



日月光投控
ASE HOLDINGS

Fourth Quarter 2023 Earnings Release

ASE Technology Holding

1 February, 2024

aseglobal.com

Safe Harbor Notice



This presentation contains "forward-looking statements" within the meaning of Section 27A of the United States Securities Act of 1933, as amended, and Section 21E of the United States Securities Exchange Act of 1934, as amended. Although these forward-looking statements, which may include statements regarding our future results of operations, financial condition or business prospects, are based on our own information and information from other sources we believe to be reliable, you should not place undue reliance on these forward-looking statements, which apply only as of the date of this press release. The words "anticipate," "believe," "estimate," "expect," "intend," "plan" and similar expressions, as they relate to us, are intended to identify these forward-looking statements in this presentation. These forward-looking statements are necessarily estimates reflecting the best judgment of our senior management and our actual results of operations, financial condition or business prospects may differ materially from those expressed or implied by the forward-looking statements for reasons including, among others, risks associated with cyclicity and market conditions in the semiconductor or electronic industry; changes in our regulatory environment, including our ability to comply with new or stricter environmental regulations and to resolve environmental liabilities; demand for the outsourced semiconductor packaging, testing and electronic manufacturing services we offer and for such outsourced services generally; the highly competitive semiconductor or manufacturing industry we are involved in; our ability to introduce new technologies in order to remain competitive; international business activities; our business strategy; our future expansion plans and capital expenditures; the strained relationship between the Republic of China and the People's Republic of China; general economic and political conditions; the recent shift in United States trade policies; possible disruptions in commercial activities caused by natural or human-induced disasters; fluctuations in foreign currency exchange rates; and other factors. The announced results of the full year of 2023 are preliminary and subject to audit adjustments. For a discussion of these risks and other factors, please see the documents we file from time to time with the Securities and Exchange Commission, including the 2022 Annual Report on Form 20-F filed on April 10, 2023.

Consolidated Statements of Income



Quarterly Comparison
(Unaudited)

(NT\$ million)	Q4 / 2023	%	Q3 / 2023	%	Q4 / 2022	%	QoQ	YoY
Net Revenues:								
ATM	80,761	50.3%	82,590	53.6%	92,742	52.3%	-2%	-13%
EMS	79,155	49.3%	70,948	46.0%	83,931	47.3%	12%	-6%
Others	665	0.4%	629	0.4%	744	0.4%	6%	-11%
Total Net Revenues	160,581	100.0%	154,167	100.0%	177,417	100.0%	4%	-10%
Gross Profit	25,761	16.0%	24,916	16.2%	34,099	19.2%	3%	-24%
Operating Income (Loss)	11,815	7.4%	11,405	7.4%	19,774	11.1%	4%	-40%
Pretax Income (Loss)	12,367	7.7%	12,252	7.9%	20,212	11.4%	1%	-39%
Income Tax Benefit (Expense)	(2,461)	-1.5%	(2,890)	-1.9%	(3,596)	-2.0%		
Non-controlling Interests	(514)	-0.3%	(586)	-0.4%	(886)	-0.5%		
Net Income Attributable to Shareholders of the Parent	9,392	5.8%	8,776	5.7%	15,730	8.9%	7%	-40%
Basic EPS(NT\$)	2.18		2.04		3.77		7%	-42%
Diluted EPS(NT\$)	2.13		2.00		3.57		6%	-40%

Additional Commentary From Management^{1&2}:

Gross Profit excl. PPA expenses	26,668	16.6%	25,823	16.8%	35,017	19.7%	3%	-24%
Operating Income excl. PPA expenses	12,984	8.1%	12,575	8.2%	20,954	11.8%	3%	-38%
Net income attributable to shareholders of the parent excl. PPA expenses	10,544	6.6%	9,926	6.4%	16,894	9.5%	6%	-38%
Basic EPS(NT\$) excl. PPA expenses	2.45		2.31		4.05		6%	-40%

¹: PPA expenses are the P&L impacts from the accounting treatment of purchase price allocation in relation to the ASE/SPIL transaction, which resulted in increased asset values from purchase price premiums in PP&E, intangibles and right-of-use assets. The PPA expenses excluded are related to depreciation, amortization and other expenses \$1.12bn in both 4Q23 and 3Q23, and \$1.13bn in 4Q22.

²: PPA expenses are the P&L impacts from the accounting treatment of purchase price allocation in relation to the USI/Asteelflash transaction, which resulted in increased asset and liability values from purchase price premiums in PP&E, intangibles, right-of-use assets and deferred tax liability. The PPA expenses excluded are related to depreciation, amortization, other expenses and income tax benefit \$0.03bn in 4Q23, and \$0.04bn in both 3Q23 and 4Q22.

Consolidated Statements of Income



Yearly Comparison
(unaudited)

(NT\$ million)	FY / 2023	%	FY / 2022	%	YoY
Net Revenues:					
ATM	311,131	53.5%	365,589	54.5%	-15%
EMS	268,218	46.1%	301,967	45.0%	-11%
Others	2,565	0.4%	3,317	0.5%	-23%
Total Net Revenues	581,914	100.0%	670,873	100.0%	-13%
Gross Profit	91,757	15.8%	134,930	20.1%	-32%
Operating Income (Loss)	40,328	6.9%	80,176	12.0%	-50%
Pretax Income (Loss)	42,600	7.3%	81,626	12.2%	-48%
Income Tax Benefit (Expense)	(9,043)	-1.6%	(16,399)	-2.4%	
Non-controlling Interest	(1,832)	-0.3%	(3,137)	-0.5%	
Net Income Attributable to Shareholders of the Parent	31,725	5.5%	62,090	9.3%	-49%
Basic EPS	7.39		14.53		-49%
Diluted EPS	7.18		13.94		-48%

Additional Commentary From Management^{1&2}:

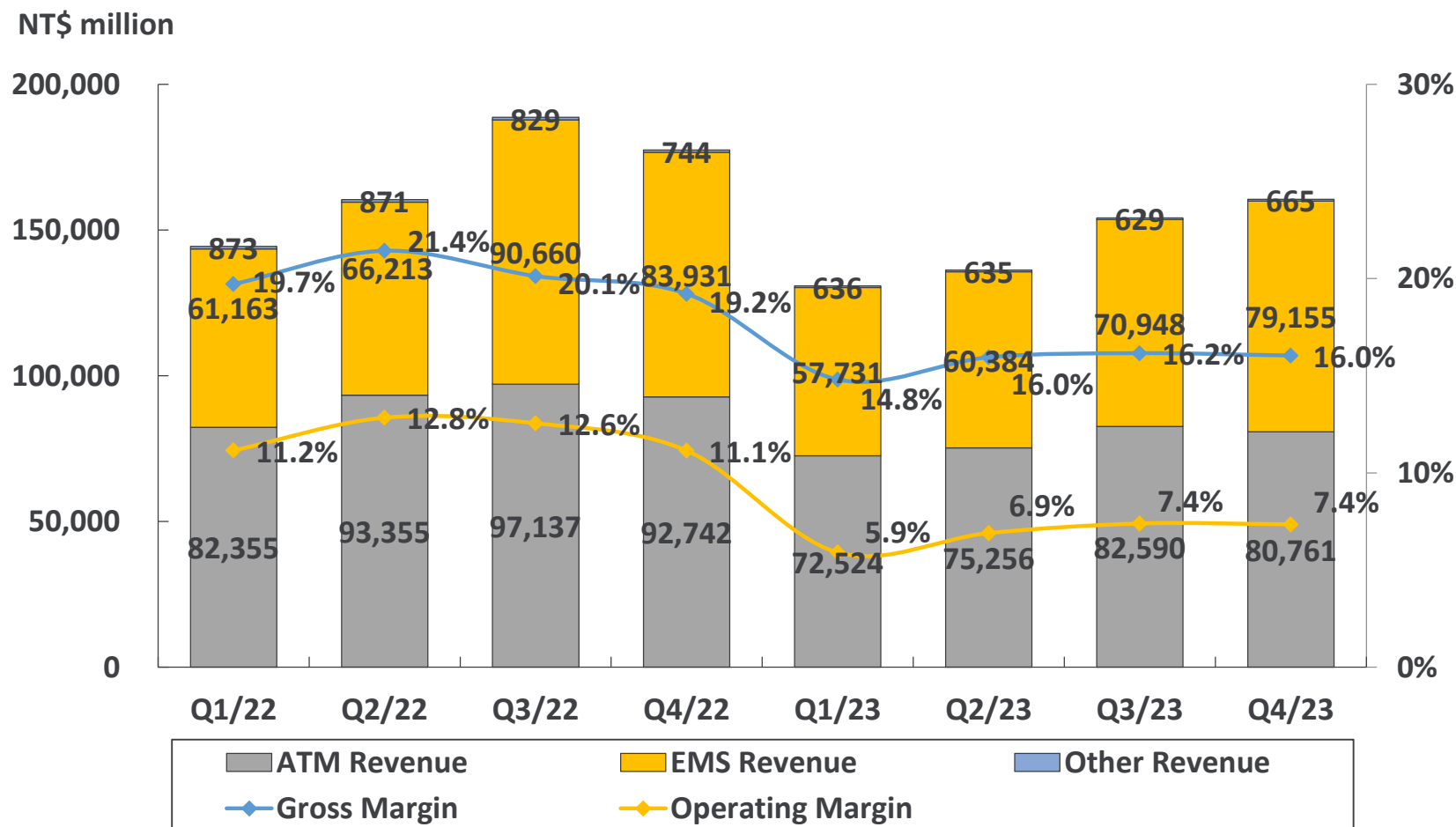
Gross Profit excl. PPA expenses	95,401	16.4%	138,603	20.7%	-31%
Operating Income excl. PPA expense:	45,021	7.7%	84,894	12.7%	-47%
Net income attributable to shareholders of the parent excl. PPA expenses	36,352	6.2%	66,754	10.0%	-46%
Basic EPS excl. PPA expenses	8.46		15.62		-46%

¹: PPA expenses are the P&L impacts from the accounting treatment of purchase price allocation in relation to the ASE/SPIIL transaction, which resulted in increased asset values from purchase price premiums in PP&E, intangibles and right-of-use assets. The PPA expenses excluded are related to depreciation, amortization and other expenses \$4.51bn in 2023 and \$4.53bn in 2022.

²: PPA expenses are the P&L impacts from the accounting treatment of purchase price allocation in relation to the USI/Asteelflash transaction, which resulted in increased asset and liability values from purchase price premiums in PP&E, intangibles, right-of-use assets and deferred tax liability. The PPA expenses excluded are related to depreciation, amortization, other expenses and income tax benefit \$0.15bn in 2023 and \$0.17bn in 2022.

Consolidated Operations

(Unaudited)



ATM Statements of Income



Quarterly Comparison
(Unaudited)

(NT\$ million)	Q4 / 2023	%	Q3 / 2023	%	Q4 / 2022	%	QoQ	YoY
Net Revenues:								
Packaging	67,378	82.1%	69,731	83.3%	78,119	82.8%	-3%	-14%
Testing	13,363	16.3%	12,819	15.3%	14,676	15.6%	4%	-9%
Direct Material	1,205	1.5%	1,098	1.3%	1,486	1.6%	10%	-19%
Others	58	0.1%	36	0.1%	41	0.0%	61%	41%
Total Net Revenues	82,004	100.0%	83,684	100.0%	94,322	100.0%	-2%	-13%
Gross Profit	19,218	23.4%	18,590	22.2%	26,193	27.8%	3%	-27%
Operating Income (Loss)	9,212	11.2%	8,820	10.5%	15,778	16.7%	4%	-42%

Additional Commentary From Management¹:

Gross Profit excl. PPA expenses	20,091	24.5%	19,463	23.3%	27,069	28.7%	3%	-26%
Operating Income excl. PPA expenses	10,335	12.6%	9,943	11.9%	16,904	17.9%	4%	-39%

¹: PPA expenses are the P&L impacts from the accounting treatment of purchase price allocation in relation to the ASE/SPIIL transaction, which resulted in increased asset values from purchase price premiums in PP&E, intangibles and right-of-use assets. The PPA expenses excluded are related to depreciation and amortization \$1.12bn in both 4Q23 and 3Q23, and \$1.13bn in 4Q22.

ATM Statements of Income



Yearly Comparison
(unaudited)

(NT\$ million)	FY / 2023	%	FY / 2022	%	YoY
Net Revenues:					
Packaging	260,486	82.7%	310,024	83.3%	-16%
Testing	49,881	15.8%	55,960	15.0%	-11%
Direct Material	4,574	1.4%	6,018	1.6%	-24%
Others	174	0.1%	174	0.1%	0%
Total Net Revenues	315,115	100.0%	372,176	100.0%	-15%
Gross Profit	68,718	21.8%	105,893	28.5%	-35%
Operating Income (Loss)	31,846	10.1%	66,447	17.9%	-52%

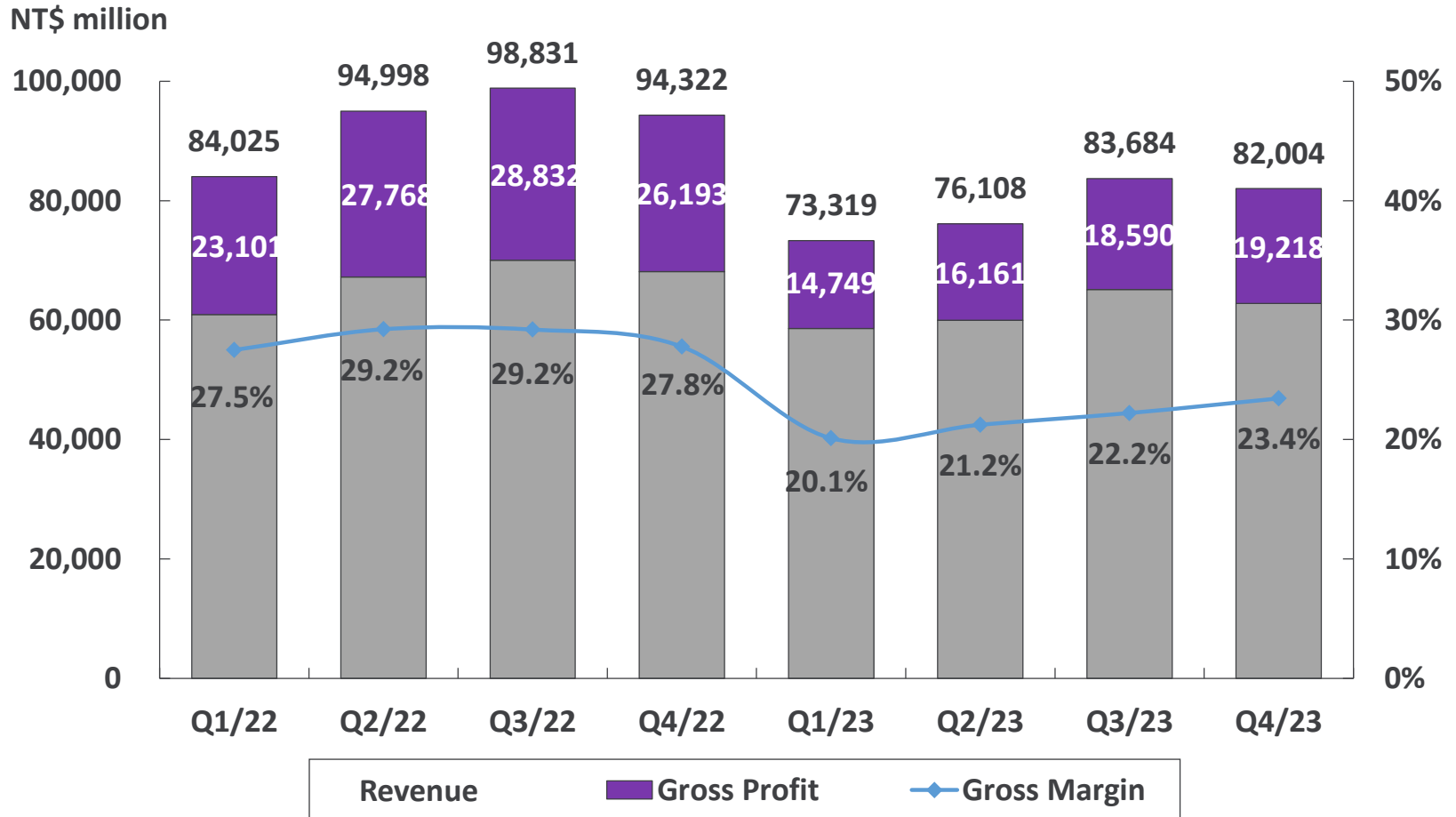
Additional Commentary From Management¹:

Gross Profit excl. PPA expenses	72,214	22.9%	109,400	29.4%	-34%
Operating Profit excl. PPA expenses	36,342	11.5%	70,954	19.1%	-49%

¹: PPA expenses are the P&L impacts from the accounting treatment of purchase price allocation in relation to the ASE/SPIL transaction, which resulted in increased asset values from purchase price premiums in PP&E, intangibles and right-of-use assets. The PPA expenses excluded are related to depreciation, amortization and other expenses \$4.51bn in both 2023 and 2022.

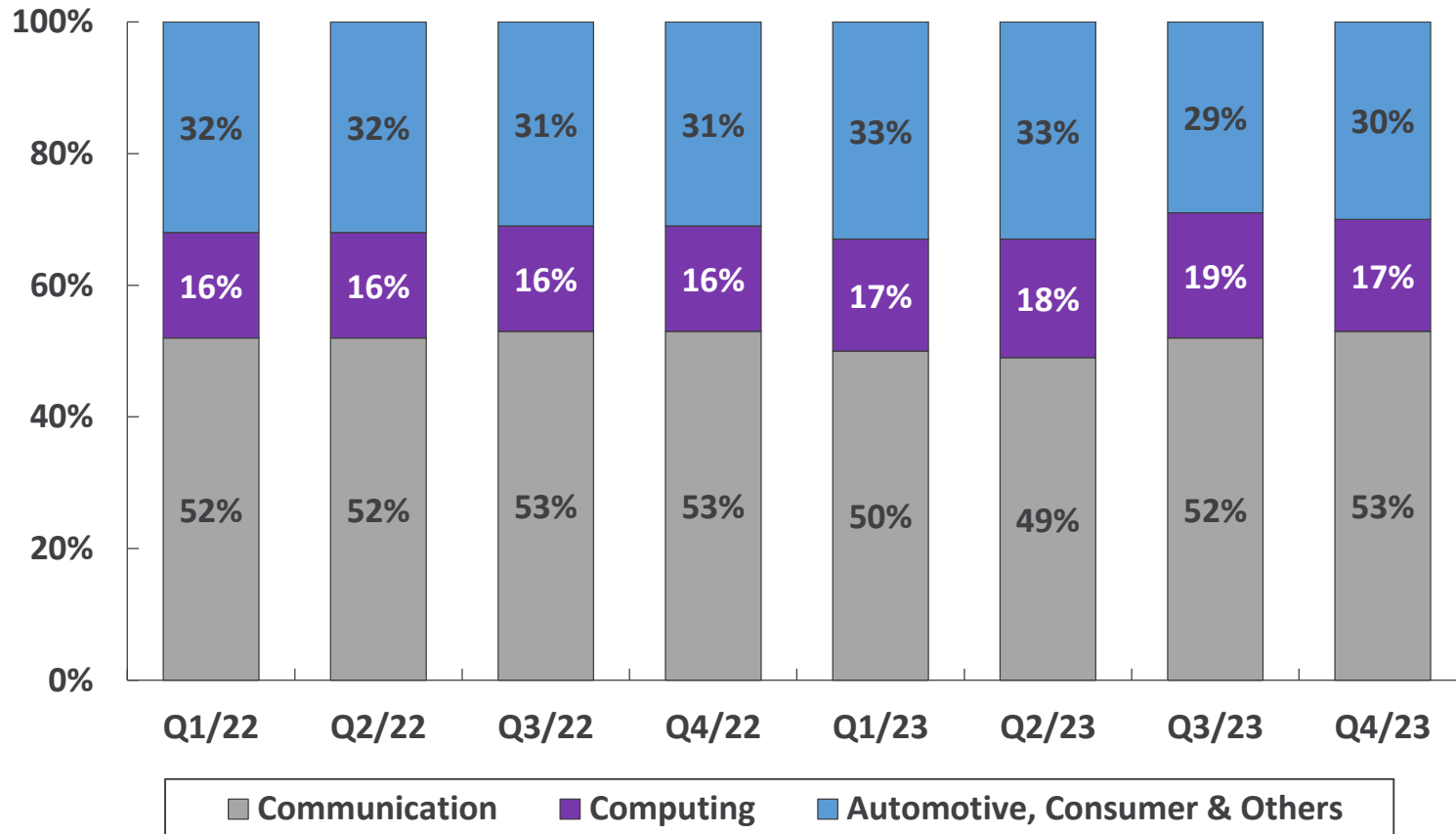
ATM Operations

(Unaudited)



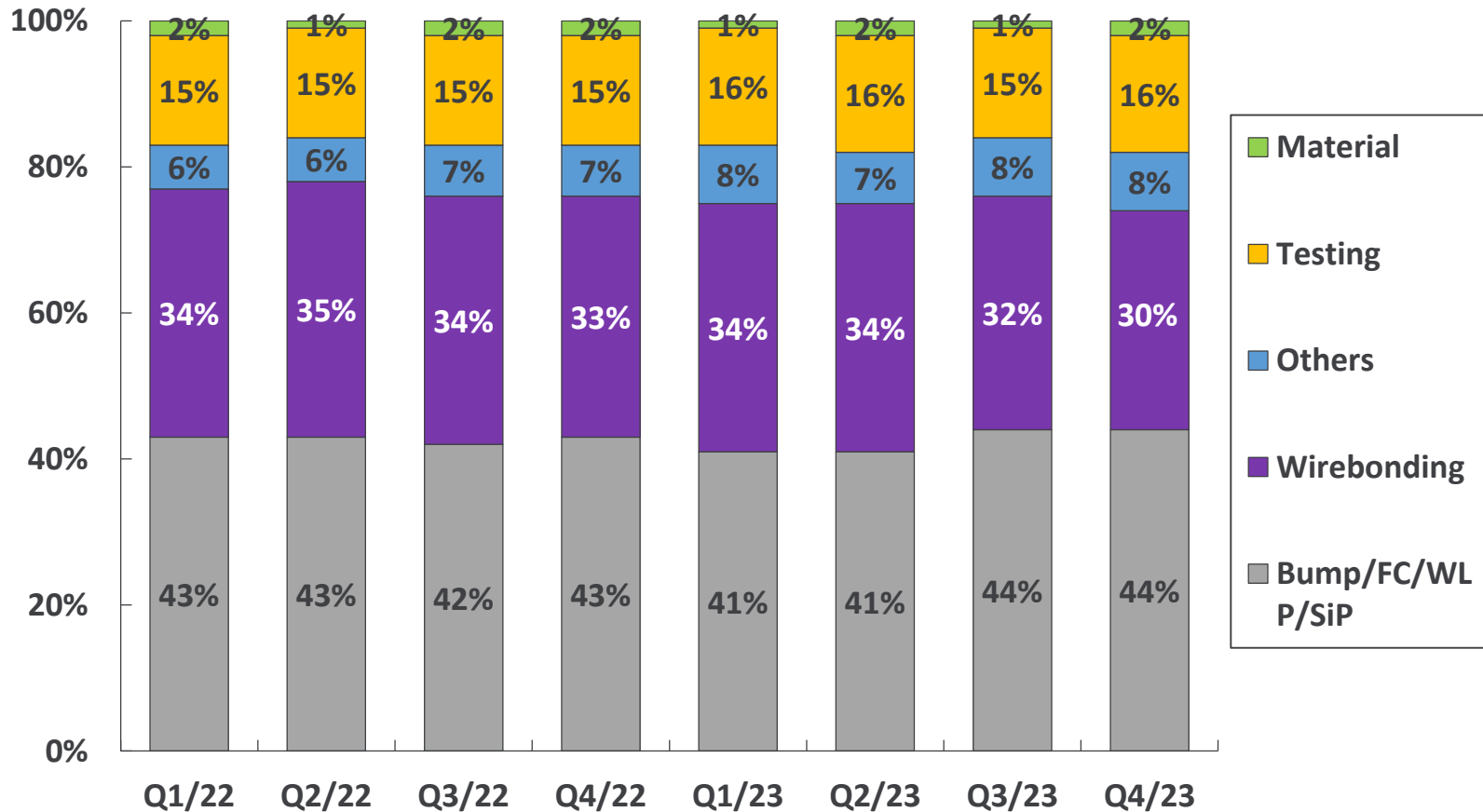
ATM Revenues by Application

(Unaudited)



ATM Revenues by Type

(Unaudited)



EMS Operations



Quarterly/Yearly Comparison

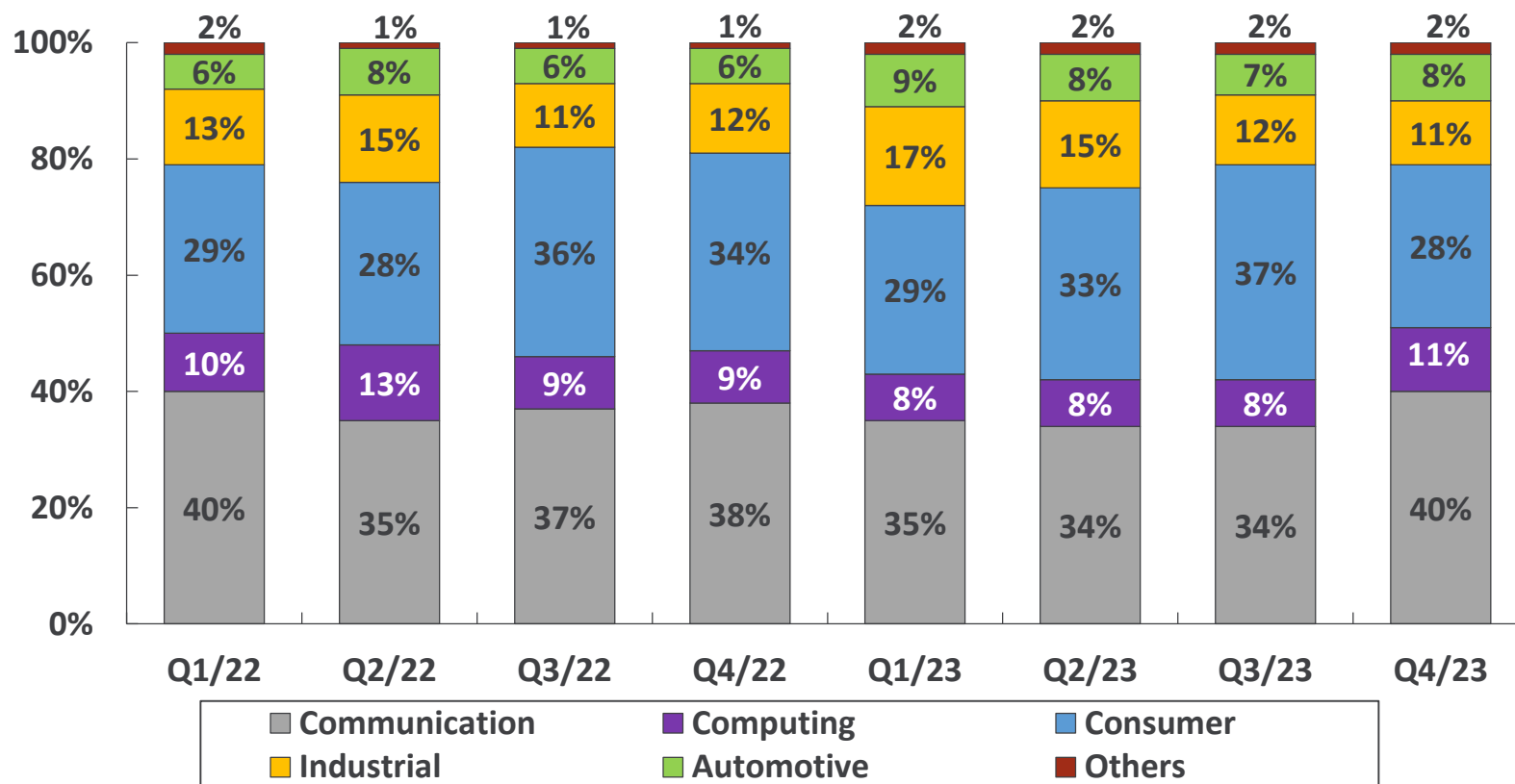
(unaudited)

(NT\$ million)	Q4 / 2023	%	Q3 / 2023	%	Q4 / 2022	%	QoQ	YoY
EMS Net Revenues	79,182	100.0%	70,970	100.0%	83,933	100.0%	12%	-6%
Gross Profit	6,686	8.4%	6,470	9.1%	7,803	9.3%	3%	-14%
Operating Income (Loss)	2,799	3.5%	2,767	3.9%	3,959	4.7%	1%	-29%

(NT\$ million)	FY / 2023	%	FY / 2022	%	YoY
EMS Net Revenues	268,309	100.0%	301,982	100.0%	-11%
Gross Profit	23,362	8.7%	29,031	9.6%	-20%
Operating Income (Loss)	8,980	3.3%	13,956	4.6%	-36%

EMS Operations

Quarterly Revenues by Application
(unaudited)



Key Balance Sheet Items & Indices

(Unaudited)



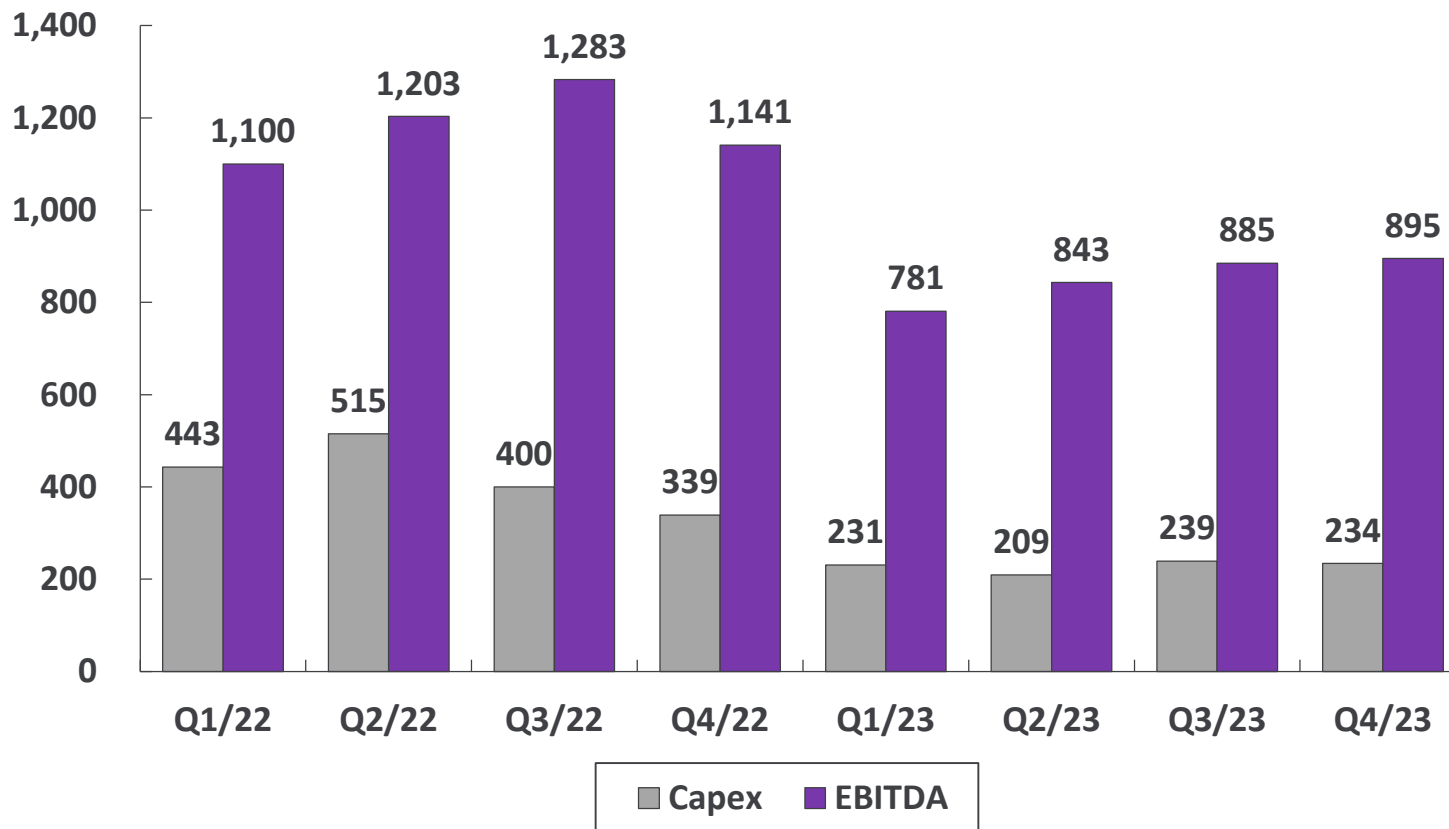
(NT\$ million)	Dec. 31, 2023	Sept. 30, 2023
Cash and cash equivalent	\$67,284	\$62,812
Financial assets - current	4,683	9,055
Financial assets - non current & investments - equity method	29,698	28,402
Property, plant & equipment	264,812	267,316
Total assets	666,575	701,084
Short-term loans	53,042	69,639
Current portion of bonds payable	24,520	21,696
Current portion of long-term loans	4,096	2,523
Bonds payable	20,489	23,589
Long-term loans & long-term bills payable	81,365	94,322
Total interest bearing debts	191,734	219,224
Total liabilities	348,465	385,448
Total equity (Including non-controlling interest)	318,110	315,636
Quarterly EBITDA	28,606	27,822
2023 Full Year EBITDA	105,963	
Current ratio	1.18	1.21
Net debt to equity ratio	0.38	0.47

Equipment Capital Expenditures vs. EBITDA

(Unaudited)



US\$ million



Semiconductor Landscape



- **Opportunities:** Likely to reach \$1T in the next decade driven by AI, Robotics, EV, ADAS, Energy, XR, IoT
- **Responsibilities:** Net Zero, ESG, circular economy/recycling
- **Challenges:** Geopolitical tensions, Regionalization, Market bifurcation, Added-cost, Reduced-scale
- **To do's**
 - More innovation with higher value
 - Structural improvement of efficiency and cost
 - Align talent and workforce with complexities of doing businesses



ASE's Competitive Advantages

■ Technology

- HPC/AI: Taiwan ecosystem and technology leadership
- SiP: Heterogeneous integration, embedded devices
- Optical: Silicon Photonics, CPO
- Automation: Software/Data/Design Ecosystems

■ Scale efficiencies

■ Strong financial performance and cash flow

■ Flexibility/agility to handle business model evolutions

■ Geographical diversity

2024 Outlook (1/2)



- **Revenues recovery with faster pace of advanced packaging and testing**
 - Coming out of inventory adjustment in 1H24. Expect growth to accelerate in 2H24 with full year ATM revenues to grow at a similar rate with the logic semiconductor market
 - Expect a higher revenue mix of Advanced Packaging on technology leadership and Testing on increasing turnkey ratio
 - Target higher investments in machinery, building, and smart factory compared to 2023 as we are entering into a new industry upcycle and increasing adoption of advanced technology

2024 Outlook (2/2)



■ Well-positioned to participate in the AI boom

- On track to double leading-edge advanced packaging revenues from existing customers with at least an additional 250 million USD revenues in 2024; we expect momentum to continue
- A comprehensive technology toolbox (3D, 2.5D, Fanout, SIP, CPO, automation) and scale advantages make ASE the preferred partner for customers
- ASE will not only benefit from the adoption of leading-edge advanced packaging, but also the expansion of mainstream packaging, which will be utilized to address the growing semiconductor demands for all the surrounding chips of the booming AI ecosystem

First Quarter 2024 Outlook



Based on our current business outlook and exchange rate assumptions, management projects overall performance for the first quarter of 2024 to be as follows:

- In NT dollar terms, our ATM 1st quarter 2024 revenues and gross margin should be similar to the 1st quarter 2023;
- In NT dollar terms, our EMS 1st quarter 2024 revenues should be similar to the 1st quarter 2023;
- Our EMS 1st quarter 2024 operating margin should approach 1st quarter 2023 operating margin.



Thank you

Consolidated Statements of Comprehensive Income



(Unaudited)

(NT\$ thousand)	Q1/2022	Q2/2022	Q3/2022	Q4/2022	FY/2022	Q1/2023	Q2/2023	Q3/2023	Q4/2023	FY/2023
Revenues	144,390,827	160,439,019	188,625,557	177,417,239	670,872,642	130,891,073	136,275,353	154,166,844	160,581,201	581,914,471
COGS	115,919,599	126,051,460	150,653,584	143,317,989	535,942,632	111,551,750	114,534,530	129,251,183	134,819,876	490,157,339
PPA under COGS	920,316	918,661	916,426	917,737	3,673,140	917,384	913,036	907,151	906,818	3,644,389
Gross profit	28,471,228	34,387,559	37,971,973	34,099,250	134,930,010	19,339,323	21,740,823	24,915,661	25,761,325	91,757,132
Gross profit excl. PPA	29,391,544	35,306,220	38,888,399	35,016,987	138,603,150	20,256,707	22,653,859	25,822,812	26,668,143	95,401,521
OPEX	12,358,395	13,782,006	14,289,270	14,324,758	54,754,429	11,643,749	12,328,656	13,510,320	13,946,699	51,429,424
PPA under OPEX	261,477	261,428	261,109	261,723	1,045,737	261,948	262,147	262,426	262,460	1,048,981
Operating income	16,112,833	20,605,553	23,682,703	19,774,492	80,175,581	7,695,574	9,412,167	11,405,341	11,814,626	40,327,708
Operating income excl. PPA	17,294,626	21,785,642	24,860,238	20,953,952	84,894,458	8,874,906	10,587,350	12,574,918	12,983,904	45,021,078
Non Op gain/(loss)	549,787	529,795	(67,443)	437,990	1,450,129	174,771	698,626	846,651	552,592	2,272,640
PPA under Non Op gain/ (loss)	3,637	20,922	7,038	6,268	37,865	6,270	7,693	69	1,423	15,455
Non Op gain/ (loss) excl. PPA	553,424	550,717	(60,405)	444,258	1,487,994	181,041	706,319	846,720	554,015	2,288,095
Pretax income	16,662,621	21,135,348	23,615,261	20,212,482	81,625,712	7,870,345	10,110,793	12,251,993	12,367,218	42,600,349
PPA under Pretax income	1,185,430	1,201,011	1,184,573	1,185,728	4,756,742	1,185,602	1,182,876	1,169,646	1,170,701	4,708,825
Pretax income excl. PPA	17,848,051	22,336,359	24,799,834	21,398,210	86,382,454	9,055,947	11,293,669	13,421,639	13,537,919	47,309,174
Tax expenses	3,277,505	4,478,602	5,046,341	3,596,127	16,398,575	1,777,556	1,913,865	2,890,485	2,461,045	9,042,951
PPA under Tax expense	(13,081)	(16,957)	(12,653)	(13,164)	(55,855)	(13,652)	(12,466)	(11,470)	(11,278)	(48,866)
Tax expense excl. PPA	3,290,586	4,495,559	5,058,994	3,609,291	16,454,430	1,791,208	1,926,331	2,901,955	2,472,323	9,091,817
Non-controlling interests	477,834	668,595	1,104,295	885,919	3,136,643	275,624	456,505	585,666	514,200	1,831,995
PPA under Non-controlling interests	9,074	10,913	8,619	9,015	37,621	9,332	8,517	7,814	7,709	33,372
Non-controlling interests excl. PPA	486,908	679,508	1,112,914	894,934	3,174,264	284,956	465,022	593,480	521,909	1,865,367
Net income attributable to shareholders of the parent	12,907,282	15,988,151	17,464,625	15,730,436	62,090,494	5,817,165	7,740,423	8,775,842	9,391,973	31,725,403
PPA expenses under Net income attributable to shareholders of the parent	1,163,275	1,173,141	1,163,301	1,163,549	4,663,266	1,162,618	1,161,893	1,150,362	1,151,714	4,626,587
Net income attributable to shareholders of the parent excl. PPA	14,070,557	17,161,292	18,627,926	16,893,985	66,753,760	6,979,783	8,902,316	9,926,204	10,543,687	36,351,990
Total PPA expenses	1,172,349	1,184,054	1,171,920	1,172,564	4,700,887	1,171,950	1,170,410	1,158,176	1,159,423	4,659,959
Basic EPS (NT\$)	3.01	3.69	4.03	3.77	14.53	1.36	1.80	2.04	2.18	7.39
Basic EPS (NT\$) excl. PPA	3.28	3.97	4.30	4.05	15.62	1.63	2.07	2.31	2.45	8.46
Diluted EPS (NT\$)	2.92	3.61	3.92	3.57	13.94	1.30	1.76	2.00	2.13	7.18
Diluted EPS (NT\$) excl. PPA	3.19	3.88	4.18	3.84	15.02	1.57	2.03	2.27	2.40	8.25