

European Technology

Bullish on EU Semicaps on AI-driven multiple expansion; raise ASML PO

Industry Overview

Bullish on Semicaps – Best EU beneficiaries of AI theme

We are bullish on EU Semicaps, which we expect to continue to benefit from investment in AI infrastructure. Given the scarcity of value in Europe for AI-related stocks, we believe that the market is likely to re-rate further these names. ASML remains our top pick in EU Semicaps (also on BofA's Europe-1 list).

ASML – Top pick in EU Semicaps, the “AI play” in Europe

We raise our POs on ASML from €904/US\$949 to €1,064/US\$1,117. At our new PO, the stock would trade on 29x FY25E EV/EBITDA (1.6x PEG), up from 25x prior. We think that a multiple closer to the upper end of its historical range of 17x to 34x is justified by ASML's critical role in the AI ecosystem. We raise our PO given that (A) we have higher confidence in ASML's ability to deliver at least the mid-point of its 2025E revenue target of €30-40bn (BofA at €36bn versus consensus at €34.8bn), driven by inflecting fundamentals at leading Foundry/Logic and Memory customers, (B) strong demand specifically for AI accelerators from AMD and Nvidia as well as related HBM memory modules is driving stronger-than-expected orders for EUV systems. ASML indicated in particular that demand could exceed its 2030 EUV capacity of 90 systems. We estimate (bull case – see table inside the note) EPS power of €65 in 2030 (with 90 EUV shipments), more than 2x what we model for 2025E (€30), which could be upgraded at ASML's upcoming CMD on November 14, ultimately driving a further re-rating of the stock.

We reiterate our Buy rating.

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Equity
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Glossary

AI: artificial intelligence

AMD: Advanced Micro Devices

CMD: capital markets day

CPU: central processing unit

DUV : deep ultra violet

EUV: extreme ultra violet

HB: hybrid bonding

HBM: high bandwidth memory

PO: price objective

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Refer to important disclosures on page 5 to 8. Analyst Certification on page 4. Price Objective Basis/Risk on page 4.

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ASML 2025/2030 model

Exhibit 1: ASML 2025/2030 model

ASML 2025/2030 model

	2018	2019	2020	2021	2022	2023	2024E	2025E	ASML 2025 guidance			ASML 2030 guidance		
									Low	Medium	High	Low	Medium	High
Total ASML sales (€m)	10,944	11,820	13,978	18,611	21,173	27,559	28,011	36,267	30,284	35,108	39,638	43,970	51,881	60,217
yoy sales growth		8%	18%	33%	14%	30%	2%	29%						
Gross profit	5,029	5,280	6,798	9,809	10,700	14,136	14,226	19,854	16,354	19,309	22,197	24,623	30,091	36,130
Gross margin	46.0%	44.7%	48.6%	52.7%	50.5%	51.3%	50.8%	54.7%	54.0%	55.0%	56.0%	56.0%	58.0%	60.0%
SG&A	488	521	545	726	946	1,113	1,245	1,380	1,300	1,300	1,300	1,600	1,600	1,600
% of sales	4.5%	4.4%	3.9%	3.9%	4.5%	4.0%	4.4%	3.8%	4.3%	3.7%	3.3%	3.6%	3.1%	2.7%
R&D	1,576	1,969	2,201	2,547	3,254	3,981	4,420	5,000	4,300	4,500	4,800	6,000	6,300	6,600
% of sales	14.4%	16.7%	15.7%	13.7%	15.4%	14.4%	15.8%	13.8%	14.2%	12.8%	12.1%	13.6%	12.1%	11.0%
Add back PPA	80	80	80	80	80	80	80	80	80	80	80	80	80	80
EBIT	2,965	2,791	4,052	6,750	6,501	9,042	8,561	13,474	10,834	13,589	16,177	17,103	22,271	28,010
EBIT margin	27.1%	23.6%	29.0%	36.3%	30.7%	32.8%	30.6%	37.2%	35.8%	38.7%	40.8%	38.9%	42.9%	46.5%
Net interest	-28	-25	-35	-45	-45	41	44	96	44	44	44	44	44	44
Tax rate	12.0%	6.9%	3.9%	15.2%	15.0%	15.8%	16.5%	16.5%	16.5%	16.5%	16.5%	16.5%	16.5%	16.5%
Equity investments	6	18	89	199	138	180	183	236	162	175	202	179	193	223
Net profit	2,592	2,592	3,554	5,883	5,624	7,827	7,368	11,567	9,245	11,558	13,746	14,497	18,826	23,648
EPS	6.2	6.3	8.6	14.0	14.3	20.0	19.0	30.3	25.0	31.1	36.9	40.4	52.0	64.8
Shares o/s	427	422	419	410	398	394	390	383	369	372	372	359	362	365
EBITDA	3,468	3,319	4,623	6,974	7,164	9,862	9,418	14,370	11,639	14,394	16,982	17,908	23,076	28,815
2021-26e CAGR														
EUR/USD	1.18	1.12	1.14	1.18	1.05	1.10	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
Free Cash Flow									8,321	10,981	13,059	13,047	17,884	22,465
Free Cash Flow conversion									90%	95%	95%	90%	95%	95%

Source: BofA Global Research estimates, company report

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Exhibit 2: We estimate (bull case) an EPS power of €65 in 2030 (with 90 EUV shipments), more than 2x what we model for 2025E (€30)

ASML 2025/2030 scenario analysis

	2018	2019	2020	2021	2022	2023	2024E	2025E	ASML 2025 guidance			ASML 2030 guidance		
									Low	Medium	High	Low	Medium	High
Global semis sales (\$bn)	468.8	412.3	440.4	555.6	573.7	511.5	589.2	670.8	\$618.3	\$742.1	\$810.9	\$882.0	\$1,088.2	\$1,312.3
yoy sales growth		-12%	7%	26%	3%	-11%	15%	14%	5%	26%	38%			
WFE (\$bn)	\$55.2	\$52.2	\$61.1	\$87.8	\$95.2	\$86.6	\$88.8	\$97.1	\$92.7	\$115.0	\$137.9	\$127.9	\$163.2	\$203.4
yoy sales growth		-5%	17%	44%	8%	-9%	3%	9%	4%	30%	55%			
WFE/semi sales	11.8%	12.7%	13.9%	15.8%	16.6%	16.9%	15.1%	14.5%	15.0%	15.5%	17.0%	14.5%	15.0%	15.5%
WFE split:														
Litho TAM (\$m)	11,270	11,705	13,537	17,131	17,603	25,980	25,752	33,014	24,113	28,758	33,084	33,253	40,806	48,817
yoy sales growth		4%	16%	27%	3%	48%	-1%	28%						
Litho intensity - (3) / (2)	20.4%	22.4%	22.1%	19.5%	18.5%	30.0%	29.0%	34.0%	26.0%	25.0%	24.0%	26.0%	25.0%	24.0%
EUV TAM (\$m)	2,228	3,117	5,133	7,395	7,435	9,999	11,176	17,611	14,750	16,350	17,750	20,625	25,225	30,250
DUV TAM (\$m)	9,043	8,588	8,404	9,736	10,168	15,981	14,576	15,403	9,363	12,408	15,334	12,628	15,581	18,567
Process control TAM (\$m)	6,407	6,179	7,263	10,413	11,228	9,494	9,735	10,645	10,016	12,654	15,853	13,813	17,955	23,392
yoy sales growth		-4%	18%	43%	8%	-15%	3%	9%						
M&I intensity	11.6%	11.8%	11.9%	11.9%	11.8%	11.0%	11.0%	11.0%	10.8%	11.0%	11.5%	10.8%	11.0%	11.5%
ASML TAM (\$m)	17,678	17,885	20,800	27,544	28,831	35,474	35,487	43,659	34,130	41,412	48,937	47,065	58,761	72,209
yoy sales growth		1%	16%	32%	5%	23%	0%	23%						
ASML litho share	83.2%	83.3%	84.2%	90.5%	88.3%	89.5%	91.8%	95.8%	92.0%	92.0%	92.0%	93.0%	93.0%	93.0%
ASML litho revenue (\$m)	9,375	9,754	11,402	15,510	15,537	23,257	23,653	31,635	22,184	26,458	30,438	30,925	37,950	45,400
yoy sales growth		4%	17%	36%	0%	50%	2%	34%						
ASML DUV revenue (€m)	6,051	5,925	5,489	6,878	7,713	12,050	11,342	12,749	7,434	10,108	12,688	10,300	12,725	15,150
yoy sales growth		-2%	-7%	25%	12%	56%	-6%	12%						
DUV market share (%)	79.0%	77.3%	74.6%	83.4%	79.7%	82.9%	85.6%	91.0%	79.4%	81.5%	82.7%	81.6%	81.7%	81.6%
ArFi (€m)	4,812	4,711	3,913	5,001	5,232	8,864	7,762	9,574	5,250	6,570	7,875	6,800	8,000	9,200
units	86	82	68	81	81	125	110	136	75	90	105	85	100	115
ASP (€m)	56	57	58	62	65	71	71	70	70	73	75	80	80	80
Dry (€m)	1,240	1,214	1,576	1,877	2,481	3,186	3,580	3,175	2,184	3,538	4,813	3,500	4,725	5,950
units	120	121	159	186	224	271	295	260	180	283	385	250	338	425
ASP (€m)	10	10	10	10	11	12	12	12	12	13	13	14	14	14
ASML EUV revenue (€m)	1,886	2,783	4,494	6,267	7,078	9,093	10,160	16,010	14,750	16,350	17,750	20,625	25,225	30,250
yoy sales growth		48%	62%	39%	13%	28%	12%	58%						
Low NA (€m)	1,886	2,783	4,494	6,267	7,078	9,093	9,910	14,610	13,000	14,600	16,000	14,625	16,425	20,250
units	18	26	31	42	40	53	49	66	65	73	80	65	73	90
ASP (€m)	105	107	145	149	177	172	202	221	200	200	200	225	225	225
High NA (€m)	0	0	0	0	0	0	250	1,400	1,750	1,750	1,750	6,000	8,800	10,000
units						0	1	4	5	5	5	15	22	25
ASP (€m)						0	250	350	350	350	350	400	400	400
ASML M&I share	5.9%	5.2%	5.3%	5.8%	6.0%	6.4%	9.1%	10.4%	11.0%	9.1%	7.6%	12.8%	10.3%	8.3%
ASML M&I revenue (€m)	321	288	334	508	638	549	808	1,008	1,100	1,150	1,200	1,772	1,852	1,933
yoy sales growth		-10%	16%	52%	26%	-14%	47%	25%						
ASML equipment sales (€m)	8,259	8,996	10,317	13,653	15,430	21,692	22,311	29,767	23,284	27,608	31,638	32,697	39,802	47,333
yoy sales growth		9%	15%	32%	13%	41%	3%	33%						
Installed base mgmt (€m)	2,685	2,824	3,662	4,958	5,743	5,620	5,700	6,500	7,000	7,500	8,000	11,274	12,079	12,884
yoy sales growth		5%	30%	35%	16%	-2%	1%	14%						
% of sales	25%	24%	26%	27%	27%	20%	20%	18%	23%	21%	20%	26%	23%	21%
Total ASML sales (€m)	10,944	11,820	13,978	18,611	21,173	27,559	28,011	36,267	30,284	35,108	39,638	43,970	51,881	60,217
yoy sales growth		8%	18%	33%	14%	30%	2%	29%						

Source: BofA Global Research estimates, company report

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Exhibit 3: Stocks mentioned

Prices and ratings for stocks mentioned in this report

BofA Ticker	Bloomberg ticker	Company name	Price	Rating
ASML	ASML US	ASML	US\$ 922.94	B-1-7
ASMLF	ASML NA	ASML NA	EUR 855.1	B-1-7

Source: BofA Global Research

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Price objective basis & risk**ASML Holding N.V. (ASMLF / ASML)**

We have set a PO of €1,064 (\$1,117 for the ADR). We use a 29x FY25E EV/EBITDA to derive our PO (c1.6x EBITDA CAGR). We view our target multiple as fair given we expect ASML's premium valuation to continue given dominant position in EUV and our expectations of 18% EBITDA CAGR '23-26E.

Upside risks to our PO are:

- 1) Higher-than-expected demand for EUV and DUV machines
- 2) Higher-than-expected gross margins on EUV machines and services
- 3) Stronger-than-expected Semi Capex environment driven by macroeconomic trends and higher capital intensity per wafer.

Downside risks to our PO are:

- 1) Delays in ramping volume shipments of EUV machines
- 2) Lower-than-expected gross margins on EUV machines
- 3) Weaker-than-expected Semi Capex driven by macro slowdown/oversupply

Analyst Certification

I, Didier Scemama, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

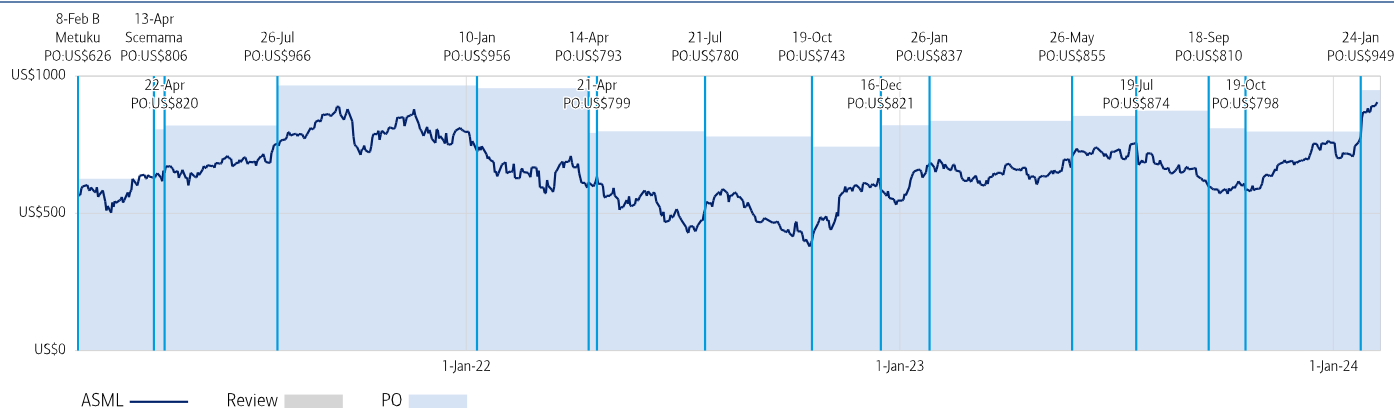
EMEA - Technology Hardware Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	ASMI	ASMXF	ASM NA	Didier Scemama
	ASML Holding N.V.	ASMLF	ASML NA	Didier Scemama
	ASML Holding N.V.	ASML	ASML US	Didier Scemama
	Comet Holding AG	XCHHF	COTN SW	Marie Ganneval
	Infineon Technologies AG	IFNNF	IFX GY	Didier Scemama
	Infineon Technologies AG	IFNNY	IFNNY US	Didier Scemama
	Logitech International S.A.	XLGKF	LOGN SW	Didier Scemama
	Logitech International S.A.	LOGI	LOGI US	Didier Scemama
	Nordic Semiconductor	NDCVF	NOD NO	Didier Scemama
	Soitec	SLOIF	SOI FP	Didier Scemama
	STMicroelectronics NV	STMEF	STMPA FP	Didier Scemama
	STMicroelectronics NV	STM	STM US	Didier Scemama
	Technoprobe S.p.A.	XMDDF	TPRO IM	Marie Ganneval
NEUTRAL				
	Aixtron	AIXXF	AIXA GR	Didier Scemama
	BE Semiconductor Industries N.V.	BESVF	BESI NA	Didier Scemama
	Nokia	NOKBF	NOKIA FH	Didier Scemama
	Nokia	NOK	NOK US	Didier Scemama
	VAT Group AG	VTTGF	VACN SW	Didier Scemama
UNDERPERFORM				
	ams Osram AG	AUKUF	AMS SW	Didier Scemama
	Ericsson	ERIXF	ERICB SS	Didier Scemama
	Ericsson	ERIC	ERIC US	Didier Scemama
	Inficon Holding AG	IFCNF	IFCN SW	Marie Ganneval
	Siltronic AG	SLLF	WAF GR	Marie Ganneval

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Important Disclosures

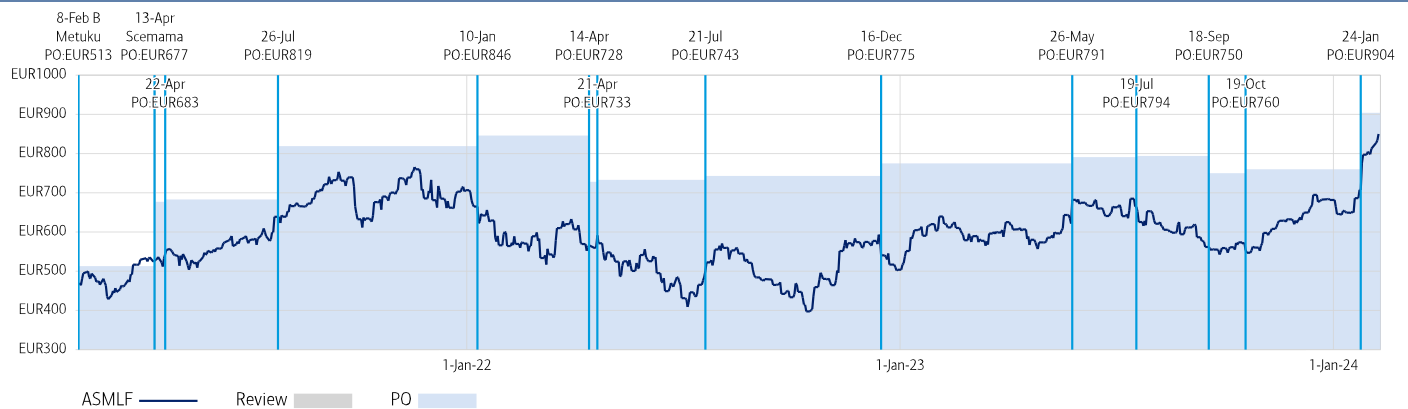
ASML (ASML) Price Chart



B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of a date no more than one trading day prior to the date of the report.

ASML NA (ASMLF) Price Chart



B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

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Equity Investment Rating Distribution: Technology Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	215	53.09%	Buy	111	51.63%
Hold	97	23.95%	Hold	45	46.39%
Sell	93	22.96%	Sell	24	25.81%

Equity Investment Rating Distribution: Global Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	1895	53.62%	Buy	1083	57.15%
Hold	832	23.54%	Hold	454	54.57%
Sell	807	22.84%	Sell	383	47.46%

^{R1} Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster ^{R2}
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

^{R2} Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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