Stock Code:5483

Sino-American Silicon Products Inc. and Subsidiaries

Consolidated Financial Statements

With Independent Auditors' Report
For the Years Ended December 31, 2022 and 2021

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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, 2022 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 16, 2023

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, 2022 and 2021, 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, 2022 and 2021, 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 Standards on Auditing of the Republic of China. Our responsibilities under those standards are further described in the Auditors’ Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the Norm of Professional Ethics for Certified Public Accountant of Republic of China, and we have fulfilled our other ethical responsibilities in accordance with these requirement. 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, it is more important to identify the timing of revenue recognition because it involves different transaction terms and the Group’s triangular trade. Therefore, the cut-off of revenue 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, 2022 and 2021, 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 auditor's 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 Standards on Auditing of the Republic of China will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with the Standards on Auditing of the Republic of China, we exercise professional judgment and 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 2022 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 16, 2023

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, 2022 and 2021

(Expressed in Thousands of New Taiwan Dollars)

	Assets	December 31, 2022 Amount	%	December 31, 2021 Amount	%
	Current assets:				
1100	Cash and cash equivalents (note 6(1))	$ 83,247,854	42	67,117,906	40
1110	Financial assets at fair value through profit or loss－current (note 6(2))	32,415	-	3,567	-
1136	Financial assets measured at amortized cost－current (notes 6(4) and 7)	331,609	-	331,609	-
1170	Notes and accounts receivable, net (notes 6(5) and (23))	11,255,045	6	9,820,400	6
1180	Accounts receivable due from related parties, net (notes 6(23) and 7)	83,043	-	68,760	-
130X	Inventories (note 6(6))	10,789,580	6	8,646,093	5
1476	Other financial assets－current (notes 6(1), 8 and 9)	8,490,021	4	3,761,058	2
1479	Other current assets (note 6(13))	1,822,111	1	1,470,021	1
		116,051,678	59	91,219,414	54
	Non-current assets:				
1513	Financial assets at fair value through profit or loss－non-current (note 6(2))	9,331,720	5	18,368,712	11
1517	Financial assets at fair value through other comprehensive income－non-current (note 6(3))	1,444,845	1	1,290,831	1
1550	Investments accounted for using equity method (note 6(7))	2,507,749	1	6,959,532	4
1600	Property, plant and equipment (notes 6(10), 7 and 8)	51,865,962	27	40,428,472	24
1755	Right-of-use assets (note 6(11))	815,962	-	845,228	1
1780	Intangible assets (note 6(12))	7,124,580	4	3,025,349	2
1840	Deferred tax assets (note 6(20))	2,699,496	1	1,978,955	1
1980	Other financial assets－non-current (notes 8 and 9)	203,658	-	1,387,023	1
1990	Other non-current assets (note 6(13))	4,563,740	2	1,747,769	1
		80,557,712	41	76,031,871	46
	Total assets	$ 196,609,390	100	167,251,285	100

	Liabilities and Equity	December 31, 2022 Amount	%	December 31, 2021 Amount	%
	Current liabilities:				
2100	Short-term borrowings (notes 6(14) and 8)	$ 9,796,000	5	7,759,302	5
2120	Financial liabilities at fair value through profit or loss－current (note 6(2))	1,219	-	198,631	-
2130	Contract liabilities－current (notes 6(23) and 9)	10,514,416	5	7,410,209	4
2170	Notes and accounts payable	5,129,293	3	4,574,750	3
2180	Accounts payable to related parties (note 7)	1,195	-	11,172	-
2201	Payroll and bonus payable	4,392,988	2	3,512,267	2
2216	Dividends payable	3,257,330	2	3,751,986	2
2250	Provisions－current (notes 6(18) and 9)	441,556	-	363,611	-
2230	Current tax liabilities	4,889,132	2	2,151,532	1
2322	Long-term borrowings, current portion (note 6(15))	35,316	-	31,832	-
2399	Other current liabilities (notes 6(17), 7 and 9)	5,144,003	3	5,457,095	3
		43,602,448	22	35,222,387	20
	Non-Current liabilities:				
2527	Contract liabilities－non-current (notes 6(23) and 9)	29,046,638	15	22,348,972	13
2500	Non-current financial liabilities at fair value through profit or loss (notes 6(2) and (16))	466,831	-	178,637	-
2530	Convertible bonds (note 6(16))	23,793,835	12	26,143,969	16
2531	Bonds payable (note 6(16))	18,986,110	10	18,980,771	11
2540	Long-term borrowings (notes 6(15) and 8)	868,325	-	999,044	1
2550	Provisions－non-current (notes 6(18) and 9)	3,322,452	2	3,614,690	2
2570	Deferred tax liabilities (note 6(20))	4,613,886	2	4,897,351	3
2670	Other non-current liabilities (note 6(17))	2,237,993	1	865,094	1
2640	Net defined benefit liabilities (note 6(19))	1,539,328	1	1,837,432	1
		84,875,398	43	79,865,960	48
	Total liabilities	128,477,846	65	115,088,347	68
	Equity (note 6(21)):				
3110	Ordinary shares	5,862,217	3	5,862,217	4
3200	Capital surplus	16,846,163	8	18,304,186	11
3300	Retained earnings	15,138,189	8	9,809,686	6
3400	Other equity interest	(5,973,997)	(3)	(5,439,007)	(3)
	Total equity attributable to shareholders of the Company	31,872,572	16	28,537,082	18
36XX	Non-controlling interests (note 6(8))	36,258,972	19	23,625,856	14
	Total equity	68,131,544	35	52,162,938	32
	Total liabilities and equity	$ 196,609,390	100	167,251,285	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, 2022 and 2021

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

		2022		2021	
		Amount	%	Amount	%
4000	**Operating revenue** (notes 6(23) and 7)	$ 81,871,496	100	68,841,250	100
5000	**Operating costs** (notes 6(6), (10), (12), (18), (19), (24) and 7)	49,942,234	61	44,314,606	64
	Gross profit from operations	31,929,262	39	24,526,644	36
	Operating expenses (notes 6(10), (12), (18), (19), (24) and 7):				
6100	Selling expenses	1,871,220	2	1,634,768	3
6200	Administrative expenses	2,298,523	3	2,647,334	4
6300	Research and development expenses	2,348,112	3	2,165,030	3
6450	Expected credit losses (reversal gains) (note 6(5))	11,593	-	(481)	-
	Total operating expenses	6,529,448	8	6,446,651	10
	Net operating income	25,399,814	31	18,079,993	26
	Non-operating income and expenses:				
7100	Interest income (notes 6(25) and 8)	1,166,374	1	147,798	-
7020	Other gains and losses (note 6(26))	(5,358,421)	(6)	(906,993)	(1)
7050	Finance costs (note 6(25))	(533,992)	(1)	(332,325)	-
7060	Share of profit (loss) of associates accounted for using equity method (note 6(7))	154,931	-	217,254	-
		(4,571,108)	(6)	(874,266)	(1)
	Income before income tax	20,828,706	25	17,205,727	25
7950	**Less: Income tax expense** (note 6(20))	4,668,209	5	4,590,337	7
	Net income	16,160,497	20	12,615,390	18
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(19))	60,630	-	174,627	-
8316	Unrealized gains (losses) from investments in equity instruments measured at fair value through other comprehensive income	(335,606)	-	327,822	-
8320	Share of other comprehensive income of associates accounted for using equity method (notes 6(7) and (27))	(961,175)	(1)	551,647	1
8349	Income tax related to components of other comprehensive income that will not be reclassified to profit or loss (note 6(20))	77,425	-	(108,652)	-
		(1,158,726)	(1)	945,444	1
8360	**Items that may be reclassified subsequently to profit or loss**				
8361	Exchange differences on translation of foreign operations	520,421	-	(6,242,067)	(9)
8370	Share of other comprehensive income of associates accounted for using equity method (notes 6(7) and (27))	2,890	-	(2,098)	-
8399	Income tax related to components of other comprehensive income that may be reclassified to profit or loss (note 6(20))	(63,730)	-	1,232,023	(2)
		459,581	-	(5,012,142)	(7)
8300	**Other comprehensive income (after tax)**	(699,145)	(1)	(4,066,698)	(6)
	Total comprehensive income	$ 15,461,352	19	8,548,692	12
	Net income attributable to:				
	Shareholders of Sino-American Silicon Products Inc.	$ 8,715,811	11	6,811,050	10
	Non-controlling interests	7,444,686	9	5,804,340	8
		$ 16,160,497	20	12,615,390	18
	Total comprehensive income attributable to:				
	Shareholders of Sino-American Silicon Products Inc.	$ 8,203,317	10	4,845,754	7
	Non-controlling interests	7,258,035	9	3,702,938	5
		$ 15,461,352	19	8,548,692	12
	Earnings per share (NT dollars) (note 6(22))				
	Basic earnings per share	$	14.87		11.62
	Diluted earnings per share	$	14.75		11.56

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, 2022 and 2021

(Expressed in Thousands of New Taiwan Dollars)

	Equity attributable to owners of parent												
			Retained earnings				Other equity interest						
	Ordinary shares	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	Others	Total other equity interest	Total	Non-controlling interests	Total equity
Balance at January 1, 2021	$ 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
Others	-	683	-	-	-	-	-	-	-	-	683	-	683
Cash dividends distributed 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**
Net income for the year	-	-	-	-	8,715,811	8,715,811	-	-	-	-	8,715,811	7,444,686	16,160,497
Other comprehensive income for the year	-	-	-	-	25,791	25,791	289,287	(827,572)	-	(538,285)	(512,494)	(186,651)	(699,145)
Total comprehensive income	-	-	-	-	8,741,602	8,741,602	289,287	(827,572)	-	(538,285)	8,203,317	7,258,035	15,461,352
Appropriation and distribution of retained earnings:													
Legal reserve	-	-	688,322	-	(688,322)	-	-	-	-	-	-	-	-
Special reserve	-	-	-	4,108,566	(4,108,566)	-	-	-	-	-	-	-	-
Cash dividends on ordinary shares	-	-	-	-	(3,413,099)	(3,413,099)	-	-	-	-	(3,413,099)	-	(3,413,099)
Changes in equity of associates accounted for using equity method	-	(357,586)	-	-	-	-	-	-	3,295	3,295	(354,291)	(524,687)	(878,978)
Cash dividends from capital surplus	-	(1,100,807)	-	-	-	-	-	-	-	-	(1,100,807)	-	(1,100,807)
Changes in non-controlling interests	-	-	-	-	-	-	-	-	-	-	-	8,908,614	8,908,614
Cash dividends distributed by subsidiary	-	-	-	-	-	-	-	-	-	-	-	(3,008,846)	(3,008,846)
Others	-	370	-	-	-	-	-	-	-	-	370	-	370
Balance at December 31, 2022	**$ 5,862,217**	**16,846,163**	**2,031,108**	**5,439,008**	**7,668,073**	**15,138,189**	**(4,616,247)**	**(1,354,989)**	**(2,761)**	**(5,973,997)**	**31,872,572**	**36,258,972**	**68,131,544**

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, 2022 and 2021

(Expressed in Thousands of New Taiwan Dollars)

	2022	2021
Cash flows from operating activities:		
Income before income tax	$ 20,828,706	17,205,727
Adjustments:		
Adjustments to reconcile profit (loss):		
Depreciation expenses	6,898,266	6,285,301
Amortization expenses	391,894	225,429
Expected credit losses (reversal gains)	11,593	(481)
Net loss on financial assets or liabilities at fair value through profit or loss	9,779,670	341,804
Interest expenses	533,992	332,325
Interest income	(1,166,374)	(147,798)
Dividend income	(407,388)	(286,232)
Shares of profit of associates accounted for using equity method	(154,931)	(217,254)
Gains on disposal of property, plant and equipment	(109,278)	(17,747)
Gains on disposal of investments	(81,331)	(113,180)
Reversal of impairment losses on financial assets	-	(3,454)
Recognition of impairment losses on non-financial assets	81,903	8,908
Recognition (reversal) of write-down of inventory	231,675	(48,093)
Reversal of provisions	(220,596)	(314,804)
Lease modification gain or loss	(26)	-
Total adjustments	15,789,069	6,044,724
Changes in operating assets and liabilities:		
Notes and accounts receivable (including related parties)	(1,183,599)	(1,361,105)
Inventories	(1,891,042)	(517,907)
Prepayments	556,211	(1,094,824)
Other financial assets	11,824	(16,542)
Other operating assets	(141,397)	(59,534)
Contract liabilities	7,147,382	12,515,171
Notes and accounts payable (including related parties)	552,793	361,142
Net defined benefit liabilities	(239,779)	(428,715)
Other operating liabilities	(1,087,387)	1,203,461
Total changes in operating assets and liabilities	3,725,006	10,601,147
Total adjustments	19,514,075	16,645,871
Cash inflow generated from operations	40,342,781	33,851,598
Interest received	1,083,902	125,470
Dividends received	407,388	286,232
Interest paid	(184,647)	(84,820)
Income taxes paid	(2,848,492)	(3,196,179)
Net cash flows generated from operating activities	38,800,932	30,982,301

(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, 2022 and 2021

(Expressed in Thousands of New Taiwan Dollars)

	2022	2021
Cash flows from investing activities:		
Acquisition of financial assets at fair value through other comprehensive income	(482,385)	(529,277)
Proceeds from capital reduction of financial assets at fair value through other comprehensive income	17,911	42,267
Acquisition of financial assets at amortized cost	-	(330,000)
Proceeds from disposal of financial assets at amortized cost	-	280,000
Acquisition of financial assets at fair value through profit or loss	(28,578)	(13,579,261)
Proceeds from disposal of financial assets at fair value through profit or loss	8,572	124
Acquisition of investments accounted for using equity method	(778,083)	(146,837)
Net cash inflows from disposal of investments accounted for using equity method	60,108	128,629
Cash dividends from investment accounted for using equity method	144,758	221,598
Acquisition of property, plant and equipment	(13,615,531)	(6,010,740)
Proceeds from disposal of property, plant and equipment	120,803	65,121
Acquisition of intangible assets	(31,210)	(6,256)
Net cash inflows from business combination	2,508,530	58,787
Decrease (increase) in other financial assets	(3,457,214)	785,902
Prepayments for investments	98,211	(192,381)
Net cash flows used in investing activities	(15,434,108)	(19,212,324)
Cash flows from financing activities:		
Increase (decrease) in short-term loans	2,036,698	(3,011,698)
Repayments of long-term borrowings	(228,646)	(170,495)
Increase (decrease) in guarantee deposits	1,545,318	(34,658)
Repayment of the principal portion of lease liabilities	(194,191)	(203,538)
Cash dividends and capital surplus distribution	(8,551,737)	(9,101,175)
Proceeds from bonds offerings	-	46,812,845
Repayment of bonds	(2,748,404)	-
Acquisition of equity in subsidiaries from non-controlling interests	(66,839)	-
Other financing activities	370	683
Net cash flows (used in) generated from financing activities	(8,207,431)	34,291,964
Effect of exchange rate changes on cash and cash equivalents	970,555	(2,756,625)
Increase in cash and cash equivalents	16,129,948	43,305,316
Cash and cash equivalents at beginning of period	67,117,906	23,812,590
Cash and cash equivalents at end of period	$ **83,247,854**	**67,117,906**

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, 2022 and 2021

(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 registered address 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 record 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' 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 16, 2023.

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. ("FSC") 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, 2022.

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

(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, 2023, would not have a significant impact on its consolidated financial statements.

- Amendments to IAS 1 "Disclosure of Accounting Policies"
- Amendments to IAS 8 "Definition of Accounting Estimates"
- Amendments to IAS 12 "Deferred Tax related to Assets and Liabilities arising from a Single Transaction"

(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 (IASB), 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"	Under existing IAS 1 requirements, companies classify a liability as current when they do not have an unconditional right to defer settlement for at least 12 months after the reporting date. The amendments has removed the requirement for a right to be unconditional and instead now requires that a right to defer settlement must exist at the reporting date and have substance. The amendments clarify how a company classifies a liability that can be settled in its own shares – e.g. convertible debt.	January 1, 2024

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 "Non-current Liabilities with Covenants"
- Amendments to IFRS 17 "Initial Application of IFRS 17 and IFRS 9 – Comparative Information"
- IFRS16 "Requirements for Sale and Leaseback Transactions"

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(17).

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, 2022	Percentage of Ownership December 31, 2021	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%	100%	Note 5
Sino-American Silicon Products Inc.	Taiwan Speciality Chemicals Corporation (Taiwan Speciality Chemicals)	Semiconductor special gas and chemical materials	30.09%	30.93%	Note 4
Sino-American Silicon Products Inc.	Advanced Wireless Semiconductor Company (Advanced Wireless)	Manufacturing and trading of GaAs Wafers	27.62%	-	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%	Note 3(4)
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%	
GlobalWafers	Sunrise PV Electric Power Five Co., Ltd. (Sunrise PV Five)	Power generating business	100%	100%	

Name of Investor	Name of subsidiary	Business	Percentage of Ownership		Note
			December 31, 2022	December 31, 2021	
GlobalWafers	GWC Capital Co., Ltd (GWCH)	Investment activities	100%	100%	
GlobalWafers	GlobalWafers GmbH (GW GmbH)	Manufacturing and trading of semiconductor silicon materials	100%	-	Note 3(2)
GlobalWafers	GlobalWafers B.V. (GWBV)	Investment activities	100%	-	Note 3(6)
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%	
SST	Kunshan SST Trading Co., Ltd. (KST)	Sales marketing and trading activities	100%	-	Note 3(3)
GWafers Singapore	GlobalWafers Singapore Pte Ltd. (GWS)	Investment holding and trading	100%	100%	Note 3(1)
GWS	GlobalWafers B.V. (GWBV)	Investment activities	-	100%	Note 3(6)
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%	
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	GW GmbH	Manufacturing and trading of semiconductor silicon materials	-	100%	Note 3(2)
GTI	MEMC LLC	Semiconductor silicon wafer R&D, manufacturing and sales	100%	100%	
GTI	GlobalWafers America, LLC (GWA)	Manufacturing and trading of semiconductor silicon materials	100%	-	Note 3(5)
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) GW GmbH was originally 100% held by GWBV, on March 15, 2022, the Board of Directors approved that the company directly increase the capital of GW GmbH and obtain 99.95% of the equity of GW GmbH; on September 30, 2022, the GlobalWafers acquired 0.05% equity of GW GmbH from GWBV, and the above investment has been fully paid and registered.

(3) KST was established in May 2022.

(4) Liquidation procedures of GWI had been completed in November 2022.

(5) GWA was established in August 2022.

(6) In response to the Group's reorganization plan, GlobalWafers purchased all of GWBV's shares from GWS through the share purchase transaction approved by the Board of Directors on September 1, 2022, and completed the share transaction on November 7, 2022.

Note 4: Taiwan Speciality Chemicals' Board of Directors was fully re-elected in August 2021, and the Group obtained the majority of the directors' seats. Thus, the Group obtained the control over the investee. Taiwan Speciality Chemicals have been traded publicly at the Taipei Exchange (TPEx) in September 2022, the Group released 1,168 thousand shares of Taiwan Speciality Chemicals.

Note 5: SES was established in April 2021.

Note 6: Advanced Wireless' Board of Directors was fully re-elected on June 20, 2022, and the Group obtained the majority of the directors' seats. The Group is the single largest shareholder of the investee, and the remaining voting rights in the investee are widely dispersed. Considering the Company's power over the investee, exposure or rights to variable returns, and the ability to use its power over the entity to affect the amount of the investee's remuneration, the Group obtained control over Advanced Wireless.

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. Embedded derivatives are separated from the host contract and accounted for separately if the host contract is not a financial asset and certain criteria are met.

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: 2~60 years

(b) Machinery and equipment: 1~30 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, 4 to 35 years, and 6 to 30 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 lessee

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, including patents and trademarks, that are acquired by the Group and have finite useful lives are measured at cost less accumulated amortization and any accumulated impairment losses.

B. 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.

C. 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: 15 years

(b) development costs: 10 years

(c) software: 1~10 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) Government grants

Grants that compensate the Group for expenses or losses incurred are recognized in profit or loss on a systematic basis in the periods in which the expenses or losses are recognized.

(17) Employee Benefits

A. Defined contribution plans

Obligations for contributions to defined contribution 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.

(18) Share-based payment

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. Grant date of a share-based payment award is the date when the company and employees reach a consensus.

(19) 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. 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 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.

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.

(20) 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.

(21) 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.

(22) 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, the management 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:

Advanced Wireless' Board of Directors was fully re-elected on June 20, 2022, and the Group obtained the majority of the directors' seats. The Group is the single largest shareholder of the investee, and the remaining voting rights in the investee are widely dispersed. Considering the Group's power over the investee, exposure or rights to variable returns, and the ability to use its power over Advanced Wireless to affect the amount of the investee's remuneration, the Group obtained control over Advanced Wireless.

The Group holds 30.09% of the voting shares of Taiwan Speciality Chemicals and is the single largest shareholder. 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. Taiwan Speciality Chemicals's Board of Directors was fully re-elected in the third quarter of 2021, and the Group obtained the majority of the directors' seats. The Group is the single largest shareholder of the investee, and the remaining voting rights in the investee are widely dispersed. Considering the Group's power over the investee, exposure or rights to variable returns, and the ability to use its power over Taiwan Speciality Chemical to affect the amount of the investee's remuneration, the Group obtained control over Taiwan Speciality Chemicals.

The Group holds 31.61% of the voting shares of Crystalwise Technology Inc.(“Crystalwise”). 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 percentage of voting rights show that the Group has no controlling power and does not have more than half of the broad seats. There were no potential voting rights or other contractual arrangements. The Group evaluated that relevant activities of Crystalwise are not determined based on the votes of the significant voting right shareholders. Rather, it is based on the majority of the members of the Board of Directors. Therefore, the investors who have significant 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.

(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, 2022	December 31, 2021
Cash on hand	$ 12,118	5,413
Demand deposits	45,695,674	19,076,331
Time deposits	37,447,741	46,829,936
Repurchase agreement	92,321	1,206,226
Cash and cash equivalents in the consolidated statement of cash flows	**$ 83,247,854**	**67,117,906**

As of December 31, 2022, the Group considered liquidity and reclassified time deposits to other financial assets－current, amounting to $5,194,689 thousand.

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, 2022	December 31, 2021
Financial assets mandatorily measured at fair value through profit or loss－current:		
Forward exchange contracts	**$ 32,415**	**3,567**
Financial assets mandatorily measured at fair value through profit or loss－non-current:		
Overseas securities held	$ 9,145,927	18,173,549
Privately offered funds	185,793	195,163
	$ 9,331,720	**18,368,712**

	December 31, 2022	December 31, 2021
Held-for-trading financial liabilities:		
Forward exchange contracts	$ -	198,631
Swap exchange contract	1,219	-
	$ 1,219	**198,631**
Financial assets mandatorily measured at fair value through profit or loss－current:		
Derivative instruments－convertible bonds	**$ 466,831**	**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, 2022 and 2021, the dividends of $391,591 thousand and $276,229 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, 2022 and 2021:

	December 31, 2022			
	Contract amount (in thousands)		**Currency**	**Maturity date**
Forward exchange contracts:				
Forward exchange contracts sold	USD	33,500	USD to EUR	January 27, March 29, 2023
Swap exchange contract:				
Currency exchange	EUR	3,500	EUR to USD	January 3, January 10, 2023

	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
Forward exchange contracts sold	USD	29,550	USD to EUR	January 26, 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, May 26, 2022

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, 2022	December 31, 2021
Equity investments at fair value through other comprehensive income:			
Equity investment in foreign entities	$	1,115,001	1,066,068
Equity investment in domestic entities		329,844	224,763
Total	$	1,444,845	1,290,831

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.

During the years ended December 31, 2022 and 2021, the dividends of $15,797 thousand and 10,003 thousand were incurred from investments in financial assets at fair value through other comprehensive income－non-current, respectively.

No strategic investments were disposed for the years ended December 31, 2022 and 2021, 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, 2022	December 31, 2021
Corporate bonds－Crystalwise Technology Inc.	$	331,609	331,609

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. On September 22, 2022, the Board of Directors resolved to extend the private issued corporate bonds for 6 months. The bond matures on March 31, 2023, and the capital and interest repayments will be made in full.

For the years ended December 31, 2022 and 2021, the Group has estimated gain on reversal of impairment loss amounting to nil thousand and $3,454 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, 2022	December 31, 2021
Notes receivable	$ 164,872	142,478
Accounts receivable	11,113,490	9,689,197
Less: Allowance for doubtful accounts	(23,317)	(11,275)
	$ 11,255,045	9,820,400

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 notes and accounts receivable (including related parties) from solar energy segment was determined as follows:

	December 31, 2022		
	Gross amount of notes and accounts receivable	Weighted-average loss rate	Credit loss allowance
Current	$ 905,528	0%	-
1 to 30 days past due	114,199	0%	-
More than 181 days past due	4,197	100%	4,197
Total	$ 1,023,924		4,197

	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
Total	$ 785,858		4,507

The loss allowance provision of notes and accounts receivable (including related parties) from semiconductor segment was determined as follows:

	December 31, 2022		
	Gross amount of notes and accounts receivable	**Weighted-average loss rate**	**Credit loss allowance**
Current	$ 10,055,281	0%	-
1 to 30 days past due	226,020	0%	-
31 to 60 days past due	12,273	0%	36
61 to 90 days past due	25,002	21%	5,335
91 to 120 days past due	4,353	99%	4,324
More than 181 days past due	9,425	100%	9,425
Total	$ 10,332,354		19,120

	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
Total	$ 9,111,746		6,768

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

	2022	**2021**
Balance on January 1	$ 11,275	11,206
Expected credit loss (reversed gain) recognized	11,593	(481)
Amounts written off	-	(6)
Foreign exchange gains (losses)	449	556
Balance on December 31	$ 23,317	11,275

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

(6) Inventories

	December 31, 2022	December 31, 2021
Finished goods	$ 2,559,516	1,930,009
Work in progress	3,000,636	2,359,084
Raw materials	5,229,428	4,357,000
	$ 10,789,580	8,646,093

Components of operating costs were as follows:

	2022	2021
Cost of goods sold	$ 49,512,784	44,341,844
Impairment loss of property, plant and equipment (note 6 (10))	81,903	8,908
Recognition (reversal) of provisions for inventory valuation loss	231,675	(48,093)
Unallocated fixed manufacturing expense	432,847	326,751
Reversal of provision loss	(316,975)	(314,804)
	$ 49,942,234	44,314,606

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, 2022	December 31, 2021
Actron Technology Corporation (Actron)	Mainly engages in the manufacturing of electronic component	Taiwan	22.75%	22.75%
Taiwan Speciality Chemicals	The main business is manufacturing of semiconductor special gas and chemical materials.	Taiwan	Note B	Note B
Crystalwise Technology Inc.	Mainly engages in the manufacturing and trading of optoelectronic wafers and substrate material.	Taiwan	31.61%	35.24%
Hongwang Investment Co., Ltd. (Hongwang)	The main business is general trading	Taiwan	30.98%	30.98%
Accu Solar Corporation (ASC)	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, 2022	December 31, 2021
Advanced Wireless Semiconductor Company (Advanced Wireless)	Mainly engages in the Manufacturing and trading of GaAs wafers.	Taiwan	Note A	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, 2022	December 31, 2021
Carrying amount of individually insignificant associates' equity	$ 2,507,749	6,959,532

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

	2022	2021
Attributable to the Group:		
Net income	$ 154,931	217,254
Other comprehensive income	(958,285)	549,549
Total comprehensive income	$ (803,354)	766,803

A. The Group purchased outstanding shares of Advanced Wireless in the publicly traded market in the year of 2022 amounting to $844,922 thousand. As of December 31, 2022, the accumulated shareholding was 27.62%. Advanced Wireless' Board of Directors was fully re-elected on June 20, 2022, and the Group obtained the majority of the directors' 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 $23,282 thousand were recognized as other gains and losses (note6(26)).

B. The Group had 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 majority of the directors' 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 was recognized as other gains and losses (note 6(26)). Taiwan Speciality Chemicals have been traded publicly at the Taipei Exchange (TPEx) in September 2022, since the Group released 1,168 thousand shares of Taiwan Speciality Chemicals, amounting to $93,160 thousand.

C. The Group sold ordinary shares of Crystalwise Technology in the publicly traded market in the years of 2022 and 2021 amounting to $60,108 thousand and $128,629 thousand, respectively. Gains on disposal of investments amounting to $58,049 thousand and $110,679 thousand, respectively, were recognized as other gains and losses (note6(26)). As of December 31, 2022, the accumulated shareholding was 31.61%.

D. The Group purchased outstanding shares of Actron in the publicly traded market in the year of 2021 amounting to $146,837 thousand. As of December 31, 2022, the accumulated shareholding is 22.75%.

E. For the years ended December 31, 2022 and 2021, the cash dividends from the investees were $144,758 thousand and $221,598 thousand, respectively, which were recognized as deductions of investments accounted for using the equity method.

F. 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:

		% of ownership interests under non-controlling interests as well as the voting rights	
Name of subsidiary	**Main business place / company registered country**	**December 31, 2022**	**December 31, 2021**
GlobalWafers	Taiwan	48.83%	48.83%
Advanced Wireless	Taiwan	72.38%	Note 4(3)

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.

A. The following summarizes the financial information of GlobalWafers:

	December 31, 2022	**December 31, 2021**
Current assets	$ 109,597,731	88,664,515
Non-current assets	59,898,247	61,980,461
Current liabilities	(35,793,648)	(31,058,295)
Non-current liabilities	(79,378,325)	(73,955,178)
Net assets	$ 54,324,005	45,631,503
Non-controlling interests	$ 26,526,412	22,281,784

	2022	**2021**
Sales revenue	$ 70,286,871	61,130,592

	2022	2021
Net income	$ 15,367,386	11,870,037
Other comprehensive income	(363,953)	(4,262,638)
Net profit attributable to non-controlling interests	**$ 15,003,433**	**7,607,399**
Net income, attributable to non-controlling interests	**$ 7,503,895**	**5,796,139**
Comprehensive income, attributable to non-controlling interests	**$ 7,326,176**	**3,714,692**
Net cash flows from operating activities	$ 37,566,380	29,301,561
Net cash flows from investing activities	(15,701,358)	(18,280,421)
Net cash flows from financing activities	(8,196,157)	35,156,335
Effects of changes in foreign exchange rates	927,436	(2,722,534)
Net decrease in cash and cash equivalents	**$ 14,596,301**	**43,454,941**

B. The following summarizes the financial information of Advanced Wireless:

	December 31, 2022
Current assets	$ 2,689,541
Non-current assets	5,214,027
Current liabilities	(408,343)
Non-current liabilities	(96,998)
Net assets	**$ 7,398,227**
Non-controlling interests	**$ 5,354,837**

	June 20, 2022~ December 31, 2022
Sales revenue	**$ 964,769**
Net income	$ 60,760
Net profit attributable to non-controlling interests	**$ 60,760**
Net income, attributable to non-controlling interests	**$ 43,978**
Comprehensive income, attributable to non-controlling interests	**$ 43,978**

		2022
Net cash flows from operating activities	$	507,698
Net cash flows from investing activities		(1,089,076)
Net cash flows from financing activities		(556,064)
Net decrease in cash and cash equivalents	**$**	**(1,137,442)**

(9) Business combination

A. Acquiring Advanced Wireless as a subsidiary

(a) Considerations transferred to acquire a subsidiary

The Group had acquired total of 27.14% of the common shares of Advanced Wireless and is the single largest shareholder of the investee. Advanced Wireless' Board of Directors was fully re-elected on June 20, 2022, and the Group obtained the majority of the directors' seats. The Group is the single largest shareholder of the investee, and the remaining voting rights in the investee are widely dispersed. Considering the Group's power over the investee, exposure or rights to variable returns, and the ability to use its power over the entity to affect the amount of the investee's remuneration, the Group obtained the control over the investee and included it 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 Advanced Wireless on June 20, 2022 (the date when control was obtained) are as follows:

Considerations transferred			$ -
Add: The fair value of the original equity of the acquiree			3,881,588
Non-controlling interests (measured by the ratio of identifiable net assets to non-controlling interests)			8,959,385
Less: The fair value of identifiable net assets			
Cash and cash equivalents	$	2,508,530	
Notes and accounts receivable, net		277,369	
Financial assets at fair value through profit or loss		33,413	
Inventories		492,875	
Prepayment		203,590	
Other current assets and other financial assets		17,714	
Property, plant and equipment, net		5,365,441	
Intangible assets－patent right		717,900	
Intangible assets－knowledge technology		742,200	
Intangible assets－customer relationships		2,243,400	
Intangible assets		15,596	
Right-of use assets		91,290	
Prepayment of equipment		175,253	
Other non-current assets and other financial assts－non-current		11,341	
Accounts payable		(140,988)	
Contract liabilities－current		(59,255)	
Other payables		(283,388)	
Other current liabilities		(14,779)	
Other non-current liabilities		(99,970)	12,297,532
Goodwill			**$ 543,441**

The Group recognized a gain or loss on disposal of $23,282 thousand for remeasuring the fair value of 27.14% interest in Advanced Wireless held prior to the acquisition date, which was recorded as other gains and losses (note 6(26)).

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, knowledge technology and customer relationships are amortized on the straight-line method based on its economic benefit life of 8.5, 11.5 and 16.5 years, respectively.

Goodwill mainly comes from profitability, future market development and employee value of Advanced Wireless. Goodwill is expected to have no income tax effect.

(d) Pro forma of operating results

Since June 20, 2022, the operating results of Advanced Wireless have been merged into the consolidated comprehensive income statement of the Group. The net operating revenues and net profit after tax contributed are $1,032,683 thousand and $(206,885) thousand, respectively. If it is assumed that the acquisition date occurred on January 1, 2022, the pro forma net operating revenues and net profit after tax of the Group from January 1 to December 31, 2022 will increase by $2,163,752 thousand and $(139,741) thousand, respectively.

(e) Change in ownership interest in subsidiaries did not result in loss of control

In July 2022, the Group acquired additional shares of Advanced Wireless for a consideration of $66,839 thousand, which increased the Group's equity in Advanced Wireless to 27.62%. Please refer to Note 4(3) for the changes in the related shareholding ratio.

The effect of the change in the Group's ownership interest in the subsidiary on the equity attributable to the parent company was capital surplus-the difference between the actual acquisition or disposal price of the subsidiary's shares and the book value of $9,899 thousand.

B. 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 majority 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: The 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**

(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.

(e) Change in ownership interest in subsidiaries did not result in loss of control

In September 2022, the Group sold part of its shares of Taiwan Speciality Chemicals for $93,160 thousand due to the need to release the shares. Please refer to note 4(3) for the changes in the related shareholding ratio.

The effect of the change in the Group's ownership interest in the subsidiary on the equity attributable to the parent company was capital surplus-the difference between the actual acquisition or disposal price of the subsidiary's shares and the book value of ($75,489) thousand.

(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, 2022	$ 3,842,571	19,586,597	44,302,218	9,146,410	3,776,143	80,653,939
Acquisition through business combination	-	757,629	4,973,813	291,887	2,793,952	8,817,281
Additions	-	27,574	1,026,831	971,430	9,617,885	11,643,720
Disposals	-	(92,884)	(2,350,820)	(112,459)	(10,036)	(2,566,199)
Reclassification and transfer	145,833	535,976	6,129,847	310,006	(7,282,654)	(160,992)
Effect of changes in exchange rates	87,564	342,362	745,650	389,392	201,314	1,766,282
Balance at December 31, 2022	**$ 4,075,968**	**21,157,254**	**54,827,539**	**10,996,666**	**9,096,604**	**100,154,031**
Balance at January 1, 2021	$ 3,294,013	21,137,323	67,801,222	5,777,932	1,621,233	99,631,723
From acquisition of subsidiary	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**
Depreciation and impairment loss:						
Balance at January 1, 2022	$ -	9,687,568	26,362,424	4,163,335	12,140	40,225,467
Acquisition through business combination	-	60,614	3,139,764	251,462	-	3,451,840
Depreciation for the year	-	798,934	5,143,115	772,934	-	6,714,983
Impairment loss	-	20,667	13,072	10,388	37,776	81,903
Disposals	-	(84,794)	(2,342,367)	(110,348)	-	(2,537,509)
Reclassification and transfer	-	808	(298)	(2,218)	-	(1,708)
Effect of changes in exchange rates	-	47,088	174,515	130,400	1,090	353,093
Balance at December 31, 2022	**$ -**	**10,530,885**	**32,490,225**	**5,215,953**	**51,006**	**48,288,069**

	Land	Buildings	Machinery and equipment	Other equipment	Construction in progress and equipment awaiting inspection	Total
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
Carrying amounts:						
Balance at December 31, 2022	$ 4,075,968	10,626,369	22,337,314	5,780,713	9,045,598	51,865,962
Balance at January 1, 2021	$ 3,294,013	10,811,080	23,924,797	2,803,914	1,621,233	42,455,037
Balance at December 31, 2021	$ 3,842,571	9,899,029	17,939,794	4,983,075	3,764,003	40,428,472

B. Impairment loss

As of December 31, 2022 and 2021, the Group recognized impairment loss of some machinery amounting to $81,903 thousand and $8,908 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, 2022	$ 704,559	277,618	284	225,243	1,207,704
Acquisition through business combination	113,068	-	-	-	113,068
Additions	-	16,660	-	49,875	66,535
Disposal	(1,854)	(27,764)	-	(85,447)	(115,065)
Effect of changes in exchange rates	(1,315)	(1,322)	31	2,220	(386)
Balance at December 31, 2022	$ 814,458	265,192	315	191,891	1,271,856

		Land	Buildings	Machinery and equipment	Other equipment	Total
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
Effects 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**
Accumulated depreciation:						
Balance at January 1, 2022	$	121,336	128,784	41	112,315	362,476
Acquisition through business combination		21,778	-	-	-	21,778
Depreciation for the year		48,483	47,124	153	87,523	183,283
Disposal		-	(27,764)	-	(84,258)	(112,022)
Effects of changes in exchange rates		(283)	(910)	9	1,563	379
Balance at December 31, 2022	**$**	**191,314**	**147,234**	**203**	**117,143**	**455,894**
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	**$**	**121,336**	**128,784**	**41**	**112,315**	**362,476**
Carrying amount:						
Balance at December 31, 2022	**$**	**623,144**	**117,958**	**112**	**74,748**	**815,962**
Balance at January 1, 2021	**$**	**578,491**	**188,333**	**480**	**65,561**	**832,865**
Balance at December 31, 2021	**$**	**583,223**	**148,834**	**243**	**112,928**	**845,228**

(12) Intangible assets

The movements of cost and amortization of the intangible assets of the Group for the years ended December 31, 2022 and 2021 were as follows:

		Goodwill	Patents, expertise and trademarks	Development costs	Customer relationship and knowledge technology	Computer software	Total
Cost:							
Balance at January 1, 2022	$	2,285,772	2,249,195	272,823	-	75,178	4,882,968
Acquisition through business combination		543,441	717,900	-	2,985,600	30,309	4,277,250
Additions		-	-	-	-	32,149	32,149
Reclassification		-	-	-	-	864	864
Disposals		-	-	-	-	(70)	(70)
Effect of changes in exchange rates		192,632	13,393	10,792	-	7,774	224,591
Balance at December 31, 2022	**$**	**3,021,845**	**2,980,488**	**283,615**	**2,985,600**	**146,204**	**9,417,752**
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**
Amortization:							
Balance at January 1, 2022	$	-	1,589,132	204,180	-	64,307	1,857,619
Acquisition through business combination		-	-	-	-	14,713	14,713
Amortization for the year		-	267,293	12,404	100,251	11,946	391,894
Disposals		-	-	-	-	(70)	(70)
Effect of changes in exchange rates		-	13,393	8,643	-	6,980	29,016
Balance at December 31, 2022	**$**	**-**	**1,869,818**	**225,227**	**100,251**	**97,876**	**2,293,172**
Balance as of January 1, 2021	$	-	1,384,540	207,941	-	61,831	1,654,312
Acquisition through business combination		-	-	-	-	354	354
Amortization for the year		-	207,907	13,699	-	3,823	225,429
Effect of changes in exchange rates		-	(3,315)	(17,460)	-	(1,701)	(22,476)
Balance at December 31, 2021	**$**	**-**	**1,589,132**	**204,180**	**-**	**64,307**	**1,857,619**
Carrying amounts:							
Balance at December 31, 2022	**$**	**3,021,845**	**1,110,670**	**58,388**	**2,885,349**	**48,328**	**7,124,580**
Balance at January 1, 2021	**$**	**2,327,364**	**373,191**	**88,900**	**-**	**8,008**	**2,797,463**
Balance at December 31, 2021	**$**	**2,285,772**	**660,063**	**68,643**	**-**	**10,871**	**3,025,349**

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, 2022	**December 31, 2021**
Discount rate	11.48%~12.01%	4.97%~13%
Budgeted EBITDA growth rate	2.18%	2%~2.46%

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.

The intangible assets mentioned above were not pledged as collateral.

(13) Other assets－current and non-current

		December 31, 2022	**December 31, 2021**
Prepayment of materials	$	1,166,814	1,722,721
Tax refunds and credits		695,281	497,562
Prepayment of equipment		3,544,427	45,649
Others		979,329	951,858
	$	**6,385,851**	**3,217,790**

(14) Short-term borrowings

		December 31, 2022	**December 31, 2021**
Unsecured bank loans	$	9,796,000	7,744,000
Purchase of materials loan		-	15,302
	$	**9,796,000**	**7,759,302**
Unused credit lines	**$**	**50,900,688**	**35,207,145**
Range of interest rates at the year end		**1.24%~1.99%**	**0.20%~0.54%**

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

(15) Long-term borrowings

The details of long-term borrowings were as follows:

	December 31, 2022				
	Currency	**Interest**	**Maturity**		**Amount**
Unsecured borrowings	NTD	5.22%	2029.12	$	903,641
Less: current portion					(35,316)
Total				$	868,325

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

		December 31, 2022	**December 31, 2021**
Unused credit lines	$	2,324,000	-

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

(16) Bonds payable

The details of bonds payable were as follow:

		December 31, 2022	**December 31, 2021**
Unsecured corporate bonds	$	18,986,110	18,980,771
Unsecured convertible bonds		23,793,835	26,143,969
Total	$	42,779,945	45,124,740

A. On April 21, 2021, GlobalWafers' Board of Directors resolved to issue unsecured common bonds for the first time in 2021. On May 11, 2021, Taipei Fubon Commercial Bank, 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 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, 2022	December 31, 2021
Total amount of convertible bonds issued	$	24,787,249	27,565,891
Unamortized balance of discount on bonds payable		(993,414)	(1,421,922)
Accumulated Converted Amount		-	-
Balance at December 31, 2022 and 2021	$	23,793,835	26,143,969
Embedded derivatives - redemption rights and conversion rights (reported as financial liabilities at fair value through profit or loss - non-current)	$	466,831	178,637
Issue Price (less transaction costs 77,517 thousand)	$	25,020,953	27,834,483
Equity components (less transaction costs allocated to equity 4,744 thousand)		(1,531,760)	(1,703,470)
Sell / Redeem Derivatives (allocated transaction costs 473 thousand)		(152,629)	(169,791)
Liability components at issue date (less transaction costs allocated to liability 72,300 thousand)		23,336,564	25,961,222
Interest calculated at an effective rate of 1.20%		457,271	182,747
Liability components as of December 31, 2022 and 2021	$	23,793,835	26,143,969

Except for early redemptions, repurchases and cancellations, exercise of conversion rights by the bondholders, statutory requirements and the cessation of transfer period as otherwise provided in the Trust Deed, from the day following the three months after the issuance of the bonds to (1) ten days before the maturity date or (2) the fifth business day prior to the date of early redemption of the bonds (hereinafter referred to as the "conversion period"), the bondholders may request the issuing company to convert the bonds into shares of common stock newly issued by the issuing company in accordance with the provisions of the relevant laws and the Trust Deed.

The conversion price was 140% of the closing price of GlobalWafers' common shares on the Taipei Exchange on the pricing date, which was $1,040.20. The number of common shares to bedelivered upon conversion of any bond will be determined by the principal amount of the bondsmultiplied by the fixed exchange rate, which is NT$27.912 to US$1, which was determined on the pricing date and divided by the conversion price in effect on the date of conversion. After the issuance of the bonds, the conversion price shall be adjusted in accordance with the relevant antidilution provisions of the contract. However, due to the distribution of cash dividends by GlobalWafers, the conversion prices of the bonds have been adjusted from NT$1,040.20 to NT$1,028.46, NT$1,028.46 to NT$1,018.54, and NT$1,018.54 to NT$1,003.09 on July 22, 2021, January 13, 2022, and July 19, 2022, respectively, the days after the ex-dividend base dates, in accordance with the aforementioned provisions. As of December 31, 2022, the adjustment to the conversion price of the bonds had been executed three times.

The above-mentioned convertible bonds included liabilities and equity components. The equity component was recognized as the capital surplus. The effective interest rate originally recognized for the liability component was 1.2%.

GlobalWafers redeemed the first unsecure oversea convertible bonds of US$100,800 thousand in 2022, resulting in the invalid conversion right of $171,710 thousand to be reclassified from capital surplus–share options to capital surplus – others. As of December 31, 2022, the balance of the Group's first unsecured oversea convertible bounds amounted to US$899,200 thousand.

(17) Lease liabilities

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

	December 31, 2022	December 31, 2021
Current (recognized under other current liabilities)	$ 119,228	171,043
Non-current (recognized under other non-current liabilities)	$ 705,800	681,623

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

The amounts recognized in profit or loss were as follows:

	2022	2021
Interest on lease liabilities	$ 10,219	11,277
Variable lease payments not included in the measurement of lease liabilities	$ 3,962	1,860
Expenses relating to short-term leases	$ 25,580	18,524
Expenses relating to leases of low value assets, excluding short term leases of low value assets	$ 9,937	5,769

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

	2022	2021
Total cash outflow for leases	$ 233,670	229,691

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.

(18) 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, 2022	$ 68,325	3,900,040	9,936	3,978,301
Provisions made during the year	9,541	-	106,724	116,265
Reclassification	(11,602)	-	11,602	-
Provisions reversed during the year	(8,170)	(316,975)	(11,716)	(336,861)
Effect of changes in exchange rates	1,794	-	4,509	6,303
Balance of December 31, 2022	**$ 59,888**	**3,583,065**	**121,055**	**3,764,008**
Current	$ 14,935	417,471	9,150	441,556
Non-current	44,953	3,165,594	111,905	3,322,452
Total	**$ 59,888**	**3,583,065**	**121,055**	**3,764,008**
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 used 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**

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 subsequently reversed the relevant gains and losses according to the performance of the contract, and were recognized as operating costs. For the related agreement, please refer to note 9.

(19) 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, 2022	December 31, 2021
Present value of the defined benefit obligations	$ (5,160,899)	(7,522,079)
Fair value of plan assets	3,621,840	5,684,647
Net defined benefit liability	**$ (1,539,059)**	**(1,837,432)**

The details of the account are as follows:

	December 31, 2022	December 31, 2021
Net defined benefit asset (included in other assets－non-current)	$ 269	-
Net defined benefit liabilities	(1,539,328)	(1,837,432)
	$ (1,539,059)	**(1,837,432)**

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, 2022 and 2021 were as follows:

	2022	2021
Defined benefit obligations at January 1	$ 7,522,079	8,155,583
Current service costs and interest cost	328,045	407,166
Remeasurements for defined benefit obligations		
—Actuarial gains and losses arising from experience adjustments	58,480	211,141
—Actuarial gains and losses resulting from changes in demographic assumptions	(1,674)	(103,261)
—Actuarial gains and losses resulting from changes in financial assumptions	(667,540)	(79,688)
Benefits paid	(2,462,209)	(602,767)
Effects of changes in exchange rates	383,718	(466,095)
Defined benefit obligations at December 31	$ 5,160,899	7,522,079

(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, 2022 and 2021 were as follows:

	2022	2021
Fair value of plan assets at January 1	$ 5,684,647	5,671,476
Interest income	46,312	82,972
Remeasurements for defined benefit obligations		
—Return on plan asset (excluding current interest)	(541,106)	250,160
Contributions made	378,709	443,142
Benefits paid	(2,380,129)	(503,081)
Effect of changes in exchange rates	433,407	(260,022)
Fair value of plan assets at December 31	$ 3,621,840	5,684,647

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 $420,685 thousand as of December 31, 2022. 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, 2022 and 2021, 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, 2022 and 2021, were as follows:

	2022	2021
Current service costs	$ 276,088	312,583
Net interest of defined benefit obligation	5,645	11,611
	$ 281,733	324,194
Operating Costs	$ 252,958	295,501
Selling expenses	11,846	9,841
Administrative expenses	9,102	10,442
Research and development expenses	7,827	8,410
	$ 281,733	324,194

(e) Actuarial assumptions

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

	December 31, 2022	December 31, 2021
Discount rate	0.66%~5.01%	0.28%~3.29%
Future salary increase rate	2.29%~5.65%	1.6%~5.7%

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 $178,401 thousand.

The weighted average duration of the defined benefits obligation are 1 years to 11 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, 2022 and 2021:

Actuarial assumptions	Impact on defined benefit obligations: Increased by 0.25%	Impact on defined benefit obligations: Decreased by 0.25%
December 31, 2022		
Discount rate	$ (94,770)	99,335
Future salary increase rate	$ 45,415	(42,640)
December 31, 2021		
Discount rate	$ (139,237)	146,563
Future salary increase rate	$ 55,813	(51,853)

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 2022 and 2021.

There was no change in the method and assumptions used in the preparation of the sensitivity analysis for 2022 and 2021.

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 $133,458 thousand and $109,066 thousand for the years ended December 31, 2022 and 2021, 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 $268,006 thousand and $251,670 thousand for its overseas subsidiaries in the years of 2022 and 2021, respectively.

(20) Income tax

A. Income tax expense

The components of income tax expenses in 2022 and 2021 were as follows:

		2022	2021
Current tax expense	$	5,463,153	3,252,998
Deferred tax expense		(784,004)	1,337,339
Income tax rate change		(10,940)	-
Income tax expense	$	4,668,209	4,590,337

The amounts of income tax (benefit) recognized in other comprehensive income in 2022 and 2021 were as follows:

		2022	2021
Items that will not be reclassified subsequently to profit or loss:			
Remeasurement from defined benefit obligations	$	11,797	34,694
Unrealized gains (losses) from investments in equity instruments measured at fair value through other comprehensive income		(89,222)	73,958
	$	(77,425)	108,652
Items that may be reclassified subsequently to profit or loss:			
Exchange differences on translation of foreign financial statements	$	63,730	(1,232,023)

Reconciliations of income tax and income before income tax for 2022 and 2021 are as follows:

		2022	2021
Income before income tax	$	20,828,706	17,205,727
Income tax using the Company’s domestic tax rate		4,165,741	3,441,145
Effect of tax rates in foreign jurisdiction		(677,902)	417,117
Shares of profit of foreign subsidiaries accounted for using equity method		(504,408)	1,558,500
Tax effect of permanent differences		2,963,029	234,744
Investment tax credits		(716,829)	(363,578)
Changes in unrecognized temporary differences and others		(561,422)	(697,591)
	$	4,668,209	4,590,337

B. Deferred tax assets and liabilities

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

	December 31, 2022	December 31, 2021
Tax effect of deductible temporary differences (including carryforward of unused tax losses)	$ 3,053,406	2,742,892

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, 2022, 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
2013 (examined)	$ 9,728	2023
2016 (examined)	45,362	2026
2017 (examined)	1,390,372	2027
2018 (examined)	1,478,768	2028
2019 (examined)	192,758	2029
2022 (assessed)	71,480	2032
	$ 3,188,468	

As of December 31, 2022, the loss deduction for unrecognized deferred income tax assets of the Group's foreign subsidiaries amounted to $1,648,545 thousand.

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

	December 31, 2022	December 31, 2021
Aggregate amount of temporary differences related to investments in subsidiaries	$ (3,963,207)	(2,151,112)

The Group is able to control the timing of the reversal of the temporary differences associated with investments in subsidiaries as at December 31, 2022 and 2021. 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, 2022	Recognized in profit or loss	Recognized in other comprehensive income	Effect of changes in exchange rates	December 31, 2022
Assets:					
Allowance for inventory valuation	$ 267,029	(3,835)	-	9,607	272,801
Defined benefit obligations	325,710	(59,442)	(8,531)	(2,458)	255,279
Equity-method investments	10,009	-	-	-	10,009
Expected credit loss of accounts receivable	130,523	(376)	-	5,765	135,912
Depreciation life differences of property, plant and equipment	585,514	215,158	-	28,308	828,980
Equity-method investments in domestic	-	-	15,264	-	15,264
Others	660,170	486,659	12,174	22,248	1,181,251
	$ 1,978,955	638,164	18,907	63,470	2,699,496
Liabilities:					
Equity-method investments	$ (2,816,538)	646,118	(79,170)	-	(2,249,590)
Equity-method investments in domestic	(73,958)	-	73,958	-	-
Depreciation life differences of property, plant and equipment and others	(2,006,855)	(500,278)	-	142,836	(2,364,296)
	$ (4,897,351)	145,840	(5,212)	142,836	(4,613,886)

	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
Others	1,047,710	(307,447)	12,787	(92,880)	660,170
	$ 2,312,821	(157,981)	11,139	(187,024)	1,978,955

		January 1, 2021	Recognized in profit or loss	Recognized in other comprehensive income	Effect of changes in exchange rates	December 31, 2021
Liabilities:						
Equity-method investments	$	(3,075,516)	(927,212)	1,186,190	-	(2,816,538)
Equity-method investments in domestic		-	-	(73,958)	-	(73,958)
Depreciation life differences of property, plant and equipment and other		(1,898,891)	(252,146)	-	144,182	(2,006,855)
	$	(4,974,407)	(1,179,358)	1,112,232	144,182	(4,897,351)

C. Assessment of tax filings

The Company's income tax returns for the years through 2020 have been examined and approved by the R.O.C. income tax authorities.

(21) Capital and other equity

As of December 31, 2022 and 2021, 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, 2022 and 2021 was as follows (in thousands of shares):

	Common stock	
	2022	**2021**
Closing balance at December 31 (i.e. closing balance at beginning of January 1)	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 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, 2022	December 31, 2021
Additional paid in capital	$ 7,195,673	8,296,480
Difference between the consideration and the carrying amount of subsidiaries' share acquired or disposed	1,447,251	1,822,532
Capital surplus recognized under the equity method	7,561,496	7,543,801
Treasury stock transactions	33,314	33,314
Employee stock options	608,429	608,059
	$ 16,846,163	18,304,186

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.

The Company's resolutions to distribute cash dividends out of capital surplus for an amount of $486,564 thousand ($0.8300 per share) and $614,243 thousand ($1.0478 per share), respectively, were approved during the shareholders' meeting held on December 8, 2022 and May 5, 2022.

The Company's resolutions to distribute cash dividends out of capital surplus for an amount of $1,989,226 thousand ($3.3933 per share), were approved during the shareholders' meeting held on December 9, 2021.

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, 2022 and 2021.

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

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 8, 2022, the Company's Board of Directors resolved to distribute the first half of 2022 earnings. The earnings were appropriated as follows:

	2022	
	Dividends per share (NT dollar)	**Amount**
Dividends distributed to ordinary shareholders:		
Appropriation of the first half of earnings	$ 2.3700	1,389,345

On May 5, 2022 and December 9, 2021, the Board of Directors resolved to distribute for the first half and second half of 2021 earnings, respectively.

Moreover, other surplus distribution has met statutory resolution threshold with electronic voting on June 21, 2022, and the general meeting of shareholders was held on June 23, 2022. On May 6, 2021, the Company's Board of Directors resolved to appropriate 2020 earnings.

The earnings were appropriated as follows:

	2021		2020	
	Dividends per share (NT dollar)	**Amount**	**Dividends per share (NT dollar)**	**Amount**
Dividends distributed to ordinary shareholders:				
Appropriation of the first half of earnings	$ 0.1067	62,550	3.5	2,051,776
Appropriation of the annual earnings	3.4522	2,023,754	5.5	3,224,219
Total	$ 3.5589	2,086,304	9.0	5,275,995

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

On May 6, 2021, the Board of Directors determined the amount of cash dividends for 2020.

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	Other	Total
Balance at January 1, 2022	$	(4,905,534)	(527,417)	(6,056)	(5,439,007)
Exchange differences on translation of net assets of foreign operations		286,397	-	-	286,397
Exchange differences of associates accounted for using equity method		2,890	-	-	2,890
Compensation cost of restricted stock awards of associates accounted for using equity method		-	-	3,295	3,295
Unrealized gains (losses) from financial assets measured at fair value through other comprehensive income		-	(232,032)	-	(232,032)
Unrealized gains (losses) from financial assets measured at fair value through other comprehensive income of associates for using equity method		-	(595,540)	-	(595,540)
Balance at December 31, 2022	$	(4,616,247)	(1,354,989)	(2,761)	(5,973,997)
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)
Exchange differences of associates accounting for using equity method		(2,098)	-	-	(2,098)
Compensation cost of restricted stock awards of associates accounted for using equity method		-	-	(5,681)	(5,681)
Unrealized gains (losses) on financial assets measured at fair value through other comprehensive income		-	213,046	-	213,046
Unrealized gains (losses) from financial assets measured at fair value through other comprehensive income of associates accounted for using equity method		-	329,990	-	329,990
Balance at December 31, 2021	$	(4,905,534)	(527,417)	(6,056)	(5,439,007)

(22) Earnings per Share

A. Basic earnings per share

		2022	2021
Net income attributable to the shareholders of the Company	$	8,715,811	6,811,050
Weighted average number of ordinary shares outstanding (in thousands of shares)		586,222	586,222
Basic earnings per share (NT dollar)	$	14.87	11.62

B. Diluted earnings per share

	2022	2021
Net income attributable to the shareholders of the Company	$ 8,715,811	6,811,050
Weighted average number of ordinary shares outstanding (in thousands of shares)	586,222	586,222
Effect of dilutive potential ordinary shares (in thousands of shares)	4,585	3,032
Weighted-average number of ordinary shares outstanding (in thousands of shares)(diluted)	590,807	589,254
Diluted earnings per share (NT dollar)	$ 14.75	11.56

(23) Revenue from contracts with customers

A. Details of revenues

	2022			2021		
	Semiconductor Segment	Solar energy Segment and other	Total	Semiconductor Segment	Solar energy Segment and other	Total
Primary geographical markets:						
Taiwan	$ 13,312,533	4,844,346	18,156,879	11,084,095	2,737,906	13,822,001
Northeast Asia (Japan and Korea)	20,544,083	153,581	20,697,664	19,609,054	481,624	20,090,678
Asia-other	15,520,049	1,366,516	16,886,565	11,958,537	992,973	12,951,510
America	9,016,802	2,601,104	11,617,906	8,132,016	1,903,650	10,035,666
Europe	12,247,244	1,356,906	13,604,150	9,915,560	1,181,655	11,097,215
Other areas	444,324	464,008	908,332	387,415	456,765	844,180
	$ 71,085,035	10,786,461	81,871,496	61,086,677	7,754,573	68,841,250
Major product categories:						
Semiconductor wafers	$ 69,994,420	39,368	70,033,788	60,612,171	24,567	60,636,738
Solar cell	-	3,523,022	3,523,022	-	2,485,299	2,485,299
Solar module	-	1,278,148	1,278,148	-	1,682,882	1,682,882
Solar ingot	-	2,764,045	2,764,045	-	1,624,328	1,624,328
Semiconductor ingot	903,822	1,315	905,137	360,961	351	361,312
Solar wafer	-	273,021	273,021	-	217,029	217,029
Others	186,793	2,907,542	3,094,335	113,545	1,720,117	1,833,662
	$ 71,085,035	10,786,461	81,871,496	61,086,677	7,754,573	68,841,250

B. Contract balances

	December 31, 2022	December 31, 2021	January 1, 2021
Notes and accounts receivable (including related parties)	$ 11,332,961	9,886,329	8,404,570
Contract liabilities	$ 39,561,054	29,759,181	17,896,112

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, 2022 and 2021, which was included in the contract liability balance at the beginning of the period, was $5,890,536 thousand and $3,732,465 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, 2022 and 2021, the Company accrued and recognized its employee remuneration amounting to $564,770 thousand and $438,902 thousand and directors remuneration amounting to $55,000 thousand and $45,000 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 2022 and 2021 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 financial costs

A. Interest income

		2022	2021
Interest income from bank deposits	$	1,159,774	141,939
Interest income from financial assets measured at amortized cost		6,600	5,859
	$	1,166,374	147,798

B. Financial costs

		2022	2021
Interest expense of borrowings	$	105,568	84,833
Interest expense of corporate bonds		418,205	236,215
Interest expense of lease liability		10,219	11,277
	$	533,992	332,325

(26) Other gains and losses

		2022	2021
Dividend income	$	407,388	286,232
Foreign exchange gains (losses)		3,986,877	584,952
Reversal of impairment loss on financial assets measured at amortized cost		-	3,454
Losses on financial assets (liabilities) measured at fair value through profit or loss		(10,133,889)	(703,632)
Termination fees		-	(1,566,000)
Gain on disposal of property, plant and equipment		109,278	17,747
Gain on disposal of investees		81,331	113,180
Others		190,594	357,074
	$	(5,358,421)	(906,993)

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

		2022	2021
Exchange differences on translation of foreign operations	$	2,890	(2,098)
Unrealized gains (losses) on financial assets at fair value through other comprehensive income		(961,175)	551,647
	$	(958,285)	549,549

(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, 2022 and 2021, 45% and 40%, 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, 2022							
Non-derivative financial liabilities							
short-term borrowings	$ 9,796,000	(9,806,010)	(9,806,010)	-	-	-	-
Notes and accounts payable (including related parties)	5,130,488	(5,130,488)	(5,111,833)	(18,655)	-	-	-
Long-term borrowings (including current portion)	903,641	(1,203,109)	(43,865)	(40,784)	(80,646)	(236,406)	(801,408)
Current and non-current lease liabilities	825,028	(890,554)	(70,699)	(64,372)	(116,256)	(208,611)	(430,616)
Ordinary corporate bonds	18,986,110	(19,361,800)	(40,300)	(67,900)	(7,208,200)	(12,045,400)	-
Convertible corporate bonds	23,793,835	(24,787,249)	-	-	-	(24,787,249)	-
Dividends payable	3,257,330	(3,257,330)	(3,257,330)	-	-	-	-
Accrued remuneration of directors (recorded under other current liabilities)	127,888	(127,888)	(73,528)	(54,360)	-	-	-
Payroll and bonus payable	4,392,988	(4,392,988)	(3,192,876)	(1,200,112)	-	-	-
Derivative financial							
Swap exchange contracts:							
Outflows	1,219	(115,739)	(115,739)	-	-	-	-
Inflows	-	114,520	114,520	-	-	-	-
Forward exchange contracts:							
Outflows	-	(1,053,481)	(1,053,481)	-	-	-	-
Inflows	(32,415)	1,085,896	1,085,896	-	-	-	-
	$ 67,182,112	(68,926,220)	(21,565,245)	(1,446,183)	(7,405,102)	(37,277,666)	(1,232,024)

	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)
Ordinary corporate bonds	18,980,771	(19,470,000)	(40,300)	(67,900)	(108,200)	(19,253,600)	-
Convertible corporate bonds	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 liabilities							
Swap exchange contracts:							
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)

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, 2022		
	Foreign currency	**Exchange rate**	**NTD**
Financial assets			
Monetary Items			
USD	$ 1,295,777	30.71	39,793,312
JPY	5,678,414	0.2324	1,319,663
EUR	109,741	32.72	3,590,726
CNY	28,962	4.408	127,664
Non-monetary items			
USD	33,500	30.71	Note
Financial liabilities			
Monetary Items			
USD	1,398,542	30.71	42,949,225
JPY	10,001,886	0.2324	2,324,438
EUR	98,588	32.72	3,225,799
CNY	48,084	4.408	211,954
Non-monetary items			
EUR	3,500	32.72	Note

	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
Non-monetary items			
USD	22,650	27.68	Note
JPY	208,426	0.2405	Note
EUR	1,300	31.32	Note

	December 31, 2022		
	Foreign currency	**Exchange rate**	**NTD**
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

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, 2022 and 2021, net income before income taxes would have decreased or increased by $38,801 thousand and increased or decreased by $238,313 thousand for the years ended December 31, 2022 and 2021, 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 on monetary items is disclosed by an aggregate amount. For the years of 2022 and 2021, foreign exchange losses (including realized and unrealized portions) amounted to $3,986,877 thousand and $584,952 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 $87,520 thousand and $25,729 thousand, for the years ended December 31, 2022 and 2021, 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, 2022 and 2021, 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,				
	2022			2021	
Prices of securities at the reporting date		**Other comprehensive income before tax**	**Net income**	**Other comprehensive income before tax**	**Net income**
Increasing 5%	$	72,242	457,296	64,542	908,677
Decreasing 5%		(72,242)	(457,296)	(64,542)	(908,677)

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, 2022				
	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	$ 32,415	-	32,415	-	32,415
Financial assets at fair value through profit or loss－non-current					
Private equity	$ 185,793	-	-	185,793	185,793
Overseas securities	9,145,927	9,145,927	-	-	9,145,927
	$ 9,331,720	9,145,927	-	185,793	9,331,720

	December 31, 2022				
	Carrying amount	Fair value			
		Level 1	Level 2	Level 3	Total
Financial assets measured at amortized cost					
Stocks listed on domestic markets	$ 186,844	186,844	-	-	186,844
Overseas securities	673,747	673,747	-	-	673,747
Non-public offer equity instrument measured at fair value	584,254	-	-	584,254	584,254
Subtotal	$ 1,444,845	860,591	-	584,254	1,444,845
Financial liabilities measured at fair value through profit or loss					
Cash and cash equivalents	$ 83,247,854	-	-	-	-
Notes and accounts receivable (including related parties)	11,338,087	-	-	-	-
Other financial assets－current and non-current	8,693,679	-	-	-	-
Corporate bonds－current	331,609	-	331,609	-	331,609
Subtotal	$ 103,611,229	-	331,609	-	331,609
Financial liabilities measured at amortized cost:					
Forward exchange contract	$ 1,219	-	1,219	-	1,219
Convertible corporate bonds embedded in derivative instruments	466,831	-	466,831	-	466,831
	$ 468,050	-	468,050	-	468,050
Financial liabilities measured at amortized cost:					
Short-term borrowings	9,796,000	-	-	-	-
Notes and accounts receivable (including related parties)	5,130,488	-	-	-	-
Long-term borrowings (including current portion)	903,941	-	-	-	-
Accrued remuneration of directors (recorded under other current liabilities)	127,888	-	-	-	-
Convertible corporate bonds	23,793,835	-	-	-	-
Ordinary corporate bonds	18,986,110	-	-	-	-
Current and non-current lease liabilities	825,028	-	-	-	-
Subtotal	$ 59,563,290	-	-	-	-

	December 31, 2021				
	Carrying amount	Fair value			
		Level 1	Level 2	Level 3	Total
Financial assets at fair value through gain or loss-current					
Forward exchange contract	$ 3,567	-	3,567	-	3,567
Financial assets at fair value through portit loss-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

	December 31, 2021				
	Carrying amount	**Fair value**			
		Level 1	**Level 2**	**Level 3**	**Total**
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
Subtotal	$ 377,268	-	377,268	-	377,268
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 corporate bonds	26,143,969	-	-	-	-
Ordinary corporate bonds	18,980,771	-	-	-	-
Current and non-current lease liabilities	852,666	-	-	-	-
Other accrued expenses (recorded under other current liabilities)	1,566,000	-	-	-	-
	$ 61,010,296	-	-	-	-

(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, 2022	$ 195,163	401,748
Addition	28,578	331,970
Recognized in profit or loss	(29,376)	-
Recognized in other comprehensive income	-	(156,710)
Refund	(8,572)	(17,911)
Effect of changes in exchange rate	-	25,157
Balance at December 31, 2022	**$ 185,793**	**584,254**
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**

(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, 2022 and December 31, 2021 2.07%~ 5.85% and 3.22%~ 3.28% , respectively) • Market liquidity discount rate (December 31, 2022 and December 31, 2021 were both 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, 2022 and 2021, 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, 2022 and 2021 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, 2022 and 2021, the Group's unused credit lines were $53,224,688 thousand and $35,207,145 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, 2022	December 31, 2021
Total liabilities	$ 128,477,846	115,088,347
Less: cash and cash equivalent	(83,247,854)	(67,117,906)
Net debts	$ 45,229,992	47,970,441
Total equity	$ 68,131,544	52,162,938
Debt-to-equity ratio	66.39%	91.96%

The decrease in the debt-to-equity ratio as of December 31, 2022 was mainly due to the increase in total equity as a result of the increase in operating profit for the period.

(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, 2022 and 2021 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, 2022	Cash flows	Foreign exchange movement and others	December 31, 2022
Short-term borrowings	$ 7,759,302	2,036,698	-	9,796,000
Long-term borrowings	1,030,876	(228,646)	101,411	903,641
Lease liabilities	852,666	(194,191)	166,553	825,028
Bonds payable	45,124,740	(2,748,404)	403,609	42,779,945
Guarantee deposit received	1,397	1,545,318	12,000	1,558,715
Total liabilities from financing activities	$ 54,768,981	410,775	683,573	55,863,329

	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

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
Actron	SAS's management is the director of the company/ An associate of the Group
Accu Solar Corporation	An associate of the Group
Crystalwise Technology Inc.	An associate of the Group

(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:

	2022	2021
Associates	$ 278,626	354,704

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, 2022 and 2021, the credit terms for third parties were 0 to 120 days after month-end. While those for related parties were 30 to 90 days after month-end and receipt in advance to 30 days after month-end, respectively.

B. Purchase and process outsourcing

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

	2022	2021
Associates	$ 1,528	157

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

As of December 31, 2022 and 2021, the payment terms to third parties were 0 to 150 days after month-end and 0 to 120 days after month-end, respectively. 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, 2022	December 31, 2021
Receivables from related parties	Associate	$ 77,916	65,929

D. Payables to related parties

The payables to related parties were as follows:

Items	Categories	December 31, 2022	December 31, 2021
Payable to related parties	Associate	$ 73	-

E. Transactions of property, plant and equipment

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

	2022		2021	
	Amount	Payable to related parties	Amount	Payable to related parties
Associates	$ 15,986	-	85,542	10,989

F. Corporate bonds

As of December 31, 2022 and 2021, the interest income amounted to $6,600 thousand and $5,859 thousand, respectively. As of December 31, 2022 and 2021, the accumulated investment cost and interests receivable amounted to $331,609 thousand 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:

	2022	2021
Associates	$ 39,104	29,829

The Group leased its plant to associates. As of December 31, 2022 and 2021, the Group had lease receivables of $3,133 thousand and $2,217 thousand, respectively.

H. Payment and advances from other transactions

(a) 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, 2022 and 2021 were as follows:

	December 31, 2022	December 31, 2021
Associates	$ 1,994	614
Associates	(1,122)	(183)
	$ 872	**431**

(b) As of December 31, 2022, the related parties entered into offshore wind power purchase contracts for the implementation of the sustainable Green Energy Performance Plan and deposited a guaranteed amounted to $10,000 thousand, which was recorded under other liabilities－non-current.

(3) Key management personnel compensation

Key management personnel compensation comprised of:

	2022	2021
Short-term employee benefits	$ 546,270	515,624
Post-employment benefits	1,924	1,132
	$ 548,194	**516,756**

8. Pledged assets:

The carrying values of pledged assets were as follows:

Asset name	Pledge or Mortgage underlying subject	December 31, 2022	December 31, 2021
Property, plant and equipment	Long-term and short-term borrowings and credit lines	$ 3,501,797	3,438,440
Time deposits (recognized in other financial assets－current)	Performance bond	10,629	-
Time deposits (recognized in other financial assets－non-current)	Guarantee for the lease contract with the Hsinchu Science Park Bureau	51,836	51,800
Time deposits (recognized in other financial assets－non-current)	Guarantee for gas consumption from CPC Corporation	2,000	2,000
Time deposits (recognized in other financial assets－non-current))	Guarantee payment for import VAT	14,000	5,000
Time deposits (recognized in other financial assets－non-current))	Guarantee for bank financing projects	107,836	138,400
Time deposits/deposit guarantee (recognized in other financial assets－non-current))	Court litigation	19,638	34,182
Time deposits (recognized in other financial assets－non-current))	Guarantee for bank financing projects	8,000	-
		$ 3,715,736	3,669,822

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, 2022 and 2021, amounted to $33,461,162 thousand and $33,277,526 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, 2022	December 31, 2021
USD	$ 21,865	20,736
EUR	$ 13,066	15,048

C. As of December 31, 2022 and 2021, the significant outstanding commitments for construction and purchase of property, plant and equipment amounted to $27,954,076 thousand and $9,953,297 thousand, respectively.

D. As of December 31, 2022 and 2021, the total amount of promissory notes deposited by the Group at the bank for acquiring bank financing were $14,149,520 thousand and $11,341,360 thousand, respectively.

E. As of December 31, 2022 and 2021, a guarantee letter for the Customs Administration and Research and Development which the Group requested a bank to issue amounted to $140,599 thousand and $60,000 thousand, respectively.

F. As of December 31 2022 and 2021, the Group’s outstanding standby letters of credit that were issued amounted to $157,689 thousand and $322,195 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, 2022 and 2021, a guarantee letter for the customer which the Group requested a bank to issue amounted to $4,685,036 thousand and $905,394 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. 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, 2022 and 2021, the balance of the account was $2,967,304 thousand and $3,944,367 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. 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. As of January 31, 2022, the approval by the German government could not be obtained. Under the aforementioned business combination agreement between GlobalWafers and Siltronic AG, a termination fee of EUR 50 million was payable to siltranic AG, which was provisionally recorded as of December 31, 2021, and paid completely in the first quarter of 2022.

J. The Group entered into an offshore wind power contract with a customer under the sustainable Green Energy Performance plan in 2022 and received a guarantee deposit of $111,800 thousand. As of December 31, 2022, the above-mentioned guarantee deposit were recorded as other liabilities－non-current.

10. Losses due to major disasters: None.

11. Subsequent Events:

(1) On March 16, 2023, the Group's Board of Directors resolved to extend the repayment of private issued corporate bonds issued by Crystalwise Technology Inc. due on September 30, 2023.

(2) On March 14, 2023, the Group's Board of Directors resolved to acquired private placement of shares in Billion Electric Co., Ltd. 15,000 thousand shares, amounting to $529,800 thousand at $35.32 per share.

(3) To meet the market demand and expand its production capacity, GlobalWafers entered a contract for
fab design and construction, as well as project management, with a specific vendor in January
2023. The total price for the design, project management and fab construction was capped at US$254,000 thousand (NT$78 billion).

12. Other:

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

By function / By item	For the years ended December 31,					
	2022			2021		
	Cost of goods sold	Operating expenses	Total	Cost of goods sold	Operating expenses	Total
Employee benefits						
Salary	9,325,201	3,035,695	12,360,896	8,277,075	2,743,477	11,020,552
Labor and health insurance	1,107,476	252,904	1,360,380	1,091,817	246,235	1,338,052
Pension	573,504	109,693	683,197	580,497	104,433	684,930
Others employee benefits expenses	263,075	79,810	342,885	234,277	64,974	299,251
Depreciation	6,625,804	272,462	6,898,266	6,044,634	240,667	6,285,301
Amortization	380,481	11,413	391,894	221,671	3,758	225,429

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, 2022 (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:

	2022			
	Semiconductor segment	**Solar energy segment**	**Reconciliation and elimination**	**Total**
Revenues:				
Revenue from external customers	$ 71,085,035	10,786,461	-	81,871,496
Intersegment revenues	103,517	1,725,101	(1,828,618)	-
Total revenue	$ 71,188,552	12,511,562	(1,828,618)	81,871,496
Interest expenses	$ 482,064	51,928	-	533,992
Depreciation and amortization	$ 6,461,574	828,586	-	7,290,160
Reportable segment profit or loss	$ 15,085,670	919,896	-	16,005,566
Share of profit (loss) of associates and joint ventures accounted for using equity method				154,931
				$ 16,160,497
Reportable segment assets	$ 179,138,357	15,431,955	(468,671)	194,101,641
Equity method investments				2,507,749
				$ 196,609,390
Reportable segment liabilities	$ 115,551,790	13,394,727	(468,671)	128,477,846

	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

(2) Products and services information

For the Group's revenue from external customers and the relevant customer contract revenue, please refer to note 6(23).

(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(23).

B. Non-current assets:

Geographical information	**December 31, 2022**	**December 31, 2021**
Taiwan	$ 23,081,178	13,283,323
Korea	13,165,578	12,989,776
Japan	9,529,022	5,342,424
United States	6,746,536	7,393,672
Italy	3,084,719	2,732,540
Philippines	1,811,119	1,741,168
Other countries	3,115,370	2,230,717
	$ 60,533,522	45,713,620

(4) Major customers information

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

	2022	2021
Group C	$ 14,781,881	12,789,073

Sino-American Silicon Products Inc. and Subsidiaries

Loans to other parties

For the year ended December 31, 2022

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, 3)	Maximum limit of fund financing (Note 2, 3)
													Item	Value		
0	Sino-American Silicon Products Inc.	Sulu	Receivable from related parties	Yes	1,771,825	1,689,050	64,491	4%	2	-	Operating capital	-	-	-	12,749,029	12,749,029
0	Sino-American Silicon Products Inc.	Sunrise PV Three	Receivable from related parties	Yes	100,000	100,000	36,000	2.5%	2	-	Operating capital	-	-	-	12,749,029	12,749,029
0	Sino-American Silicon Products Inc.	SSH	Receivable from related parties	Yes	1,000,000	1,000,000	808,213	1.5%~4%	2	-	Operating capital	-	-	-	12,749,029	12,749,029
0	Sino-American Silicon Products Inc.	Aleo Solar GmbH	Receivable from related parties	Yes	163,600	163,600	114,520	1.5%	2	-	Operating capital	-	-	-	12,749,029	12,749,029
1	SSTI	Sulu	Receivable from related parties	Yes	443,923	423,184	423,184	0%	2	-	Operating capital	-	-	-	2,233,650	2,233,650
1	SSTI	AMLED	Receivable from related parties	Yes	367,702	350,524	350,524	0%	2	-	Operating capital	-	-	-	2,233,650	2,233,650
2	SAS Sunrise Inc.	Sulu	Receivable from related parties	Yes	343,090	327,062	327,062	0%	2	-	Operating capital	-	-	-	481,296	481,296
4	GlobalWafers	Sunrise PV Electric Five	Receivable from related parties	Yes	100,000	100,000	20,000	1.5%	2	-	Operating capital	-	-	-	21,729,602	21,729,602
4	GlobalWafers	GWH	Receivable from related parties	Yes	500,000	500,000	-	1%	2	-	Operating capital	-	-	-	21,729,602	21,729,602
4	GlobalWafers	Sunrise PV Four	Receivable from related parties	Yes	100,000	100,000	60,000	1~1.5%	2	-	Operating capital	-	-	-	21,729,602	21,729,602
5	GWJ	MEMC Japan	Receivable from related parties	Yes	12,642,560	12,642,560	2,695,840	0.56818%	2	-	Operating capital	-	-	-	17,621,996	17,621,996
5	GWJ	GlobalWafers	Receivable from related parties	Yes	3,648,000	-	-	0.54545%	2	-	Operating capital	-	-	-	17,621,996	17,621,996

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, 3)	Maximum limit of fund financing (Note 2, 3)
													Item	Value		
6	MEMC SpA	GWBV	Receivable from related parties	Yes	1,799,600	1,799,600	1,325,160	0.45%	2	-	Operating capital	-	-	-	10,400,974	10,400,974
6	MEMC SpA	GWS	Receivable from related parties	Yes	2,552,160	2,552,160	1,994,275	3.401%	2	-	Operating capital	-	-	-	10,400,974	10,400,974
7	GWS	GWBV	Receivable from related parties	Yes	1,090,349	1,039,411	1,039,411	1.2%	2	-	Operating capital	-	-	-	39,946,824	39,946,824
7	GWS	GW GmbH	Receivable from related parties	Yes	4,090,000	4,090,000	4,090,000	0.45%	2	-	Operating capital	-	-	-	39,946,824	39,946,824
7	GWS	GlobalWafers	Receivable from related parties	Yes	13,852,450	-	-	0.8~1.2%	2	-	Operating capital	-	-	-	39,946,824	39,946,824
8	GTI	MEMC LLC	Receivable from related parties	Yes	196,175	-	-	1.75%	2	-	Operating capital	-	-	-	11,918,357	11,918,357
8	GTI	GlobalWafers	Receivable from related parties	Yes	1,610,750	1,535,500	1,535,500	0.8%	2	-	Operating capital	-	-	-	11,918,357	11,918,357
9	GWBV	GW GmbH	Receivable from related parties	Yes	4,580,800	4,580,800	2,781,200	0.45%	2	-	Operating capital	-	-	-	46,702,501	46,702,501
10	GWH	Sunrise PV Four	Receivable from related parties	Yes	50,000	-	-	1%	2	-	Operating capital	-	-	-	98,891	98,891

Note 1: The nature of financing purposes:
(1) Represents entities with business transaction with the Company.
(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 GlobalWafers, the amount of financing shall not exceed the amount of business transaction for the current year; for capital loans to companies that need short-term financing, individual loans shall The amount shall not exceed 40% of GlobalWafers' net worth; for GlobalWafers directly and indirectly holds 100% of the voting shares of domestic companies engaged in capital lending, or GlobalWafers directly and indirectly holds 100% of the voting rights of domestic companies to engage in capital lending to GlobalWafers, and the amount does not exceed the net worth of the company that lent funds up to 40 percent; for GlobalWafers directly and indirectly holds 100% of the voting shares of foreign companies engaged in capital lending, or GlobalWafers directly and indirectly holds 100% of the voting shares of foreign companies engaged in capital lending to GlobalWafers, not subject to the provisions of the preceding paragraph. The restriction on net worth is not subject to the one-year term of capital loan in Paragraph 1 of Article 4, but the capital loan limit and time limit should still be determined in its internal operating procedures.

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 lend funds to companies with business contacts, the total amount of the loan shall not exceed 40% of the net worth of the company that lent the funds; for fund loans to companies that need short-term financing, the total amount of the loan shall not exceed 40% of the company's net worth; for GlobalWafers directly and indirectly holds 100% of the voting shares in domestic companies engaged in inter-company capital lending, or GlobalWafers directly and indirectly holds 100% of the voting rights in domestic companies, the company's capital lending to GlobalWafers shall not exceed 40% of the company's net worth; for foreign companies that directly and indirectly hold 100% of the voting rights to engage in capital loans to GlobalWafers are not subject to the restrictions on net worth in the preceding paragraph and are not subject to the one-year limitation of the capital loan period in Paragraph 1 of Article 4, but they should still be The internal operating procedures set the limits and deadlines for capital loans.

(3) 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, 2022

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)	1,481,890 (Note 5)	1,412,660 (Note 5)	903,642 (Note 5)	-	4.43%	1,545,758 (Note 6)	Y (Note 4)	N	N
0	Sino American Silicon Products Inc.	Sunrise PV Four	2	31,872,572	170	170	170	-	-	31,872,572	Y	N	N
0	Sino American Silicon Products Inc.	Sunrise PV Three	2	31,872,572	421	421	421	-	-	31,872,572	Y	N	N
0	Sino American Silicon Products Inc.	SSH	2	31,872,572	1,300,000	1,300,000	102,000	-	4.08%	31,872,572	Y	N	N
0	Sino American Silicon Products Inc.	SES	2	31,872,572	94,620	94,620	94,620	-	0.30%	31,872,572	Y	N	N
1	GlobalWafers	GW GmbH	2	162,972,015	91,777,820	8,180,000	6,544,000	-	15.06%	162,972,015	N	N	N
1	GlobalWafers	GWH	2	162,972,015	1,300,000	1,300,000	-	-	2.39%	162,972,015	N	N	N
1	GlobalWafers	Sunrise PV Four	2	162,972,015	100,000	100,000	-	-	0.18%	162,972,015	N	N	N
1	GlobalWafers	Sunrise PV Electric Five	2	162,972,015	79,800	79,800	79,800	-	0.15%	162,972,015	N	N	N
1	GlobalWafers	GWS	2	162,972,015	5,374,527	5,212,041	4,413,581	-	9.59%	162,972,015	N	N	N
1	GlobalWafers	MEMC SpA	2	162,972,015	2,879,360	2,879,360	2,879,360	-	5.30%	162,972,015	N	N	N
1	GlobalWafers	KST	2	162,972,015	3,345,690	-	-	-	-	162,972,015	N	N	Y

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)										
2	GTI	MEMC LLC	2	59,591,785	483,225	460,650	107,460	-	3.87%	59,591,785	N	N	N
3	SST	KST	2	13,701,370	1,424,296	1,403,599	1,403,599	-	51.22%	13,701,370	N	N	Y

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 29,425 thousand.

Note 6: The endorsements/guarantees quota for Sulu is calculated as the amount of sales at the time of endorsements/guarantees.

Sino-American Silicon Products Inc. and Subsidiaries

Securities held as of December 31, 2022 (excluding investment in subsidiaries, associates and joint ventures)

December 31, 2022

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	15,000	-	3.72%	-	3.72%	
SSTI	Stock of SILFAB SPA	None	Financial assets at fair value through other comprehensive income	300	349,744	15.00%	349,744	15.00%	
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.Corporation	None	Financial assets at fair value through other comprehensive income	540	32,994	0.06%	32,994	0.06%	
SSH	NextDrive Holdings. Co., Ltd.	None	Financial assets at fair value through other comprehensive income	1,021	91,510	5.54%	91,510	5.54%	
SSH	Transphorm Inc.	None	Financial assets at fair value through other comprehensive income	4,000	668,250	7.03%	668,250	7.03%	
SSH	SKY TECH Inc.	None	Financial assets at fair value through other comprehensive income	300	21,000	0.49%	21,000	0.49%	
SSH	TAISC Materials Corp.	None	Financial assets at fair value through other comprehensive income	200	20,000	0.40%	20,000	0.40%	
SSH	Ancora Semiconductors Inc.	None	Financial assets at fair value through other comprehensive income	3,400	102,000	6.16%	102,000	6.16%	

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		
GlobalWafers	CDIB Capital Growth Partners L.P.	None	Financial assets at fair value through profit or loss－non-current	-	177,479	3.85%	177,479	3.85%	
GlobalWafers	Siltronic AG	None	Financial assets at fair value through profit or loss－non-current	650	1,449,414	2.17%	1,449,414	2.17%	
GW GmbH	Siltronic AG	None	Financial assets at fair value through profit or loss－non-current	3,031	6,914,054	10.34%	6,914,054	10.34%	
GWBV	Siltronic AG	None	Financial assets at fair value through profit or loss－non-current	350	782,459	1.17%	782,459	2.00%	
GlobalWafers	WT Microelectronics Co., Ltd.	None	Financial assets at fair value through other comprehensive income	2,518	153,850	0.25%	153,850	0.32%	
SST	Foreign securites	None	Financial assets at fair value through other comprehensive income	16	5,497	0.04%	5,497	0.04%	
GWH	Foreign securities from private placement	None	Financial assets at fair value through profit or loss－non-current	-	8,314	1.70%	8,314	1.70%	

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, 2022

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 (Note)	Shares	Amount (Note)	Shares	Price	Cost	Gain (loss) on disposal	Shares	Amount
Sino American Silicon Products Inc.	Advanced Wireless	Investments accounted for using equity method	-	None	45,000	664,320	9,287	844,922	-	-	-	-	54,287	3,730,579

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, 2022

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			
Advanced Wireless	Expansion project of the new factory area	November 5, 2018	415,000	Paid 96.8%	Yung Ching Construction Co., Ltd.	Non-parties Company	-	-	-	-	Bargain	For operating purpose: in progress	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, 2022

Table 6 (In Thousands of New Taiwan Dollars)

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)	
Aleo Solar	Aleo Solar Italia	Indirectly held subsidiaries	Sale	(288,504)	(19)%	Net 60 days from the end of the month upon issuance of invoice	-	-	15,451	21%	Note 1
Sino American Silicon Products Inc.	Sunrise PV Four	Indirectly held subsidiaries	Sale	(302,337)	(3)%	Net 30 days from the end of the month upon issuance of invoice	-	-	40,539	5%	Note 1
GlobalWafers	Sino American Silicon Products Inc.	Directly held subsidiaries	Purchase	1,724,569	12%	Net 30 days from the end of the next month upon issuance of invoice	-	-	(20,637)	(1)%	Note 1 and 2
GlobalWafers	GTI	Indirectly held subsidiaries	Purchase	2,282,527	3%	Net 60 days from the end of the month upon issuance of invoice	-	-	(354,187)	(3)%	Note 1
GlobalWafers	SST	Indirectly held subsidiaries	Purchase	1,897,728	3%	Net 60 days from the end of the month upon issuance of invoice	-	-	(262,131)	(3)%	Note 1
GlobalWafers	GWJ	Indirectly held subsidiaries	Purchase	6,770,634	10%	Net 60 to 90 days from the end of the month upon issuance of invoice	-	-	(2,098,772)	(21)%	Note 1
GlobalWafers	Topsil A/S	Indirectly held subsidiaries	Purchase	1,513,934	2%	Net 30 to 60 days from the end of the month upon issuance of invoice	-	-	(107,929)	(1)%	Note 1
GlobalWafers	GWS	Indirectly held subsidiaries	Purchase	786,580	1%	Net 60 days from the end of the month upon issuance of invoice	-	-	(126,698)	(1)%	Note 1
GWS	GlobalWafers	Indirectly held subsidiaries	Purchase	8,053,041	11%	Net 60 days from the end of the month upon issuance of invoice	-	-	(1,398,710)	(14)%	Note 1
MEMC Korea	GlobalWafers	Indirectly held subsidiaries	Purchase	1,628,868	2%	Net 30 to 60 days from the end of the month upon issuance of invoice	-	-	(326,752)	(3)%	Note 1
MEMC SpA	GlobalWafers	Indirectly held subsidiaries	Purchase	982,793	1%	Net 60 days from the end of the month upon issuance of invoice	-	-	(175,059)	(2)%	Note 1
GTI	GlobalWafers	Indirectly held subsidiaries	Purchase	3,416,656	5%	Net 45 days from the end of the month upon issuance of invoice	-	-	(329,640)	(3)%	Note 1
SST	GlobalWafers	Indirectly held subsidiaries	Purchase	1,030,693	1%	Net 30 days from the end of the month upon issuance of invoice	-	-	(104,934)	(1)%	Note 1
GWJ	GlobalWafers	Indirectly held subsidiaries	Purchase	2,920,516	4%	Net 60 to 90 days from the end of the month upon issuance of invoice	-	-	(945,423)	(9)%	Note 1

Name of company	Related party	Nature of relationship	Transaction details: Purchase/Sale	Transaction details: Amount	Transaction details: Percentage of total purchases/sales	Transaction details: Payment terms	Transactions with terms different from others: Unit price	Transactions with terms different from others: Payment terms	Notes/Accounts receivable (payable): Ending balance	Notes/Accounts receivable (payable): Percentage of total notes/accounts receivable (payable)	Note
Topsil A/S	GlobalWafers	Indirectly held subsidiaries	Purchase	607,741	1%	Net 30 to 60 days from the end of the month upon issuance of invoice	-	-	(120,337)	(1)%	Note 1
Actron Technology Inc.	GlobalWafers	Subsidiary of associates	Purchase	278,335	-	Net 60 days from the end of the next month upon issuance of invoice	-	-	(77,915)	(1)%	
MEMC Sdn Bhd	GlobalWafers	Indirectly held subsidiaries	Purchase	171,417	-	Net 60 days from the end of the month upon issuance of invoice	-	-	(25,944)	-	Note 1
GWS	MEMC LLC	Indirectly held subsidiaries	Purchase	1,938,861	3%	Net 60 days from the end of the month upon issuance of invoice	-	-	(406,030)	(4)%	Note 1
GWS	MEMC LLC	Indirectly held subsidiaries	Sale	(784,567)	(1)%	Net 60 days from the end of the month upon issuance of invoice	-	-	138,322	1%	Note 1
GWS	MEMC Sdn Bhd	Indirectly held subsidiaries	Purchase	1,676,868	2%	Net 60 days from the end of the month upon issuance of invoice	-	-	(275,292)	(3)%	Note 1
GWS	MEMC Sdn Bhd	Indirectly held subsidiaries	Sale	(544,534)	(1)%	Net 60 days from the end of the month upon issuance of invoice	-	-	(93,399)	1%	Note 1
GWS	MEMC SpA	Indirectly held subsidiaries	Purchase	4,230,504	6%	Net 60 days from the end of the month upon issuance of invoice	-	-	(777,063)	(8)%	Note 1
GWS	MEMC SpA	Indirectly held subsidiaries	Sale	(6,107,557)	(9)%	Net 60 days from the end of the month upon issuance of invoice	-	-	1,174,950	12%	Note 1
GWS	MEMC Korea	Indirectly held subsidiaries	Purchase	1,766,975	3%	Net 60 days from the end of the month upon issuance of invoice	-	-	(263,964)	(3)%	Note 1
GWS	MEMC Japan	Indirectly held subsidiaries	Purchase	4,153,733	6%	Net 60 days from the end of the month upon issuance of invoice	-	-	(781,264)	(8)%	Note 1
GWS	MEMC Japan	Indirectly held subsidiaries	Sale	(1,622,535)	(2)%	Net 60 days from the end of the month upon issuance of invoice	-	-	314,894	3%	Note 1

Note 1: The aforementioned inter-company transactions have been eliminated in the consolidated financial statements.
Note 2: GlobalWafers prepaid to Sino American Silicon Products Inc. according to the contract, amounting to $432,419 thousand.

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, 2022

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.	SSH	Directly held subsidiaries	811,580	Note 1	-	-	-	-
Sino American Silicon Products Inc.	Aleo Solar	Directly held subsidiaries	114,520	Note 1	-	-	-	-
SSTI	AMLED	Indirectly held subsidiaries	350,524	Note 1	-	-	-	-
SSTI	Sulu	Indirectly held subsidiaries	423,184	Note 1	-	-	-	-
SAS Sunrise Inc	Sulu	Indirectly held subsidiaries	327,062	Note 1	-	-	-	-
GlobalWafers	GTI	Indirectly held subsidiaries	329,640	8.76	-	-	195,639	-
GlobalWafers	GWJ	Indirectly held subsidiaries	945,423	3.47	-	-	194,897	-
GlobalWafers	GWS	Indirectly held subsidiaries	1,398,710	6.17	-	-	825,182	-
GlobalWafers	MEMC Korea	Indirectly held subsidiaries	326,752	4.18	-	-	186,511	-
GlobalWafers	MEMC SpA	Indirectly held subsidiaries	175,059	5.94	-	-	107,730	-
GlobalWafers	Topsil A/S	Indirectly held subsidiaries	120,337	8.76	-	-	94,645	-
GlobalWafers	SST	Indirectly held subsidiaries	104,934	10.94	-	-	52,026	-
GTI	GlobalWafers	Indirectly held subsidiaries	354,187	6.24	-	-	195,483	-
SST	GlobalWafers	Indirectly held subsidiaries	262,131	5.84	-	-	187,502	-
GWJ	GlobalWafers	Indirectly held subsidiaries	2,098,772	3.54	-	-	610,661	-
GWS	GlobalWafers	Indirectly held subsidiaries	126,698	6.31	-	-	65,812	-
Topsil A/S	GlobalWafers	Indirectly held subsidiaries	107,929	10.28	-	-	94,470	-
GWS	MEMC Japan	Indirectly held subsidiaries	314,894	5.50	-	-	314,894	-
GWS	MEMC SpA	Indirectly held subsidiaries	1,174,950	6.29	-	-	1,174,950	-
GWS	MEMC LLC	Indirectly held subsidiaries	138,322	5.81	-	-	138,322	-

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 Sdn Bhd	GWS	Indirectly held subsidiaries	275,292	5.72	-	-	275,292	-
MEMC SpA	GWS	Indirectly held subsidiaries	777,063	6.06	-	-	468,794	-
MEMC Korea	GWS	Indirectly held subsidiaries	263,964	6.91	-	-	136,103	-
MEMC Japan	GWS	Indirectly held subsidiaries	781,264	5.72	-	-	247,870	-
MEMC LLC	GWS	Indirectly held subsidiaries	406,030	6.14	-	-	406,030	-
GTI	GlobalWafers	Indirectly held subsidiaries	1,535,500	Note 1	-	-	-	-
GWJ	MEMC Japan	Indirectly held subsidiaries	2,695,905	Note 1	-	-	-	-
MEMC SpA	GWS	Indirectly held subsidiaries	1,994,275	Note 1	-	-	-	-
MEMC SpA	GWBV	Indirectly held subsidiaries	1,325,160	Note 1	-	-	1,325,160	-
GWS	GWBV	Indirectly held subsidiaries	1,053,797	Note 1	-	-	-	-
GWS	GW GmbH	Indirectly held subsidiaries	4,380,669	Note 1	-	-	12,507	-
GWBV	GW GmbH	Indirectly held subsidiaries	2,978,992	Note 1	-	-	1,157,633	-

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 20, 2023.

Sino-American Silicon Products Inc. and Subsidiaries
Business relationships and significant intercompany transactions
For the year ended December 31, 2022

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	GlobalWafers	Sino-American Silicon Products Inc.	1	Purchase	1,724,569	Net 30 days from the end of the next month upon issuance of invoice	2.11%
0	GlobalWafers	GTI	1	Purchase	2,282,527	Net 60 days from the end of the month upon issuance of invoice	2.79%
0	GlobalWafers	SST	1	Purchase	1,897,728	Net 60 days from the end of the month upon issuance of invoice	2.32%
0	GlobalWafers	GWJ	1	Purchase	6,770,634	Net 60 to 90 days from the end of the month upon issuance of invoice	8.27%
0	GlobalWafers	GWJ	1	Account payable	2,098,772	Net 60 to 90 days from the end of the month upon issuance of invoice	1.07%
0	GlobalWafers	Topsil A/S	1	Purchase	1,513,934	Net 30 to 60 days from the end of the month upon issuance of invoice	1.85%
0	GlobalWafers	GTI	1	Sale	3,416,656	Net 45 days from the end of the month upon issuance invoice	4.17%
0	GlobalWafers	SST	1	Sale	1,030,693	Net 30 days from the end of the month upon issuance of invoice	1.26%
0	GlobalWafers	GWJ	1	Sale	2,920,516	Net 60 to 90 days from the end of the month upon issuance of invoice	3.57%
0	GlobalWafers	MEMC Korea	1	Sale	1,628,868	Net 30 to 60 days from the end of the month upon issuance of invoice	1.99%
0	GlobalWafers	GWS	1	Sale	8,053,041	Net 60 days from the end of the month upon issuance of invoice	9.84%
0	GlobalWafers	MEMC SpA	1	Sale	982,793	Net 60 days from the end of the month upon issuance of invoice	1.20%
1	GWS	MEMC LLC	3	Purchase	1,938,861	Net 60 days from the end of the month upon issuance of invoice	2.37%
1	GWS	MEMC SpA	3	Purchase	4,230,504	Net 60 days from the end of the month upon issuance of invoice	5.17%
1	GWS	MEMC SpA	3	Sale	6,107,557	Net 60 days from the end of the month upon issuance of invoice	7.46%
1	GWS	MEMC Korea	3	Purchase	1,766,975	Net 60 days from the end of the month upon issuance of invoice	2.16%
1	GWS	MEMC Japan	3	Sale	1,622,535	Net 60 days from the end of the month upon issuance of invoice	1.98%
1	GWS	MEMC Japan	3	Purchase	4,153,733	Net 60 days from the end of the month upon issuance of invoice	5.07%
1	GWS	MEMC Sdn Bhd	3	Purchase	1,676,868	Net 60 days from the end of the month upon issuance of invoice	2.05%
2	GWJ	MEMC Japan	3	Intercompany loan	2,695,905	-	1.37%

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)
3	MEMC SpA	GWS	3	Intercompany loan	1,994,275	-	1.01%
4	GWS	GW GmbH	3	Intercompany loan	4,380,669	-	2.23%
5	GWBV	GW GmbH	3	Intercompany loan	2,978,992	-	1.52%

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 (Excluding Information on Investees in Mainland China)
For the year ended December 31, 2022

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, 2022			Highest Percentage of Ownership during the year	Net income (losses) of investee	Share of profits/losses of investee	Note
				December 31, 2022	December 31, 2021	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%	1,116,825	100.00%	1,578	1,578	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%	29,244,649	51.17%	15,367,386	7,863,492	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%	381,745	100.00%	(48,126)	(48,126)	Subsidiary
Sino American Silicon Products Inc.	SAS Sunrise Inc.	Cayman	Investment activities	794,373 (USD24,500)	794,373 (USD24,500)	24,500	100.00%	240,648	100.00%	(81,320)	(81,320)	Subsidiary
Sino American Silicon Products Inc.	Sunrise PV Three	Taiwan	Electricity activities	15,000	15,000	1,500	100.00%	16,512	100.00%	1,067	1,067	Subsidiary
Sino American Silicon Products Inc.	SSH	Taiwan	Investment activities	650,000	250,000	65,000	100.00%	131,538	100.00%	(61,863)	(61,863)	Subsidiary Note 6
Sino American Silicon Products Inc.	SES	Taiwan	Energy technology service business	20,000	20,000	2,000	100.00%	19,860	100.00%	(125)	(125)	Subsidiary
Sino American Silicon Products Inc.	Crystalwise Technology Inc.	Taiwan	Optical wafer and substrate manufacturing and trade	1,685,291	1,882,936	13,877	31.61%	-	35.24%	(144,983)	(32,395)	Associate Note 2
Sino American Silicon Products Inc.	Accu Solar Corporation	Taiwan	Solar energy system provider	112,193	112,193	7,452	24.70%	54,871	24.70%	(4,441)	(911)	Associate

Name of investor	Name of investee	Location	Main businesses and products	Original investment amount		Balance as of December 31, 2022			Highest Percentage of Ownership during the year	Net income (losses) of investee	Share of profits/losses of investee	Note
				December 31, 2022	December 31, 2021	Shares (thousand)	Percentage of Ownership	Carrying value				
Sino American Silicon Products Inc.	TSCS	Taiwan	Semiconductor special gas and chemical material manufacturer	962,957	990,000	41,590	30.09%	820,150	30.93%	207,974	49,033	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	1,756,162	20,807	22.75%	1,511,495	22.75%	560,552	127,311	Associate Note 2
Sino American Silicon Products Inc.	Advanced Wireless	Taiwan	Gallium arsenide wafer manufacturing and trade	4,341,422	3,496,500	54,287	27.62%	3,730,579	27.62%	13,712	(57,628)	Subsidiary Note 2 and 7
SAS Sunrise Inc.	SAS Sunrise Pte. Ltd.	Singapore	Investment activities	-	450,732 (USD13,000)	-	-	-	-	-	-	Subsidiary Note 4 and 12
SAS Sunrise Inc.	Sulu	Philippines	Electricity activities	113,920 (USD4,000)	113,920 (USD4,000)	420,000	40.00%	63,950	40.00%	(109,201)	-	Subsidiary Note 4
SAS Sunrise Inc.	AMLED	Philippines	Investment activities	-	-	-	-	-	-	-	-	Subsidiary Note 3 and 4
AMLED	Sulu	Philippines	Electricity activities	297,229 (USD9,065)	297,229 (USD9,065)	472,500	45.00%	69,449	45.00%	(109,201)	-	Subsidiary Note 4
Aleo Solar	Aleo SolarDistribuzi oneItalia S.r.l	Italy	Solar module sale and wholesale of electronic materials	4,078 (EUR100)	4,078 (EUR100)	Note 1	100.00%	15,136	100.00%	31,516	-	Subsidiary Note 4
GlobalWafers	GWI	Cayman	Investment activities	-	1,427 (USD48)	-	-	-	-	-	-	Subsidiary Note 4 and 10
GlobalWafers	GSI	Cayman	Investment in various businesses and triangular trade centers with subsidiaries in Mainland China	698,419 (USD24,555)	756,809 (USD26,555)	23,000	100.00%	2,759,761	100.00%	424,781	-	Subsidiary Note 4
GlobalWafers	GWJ	Japan	Manufacturing and trading of silicon wafers	5,448,015	5,448,015	128	100.00%	17,617,922	100.00%	1,654,934	-	Subsidiary Note 4
GlobalWafers	GWafers Singapore	Singapore	Investment activities	17,378,877	17,378,877	541,674	100.00%	43,384,478 (Note 9)	100.00%	2,553,093	-	Subsidiary Note 4
GlobalWafers	GW GmbH	Germany	Trading	1,952,235 (EUR62,525)	-	48,025	100.00%	(6,542,874) (Note 9)	100.00%	(7,883,865)	-	Associate Note 4

Name of investor	Name of investee	Location	Main businesses and products	Original investment amount		Balance as of December 31, 2022			Highest Percentage of Ownership during the year	Net income (losses) of investee	Share of profits/losses of investee	Note
				December 31, 2022	December 31, 2021	Shares (thousand)	Percentage of Ownership	Carrying value				
GlobalWafers	GWBV	Netherlands	Investment activities	42,525,442 (USD1,321,076)	-	0.1	100.00%	46,702,502	100.00%	729,694	-	Subsidiary Note 4 and 11
GlobalWafers	HONG WANG Investment Co., Ltd.	Taiwan	Investment activities	309,760	309,760	30,976	30.98%	941,383	30.98%	194,957	-	Associate Note 4
GlobalWafers	Sunrise PVFour	Taiwan	Electricity activities	1,045,000	1,045,000	104,500	100.00%	1,054,274	100.00%	8,608	-	Subsidiary Note 4
GlobalWafers	Sunrise PVElectric Five	Taiwan	Electricity activities	278,000	278,000	27,800	100.00%	274,853	100.00%	(1,466)	-	Subsidiary Note 4
GlobalWafers	GWH	Taiwan	Investment activities	250,000	250,000	25,000	100.00%	247,229	100.00%	(2,811)	-	Subsidiary Note 4
GWJ	MEMC Japan	Japan	Manufacturing and trading of silicon wafers	373,413 (JPY100,000)	373,413 (JPY100,000)	750	100.00%	2,701,726	100.00%	179,098	-	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 activitie	14,671,320 (USD406,898)	14,671,320 (USD406,898)	299,445	100.00%	45,398,137	100.00%	2,524,650	-	Subsidiary Note 4
GWS	GWBV	Netherlands	Investment activitie	-	11,213,730 (USD362,763)	-	-	-	-	(251,809)	-	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%	10,400,974	100.00%	1,251,313	-	Subsidiary Note 4
MEMC SpA	MEMC SarL	France	Trading	1,316 (USD40)	1,316 (USD40)	0.5	100.00%	2,715	100.00%	570	-	Subsidiary Note 4
GWBV	MEMC Korea	Korea	Manufacturing and trading of silicon wafers	11,851,262 (USD384,605)	11,851,262 (USD384,605)	25,200	100.00%	21,814,786	100.00%	3,436,634	-	Subsidiary Note 4
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%	13,182,440	100.00%	1,174,149	-	Subsidiary Note 4
GWBV	MEMC Ipoh	Malaysia	Manufacturing and trading of silicon wafers	93,907 (USD1,323)	93,907 (USD1,323)	612,300	100.00%	3,783	100.00%	67	-	Subsidiary Note 4
GWBV	Global GmbH	Germany	Trading	-	827 (USD27)	-	-	-	-	(7,883,865)	-	Subsidiary Note 4

Name of investor	Name of investee	Location	Main businesses and products	Original investment amount		Balance as of December 31, 2022			Highest Percentage of Ownership during the year	Net income (losses) of investee	Share of profits/losses of investee	Note
				December 31, 2022	December 31, 2021	Shares (thousand)	Percentage of Ownership	Carrying value				
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%	2,316,507	100.00%	398,892	-	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%	4,592,375	100.00%	488,363	-	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%	1,180,016	100.00%	74,786	-	Subsidiary Note 4
GTI	GWA	United states	Manufacturing and trading of silicon wafers and sale	31 (USD 1)	-	1.0	100.00%	581,593	100.00%	(28,601)	-	Subsidiary Note 4 and 8

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: The Company resolved on December 8, 2022 by the Board of Directors to debt transferred to capital $400,000 thousand.

Note 7: Advanced Wireless's Board of Directors was fully re-elected on June 20, 2022, the Company obtained control over Advanced Wireless, transformed from an associate to a subsidiary.

Note 8: GWA was a newly established subsidiary by GTI in August 2022.

Note 9: For the purpose of accounting impact of adjustment of group structure.

Note 10: Liquidation procedures of GWI were completed in November 2022.

Note 11: GlobalWafers in response to the group adjusted its organizational structure, the company resolved on September 1,2022 by the Board of Directors to purchase the entire GWBV equity held by GWS in the form of equity transaction, which completed the equity transaction on November 7, 2022.

Note 12: SAS Surise Pte. Ltd had completed the deregistration process, and AMLED was changed to SAS Sunrise Inc.

Sino-American Silicon Products Inc. and Subsidiaries

Information on investment in mainland China

For the year ended December 31, 2022

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, 2022	Investment flows		Accumulated outflow of investment from Taiwan as of December 31, 2022	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	1,429,778 (Note 5)	Note 1	713,300 (USD21,729)	-	-	713,300 (USD21,729)	425,037	100%	100%	425,037	2,740,274	-
KST	Sale and marketingss	26,587	Note6	-	-	-	-	10,457	100%	100%	10,446	36,862	-

(2) Limitation on investment in Mainland China

Company Name	Accumulated Investment in Mainland China as of December 31, 2022	Investment Amounts Authorized by Investment Commission, MOEA	Upper Limit on Investment
GlobalWafers	713,300 (USD21,729)	1,703,173 (USD56,164) (Note 3)	32,594,403 (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 GlobalWafers’ net equity on December 31, 2022.

Note 5: Retained earnings transferred to capital was included.

Note 6: KST was funded by using the capital of SST, which cannot be considered as investment limit because there was no remittance from Taiwan.