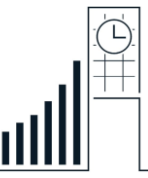


Buy: ASM Lithography Holding NV [NASDAQ:ASML] **ASML**

Sector Head: Adrian Erazo

Lead Analyst: Jooahn Sur



Agenda

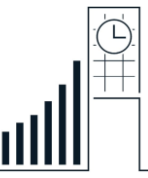
Company Profile

Industry Overview

Key Drivers/Catalysts

Valuation

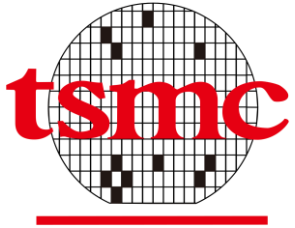
Risks and Mitigants



Company Profile

Semiconductors

Manufacturers



Designers



Memory

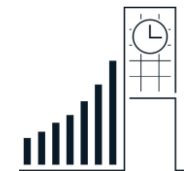


Connectivity



Equipment





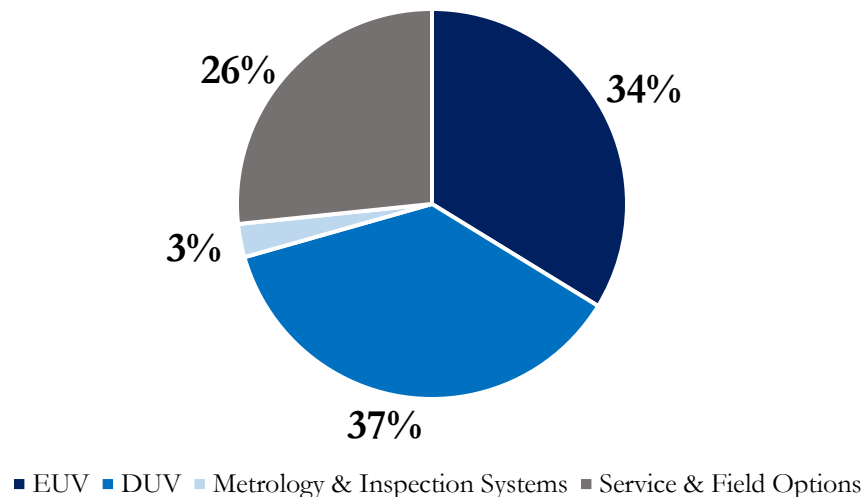
Company Profile

Company Overview

ASML Holding NV produces lithography systems, which are used to manufacture semiconductors. Their **Extreme Ultraviolet (EUV) lithography system** allows them to pattern the most intricate patterns and lines on microchips.



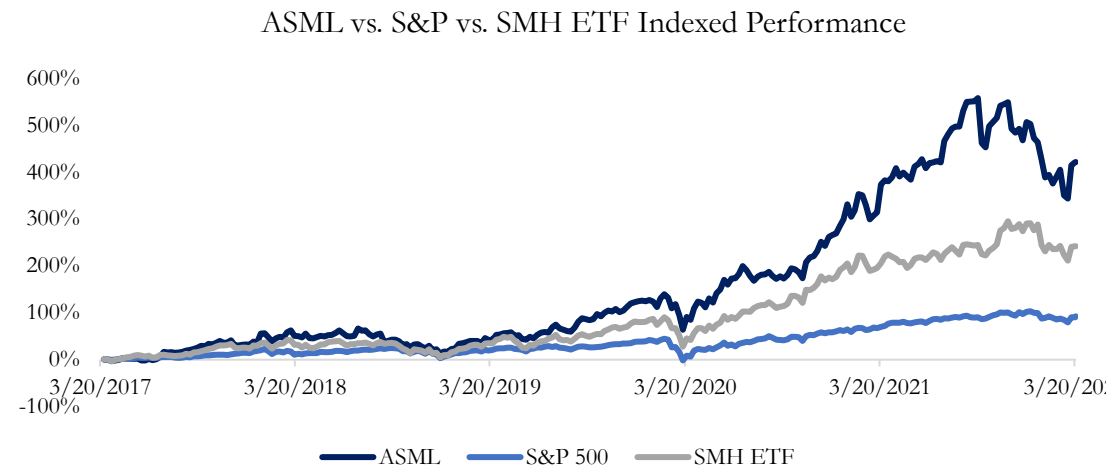
Revenue Breakdown

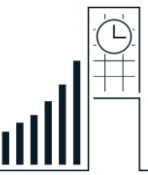


Key Information

Share Price (5.3.2022)	\$570.00
52 Week Range	\$544.00 - \$895.93
Market Cap.	\$233.9 billion
Enterprise Value	\$230.8 billion
Beta	1.31
Founded	1984
IPO	1995

Historical Performance





Industry Overview

Market Trends



Increasing shift from mobile computing to **ubiquitous computing**



Emergence of **AIoT** (combination of AI and IoT), facilitated by 5G

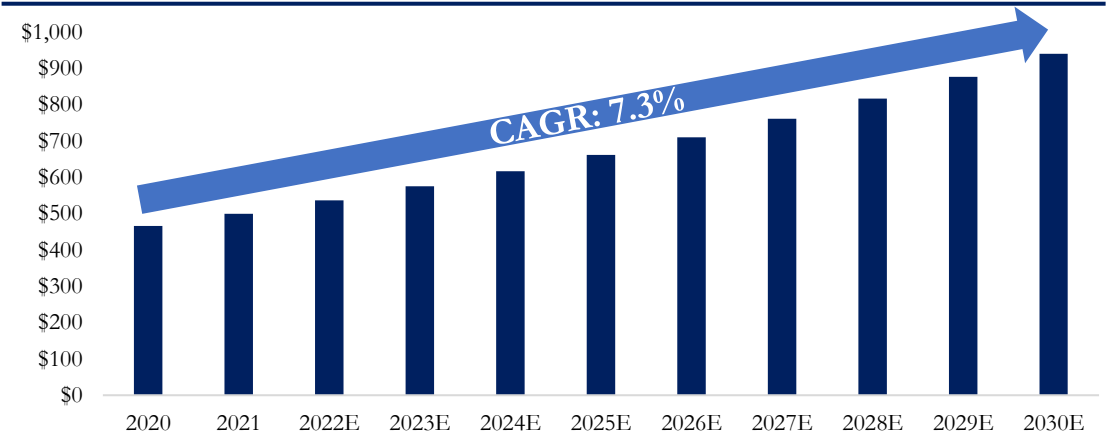


Semiconductor companies making significant **R&D investments** to diversify their portfolios

Competitors



Semiconductor Industry (USD in Billions)



Government Funding Boosting Investments



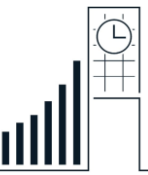
National Semiconductor Technology Center goal: Regain global leadership position in chip mfg. (\$52B)



EU Industrial Alliance on Microelectronics goal: Rebuild Europe's capacity to produce microelectronics (\$15B)



China National IC Industry Investment Fund II goal: China makes 70% of the chips it uses by 2025 (\$80B)

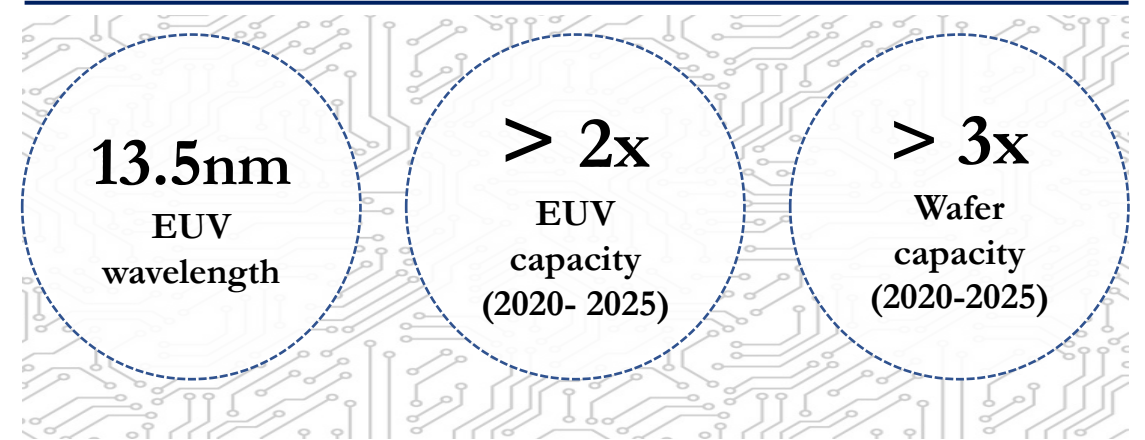


Catalyst 1: Leadership in High-Demand EUV

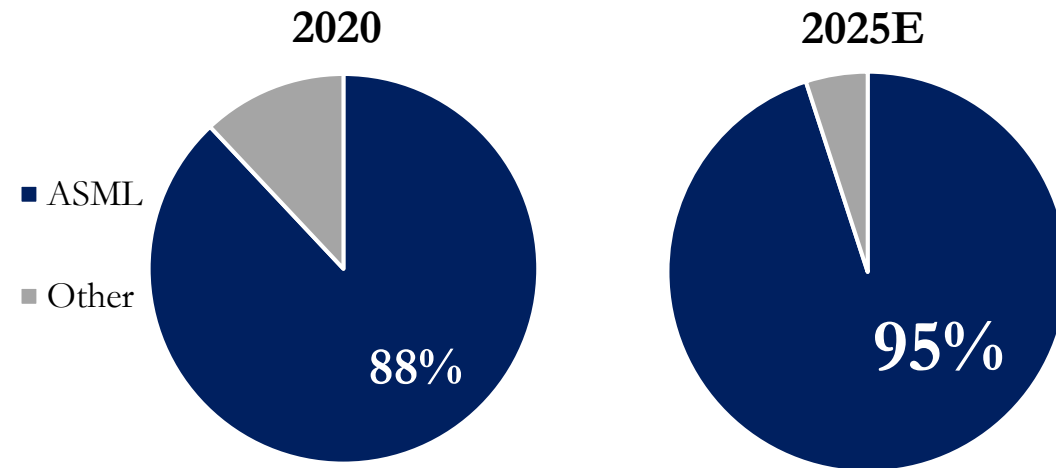
What is EUV Lithography?

Extreme Ultraviolet (EUV) lithography is a technology in which a laser light source creates billions of microscopically small structures inside a semiconductor chip. Chips using EUV lithography can be mass produced affordably, have more processing power, use less energy, and have higher performance.

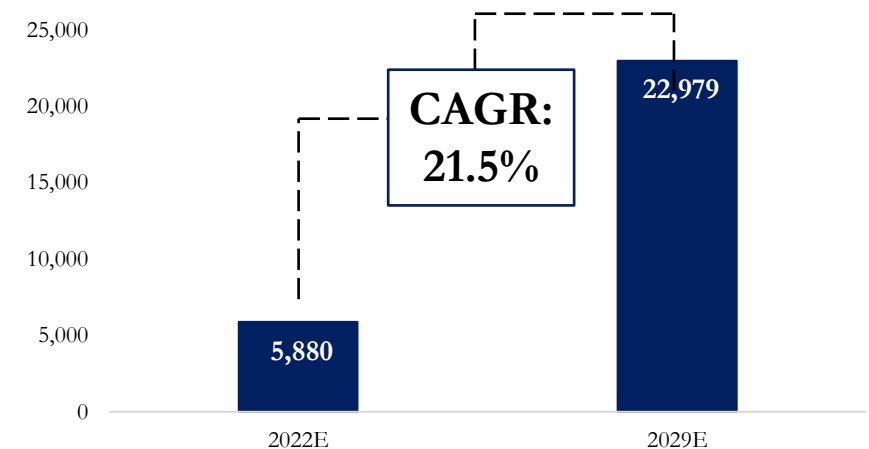
Future Surge In EUV Demand

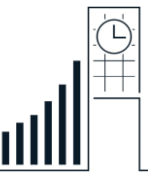


Projected EUV Market Share Growth



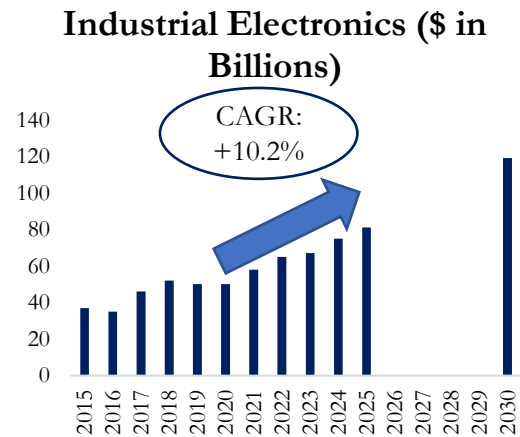
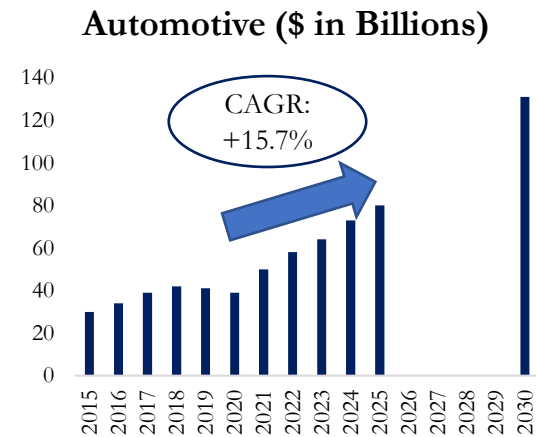
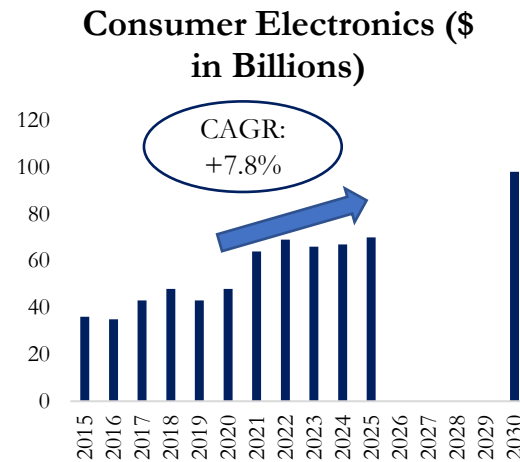
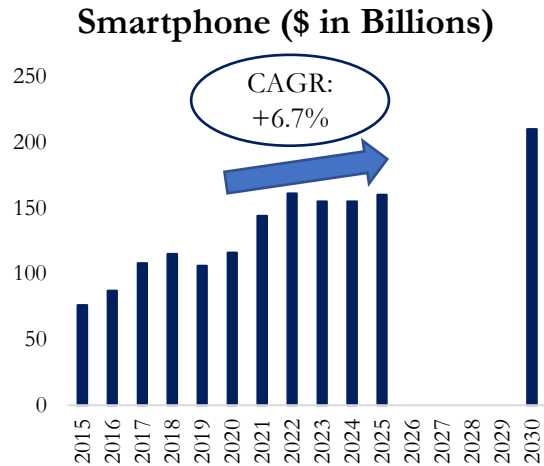
EUV Market Growth (\$ in Millions)





Catalyst 2: Growth in All End Markets

End Markets



Future Generation of Data

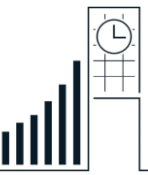
350 bn Connected devices across the world in 2030 (41 per person)

~175 Zettabytes of data by 2025

Resulting Wafer Demand

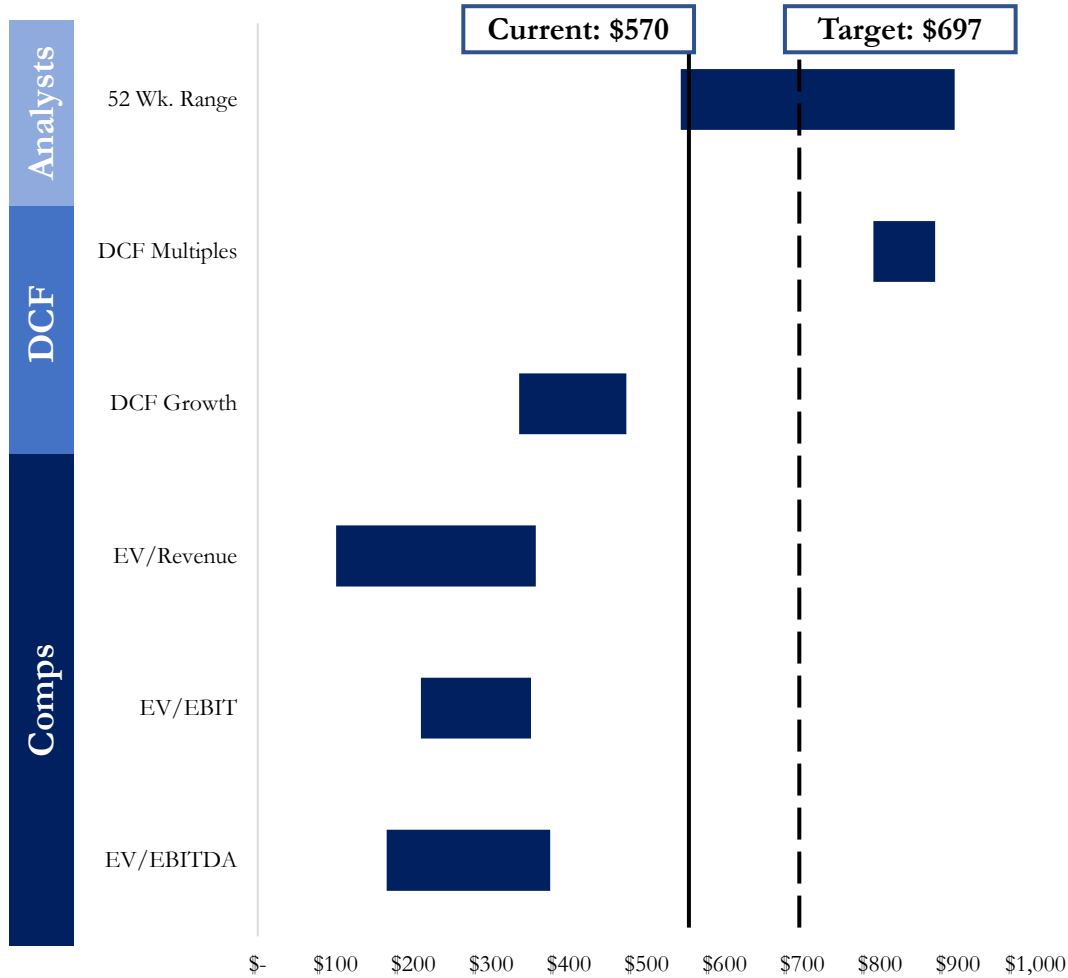
	2015	2020	2025	CAGR
Logic & MPU	0.5	1.1	1.7	+9.9%
DRAM	1.2	1.4	1.8	+5.2%
NAND	1.5	1.6	2.1	+5.7%

Millions of Wafer Starts/Month



Valuation

Football Field Analysis



Gordon Growth Sensitivity Analysis

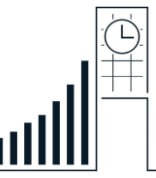
Gordon Growth Sensitivity Table

		WACC					
		\$ 393.93	9.98%	10.98%	11.98%	12.98%	13.98%
Growth Rate	5%	622.70	515.86	439.76	382.82	338.66	
	4.50%	572.90	481.88	415.31	364.54	324.57	
	4%	531.43	452.77	393.93	348.29	311.88	
	3.50%	496.36	427.54	375.06	333.75	300.41	
	3%	466.30	405.47	358.30	320.67	289.98	

Multiples Method Sensitivity Analysis

Multiples Method Sensitivity Table

		WACC					
		\$ 798.26	9.98%	10.98%	11.98%	12.98%	13.98%
EV/EBITDA	23.00x	896.77	862.65	830.15	799.20	769.70	
	22.50x	914.06	879.25	846.10	814.52	784.42	
	22.00x	914.06	879.25	846.10	814.52	784.42	
	21.50x	896.77	862.65	830.15	799.20	769.70	
	21.00x	862.18	829.44	798.26	768.56	740.25	



Risks and Mitigants

ASML has a very high level of customer concentration

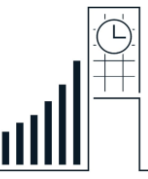
ASML is the only company in the world that supplies EUV technology, and this will continue in the foreseeable future

ASML may face competition from companies who choose to develop their own EUV technology

There are very high barriers to entry to the semiconductor industry, but especially EUV lithography systems

The war in Ukraine may hinder ASML's operations

ASML has enough supply for the short term, and has plans to become less reliant on existing suppliers in the future



Buy:
\$570



Target:
\$697

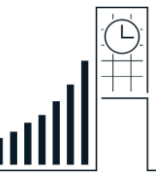


Upside:
22%

Thank You

ASML

Questions?



Appendix

Appendix A: Income Statement

Appendix B: Balance Sheet

Appendix C: Cash Flow Statement

Appendix D: Revenue Build

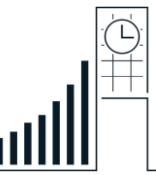
Appendix E: WACC Calculation

Appendix F: Comparable Companies Analysis

Appendix G: Projections

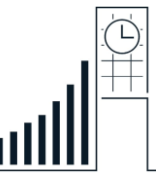
Appendix H: Discounted Cash Flow Analysis

Appendix I: Environmental, Social, Governance



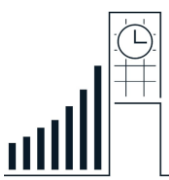
Appendix A: Income Statement

ASML Holding NV - Income Statement			
EUR (€) € in Millions, shares in Millions	FY 2019	FY 2020	FY 2021
Net sales	€ 11,820	€ 13,979	€ 18,611
Cost of sales	(6,540)	(7,181)	(8,802)
Gross profit	5,280	6,797	9,809
Research and development costs	(1,969)	(2,201)	(2,547)
Selling, general and administrative costs	(521)	(545)	(726)
Income from operations	2,791	4,052	6,536
Interest and other, net	(25)	(35)	(45)
Income before income taxes	2,766	4,017	6,492
Income tax expense	(192)	(552)	(1,021)
Income after income taxes	2,574	3,465	5,470
Profit from equity method investments	18	89	199
Net income	€ 2,592	€ 3,554	€ 5,670
Basic net income per ordinary share (in EUR per share)	€ 6.16	€ 8.49	€ 14.36
Diluted net income per ordinary share (in EUR per share)	€ 6.15	€ 8.48	€ 14.34
Number of ordinary shares used in computing per share amounts:			
Basic (in shares)	420.8	418.3	409.8
Diluted (in shares)	421.6	419.1	410.4
System sales			
Net sales	8,996	10,317	13,653
Cost of sales	(4,676)	(5,169)	(6,483)
Service and field option sales			
Net sales	2,824	3,662	4,958
Cost of sales	(1,864)	(2,012)	(2,319)



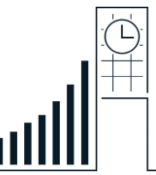
Appendix B: Balance Sheet

ASML Holding NV - Balance Sheet		
EUR (€) € in Millions, shares in Millions	FY 2020	FY 2021
Assets		
Cash and cash equivalents	6,049	6,952
Short-term investments	1,302	639
Accounts receivable, net	1,310	3,028
Finance receivables, net	1,711	1,186
Current tax assets	67	42
Contract assets	119	165
Inventories, net	4,569	5,179
Other assets	802	1,001
Total current assets	15,930	18,190
Finance receivables, net	401	383
Deferred tax assets	672	1,099
Other assets	952	1,011
Equity method investments	821	893
Goodwill	4,629	4,556
Other intangible assets, net	1,049	952
Property, plant and equipment, net	2,470	2,983
Right-of-use assets - Operating	180	160
Right-of-use assets - Finance	165	5
Total non-current assets	11,337	12,041
Total assets	€ 27,267	€ 30,231
Liabilities and shareholders' equity		
Accounts payable	1,378	2,116
Accrued and other liabilities	1,146	1,436
Current tax liabilities	110	302
Current portion of long-term debt	15	509
Contract liabilities	3,954	7,935
Total current liabilities	6,604	12,298
Long-term debt	4,663	4,075
Deferred and other income tax liabilities	238	241
Contract liabilities	1,640	3,226
Accrued and other liabilities	258	251
Total non-current liabilities	6,799	7,792
Total liabilities	€ 13,402	€ 20,090
Issued and outstanding shares	38	37
Share premium	3,780	3,876
Treasury shares at cost	(863)	(2,423)
Retained earnings	10,732	8,317
Accumulated other comprehensive income	179	334
Total shareholders' equity	€ 13,865	€ 10,141
Total liabilities and shareholders' equity	€ 27,267	€ 30,231



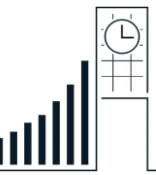
Appendix C: Cash Flow Statement

ASML Holding NV - Statement of Cash Flow			
EUR (€) € in Millions, shares in Millions	FY 2019	FY 2020	FY 2021
Net income	€ 2,592	€ 3,554	€ 5,883
Adjustments to reconcile net income to net cash flows from operating activities:			
Depreciation and amortization	449	491	471
Impairment and loss (gain) on disposal	8	6	(16)
Share-based compensation expense	75	54	118
Gain on sale of subsidiaries	-	-	(214)
Inventory reserves	222	192	181
Deferred tax expense (benefit)	(237)	(211)	(420)
Equity method investments	57	11	(50)
Changes in assets and liabilities:			
Accounts receivable, net	(255)	508	(1,755)
Finance receivables, net	(95)	(1,125)	542
Inventories	(405)	(707)	(483)
Other assets	(199)	(75)	(222)
Accrued and other liabilities	82	48	348
Accounts payable	(12)	334	719
Current tax assets and liabilities	(203)	132	214
Contract assets and liabilities	1,198	1,418	5,530
Net cash provided by operating activities	€ 3,276	€ 4,628	€ 10,846
Cash Flows from Investing Activities			
Purchase of property, plant and equipment	(767)	(962)	(901)
Purchase of intangible assets	(119)	(39)	(40)
Purchase of short-term investments	(1,292)	(1,476)	(1,163)
Maturity of short-term investments	1,019	1,359	1,826
Loans issued and other investments	1	(12)	(124)
Proceeds from sale of subsidiaries (net of cash disposed of)	-	-	329
Acquisition of subsidiaries (net of cash acquired)	-	(223)	-
Net cash used in investing activities	€ (1,158)	€ (1,352)	€ (72)
Cash Flows from Financing Activities			
Dividend paid	€ (1,326)	€ (1,066)	€ (1,368)
Purchase of treasury shares	€ (410)	€ (1,208)	€ (8,560)
Net proceeds from issuance of shares	€ 27	€ 38	€ 49
Net proceeds from issuance of notes, net of issuance costs	-	€ 1,486	-
Repayment of debt and finance lease obligations	€ (4)	€ (3)	€ (12)
Net cash used in financing activities	€ (1,712)	€ (753)	€ (9,892)
Net cash flows	€ 407	€ 2,522	€ 882
Effect of changes in exchange rates on cash	€ 5	€ (5)	€ 20
Net increase (decrease) in cash and cash equivalents	€ 411	€ 2,517	€ 902
Cash and cash equivalents at beginning of the year	€ 3,121	€ 3,532	€ 6,049
Cash and cash equivalents at end of the year	€ 3,532	€ 6,049	€ 6,952
Supplemental Disclosures of Cash Flow Information:			
Unpaid portion of property, plant & equipment excluded in investing activities	86	(47)	29
Interest received	39	32	37
Interest paid	(60)	(64)	(83)
Income taxes paid, net of refunds	(679)	(650)	(1,235)



Appendix D: Revenue Build

ASML Revenue									
In Millions of EUR except Per Share	FY 2019	FY 2020	FY 2021	FY 2022E	FY 2023E	FY 2024E	FY 2025E	FY 2026E	
EUV	2,800	4,464	6,284	8,585	10,158	11,752	12,904	14,070	
<i>Sales in Units</i>	26	31	42	57	67	77	84	91	
<i>Millions of EUR per Unit</i>	108	144	150	151	152	153	154	155	
ArFi	4,708	3,917	4,960	5,787	6,513	7,258	7,828	8,411	
<i>Sales in Units</i>	82	68	81	93	103	113	120	127	
<i>Millions of EUR per Unit</i>	57	58	61	62	63	64	65	66	
ArF Dry	401	427	432	495	562	634	709	788	
<i>Sales in Units</i>	22	22	22	24	26	28	30	32	
<i>Millions of EUR per Unit</i>	18	19	20	21	22	23	24	25	
KrF	680	1,012	1,321	1,752	2,212	2,696	3,198	3,741	
<i>Sales in Units</i>	65	103	131	158	183	206	227	248	
<i>Millions of EUR per Unit</i>	10	10	10	11	12	13	14	15	
I-Line	134	146	142	151	160	168	177	185	
<i>Sales in Units</i>	34	34	33	35	37	39	41	43	
<i>Millions of EUR per Unit</i>	4	4	4	4	4	4	4	4	
Metrology & Inspection	274	350	514	658	789	907	1,012	1,103	
<i>Sales in Units</i>	115	137	196	251	301	346	386	421	
<i>Millions of EUR per Unit</i>	2	3	3	3	3	3	3	3	
Net System Sales	8,996	10,317	13,653	17,428	20,394	23,414	25,827	28,300	
<i>Growth</i>		14.68%	32.34%	27.65%	17.02%	14.81%	10.30%	9.58%	
Net Service and Field Option Sales	2,824	3,662	4,958	6,446	8,057	9,668	11,119	12,231	
<i>Growth</i>		29.68%	35.40%	30.00%	25.00%	20.00%	15.00%	10.00%	
Total Revenue	11,820	13,979	18,611	23,874	28,451	33,083	36,945	40,531	
Cost of revenue	(6,540)	(7,181)	(8,802)	(11,291)	(13,456)	(14,654)	(15,256)	(15,521)	
Gross profit	5,280	6,797	9,809	12,583	14,995	18,429	21,689	25,010	
<i>Operating expenses</i>									
Research and development costs	(1,969)	(2,201)	(2,547)	(3,267)	(3,894)	(4,528)	(5,056)	(5,547)	
Selling, general and administrative costs	(521)	(545)	(726)	(931)	(1,109)	(1,290)	(1,440)	(1,580)	
Total operating expenses	(2,489)	(2,746)	(3,273)	(4,198)	(5,003)	(5,817)	(6,497)	(7,127)	
EBIT (Operating income)	2,791	4,052	6,536	8,385	9,992	12,611	15,192	17,883	
EBIT Drivers									
<i>Revenue Growth (YoY)</i>		18.26%	33.14%	28.28%	19.17%	16.28%	11.68%	9.70%	
<i>COGS Margin (% of Revenue)</i>	55.33%	51.37%	47.29%	47.29%	47.29%	44.29%	41.29%	38.29%	
<i>R&D Margin (% of Revenue)</i>	16.65%	15.74%	13.69%	13.69%	13.69%	13.69%	13.69%	13.69%	
<i>SG&A Margin (% of Revenue)</i>	4.40%	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%	
<i>Operating Expense Margin (% of Revenue)</i>	21.06%	19.64%	17.58%	17.58%	17.58%	17.58%	17.58%	17.58%	

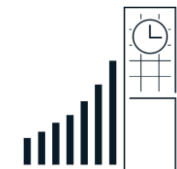


Appendix E: WACC Calculation

ASML NV Holdings WACC	
In Millions except Per Share	
Number of shares outstanding	410.4
Share price	\$ 570.00
Market capitalization	233,928
Market return	10.000%
Risk free rate (10 year US bond)	3.000%
Market risk premium	7.000%
Beta	1.307
Cost of Equity	12.15%
Market value of debt	4,584
Cost of debt	4.070%
Tax rate	14%
After Tax Cost of Debt	3.50%
Equity weight	0.98
Debt weight	0.02
Weighted Average Cost of Capital	11.98%

A2 / A Rating 1.07%

Damodaran spread

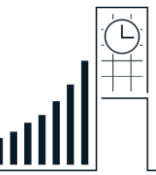


Appendix F: Comparable Companies Analysis

ASML Holding NV - Comparable Companies Universe																
In Millions																
Company	Ticker	Share Price	Shares Outstanding	Market Cap.	Debt	Cash	Enterprise Value	Revenue	Net Income	LTM EPS	EBIT	EBITDA	LTM P/E	EV/Revenue	EV/EBIT	EV/EBITDA
ASML Holding NV	ASML	\$ 570.00	410	233,928	4,483	7,647	230,764	20,472	6,236	15.20	7,190	8,427	37.51x	11.27x	32.09x	27.38x
Applied Materials, Inc.	AMAT	\$ 112.80	892	100,618	5,757	5,737	114,367	23,063	6,159	6.69	7,252	7,725	16.86x	4.96x	15.77x	14.80x
Lam Research Corporation	LRCX	\$ 463.13	143	65,996	5,165	5,729	89,275	14,626	3,909	26.90	4,483	4,842	17.22x	6.10x	19.91x	18.44x
KLA Corporation	KLAC	\$ 324.28	153	49,550	3,546	2,495	50,581	6,919	2,258	14.53	2,702	3,074	22.32x	7.31x	18.72x	16.46x
Nikon Corporation	NINOY	\$ 11.51	367	4,226	1,335	3,181	1,600	4,256	313	0.85	324.2	563	13.54x	0.38x	4.94x	2.84x
Canon Inc.	CAJ	\$ 23.15	1,046	24,210	2,790	3,519	26,689	32,007	1,949	1.86	2,639	5,016	12.45x	0.83x	10.11x	5.32x

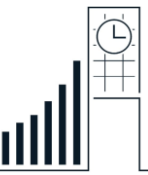
Minimum					1,335	2,495	1,600	4,256	313	0.85	324	563	12.45x	0.38x	4.94x	2.84x
Q1					2,979	3,265	32,662	8,846	2,026	3.07	2,654	3,516	14.37x	1.87x	11.53x	7.69x
Median					4,014	4,624	69,928	17,549	3,084	10.61	3,592	4,929	17.04x	5.53x	17.25x	15.63x
Q3					4,995	5,735	108,094	22,415	5,597	15.03	6,513	7,048	21.04x	7.01x	19.62x	17.94x
Maximum					5,757	7,647	230,764	32,007	6,236	26.90	7,252	8,427	37.51x	11.27x	32.09x	27.38x

Comps Valuation	EV	Debt	Cash	Equity	Shares	Per Share
EBITDA	8,427					
Min	2.84x	23,975	4,483	7,647	27,140	410 \$ 66.13
Q1	7.69x	64,819	4,483	7,647	67,984	410 \$ 165.65
Median	15.63x	131,719	4,483	7,647	134,884	410 \$ 328.66
Q3	17.94x	151,213	4,483	7,647	154,378	410 \$ 376.16
Max	27.38x	230,764	4,483	7,647	233,928	410 \$ 570.00
Revenue	20,472					
Min	0.38x	7,697	4,483	7,647	10,861	410 \$ 26.47
Q1	1.87x	38,183	4,483	7,647	41,347	410 \$ 100.75
Median	5.53x	113,238	4,483	7,647	116,402	410 \$ 283.63
Q3	7.01x	143,489	4,483	7,647	146,653	410 \$ 357.34
Max	11.27x	230,764	4,483	7,647	233,928	410 \$ 570.00
EBIT	7,190					
Min	4.94x	35,491	4,483	7,647	38,656	410 \$ 94.19
Q1	11.53x	82,888	4,483	7,647	86,053	410 \$ 209.68
Median	17.25x	124,005	4,483	7,647	127,170	410 \$ 309.87
Q3	19.62x	141,047	4,483	7,647	144,212	410 \$ 351.39
Max	32.09x	230,764	4,483	7,647	233,928	410 \$ 570.00
P/E	EPS					
Q1	14.37x	3.07				\$ 44.08
Median	17.04x	10.61				\$ 180.78
Q3	21.04x	15.03				\$ 316.26



Appendix G: Projections

Working Capital	FY 2020	FY 2021	FY 2022E	FY 2023E	FY 2024E	FY 2025E	FY 2026E
Total Non-Interest Bearing Current Assets							
Receivables	3,021	4,214	5,167	6,158	7,141	7,996	8,772
Inventories	4,569	5,179	6,187	7,373	8,008	8,360	8,505
Other ST Assets	2,290	1,846	2,368	2,680	2,961	3,141	3,274
Total	9,881	11,238	13,722	16,211	18,109	19,497	20,551
Total Current Liabilities							
Accounts Payable	1,378	2,116	2,784	3,318	3,603	3,762	3,827
Current tax liabilities	110	302	384	457	498	519	528
Current portion of long-term debt	15	509	655	780	850	885	900
Other ST Liabilities	1,146	1,436	1,863	2,220	2,418	2,517	2,561
Total	2,649	4,363	5,686	6,776	7,369	7,683	7,816
Net Working Capital	7,231	6,876	8,036	9,435	10,740	11,815	12,735
Change in Net Working Capital		(356)	1,160	1,400	1,305	1,075	920
Net Working Capital Drivers							
Current Assets							
Days Sales Outstanding (DSO)	79	83	79	79	79	79	79
Inventory Turnover	1.57x	1.70x	1.83x	1.83x	1.83x	1.83x	1.83x
Days of Inventory on Hand (DIH)	232.88	214.77	200.00	200.00	200.00	200.00	200.00
Other ST Assets/Sales	16.4%	9.9%	9.9%	9.4%	8.9%	8.5%	8.1%
Current Liabilities							
Days Payables Outstanding (DPO)	70	88	90	90	90	90	90
Current tax liabilities/COGS	1.5%	3.4%	3.4%	3.4%	3.4%	3.4%	3.4%
Current portion of long-term debt/COGS	0.2%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%
Other ST Liabilities/COGS	16.0%	16.3%	16.5%	16.5%	16.5%	16.5%	16.5%
Capital Expenditures							
Capital Expenditures	(962)	(901)	(1,399)	(1,667)	(1,939)	(2,165)	(2,375)
Cap Ex/Sales	6.9%	4.8%	5.9%	5.9%	5.9%	5.9%	5.9%



Appendix H: Discounted Cash Flow Analysis

ASML Holding NV Discounted Cash Flow Model								
	FY 2019	FY 2020	FY 2021	FY 2022E	FY 2023E	FY 2024E	FY 2025E	FY 2026E
Revenue	11,820	13,979	18,611	23,874	28,451	33,083	36,945	40,531
EBIT	2,791	4,052	6,536	8,385	9,992	12,611	15,192	17,883
(1-T)	0.93	0.86	0.84	0.86	0.86	0.86	0.86	0.86
Add: D&A	449	491	471	860	1,179	1,549	1,929	2,335
Less: CapEx		(962)	(901)	(1,399)	(1,667)	(1,939)	(2,165)	(2,375)
Less: Change in NWC			(356)	1,160	1,400	1,305	1,075	920
Drivers								
<i>Revenue Growth</i>		18%	33%	28%	19%	16%	12%	10%
<i>EBIT margin</i>	24%	29%	35%	35%	35%	38%	41%	44%
<i>Tax rate</i>	7%	14%	16%	14%	14%	14%	14%	14%
<i>D&A as a percent of CapEx</i>		51%	52%	61%	71%	80%	89%	98%
<i>CapEx as a percent of revenue</i>		7%	5%	6%	6%	6%	6%	6%
<i>Change in NWC as a percent of revenue</i>			-2%	5%	5%	4%	3%	2%
<i>Discount Rate</i>				0.5	1.5	2.5	3.5	4.5
FCFF				5,535	6,732	9,185	11,795	14,466
Terminal value (Gordon growth)								188,445
Terminal value (multiple)								444,783
Cash flows (Gordon growth)				5,535	6,732	9,185	11,795	202,911
Cash flows (multiple)				5,535	6,732	9,185	11,795	459,250
PV of cash flows (Gordon growth)				5,230	5,681	6,922	7,937	121,929
PV of cash flows (multiple)				5,230	5,681	6,922	7,937	275,963

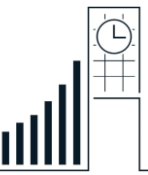
Gordon growth rate method	
Enterprise value	147,699
Less: Debt	(4,584)
Add: Cash	6,952
Equity value	150,067
Diluted shares outstanding	400
Price per share	€ 375.17

Multiples method	
Enterprise value	301,733
Less: Debt	(4,584)
Add: Cash	6,952
Equity value	304,101
Diluted shares outstanding	400
Price per share	€ 760.25

<i>Terminal growth rate</i>	4.00%
<i>Terminal multiple (EV/EBITDA)</i>	22.00x
<i>WACC</i>	11.98%

Price per share	€ 663.98
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Price per share (USD)	\$ 697.18
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Appendix I: ESG

Environment	1. Energy Efficiency & Climate Action		2. Circular Economy		
Social	3. Attractive Workplace for All	4. Innovation Ecosystem	5. Responsible Supply Chain	6. Valued Partner for Our Communities	
Governance	7. Integrated Governance		8. Stakeholder Engagement		9. Transparent Reporting

- 4 **QUALITY EDUCATION**
- 8 **DECENT WORK AND ECONOMIC GROWTH**
- 9 **INDUSTRY, INNOVATION AND INFRASTRUCTURE**
- 11 **SUSTAINABLE CITIES AND COMMUNITIES**
- 12 **RESPONSIBLE CONSUMPTION AND PRODUCTION**
- 13 **CLIMATE ACTION**