.	Sustainable Energy Solution Co., Ltd. (SES)	Energy technology service business	100%	-	Note 5
Sino-American Silicon Products Inc.	Taiwan Speciality Chemicals Corporation (Taiwan Speciality Chemicals)	Semiconductor special gas and chemical materials	30.93%	-	Note 4
SAS Sunrise Inc.	SAS Sunrise Pte. Ltd.	Investment activities	-	100%	Note 6
SAS Sunrise Inc.	Sulu Electric Power and Light Inc. (Sulu)	Power generating business	40%	40%	Note 1
SAS Sunrise Pte. Ltd.	AMLED International Systems Inc. (AMLED)	Investment activities	-	-	Note 2
AMLED	Sulu	Power generating business	45%	45%	
Aleo Solar	Aleo Solar Distribuzione Italia S.r.l	Solar cell manufacturing and sale and wholesale of electronic materials	100%	100%	
GlobalWafers	GlobalSemiconductor Inc. (GSI)	Investment activities	100%	100%	
GlobalWafers	GlobalWafers Inc. (GWI)	Investment activities	100%	100%	
GlobalWafers	GlobalWafers Japan Co., Ltd. (GWJ)	Manufacturing and trading of semiconductor silicon materials	100%	100%	
GlobalWafers	GWafers Singapore Pte. Ltd. (GWafers Singapore)	Investment activities	100%	100%	
GlobalWafers	Sunrise PV Four Co., Ltd. (Sunrise PV Four)	Power generating business	100%	100%	

Name of Investor	Name of subsidiary	Business	Percentage of Ownership December 31, 2021	Percentage of Ownership December 31, 2020	Note
GlobalWafers	Sunrise PV Five Co., Ltd. (Sunrise PV Five)	Power generating business	100%	100%	
GlobalWafers	GWC Capital Co., Ltd. (GWH)	Investment activities	100%	100%	
GSI	Kunshan Sino Silicon Technology Co., Ltd. (SST)	Processing and trading of ingots and wafers	100%	100%	
GWJ	MEMC Japan Ltd. (MEMC Japan)	Manufacturing and trading of silicon wafers	100%	100%	
SST	MEMC Electronic Materials, Sdn Bhd (MEMC Sdn Bhd)	Semiconductor silicon wafer R&D, manufacturing and sales	100%	100%	
GWafers Singapore	GlobalWafers Singapore Pte Ltd. (GWS)	Investment holding and trading	100%	100%	Note 3(1)
GWS	GlobalWafers B.V. (GWBV)	Investment activities	100%	100%	
GWBV	MEMC Electronic Materials, SpA (MEMC SpA)	Manufacturing and trading of semiconductor silicon materials	100%	100%	
MEMC SpA	MEMC Electronic Materials France SarL (MEMC SarL)	Trading	100%	100%	
MEMC SpA	MEMC Electronic Materials GmbH (MEMC GmbH)	Trading	-	100%	Note 3(2)
GWBV	MEMC Korea Company (MEMC Korea)	Manufacturing and trading of semiconductor silicon materials	100%	100%	
GWBV	MEMC Ipoh Sdn Bhd (MEMC Ipoh)	Manufacturing and trading of semiconductor silicon materials	100%	100%	
GWBV	GlobiTech Incorporated (GTI)	Epitaxial silicon wafer production and trade of epitaxy foundry business	100%	100%	
GWBV	Topsil GlobalWafers A/S (Topsil A/S)	Manufacturing and trading of semiconductor silicon materials	100%	100%	
GWBV	GlobalWafers GmbH (GW GmbH)	Manufacturing and trading of semiconductor silicon materials	100%	100%	
GTI	MEMC LLC	Semiconductor silicon wafer R&D, manufacturing and sales	100%	100%	
Topsil A/S	Topsil Semiconductor sp z o o. (Topsil PL)	Manufacturing and trading of silicon wafers	100%	100%	

Note 1: The Group can control the financial and operating strategies of Sulu through effective agreements with its other investors, so Sulu is considered as a subsidiary.

Note 2: The Group does not have an owners' equity of AMLED. However, the Group controls the financial and operating strategies of AMLED and receives all benefits of its operations and net assets based on terms of the agreement. AMLED is considered a subsidiary.

Note 3: The Group adjusted its organizational structure as follows:

(1) Formerly known as SunEdison.

(2) MEMC GmbH completed the liquidation process in December 2021.

Note 4: In August 2021, the Group acquired control of Taiwan Speciality Chemicals after obtaining more than half of the total number of directors in a reshuffle of the Board of Directors.

Note 5: SES was established in April 2021.

Note 6: Liquidation procedures of SAS Sunrise Pte. Ltd. were completed in 2021.

C. Subsidiaries excluded from the consolidated financial statements: None.

(4) Foreign currencies

A. Foreign currency transactions

Transactions in foreign currencies are translated into the respective functional currencies of Group entities at the exchange rates at the dates of the transactions. At the end of each subsequent reporting period, monetary items denominated in foreign currencies are translated into the functional currencies using the exchange rate at that date.

Non-monetary items denominated in foreign currencies that are measured at fair value are translated into the functional currencies using the exchange rate at the date that the fair value was determined. Non-monetary items denominated in foreign currencies that are measured based on historical cost are translated using the exchange rate at the date of the transaction.

Exchange differences are generally recognized in profit or loss, except for an equity investment in equity securities designated as at fair value through other comprehensive income, which are recognized in other comprehensive income.

B. Foreign operations

The assets and liabilities of foreign operations, including goodwill and fair value adjustments arising on acquisition, are translated into New Taiwan Dollars at the exchange rates at the reporting date. The income and expenses of foreign operations are translated into New Taiwan Dollars at the average rate. Exchange differences are recognized in other comprehensive income.

When a foreign operation is disposed of such that control, significant influence, or joint control is lost, the cumulative amount in the translation reserve related to that foreign operation is reclassified to profit or loss as part of the gain or loss on disposal. When the Group disposes of only part of its interest in a subsidiary that includes a foreign operation while retaining control, the relevant proportion of the cumulative amount is reattributed to non-controlling interests. When the Group disposes of only part of its investment in an associate or joint venture that includes a foreign operation while retaining significant influence or joint control, the relevant proportion of the cumulative amount is reclassified to profit or loss.

When the settlement of a monetary receivable from or payable to a foreign operation is neither planned nor likely to occur in the foreseeable future, exchange differences arising from such a monetary item that are considered to form part of the net investment in the foreign operation are recognized in other comprehensive income.

(5) Classification of current and non-current assets and liabilities

An asset is classified as current under one of the following criteria, and all other assets are classified as non-current:

A. It is expected to be realized, or intends to be sold or consumed, in the normal operating cycle;

B. It is held primarily for the purpose of trading;

C. It is expected to be realized within twelve months after the reporting period; or

D. The asset is cash or cash equivalent unless the asset is restricted from being exchanged or used to settle a liability for at least twelve months after the reporting period.

A liability is classified as current under one of the following criteria, and all other liabilities are classified as non-current:

A. It is expected to be settled in the normal operating cycle;

B. It is held primarily for the purpose of trading;

C. It is due to be settled within twelve months after the reporting period; or

D. The Group does not have an unconditional right to defer settlement of the liability for at least twelve months after the reporting period. Terms of a liability that could, at the option of the counterparty, result in its settlement by issuing equity instruments do not affect its classification.

(6) Cash and cash equivalent

Cash comprises cash on hand and demand deposits. Cash equivalents are short-term, highly liquid investments that are readily convertible to known amounts of cash and are subject to an insignificant risk of changes in value. Time deposits which meet the above definition and are held for the purpose of meeting short-term cash commitments rather than for investment or other purposes should be recognized as cash equivalents.

(7) Financial instruments

Trade receivables and debt securities issued are initially recognized when they are originated. All other financial assets and financial liabilities are initially recognized when the Group becomes a party to the contractual provisions of the instrument. A financial asset (unless it is a trade receivable without a significant financing component) or financial liability is initially measured at fair value plus, for an item not at fair value through profit or loss (FVTPL), transaction costs that are directly attributable to its acquisition or issue. A trade receivable without a significant financing component is initially measured at the transaction price.

A. Financial assets

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

On initial recognition, a financial asset is classified as measured at amortized cost, FVOCI, and FVTPL. Financial assets are not reclassified subsequently to their initial recognition unless the Group changes its business model for managing financial assets, in which case all affected financial assets are reclassified on the first day of the first reporting period following the change in the business model.

(a) Financial assets measured at amortized cost

A financial asset is measured at amortized cost if it meets both of the following conditions and is not designated as at FVTPL:

- It is held within a business model whose objective is to hold assets to collect contractual cash flows; and.
- Its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

These assets are subsequently measured at amortized cost, which is the amount at which the financial asset is measured at initial recognition, plus/minus, the cumulative amortization using the effective interest method, adjusted for any loss allowance. Interest income, foreign exchange gains and losses, as well as impairment, are recognized in profit or loss. Any gain or loss on derecognition is recognized in profit or loss.

(b) Fair value through other comprehensive income (FVTOCI)

A debt investment is measured at FVOCI if it meets both of the following conditions and is not designated as at FVTPL:

- it is held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets; and
- its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

On initial recognition of an equity investment that is not held for trading, the Group may irrevocably elect to present subsequent changes in the investment' s fair value in other comprehensive income. This election is made on an instrument-by-instrument basis.

Equity investments at FVOCI are subsequently measured at fair value. Dividends are recognized as income in profit or loss unless the dividend clearly represents a recovery of part of the cost of the investment. Other net gains and losses are recognized in other comprehensive income.

Dividend income is recognized in profit or loss on the date on which the Group's right to receive payment is established.

(c) Fair value through profit or loss (FVTPL)

All financial assets not classified as amortized cost or FVTOCI described as above are measured at FVTPL. On initial recognition, the Group may irrevocably designate a financial asset, which meets the requirements to be measured at amortized cost or at FVTOCI, as at FVTPL if doing so eliminates or significantly reduces an accounting mismatch that would otherwise arise.

These assets are subsequently measured at fair value. Net gains and losses, including any interest or dividend income, are recognized in profit or loss.

(d) Assess whether the contractual cash flow is entirely for the payment of the principal and interest on the outstanding principal amount

For the purposes of this assessment, principal is defined as the fair value of the financial assets on initial recognition. Interest is defined as consideration for the time value of money and for the credit risk associated with the principal amount outstanding during a particular period of time and for other basic lending risks and costs, as well as a profit margin.

In assessing whether the contractual cash flows are solely payments of principal and interest, the Group considers the contractual terms of the instrument. This includes assessing whether the financial asset contains a contractual term that could change the timing or amount of contractual cash flows such that it would not meet this condition. In making this assessment, the Group considers:

- contingent events that would change the amount or timing of cash flows;
- terms that may adjust the contractual coupon rate, including variable rate features;
- prepayment and extension features; and
- terms that limit the Group's claim to cash flows from specified assets (e.g. non-recourse features).

(e) Impairment of financial assets

The Group recognizes loss allowances for expected credit losses (ECL) on financial assets measured at amortized cost (including cash and cash equivalents, financial assets measured at amortized costs, notes and accounts receivable, guarantee deposits and other financial assets) and contract assets.

The Group measures loss allowances at an amount equal to lifetime ECL, except for the following which are measured by 12-month ECL:

- debt securities that are determined to have low credit risk at the reporting date; and
- other debt securities and bank balances for which credit risk (i.e. the risk of default occurring over the expected life of the financial instrument) has not increased significantly since initial recognition.

Loss allowance for accounts receivable and contract assets are always measured at an amount equal to lifetime ECL.

When determining whether the credit risk of a financial asset has increased significantly since initial recognition and when estimating ECL, the Group considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes both quantitative and qualitative information and analysis based on the Group's historical experience and informed credit assessment as well as forward-looking information.

The Group considers a debt security to have low credit risk when its credit risk rating is equivalent to the globally understood definition of 'investment grade which is considered to be BBB or higher per Standard & Poor's, Baa3 or higher per Moody's or twA or higher per Taiwan Ratings'.

The Group assumes that the credit risk on a financial asset has increased significantly if it is more than 30 days past due.

The Group considers a financial asset to be in default when the financial asset is more than 180 days past due or the debtor is unlikely to pay its credit obligations to the Group in full.

Lifetime ECL are the ECL that result from all possible default events over the expected life of a financial instrument.

12-month ECLs are the portion of ECLs that result from default events that are possible within the 12-month after the reporting date (or a shorter period if the expected life of the instrument is less than 12 months).

The maximum period considered when estimating ECLs is the maximum contractual period over which the Group is exposed to credit risk.

ECLs are probability-weighted estimate of credit losses over the expected life of financial assets. Credit losses are measured as the present value of all cash shortfalls, i.e the difference between the cash flows due to the Group in accordance with the contract and the cash flows that the Group expects to receive. ECL are discounted at the effective interest rate of the financial asset.

At each reporting date, the Group assesses whether financial assets carried at amortized cost and debt securities at FVOCI are credit-impaired. A financial asset is 'credit-impaired' when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred. An evidence that a financial asset is credit-impaired includes the following observable data:

- significant financial difficulty of the borrower or issuer;
- a breach of contract such as a default or being more than 90 days past due;
- the lender of the borrower, for economic or contractual reasons relating to the borrower's financial difficulty, having granted to the borrower a concession that the lender would not otherwise consider;

- it is probable that the borrower will enter bankruptcy or other financial reorganization; or

- the disappearance of an active market for a security because of financial difficulties.

Loss allowances for financial assets measured at amortized cost are deducted from the gross carrying amount of assets.

The gross carrying amount of a financial asset is written off either partially or in full to the extent that there is no realistic prospect of recovery. The Group individually makes an assessment with respect to the timing and amount of write-off based on whether there is a reasonable expectation of recovery. The Group expects no significant recovery from the amount written off. However, financial assets that are written off could still be subject to enforcement activities in order to comply with the Group’ s procedures for recovery of amount due.

(f) Derecognition of financial assets

The Group derecognizes a financial asset when the contractual rights to the cash flows from the financial asset expire, or it transfers the rights to receive the contractual cash flows in a transaction in which substantially all of the risks and rewards of ownership of the financial asset are transferred or in which the Group neither transfers nor retains substantially all of the risks and rewards of ownership and it does not retain control of the financial asset.

The Group enters into transactions whereby it transfers assets recognized in its statement of balance sheet, but retains either all or substantially all of the risks and rewards of the transferred assets. In these cases, the transferred assets are not derecognized.

B. Financial liabilities and equity instruments

(a) Classification of debt or equity

Debt and equity instruments issued by the Group are classified as financial liabilities or equity in accordance with the substance of the contractual agreements and the definitions of a financial liability and an equity instrument.

(b) Equity instruments

An equity instrument is any contract that evidences the residual interest in the assets of an entity after deducting all of its liabilities. Equity instruments issued is recognized as the amount of consideration received, less the direct cost of issuing.

(c) Treasury shares

When shares recognized as equity are repurchased, the amount of the consideration paid, which includes directly attributable costs, is recognized as a deduction from equity. Repurchased shares are classified as treasury shares. When treasury shares are sold or reissued subsequently, the amount received is recognized as an increase in equity, and the resulting surplus or deficit on the transaction is recognized in capital surplus or retained earnings (if the capital surplus is not sufficient to be written down).

(d) Compound financial instruments

Compound financial instruments issued by the Group comprise convertible bonds denominated in NTD that can be converted to ordinary shares at the option of the holder, when the number of shares to be issued is fixed and does not vary with changes in fair value.

The liability component of compound financial instruments is initially recognized at the fair value of a similar liability that does not have an equity conversion option. The equity component is initially recognized at the difference between the fair value of the compound financial instrument as a whole and the fair value of the liability component. Any directly attributable transaction costs are allocated to the liability and equity components in proportion to their initial carrying amounts.

(e) Financial liabilities

Financial liabilities are classified as measured at amortized cost or FVTPL. A financial liability is classified as at FVTPL if it is classified as held-for-trading, it is a derivative or it is designated as such on initial recognition. Financial liabilities at FVTPL are measured at fair value and net gains and losses, including any interest expense, are recognized in profit or loss.

Other financial liabilities are subsequently measured at amortized cost using the effective interest method. Interest expense and foreign exchange gains and losses are recognized in profit or loss. Any gain or loss on derecognition is also recognized in profit or loss.

(f) Derecognition of financial liabilities

The Group derecognizes a financial liability when its contractual obligations are discharged or cancelled, or expire. The Group also derecognizes a financial liability when its terms are modified and the cash flows of the modified liability are substantially different, in which case a new financial liability based on the modified terms is recognized at fair value.

On derecognition of a financial liability, the difference between the carrying amount of a financial liability extinguished and the consideration paid (including any non-cash assets transferred or liabilities assumed) is recognized in profit or loss.

(g) Offsetting of financial assets and liabilities

Financial assets and financial liabilities are offset and the net amount presented in the statement of balance sheet when, and only when, the Group currently has a legally enforceable right to offset the amounts and it intends either to settle them on a net basis or to realize the asset and settle the liability simultaneously.

C. Derivative financial instruments

The Group holds derivative financial instruments to hedge its foreign currency and interest rate exposures. Derivatives are initially measured at fair value. Subsequent to initial recognition, derivatives are measured at fair value, and changes therein are recognized in profit or loss.

Derivatives are initially measured at fair value. Subsequent to the initial recognition, derivatives are measured at fair value, and changes therein are generally recognized in profit or loss.

(8) Inventories

Inventories are measured at the lower of cost or net realizable value. The cost of inventories is based on the weighted average cost method and includes expenditure incurred in acquiring the inventories, production or conversion cost, and other costs incurred in bringing them to their present location and condition. In the case of manufactured inventories and work in progress, cost includes an appropriate share of production overheads based on operating capacity.

Net realizable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and selling expenses necessary to make the sale.

(9) Investment in associates

Associates are those entities in which the Group has significant influence, but not control or joint control, over their financial and operating policies.

Investments in associates are accounted for using the equity method and are recognized initially at cost. The cost of the investment includes transaction costs. The carrying amount of the investment in associates includes goodwill arising from the acquisition, less any accumulated impairment losses.

The consolidated financial statements include the Group’s share of the profit or loss and other comprehensive income of those associates, after adjustments to align their accounting policies with those of the Group, from the date on which significant influence commences until the date on which significant influence ceases. The Group recognizes any changes of its proportionate share in the investee within capital surplus, when an associate’s equity changes due to reasons other than profit and loss or comprehensive income, which did not result in changes in actual significant influence.

Gains and losses resulting from transactions between the Group and an associate are recognized only to the extent of unrelated Group’s interests in the associate.

When the Group’s share of losses of an associate equals or exceeds its interests in an associate, it discontinues recognizing its share of further losses. After the recognized interest is reduced to zero, additional losses are provided for, and a liability is recognized, only to the extent that the Group has incurred legal or constructive obligations or made payments on behalf of the associate.

When the Group subscribes to additional shares in an associate at a percentage different from its existing ownership percentage, the resulting carrying amount of the investment will differ from the amount of the Group’s proportionate interest in the net assets of the associate. The Group records such a difference as an adjustment to investments, with the corresponding amount charged or credited to capital surplus. The aforesaid adjustment should first be adjusted under additional paid in capital. If the additional paid in capital resulting from changes in ownership interest is not sufficient, the remaining difference is debited to retained earnings. If the Group’s ownership interest is reduced due to the additional subscription to the shares of the associate by other investors, the proportionate amount of the gains or losses previously recognized in other comprehensive income in relation to that associate will be reclassified to profit or loss on the same basis as would be required if the associate had directly disposed of the related assets or liabilities.

The Group discontinues the use of the equity method and measures the retained interest at fair value from the date when its investment ceases to be an associate. The difference between the fair value of retained interest and proceeds from disposing, and the carrying amount of the investment at the date the equity method was discontinued is recognized in profit or loss. The Group accounts for all the amounts previously recognized in other comprehensive income in relation to that investment on the same basis as would have been required if the associates had directly disposed of the related assets or liabilities. If a gain or loss previously recognized in other comprehensive income would be reclassified to profit or loss (or retained earnings) on the disposal of the related assets or liabilities, the Group reclassifies the gain or loss from equity to profit or loss (as a reclassification adjustment) (or retained earnings) when the equity method is discontinued. If the Group's ownership interest in an associate is reduced while it continues to apply the equity method, the Group reclassifies the proportion of the gain or loss that had previously been recognized in other comprehensive income relating to that reduction in ownership interest to profit or loss.

(10) Property, plant and equipment

A. Recognition and measurement

Items of property, plant and equipment are measured at cost, which includes capitalized borrowing costs, less accumulated depreciation and any accumulated impairment losses.

If significant parts of an item of property, plant and equipment have different useful lives, they are accounted for as separate items (major components) of property, plant and equipment.

Any gain or loss on disposal of an item of property, plant and equipment is recognized in profit or loss.

B. Subsequent cost

Subsequent expenditure is capitalized only if it is probable that the future economic benefits associated with the expenditure will flow to the Group.

C. Depreciation

Depreciation is calculated on the cost of an asset less its residual value and is recognized in profit or loss on a straight line basis over the estimated useful lives of each component of an item of property, plant and equipment.

Land is not depreciated.

The estimated useful lives of property, plant and equipment for current and comparative periods are as follows:

(a) Buildings and improvements: 2~56 years

(b) Machinery and equipment: 1~20 years

(c) Other equipment and leased assets: 1~40 years

(d) Buildings constitute mainly building, mechanical and electrical power equipment, and related engineering, wastewater treatment and sewage system, etc. Each such part is depreciated based on its useful life of 2 to 56 years, 25 years, and 4 to 20 years, respectively.

Depreciation methods, useful lives and residual values are reviewed at each reporting date and adjusted if appropriate.

(11) Leases

At inception of a contract, the Group assesses whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

A. As a leasee

The Group recognizes a right-of-use asset and a lease liability at the lease commencement date. The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located, less any lease incentives received.

The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the earlier of the end of the useful life of the right-of-use asset or the end of the lease term. In addition, the right-of-use asset is periodically reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease liability.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be reliably determined, the Group's incremental borrowing rate. Generally, the Group uses its incremental borrowing rate as the discount rate.

Lease payments included in the measurement of the lease liability comprise the following:

(a) fixed payments, including in-substance fixed payments;

(b) variable lease payments that depend on an index or a rate, initially measured using the index or rate as at the commencement date;

(c) amounts expected to be payable under a residual value guarantee; and

(d) payments for purchase or termination options that are reasonably certain to be exercised.

The lease liability is measured at amortized cost using the effective interest method. It is remeasured when:

(a) there is a change in future lease payments arising from the change in an index or rate; or

(b) there is a change in the Group's estimate of the amount expected to be payable under a residual value guarantee; or

(c) there is a change in the lease term resulting from a change of its assessment on whether it will exercise an option to purchase the underlying asset, or

(d) there is a change of its assessment on whether it will exercise an extension or termination option; or

(e) there are any lease modifications

When the lease liability is remeasured, other than lease, modifications a corresponding adjustment is made to the carrying amount of the right-of-use asset, or in profit and loss if the carrying amount of the right-of-use asset has been reduced to zero.

When the lease liability is remeasured to reflect the partial or full termination of the lease for lease modifications that decrease the scope of the lease, the Group accounts for the remeasurement of the lease liability by decreasing the carrying amount of the right-of-use asset to reflect the partial or full termination of the lease, and recognize in profit or loss any gain or loss relating to the partial or full termination of the lease.

The Group has elected not to recognize right-of-use assets and lease liabilities for short-term leases with 12 months or less and leases of low-value assets, including other equipment. The Group recognizes the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

B. As a lessor

When the Group acts as a lessor, it determines at lease commencement whether each lease is a finance lease or an operating lease. To classify each lease, the Group makes an overall assessment of whether the lease transfers to the lessee substantially all of the risks and rewards of ownership incidental to ownership of the underlying asset. If this is the case, then the lease is a finance lease; if not, then the lease is an operating lease. As part of this assessment, the Group considers certain indicators such as whether the lease is for the major part of the economic life of the asset.

If an arrangement contains lease and non-lease components, the Group applies IFRS15 to allocate the consideration in the contract.

(12) Intangible assets

A. Recognition and measurement

Goodwill arising on the acquisition of subsidiaries is measured at cost, less accumulated impairment losses.

Expenditure on research activities is recognized in profit or loss as incurred.

Development expenditure is capitalized only if the expenditure can be measured reliably, the product or process is technically and commercially feasible, future economic benefits are probable and the Group intends to, and has sufficient resources to, complete development and to use or sell the asset. Otherwise, it is recognized in profit or loss as incurred. Subsequent to initial recognition, development expenditure is measured at cost, less accumulated amortization and any accumulated impairment losses.

Other intangible assets that are acquired by the Group and have finite useful lives are measured at cost less accumulated amortization and any accumulated impairment losses.

B. Other intangible assets

Other intangible assets that are acquired by the Group and have finite useful lives are measured at cost less accumulated amortization and any accumulated impairment losses.

C. Subsequent expenditure

Subsequent expenditure is capitalized only when it increases the future economic benefits embodied in the specific asset to which it relates. All other expenditure, including expenditure on internally generated goodwill and brands, is recognized in profit or loss as incurred.

D. Amortization

Amortization is calculated over the cost of the asset, less its residual value, and is recognized in profit or loss on a straight-line basis over the estimated useful lives of intangible assets, other than goodwill, from the date that they are available for use.

The estimated useful lives for the current and comparative years are as follows:

(a) goodwill, expertise and trademarks: 4~11 years

(b) development costs: 10 years

(c) software: 2~5 years

Amortization methods, useful lives and residual values are reviewed at each reporting date and adjusted if appropriate.

(13) Impairment of non-financial assets

At each reporting date, the Group reviews the carrying amounts of its non-financial assets (other than inventories, contract assets and deferred tax assets) to determine whether there is any indication of impairment. If any such indication exists, then the asset’ s recoverable amount is estimated. Goodwill is tested annually for impairment.

For impairment testing, assets are grouped together into the smallest group of assets that generates cash inflows from continuing use that are largely independent of the cash inflows of other assets or cash-generating units ("CGUs"). Goodwill arising from a business combination is allocated to CGUs or groups of CGUs that are expected to benefit from the synergies of the combination.

The recoverable amount of an asset or a cash-generating unit ("CGU") is the greater of its value in use and its fair value less costs to sell. Value in use is based on the estimated future cash flows, discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or a CGU.

An impairment loss is recognized if the carrying amount of an asset or a CGU exceeds its recoverable amount. Impairment losses are recognized in profit or loss. They are allocated first to reduce the carrying amount of any goodwill allocated to the CGU and then, to reduce the carrying amounts of the other assets in the CGU on a pro rata basis.

An impairment loss in respect of goodwill is not reversed. For other assets, an impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortization, if no impairment loss had been recognized for the assets in prior years.

(14) Provisions

A provision is recognized if, as a result of a past event, the Group has a present obligation that can be estimated reliably, and it is probable that an outflow of economic benefits will be required to settle the obligation. Provisions are determined by discounting the expected future cash flows at a pre-tax rate that reflects the current market assessments of the time value of money and the risks specific to the liability. The unwinding of the discount is recognized as finance cost.

A. Site restoration

In accordance with the Group's published environmental policy and applicable legal requirements, a provision for site restoration in respect of contaminated land and the related expense are recognized when the land is contaminated. A provision for site restoration of lease land and the related expense are recognized over the term of the lease.

B. Onerous contracts

A provision for onerous contracts is recognized when the expected benefits to be derived by the Group from a contract are lower than the unavoidable cost of meeting its obligations under the contract. The provision is measured at the present value of the lower of the expected cost of terminating the contract or the expected net cost of continuing with the contract. Before a provision is established, the Group recognizes any impairment loss on the assets associated with that contract.

(15) Revenue recognition

A. Revenue from contracts with customers

Revenue is measured based on the consideration to which the Group expects to be entitled in exchange for transferring goods or services to a customer. The Group recognizes revenue when it satisfies a performance obligation by transferring control of a good or a service to a customer. The accounting policies for the Group's main types of revenue are explained below.

(a) Sale of goods

The Group engages mainly in the research, development, production, design, and sales of semiconductor ingots and wafers, varistors, optoelectronics and communication wafer materials. The Group recognizes revenue when control of the products has been transferred, being when the products are delivered to the customer, the customer has full discretion over the channel and price to sell the products, and there is no unfulfilled obligation that could affect the customer's acceptance of the products. Delivery occurs when the products have been shipped to the specific location, the risks of obsolescence and loss have been transferred to the customer, and either the customer has accepted the products in accordance with the sales contract, the acceptance provisions have lapsed, or the Group has objective evidence that all criteria for acceptance have been satisfied.

A receivable is recognized when the goods are delivered, as this is the point in time that the Group has a right to an amount of consideration that is unconditional.

(b) Product processing services

The Group provides processing of products and recognizes the relevant revenue during the financial reporting period of the labor service.

Revenue recognition for fixed price contracts is based on the ratio of services actually provided to total services as of the reporting date, which is determined by the percentage of labor performed to the total amount of labor to be performed.

If the situation changes, the estimates of revenue, cost, and degree of completion will be revised, and the increase or decrease in the period when the management is aware of the change in the situation will be reflected in profit or loss.

Under the fixed price contract, the customer pays a fixed amount in accordance with the agreed time schedule. When the services provided exceed the payment, the contract assets are recognized; if the payment exceeds the services provided, the contract liabilities are recognized.

If the contract is valued based on the number of hours in which the service is provided, the revenue is recognized by the amount in which the Group has the right to open an invoice. The Group will ask for a monthly payment from the customer and will receive the consideration after opening the invoice.

The Group recognizes the accounts receivable when the goods are delivered, because the Group has the right to unconditionally collect the consideration at that time.

(c) Engineering contract

The Group is engaged in the contracting business of solar power plants. Since the assets are controlled by the customers at the time of construction, the revenue is gradually recognized over time based on the proportion of the engineering costs incurred to date to the estimated total contract costs. A fixed amount paid by the customer in accordance with the agreed time schedule. Certain changes in consideration are estimated using expectations from past experience; other changes are estimated at the most probable amount. The Group recognizes revenue only within the scope of the cumulative revenue level where it is highly probable that no significant reversal will occur. If the amount of revenue recognized has not been billed, it is recognized as a contract asset and the contract asset is transferred to the accounts receivable when there is an unconditional right to the consideration.

If the degree of completion of the performance obligation of the construction contract cannot be reasonably measured, the contract revenue is recognized only within the range of expected recoverable costs.

When the Group expects that the inevitable cost of performance of an engineering contract exceeds the economic benefit expected from the contract, the liability provision for the loss-making contract is recognized.

If the circumstances change, the estimates of revenue, cost and completion will be revised and the changes will be reflected in gain or loss when the management is informed of the change in circumstances and the amendment is made.

(d) Services

The Group provides services to its customers. Revenue from services rendered is recognized in profit or loss in proportion to the stage of completion of the transaction at the reporting date.

Revenue recognition for fixed price contracts is based on the ratio of services actually provided to total services as of the reporting date, which is determined by the percentage of labor performed to the total amount of labor to be performed.

If the situation changes, the estimates of revenue, cost, and degree of completion will be revised, and the increase or decrease in the period when the management is aware of the change in the situation will be reflected in profit or loss.

(e) Electric power revenue

The Group recognized its electric power revenue based on the actual electric units and electric rate.

B. Financing components

The Group does not expect to have any contracts where the period between the transfer of the promised goods or services to the customer and payment by the customer exceeds one year. As a consequence, the Group does not adjust any of the transaction prices for the time value of money.

(16) Employee Benefits

A. Defined contribution plans

Obligations for contributions to defined contribution pension plans are expensed as the related service is provided. Prepaid contributions are recognized as an asset to the extent that a cash refund or a reduction in future payments is available.

B. Defined benefit plans

The Group's net obligation in respect of defined benefit plans is calculated separately for each plan by estimating the amount of future benefit that employees have earned in the current and prior periods, discounting that amount and deducting the fair value of any plan assets.

The calculation of defined benefit obligations is performed annually by a qualified actuary using the projected unit credit method. When the calculation results in a potential asset for the Group, the recognized asset is limited to the present value of economic benefits available in the form of any future refunds from the plan or reductions in future contributions to the plan. To calculate the present value of economic benefits, consideration is given to any applicable minimum funding requirements.

Remeasurements of the net defined benefit liability, which comprise actuarial gains and losses, the return on plan assets (excluding interest) and the effect of the asset ceiling (if any, excluding interest), are recognized immediately in other comprehensive income, and accumulated in retained earnings within equity. The Group determines the net interest expense (income) on the net defined benefit liability (asset) for the period by applying the discount rate used to measure the defined benefit obligation at the beginning of the annual period to the net defined benefit liability (asset). Net interest expense and other expenses related to defined benefit plans are recognized in profit or loss.

When the benefits of a plan are changed or when a plan is curtailed, the resulting change in benefit that relates to past service or the gain or loss on curtailment is recognized immediately in profit or loss. The Group recognizes gains and losses on the settlement of a defined benefit plan when the settlement occurs.

C. Short-term employee benefits

Short-term employee benefit are expensed as the related service is provided.

A liability is recognized for the amount expected to be paid if the Group has a present legal or constructive obligation to pay this amount as a result of past service provided by the employee and the obligation can be estimated reliably.

(17) Share-based payment

The grant date fair value of equity-settled share-based payment awards granted to employees is generally recognized as an expense, with a corresponding increase in equity, over the period that the employees become unconditionally entitled to the awards. The amount recognized as an expense is adjusted to reflect the number of awards whose related service conditions are expected to be met, such that the amount ultimately recognized as an expense is based on the number of awards that meet the related service conditions at the vesting date.

The non-vested conditions relating to the share-based payment incentives are reflected in the measurement of the fair value of the share-based payment and the difference between the expected and actual results is not subject to verification adjustment.

Grant date of a share-based payment award is the approval date which the Board of Directors reach a consensus in the subscription price and number of shares.

The fair value of the amount payable to employees in respect of share appreciation rights, which are settled in cash, is recognized as an expense with a corresponding increase in liabilities, over the period that the employees become unconditionally entitled to payment. The liability is remeasured at each reporting date and at settlement date based on the fair value of the share appreciation rights. Any changes in the liability are recognized in profit or loss. Please refer to note 6(21) for its grant date of share-based payment award.

(18) Income tax

Income taxes comprise current taxes and deferred taxes. Except for items related to business combinations, or items recognized directly in equity or other comprehensive income, all current and deferred taxes are recognized in profit or loss.

The Group has determined that interest and penalties related to income taxes, including uncertain tax treatment, do not meet the definition of income taxes, and therefore accounted for them under IAS37.

Current taxes comprise the expected tax payables or receivables on the taxable profits (losses) for the year and any adjustment to the tax payable or receivable in respect of previous years. The amount of current tax payables or receivables are the best estimate of the tax amount expected to be paid or received that reflects uncertainty related to income taxes, if any. It is measured using tax rates enacted or substantively enacted at the reporting date.

Deferred taxes arise due to temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and their respective tax bases. Deferred taxes are not recognized except for:

A. temporary differences on the initial recognition of assets and liabilities in a transaction that is not a business combination and that affects neither accounting nor taxable profits (losses) at the time of the transaction;

B. temporary differences related to investments in subsidiaries and associates to the extent that the Group is able to control the timing of the reversal of the temporary differences and it is probable that they will not reverse in the foreseeable future; and

C. taxable temporary differences arising on the initial recognition of goodwill.

Deferred taxes are measured at tax rates that are expected to be applied to temporary differences when they reserve, using tax rates enacted or substantively enacted at the reporting date, and reflect uncertainty related to income taxes, if any.

Deferred tax assets and liabilities are offset if the following criteria are met:

A. the Group has a legally enforceable right to set off current tax assets against current tax liabilities; and

B. the deferred tax assets and the deferred tax liabilities relate to income taxes levied by the same taxation authority on either:

   (a) the same taxable entity; or

   (b) different taxable entities which intend to settle current tax assets and liabilities on a net basis, or to realize the assets and liabilities simultaneously, in each future period in which significant amounts of deferred tax liabilities or assets are expected to be settled or recovered.

Deferred tax assets are recognized for the carry forward of unused tax losses, unused tax credits, and deductible temporary differences to the extent that it is probable that future taxable profits will be available against which they can be utilized. Deferred tax assets are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the related tax benefits will be realized; such reductions are reversed when the probability of future taxable profits improves.

(19) Business combination

The Company accounts for business combinations using the acquisition method. The goodwill arising from an acquisition is measured as the excess of (i) the consideration transferred (which is generally measured at fair value) and (ii) the amount of non-controlling interest in the acquiree, both over the identifiable net assets acquired at the acquisition date. If the amount calculated above is a deficit balance, the Company recognized that amount as a gain on a bargain purchase in profit or loss immediately after reassessing whether it has correctly identified all of the assets acquired and all of the liabilities assumed.

For each business combination, the Group measures any non-controlling interests in the acquiree either at fair value or at the non-controlling interest’ s proportionate share of the acquiree’ s identifiable net assets, if the non-controlling interests are present ownership interests and entitle their holders to a proportionate share of the acquire’ s net assets in the event of liquidation. Other components of non-controlling interests are measured at their acquisition-date fair values, unless another measurement basis is required by the IFRSs endorsed by the FSC.

If the initial accounting for a business combination is incomplete by the end of the reporting period in which the combination occurs, provisional amounts for the items for which the accounting is incomplete are reported in the Group’ s financial statements. During the measurement period, the provisional amounts recognized at the acquisition date are retrospectively adjusted, or additional assets or liabilities are recognized to reflect new information obtained about facts and circumstances that existed as of the acquisition date. The measurement period will not exceed one year from the acquisition date.

(20) Earnings per share

The Group discloses the Company’ s basic and diluted earnings per share attributable to ordinary shareholders of the Company. Basic earnings per share is calculated as the profit attributable to ordinary shareholders of the Company divided by the weighted average number of ordinary shares outstanding. Diluted earnings per share is calculated as the profit attributable to ordinary shareholders of the Company divided by the weighted average number of ordinary shares outstanding after adjustment for the effects of all potentially dilutive ordinary shares, such as employee remuneration that could be settled in the form of stock. The Company’s potential diluted ordinary share includes non-vested shares of restricted employee right and employee remuneration that has not been resolved by the Board of Directors and has been issued in the form of shares.

(21) Operating segment

An operating segment is a component of the Group that engages in business activities from which it may earn revenues and incur expenses (including revenues and expenses relating to transactions with other components of the Group). Operating results of the operating segment are regularly reviewed by the Group’s chief operating decision maker to make decisions about resources to be allocated to the segment and to assess its performance. Each operating segment consists of standalone financial information.

5. Significant accounting assumptions and judgments, and major sources of estimation uncertainty:

In preparing these consolidated financial statements has made judgments, estimations and assumptions that affect the application of the accounting policies and the reported amount of assets, liabilities, income and expenses. Actual results may differ from these estimates.

The management continues to monitor the accounting estimates and assumptions. The management recognizes any changes in the accounting estimates during the period and the impact of those changes in the following period.

Information about judgments made in applying accounting policies that have the most significant effects on the amounts recognized in the consolidated financial statements is as follows:

Judgment of whether the Group has substantial control over investees

The Group holds 30.93% of the voting shares of Taiwan Speciality Chemicals and is the single largest shareholder of Taiwan Speciality Chemicals. The Group used the equity method to account for the investee. The second largest shareholder of Taiwan Speciality Chemicals liquidated, and distributed Taiwan Speciality Chemicals shares in the third quarter of 2021, resulting in a change in the shareholder structure of Taiwan Speciality Chemicals. The Group obtained more than half of the Board seats in the third quarter of 2021 when the Board of Directors of Taiwan Speciality Chemicals was re-elected, so the Group obtained control over Taiwan Speciality Chemicals and began to apply related accounting policies of business combinations.

The Group holds 35.24% of the voting shares of Crystalwise Technology Inc.("Crystalwise"), and the remaining specific shareholders still hold significant voting shares, and it is impossible to exclude the possibility of a joint exercise of rights. The Group and other shareholders' size and distribution of voting rights show that the Group has no controlling power and does not have over half of the broad seats, potential voting rights or other contractual arrangements. The Group evaluated that relevant activities of Crystalwise are not determined based on the votes of the majority voting right holders. Rather, it is based on the majority of the members of the Board of Directors. Therefore, the investors who have voting rights can not control the relevant activities of Crystalwise. The Group had received a variable return from the investee due to holding the ordinary share of Crystalwise. The source of return is dividends. The Group evaluated that it does not have the ability to influence Crystalwise's return due to the lack of the power to control it. The Group concluded that it has no substantive power to decide the relevant activities from the beginning. Therefore, the Group determined that it has significant influence but not control over Crystalwise.

Information about assumptions and estimation uncertainties that have a significant risk of resulting in a material adjustment to the carrying amounts of assets and liabilities within the next financial year is as follows. Those assumptions and estimation have been updated to reflect the impact of COVID-19 pandemic:

(1) Impairment assessment of property, plant and equipment (including right-to-use assets)

In the process of evaluating the potential impairment of tangible and intangible assets other than goodwill, the Group is required to make subjective judgments in determining the independent cash flows, useful lives, expected future income and expenses related to the specific asset groups considering of the nature of the industry. Any changes in these estimates based on changed economic conditions or business strategies and could result in significant impairment charges or reversal in future years. Refer to note 6(10) for further description of the key assumptions used to determine the recoverable amount.

(2) Impairment assessment of goodwill

The assessment of impairment of goodwill requires the Group to make subjective judgments to identify CGUs, allocate the goodwill to relevant CGUs, and estimate the recoverable amount of relevant CGUs. Refer to note 6(12) for details of the impairment of goodwill.

The Group's finance and accounting departments conduct independent verification on fair value by using data sources that are independent, reliable, and representative of exercise prices. This finance and accounting departments also periodically adjust valuation models, conduct back testing, renew input data for valuation models, and make all other necessary fair value adjustments to assure the rationality of fair value.

The Group strives to use the observable market inputs when measuring assets and liabilities. The hierarchy of the fair value categorized by the valuation techniques used is as follows:

Level 1: quoted prices (unadjusted) in active markets for identified assets or liabilities.

Level 2: inputs other than quoted prices included within Level 1 that are observable for the assets or liabilities, either directly (i.e. as prices) or indirectly (i.e. derived from prices).

Level 3: inputs for the assets or liabilities that are not based on observable market data (unobservable inputs).

For any transfer within the fair value hierarchy, the Group recognizes the transfer on the reporting date. For the assumption used in fair value measurement, please refer to note 6(28) of the financial instruments.

6. Explanation of significant accounts:

(1) Cash and cash equivalents

	December 31, 2021	December 31, 2020
Cash on hand	$ 5,413	8,799
Demand deposits	19,076,331	19,039,070
Time deposits	46,829,936	3,604,213
Repurchase agreement	1,206,226	1,160,508
Cash and cash equivalents in the consolidated statement of cash flows	**$ 67,117,906**	**23,812,590**

Please refer to note 6(28) for the interest rate risk and sensitivity analysis of the financial assets and liabilities of the Group.

(2) Financial Assets and Liabilities at Fair Value through Profit or Loss (“FVTPL”)

	December 31, 2021	December 31, 2020
Financial assets mandatorily measured at fair value through profit or loss－current:		
Overseas securities held	$ -	5,604,312
Forward exchange contracts	3,567	52,356
	$ 3,567	**5,656,668**
Financial assets mandatorily measured at fair value through profit or loss－non-current:		
Overseas securities held	$ 18,173,549	-
Privately offered funds	195,163	117,204
	$ 18,368,712	**117,204**
Held-for-trading financial liabilities:		
Forward exchange contracts	$ 198,631	11,672
Swap exchange contract	-	34,281
	$ 198,631	**45,953**
Financial assets mandatorily measured at fair value through profit or loss－current:		
Derivative instruments－convertible bonds	**$ 178,637**	**-**

The amount of gains or losses recognized for the financial assets at fair value through profit or loss of the Group; please refer to note 6(26).

During the years ended December 31, 2021 and 2020, the dividends of $276,229 thousand and $2,210 thousand were incurred from investments in financial assets mandatorily measured at fair value through profit or loss, respectively.

The Group uses derivative instruments to hedge certain currency risk arising from the Group’s operating activities. The Group held the following derivative instruments, which were not qualified for hedging accounting and accounted them as financial assets mandatorily measured at fair value through profit or loss and held-for-trading financial liabilities as of December 31, 2021 and 2020:

	December 31, 2021			
	Contract amount (in thousands)		Currency	Maturity date
Forward exchange contracts:				
Forward exchange contracts purchased	EUR	1,300	EUR to USD	January 26, 2022
Forward exchange contracts purchased	EUR	1,300	EUR to USD	January 6, 2022

	December 31, 2021			
	Contract amount (in thousands)		Currency	Maturity date
Forward exchange contracts sold	USD	29,550	USD to EUR	January 26, 2022~ March 25, 2022
Forward exchange contracts sold	USD	1,930	USD to KRW	January 28, 2022
Forward exchange contracts purchased	JPY	50,000	JPY to EUR	February 25, 2022
Forward exchange contracts purchased	JPY	208,426	JPY to KRW	January 28, 2022
Forward exchange contracts purchased	EUR	5	EUR to KRW	January 28, 2022
Forward exchange contracts purchased	JPY	14,000,000	JPY to NTD	January 28, 2022~ May 26, 2022

	December 31, 2020			
	Contract amount (in thousands)		Currency	Maturity date
Forward exchange contracts:				
Forward exchange contracts sold	USD	24,100	USD to EUR	January 26, 2021~ February 25, 2021
Forward exchange contracts sold	USD	2,560	USD to KRW	January 29, 2021
Forward exchange contracts purchased	JPY	20,000,000	JPY to NTD	January 20, 2021~ June 11, 2021
Forward exchange contracts purchased	JPY	50,000	JPY to EUR	February 25, 2021
Forward exchange contracts purchased	JPY	245,381	JPY to KRW	January 29, 2021
Forward exchange contracts purchased	EUR	111	EUR to KRW	January 29, 2021
Swap exchange contracts	USD	80,000	USD to NTD	January 29, 2021~ February 3, 2021

For the disclosure of market risk, please refer to note 6(28).

The financial assets mentioned above were not pledged as collateral.

(3) Financial assets at fair value through other comprehensive income－non-current

		December 31, 2021	December 31, 2020
Equity investments at fair value through other comprehensive income:			
Equity investment in foreign entities	$	1,066,068	377,060
Equity investment in domestic entities		224,763	107,570
Total	$	**1,290,831**	**484,630**

The Group designated the equity investments shown above as at fair value through other comprehensive income because these equity securities represent those investments that the Group intends to hold for long-term strategic purposes.

No strategic investments were disposed for the years ended December 31, 2021 and 2020, and there were no transfers of any cumulative gain or loss within equity relating to these investments.

For the disclosure of market risk, please refer to note 6(28).

The financial assets mentioned above were not pledged as collateral.

(4) Financial assets measured at amortized cost－current

		December 31, 2021	December 31, 2020
Corporate bonds－Crystalwise Technology Inc.	$	**331,609**	**277,895**

The Group has assessed that these financial assets are held to maturity to collect contractual cash flows, which consist solely of payments of principal and interest on the principal amount outstanding. Therefore, these investments were classified as financial assets measured at amortized cost.

In October 2021, the Group purchased the private corporate bonds of Crystalwise Technology Inc. for a one-year period at a principal amount of $330,000 thousand. The coupon rate and effective interest rate were both 2.00%, and the bond is due in October 2022.

In January 2019, the Group purchased the private corporate bonds of Crystalwise Technology Inc. for a one-year period at a principal amount of $250,000 thousand. The coupon rate and effective interest rate were 2.00%, and the bond is due in January, 2020. In January 2016, the Group purchased the private corporate bonds of Crystalwise Technology Inc. for a five-year period at a principal amount of $280,000 thousand. The coupon rate and effective interest rate were 2.00%, and the bond is due in October 2021.

As of December 31, 2021 and 2020, the Group has estimated the impairment reversal gains amounting to $3,454 thousand and $22,519 thousand, respectively.

For the disclosure of credit risk, please refer to note 6(28).

The financial assets mentioned above were not pledged as collateral.

(5) Notes and accounts receivable, net

	December 31, 2021	December 31, 2020
Notes receivable	$ 142,478	149,634
Accounts receivable	9,689,197	8,193,728
Less: Allowance for doubtful accounts	(11,275)	(11,206)
	$ 9,820,400	8,332,156

The Group applied the simplified approach to provide for its expected credit losses, i.e. the use of lifetime expected loss provision for all receivables. To measure the expected credit losses, accounts receivable have been grouped based on shared credit risk characteristics and the days past due, as well as incorporated forward looking information.

The loss allowance provision of solar energy segment (including related parties) was determined as follows:

	December 31, 2021		
	Gross amount of notes and accounts receivable	Weighted-average loss rate	Credit loss allowance
Current	$ 752,844	0%	-
1 to 30 days past due	28,507	0%	-
91 to 120 days past due	4,507	100%	4,507
	$ 785,858		4,507

	December 31, 2020		
	Gross amount of notes and accounts receivable	Weighted-average loss rate	Credit loss allowance
Current	$ 313,750	0%	-
1 to 30 days past due	57,776	0%	-
More than 181 days past due	3,861	100%	3,861
	$ 375,387		3,861

The loss allowance provision of semiconductor segment (including related parties) was determined as follows:

	December 31, 2021		
	Gross amount of notes and accounts receivable	**Weighted-average loss rate**	**Credit loss allowance**
Current	$ 8,902,081	0%	-
1 to 30 days past due	196,553	0%	-
31 to 60 days past due	4,978	0%	-
61 to 90 days past due	60	0%	-
121 to 150 days past due	1,306	0%	-
More than 181 days past due	6,768	100%	6,768
	$ 9,111,746		**6,768**

	December 31, 2020		
	Gross amount of notes and accounts receivable	**Weighted-average loss rate**	**Credit loss allowance**
Current	$ 7,955,764	0%	-
1 to 30 days past due	76,019	0%	-
31 to 60 days past due	1,755	33%	577
61 to 90 days past due	83	0%	-
More than 181 days past due	6,768	100%	6,768
	$ 8,040,389		**7,345**

The movement of the credit loss allowance for notes and accounts receivable (including related parties) was as follows:

	2021	**2020**
Balance on January 1	$ 11,206	57,611
Expected credit loss (reversed gain) recognized	(481)	(12,341)
Amounts written off	(6)	(34,663)
Foreign exchange gains (losses)	556	599
Balance on December 31	**$ 11,275**	**11,206**

The Group’s notes and accounts receivable were not pledged as collateral.

(6) Inventories

	December 31, 2021	December 31, 2020
Finished goods	$ 1,930,009	2,597,587
Work in progress	2,359,084	1,513,496
Raw materials	4,357,000	3,817,555
	$ 8,646,093	**7,928,638**

Components of operating costs were as follows:

	2021	2020
Cost of goods sold	$ 44,341,844	40,028,000
Impairment loss of property, plant and equipment (note 6 (10))	8,908	431,196
Recognition (reversal) of provisions for inventory valuation loss	(48,093)	79,390
Unallocated fixed manufacturing expense	326,751	377,128
Recognition (reversal) of provision loss (note 6(12))	(314,804)	(632,014)
	$ 44,314,606	**40,283,700**

The Group's inventories mentioned above were not pledged as collateral.

(7) Investments accounted for using equity method

Names of affiliated companies	Relationship with the Group	Main location/ country registered in	Percentage of equity ownership interests and voting rights: December 31, 2021	Percentage of equity ownership interests and voting rights: December 31, 2020
Actron Technology Corporation	Mainly engages in the manufacturing of electronic component	Taiwan	22.75%	21.31%
Taiwan Speciality Chemicals Corporation (hereinafter referred to as Taiwan Speciality Chemicals)	The main business is manufacturing of semiconductor special gas and chemical materials.	Taiwan	Note C	30.93%
Crystalwise Technology Inc.	Mainly engages in the manufacturing and trading of optoelectronic wafers and substrate material.	Taiwan	35.24%	41.93%
Hongwang Investment Co., Ltd. (Hongwang)	The main business is general trading	Taiwan	30.98%	30.98%
Accu Solar Corporation (TSCS)	The main business is providing solar modules.	Taiwan	24.70%	24.70%

Names of affiliated companies	Relationship with the Group	Main location/ country registered in	Percentage of equity ownership interests and voting rights December 31, 2021	December 31, 2020
Advanced Wireless Semiconductor Company (Advanced Wireless)	Mainly engages in the Manufacturing and trading of GaAs wafers.	Taiwan	22.90%	22.90%

A summary of financial information for investments accounted for using equity method that are individually insignificant at the reporting date was as follows:

	December 31, 2021	December 31, 2020
Carrying amount of individually insignificant associates' equity	**$ 6,959,532**	**7,158,811**

A summary of financial information for investments accounted for using equity method that are individually insignificant at the reporting date was as follows:

	2021	2020
Attributable to the Group:		
Net loss	$ 217,254	(25,328)
Other comprehensive loss	551,647	728,216
Total comprehensive loss	**$ 768,901**	**702,888**

A. The Group acquired 22.90% of the private placement of shares in Advance Wireless Semiconductor Company (Advanced Wireless) with cash consideration of $3,496,500 thousand on August 18, 2020. The Group had significant influence over Advanced Wireless.

B. The Group's Broad of Directors resolved to dispose of the entire 30% ordinary shares, 45,000 thousand shares, of Cathay Sunrise to San Ching Engineering Corp. at $11.5 per share on May 7, 2020, and the Group has lost significant influence since then. The disposal price was $517,500 thousand, and the gain was $34,165 thousand.

C. The Group had acquired a total of 30.93% of the common shares of Taiwan Speciality Chemicals as of August 2021. Taiwan Speciality Chemicals' Board of Directors was fully re-elected in August 2021, and the Group obtained more than half of the Board seats. Thus the Group obtained the control over the investee and included it in the consolidated financial statements from the date of obtaining control. The remeasured gains amounting to $2,501 thousand were recognized as other gains and losses.

D. The Group sold ordinary shares of Crystalwise Technology in the publicly traded market in 2021 amounting to $128,129 thousand. Gains on disposal of investments amounting to $110,679 thousand were recognized as other gains and losses. As of December 31, 2021, the accumulated shareholding was 35.24%.

E. The Group purchased outstanding shares of Actron Technology Corporation in the publicly traded market in the years of 2021 and 2020 amounting to $146,837 thousand and $461,610 thousand, respectively. As of December 31, 2021, the accumulated shareholding is 22.75%.

F. As of December 31, 2021 and 2020, the cash dividends from the investees were $221,598 thousand and $99,406 thousand, respectively, which were recognized as deductions of investments accounted for using the equity method.

G. Collateral

The Group did not pledge any investments accounted for using the equity method as collateral.

(8) Material non-controlling interests of subsidiaries

The material non-controlling interests of subsidiaries were as follows:

Name of subsidiary	Main business place / company registered country	% of ownership interests under non-controlling interests as well as the voting rights December 31, 2021	% of ownership interests under non-controlling interests as well as the voting rights December 31, 2020
GlobalWafers	Taiwan	48.83 %	48.83 %

The following information of the aforementioned subsidiary was prepared in accordance with the Regulations Governing the Preparation of Financial Reports by Securities Issuers. The financial information included the fair value adjustments made at the acquisition date. Intragroup transactions between the Company and GlobalWafers were not eliminated in this information.

	December 31, 2021	December 31, 2020
Current assets	$ 88,664,515	49,586,369
Non-current assets	61,980,461	45,265,248
Current liabilities	(31,058,295)	(29,331,386)
Non-current liabilities	(73,955,178)	(21,365,331)
Net assets	**$ 45,631,503**	**44,154,900**
Non-controlling interests	**$ 22,281,784**	**21,561,201**

	2021	2020
Sales revenue	**$ 61,130,592**	**55,358,788**
Net income	$ 11,870,037	13,103,631
Other comprehensive income	(4,262,638)	347,092
Net profit attributable to non-controlling interests	**$ 7,607,399**	**13,450,723**
Comprehensive income, attributable to non-controlling interests	**$ 5,796,139**	**6,398,503**
Comprehensive income, attributable to non-controlling interests	**$ 3,714,692**	**6,567,988**

		2021	2020
Net cash flows from operating activities	$	29,301,561	14,563,559
Net cash flows from investing activities		(18,280,421)	(13,471,752)
Net cash flows from financing activities		35,156,335	(11,217,706)
Effects of changes in foreign exchange rates		(2,722,534)	(256,132)
Net decrease in cash and cash equivalents	**$**	**43,454,941**	**(10,382,031)**

(9) Business combination

Acquiring Taiwan Speciality Chemicals as a subsidiary

A. Considerations transferred to acquire a subsidiary

The Group had acquired a total of 30.93% of the common shares of Taiwan Speciality Chemicals as of August 2021. The Group obtained more than half of the Board seats of Taiwan Speciality Chemicals in August 2021 and thus obtained the control over the company which was included in the consolidated financial statements from the date of obtaining control.

B. The details of identifiable net assets obtained and the fair value of assets and liabilities assumed are as follows:

The details of the identifiable assets and liabilities assumed of Taiwan Speciality Chemicals on August 25, 2021 (the date when control was obtained) are as follows:

Considerations transferred			$	-
Add: the fair value of the original equity of the acquiree				810,000
Non-controlling interests (measured by the ratio of identifiable net assets to non-controlling interests)				1,407,638
Less: fair value of identifiable net assets				
Cash and cash equivalents	$	58,787		
Notes and accounts receivable, net		119,441		
Inventories		101,052		
Prepayment and other current assets		10,320		
Property, plant and equipment, net		1,445,587		
Intangible assets－patent right		495,000		
Other non-current assets		3,260		
Accounts payable		(8,111)		
Other current liabilities		(37,025)		
Other non-current liabilities		(322)		
Long-term borrowings		(150,000)		2,037,989
Goodwill			**$**	**179,649**

The Group will continue to monitor the above items during the measurement period. If, within one year from the date of acquisition, new information related to the facts and circumstances that existed on the date of acquisition is obtained, and adjustments to the above-mentioned provisional amount or any additional provision for liabilities at the date of acquisition can be identified, the accounting treatment of acquisition will be revised

C. Intangible assets

Intangible assets-patent rights is amortized on the straight-line method based on its economic benefit life of 11 years.

Goodwill mainly comes from profitability, the combined synergy of Taiwan Speciality Chemicals, and the future development of the semiconductor specialty gas market. Goodwill is expected to have no income tax effect.

D. Pro forma of operating results

Since August 25, 2021, the operating results of Taiwan Speciality Chemicals have been merged into the consolidated comprehensive income statement of the Group. The net operating revenues and net profit after tax contributed are $127,916 thousand and $33,821 thousand, respectively. If it is assumed that the acquisition date occurred on January 1, 2021, the pro forma net operating revenues and net profit after tax of the Group from January 1 to December 31, 2021 will increase by $419,625 thousand and $140,405 thousand, respectively.

(10) Property, plant and equipment

A. The movements of cost, depreciation and impairment of the property, plant and equipment of the Group were as follows:

	Land	Buildings	Machinery and equipment	Other equipment	Construction in progress and equipment awaiting inspection	Total
Cost:						
Balance at January 1, 2021	$ 3,294,013	21,137,323	67,801,222	5,777,932	1,621,233	99,631,723
Acquisition through business combination	797,910	470,440	934,735	236,672	12,140	2,451,897
Additions	-	6,218	58,822	584,909	5,320,670	5,970,619
Disposals	-	(340,821)	(17,217,129)	(462,280)	(3,290)	(18,023,520)
Reclassification and transfer	58,148	(46,140)	(1,019,948)	3,452,285	(3,035,046)	(590,701)
Effect of changes in exchange rates	(307,500)	(1,640,423)	(6,255,484)	(443,108)	(139,564)	(8,786,079)
Balance at December 31, 2021	**$ 3,842,571**	**19,586,597**	**44,302,218**	**9,146,410**	**3,776,143**	**80,653,939**
Balance at January 1, 2020	$ 3,407,360	18,779,888	56,216,092	5,170,147	8,850,371	92,423,858
Additions	-	912,217	463,186	377,145	6,771,969	8,524,517
Disposals	-	(39,561)	(1,546,251)	(261,780)	-	(1,847,592)
Reclassification and transfer	(23,626)	1,770,153	11,067,440	999,494	(13,885,042)	(71,581)
Effect of changes in exchange rates	(89,721)	(285,374)	1,600,755	(507,074)	(116,065)	602,521
Balance at December 31, 2020	**$ 3,294,013**	**21,137,323**	**67,801,222**	**5,777,932**	**1,621,233**	**99,631,723**

	Land	Buildings	Machinery and equipment	Other equipment	Construction in progress and equipment awaiting inspection	Total
Depreciation and impairment loss:						
Balance at January 1, 2021	$ -	10,326,243	43,876,425	2,974,018	-	57,176,686
Acquisition through business combination	-	114,827	730,842	148,501	12,140	1,006,310
Depreciation for the year	-	787,785	4,682,801	627,841	-	6,098,427
Impairment loss	-	-	8,908	-	-	8,908
Disposals	-	(336,010)	(17,186,306)	(453,830)	-	(17,976,146)
Reclassification and transfer	-	(277,813)	(1,314,582)	1,082,847	-	(509,548)
Effect of changes in exchange rates	-	(927,464)	(4,435,664)	(216,042)	-	(5,579,170)
Balance at December 31, 2021	**$ -**	**9,687,568**	**26,362,424**	**4,163,335**	**12,140**	**40,225,467**
Balance at January 1, 2020	$ -	9,765,738	39,762,324	2,619,081	-	52,147,143
Depreciation for the year	-	782,938	4,431,317	394,158	-	5,608,413
Impairment loss	-	-	423,739	7,457	-	431,196
Disposals	-	(30,627)	(1,535,698)	(174,494)	-	(1,740,819)
Reclassification and transfer	-	(18,960)	(550,903)	590,777	-	20,914
Effect of changes in exchange rates	-	(172,846)	1,345,646	(462,961)	-	709,839
Balance at December 31, 2020	**$ -**	**10,326,243**	**43,876,425**	**2,974,018**	**-**	**57,176,686**
Carrying amounts:						
Balance at December 31, 2021	**$ 3,842,571**	**9,899,029**	**17,939,794**	**4,983,075**	**3,764,003**	**40,428,472**
Balance at January 1, 2020	**$ 3,407,360**	**9,014,150**	**16,453,768**	**2,551,066**	**8,850,371**	**40,276,715**
Balance at December 31, 2020	**$ 3,294,013**	**10,811,080**	**23,924,797**	**2,803,914**	**1,621,233**	**42,455,037**

B. Impairment loss

As of December 31, 2021 and 2020, the Group recognized impairment loss of some machinery amounting to $8,908 thousand and $431,196 thousand, respectively, due to the changes in production technology, which incurred as operating costs in the statement of comprehensive income.

C. Collateral

The property, plant and equipment of the Group had been pledged as collateral for long-term and short-term loans and credit lines. Please refer to note 8.

(11) Right-of-use assets

	Land	Buildings	Machinery and equipment	Other equipment	Total
Cost:					
Balance at January 1, 2021	$ 652,192	288,206	1,409	228,529	1,170,336
Acquisition through business combination	-	-	-	565	565
Additions	55,250	20,151	287	148,044	223,732
Disposal	-	(14,435)	(1,385)	(127,158)	(142,978)
Reclassification	-	-	-	234	234
Effect of changes in exchange rates	(2,883)	(16,304)	(27)	(24,971)	(44,185)
Balance at December 31, 2021	**$ 704,559**	**277,618**	**284**	**225,243**	**1,207,704**
Balance at January 1, 2020	$ 611,124	291,816	37,494	153,879	1,094,313
Additions	84,257	2,386	-	45,622	132,265
Disposal	(39,852)	(2,859)	(116)	(4,556)	(47,383)
Reclassification	-	-	(35,358)	35,358	-
Transfer and others	(3,510)	(2,235)	-	(4,514)	(10,259)
Effects of changes in exchange rates	173	(902)	(611)	2,740	1,400
Balance at December 31, 2020	**$ 652,192**	**288,206**	**1,409**	**228,529**	**1,170,336**
Accumulated depreciation:					
Balance at January 1, 2021	$ 73,701	99,873	929	162,968	337,471
Acquisition through business combination	-	-	-	328	328
Depreciation for the year	45,844	49,385	514	91,131	186,874
Disposal	-	(14,435)	(1,385)	(125,730)	(141,550)
Reclassification	-	-	-	234	234
Effects of changes in exchange rates	1,791	(6,039)	(17)	(16,616)	(20,881)
Balance at December 31, 2021	**$ 121,336**	**128,784**	**41**	**112,315**	**362,476**
Balance at January 1, 2020	$ 41,880	53,210	10,237	75,377	180,704
Depreciation for the year	45,294	52,530	730	84,235	182,789
Disposal	(9,182)	(2,859)	(116)	(5,389)	(17,546)
Reclassification	-	-	(9,735)	9,735	-
Effects of changes in exchange rates	(4,291)	(3,008)	(187)	(990)	(8,476)
Balance at December 31, 2020	**$ 73,701**	**99,873**	**929**	**162,968**	**337,471**
Carrying amount:					
Balance at December 31, 2021	**$ 583,223**	**148,834**	**243**	**112,928**	**845,228**
Balance at January 1, 2020	**$ 569,244**	**238,606**	**27,257**	**78,502**	**913,609**
Balance at December 31, 2020	**$ 578,491**	**188,333**	**480**	**65,561**	**832,865**

(12) Intangible assets

The movements of cost and amortization of the intangible assets of the Group for the years ended December 31, 2021 and 2020 were as follows:

		Goodwill	Patents, expertise and trademarks	Development costs	Computer software	Total
Cost:						
Balance at January 1, 2021	$	2,327,364	1,757,731	296,841	69,839	4,451,775
Acquisition through business combination		179,649	495,000	-	539	675,188
Additions		-	-	-	6,256	6,256
Reclassification		-	-	-	525	525
Effect of changes in exchange rates		(221,241)	(3,536)	(24,018)	(1,981)	(250,776)
Balance at December 31, 2021	$	**2,285,772**	**2,249,195**	**272,823**	**75,178**	**4,882,968**
Balance at January 1, 2020	$	2,421,056	1,702,745	104,671	-	4,228,472
Additions		-	-	-	3,631	3,631
Reclassification		-	61,616	185,985	69,827	317,428
Effect of changes in exchange rates		(93,692)	(6,630)	6,185	(3,619)	(97,756)
Balance at December 31, 2020	$	**2,327,364**	**1,757,731**	**296,841**	**69,839**	**4,451,775**
Amortization:						
Balance at January 1, 2021	$	-	1,384,540	207,941	61,831	1,654,312
Amortization for the year		-	207,907	13,699	3,823	225,429
Acquisition through business combination		-	-	-	354	354
Effect of changes in exchange rates		-	(3,315)	(17,460)	(1,701)	(22,476)
Balance at December 31, 2021	$	**-**	**1,589,132**	**204,180**	**64,307**	**1,857,619**
Balance as of January 1, 2020	$	-	997,181	3,708	-	1,000,889
Amortization for the year		-	331,480	14,436	2,866	348,782
Reclassification		-	61,616	185,985	69,827	317,428
Effect of changes in exchange rates		-	(5,737)	3,812	(10,862)	(12,787)
Balance at December 31, 2020	$	**-**	**1,384,540**	**207,941**	**61,831**	**1,654,312**
Carrying amounts:						
Balance at December 31, 2021	$	**2,285,772**	**660,063**	**68,643**	**10,871**	**3,025,349**
Balance at January 1, 2020	$	**2,421,056**	**705,564**	**100,963**	**-**	**3,227,583**
Balance at December 31, 2020	$	**2,327,364**	**373,191**	**88,900**	**8,008**	**2,797,463**

For the purpose of impairment testing, goodwill was allocated to the semiconductor business segment and solar energy segment. The Group' s goodwill has been tested for impairment at least once at the end of each annual reporting period and the recoverable amount is determined based on discounted cash flows.

The recoverable amount of the Semiconductor Segment and Solar Energy Segment was based on its value in use, determined by discounting the future cash flows to be generated from the continuing use of the CGU.

	December 31, 2021	**December 31, 2020**
Discount rate	4.97%~13%	7.89 %
Budgeted EBITDA growth rate	2%~2.46%	3.42 %

The discount rate was a pre-tax measure based on the rate of 10-year government bonds issued by the government in the relevant market and in the same currency as the cash flows, adjusted for a risk premium to reflect both the increased risk of investing in equities generally and the systemic risk of the specific CGU.

Five years of cash flows were included in the discounted cash flow model.

Based on the result of the Group's assessment, no goodwill impairment losses were recognized.

The intangible assets mentioned above were not pledged as collateral.

(13) Short-term borrowings

	December 31, 2021	**December 31, 2020**
Unsecured bank loans	$ 7,744,000	10,771,000
Purchase of materials loan	15,302	-
	$ 7,759,302	**10,771,000**
Unused credit lines	**$ 35,207,145**	**21,721,439**
Range of interest rates at the year end	**0.20%~0.54%**	**0.56%~0.64%**

Please refer to note 8 for details of the related assets pledged as collateral.

(14) Long-term borrowings

The details of long-term borrowings were as follows:

	December 31, 2021			
	Currency	**Interest**	**Maturity**	**Amount**
Secured bank loans	NTD	1.18%	2029.1	$ 60,000
Unsecured borrowings	NTD	1.06%	2029.12	970,876
Less: current portion				(31,832)
Total				**$ 999,044**

	December 31, 2020			
	Currency	**Interest**	**Maturity**	**Amount**
Unsecured borrowings	NTD	1.22%	2029.12	$ 1,080,816
Less: current portion				(32,752)
Total				$ 1,048,064

	December 31, 2021	December 31, 2020
Unused credit lines	$ -	300,000

Please refer to note 8 for details of the related assets pledged as collateral.

(15) Bonds payable

The details of bonds payable were as follow:

	December 31, 2021
Unsecured corporate bonds	$ 18,980,771
Unsecured convertible bonds	26,143,969
Total	$ 45,124,740

A. On April 21, 2021, GlobalWafers' Board of Directors resolved to issue unsecured bonds for the first time in 2021. On May 11, 2021, Fubon Commercial Bank, Taipei, Taiwan, was entrusted to issue the bonds. The bonds were issued for a term of five years and matured on May 11, 2026. The total amount of the bond is $6,500,000 thousand and the coupon rate is 0.62% ◦

B. On April 21, 2021, the Board of Directors resolved to issue the second unsecured corporate bonds for the year 2021, which were entrusted to Taipei Fubon Commercial Bank Co on August 19, 2021. The total amount of the bonds is $12,500,000 thousand, which were divided into two types of notes, A and B, depending on the terms of issuance, amounting to $7,100,000 thousand and $5,400,000 thousand, respectively, with maturities of three years and five years, and maturing on August 19, 2024, and August 19, 2026, respectively, with coupon rates of 0.5% and 0.6%, respectively.

C. On April 21, 2021, GlobalWafers' Board of Directors resolved to issue the first overseas unsecured convertible bonds, which were approved by the FSC in letter No. 1100342091 dated May 19, 2021. On June 1, 2021, the bonds were issued on the Singapore Stock Exchange for a period of five years and matured on June 1, 2021. The maturity date is June 1, 2026, and the total amount of the issue is US$1,000,000 thousand with 0% interest rate.

The details of unsecured convertible bonds were as follow:

		December 31, 2021
Total amount of convertible bonds issued	$	27,565,891
Unamortized balance of discount on bonds payable		(1,421,922)
Accumulated Converted Amount		-
Balance at December 31, 2021	**$**	**26,143,969**
Embedded derivatives - redemption rights and conversion rights (reported as financial liabilities at fair value through profit or loss - non-current)	**$**	**178,637**
Issue Price (less transaction costs 77,517 thousand)	$	27,834,483
Equity components (less transaction costs allocated to equity4,744 thousand)		(1,703,470)
Sell / Redeem Derivatives (allocated transaction costs 473 thousand)		(169,791)
Liability components at issue date (less transaction costs allocated to liability 72,300 thousand)		25,961,222
Interest calculated at an effective rate of 1.20%		182,747
Liability components as of December 31, 2021	**$**	**26,143,969**

Except for the period of early redemption, repurchase and cancellation, the exercise of conversion rights by the bondholders, or the cessation of transfer period as provided by law or otherwise specified in the Trust Deed, the bondholders may request the issuer to convert the bonds into newly issued common shares of the issuer from the day following the third month of the issuance of the bonds until (1) ten days before the maturity date or (2) the fifth business day before the date of early redemption rights of the bonds (the "Conversion Period") following the relevant laws and regulations and the Trust Deed.

The conversion price was set at $1,040.20 per share on May 24, 2021, based on the closing price of GlobalWafers' ordinary shares on the Taipei Exchange on the pricing date plus a 40% premium. The conversion price was determined by multiplying the face value of the bonds by the fixed exchange rate of U.S. Dollar to New Taiwan Dollar (US$1=$27.912) determined at the date of pricing and dividing it by the conversion price. After the issuance of the bonds, the conversion price shall be adjusted by the relevant anti-dilution provisions of the Trust Deed. However, as the Group shall pay cash dividends, the conversion price shall be adjusted by the aforementioned provisions. By the aforementioned provisions, the conversion price of the first unsecured overseas convertible bonds was adjusted from $1,040.20 to $1,028.46 on July 22, 2021, the day after the ex-dividend date. As of December 31, 2021, the first adjustment of the conversion price of the bonds has been executed.

The above convertible bonds consist of liability and equity components, and the equity component is recorded as capital surplus-conversion rights. The effective interest rate recognized for the liability component was 1.20%。

(16) Lease liabilities

The carrying amounts of lease liabilities of the Group were as follows:

	December 31, 2021	December 31, 2020
Current (recognized under other current liabilities)	$ 171,043	117,759
Non-current (recognized under other non-current liabilities)	$ 681,623	728,314

For the maturity analysis, please refer to note 6(28) “Financial instruments”.

The amounts recognized in profit or loss were as follows:

	2021	2020
Interest on lease liabilities	$ 11,277	10,911
Variable lease payments not included in the measurement of lease liabilities	$ 1,860	2,279
Expenses relating to short-term leases	$ 18,524	9,838
Expenses relating to leases of low value assets, excluding short term leases of low value assets	$ 5,769	2,926

The amounts recognized in the statement of cash flows were as follows:

	2021	2020
Total cash outflow for leases	$ 229,691	224,418

A. Land and Buildings lease

The Group leases land and buildings for its facility and office space. The leases of office space typically run for a period of 20 years. Some leases include an option to renew the lease for an additional period of the same duration after the end of the contract term.

Land leases’ additional rent payments that are based on changes in local price indices and the public facilities construction costs re invested annually in each park will be adjusted after being assessed.

B. Other leases

The Group leases vehicles and other equipment, with lease terms of two to five years. In some cases, the Group has options to purchase the assets at the end of the contract term; in other cases, it guarantees the residual value of the leased assets at the end of the contract term.

(17) Provisions

The movements of the Group's provisions current and non-current were as follows:

		Site restoration	Onerous contracts	Other	Total
Balance of January 1, 2021	$	70,653	4,214,844	-	4,285,497
Provisions made during the year		7,421	-	10,119	17,540
Provisions utilized during the year		-	-	(183)	(183)
Provisions reversed during the year		(3,626)	(314,804)	-	(318,430)
Effect of changes in exchange rates		(6,123)	-	-	(6,123)
Balance of December 31, 2021	**$**	**68,325**	**3,900,040**	**9,936**	**3,978,301**
Current	$	25,319	337,274	1,018	363,611
Non-current		43,006	3,562,766	8,918	3,614,690
Total	**$**	**68,325**	**3,900,040**	**9,936**	**3,978,301**
Balance of January 1, 2020	$	62,005	4,844,899	-	4,906,904
Provisions made during the year		7,839	-	-	7,839
Provisions reversed during the year		(9,798)	(630,055)	-	(639,853)
Effect of changes in exchange rates		10,607	-	-	10,607
Balance of December 31, 2020	**$**	**70,653**	**4,214,844**	**-**	**4,285,497**
Current	$	21,697	221,949	-	243,646
Non-current		48,956	3,992,895	-	4,041,851
Total	**$**	**70,653**	**4,214,844**	**-**	**4,285,497**

A. Site restoration

Under the lease contract, if the Group does not intend to extend its leasehold, the Group needs to restore the plants. The Group estimates the provision based on the lease terms and in accordance with the Group's published environmental policy and applicable legal requirements. A provision for site restoration is made in respect of environmental cleanup costs.

B. Onerous contract

The Group entered into several non-cancellable long-term material supply agreements with the suppliers of silicon materials. The Group agrees to purchase the required quantity of raw materials on schedule based on the contractual price during the commitment periods and makes a non-refundable prepayment to the suppliers. The suppliers need to deliver the required quantity of raw materials to the Group according to the contract. Provisions for the onerous contracts were made based on contractual terms and were recognized as cost of sales. For the related agreement, please refer to note 9.

(18) Employee benefits

A. Defined benefit plans

Reconciliation of defined benefit obligation at present value and plan asset at fair value was as follows:

		December 31, 2021	December 31, 2020
Total present value of obligations	$	(7,522,079)	(8,155,583)
Fair value of plan assets		5,684,647	5,671,476
Recognized assets for defined benefit obligations	**$**	**(1,837,432)**	**(2,484,107)**

The plans entitle a retired employee to receive a pension benefit based on years of service prior to retirement.

(a) Movements in present value of the defined benefit obligations

The movements in present value of the defined benefit obligations of the Group for the years ended December 31, 2021 and 2020 were as follows:

		2021	2020
Defined benefit obligations at January 1	$	8,155,583	8,436,845
Current service costs and interest cost		407,166	231,465
Remeasurements for defined benefit obligations			
－Actuarial gains and losses arising from experience adjustments		211,141	161,262
－Actuarial gains and losses resulting from changes in demographic assumptions		(103,261)	280,853
－Actuarial gains and losses resulting from changes in financial assumptions		(79,688)	84,229
Past service credit		-	6,459
Benefits paid		(602,767)	(463,540)
Expected settlement of benefit obligations		-	(424,645)
Effects of changes in exchange rates		(466,095)	(157,345)
Defined benefit obligations at December 31	**$**	**7,522,079**	**8,155,583**

(b) Movements in the fair value of the plan assets

The movements in the fair value of the defined benefit plan assets of the Group for the years ended December 31, 2021 and 2020 were as follows:

		2021	2020
Fair value of plan assets at January 1	$	5,671,476	5,489,559
Interest income		82,972	125,720
Remeasurements for defined benefit obligations			
—Return on plan asset (excluding current interest)		250,160	492,356
Contributions made		443,142	254,051
Benefits paid		(503,081)	(308,756)
Expected settlement of benefit obligations		-	(191,699)
Effect of changes in exchange rates		(260,022)	(189,755)
Fair value of plan assets at December 31	$	**5,684,647**	**5,671,476**

The Group allocates pension funds in accordance with the Regulations for Revenues, Expenditures, Safeguard and Utilization of the Labor Retirement Fund, and such funds are managed by the Bureau of Labor Funds, Ministry of Labor. With regard to the utilization of the funds, minimum earnings shall be no less than the earnings attainable from two-year time deposits with interest rates offered by local banks. The Group' s Bank of Taiwan labor pension reserve account balance amounted to $386,402 thousand as of December 31, 2020. For information on the utilization of the labor pension fund assets, including the assets allocation and yield of the fund, please refer to the website of the Bureau of Labor Funds, Ministry of Labor.

Under the employee defined benefit plans of the Group' s subsidiary in Korea, the plan assets comprised of time deposits bearing annual interest rates ranging from 1.74%~2.20%.

In Italy, the Group' s subsidiary contributes an amount to the National Social Security Pension Fund (INPS) for the employee defined benefit plan.

Under the employee defined benefit plans of the entities located in the United States, plan assets are comprised of trust funds with different grades of risks and returns. Plan asset portfolio consists of a variety of financial instruments including cash, equity securities, and income funds.

(c) Changes in the effect of the asset ceiling

As of December 31, 2021 and 2020, there was no effect of the asset ceiling.

(d) Expenses recognized in profit or loss

The expenses recognized in profit or loss for the Group for the years ended December 31, 2021 and 2020, were as follows:

		2021	2020
Current service costs	$	312,583	94,475
Net interest of defined benefit obligation		11,611	11,270
Past service credit		-	6,459
	$	**324,194**	**112,204**
Operating Costs	$	295,501	78,220
Selling expenses		9,841	11,007
Administrative expenses		10,442	12,001
Research and development expenses		8,410	10,976
	$	**324,194**	**112,204**

(e) Actuarial assumptions

The Group's principal actuarial assumptions at the reporting date were as follows:

	December 31, 2021	December 31, 2020
Discount rate	0.28%~3.29%	0.03%~3.06%
Future salary increase rate	1.6%~5.7%	0.8%~5.75%

The estimated amount of contribution to be made by the Group to the defined benefit plans for the one-year period after the reporting date is $165,967 thousand.

The weighted average duration of the defined benefits obligation are 4.19 years to 10.5 years.

(f) Sensitivity analysis

The following table summarizes the impact of a change in the assumptions on the present value of the defined benefit obligation as of December 31, 2021 and 2020.

		Impact on defined benefit obligations	
Actuarial assumptions		**Increased by 0.25%**	**Decreased by 0.25%**
December 31, 2021			
Discount rate	$	(139,237)	146,563
Future salary increase rate	$	55,813	(51,853)
December 31, 2020			
Discount rate	$	(189,487)	201,145
Future salary increase rate	$	68,394	(62,640)

Reasonably possible changes at the reporting date to one of the relevant actuarial assumptions, assuming other assumptions remain constant, would have affected the defined benefit obligation by the amounts shown above. The method used in the sensitivity analysis is consistent with the calculation of pension liabilities in previous periods. There was no change in the method and assumptions used in the preparation of sensitivity analysis for 2021 and 2020.

There was no change in the method and assumptions used in the preparation of the sensitivity analysis for 2021 and 2020.

B. Defined contribution plans

The Group contributes at the rate of 6% of each employee's monthly wages to the labor pension personal account at the Bureau of Labor Insurance in accordance with the provisions of the Labor Pension Act. Under this defined contribution plan, the Group's contribution to the Bureau of Labor Insurance requires no additional legal or constructive obligations thereafter.

The Company's domestic subsidiaries' pension costs incurred from contributions to the defined contribution plan were $109,066 thousand and $95,533 thousand for the years ended December 31, 2021 and 2020, respectively. Such contributions were made to the Bureau of the Labor Insurance.

The total periodic pension costs of other subsidiaries were recognized as current expenses in accordance with the local regulations of their respective jurisdictions where they are domiciled. The Group recognized the pension costs of $251,670 thousand and $189,711 thousand for its overseas subsidiaries in the years of 2021 and 2020, respectively.

(19) Income tax

A. Income tax expense

The components of income tax expenses in 2021 and 2020 were as follows:

		2021	2020
Current tax expense (profit)			
Current tax expense	$	3,252,998	3,450,406
Deferred tax expense			
Origination of temporary differences		1,337,339	76,722
Income tax expense	**$**	**4,590,337**	**3,527,128**

The amounts of income tax (benefit) recognized in other comprehensive income in 2021 and 2020 were as follows:

		2021	2020
Items that will not be reclassified subsequently to profit or loss:			
Remeasurement from defined benefit obligations	$	34,694	(38,521)
Unrealized gains (losses) from investments in equity instruments measured at fair value through other comprehensive income		73,958	-
	$	**108,652**	**(38,521)**

	2021	2020
Items that may be reclassified subsequently to profit or loss:		
Exchange differences on translation of foreign financial statements	$ (1,232,023)	(33,505)

Reconciliations of income tax and income before income tax for 2021 and 2020 are as follows:

	2021	2020
Income before income tax	$ 17,205,727	16,238,190
Income tax using the Company's domestic tax rate	3,441,145	3,247,638
Effect of tax rates in foreign jurisdiction	417,117	457,100
Shares of profit of foreign subsidiaries accounted for using equity method	1,558,500	1,797,820
Tax effect of permanent differences	234,744	(294,504)
Tax refunded for repatriated offshore funds to Taiwan	-	(547,941)
Investment tax credits	(363,578)	(606,077)
Changes in unrecognized temporary differences and others	(697,591)	(526,908)
	$ 4,590,337	3,527,128

B. Deferred tax assets and liabilities

(a) The deferred tax assets have not been recognized in respect of the following items:

	December 31, 2021	December 31, 2020
Tax effect of deductible temporary differences	$ 2,019,860	1,906,037
Carryforward of unused tax losses	723,032	723,032
	$ 2,742,892	2,629,069

The R.O.C. Income Tax Act allows net losses, as assessed by the tax authorities, to offset taxable income over a period of ten years for local tax reporting purposes. Deferred tax assets have not been recognized in respect of these items because it is not probable that future taxable profit will be available against which the Company can utilize the benefits therefrom.

As of December 31, 2021, the information of the Group's unused tax losses for which no deferred tax assets were recognized was as follows:

Year of loss	Unused tax losses	Expiry date
2012 (examined and assessed)	$ 1,403,648	2022
2013 (examined and assessed)	9,728	2023
2017 (examined and assessed)	1,021,784	2027
2018 (examined and assessed)	1,180,000	2028
	$ 3,615,160	

(b) Deferred tax liabilities have not been recognized with respect of the following items:

		December 31, 2021	December 31, 2020
Aggregate amount of temporary differences related to investments in subsidiaries	$	(2,151,112)	(1,535,975)

The Group is able to control the timing of the reversal of the temporary differences associated with investments in subsidiaries as at December 31, 2021 and 2020. Also, the management considers it is probable that the temporary differences will not reverse in the foreseeable future. Hence, such temporary differences were not recognized as deferred tax liabilities.

(c) Recognized deferred tax assets and liabilities

Deferred tax assets:

		January 1, 2021	Recognized in profit or loss	Recognized in other comprehensive income	Effect of changes in exchange rates	December 31, 2021
Assets:						
Allowance for inventory valuation	$	267,667	21,629	-	(22,267)	267,029
Defined benefit obligations		332,741	(11,305)	(1,648)	5,922	325,710
Equity-method investments		12,556	(2,547)	-	-	10,009
Expected credit loss of accounts receivable		150,830	(4,801)	-	(15,506)	130,523
Depreciation life differences of property, plant and equipment		501,317	146,490	-	(62,293)	585,514
Unrealized exchange losses		23,019	(76,765)	-	46	(53,700)
Others		1,024,691	(230,682)	12,787	(92,926)	713,870
	$	**2,312,821**	**(157,981)**	**11,139**	**(187,024)**	**1,978,955**
Liabilities:						
Equity method investments	$	(3,075,516)	(927,211)	1,186,190	-	(2,816,537)
Equity-method investments in domestic		-	-	(73,958)	-	(73,958)
Depreciation life differences of property, plant and equipment and others		(1,898,891)	(252,147)	-	144,182	(2,006,856)
	$	**(4,974,407)**	**(1,179,358)**	**1,112,232**	**144,182**	**(4,897,351)**

		January 1, 2020	Recognized in profit or loss	Recognized in other comprehensive income	Effect of changes in exchange rates	December 31, 2020
Assets:						
Allowance for inventory valuation	$	177,678	64,335	-	25,654	267,667
Loss carryforwards		109,042	(107,450)	-	(1,592)	-
Defined benefit obligations		448,658	(158,926)	13,609	29,400	332,741
Equity-method investments		170,672	(134,576)	(23,540)	-	12,556
Expected credit loss of accounts receivable		93,280	-	-	57,550	150,830
Depreciation life differences of property, plant and equipment		163,567	304,418	-	33,332	501,317
Unrealized exchange losses		130,446	(60,084)	-	(47,343)	23,019
Others		634,293	355,150	-	35,248	1,024,691
	$	**1,927,636**	**262,867**	**(9,931)**	**132,249**	**2,312,821**
Liabilities:						
Equity method investments	$	(2,932,566)	(224,907)	81,957	-	(3,075,516)
Depreciation life differences of property, plant and equipment and other		(1,881,310)	38,762	-	(56,343)	(1,898,891)
	$	**(4,813,876)**	**(186,145)**	**81,957**	**(56,343)**	**(4,974,407)**

C. Assessment of tax filings

The Company's income tax returns for the years through 2019 have been examined and approved by the R.O.C. income tax authorities.

(20) Capital and other equity

As of December 31, 2021 and 2020, the authorized common stock of the Company amounted to $8,000,000 thousand, which was divided into 800,000 thousand shares, with a par value of $10 per share, of which $200,000 thousand was reserved for employee stock options, convertible preferred stock, and convertible corporate bonds. The issued and outstanding shares of common stock both amounted to $5,862,217 thousand.

The reconciliation of shares outstanding for the years ended December 31, 2021 and 2020 was as follows (in thousands of shares):

	Common stock	
	2021	**2020**
Opening balance at January 1	586,222	584,573
Restricted employee shares	-	1,649
Closing balance at December 31	**586,222**	**586,222**

A. Issuance of common stock

The Company increased capital in GDRs of $610,000 thousand, and issued 61,000 thousand shares of common stock on the Luxembourg on September 9, 2010. The price issued per share was US$2.9048. The total issuance amount is US$177,193 thousand. The cash increase was approved by the Financial Supervisory Commission No. 0990041383. Letter on August 13, 2010. All shares issued were paid and registered on September 9, 2010. The total amount issued was US$177,193. The net amount issued was US$174,931 thousand after deducting the related agent cost US$2,262 thousand, was equivalent to $5,580,288 thousand on the day's closing exchange rates. The total premium amounting to $4,958,757 thousand was recognized on capital surplus after deducting the related issuance cost of $11,531 thousand.

B. Capital surplus

The balances of capital surplus were as follows:

	December 31, 2021	December 31, 2020
Additional paid in capital	$ 8,296,480	10,285,706
Difference between the consideration and the carrying amount of subsidiaries' share acquired or disposed	1,822,532	1,887,671
Capital surplus recognized under the equity method	7,543,801	6,667,167
Treasury stock transactions	33,314	33,314
Employee stock options	608,059	607,376
	$ 18,304,186	**19,481,234**

The Company's resolutions to distribute cash dividends out of capital surplus for an amount of $1,989,226 thousand ($3.3933 per share) and $1,416,136 thousand ($2.4157 per share), respectively, were approved during the shareholders' meeting held on December 9, 2021 and June 19, 2020. Relevant information can be found on the Market Observation Post System website.

C. Legal reserve

According to the R.O.C Company Act Section 241, the legal reserve and capital surplus may be distributed as cash dividends or stock dividends to the shareholders in proportion to the number of shares held. Distribution of legal reserve and capital surplus, by way of cash dividends, should be approved by the Board of Directors in a meeting attended by two thirds of the total number of directors, with half of the directors' agreement; thereafter, be reported in the shareholders' meeting. The distribution of legal reserve and capital surplus through issuance of new shares shall be resolved during the shareholders' meeting.

D. Special reserve

When the Company adopted the International Financial Reporting Standards (IFRSs) approved by the FSC for the first time, the Company had chosen to apply IFRS 1 “First time Adoption of the IFRSs” exemptions. Retained earnings was increased by $161,317 thousand due to the adjustment of accumulated translation adjustment under the shareholders’ equity, which exceeded the net increase of $102,349 thousand in retained earnings on the conversion date for the first time adoption of IFRSs approved by the FSC. In accordance with Regulatory Permit issued by the FSC on April 6, 2012, a special reserve is appropriated from retained earnings based on the net increase of retained earnings arising from the first adoption of IFRSs. Under such regulation, the Company is also required to set aside an additional special reserve, as part of the distribution of its annual earnings, equal to the difference between the amount of the above mentioned special reserve and the net debit balance of other components of the stockholders’ equity. The only distributable special reserve is the portion that exceeds the net debit balance of the other components of the shareholders’ equity. The carrying amount of special reserve amounted to $102,349 thousand as of December 31, 2021 and 2020.

According to the rule referred to above, while distributing the distributable earnings, the Company had additional special reserve appropriated from the current year net income and unappropriated earnings of the prior period for the difference between the net amount debited to other shareholder’s equity and the balance of the special reserve appropriated in the preceding paragraph. For the amount debited to other shareholders’ equity attributable to prior period accumulation, the special reserve was appropriated from the unappropriated earnings of the prior period and could not be distributed. The amount debited to the shareholders’ equity reversed subsequently can be distributed as earnings.

E. Earnings distribution and dividend policy

On June 24, 2020, the amendment to the Company’s Articles of Incorporation was approved during the shareholders’ meeting. The proposal of surplus earning distribution or loss off-setting for the first half fiscal year, together with the business report and financial statements, shall be forwarded to the audit committee for auditing before the end of the second half of the fiscal year; thereafter, be submitted to the Board of Directors for approval.

Distribution of earnings, by way of cash, shall be approved in the Board of Directors meeting. The distribution of earnings through issuance of new shares shall be resolved in the stockholders’ meeting.

The Company’s Article of Incorporation stipulates that Company’s net earnings should first be used to offset the prior years’ deficits, if any, before paying any income taxes. Of the remaining balance, 10% is to be appropriated as a legal reserve, and subsequently any remaining profit together with any undistributed retained earnings shall be distributed, in form of cash dividends, according to the distribution plan approved by the Board of Directors with two-thirds of directors present and approved by one-half of the present directors and further submitted to the shareholders’ meeting, in accordance with the R.O.C. Company Act Section 240(5). The distribution plan to issue new shares should be proposed by the Board of Directors and submitted to the shareholders’ meeting for approval.

After considering both the long-term development of the business and the goal of stable growth of earnings per share, the distribution of dividends to shareholders should not be less than 50% of the distributable earnings, which is calculated using the net income of the current year, minus, legal reserve and special reserve. The distribution of cash dividends should not be less than 50% of the total dividends.

On December 9, 2021, the Company's Board of Directors resolved to distribute the first half of 2021 earnings. The earnings were appropriated as follows:

	2021	
	Dividends per share (NT dollar)	**Amount**
Dividends distributed to ordinary shareholders:		
Appropriation of the first half of earnings	$ 0.1067	62,550

On May 6, 2021, the Board of Directors determined the amount of cash dividends for 2020. Moreover, other surplus distribution has met statutory resolution threshold with electronic voting on June 21, 2021, and the general meeting of shareholders was held on August 26, 2021. On December 10, 2020, the Company's Board of Directors resolved to appropriate the first half of 2020 earnings. On March 19, 2020, the appropriation of earnings in 2019 was resolved at the annual meeting of shareholders on June 24, 2020.

The earnings were appropriated as follows:

	2020		2019	
	Dividends per share (NT dollar)	**Amount**	**Dividends per share (NT dollar)**	**Amount**
Dividends distributed to ordinary shareholders:				
Appropriation of the first half of earnings	$ 3.5	2,051,776	-	-
Appropriation of the annual earnings	5.5	3,224,219	2.5843	1,514,973
Total	**$ 9.0**	**5,275,995**	**2.5843**	**1,514,973**

The above-mentioned information is available on the Market Observation Post System website.

G. Other equity, net of tax

		Exchange differences on translation of foreign financial statements	Gains (losses) on equity instruments measured at fair value through other comprehensive income	Unearned compensation cost	Other	Total
Balance at January 1, 2021	$	(2,325,038)	(1,070,453)	-	(375)	(3,395,866)
Exchange differences on translation of net assets of foreign operations		(2,578,398)	-	-	-	(2,578,398)
Share of exchange differences of associates accounted using equity method		(2,098)	-	-	-	(2,098)
Compensation cost of restricted stock awards of associates accounted using equity method		-	-	-	(5,681)	(5,681)
Unrealized gains (losses) from financial assets measured at fair value through other comprehensive income		-	213,046	-	-	213,046
Share of unrealized gains (losses) from financial assets measured at fair value through other comprehensive income of associates using equity method		-	329,990	-	-	329,990
Balance at December 31, 2021	**$**	**(4,905,534)**	**(527,417)**	**-**	**(6,056)**	**(5,439,007)**
Balance at January 1, 2020	$	(2,224,344)	(1,585,242)	(18,608)	(3,268)	(3,831,462)
Exchange differences on translation of net assets of foreign operations		(104,374)	-	-	-	(104,374)
Share of exchange differences of associates accounting using equity method		3,680	-	-	-	3,680
Compensation cost of restricted stock awards of associates accounted using equity method		-	-	-	2,893	2,893
Unrealized gains (losses) on financial assets measured at fair value through other comprehensive income		-	85,270	-	-	85,270
Share of unrealized gains (losses) from financial assets measured at fair value through other comprehensive income of associates accounted for using equity method		-	429,519	-	-	429,519
Compensation cost of restricted shares issued		-	-	18,608	-	18,608
Balance at December 31, 2020	**$**	**(2,325,038)**	**(1,070,453)**	**-**	**(375)**	**(3,395,866)**

(21) Share-based payment

A. Restricted stock to employee

On June 27, 2017, the Company resolved through the shareholders' meeting to issue 6,000 thousand new restricted employee shares. The grant is limited to manager-level (including) above supervisors and full-time employees with special contributions who have served for more than one year at the Company since the grant day. The Company has filed a declaration with the Securities and Futures Commission of FSC and all the shares were issued by the Board of Directors resolution on October 5, 2017. The fair value of the grant was $67.2.

The employees who have been allocated the above-mentioned new restricted employee shares will be able to subscribe for the shares at $20 each. The vested condition is that after receiving the new restricted employee shares, they are still in service according to the following schedule, and their performance reaches A (including) above, then they can obtain the share percentage of the vested condition respectively:

1) 1 year of service: 40%

2) 2 year of service: 70%

3) 3 year of service: 100%

After the employees subscribe for the new shares, they may not sell, pledge, transfer, donate, set or do other disposition of their shares until the vested conditions are fulfilled; new restricted employee shares are subject to the right to participate in the distribution of dividends, and the dividends they receive are not subject to the vested period; the proposal, speech, voting rights and other relevant shareholders' equity of the shareholders meeting of the Company before the vested conditions are the same as the other ordinary shares of the Company; after the issuance, the new restricted employee shares should be immediately delivered to the trust or custody and must not be returned to the trustee for any reason or manner until the vested conditions are fulfilled. The Company will repurchase the restricted stock from employees at the issue price when the vesting conditions cannot be met.

The information of the Company's restricted shares was as follows:

Unit: Thousand shares

	2021	2020
Outstanding at January 1	-	1,649
Vested during the year	-	(1,649)
Outstanding at December 31	-	-

The compensation costs recognized by the Company in 2021 and 2020 were $0 thousand and $18,608 thousand, respectively, and recognized as the operating costs and operating expenses.

B. Cash-settled share-based payment

The Company's subsidiary, GlobalWafers, issued a cash settled share-based payment for a period of four years. The assigned employees are entitled to future cash payments when performing the conditions of service. The condition of the plan requires that employees who are entitled to the above share appreciation rights must be in service on each vested date at the Group (February 28, 2019, February 28, 2020, February 28, 2021 and February 28, 2022). On each vested day, employee is entitled to a 25% share appreciation right. In addition, the share appreciation rights are determined by the share price of GlobalWafers on each vested day and individual performance.

As of December 31, 2021 and 2020, the price of GlobalWafers stock was NT$ 888 and NT$ 708, respectively. For the years ended December 31, 2021 and 2020, the Group recognized the compensation cost amounting to $204,334 thousand and $164,352 thousand, respectively.

(22) Earnings per Share

A. Basic earnings per share

	2021	2020
Net income attributable to the shareholders of the Company	$ **6,811,050**	**6,326,235**
Weighted average number of ordinary shares outstanding (in thousands of shares)	**586,222**	**584,916**
Basic earnings per share (NT dollar)	$ **11.62**	**10.82**

B. Diluted earnings per share

	2021	2020
Net income attributable to the shareholders of the Company	$ **6,811,050**	**6,326,235**
Weighted average number of ordinary shares outstanding (in thousands of shares)	586,222	584,916
Effect of dilutive potential ordinary shares (in thousands of shares)	3,032	5,866
Weighted-average number of ordinary shares outstanding (in thousands of shares)(diluted)	**589,254**	**590,782**
Diluted earnings per share (NT dollar)	$ **11.56**	**10.71**

(23) Revenue from contracts with customers

A. Details of revenues

	2021			2020		
	Semiconductor Segment	**Solar energy Segment and other**	**Total**	**Semiconductor Segment**	**Solar energy Segment**	**Total**
Primary geographical markets:						
Taiwan	$ 11,084,095	2,737,906	13,822,001	10,729,031	1,955,101	12,684,132
Northeast Asia (Japan and Korea)	19,609,054	481,624	20,090,678	16,824,092	368,421	17,192,513
Asia-other	11,958,537	992,973	12,951,510	11,011,666	571,993	11,583,659
America	8,132,016	1,903,650	10,035,666	7,231,434	1,423,332	8,654,766
Europe	9,915,560	1,181,655	11,097,215	7,218,230	1,221,226	8,439,456
Other areas	387,415	456,765	844,180	2,334,142	508,631	2,842,773
	$ 61,086,677	**7,754,573**	**68,841,250**	**55,348,595**	**6,048,704**	**61,397,299**
Major product categories						
Semiconductor wafers	$ 60,612,171	24,567	60,636,738	55,138,940	7,005	55,145,945
Solar cell	-	2,485,299	2,485,299	-	1,937,190	1,937,190
Solar module	-	1,682,882	1,682,882	-	1,593,096	1,593,096
Solar ingot	-	1,624,328	1,624,328	-	928,837	928,837
Semiconductor ingot	360,961	351	361,312	113,541	-	113,541
Solar wafer	-	217,029	217,029	-	170,789	170,789
Others	113,545	1,720,117	1,833,662	96,114	1,411,787	1,507,901
	$ 61,086,677	**7,754,573**	**68,841,250**	**55,348,595**	**6,048,704**	**61,397,299**

B. Contract balances

	December 31, 2021	**December 31, 2020**	**January 1, 2020**
Notes and accounts receivable (including related parties)	**$ 9,886,329**	**8,404,570**	**8,502,200**
Contract liabilities	**$ 29,759,181**	**17,896,112**	**21,409,237**

The major change in the balance of contract liabilities is the advance consideration received from customers for the contracts, in which revenue is recognized when products are delivered to customers. The amount of revenue recognized for the years ended December 31, 2021 and 2020, which was included in the contract liability balance at the beginning of the period, was $3,732,465 thousand and $3,581,457 thousand, respectively.

The contract liabilities primarily relate to the advance consideration received from customers for the semiconductor and solar products sales contracts, in which revenue is recognized when products are delivered to customers.

(24) Remuneration to employees and directors

In accordance with the Articles of Incorporation of the Company, if there is profit in the year, the Company shall accrue 3% to 15% of the profit as employee's remuneration. The Board of Directors decides to distribute it by stock or cash, and the object of distribution includes employees meeting certain conditions; and the Board of Directors decides to accrue up to 3% of the above profit as directors' remuneration. The distribution of remuneration of employees and directors should be submitted and reported during the shareholders' meeting. In case the Company has an accumulated loss, it should reserve amounts to make up the losses prior to distributing remuneration to the employees and directors pursuant to the percentage mentioned in the preceding paragraph.

For the years ended December 31, 2021 and 2020, the Company accrued and recognized its employee remuneration amounting to $438,902 thousand and $506,993 thousand and directors remuneration amounting to $45,000 thousand and $45,740 thousand, respectively. These amounts were calculated by using the Company's pre-tax net profit for the period before deducting the amounts of the remuneration to employees and directors, multiplied by the distribution of ratio of the remuneration to employees and directors based on the Company's Articles of Incorporation, and expensed under operating costs or expenses. If there would be any changes in accounting estimates, the changes shall be accounted for as profit or loss in the following year. If, however, the shareholders determine that the employee remuneration is to be distributed through share dividends, the calculation, based on the shares, shall be calculated using the share price on the day before the Board of Directors meeting. The difference between estimated amount and actual payment, if any, will be treated as change in accounting estimate and recognized in profit or loss in the following year.

The amounts as stated in the 2021 and 2020 consolidated financial statements were not significantly different from those approved in the Board of Directors meetings. The information is available on the Market Observation Post System website.

(25) Interest income and finance costs

A. Interest income

		2021	2020
Interest income from bank deposits	$	141,939	250,425
Interest income from financial assets measured at amortized cost		5,859	9,450
	$	147,798	259,875

B. Financial

		2021	2020
Interest expense of borrowings	$	84,833	95,028
Interest expense of corporate bonds		236,215	-
Interest expense of lease liability		11,277	10,911
	$	332,325	105,939

(26) Other gains and losses

		2021	2020
Dividend income	$	286,232	13,216
Foreign exchange losses		584,952	(500,736)
Reversal (recognition) of impairment loss on financial assets measured at amortized cost		3,454	22,519
Gains (losses) on financial assets (liabilities) measured at fair value through profit or loss		(703,632)	1,463,187
Compensation		(1,566,000)	-
Gain (losses) on disposal of property, plant and equipment		17,747	(1,126)
Gain on disposal of investees		113,180	34,165
Others		357,074	146,260
	$	**(906,993)**	**1,177,485**

(27) Share of other comprehensive income of associates accounted for using equity method

		2021	2020
Exchange differences on translation of foreign operations	$	(2,098)	3,680
Unrealized gains (losses) on financial assets at fair value through other comprehensive income		551,647	728,216
	$	**549,549**	**731,896**

(28) Financial instruments

A. Credit risk

(a) Credit risk exposure

The carrying amount of financial assets represents the maximum amount exposed to credit risk.

(b) Concentration of credit risk

The main customers of the Group are from the solar and silicon wafer industries. The Group generally sets credit limits to its customers according to their credit evaluations. Therefore, the credit risk of the Group is mainly influenced by the solar and silicon wafer industry. As of December 31, 2021 and 2020, 40% and 45%, respectively, of the Group’s accounts receivable (including related parties) were from the top 10 customers. Although there is a potential for concentration of credit risk, the Group routinely assesses the collectability of the accounts receivable and makes a corresponding allowance for doubtful accounts.

(c) Credit risks of receivables and debt securities

For credit risk exposure of notes and trade receivables, please refer to note 6(5). Other financial assets at amortized cost includes other receivables and investments in corporate bonds. For impairment loss on financial assets measured at amortized cost, please refer to note 6(4).

All of these financial assets are considered to have low risk, and thus, the impairment provision recognized during the period was limited to 12 months expected losses. (Please refer to note 4(7) regarding how the Group determines whether the financial instruments are considered to be low credit risk).

B. Liquidity risk

The following table shows the contractual maturities of financial liabilities, including estimated interest payments and excluding the impact of netting agreements.

	Carrying amount	Contractual cash flows	Within 6 months	6-12 months	1-2 years	2-5 years or more	Over 5 years
December 31, 2021							
Non-derivative financial liabilities							
short-term borrowings	$ 7,759,302	(7,766,921)	(7,766,921)	-	-	-	-
Notes and accounts payable (including related parties)	4,585,922	(4,585,922)	(4,585,922)	-	-	-	-
Long-term borrowings (including current portion)	1,030,876	(1,118,247)	(22,046)	(21,417)	(42,834)	(128,502)	(903,448)
Current and non-current lease liabilities	852,666	(925,731)	(104,669)	(87,191)	(102,577)	(218,545)	(412,749)
Corporate bonds	18,980,771	(19,470,000)	(40,300)	(67,900)	(108,200)	(19,253,600)	-
Convertible notes-equity portion	26,143,969	(27,565,891)	-	-	-	(27,565,891)	-
Dividends payable	3,751,986	(3,751,986)	(3,751,986)	-	-	-	-
Accrued remuneration of directors (recorded under other current liabilities)	90,790	(90,790)	(45,790)	(45,000)	-	-	-
Payroll and bonus payable	3,512,267	(3,512,267)	(2,554,644)	(957,623)	-	-	-
Other accrued expenses (recorded under other current liabilities)	1,566,000	(1,566,000)	(1,566,000)	-	-	-	-
Derivative financial							
Forward exchange contracts:							
Outflows	195,064	(4,559,227)	(4,559,227)	-	-	-	-
Inflows	-	4,364,163	4,364,163	-	-	-	-
	$ 68,469,613	**(70,548,819)**	**(20,633,342)**	**(1,179,131)**	**(253,611)**	**(47,166,538)**	**(1,316,197)**

	Carrying Amount	Contractual cash flows	Within 6 months	6-12 months	1-2 years	2-5 years or more	Over 5 years
December 31, 2020							
Non-derivative financial liabilities							
short-term borrowings	$ 10,771,000	(10,781,301)	(10,280,497)	(500,804)	-	-	-
Notes and accounts payable (including related parties)	4,204,394	(4,204,394)	(4,204,394)	-	-	-	-
Long-term borrowings	1,080,816	(1,198,948)	(22,969)	(22,969)	(45,938)	(137,814)	(969,258)
Current and non-current lease liabilities	846,073	(911,801)	(76,536)	(68,052)	(120,194)	(237,241)	(409,778)
Dividends payable	3,751,986	(3,751,986)	(3,751,986)	-	-	-	-
Accrued remuneration of directors (recorded under other current liabilities)	103,420	(103,420)	(103,420)	-	-	-	-
Payroll and bonus payable	3,183,647	(3,183,647)	(3,183,647)	-	-	-	-
Derivative financial liabilities							
Swap exchange contracts:							
Outflows	34,281	(2,311,480)	(2,311,480)	-	-	-	-
Inflows	-	2,277,199	2,277,199	-	-	-	-
Forward exchange contracts:							
Outflows	-	(6,241,053)	(6,241,053)	-	-	-	-
Inflows	40,684	6,281,737	6,281,737	-	-	-	-
	$ 24,016,301	**(24,129,094)**	**(21,617,046)**	**(591,825)**	**(166,132)**	**(375,055)**	**(1,379,036)**

The Group does not expect the cash flows included in the maturity analysis to occur significantly earlier or at significantly different amounts.

C. Currency risk

(a) Exposure to foreign currency risk

The Group’s significant exposure to foreign currency risk was as follows:

	December 31, 2021		
	Foreign currency	**Exchange rate**	**NTD**
Financial assets			
Monetary Items			
USD	$ 1,509,779	27.68	41,790,682
JPY	3,497,461	0.2405	841,139
EUR	62,927	31.32	1,970,874
CNY	668,802	4.344	2,905,276

	December 31, 2021		
	Foreign currency	Exchange rate	NTD
Non-monetary items			
USD	22,650	27.680	Note
JPY	208,426	0.2405	Note
EUR	1,300	31.32	Note
Financial liabilities			
Monetary Items			
USD	460,615	27.68	12,749,823
JPY	23,122,720	0.2405	5,561,014
EUR	162,254	31.32	5,081,795
CNY	65,388	4.344	284,045
Non-monetary items			
USD	8,830	27.68	Note
JPY	14,050,000	0.2405	Note
EUR	1,305	31.32	Note

	December 31, 2020		
	Foreign currency	Exchange rate	NTD
Financial assets			
Monetary Items			
USD	$ 538,244	28.480	15,329,189
JPY	897,515	0.2763	247,983
EUR	44,556	35.020	1,560,351
Non-monetary items			
USD	19,900	28.480	Note
JPY	15,295,381	0.2763	Note
EUR	111	35.020	Note
Financial liabilities			
Monetary Items			
USD	333,232	28.480	9,490,447
JPY	25,397,758	0.2763	7,017,401
EUR	17,754	35.020	621,754
Non-monetary items			
USD	86,760	28.480	Note
JPY	5,000,000	0.2763	Note

Note: The fair value of forward exchange contracts was measured at the reporting date. For related information, please refer to note 6(2).

(b) Sensitivity analysis

The Group's exposure to foreign currency risk arises from the translation of the foreign currency exchange gains and losses on cash and cash equivalents, notes and accounts receivable, long and short-term loans, and notes and accounts payables that are denominated in foreign currency. A weakening (strengthening) of 1% of the NTD against the USD, JPY, EUR and CNY as of December 31, 2021 and 2020, would have increased or decreased the net income before income tax by $238,313 thousand and $79 thousand, respectively. The analysis is based on foreign currency exchange rate variances that the Group considered to be reasonably possible at the reporting date. The analysis assumes that all other variables remain constant and was performed on the same basis for both periods.

(c) Foreign exchange gain and losses on monetary exchange

Since the Group has many kinds of functional currencies, the information on foreign exchange gain (loss) on monetary items is disclosed by an aggregate amount. For the years of 2021 and 2020, foreign exchange losses (including realized and unrealized portions) amounted to $584,952 thousand and $(500,736) thousand, respectively.

D. Interest rate analysis

Please refer to the notes on liquidity risk management and interest rate exposure of the Group's financial liabilities.

The following sensitivity analysis is based on the exposure to interest rates. Regarding liabilities with variable interest rates, the analysis is based on the assumption that the amount of liabilities outstanding at the reporting date was outstanding throughout the year.

If the interest rate had increased or decreased by 0.25%, the Group's net income before income tax would have increased or decreased by $25,729 thousand and $20,670 thousand, for the years ended December 31, 2021 and 2020, respectively, assuming all other variable factors remain constant. This is mainly due to the Group's bank deposits and borrowings with variable rates.

E. Other price risk

For the years ended December 31, 2021 and 2020, the sensitivity analyses for the changes in the securities price at the reporting date were performed using the same basis for the profit and loss as illustrated below:

	For the years ended December 31,			
	2021		2020	
Prices of securities at the reporting date	Other comprehensive income before tax	Net income	Other comprehensive income before tax	Net income
Increasing 5%	$ 64,542	908,677	24,232	280,216
Decreasing 5%	(64,542)	(908,677)	(24,232)	(280,216)

F. Fair value of financial instruments

(a) Fair value hierarchy

The fair value of financial assets and liabilities at fair value through profit or loss and financial assets at fair value through other comprehensive income is measured on a recurring basis. The carrying amount and fair value of the Group's financial assets and liabilities, including the information on fair value hierarchy were as follows; however, except as described in the following paragraphs, for financial instruments not measured at fair value whose carrying amount is reasonably close to the fair value, and lease liabilities, disclosure of fair value information is not required:

	December 31, 2021				
	Carrying amount	Fair value			
		Level 1	Level 2	Level 3	Total
Financial assets measured at fair value through gain or loss-current					
Forward exchange contract	$ 3,567	-	3,567	-	3,567
Financial assets at fair value through profit or loss－non-current					
Private equity	$ 195,163	-	-	195,163	195,163
Overseas securities	18,173,549	18,173,549	-	-	18,173,549
	$ 18,368,712	18,173,549	-	195,163	18,368,712
Financial assets measured at amortized cost					
Stocks listed on domestic markets	$ 224,763	224,763	-	-	224,763
Overseas securities	664,320	664,320	-	-	664,320
Non-public offer equity instrument measured at fair value	401,748	-	-	401,748	401,748
Subtotal	$ 1,290,831	889,083	-	401,748	1,290,831
Financial liabilities measured at fair value through profit or loss					
Cash and cash equivalents	$ 67,117,906	-	-	-	-
Notes and accounts receivable (including related parties)	9,889,160	-	-	-	-
Other financial assets－current and non-current	5,148,081	-	-	-	-
Corporate bonds－current	331,609	-	331,609	-	331,609
Subtotal	$ 82,486,756	-	331,609	-	331,609
Financial liabilities measured at amortized cost:					
Forward exchange contract	$ 198,631	-	198,631	-	198,631
Convertible corporate bonds embedded in derivative instruments	178,637	-	178,637	-	178,637
	$ 377,268	-	377,268	-	377,268

	December 31, 2021				
	Carrying amount	Fair value			
		Level 1	Level 2	Level 3	Total
Financial liabilities measured at amortized cost:					
Short-term borrowings	7,759,302	-	-	-	-
Notes and accounts receivable (including related parties)	4,585,922	-	-	-	-
Long-term borrowings (including current portion)	1,030,876	-	-	-	-
Accrued remuneration of directors (recorded under other current liabilities)	90,790	-	-	-	-
Convertible notes-equity portion	26,143,969	-	-	-	-
Corporate bonds	18,980,771	-	-	-	-
Current and non-current lease liabilities	852,666	-	-	-	-
Other accrued expenses (recorded under other current liabilities)	1,566,000	-	-	-	-
Subtotal	$ 61,010,296	-	-	-	-

	December 31, 2020				
	Carrying amount	Fair value			
		Level 1	Level 2	Level 3	Total
Financial assets at fair value through gain or loss-current					
Forward exchange contract	$ 52,356	-	52,356	-	52,356
Overseas securities held	5,604,312	5,604,312	-	-	5,604,312
Subtotal	$ 5,656,668	5,604,312	52,356	-	5,656,668
Financial assets at fair value through profit or loss－non-current	$ 117,204	-	-	117,204	117,204
Financial assets at fair value through other comprehensive income					
Stocks listed on domestic markets	$ 101,475	101,475	-	-	101,475
Non-public offer equity instrument measured at fair value	383,155	-	-	383,155	383,155
	$ 484,630	101,475	-	383,155	484,630
Financial assets measured at amortized cost					
Cash and cash equivalents	$ 23,812,590	-	-	-	-
Notes and accounts receivable (including related parties)	8,407,409	-	-	-	-
Other financial assets－current and non-current	5,894,642	-	-	-	-
Corporate bonds－current	277,895	-	277,895	-	277,895
Subtotal	$ 38,392,536	-	277,895	-	277,895
Financial liabilities measured at fair value through profit or loss					
Forward exchange contracts	$ 11,672	-	11,672	-	11,672
Swap exchange contracts	34,281	-	34,281	-	34,281
Subtotal	$ 45,953	-	45,953	-	45,953

	December 31, 2020				
	Carrying amount	Fair value			
		Level 1	Level 2	Level 3	Total
Financial liabilities measured at amortized cost:					
Short-term borrowings	$ 10,771,000	-	-	-	-
Notes and accounts payable (including related parties)	4,204,394	-	-	-	-
Long-term borrowings (including current portion)	1,080,816	-	-	-	-
Current and non-current lease liabilities	846,073	-	-	-	-
Subtotal	$ 16,902,283	-	-	-	-

(b) Valuation technique for financial instruments that are not measured at fair value

The Group's valuation techniques and assumptions used for financial instruments not measured at fair value are as follows:

Financial assets measured at amortized cost

If the quoted prices in active markets are available, the market price is established as the fair value. However, if quoted prices in active markets are not available, the estimated valuation or prices used by competitors are adopted.

(c) Valuation technique of fair value of financial instruments measured at fair value

i. Non-derivative financial instruments

A financial instrument is regarded as being quoted in an active market if quoted prices are readily and regularly available from an exchange, dealer, broker, industry group, pricing service, or regulatory agency, and those prices represent actual and regularly occurring market transactions on an arm's length basis. Whether transactions are taking place 'regularly' is a matter of judgment and depends on the facts and circumstances of the market for the instrument.

Quoted market prices may not be indicative of the fair value of an instrument if the activity in the market is infrequent, the market is not well established, only small volumes are traded, or bid ask spreads are very wide. Determining whether a market is active involves judgment.

If the financial instruments held by the Group belong to an active market, the fair value is booked as follows by category and attribute:

For financial assets and financial liabilities of the listed company's stocks, notes of exchange and corporate bonds, which are subject to standard terms and conditions and are traded in the active market, the fair value is determined by reference to market quotations.

In addition to the above-mentioned financial instruments with active markets, the fair value of the remaining financial instruments is obtained by means of evaluation technologies or reference to counterparty quotes. The fair value obtained through the evaluation technology can be based on the current fair value of other financial instruments with similar characteristics and characteristics, the discounted cash flow method or other evaluation technology, including the calculation with the model and the market information available on the consolidated balance sheet date (such as the reference yield curve of Taiwan Stock Exchange, Reuters commercial promissory interest rate average offer).

If the financial instruments held by the Group are in the non-active market, the fair value is booked as follows by category and attribute:

Equity instruments without public quotation: Estimates of fair value using the market comparable company method, the main assumptions are based on the earnings multiplier derived from the investee' s net worth per share and the EV/EBIT comparable listed companies' quotes. The estimate has adjusted the depreciation impact of the lack of market liquidity of the equity securities

ii. Derivative financial instruments

Measurement of the fair value of derivative instruments is based on the valuation techniques generally accepted by market participants, such as the discounted cash flow or option pricing models. The fair value of forward currency is usually determined based on the forward currency exchange rate.

(d) Reconciliation of Level 3 fair value

The Group's financial instruments which belong to Level 3 fair value were financial assets measured at fair value through other comprehensive income and financial assets measured at fair value through profit or loss. The movements were as follows:

	Financial assets at fair value through profit or loss	**Financial assets at fair value through other comprehensive income**
Balance at January 1, 2021	$ 117,204	383,155
Addition	27,820	83,122
Recognized in profit or loss	50,139	-
Recognized in other comprehensive income	-	(13,632)
Refund	-	(42,267)
Effect of changes in exchange rate	-	(8,630)
Balance at December 31, 2021	**$ 195,163**	**401,748**

		Financial assets at fair value through profit or loss	Financial assets at fair value through other comprehensive income
Balance at January 1, 2020	$	95,163	332,185
Addition		29,064	-
Recognized in profit or loss		(7,023)	-
Recognized in other comprehensive income		-	82,139
Refund		-	(12,561)
Effect of changes in exchange rate		-	(18,608)
Balance at December 31, 2020	$	**117,204**	**383,155**

(e) Quantified information on significant unobservable inputs (Level 3) used in fair value measurement

The Group's financial instruments that use Level 3 inputs to measure fair value include financial assets at fair value through other comprehensive income – equity investments.

Most of the fair value measurements categorized within Level 3 use a single significant unobservable input. Equity investments without an active market contain multiple significant unobservable inputs. The significant unobservable inputs of equity investments without an active market are individually independent, and there is no correlation between them.

Quantified information of significant unobservable inputs was as follows:

Item	Valuation technique	Significant unobservable inputs	Relationship between significant unobservable inputs and fair value
Financial assets at fair value through other comprehensive income equity investments without an active market	Comparable listed companies approach	· Equity value multiplier (as of December 31, 2021 and December 31, 2020 3.22%~ 3.28% and 2.27%~18.90%, respectively) · Market liquidity discount rate (December 31, 2021 and December 31, 2020 were 28% and 28%, respectively)	· The higher the multiplier, the higher the fair value · The higher the lack of market liquidity, the lower the fair value

(d) The fair value of the Group's financial instruments that use Level 3 inputs to measure fair value was based on the price of the third party. The Group did not disclose quantified information and sensitivity analysis on significant unobservable inputs because the unobservable inputs used in fair value measurement were not established by the Group.

(e) As of December 31, 2021 and 2020, there has been no transfer at fair value level.

(29) Financial risk management

A. Overview

The Group has exposures to the following risks from its financial instruments:

(a) Credit risk

(b) Liquidity risk

(c) Market risk

The following likewise discusses the Group’s objectives, policies and processes for measuring and managing the above mentioned risks. For more disclosures about the quantitative effects of these risk exposures, please refer to the respective notes in the accompanying consolidated financial statements.

B. Structure of risk management

The Board of Directors has overall responsibility for the establishment and oversight of the risk management framework. The board is responsible for developing and monitoring company’s risk management policies. Internal auditors assist the Board of Directors to monitor and review the risk management control and internal procedures regularly and report them to the Board of Directors.

The Group’s risk management policies are established to identify and analyze the risks faced by the Group, to set appropriate risk limits and controls, and to monitor risks and adherence to limits. Risk management policies and systems are reviewed regularly to reflect changes in market conditions and the Group’s activities. The Group, through its training and management standards and procedures, aims to develop a disciplined and constructive control environment in which all employees understand their roles and obligations.

The Group’s audit Committee oversees how management monitors compliance with the Group’s risk management policies and procedures and reviews the adequacy of the risk management framework in relation to the risks faced by the Group. The Group audit committee is assisted in its oversight role by Internal Audit. Internal Audit undertakes both regular and ad hoc reviews of risk management controls and procedures, and the results of which are reported to the audit committee.

C. Credit risk

Credit risk is the risk of financial loss to the Group if a customer or counterparty to a financial instrument fails to meet its contractual obligations, and arises principally from the Group’s receivables from customers and investments in debt securities.

(a) Accounts receivables and other receivables

The Group has established a credit policy under which each new customer is analyzed individually for creditworthiness before the Group's standard payment and delivery terms and conditions are offered. Purchase limits are established for each customer and reviewed quarterly. Customers that fail to meet the Group's benchmark creditworthiness may transact with the Group only on a prepayment basis.

(b) Investment

The credit risk exposure in the bank deposits, investments with fixed income and other financial instruments are measured and monitored by the Group's finance department. As the Group deals with banks, financial institutions, and other external parties with good credit standing, corporate organization and government agencies which are graded above par level, management believes that the Group does not have compliance issues and no significant credit risk.

(c) Guarantee

According to the Group's policy, the Group can only provide endorsements for companies with business dealing, the companies directly or indirectly owned more than 50% shares with voting right by the Group, or the companies directly or indirectly owned more than 50% shares with voting right of the Group. As of December 31, 2021 and 2020 the Group did not provide any endorsement guarantees except to its subsidiaries.

D. Liquidity risk

There is no liquidity risk of being unable to raise capital to settle contract obligations since the Group has sufficient capital and working capital to fulfill contract obligations.

Loans and borrowings from the bank form an important source of liquidity for the Group. As of December 31, 2021 and 2020, the Group's unused credit lines were $35,207,145 thousand and $22,021,439 thousand, respectively.

E. Market risk

Market risk is the risk that changes in market prices, such as foreign exchange rates, interest rates and equity prices, which will affect the Group's income or the value of its holdings of financial instruments. The objective of market risk management is to manage and control market risk exposures within acceptable parameters, while optimizing the return.

(a) Currency risk

The Group is exposed to currency risk on sales, purchases and borrowings that are denominated in currencies other than the respective functional currencies of the Group's entities, primarily the New Taiwan Dollar (NTD), but also include the Chinese Yen (CNY), US Dollar (USD), Japanese Yen (JPY) and Euro (EUR). These transactions are denominated in NTD, USD, JPY and EUR.

Interest is denominated in the currency used in borrowings. Generally, borrowings are denominated in currencies that match the cash flows generated by the underlying operations of the Group, primarily NTD, but also include USD.

In respect of other monetary assets and liabilities denominated in foreign currencies, the Group ensures that its net exposure is kept to an acceptable level by buying or selling foreign currencies at spot rates when it is necessary to address short-term imbalances.

(b) Interest rate risk

The Group holds variable-rate assets and liabilities, which cause the exposure to interest rate risk in cash flows.

(c) Price floating risk on equity instruments

The Group is exposed to equity price risk due to the investments in equity securities. This is a strategic investment and is not held for trading.

Information on the risk was disclosed in note 6(28).

(30) Capital management

The Board of Directors' policy is to maintain a strong capital base in order to maintain investor, creditor and market confidence and to sustain future development of the business. Capital consists of share capital, capital surplus, retained earnings and other equity interests of the Group. The Board of Directors monitors the return on capital as well as the level of dividends to ordinary stockholders.

The Group's debt to equity ratios at the end of the reporting periods were as follows:

		December 31, 2021	December 31, 2020
Total liabilities	$	115,088,347	60,283,299
Less: cash and cash equivalent		(67,117,906)	(23,812,590)
Net debts	**$**	**47,970,441**	**36,470,709**
Total equity	**$**	**52,162,938**	**49,669,482**
Debt-to-equity ratio		**91.96 %**	**73.43 %**

The increase in financial assets and the decrease in other current liabilities resulted in the debt-to-equity ratio to increase as at December 31, 2021.

(31) Cash flow information

The Group's investing and financing activities which did not affect the current cash flow for the years ended December 31, 2021 and 2020 were as follows:

For acquiring right of use assets by leasing, please refer to note 6(11).

Reconciliations of liabilities arising from financing activities were as follows:

	January 1, 2021	Cash flows	Foreign exchange movement and others	December 31, 2021
Short-term borrowings	$ 10,771,000	(3,011,698)	-	7,759,302
Long-term borrowings	1,080,816	(170,495)	120,555	1,030,876
Lease liabilities	846,073	(203,538)	210,131	852,666
Bonds payable	-	46,812,845	(1,688,105)	45,124,740
Guarantee deposit received	35,809	(34,658)	246	1,397
Total liabilities from financing activities	**$ 12,733,698**	**43,392,456**	**(1,357,173)**	**54,768,981**

	January 1, 2020	Cash flows	Foreign exchange movement and others	December 31, 2020
Short-term borrowings	$ 11,465,075	676,375	(1,370,450)	10,771,000
Long-term borrowings	-	(237,741)	1,318,557	1,080,816
Lease liabilities	931,397	(198,464)	113,140	846,073
Guarantee deposit received	193,495	(156,243)	(1,443)	35,809
Total liabilities from financing activities	**$ 12,589,967**	**83,927**	**59,804**	**12,733,698**

7. Related-party transactions:

(1) Names and relationships of related parties

The followings are entities that have had transactions with the Group during the periods covered in the consolidated financial statements:

Names of related parties	Relationship with the Group
United Renewable Energy Co., Ltd (“URE”)	Main management of SAS. (Note 1)
Actron Technology	SAS’s management is the director of the company/ An associate of the Group
Accu Solar Corporation	An associate of the Group
Taiwan Speciality Chemicals(TSCS)	An associate of the Group (Note 3)
Crystalwise Technology Inc.	An associate of the Group
ADVANCED WIRELESS SEMICONDUCTOR COMPANY	An associate of the Group
Cathay Sunrise Corporation (Cathy Sunrise)	An associate of the Group (Note 2)
Cathay Sunrise One Co., Ltd.	Subsidiary of associates (Note 2)

Names of related parties	Relationship with the Group
Cathay Sunrise Two Co., Ltd.	Subsidiary of associates (Note 2)
Cathay Sunrise Electric Power One Co., Ltd.	Subsidiary of associates (Note 2)
Cathay Sunrise Electric Power Two Co., Ltd.	Subsidiary of associates (Note 2)
Sunrise PV One Co., Ltd.	Subsidiary of associates (Note 2)
Sunrise PV Five Co., Ltd.	Subsidiary of associates (Note 2)

Note 1: URE has ceased to be a related party after the re-election of the Board of Directors' members in June 2020.

Note 2: Due to the transfer and disposal of Cathay Sunrise Corporation on October 23, 2020, the entity ceased to be a related party.

Note 3: TSCS became a subsidiary of the Group after August 25, 2021.

(2) Significant transactions with related parties

A. Sales

The amounts of significant sales transactions and engineering contract revenue between the Group and related parties were as follows:

	2021	2020
Associates	$ 354,704	594,004
Other related parties	-	74,920
	$ 354,704	**668,924**

The sales price for sales to the related parties was determined by market price and adjusted according to the sales area and sales volume.

As of December 31, 2021 and 2020, the credit terms for third parties were 0 to 120 days after month-end and 0 to 60 days, respectively. While those for related parties were receipt in advance to 30 days after month-end.

B. Purchase and process outsourcing

The amounts of purchases and process outsourcing by the Group from related parties were as follows:

	2021	2020
Associates	$ 157	34,742
Other related parties	-	2,309
	$ 157	**37,051**

The prices of purchases and process outsourcing were determined by market rates.

As of December 31, 2021 and 2020, the payment terms to third parties were 0 to 120 days after month-end. In contrast, those to related parties were prepayment to 30 days after month-end.

C. Receivables from related parties

The receivables from related parties were as follows:

Items	Categories	December 31, 2021	December 31, 2020
Receivables from related parties	Associate	$ 65,929	72,414

D. Payables to related parties

The payables to related parties were as follows:

Items	Categories	December 31, 2021	December 31, 2020
Receivables from related parties	Associate	$ -	273

E. Transactions of property, plant and equipment

The disposals of property, plant and equipment to related parties were summarized as follows:

	2021		2020	
	Disposal price	Receivable from related parties	Disposal price	Receivable from related parties
Associates	$ -	-	3,750	-

For the years ended December 31, 2021 and 2020, the gain on disposal of property, plant and equipment amounted to $0 thousand and $3,750 thousand, respectively.

Purchase amounts of property, plant and equipment from related parties were summarized as follows:

	2021		2020	
	Amount	Payable to related parties	Amount	Payable to related parties
Associates	$ 85,542	10,989	915,398	21,503

F. Corporate bonds

In October 2021, the Group purchased the one-year private issued corporate bonds of Crystalwise Technology, for $330,000 thousand. The interest rate and the coupon rate were both 2.00%.

As of December 31, 2021 and 2020, the interest income amounted to $5,859 thousand and $9,450 thousand, respectively. As of December 31, 2021 and 2020, the accumulated investment cost and interests receivable amounted to $331,609 thousand and $277,895 thousand, respectively, and were recorded in financial assets measured at amortized cost-current.

G. Lease

The details of the lease rental contract between the Group and its related parties were as follows:

	2021	2020
Associates	$ 29,829	15,004

The Group leased its plant to associates. As of December 31, 2021 and 2020, the Group had lease receivables of $2,217 thousand and $0 thousand, respectively.

H. Payment and advances from other transactions

The receivables from related parties and payables to related parties generated from other material purchases on behalf of related parties, insurance and utilities payments and manpower support of related parties as of December 31, 2021 and 2020 were as follows:

	December 31, 2021	December 31, 2020
Associates (receivables)	$ 614	2,839
Associates (payables)	(183)	(76)
	$ 431	2,763

(3) Key management personnel compensation

Key management personnel compensation comprised of:

	2021	2020
Short-term employee benefits	$ 515,624	544,524
Post-employment benefits	1,132	1,190
	$ 516,756	545,714

8. Pledged assets:

The carrying values of pledged assets were as follows:

Asset name	Pledge or Mortgage underlying subject	December 31, 2021	December 31, 2020
Property, plant and equipment	Long-term and short-term borrowings and credit lines	$ 3,438,440	3,093,503
Time deposits (recognized in other financial assets－current)	Guarantees of acceptances bill	-	17,423
Time deposits (recognized in other financial assets－non-current)	Guarantee for the lease contract with the Hsinchu Science Park Bureau	51,800	51,877
Time deposits (recognized in other financial assets－non-current))	Guarantee for gas consumption from CPC	2,000	2,000
Time deposits (recognized in other financial assets－non-current))	Guarantee payment for import VAT	5,000	5,000
Time deposits (recognized in other financial assets－non-current))	Guarantee for bank financing projects	138,400	142,400
Time deposits (recognized in other financial assets－non-current))	Court litigation	21,622	21,620
Time deposits (recognized in other financial assets－non-current))	Court litigation	12,560	-
		$ 3,669,822	**3,333,823**

9. Commitments and contingencies:

The significant contingent liabilities and unrecognized contractual commitments were as follows:

(1) Significant unrecognized contractual commitments

A. The purchase amounts for future delivery from suppliers under the existing agreements and a new agreement signed with Hemlock Semiconductor Pte. Ltd. (hereinafter referred to as Hemlock) in July, 2021, as of December 31, 2021 and 2020, amounted to $33,277,526 thousand and $25,071,063 thousand, respectively.

Discussion of the contract litigation between Hemlock and the Company, please refer to (2) contingent liabilities.

B. In response to the long-term purchase contract referred above, the Company has silicon wafer long-term sales contracts signed with the customers since the year 2005. These companies agree to pay the non-refundable funds to the Company. The two parties agreed to have silicon wafers sold in accordance with the agreed quantity and price from January 1, 2006 to December 31, 2019. If the delivery has not been made in compliance with the contract signed, a sales discount or an amount equivalent to 1.5-4 times of the advance sales receipts from customers as remuneration should be granted. If the delay of shipment has not been resolved for more than three months, the outstanding pre-payment should be refunded. In addition, in response to the price decline arising from the falling demand, solar energy battery customers and the Company will negotiate the selling price and adjusting the average selling price in accordance with market conditions.

The amount of delivery according to the existing contracts and current market conditions is as follows:

(Unit: currency in thousands)

	December 31, 2021	December 31, 2020
USD	$ 20,736	19,632
EUR	$ 15,048	28,394

C. As of December 31, 2021 and 2020, the significant outstanding commitments for construction and purchase of property, plant and equipment amounted to $9,953,297 thousand and $1,894,847 thousand, respectively.

D. As of December 31, 2021 and 2020, the total amount of promissory notes deposited by the Group at the bank for acquiring bank financing were $11,341,360 thousand and $12,015,760 thousand, respectively.

E. As of December 31, 2021 and 2020, a guarantee letter for the Customs Administration and Research and Development which the Group requested a bank to issue amounted to $60,000 thousand and $19,700 thousand, respectively.

F. As of December 31 2021 and 2020, the Group's outstanding standby letters of credit that were issued amounted to $322,195 thousand and $294,084 thousand, respectively.

G. The Group had a long-term sales contract with some customers and received the advance payment. The customer is required to order minimum quantity according to the contract. As of December 31, 2021 and 2020, a guarantee letter for the customer which the Group requested a bank to issue amounted to $905,394 thousand and $88,651 thousand, respectively.

H. GlobalWafers Co., Ltd. had made an application of the Management, Utilization, and Taxation of Repatriated Offshore Funds Act to the tax authorities on February 21, 2020 and November 28, 2019. The application was approved and remitted for a total of $7,404,312 thousand. Up to 5% of the funds could be withdrawn and freely utilized. The remaining 95% can only be withdrawn for the investments approved by the Ministry of Economic Affairs, R.O.C. upon the elapse of five full years after the date of depositing the fund into a segregated foreign exchange deposit account. GlobalWafers Co., Ltd. had made an application to utilize the fund for capital investment. The fund is planned to utilize for factory extension, purchase of factory's facilities and other related capital expenditure. GlobalWafers Co., Ltd. has applied to the Ministry of Economic Affairs for substantial investments that were expected to be used for plant expansion and capital expenditure. As of December 31, 2021 and 2020, the balance of the account was $3,944,367 thousand and $5,491,302 thousand, respectively, and recognized as other current and non-current financial assets.

I. GlobalWafers Co., Ltd.'s board resolved to acquire Siltronic AG outstanding shares at EUR125 per share on December 9, 2020. The business combination with Siltronic AG would maximize the shareholders benefits. GlobalWafers Co., Ltd. and Siltronic AG signed a business combination agreement on December 10, 2020, wherein the Group issued a EUR50 million letter of payment guarantee through the bank.

The Company also signed an irrevocable undertaking agreement with Wacker Chemie AG (Wacker Chemie). It was approved by German Federal Financial Supervisory Authority (BaFin) on December 21, 2020, to publish the offer document outlining terms of the voluntary public takeover offer for the acquisitions of all no par value registered shares in Siltronic AG.

On January 22, 2021, the final offer price was adjusted to EUR145 per share, and the acceptance period of takeover offer was due on March 1, 2021. The Group signed the letter of payment guarantee with an amount up to EUR4.2 billion (equivalent to acquisition consideration) through the bank. As of January 31, 2022, the approval by the German government could not be obtained.

(2) Contingent liabilities

Hemlock filed summons and complaints against the Company which were delivered to the Company on May 12, 2015. Both parties had reached a settlement in July 2021 and then signed STIPULATION OF DISCONTINUANCE and SETTLEMENT AGREEMENT.

10. Losses due to major disasters: None.

11. Subsequent Events:

As of January 31, 2022, the closing date of the transaction, the Company failed to obtain the approval of the German Government, therefore, the Company’ s public offer for Siltronic and the related contract lapsed due to the failure to fulfill the conditions. The 13.67% shares of Siltronic acquired by the Company in the market may be freely disposed of, and there is no restriction on the holding period. The 56.60% of Siltronic shares that should have been sold during the public offer period remained with the original shareholders, and were converted to outstanding common shares on February 8, 2022, for which the Company has no obligation to perform. In addition, according to the business combination agreement between the Company and Siltronic, a termination fee of EUR 50 million was payable to Siltronic for failure to obtain the required approval from the competent authorities, which had been provisionally recorded in other current liabilities.

12. Other:

A summary of the employee benefits, depreciation, and amortization expenses, by function were as follows:

By function	For the years ended December 31,					
	2021			2020		
By item	Cost of goods sold	Operating expenses	Total	Cost of goods sold	Operating expenses	Total
Employee benefits						
Salary	8,277,075	2,743,477	11,020,552	7,943,819	2,483,724	10,427,543
Labor and health insurance	1,091,817	246,235	1,338,052	1,120,879	209,763	1,330,642
Pension	580,497	104,433	684,930	316,562	80,886	397,448
Others employee benefits expenses	234,277	64,974	299,251	159,206	50,174	209,380
Depreciation	6,044,634	240,667	6,285,301	5,598,290	192,912	5,791,202
Amortization	221,671	3,758	225,429	347,433	9,062	356,495

13. Other disclosures:

(1) Information on significant transactions:

The followings were the information on significant transactions required by the “ Regulations Governing the Preparation of Financial Reports by Securities Issuers” for the Group:

A. Loans to other parties: Please refer to Table 1.

B. Guarantees and endorsements for other parties: Please refer to Table 2.

C. Securities held as of December 31, 2021 (excluding investment in subsidiaries, associates and joint ventures): Please refer to Table 3.

D. Individual securities acquired or disposed of with accumulated amounts exceeding the lower of NT$300 million or 20% of the capital stock: Please refer to Table 4.

E. Acquisition of individual real estate with amount exceeding the lower of NT$300 million or 20% of the capital stock: Please refer to Table 5.

F. Disposal of individual real estate with amount exceeding the lower of NT$300 million or 20% of the capital stock: None.

G. Related-party transactions for purchases and sales with amounts exceeding the lower of NT$100 million or 20% of the capital stock: Please refer to Table 6.

H. Receivables from related parties with amounts exceeding the lower of NT$100 million or 20% of the capital stock: Please refer to Table 7.

I. Trading in derivative instruments: Please refer to note 6(2).

J. Business relationships and significant intercompany transactions: Please refer to Table 8.

(2) Information on investees: Please refer to Table 9.

The following is the information on investees for the year ended December 31, 2021 (excluding information on investees in Mainland China):

(3) Information on investment in mainland China:

A. The names of investees in Mainland China, the main businesses and products and other information: Please refer to Table 10(1).

B. Limitation on investment in Mainland China: Please refer to Table 10(2).

C. Significant transactions:

The significant inter-company transactions with the subsidiary in Mainland China, which were eliminated in the preparation of consolidated financial statements, are disclosed in the "Information on significant transactions".

(4) Major shareholders: None of the shareholders hold more than 5% of outstanding shares.

14. Segment information:

(1) Operating segments

The Group's operating segment information and reconciliations were as follows:

	2021			
	Semiconductor segment	**Solar energy segment**	**Reconciliation and elimination**	**Total**
Revenues:				
Revenue from external customers	$ 61,086,677	7,754,573	-	68,841,250
Intersegment revenues	16,476	2,090,890	(2,107,366)	-
Total revenue	**$ 61,103,153**	**9,845,463**	**(2,107,366)**	**68,841,250**
Interest expenses	**$ 307,680**	**24,645**	**-**	**332,325**
Depreciation and amortization	**$ 5,884,220**	**626,510**	**-**	**6,510,730**
Reportable segment profit or loss	**$ 11,798,220**	**599,916**	**-**	12,398,136
Share of profit (loss) of associates and joint ventures accounted for using equity method				217,254
				$ 12,615,390
Reportable segment assets	**$ 147,473,087**	**14,820,835**	**(2,002,169)**	160,291,753
Equity method investments				6,959,532
				$ 167,251,285
Reportable segment liabilities	**$ 104,859,367**	**12,231,149**	**(2,002,169)**	**115,088,347**

	2020			
	Semiconductor segment	**Solar energy segment**	**Reconciliation and elimination**	**Total**
Revenues:				
Revenue from external customers	$ 55,348,595	6,048,704	-	61,397,299
Intersegment revenues	5,954	1,109,135	(1,115,089)	-
Total revenue	**$ 55,354,549**	**7,157,839**	**(1,115,089)**	**61,397,299**
Interest expenses	**$ 73,656**	**32,283**	**-**	**105,939**
Depreciation and amortization	**$ 5,519,586**	**628,111**	**-**	**6,147,697**
Reportable segment profit or loss	**$ 13,066,106**	**(329,716)**	**-**	12,736,390
Share of profit (loss) of associates and joint ventures accounted for using equity method				(25,328)
				$ 12,711,062
Reportable segment assets	**$ 92,445,122**	**10,583,163**	**(234,315)**	102,793,970
Equity method investments				7,158,811
				$ 109,952,781
Reportable segment liabilities	**$ 50,660,189**	**9,857,425**	**(234,315)**	**60,283,299**

(2) Products and services information

For the Group's revenue from external customers and the relevant customer contract revenue, please refer to note 6(25).

(3) Geographical information

In presenting information on the basis of geography, segment revenue is based on the geographical location of customers, and segment assets are based on the geographical location of the assets.

Segment revenue is presented by the geographical location of customers and non-current assets are presented by the geographical location of the assets as follows:

A. For the Group's revenue from external customers and the relevant customer contract revenue, please refer to note 6(25).

B. Non-current assets:

Geographical information	**December 31, 2021**	**December 31, 2020**
Korea	$ 13,283,323	15,931,775
Taiwan	12,989,776	8,808,936
United States	5,342,424	7,789,564
Japan	7,393,672	6,960,047
Italy	2,732,540	3,259,943
Philippines	1,741,168	1,905,971
Other countries	2,230,717	2,035,542
	$ 45,713,620	**46,691,778**

(4) Major customers information

Sales to individual customers representing greater than 10% of net sales of the Group:

	2021	**2020**
Group C	**$ 12,789,073**	**10,936,309**

Sino-American Silicon Products Inc. and Subsidiaries
Loans to other parties
For the year ended December 31, 2021

Table 1

(In Thousands of New Taiwan Dollars)

Number	Name of lender	Name of borrower	Account name	Related party	Highest balance of financing to other parties during the period	Ending balance	Actual usage amount during the period	Range of interest rates during the period	Purposes of fund financing for the borrower (Note 1)	Transaction amount for business between two parties	Reasons for short-term financing	Loss allowance	Collateral		Individual funding loan limits (Note 2 and 3)	Maximum limit of fund financing (Note 2 and 3)
													Item	Value		
0	Sino-American Silicon Products Inc.	Sulu	Receivable from related parties	Yes	1,569,425	1,522,400	276,800	1%	2	-	Operating capital	-	-	-	11,414,833	11,414,833
0	Sino-American Silicon Products Inc.	Sunrise PV Three	Receivable from related parties	Yes	100,000	100,000	40,000	2.5%	2	-	Operating capital	-	-	-	11,414,833	11,414,833
0	Sino-American Silicon Products Inc.	SSH	Receivable from related parties	Yes	1,000,000	1,000,000	497,548	1%	2	-	Operating capital	-	-	-	11,414,833	11,414,833
0	Sino-American Silicon Products Inc.	Aleo Solar GmbH	Receivable from related parties	Yes	157,500	156,600	93,960	0.5%	2	-	Operating capital	-		-	11,414,833	11,414,833
1	SSTI	Sulu	Receivable from related parties	Yes	319,815	318,320	318,320	1%	2	-	Operating capital	-	-	-	1,738,462	1,738,462
1	SSTI	AMLED	Receivable from related parties	Yes	322,731	315,441	315,441	1%	2	-	Operating capital	-	-	-	1,738,462	1,738,462
2	Aleo Solar	Sino-American Silicon Products Inc.	Receivable from related parties	Yes	189,035	-	-	0.5%	2	-	Operating capital	-	-	-	413,454	413,454
3	SAS Sunrise Inc.	Sulu	Receivable from related parties	Yes	176,917	171,616	171,616	1%	2	-	Operating capital	-	-	-	629,166	629,166
4	GlobalWafers	GW GmbH	Receivable from related parties	Yes	6,866,000	-	-	0.45%	2	-	Operating capital	-		-	18,252,601	18,252,601
4	GlobalWafers	Sunrise PV Electric Five	Receivable from related parties	Yes	10,000	10,000	10,000	1%	2	-	Operating capital	-		-	18,252,601	18,252,601
4	GlobalWafers	GWH	Receivable from related parties	Yes	500,000	500,000	-	1%	2	-	Operating capital	-		-	18,252,601	18,252,601
5	GWJ	MEMC Japan	Receivable from related parties	Yes	1,443,000	1,443,000	745,550	0.59%	2	-	Operating capital	-		-	16,451,608	16,451,608
5	GWJ	GlobalWafers	Receivable from related parties	Yes	5,667,660	3,607,500	2,886,000	0.56%	2	-	Operating capital	-	-	-	16,451,608	16,451,608

Number	Name of lender	Name of borrower	Account name	Related party	Highest balance of financing to other parties during the period	Ending balance	Actual usage amount during the period	Range of interest rates during the period	Purposes of fund financing for the borrower (Note 1)	Transaction amount for business between two parties	Reasons for short-term financing	Loss allowance	Collateral		Individual funding loan limits (Note 2 and 3)	Maximum limit of fund financing (Note 2 and 3)
													Item	Value		
5	GWJ	GlobalWafers	Receivable from related parties	Yes	5,106,080	-	-	0.55%	1	7,245,440	Business between two parties	-	-	-	7,245,440	16,451,608
6	MEMC SpA	GWBV	Receivable from related parties	Yes	1,888,150	1,722,600	1,722,600	0.45%	2	-	Operating capital	-	-	-	8,678,590	8,678,590
6	MEMC SpA	GWS	Receivable from related parties	Yes	2,680,860	2,442,960	1,908,946	3.44%	2	-	Operating capital	-	-	-	8,678,590	8,678,590
7	GWS	GWBV	Receivable from related parties	Yes	2,853,500	936,857	936,857	1.2%	2	-	Operating capital	-	-	-	40,588,738	40,588,738
7	GWS	GW GmbH	Receivable from related parties	Yes	4,291,250	3,915,000	3,915,000	0.45%	2	-	Operating capital	-	-	-	40,588,738	40,588,738
7	GWS	GlobalWafers	Receivable from related parties	Yes	12,270,050	11,902,400	7,287,384	0.8~1.2%	2	-	Operating capital	-	-	-	40,588,738	40,588,738
8	GTI	MEMC LLC	Receivable from related parties	Yes	199,745	193,760	-	1.75%	2	-	Operating capital	-	-	-	9,776,708	9,776,708
8	GTI	GlobalWafers	Receivable from related parties	Yes	1,426,750	1,384,000	1,384,000	0.8%	2	-	Operating capital	-	-	-	9,776,708	9,776,708
9	GWBV	GW GmbH	Receivable from related parties	Yes	4,806,200	4,384,800	2,662,200	0.45%	2	-	Operating capital	-		-	40,277,615	40,277,615
10	GWH	Sunrise PV Four	Receivable from related parties	Yes	50,000	50,000	10,000	1%	2	-	Operating capital	-		-	100,161	100,161

Note 1: The nature of financing purposes:
(1) Represents entities with business transaction with the Group.
(2) Represents where an inter-company or inter firm short-term financing facility is necessary.

Note 2: (1) For the Company's loan of funds to those having business transactions, the individual loan is limited to the trade amount between the two parties in the most recent year; for the loan of funds to companies necessary for short-term financing, the individual loan is limited to 40% of the net worth of the company that lends loan; for loan of funds among foreign companies that the Company directly and indirectly holds 100% of the voting shares, the individual loan is limited to 40% of the net worth of the company that lends loan.
(2) For GlobalWafers and its subsidiaries' loan of funds to those having business transactions with the Company, the amount of financing shall not exceed the amount of business transaction for the current year. For GlobalWafers directly and indirectly holds 100% of the voting shares of domestic companies engaged in capital lending, the individual loan is limited to 40% of the net worth of the Company that lends loan. For the purpose of lending operating capital, the amount of financing offered to a single company and to an investee whose voting shares, directly or indirectly, owned by the Company shall not exceed 40 percent of the lender's net worth.

Note 3: (1) For the Company's loan of funds to those having business transactions, the total loan is limited to 40% of the company that lends loan; for the loan of funds to companies necessary for short-term financing, the total loan is limited to 40% of the net worth of the company that lends loan; the fund-lendings between the foreign companies whose voting shares are 100% owned, directly or indirectly, by the Company, or from the foreign companies whose voting shares are 100% owned, directly or indirectly, by the Company to the Company are not subject to the previous provision of net worth and not subject to the one-year limit of the term of funds in Article 4, Paragraph 1, but should still specify in its internal operating procedures for fund-lending limit and period.

(2) For GlobalWafers and its subsidiaries' loan of funds to those having business transactions, The total amount available for financing purposes shall not exceed 40 percent of the lender's net worth. The total amount available for financing to investees whose voting shares, directly or indirectly, owned by the Company shall not exceed 40 percent of the Company's net worth.

(3) For loan of funds of Aleo Solar, the total loan is limited to 100% of the net worth of the company that lends loan.

(4) For loan of funds of SSTI and SAS Sunrise Inc. to those having business transactions, the total loan is limited to 2 times of the company that lends loan; for the loan of funds to companies necessary for short-term financing, the total loan is limited to 2 times of the net worth of the company that lends loan; for loan of funds among foreign companies that the company that lends loan directly and indirectly holds 100% of the voting shares, the total loan is limited to 40% of the net worth of the company that lends loan.

Note 4: The aforementioned inter-company transactions have been eliminated in the consolidated financial statements.

Sino-American Silicon Products Inc. and Subsidiaries

Guarantees and endorsements for other parties

For the year ended December 31, 2021

Table 2 (In Thousands of New Taiwan Dollars)

No.	Name of guarantor	Counter-party of guarantee and endorsement		Limitation on amount of guarantees and endorsements for a specific enterprise	Highest balance for guarantees and endorsements during the period (Note 3, 7)	Balance of guarantees and endorsements as of reporting date	Actual usage amount during the period	Property pledged for guarantees and endorsements (Amount)	Ratio of accumulated amounts of guarantees and endorsements to net worth of the latest financial statements	Maximum amount for guarantees and endorsements	Parent company endorsements/ guarantees to third parties on behalf of subsidiary (Note 3, 7)	Subsidiary endorsements/ guarantees to third parties on behalf of parent company	Endorsements/ guarantees to third parties on behalf of companies in Mainland China
		Name	Relationship with the Company (Note 2)										
0	Sino-American Silicon Products Inc.	Sulu	2	1,545,758 (Note 6)	1,312,610 (Note 5)	1,273,280 (Note 5)	970,876 (Note 5)	-	4.46 %	1,545,758 (Note 6)	Y (Note 4)	N	N
0	Sino-American Silicon Products Inc.	Sunrise PV Four	2	28,537,082	170	170	170	-	-	28,537,082	Y	N	N
0	Sino-American Silicon Products Inc.	Sunrise PV Three	2	28,537,082	421	421	421	-	-	28,537,082	Y	N	N
0	Sino-American Silicon Products Inc.	SSH	2	28,537,082	1,300,000	1,300,000	-	-	4.56 %	28,537,082	Y	N	N
1	GlobalWafers	GW GmbH	2	136,894,509	112,244,400	91,485,720	6,577,200	-	200.49 %	136,894,509	N	N	N
1	GlobalWafers	GWH	2	136,894,509	1,300,000	1,300,000	-	-	2.85 %	136,894,509	N	N	N
1	GlobalWafers	Sunrise PV Four	2	136,894,509	100,000	100,000	-	-	0.22 %	136,894,509	N	N	N
1	GlobalWafers	Sunrise PV Electric Five	2	136,894,509	79,800	79,800	79,800	-	0.17 %	136,894,509	N	N	N
1	GlobalWafers	GWS	2	136,894,509	1,260,000	1,252,800	1,252,800	-	2.75 %	136,894,509	N	N	N
2	GTI	MEMC LLC	2	48,883,540	428,025	415,200	93,013	-	4.25 %	48,883,540	N	N	N

Note 1: The characters of guarantees and endorsements are coded as follows:
(1) The issuer is coded "0".
(2) The investee is coded consecutively beginning from "1" in the order presented in the table above.

Note 2: The relation between guarantor and guarantee and their endorsement should be disclosed as one of the following:
(1) Ordinary business relationship.
(2) Subsidiary which owned more than 50 percent by the guarantor.
(3) An investee owned more than 50 percent in total by both the guarantor and its subsidiary.
(4) An investee owned more than 90 percent by the guarantor or its subsidiary.

(5) Fulfillment of contractual obligations by providing mutual endorsements and guarantor for peer or joint builders in order to undertake a construction project.
(6) An entity that is guaranteed and endorsed by all capital contributing shareholders in proportion to their shareholding percentages.
(7) The companies in the same industry provide among themselves joint and several securities for a performance guarantee of a sales contract for per construction homes pursuant to the Consumer Protection Act for each other.

Note 3: The amount of endorsements/guarantees provided by the endorsement guarantor company for a single enterprise is limited to 10% of the net worth of the company providing the endorsements/guarantees, but for the subsidiary company, limited to one time of the net worth of the company providing the endorsements/guarantees. The total amount of accumulated endorsements/guarantees shall not exceed the net worth of the Company. The total amount of the Company's endorsements/guarantees and that for a single enterprise shall not exceed five times the net worth of the company providing endorsements/guarantees. The aforesaid net worth is based on the financial statements recently audited or reviewed by an accountant. For endorsements/guarantees due to business transactions, except subject to the provisions of the preceding item, the endorsement guarantee amount should be equal to the higher of the purchase or sales amount.

Note 4: The Company controls the financial and operating strategies of Sulu through effective agreements with other investors of Sulu, so Sulu is considered as a subsidiary.

Note 5: Sulu shares with the company a quota of USD 10,000 thousand and Sulu's individual quota is USD 36,000 thousand. The Company resolved on October 14, 2016 by the Board of Directors to repay part of the loan, and reduce the endorsements/guarantees quota to USD 46,000 thousand. The actual disbursement amount was reduced to USD 35,075 thousand.

Note 6: The endorsements/guarantees quota for Sulu is calculated based on the transaction amount at the time of endorsements/guarantees.

Sino-American Silicon Products Inc. and Subsidiaries

Securities held as of December 31, 2021 (excluding investment in subsidiaries, associates and joint ventures)

December 31, 2021

Table 3 (In Thousands of New Taiwan Dollars)

Name of holder	Category and name of security	Relationship with the Company	Account title	Ending balance				Highest Percentage of ownership (%) during the year	Note
				Shares/Units (thousand)	Carrying value	Percentage of ownership (%)	Fair value		
Sino-American Silicon Products Inc.	Corporate bonds of Crystalwise Technology	Affiliated companies	Financial assets measured at amortized cost-current	330	331,609	-	331,609	-	
Sino-American Silicon Products Inc.	Stock of Powertec Energy Corporation	None	Financial assets at fair value through other comprehensive income	30,410	-	2.14 %	-	2.14 %	
Sino-American Silicon Products Inc.	Stock of Giga Epitaxy Technology Corp.	None	Financial assets at fair value through other comprehensive income	531	-	1.61 %	-	1.61 %	
Sino-American Silicon Products Inc.	Stock of Big Sun	None	Financial assets at fair value through other comprehensive income	7,500	-	3.72 %	-	3.72 %	
SSTI	Stock of SILFAB SPA	None	Financial assets at fair value through other comprehensive income	300	195,906	15.00 %	195,906	15.00 %	
Sino-American Silicon Products Inc.	Stock of 21-Century Silicon Inc.	None	Financial assets at fair value through profit or loss－non-current	1,000	-	-	-	-	
SSTI	Stock of Clean Venture 21 Corporation	None	Financial assets at fair value through profit or loss－non-current	10	-	7.20 %	-	7.20 %	
SSH	WT Microelectronics Co., Ltd.	None	Financial assets at fair value through other comprehensive income	540	39,690	0.06 %	39,690	0.06 %	
SSH	NextDrive Holdings Co., Ltd.	None	Financial assets at fair value through other comprehensive income	583	205,842	3.17 %	205,842	3.17 %	
SSH	Transphorm Inc.	None	Financial assets at fair value through other comprehensive income	3,000	664,320	5.65 %	664,320	5.65 %	
GlobalWafers	CDIB Capital Growth Partners L.P.	None	Financial assets at fair value through profit or loss－non-current	-	195,163	3.85 %	195,163	3.85 %	
GlobalWafers	Siltronic AG	None	Financial assets at fair value through profit or loss－non-current	650	2,879,639	2.17 %	2,879,639	2.17 %	
GW GmbH	Siltronic AG	None	Financial assets at fair value through profit or loss－non-current	2,851	12,631,231	9.50 %	12,631,231	9.50 %	
GWBV	Siltronic AG	None	Financial assets at fair value through other comprehensive income	600	2,662,679	2.00 %	2,662,679	2.00 %	
GlobalWafers	WT Microelectronics Co., Ltd.	None	Financial assets at fair value through other comprehensive income	2,518	185,073	0.32 %	185,073	0.32 %	

Sino-American Silicon Products Inc. and Subsidiaries

Individual securities acquired or disposed of with accumulated amounts exceeding the lower of than NT$300 million or 20% of the capital stock

For the year ended December 31, 2021

Table 4 (In Thousands of New Taiwan Dollars)

Name of company	Category and name of security	Account name	Name of counter-party	Relationship with the company	Beginning Balance		Purchases		Sales				Ending Balance	
					Shares	Amount	Shares	Amount	Shares	Price	Cost	Gain (loss) on disposal	Shares	Amount
GWBV	Siltronic AG	Financial assets at fair value through profit of loss －non-current	-	None	600	2,688,372	-	-	-	-	-	-	600	2,662,679
GW GmbH	Siltronic AG	Financial assets at fair value through profit of loss －non-current	-	None	-	-	2,851	12,631,231	-	-	-	-	2,851	12,631,231
GlobalWafers	Siltronic AG	Financial assets at fair value through profit of loss －non-current	-	None	650	2,915,490	-	-	-	-	-	-	650	2,879,639
SSH	Transphorm Inc.	Financial assets at fair value through other comprehensive income	-	None	-	-	3,000	664,320	-	-	-	-	3,000	664,320

Note: Including gain or loss on evaluation.

Sino-American Silicon Products Inc. and Subsidiaries

Acquisition of individual real estate with amount exceeding the lower than NT$300 million or 20% of the capital stock

For the year ended December 31, 2021

Table 5 (In Thousands of New Taiwan Dollars)

Name of company	Name of property	Transaction date	Transaction amount	Status of payment	Counter-party	Relationship with the Company	If the counter-party is a related party, disclose the previous transfer information				References for determining price	Purpose of acquisition and current condition	Others
							Owner	Relationship with the Company	Date of transfer	Amount			
MEMC Korea	Property, plant and equipment	October 5, 2018	1,814,200	To the progress of the project	Sungdo Eng. Company	Non-parties Company	-	-	-	-	Fair value	For operating purpose	None
MEMC Korea	Property, plant and equipment	September 2018	330,175	To the progress of the project	L.Keeley Construction	Non-parties Company	-	-	-	-	Fair value	For operating purpose	None

Sino-American Silicon Products Inc. and Subsidiaries

Related-party transactions for purchases and sales with amounts exceeding the lower than NT$300 million or 20% of the capital stock

For the year ended December 31, 2021

Table 6 (In Thousands of New Taiwan Dollars)

			Transaction details				Transactions with terms different from others		Notes/Accounts receivable (payable)		
Name of company	Related party	Nature of relationship	Purchase/Sale	Amount	Percentage of total purchases/sales	Payment terms	Unit price	Payment terms	Ending balance	Percentage of total notes/accounts receivable (payable)	Note
Aleo Solar	Aleo Solar Italia	Indirectly held subsidiaries	Sale	(211,754)	(15) %	Net 60 days from the end of the month upon issuance of invoice	-	-	81,841	62 %	Note 1
Sino-American Silicon Products Inc.	Sunrise PV Four	Indirectly held subsidiaries	Sale	(196,031)	(2) %	Net 30 days from the end of the month upon issuance of invoice	-	-	5,386	1 %	Note 1
Sino-American Silicon Products Inc.	GlobalWafers	Directly held subsidiaries	Sale	(2,090,890)	(12) %	Net 30 days from the end of the next month upon issuance of invoice	-	-	178,026	24 %	Note 1
GlobalWafers	GTI	Indirectly held subsidiaries	Purchase	2,073,802	3 %	Net 60 days from the end of the month upon issuance of invoice	-	-	(359,256)	(4)%	Note 1
GlobalWafers	SST	Indirectly held subsidiaries	Purchase	2,061,886	3 %	Net 60 days from the end of the month upon issuance of invoice	-	-	(379,953)	(4)%	Note 1
GlobalWafers	GWJ	Indirectly held subsidiaries	Purchase	6,697,405	11 %	Net 60 to 90 days from the end of the month upon issuance of invoice	-	-	(1,872,552)	(21)%	Note 1
GlobalWafers	Taisil A/S	Indirectly held subsidiaries	Purchase	866,388	1 %	Net 30 to 60 days from the end of the month upon issuance of invoice	-	-	(192,461)	(2)%	Note 1
GlobalWafers	GWS	Indirectly held subsidiaries	Purchase	712,957	1 %	Net 60 days from the end of the month upon issuance of invoice	-	-	(122,445)	(1)%	Note 1
GWS	GlobalWafers	Indirectly held subsidiaries	Purchase	6,583,737	11 %	Net 60 days from the end of the month upon issuance of invoice	-	-	(1,209,905)	(13)%	Note 1
MEMC Korea	GlobalWafers	Indirectly held subsidiaries	Purchase	1,762,010	3 %	Net 30 to 60 days from the end of the month upon issuance of invoice	-	-	(463,477)	(5)%	Note 1
MEMC SpA	GlobalWafers	Indirectly held subsidiaries	Purchase	811,078	1 %	Net 60 days from the end of the month upon issuance of invoice	-	-	(155,577)	(2)%	Note 1
GTI	GlobalWafers	Indirectly held subsidiaries	Purchase	3,606,789	6 %	Net 45 days from the end of the month upon issuance of invoice	-	-	(450,697)	(5)%	Note 1
SST	GlobalWafers	Indirectly held subsidiaries	Purchase	1,090,130	2 %	Net 30 days from the end of the month upon issuance of invoice	-	-	(83,416)	(1)%	Note 1
GWJ	GlobalWafers	Indirectly held subsidiaries	Purchase	2,619,443	4 %	Net 60 to 90 days from the end of the month upon issuance of invoice	-	-	(735,503)	(8)%	Note 1

Name of company	Related party	Nature of relationship	Transaction details				Transactions with terms different from others		Notes/Accounts receivable (payable)		Note
			Purchase/Sale	Amount	Percentage of total purchases/sales	Payment terms	Unit price	Payment terms	Ending balance	Percentage of total notes/accounts receivable (payable)	
Topsil A/S	GlobalWafers	Indirectly held subsidiaries	Purchase	396,400	1 %	Net 30 to 60 days from the end of the month upon issuance of invoice	-	-	(77,771)	(1)%	Note 1
Actron Technology Inc.	GlobalWafers	Subsidiary of associates	Purchase	289,612	- %	Net 60 days from the end of the next month upon issuance of invoice	-	-	(65,911)	(1)%	
MEMC Sdn Bhd	GlobalWafers	Indirectly held subsidiaries	Purchase	123,758	- %	Net 60 days from the end of the next month upon issuance of invoice	-	-	(17,452)	- %	Note 1
GWS	MEMC LLC	Indirectly held subsidiaries	Purchase	1,399,475	2 %	Net 60 days from the end of the month upon issuance of invoice	-		(219,690)	(2)	Note 1
GWS	MEMC LLC	Indirectly held subsidiaries	Sale	(639,618)	(1) %	Net 60 days from the end of the month upon issuance of invoice	-	-	125,959	1 %	Note 1
GWS	MEMC Sdn Bhd	Indirectly held subsidiaries	Purchase	1,671,021	3 %	Net 60 days from the end of the month upon issuance of invoice	-	-	(295,483)	(3)%	Note 1
GWS	MEMC Sdn Bhd	Indirectly held subsidiaries	Sale	(628,577)	(1) %	Net 60 days from the end of the month upon issuance of invoice	-	-	105,615	1 %	Note 1
GWS	MEMC SpA	Indirectly held subsidiaries	Purchase	3,701,587	6 %	Net 60 days from the end of the month upon issuance of invoice	-	-	(651,383)	(7)%	Note 1
GWS	MEMC SpA	Indirectly held subsidiaries	Sale	(4,148,873)	(7) %	Net 60 days from the end of the month upon issuance of invoice	-	-	742,296	8 %	Note 1
GWS	MEMC Korea	Indirectly held subsidiaries	Purchase	1,432,638	2 %	Net 60 days from the end of the month upon issuance of invoice	-	-	(263,573)	(3)%	Note 1
GWS	MEMC Japan	Indirectly held subsidiaries	Purchase	4,067,502	7 %	Net 60 days from the end of the month upon issuance of invoice	-	-	(729,443)	(8)%	Note 1
GWS	MEMC Japan	Indirectly held subsidiaries	Sale	(1,534,937)	(3) %	Net 60 days from the end of the month upon issuance of invoice	-	-	263,177	3 %	Note 1

Note 1: The aforementioned inter-company transactions have been eliminated in the consolidated financial statements.

Sino-American Silicon Products Inc. and Subsidiaries

Receivables from related parties with amounts exceeding the lower than NT$100 million or 20% of the capital stock

December 31, 2021

Table 7 (In Thousands of New Taiwan Dollars)

Name of company	Counter-party	Nature of relationship	Ending balance	Turnover rate	Overdue		Amounts received in subsequent period (Note 3)	Allowance for bad debts
					Amount	Action taken		
Sino-American Silicon Products Inc.	Sulu	Indirectly held subsidiaries	277,369	Note 1	-	-	-	-
Sino-American Silicon Products Inc.	GlobalWafers	Directly held subsidiaries	178,026	11.54	-	-	178,026	-
Sino-American Silicon Products Inc.	SSH	Directly held subsidiaries	498,904	Note 1	-	-	-	-
SSTI	AMLED	Indirectly held subsidiaries	316,064	Note 1	-	-	-	-
SSTI	Sulu	Indirectly held subsidiaries	360,881	Note 1	-	-	-	-
SAS Sunrise Inc	Sulu	Indirectly held subsidiaries	171,959	Note 1	-	-	-	-
GlobalWafers	GTI	Indirectly held subsidiaries	450,697	9.10	-	-	268,332	-
GlobalWafers	GWJ	Indirectly held subsidiaries	735,503	4.52	-	-	311,828	-
GlobalWafers	GWS	Indirectly held subsidiaries	1,209,905	6.05	-	-	1,209,905	-
GlobalWafers	MEMC Korea	Indirectly held subsidiaries	463,477	4.96	-	-	379,126	-
GlobalWafers	MEMC SpA	Indirectly held subsidiaries	155,577	5.11	-	-	151,219	-
GTI	GlobalWafers	Indirectly held subsidiaries	359,256	6.50	-	-	359,256	-
SST	GlobalWafers	Indirectly held subsidiaries	379,953	5.95	-	-	360,797	-
GWJ	GlobalWafers	Indirectly held subsidiaries	1,872,552	3.59	-	-	1,220,081	-
GWS	GlobalWafers	Indirectly held subsidiaries	122,445	8.34	-	-	80,866	-
Topsil A/S	GlobalWafers	Indirectly held subsidiaries	192,461	6.79	-	-	191,085	-
GWS	MEMC Sdn Bhd	Indirectly held subsidiaries	105,615	5.57	-	-	105,615	-
GWS	MEMC Japan	Indirectly held subsidiaries	263,177	5.92	-	-	263,177	-
GWS	MEMC SpA	Indirectly held subsidiaries	742,296	6.83	-	-	742,296	-
GWS	MEMC LLC	Indirectly held subsidiaries	125,959	5.66	-	-	125,959	-
MEMC Sdn Bhd	GWS	Indirectly held subsidiaries	295,483	5.70	-	-	295,483	-
MEMC SpA	GWS	Indirectly held subsidiaries	651,383	6.26	-	-	651,383	-
MEMC Korea	GWS	Indirectly held subsidiaries	263,573	5.99	-	-	134,282	-

Name of company	Counter-party	Nature of relationship	Ending balance	Turnover rate	Overdue		Amounts received in subsequent period (Note 3)	Allowance for bad debts
					Amount	Action taken		
MEMC Japan	GWS	Indirectly held subsidiaries	729,443	5.52	-	-	729,443	-
MEMC LLC	GWS	Indirectly held subsidiaries	219,690	9.71	-	-	219,690	-
GWJ	GlobalWafers	Indirectly held subsidiaries	2,886,000	Note 1	-	-	481,000	-
GTI	GlobalWafers	Indirectly held subsidiaries	1,384,000	Note 1	-	-	-	-
GWS	GlobalWafers	Indirectly held subsidiaries	7,287,384	Note 1	-	-	-	-

Note 1: Receivables from related party for financing purpose.
Note 2: The aforementioned inter-company transactions have been eliminated in the consolidated financial statements.
Note 3: The amount received in subsequent period as of February 25, 2022.

Sino-American Silicon Products Inc. and Subsidiaries
Business relationships and significant intercompany transactions
For the year ended December 31, 2021

Table 8 (In Thousands of New Taiwan Dollars)

No. (Note 1)	Name of company	Name of counter-party	Nature of relationship (Note 2)	Intercompany transactions			
				Account name	Amount	Trading terms	Percentage of the consolidated net revenue or total assets (Note 3,4)
0	Sino-American Silicon Products Inc.	Sino-American Silicon Products Inc.	1	Sale	2,090,890	Net 30 days from the end of the next month upon issuance of invoice	3.04%
0	Sino-American Silicon Products Inc.	GlobalWafers	1	Advance sales receipts	1,723,876	Net 30 days from the end of the next month upon issuance of invoice	1.03%
0	GlobalWafers	GTI	1	Purchase	2,073,802	Net 60 days from the end of the month upon issuance of invoice	3.01%
0	GlobalWafers	SST	1	Purchase	2,061,886	Net 60 days from the end of the month upon issuance of invoice	3.00%
0	GlobalWafers	GWJ	1	Purchase	6,697,405	Net 60 to 90 days from the end of the month upon issuance of invoice	9.73%
0	GlobalWafers	GWJ	1	Account payable	1,872,552	Net 60 to 90 days from the end of the month upon issuance of invoice	1.12%
0	GlobalWafers	Topsil A/S	1	Purchase	866,388	Net 30 to 60 days from the end of the month upon issuance invoice	1.26%
0	GlobalWafers	GTI	1	Sale	3,606,789	Net 45 days from the end of the month upon issuance of invoice	5.24%
0	GlobalWafers	SST	1	Sale	1,090,130	Net 30 days from the end of the month upon issuance of invoice	1.58%
0	GlobalWafers	GWJ	1	Sale	2,619,443	Net 60 to 90 days from the end of the month upon issuance of invoice	3.81%
0	GlobalWafers	GWS	1	Purchase	712,957	Net 60 days from the end of the month upon issuance of invoice	1.04%
0	GlobalWafers	MEMC Korea	1	Sale	1,762,010	Net 30 to 60 days from the end of the month upon issuance invoice	2.56%
0	GlobalWafers	GWS	1	Sale	6,583,737	Net 60 days from the end of the month upon issuance of invoice	9.56%
0	GlobalWafers	MEMC SpA	1	Sale	811,078	Net 60 days from the end of the month upon issuance of invoice	1.18%
1	GWS	MEMC LLC	3	Purchase	1,399,475	Net 60 days from the end of the month upon issuance of invoice	2.03%
1	GWS	MEMC SpA	3	Purchase	3,701,587	Net 60 days from the end of the month upon issuance of invoice	5.38%
1	GWS	MEMC SpA	3	Sale	4,148,873	Net 60 days from the end of the month upon issuance of invoice	6.03%
1	GWS	MEMC Korea	3	Purchase	1,432,638	Net 60 days from the end of the month upon issuance of invoice	2.08%
1	GWS	MEMC Japan	3	Sale	1,534,937	Net 60 days from the end of the month upon issuance of invoice	2.23%
1	GWS	MEMC Japan	3	Purchase	4,067,502	Net 60 days from the end of the month upon issuance of invoice	5.91%

No. (Note 1)	Name of company	Name of counter-party	Nature of relationship (Note 2)	Intercompany transactions			
				Account name	Amount	Trading terms	Percentage of the consolidated net revenue or total assets (Note 3,4)
1	GWS	MEMC Sdn Bhd	3	Purchase	1,671,021	Net 60 days from the end of the month upon issuance of invoice	2.43%
1	GWS	GlobalWafers	3	Intercompany loan	7,287,384	-	4.36%
2	GWJ	GlobalWafers	3	Intercompany loan	2,886,000	-	1.73%

Note 1: The characters of business transactions between parent company and its subsidiaries are coded as follows:
1. The parent company is coded "0".
2. The subsidiaries are coded consecutively beginning from "1" in the order presented in the table above.

Note 2: The relationships with transactions are as follows:
(1) Parent company to its subsidiaries.
(2) Subsidiaries to the parent company.
(3) Transactions between subsidiaries.

Note 3: The ratio of the transaction amount of the consolidated total sales revenue and consolidated total assets are calculated as follows:
(1) For transaction amount accounted for as asset or liability, the ratio is calculated based on the closing balance amount of the consolidated total assets.
(2) For transaction amount accounted for as profit or loss, the ratio is calculated based on the accumulated amount at the end of the financial period of the consolidated total sales revenue.

Note 4: The table represented the amount of significant transaction exceeding 1 percent of the consolidated operating revenue or total assets.

Sino-American Silicon Products Inc. and Subsidiaries
Information on investees
For the year ended December 31, 2021

Table 9 (In Thousands of New Taiwan Dollars)

Name of investor	Name of investee	Location	Main businesses and products	Original investment amount		Balance as of December 31, 2021			Highest Percentage of Ownership during the year	Net income (losses) of investee	Share of profits/losses of investee	Note
				December 31, 2021	December 31, 2020	Shares (thousand)	Percentage of Ownership	Carrying value				
Sino American Silicon Products Inc.	SSTI	British Virgin Islands	Investment and triangular trade center with subsidiaries in China	1,425,603 (USD45,255)	1,425,603 (USD45,255)	48,526	100.00 %	869,231	100.00 %	5,993	5,993	Subsidiary
Sino American Silicon Products Inc.	GlobalWafers	Taiwan	Semiconductor silicon wafer materials and components manufacturing and trade	8,955,952	8,955,952	222,727	51.17 %	23,349,338	51.17 %	11,870,037	6,074,632	Subsidiary
Sino American Silicon Products Inc.	Aleo Solar	Prenzlau	Solar module manufacturing and sale and wholesale of electronic materials	558,139 (EUR13,500)	558,139 (EUR13,500)	Note 1	100.00 %	413,454	100.00 %	2,040	2,040	Subsidiary
Sino American Silicon Products Inc.	SAS Sunrise Inc.	Cayman	Investment activities	794,373 (USD24,500)	794,373 (USD24,500)	24,500	100.00 %	314,583	100.00 %	(26,837)	(26,837)	Subsidiary
Sino American Silicon Products Inc.	Sunrise PV Three	Taiwan	Electricity activities	15,000	15,000	1,500	100.00 %	16,092	100.00 %	718	718	Subsidiary
Sino American Silicon Products Inc.	SSH	Taiwan	Investment activities	250,000	250,000	25,000	100.00 %	560,293	100.00 %	3,705	3,705	Subsidiary
Sino American Silicon Products Inc.	SES	Taiwan	Energy technology service business	20,000	-	2,000	100.00 %	19,985	100.00 %	(15)	(15)	Subsidiary
Sino American Silicon Products Inc.	Crystalwise Technology Inc.	Taiwan	Optical wafer and substrate manufacturing and trade	1,882,936	2,215,803	31,038	35.24 %	15,322	41.94 %	(311,131)	(125,910)	Associate Note 2
Sino American Silicon Products Inc.	Accu Solar Corporation	Taiwan	Solar energy system provider	112,193	112,193	7,452	24.70 %	55,782	24.70 %	1,552	1,703	Associate
Sino American Silicon Products Inc.	TSCS	Taiwan	Semiconductor special gas and chemical material manufacturer	990,000	990,000	42,758	30.93 %	815,822	30.93 %	194,445	34,217	Subsidiary Note 2 and 6
Sino American Silicon Products Inc.	Actron Technology Corporation	Taiwan	Semiconductor electric wafer materials and components manufacturing and trade	1,756,162	1,609,325	20,807	22.75 %	1,675,049	22.75 %	478,436	105,148	Associate Note 2
Sino American Silicon Products Inc.	Advanced Wireless	Taiwan	Gallium arsenide wafer manufacturing and trade	3,496,500	3,496,500	45,000	22.90 %	3,522,035	22.90 %	843,612	139,522	Associate Note 2
SAS Sunrise Inc.	SAS Sunrise Pte.Ltd.	Singapore	Investment activities	450,732 (USD13,000)	450,732 (USD13,000)	18,165	100.00 %	-	100.00 %	3,548	-	Subsidiary Note 4 and 7
SAS Sunrise Inc.	Sulu	Philippines	Electricity activities	113,920 (USD4,000)	113,920 (USD4,000)	420,000	40.00 %	98,147	40.00 %	(31,795)	-	Subsidiary Note 4
SAS Sunrise Pte.Ltd.	AMLED	Philippines	Investment activities	-	-	-	-	-	-	-	-	Subsidiary Note 3 and 4

Name of investor	Name of investee	Location	Main businesses and products	Original investment amount		Balance as of December 31, 2021			Highest Percentage of Ownership during the year	Net income (losses) of investee	Share of profits/losses of investee	Note
				December 31, 2021	December 31, 2020	Shares (thousand)	Percentage of Ownership	Carrying value				
AMLED	Sulu	Philippines	Electricity activities	297,229 (USD9,065)	297,229 (USD9,065)	472,500	45.00 %	118,589	45.00 %	(31,795)	-	Subsidiary Note 4
Aleo Solar	Aleo Solar Distribuzione Italia S.r.l	Italy	Solar module sale and wholesale of electronic materials	4,078 (EUR100)	4,078 (EUR100)	Note 1	100.00 %	15,156	100.00 %	15,064	-	Subsidiary Note 4
GlobalWafers	GWI	Cayman	Investment activities	1,427 (USD48)	1,427 (USE48)	0.01	100.00 %	1,824	100.00 %	1	-	Subsidiary Note 4
GlobalWafers	GSI	Cayman	Investment in various businesses and triangular trade centers with subsidiaries in Mainland China	756,809 (USD26,555)	756,809 (USD26,555)	25,000	100.00 %	2,258,662	100.00 %	459,294	-	Subsidiary Note 4
GlobalWafers	GWJ	Japan	Manufacturing and trading of silicon wafers	5,448,015	5,448,015	128	100.00 %	16,436,066	100.00 %	1,795,646	-	Subsidiary Note 4
GlobalWafers	GWafers Singapore	Singapore	Investment activities	17,378,877	17,378,877	541,674	100.00 %	38,958,825	100.00 %	5,462,710	-	Subsidiary Note 4
GlobalWafers	HONG WANG Investment Co., Ltd.	Taiwan	Investment activities	309,760	309,760	30,976	30.98 %	1,691,344	30.98 %	220,804	-	Associate Note 4
GlobalWafers	Sunrise PV Four	Taiwan	Electricity activities	1,045,000	1,045,000	104,500	100.00 %	1,050,119	100.00 %	4,948	-	Subsidiary Note 4
GlobalWafers	Sunrise PV Five	Taiwan	Electricity activities	278,000	122,000	27,800	100.00 %	276,319	100.00 %	(1,527)	-	Subsidiary Note 4
GlobalWafers	GWH	Taiwan	Investment activities	250,000	250,000	25,000	100.00 %	250,403	100.00 %	469	-	Subsidiary Note 4
GWJ	MEMC Japan	Japan	Manufacturing and trading of silicon wafers	373,413 (JPY100,000)	373,413 (JPY100,000)	750	100.00 %	2,755,254	100.00 %	198,616	-	Subsidiary Note 4
Topsil A/S	Topsil PL	Poland	Manufacturing and trading of silicon wafers	-	-	0.1	100.00 %	-	100.00 %	-	-	Subsidiary Note 4
GWafers Singapore	GWS	Singapore	Investment activities	14,671,320 (USD406,898)	14,671,320 (USD406,898)	299,445	100.00 %	45,502,198	100.00 %	5,466,903	-	Subsidiary Note 4
GWS	GWBV	Netherlands	Investment activities	11,213,730 (USD362,763)	11,213,730 (USD362,763)	0.1	100.00 %	40,277,615	100.00 %	3,809,075	-	Subsidiary Note 4
GWBV	MEMC SpA	Italy	Manufacturing and trading of silicon wafers	6,732,641 (USD204,788)	6,732,641 (USD204,788)	65,000	100.00 %	8,678,590	100.00 %	850,595	-	Subsidiary Note 4
MEMC SpA	MEMC SarL	France	Trading	1,316 (USD40)	1,316 (USD40)	0.5	100.00 %	2,030	100.00 %	625	-	Subsidiary Note 4
MEMC SpA	MEMC GmbH	Germany	Trading	-	4,622 (USD141)	-	- %	-	100.00 %	-	-	Subsidiary Note 4
GWBV	MEMC Korea	Korea	Manufacturing and trading of silicon wafers and sale	11,851,262 (USD384,605)	11,851,262 (USD384,605)	25,200	100.00 %	17,283,919	100.00 %	2,184,873	-	Subsidiary Note 4

Name of investor	Name of investee	Location	Main businesses and products	Original investment amount		Balance as of December 31, 2021			Highest Percentage of Ownership during the year	Net income (losses) of investee	Share of profits/losses of investee	Note
				December 31, 2021	December 31, 2020	Shares (thousand)	Percentage of Ownership	Carrying value				
GWBV	GTI	United States	Manufacturing and trading of epitaxial wafers and sale	2,779,849 (USD91,262)	2,779,849 (USD91,262)	1	100.00 %	10,916,070	100.00 %	895,489	-	Subsidiary Note 4
GWBV	MEMC Ipoh	Malaysia	Manufacturing and trading of silicon wafers and sale	93,907 (USD1,323)	93,907 (USD1,323)	612,300	100.00 %	3,348	100.00 %	(109)	-	Subsidiary Note 4
GWBV	Global Wafers GmbH	Germany	Trading	827 (USD27)	827 (USD27)	25	100.00 %	(161,505)	100.00 %	(171,165)	-	Subsidiary Note 4
GWBV	Topsil A/S	Denmark	Manufacturing and trading of silicon wafers and sale	1,843,604 (USD60,996)	1,843,604 (USD60,996)	1,000	100.00 %	1,945,237	100.00 %	137,093	-	Subsidiary Note 4
GTI	MEMC LLC	United states	Manufacturing and trading of silicon wafers and sale	543,384 (USD17,839)	543,384 (USD17,839)	-	100.00 %	3,809,498	100.00 %	279,273	-	Subsidiary Note 4
SST	MEMC Sdn Bhd	Malaysia	Manufacturing and trading of silicon wafers and sale	898,016 (USD27,315)	898,016 (USD27,315)	1,036	100.00 %	1,006,506	100.00 %	68,216	-	Subsidiary Note 4

Note:1 A limited company.
Note 2: The investment gain or loss recognition includes the investment cost and the amortization of the net equity acquired.
Note 3: The Company does not hold the ownership interests of AMLED, but the Company can control the financial and operating strategies of AMLED and obtain all the benefits of its operations and net assets in accordance with the terms of the agreements with such standalone, so AMLED is considered as a subsidiary.
Note 4: The investor’s profits and losses included the profits and losses of the investees; therefore, the investee’s profits and losses need not be disclosed.
Note 5: The aforementioned inter-company transactions have been eliminated in the consolidated financial statements.
Note 6: In August 2021, the Group acquired control after obtaining more than half of the total number of directors in a reshuffle of the Board of Directors.
Note 7: Liquidation procedures of SAS Sunrise Pte. Ltd. were completed in 2021.

Sino-American Silicon Products Inc. and Subsidiaries

The names of investees in Mainland China, the main businesses and products and other information

For the year ended December 31, 2021

Table 10 (In Thousands of New Taiwan Dollars)

(1) The names of investees in Mainland China, the main businesses and products, and other information

Name of investee	Main businesses and products	Total amount of paid-in capital	Method of investment	Accumulated outflow of investment from Taiwan as of January 1, 2020	Investment flows		Accumulated outflow of investment from Taiwan as of December 31, 2021	Net income (losses) of the investee	Percentage of ownership	Highest percentage of ownership during the year	Investment income (losses) (Note 4)	Book value	Accumulated remittance of earnings in current period
					Outflow	Inflow							
SST	Processing and trading of ingots and wafers	769,177 (Note 5)	Note 1	713,300 (USD21,729)	-	-	713,300 (USD21,729)	459,207	100%	100%	459,207	2,198,254	-

(2) Limitation on investment in Mainland China

Company Name	Accumulated Investment in Mainland China as of December 31, 2021	Investment Amounts Authorized by Investment Commission, MOEA	Upper Limit on Investment
GlobalWafers	713,300 (USD21,729)	1,101,933 (USD35,000) (Note 3)	27,378,902 (Note 4)

Note 1: Investments through GSI.
Note 2: The basis for investment income (loss) recognition is from the audited financial statements.
Note 3: Initial investment amounts denominated in foreign currencies are translated into New Taiwan Dollars using the Historical Foreign Exchange Rate.
Note 4: Pursuant to the 'Guidelines Governing the Review of Investment or Technical Cooperation in the Mainland Area' dated on August 29, 2008, the total amount of investment shall not exceed 60% of the Group's net worth on December 31, 2021.
Note 5: Retained earnings transferred to capital was included.