ASML Holding

NYSE: ASML
Global Equity Management
05/17/2025

Recommendation: Long
Price Target: $948, implied upside: 37%

Industry Overview

Semiconductor Industry

Semiconductors underpin virtually all modern electronics and are manufactured through a capital-intensive, globally distributed supply chain. Industry revenue are cyclical following technology transitions and shifts in capital investment.

Industry Drivers

- The semiconductor industry remains strong, driven by artificial intelligence adoption across an expanding applications space and is expected to surpass **$1 Tr in revenue by 2030**

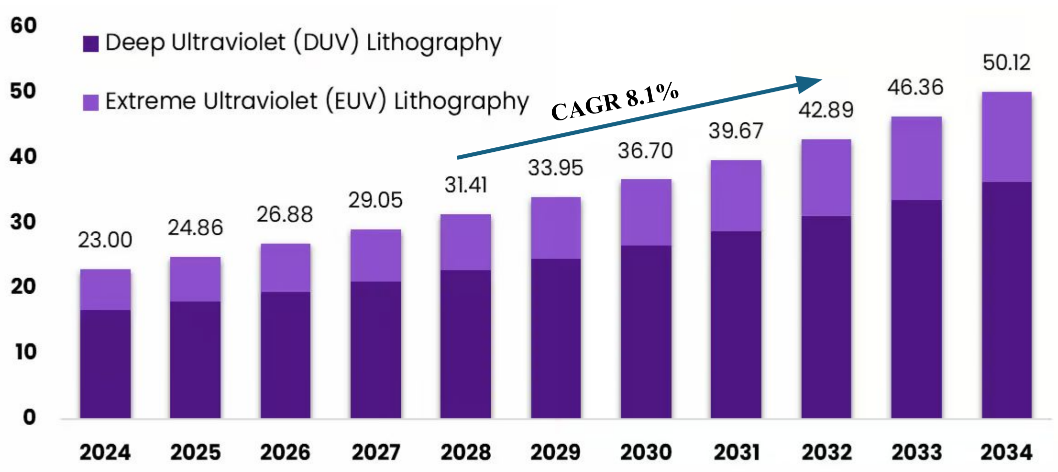
- The industry will require major innovations to address AI power consumption and cost challenges → increasing investor focus on R&D focused businesses like ASML

ASML Position along Value Chain

- Sole supplier of EUV lithography-critical for leading-edge nodes used in AI chips, advanced logic, and DRAM
- **~90% global share in lithography tools**, with increasing value capture via High-NA EUV and service-driven recurring revenue.
- Positioned at the intersection of rising capex intensity and demand for power-efficient computing, driving pricing power and order visibility (driven by **backlog of €34 Bn**)

Global Semiconductor Market Size ($ Billion)

Global Semiconductor Lithography Equipment Market Size ($ Billion)



Overview: ASML and the Semiconductor Manufacturing Process

Semiconductor Chip Design

Firms like Apple and Nvidia, design the semiconductor chip

Tool Delivery, Instillation, Calibration (ASML)

ASML ships systems in 1000s of pieces and reassembles them inside customer fabs.

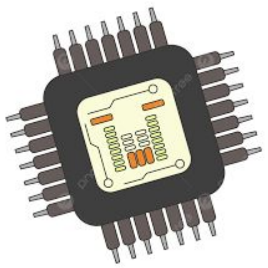
Ongoing Servicing (ASML)

ASML provides software upgrades, spare parts, and diagnostics to maximize uptime and performance.

Lithography (ASML)

ASML's **EUV and DUV machines** print nanoscale patterns onto silicon wafers - a critical process repeated dozens of times per chip.

Semiconductor finalised
Etching, wafer testing, dicing and packaging complete process



Business Overview

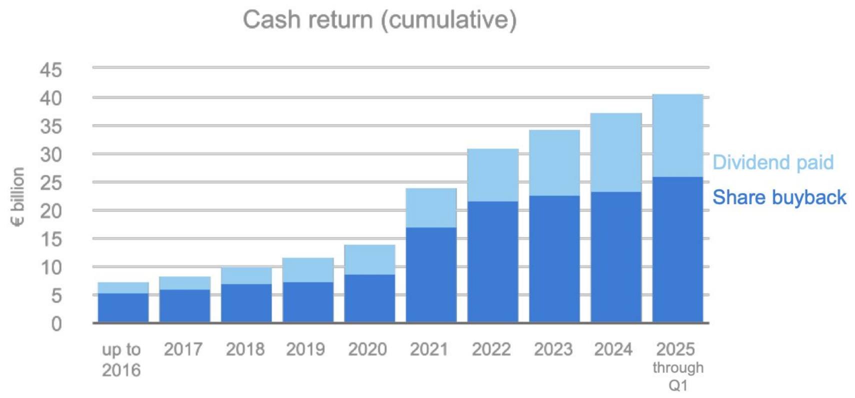
Core Component

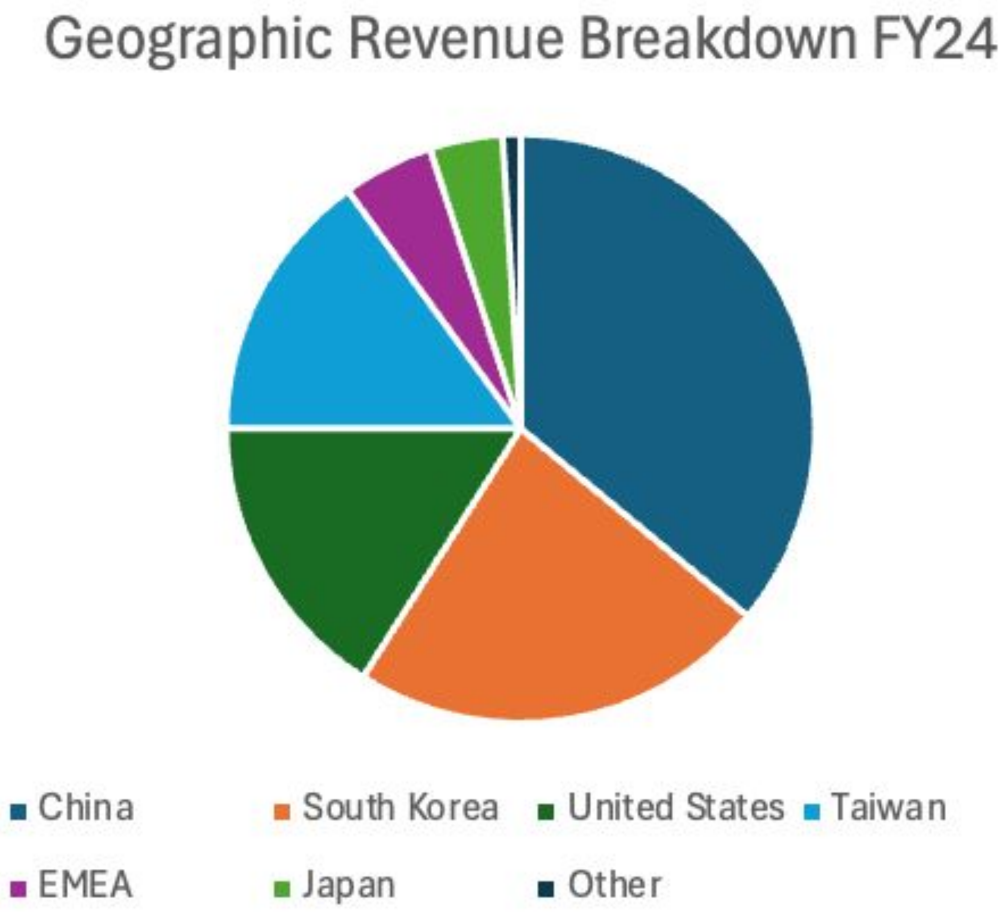
ASML is the world's **sole supplier of cutting-edge EUV lithography machines**, making it an irreplaceable enabler of next-gen semiconductor manufacturing and a high-conviction long

Lithography Systems - Designs and manufactures extreme-ultraviolet (EUV) and deep-ultraviolet (DUV) scanners that define the smallest transistor geometries; ASML holds ~**90 % share of global lithography** and is the sole supplier of EUV tools.

Services, installations and upgrades - High-margin service, field-upgrade, and refurb business for **>1 500 tools in industry**; provides throughput upgrades, preventive maintenance, and spare parts, constitutes >25 % of gross profit.

Consistent Commitment to Shareholders





Porter's Five Forces

Rivalry	New Entrants	Supplier Power	Buyer Power	Substitutes
Low-Medium	**Low**	**High**	**Moderate**	**Very Low**
• **Oligopoly Market Dominated by ASML:** Only three global lithography vendors remain - ASML, Nikon and Canon. ASML already controls ~**90%** of the total market and is the **sole EUV supplier** • **Pricing Competition limited by volume**: Whilst ASML commands full pricing power in EUV, Nikon prices its DUV tools nearly 70% lower. However, with <25% market share, its impact on pricing pressure is limited by volume.	• **Capital & IP moat:** ASML has a huge R&D head start: it spent over 20 years and billions developing EUV, and no rival has built a working tool yet. China's SMEE is still far behind, stuck at 28 nm. ASML's **€40 bn order backlog** shows how deeply customers are locked in and recognise stability of market **dominance of DUV and monopoly over EUV**	• ASML relies on a handful of critical suppliers: Carl Zeiss SMT, TRUMPF and Cymer (owned by ASML) who provide specialized components. While this concentration poses risk, **multi-year strategic contracts** mitigate arbitrary pricing power. Still, component inflation has historically slightly compressed gross margin guidance (tightening to 51–53 %).	• **End-market concentration:** Five core customers (TSMC, Samsung, Intel, SK Hynix, Micron) account for roughly 80 % of EUV unit demand whilst DUV market is much stronger • **Backlog coverage:** 100 % of 2025 EUV revenue and 90 % of DUV are already in backlog, limiting near-term renegotiations	• **EUV Monopoly over superior technology:** No alternative patterning technology (direct-write e-beam, nano-imprint) has reached high-volume precision below 7 nm of EUV. ASML's products are also more economic than alternatives on a cost-per-wafer basis. • **Superior tech to DUV rivals:** ASML's DUV immersion tools (TWINSCAN NXT series) are more advanced in: overlay precisions, throughput and process control

Thesis One: DRAM EUV adoption is accelerating faster than the market expectations → driving systems segment revenue

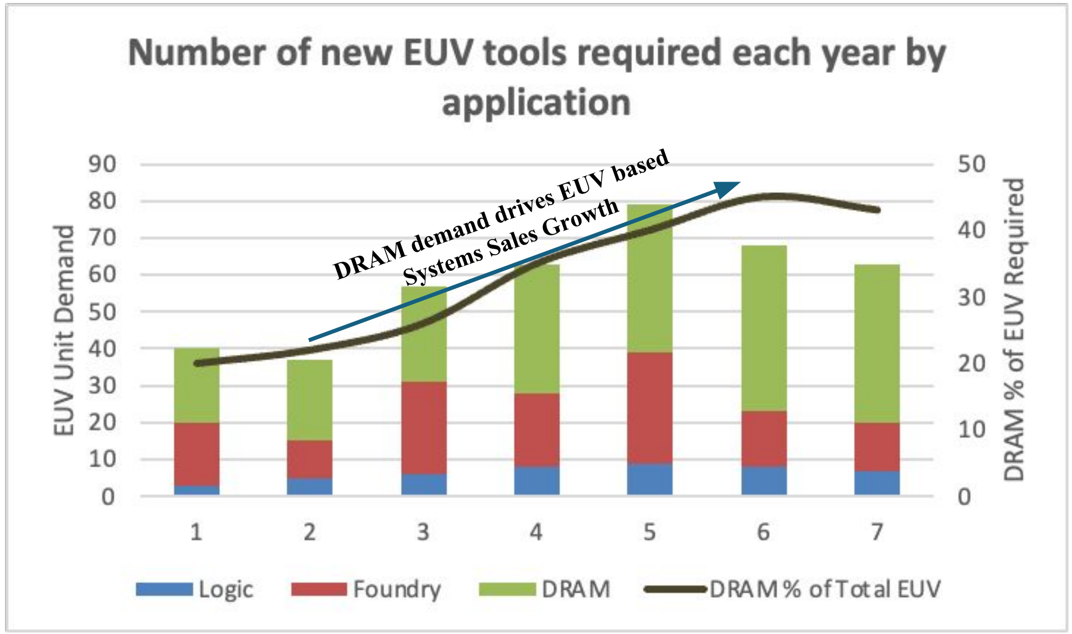
DRAM acceleration driving EUV unit sales

- EUV adoption drives ASML's systems revenue as memory manufacturers (using DRAM) depend on advanced lithography to scale their latest-gen chips.
- As EUV demand increasingly shifts toward memory (including DRAM application) ASML stands to benefit from a rising EUV tool orders
- Early signs of this structural shift exist in backlog: Memory already dominates ASML's order book: In **Q1 2025, €1.2B in EUV orders** came largely from **memory customers constituting 40% of systems revenue** (up from historical rate of 20-25%)

Why we believe DRAM will take a growing share of EUV demand + drive ASML's System Sales Segment Revenue Growth

1. **The new technical standard of High Bandwidth Memory (HMH) DDR5/6 require smaller + denser bits.** These advances push the limits of traditional DUV lithography and make **EUV necessary** for critical layers in DRAM manufacturing.
2. This is shows by how key customer **SK Hynix doubled 2025 EUV orders from 4 to 8 units**, and **Samsung's 5-unit order** remained steady despite memory market weakness.
3. **New HBM lines require 15 EUV tools**, compared to **9 for a logic line**, w/ each EUV tool averaging an ASP of **€200M**. This shift drives systems segment revenue.

DRAM shifts into driver of EUV sales as logic stagnates



Bottom Line

DRAM is emerging as the primary driver of EUV demand growth, reshaping ASML's order mix and unlocking an acceleration of Systems segment revenue.

This is reflected in our model, we **grow system revenue a further 9% through FY25**, driven by rising DRAM EUV shipments. This offsets flat demand for logic applications and sees sustained sales growth through FY28.

Thesis Two: Installed Base Service Revenue is Underrated FCF Flywheel

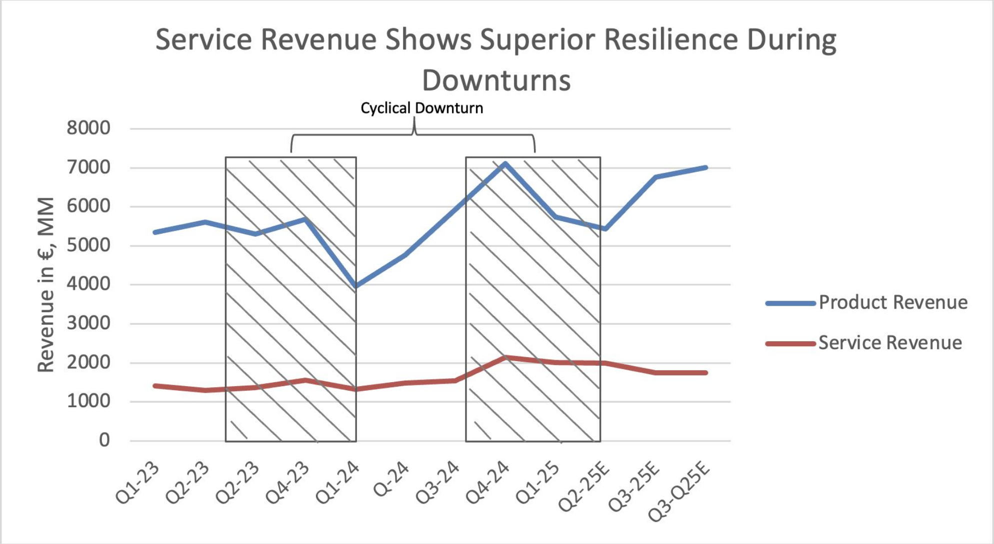
Service + Upgrade Business drives stable FCF base

- ASML's service and upgrade business is compounding at >10% CAGR and is largely **immune to order volatility, export controls, or tech cycles**. This revenue stream is both under-modeled and under-discussed, yet will account for over **25% of total gross profit** by 2026.

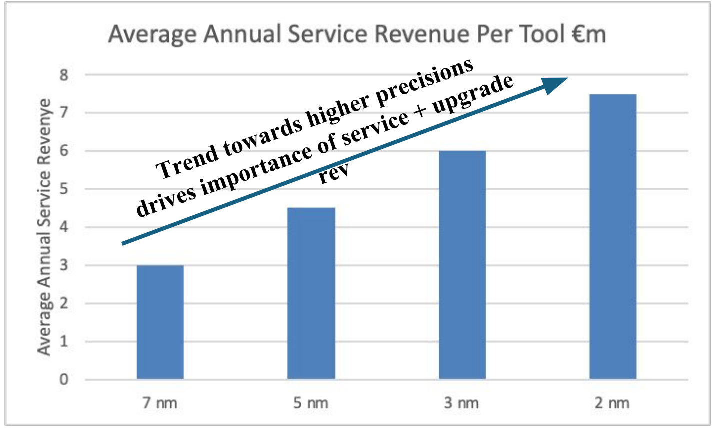
  - JPMorgan and HSBC estimate **€8–9bn in servicing and upgrading revenue by 2026**, up from €6.5bn in 2024 - a **~12% CAGR**, with gross margins at **mid-50s%**.
  - Services provide **counter-cyclicality**: in Q1 2025, service revenue rose YoY even as system bookings fell 17%.
  - ASML has embedded **software, diagnostics, and field upgrades** into its business model with per-tool service intensity increasing as nodes shrink. FCF flywheel becomes more critical to ASML's business as customers specialize with more precise semiconductor nodes

In our model, this is captured in the **Service & Field Option segment,** which we grow at **4-6% Q/Q through FY27**. We step this up in Q3 2025 to reflect delayed monetization of the 2023–24 tool wave of smaller nodes, and hold gross margin just beneath street at 48%. This contributes $500-600M in incremental gross profit by FY26, a key driver of modeled FCF upside.

Service Revenue More Resilient During Downturns



Higher precision drives higher service revenue



Comparable Companies

Company	Market Cap ($M)	EBITDA ($M)	EPS	P/E (LTM)	ROE
ASM International NV	51,859	4,175	7.02	49.76x	0.54%
Infineon Technologies AG	31,860	2,990	5.36	35.23x	35.70%
STMicroelectronics NV	695	494	(4.73)	11.76x	16.60%
BE Semiconductor Industries NV	8,970	220	2.25	51.62x	104.82%
Applied Materials Inc	134,000	8,740	8.21	20.16x	33.02%
Nokia Oyj	25,000	3,260	0.25	21.18x	24.43%
Telefonaktiebolaget LM Ericsson	250,000	2,530	0.05	173.34x	49.30%
ASML Holding	82,862	6,314.0	21.82	18.14x	43.66%

Discounted Cash Flow Valuation

	Team A GEM Projections											
	Q2-2025E	Q3-2025E	Q4-2025E	Q1-2026E	Q2-2026E	Q2-2026E	Q4-2026E	Q1-2027E	Q2-2027E	Q3-2027E	Q4-2027E	Q1-2028E
NOPAT	2,830.8	2,927.0	3,056.3	3,197.9	3,352.9	3,522.6	3,708.4	3,912.0	4,135.0	4,379.7	4,648.1	4,942.9
+ D&A	120.4	122.8	125.4	128.2	131.0	134.1	137.3	140.6	144.3	148.1	152.2	156.6
- Capex	(272.8)	(283.0)	(293.6)	(305.3)	(318.0)	(332.0)	(347.2)	(363.8)	(381.9)	(401.8)	(423.5)	(447.2)
-Δ NWC	(4116.1)	388.7	407.1	444.9	485.6	529.6	577.2	628.9	685.0	746.0	812.6	885.3
FCF	(1,437.8)	3,155.5	3,295.2	3,465.7	3,651.6	3,854.3	4,075.8	4,317.7	4,582.3	4,872.0	5,189.4	5,537.5

Perpetuity Growth Method

Discount Rate	PV of Q2-25E - Q1-28E Cash Flows		PV of Terminal Value at Perpetuity Growth Rate of 2.00%	2.50%	3.00%		Enterprise Value at Perpetuity Growth Rate of 2.00%	2.50%	3.00%
7.66%	39,380		319,888	352,605	392,343		359,268	391,985	431,722
8.16%	39,079	+	289,866	317,019	349,434	=	328,945	356,098	388,513
8.66%	38,783		264,420	287,284	314,188		303,203	326,067	352,971

Discount Rate	Less: 6/30/2024A Net Debt		Equity Value at Perpetuity Growth Rate of 2.00%	2.50%	3.00%	Implied Share Price at Perpetuity Growth Rate of 2.00%	2.50%	3.00%
7.66%	3,681		362,949	395,666	435,403	$923.53	$1,006.78	$1,107.90
8.16%	3,681	=	332,626	359,779	392,194	$846.38	$915.47	$997.95
8.66%	3,681		306,884	329,748	356,652	$780.88	$839.05	$907.51

Diluted Shares Outstanding (in 100,000s)	393

Current		$690.00	Upside
Perpetuity Growth		$915.47	33%

Questions?