ASML-AS gideon lens

ASML Holding N.V. (ASML.AS) - Gideon Lens

Production ER2 | Report ID ASML-AS-ER2-20260828T120303+0800 | Decision basis 2026-08-28 | Price EUR 1,486.40 as of 2026-08-27 | Exact operating horizon 2026-06-28 to 2031-06-28

What changed from the previous report and why

Previous report: ASML-AS-ER2-20260804T130202+0800; 2026-08-04; `C:\Users\Admin\OneDrive\GPT\ER 2.0\ASML Holding N.V\raw\pulse-cio-20260828T120303+0800\prior_active_snapshot\ASML_gideon_lens.md`; SHA-256 `ef307028f36e10eeb156bb7d6d1edb973a598d782fbe1f3922f2c96f388b6b9e` **Current report:** ASML-AS-ER2-20260828T120303+0800; 2026-08-28; price anchor EUR 1,486.40 as of 2026-08-27

Area	Previous report	Current report	What changed and why	Decision impact
Price anchor	EUR 1,419.60	EUR 1,486.40	Completed XAMS close rose 4.71%	Higher price offsets part of the operating upgrade
ER2 verdict and gates	PASS; Management YELLOW, Moat PASS, valuation FAIL	PASS; Management YELLOW, Moat PASS with 2046 YELLOW, valuation FAIL	Fouquet/Mistral remain unresolved; long-run High-NA proof is incomplete	PASS remains mandatory because valuation fails
FY+5 valuation bridge	Base EPS EUR 47.37; cushion -49.95%	Base EPS EUR 57.20; cushion -42.28%	FY2026 guide and product build lift base revenue and margin	Better economics, still far below EUR 99.09 required EPS
Insurer retained economics / book bridge	n/a	n/a	ASML is not a P&C insurer	No impact
Shareholder returns	Gross -13.14% / 0.72% / 9.28%; weighted 0.11%	Gross -9.12% / 4.82% / 14.24%; weighted 3.85%	Stronger EPS, 24x/32x/38x exits and source-bound dividends	Improved, but base and weighted returns remain inadequate
CIO actionability	PASS; net-SGD -14.54% / 0.55% / 10.56%; weighted 0.20%	PASS; net-SGD -10.55% / 4.67% / 15.61%; weighted 3.94%	Same P/E method and prior-governed FX diagnostic	Base below 8% still forces PASS
Audited scores	69/100; 68/80; 1/20	61/100; 60/80; 1/20	Auditor removed unsupported ROIIC-trend credit and tightened evidence caps	Diagnostic Reject remains; ER2 gates still control
Methodology or corrections	P/E; 22x/30x/34x; prior package	P/E; 24x/32x/38x; fresh preflight	Fresh peer/history evidence sealed exits before return calculation; two labels were corrected without changing math	Greater return transparency; no verdict change

Bottom line: ASML's operating outlook improved materially, but the share price also rose and still capitalizes far more than the governed base case can deliver. The refresh remains PASS because the P/E-15 gate fails, Management remains Yellow, and base plus probability-weighted returns do not clear the mandate hurdle. The lower audited quality score reflects stricter evidence calibration, not a deterioration in the EUV franchise.

Verdict: PASS

Scorecard:

Gate	Result	Notes
Management	YELLOW	Strong execution; Fouquet tenure and Mistral returns remain unseasoned
Moat	PASS	EUV chokepoint passes; 2046 durability remains YELLOW
P/E <= 15 on confident EPS at TTM + 5 calendar years	FAIL	Base cushion is -42.28% at EUR 1,486.40
Compounder Score	Audited 61 / 100	Reject: exceptional franchise, but current price defeats dream-investment status
Business Quality Score	Audited 60 / 80	Strong business; ROIIC trend is not measurable enough for full credit
20% Return UW Score	Audited 1 / 20	All scenarios miss 20%; even bull reaches only 14.24% gross

One-line reason to pass: ASML's lithography franchise is exceptional, but EUR 1,486.40 embeds too much of the favorable EUV, IBM, margin and scarcity-multiple path to provide an adequate five-year shareholder return.

What matters most

The current operating model is not timid. TTM revenue is EUR 35.328bn and statutory operating income is EUR 12.513bn. The base case reaches EUR 66.928bn of 2031 revenue, a 38.0% statutory operating margin, EUR 21.501bn of consolidated net income and EUR 57.1993 of diluted EPS. Low-NA and High-NA EUV plus installed-base management contribute about 69% of base terminal revenue. The moat review passes because ASML integrates light sources, ZEISS optics, motion control, metrology, software, qualification and field service into a bottleneck customers cannot readily replace.

That business quality does not rescue the security. The frozen current P/E is 53.97x on comparable statutory TTM EPS. The independently justified base exit is still a premium 32x, below ASML's 35.44x ten-year median and 38.92x one-year forward P/E but consistent with a more mature 2031 business. Even after EUR 50.5014 of cumulative dividends, base terminal wealth is EUR 1,880.8794 per share and earns only 4.82% annually. Probability-weighted terminal wealth is EUR 1,795.3942 and earns 3.85%, calculated from weighted wealth rather than averaged scenario IRRs.

Management remains Yellow, not Fail. ASML's execution, governance, CFO continuity, capital returns and candor are strong. The evidence cap reflects only about 28 months of Christophe Fouquet as CEO and the unresolved economics of the EUR 1.302bn Mistral investment. Moat is Pass, but the 2046 test is Yellow because broad High-NA high-volume economics, post-High-NA roadmap durability, export controls, customer concentration and ZEISS sole-source dependence remain observable risks.

The red team does not find a return-model defect. It identifies the joint EUV/IBM conversion and 38% base margin as the most fragile assumption. A 10% EUV/IBM miss with a 36% terminal margin would reduce base gross IRR from 4.82% to roughly 2.25%. The opposite challenge also matters: the 24x bear multiple is near ASML's ten-year trough despite continued growth and a 33% margin; raising it to 28x improves bear IRR only to roughly -6.39%. Neither reasonable challenge changes PASS.

Security return underwriting (mandatory even when the verdict is PASS):

Measure	Result	Notes
Primary valuation method	P/E	Statutory diluted EPS times P/E controls all scenarios, weighted wealth and net-SGD
Gross local-currency bear / base / bull IRR	-9.12% / 4.82% / 14.24%	Five-year annualized shareholder return in EUR
Probability-weighted gross local-currency IRR	3.85%	CAGR of EUR 1,795.3942 weighted terminal wealth; weights 30% / 50% / 20%
Return bridge	EUR 1,486.40 -> terminal wealth	2026-06-28 to 2031-06-28; terminal equity/share EUR 881.5853 / 1,830.3780 / 2,835.8517 plus distributions EUR 39.9171 / 50.5014 / 56.6671
Equity and claim perimeter	EUR 331.380bn / 688.023bn / 1,065.971bn terminal common equity value	375.891025m diluted shares; current cash EUR 7.5815bn and debt EUR 3.7197bn imply EUR 3.8618bn net cash; terminal cash/debt/leases unavailable and not adjusted after P/E

Measure	Result	Notes
Exit valuation	24x / 32x / 38x P/E	Selected before IRRs from ASML history, normalized current valuation, peer forwards and scenario economics

Gross local-currency underwriting is in EUR. The tables below use the operating start date; the immutable price anchor is the completed 2026-08-27 XAMS close. Net-SGD adjustments appear separately in CIO actionability.

Bear-case operating and return bridge

Bear case	Start (2026-06-28)	Horizon (2031-06-28)	CAGR / change	Justification
Revenue	EUR 35.3275bn	EUR 49.985bn	7.19%	Capacity digestion, export controls and restrained High-NA/IBM conversion
Operating margin	35.42%	33.00%	-2.42pp	Under-absorption and mix pressure outweigh scale
Operating earnings	EUR 12.5134bn	EUR 16.495bn	5.68%	Statutory operating income on the single-segment fallback basis
Diluted share count	385.300m	375.891025m	-0.49%	EUR 3bn annual repurchases net of SBC issuance
EPS	EUR 27.5392	EUR 36.732721	5.93%	Statutory diluted EPS on the XAMS ordinary-share basis
Valuation denominator	EUR 27.5392 EPS	EUR 36.732721 EPS	comparable	Same statutory diluted-EPS and listed-share perimeter
Valuation	53.97x P/E	24.00x P/E	-29.97x	Near ASML's ten-year trough under cycle/export stress
Share value	EUR 1,486.40	EUR 881.585304	n/a	EPS times 24x; no terminal net-cash adjustment
Annual dividend	EUR 7.52	EUR 8.3027	2.00%	Source-bound starting dividend with low-growth path
Dividend yield	0.51%	0.94%	+0.44pp	Annual dividend divided by endpoint share value
Five-year dividends	-	EUR 39.917070	cumulative	Five annual payments, counted once
Total ending value	EUR 1,486.40	EUR 921.502374	-9.12% gross local IRR	Terminal share value plus cumulative distributions

Base-case operating and return bridge

Base case	Start (2026-06-28)	Horizon (2031-06-28)	CAGR / change	Justification
Revenue	EUR 35.3275bn	EUR 66.928bn	13.63%	EUV, DUV and IBM convert official capacity and demand anchors
Operating margin	35.42%	38.00%	+2.58pp	Mix, learning and scale exceed continued frontier R&D
Operating earnings	EUR 12.5134bn	EUR 25.433bn	15.24%	Statutory operating income on the identical modeled metric
Diluted share count	385.300m	375.891025m	-0.49%	Sealed repurchase and SBC path
EPS	EUR 27.5392	EUR 57.199313	15.74%	Statutory diluted EPS after 17% tax and below-line bridge
Valuation denominator	EUR 27.5392 EPS	EUR 57.199313 EPS	comparable	Same statutory diluted-EPS and listed-share perimeter
Valuation	53.97x P/E	32.00x P/E	-21.97x	Below ASML history/current forward for 2031 maturity and risk
Share value	EUR 1,486.40	EUR 1,830.378016	n/a	EPS times 32x; no terminal net-cash adjustment
Annual dividend	EUR 7.52	EUR 12.1110	10.00%	Distribution growth remains below modeled EPS growth

Base case	Start (2026-06-28)	Horizon (2031-06-28)	CAGR / change	Justification
Dividend yield	0.51%	0.66%	+0.16pp	Annual dividend divided by endpoint share value
Five-year dividends	-	EUR 50.501387	cumulative	Five annual payments, counted once
Total ending value	EUR 1,486.40	EUR 1,880.879403	4.82% gross local IRR	Terminal share value plus cumulative distributions

Bull-case operating and return bridge

Bull case	Start (2026-06-28)	Horizon (2031-06-28)	CAGR / change	Justification
Revenue	EUR 35.3275bn	EUR 80.442bn	17.89%	Broad High-NA insertion, strong Low-NA/DUV and IBM utilization
Operating margin	35.42%	41.00%	+5.58pp	Favorable mix and learning outweigh frontier investment
Operating earnings	EUR 12.5134bn	EUR 32.981bn	21.39%	Statutory operating income on the identical modeled metric
Diluted share count	385.300m	375.891025m	-0.49%	Sealed repurchase and SBC path
EPS	EUR 27.5392	EUR 74.627676	22.06%	Statutory diluted EPS after 16.5% tax and below-line bridge
Valuation denominator	EUR 27.5392 EPS	EUR 74.627676 EPS	comparable	Same statutory diluted-EPS and listed-share perimeter
Valuation	53.97x P/E	38.00x P/E	-15.97x	Scarcity premium near ASML forward P/E, below current/historical high
Share value	EUR 1,486.40	EUR 2,835.851688	n/a	EPS times 38x; no terminal net-cash adjustment
Annual dividend	EUR 7.52	EUR 14.4791	14.00%	Strong payout growth remains below modeled EPS growth
Dividend yield	0.51%	0.51%	+0.00pp	Annual dividend divided by endpoint share value
Five-year dividends	-	EUR 56.667101	cumulative	Five annual payments, counted once
Total ending value	EUR 1,486.40	EUR 2,892.518789	14.24% gross local IRR	Terminal share value plus cumulative distributions

CIO actionability (separate from ER2 underwriting):

Measure	Result	Notes
Status	PASS	Security-level base return is below 8%; no capital action follows
Bear / Base / Bull net SGD IRR	-10.55% / 4.67% / 15.61%	Five-year annualized after prior-governed FX, 15bp costs and 15% dividend withholding
Probability-weighted net SGD IRR	3.94%	30% / 50% / 20% weighted terminal SGD wealth CAGR
10% mandate hurdle	FAIL	Base and probability-weighted cases are both below 10%
15% stretch hurdle	PASS	Bull clears the upside objective, but base and weighted cases do not
Downside and portfolio fit	FAIL / UNAVAILABLE	Bear loses 10.55% annually; no governed current portfolio context used
Proposed sizing ceiling	none	Research has no sizing authority; owner approval remains mandatory

The net-SGD diagnostic uses the prior-governed 2026-07-31 entry EUR/SGD rate of 1.48017448 and terminal EUR/SGD rates of 1.38/1.48/1.58. It applies 15bp entry and exit costs and 15% Dutch dividend withholding. The red team finds the prior-date entry-FX limitation immaterial at about 0.003 percentage point in annualized return. No investor-specific

capital-gains or wrapper tax is assumed. Missing portfolio context constrains only portfolio fit and sizing; it does not suppress mandatory security returns.

Trade execution authorized: NO

Kill / trigger criteria:

- Valuation trigger: price below EUR 857.99 would create a non-negative P/E-15 cushion on current base EPS, but Management must also upgrade to PASS; this is not a trade instruction.
- Operating failure: IBM revenue growth below 10% year over year for two consecutive quarters by end-H1 2027 while the EUV installed fleet grows.
- Margin failure: consolidated gross margin below 52.0% for two consecutive quarters by Q2 2027.
- High-NA failure: no broadening beyond qualification tools into production customer adoption with disclosed productivity and cost-per-good-wafer evidence by the 2027-2028 capacity conversion window.
- Upgrade conditions: all three ER2 gates pass on refreshed evidence, while base and probability-weighted net-SGD IRRs both clear 10% without exit-multiple expansion.

Research sizing if actionable: none. Research has no trade, broker, portfolio, ranking, sizing, message, ER2-bypass or BUY-queue authority.

Evidence quality and completion-first disclosures

QF/QFR, data review, segment review, synthesis, valuation preflight, compounder scoring, scoring audit and red team all cleared. The data package corrected official R&D history, FY2021 operating income, historical bookings/backlog and the Dutch export-control date. FMP product and geographic segment endpoints were empty, so official ASML publications control. ASML reports one segment; product-level profit and TTM NXE/EXE splits are not fabricated.

The quote is the completed 2026-08-27 XAMS close and remains bound to the sealed ordinary-share unit. Terminal cash, debt and leases are unavailable; that prevents EV/NOPAT from controlling but does not block the P/E bridge. Freshness-only limitations, including the prior-date FX diagnostic, are disclosed rather than treated as blockers. Every mandatory gross EUR and net-SGD return is finite, and all no-authority boundaries remain immutable.

Appendix A - Company Primer

ASML Holding N.V. (ASML.AS) — Institutional Company Primer

Information cutoff: August 28, 2026 **Latest reported period:** Q2 2026, quarter and six months ended June 28, 2026 **TTM anchor:** Q3 2025 through Q2 2026, ending June 28, 2026 **Exact five-year horizon used elsewhere in ER2:** June 28, 2031 **Financial basis:** US GAAP; euro millions except per-share data

How to read this primer

This appendix is orientation, not a valuation conclusion. Quantitative facts come from the current run's sealed quantitative foundation, whose quote packet and statutory bridge were independently sealed at SHA-256 `40b6d7bcc958d740e606d7adb9a4b2e0221cd177a10d9d796128f3e94978f49f` and `344074f3be1c21db8076317c65d530a5a75630b03889bd4cef1241b9a0903d5a`, respectively. Incremental qualitative facts come from live ASML materials, principally the [2025 Annual Report](https://www.asml.com/en/investors/annual-report/2025), its [strategic report section](https://ourbrand.asml.com/m/8ab959d4926657b/original/asml-2025-annual-report-strategic-report-section.pdf), and the [Q2 2026 results release](https://www.asml.com/en/news/press-releases/2026/q2-2026-financial-results). The still-incomplete `data_package.md` was not used.

To preserve analytical discipline, **Fact** means directly disclosed or mechanically computed from sealed figures; **Inference** means a reasoned economic interpretation; **Judgment** means an investor conclusion that later ER2 stages must test.

1. Business overview

Fact. ASML makes the patterning equipment, software and services that semiconductor manufacturers use to print microscopic circuit features onto silicon wafers. A chip design is transferred to a mask, light projects the mask pattern through an optical system, and a scanner exposes light-sensitive material on the wafer. Repeating this process layer by layer creates the structures that become logic processors, memory chips and many mature-node devices. ASML's purpose is therefore narrower than “semiconductor equipment” but deeper than a machine sale: it controls the lithography step that determines how small, accurately aligned and economically producible many chip features can be.

The customer is a semiconductor manufacturer, primarily a leading foundry, logic integrated-device manufacturer or memory producer. Customers do not buy through distributors or self-service channels. ASML sells directly and collaborates with customers years before a new manufacturing node enters high-volume production. System architecture, process recipes, factory interfaces, masks, resists and metrology must work together. The customer pays for new and used systems, then for maintenance, spare parts, software, productivity packages and field upgrades over a machine's long life.

The economic problem ASML solves is the **cost of patterning**, not simply feature resolution. Chipmakers need more good wafers per day, tighter layer-to-layer alignment, fewer defects and fewer process steps. EUV can replace several DUV multi-patterning exposures with fewer exposures on the most complex layers; higher system productivity spreads equipment depreciation over more wafers; metrology and computational corrections protect yield. ASML describes this integrated offer as “holistic lithography” and combines scanners, computational modeling, optical metrology and e-beam inspection to optimize the customer's process window. Its [products overview](https://www.asml.com/en/products) explains that EUV, DUV and applications products are designed to work as one patterning system.

Inference. ASML's product is best understood as an embedded production platform. A scanner's initial selling price matters, but a customer's real decision is based on lifetime cost per correctly patterned wafer and confidence that the platform will support several process generations. This makes qualification, uptime and roadmap alignment more important than a conventional capital-goods discount.

Judgment. The company's attraction is not merely EUV exclusivity. It is the combination of unique EUV capability, a broad DUV installed base, deeply integrated optics and light-source partners, process-control software, and field engineers inside customer fabs. That combined system raises switching costs. It also creates correlated risks: a missed technology roadmap, a constrained sole-source component or an export-license change can affect both new equipment and installed-base economics.

2. Revenue architecture

ASML reports one operating and reportable segment because management views the business as one holistic lithography provider. For economic analysis, the most useful split is between systems and installed-base activity.

Revenue stream	FY2025 revenue (€m)	Share of total	What the customer buys
Net system sales	24,474.3	74.9%	New and used EUV, DUV, metrology and inspection systems, plus associated system software
Net service and field option sales	8,193.0	25.1%	Maintenance, parts, service labor, software, productivity packages and upgrades for installed tools
Total net sales	32,667.3	100.0%	Consolidated ASML revenue

System revenue is project-like and lumpy. EUV systems are the highest-value and most technically differentiated; DUV spans advanced immersion tools and older dry/KrF/i-line platforms; metrology and inspection improve process control. FY2025 system revenue was approximately €16.1 billion to Logic customers and €8.4 billion to Memory customers. The exact system mix was 48% EUV, 42% ArF immersion, 2% ArF dry, 4% KrF, 1% i-line and 3% metrology and inspection, using ASML's [FY2025 results presentation](https://ourbrand.asml.com/m/1a5a2a9d0491701c/original/2026_01_28-Presentation-ASML-Press-Conference-Q4FY2025_FINAL.pdf).

Installed Base Management, ASML's current term for net service and field option sales, behaves differently. Revenue grows with the number of active systems, tool utilization, service intensity and the value of field upgrades. A mature DUV tool can remain productive for decades; ASML says almost every lithography system it has shipped remains in use. An upgrade can lift throughput or patterning performance without requiring a completely new system. This makes installed-base revenue recurring in economic substance, though it is not a contractual subscription and can fluctuate with utilization, upgrade timing and export rules.

TTM revenue reached €35,327.5 million: €25,982.0 million of systems and €9,345.5 million of service and field options. Thus service mix rose to 26.5% of TTM sales. The current run's TTM bridge is exact rather than annualized: Q3 2025 plus Q4 2025 plus Q1 2026 plus Q2 2026.

Geography is customer-location based and highly concentrated in Asian manufacturing hubs.

Customer geography	FY2025 share of total net sales	Investor relevance
China	29.1%	Large mature-node and DUV exposure; highest direct export-control sensitivity
Taiwan	25.5%	Leading-edge foundry concentration and cross-strait geopolitical exposure
South Korea	25.0%	Advanced memory and logic exposure; Korean peninsula risk
Other regions	20.4%	Includes United States, Japan, EMEA and the rest of Asia

These shares come from the 2025 Annual Report risk disclosures, not system shipment percentages. Customer concentration is even sharper than geography suggests: the largest customer represented 23.9% of FY2025 total net sales and the two largest together represented 38.0%.

3. Unit economics

ASML does not disclose operating profit by product because it has one reportable segment. The cleanest unit-economics bridge is therefore stream-level gross profit followed by shared R&D and SG&A.

FY2025 economics	Systems (€m)	Service and field options (€m)	Consolidated (€m)
Revenue	24,474.3	8,193.0	32,667.3
Cost of sales	11,384.0	4,025.3	15,409.3
Gross profit	13,090.3	4,167.7	17,258.0
Gross margin	53.5%	50.9%	52.8%

System gross margin depends on product mix, configuration, maturity and learning-curve progress. Low-NA EUV has benefited from volume and productivity improvements. High-NA EXE systems were still margin-dilutive in 2025 because early

units carried launch costs and had not reached mature manufacturing economics. DUV margin is influenced by the mix between high-value immersion systems and older platforms. Service margin depends on labor and part intensity, but software and field upgrades can carry attractive incremental economics. In 2025, management attributed gross-margin improvement to favorable NXE mix and higher service and field-option sales and margins, partly offset by EXE dilution.

Below gross profit, ASML spends heavily and persistently on R&D. FY2025 R&D was €4,698.8 million, 14.4% of sales, while SG&A was €1,257.8 million, 3.9%. Operating income was €11,301.4 million, a 34.6% margin. R&D is economically closer to recurring franchise investment than a discretionary cost.

FY2025 PP&E capital expenditure was €1,573.6 million, 4.8% of revenue; TTM capex was €1,445.6 million, 4.1%. Because much production value resides in suppliers, reported capex understates ecosystem investment.

TTM ended June 28, 2026	Amount	Margin or conversion
Revenue	€35,327.5m	100.0%
Operating income	€12,513.4m	35.4% of revenue
Net income	€10,638.4m	30.1% of revenue
Free cash flow	€10,041.2m	28.4% of revenue
PP&E capex	€1,445.6m	4.1% of revenue
Diluted EPS	€27.54	386.3m TTM weighted shares

TTM free cash flow equaled 94% of net income, but this smooth annual view hides severe quarter-to-quarter working-capital movement. H1 2026 operating cash flow was negative €482.5 million despite €5,674.3 million of net income, while Q4 2025 operating cash flow was €11,410.3 million. Customer prepayments, inventory build, shipment timing, acceptance and supplier payments can shift cash across quarters. **Judgment:** quarterly cash conversion should not be extrapolated; the four-quarter or multi-year conversion trend is the useful signal.

4. Product and technology stack

Layer	Main products	Customer value	Key technical dependency
High-NA EUV	TWINSCAN EXE:5000 and EXE:5200B	Higher resolution and fewer process steps for future logic and DRAM nodes	0.55 numerical-aperture optics, source power, stages, masks and resist ecosystem
Low-NA EUV	TWINSCAN NXE:3400C, NXE:3600D and NXE:3800E/F	High-volume patterning of the most complex advanced-node layers	13.5 nm light, reflective optics, vacuum, uptime and throughput
DUV immersion	TWINSCAN NXT family	Critical advanced and mature layers; high productivity and overlay	193 nm ArF light, water immersion, precision lenses and stages
DUV dry, KrF and i-line	Mature TWINSCAN and PAS platforms	Cost-effective patterning for less demanding layers, mature nodes and packaging	Installed-base support, productivity and cost of ownership
Metrology and inspection	YieldStar optical metrology and HMI e-beam tools	Measures overlay, dimensions and defects to protect yield	Measurement speed, accuracy and integration with scanners
Computational lithography	Modeling, correction and process-control software	Expands the process window and corrects physical distortions	Algorithms, fab data, compute and tight hardware integration
Installed-base services	Parts, maintenance, software and field upgrades	Improves uptime, throughput, overlay and tool lifetime	Field engineering capacity and access to customer sites

EUV uses 13.5-nanometer light, compared with 193 nanometers for leading DUV. Because EUV is absorbed by air and ordinary lenses, it requires a vacuum path and multilayer mirrors. Its source turns tin droplets into plasma, while the wafer stage repeatedly positions wafers at sub-nanometer accuracy. ASML's [EUV product explanation](https://www.asml.com/en/products/euv-lithography-systems) shows why the product is a system of interdependent breakthroughs rather than a single patent.

High-NA raises numerical aperture from 0.33 to 0.55, improving resolution and contrast. ASML positions EXE for sub-2-nanometer logic and advanced DRAM. The economic promise is fewer exposures, defects and cycle-time steps; the economic risk is that customers delay adoption if the complete ecosystem or cost per wafer is not ready. Low-NA EUV will remain important because improved throughput can lower the cost per exposure and because installed process flows are already qualified.

DUV is not technologically obsolete. Advanced chips still contain many layers that do not need EUV, while mature-node chips use DUV extensively. Immersion tools remain vital at leading nodes; dry, KrF and i-line systems support mature applications and advanced packaging. Metrology, inspection and computational products create a feedback loop: measure errors, model causes, correct scanner settings and protect yield. This integration makes ASML more than a scanner vendor.

5. Customers and buying cycle

The addressable customer set is small. Leading-edge logic demand is concentrated among a handful of companies, while advanced DRAM has three major producers. Qualification begins before commercial orders as ASML and customers align node roadmaps, process windows and cost targets. The [innovation overview](https://www.asml.com/en/technology/how-we-innovate) describes shared knowledge, risk and investment alignment.

An order is included in net bookings after written authorization is accepted; backlog contains accepted system orders and inflation adjustments not yet recognized as revenue. FY2025 net bookings were €28.0 billion and year-end backlog was €38.8 billion. Backlog offers visibility, not certainty. Orders can be delayed, pushed out or restricted by export controls, and customer capex plans can change. The Q2 2026 release did not provide a comparable backlog number but said first-half order intake remained extremely strong and that customer commitments had improved longer-term visibility.

The operating cycle proceeds through configuration, supplier commitments, assembly, testing, shipment, installation and acceptance. For some fast shipments, final testing and acceptance occur at the customer site, delaying revenue recognition. With very high system prices, one or a few acceptances can materially change a quarter.

After acceptance, the relationship becomes continuous. ASML technicians, applications specialists and software teams support uptime and performance in the fab. ASML reports about 10,000 customer-support employees on its [products and services page](https://www.asml.com/en/products). Field options let customers upgrade older tools toward newer performance levels. This creates a commercial flywheel: more installed systems expand the service base; accumulated process data improves applications; upgrades raise customer productivity; stronger customer economics support future system purchases.

6. Industry structure and competition

Lithography is one part of wafer-fabrication equipment, alongside deposition, etch, process control and other tools. Within lithography, ASML is the sole commercial supplier of EUV systems. That is a powerful position, but not a license to ignore customer economics: fabs can delay nodes, redesign process flows or use more DUV multi-patterning if EUV cost or readiness disappoints.

ASML competes with Canon and Nikon in DUV. It also competes with Applied Materials and KLA in applications that support or enhance patterning, and faces the possibility of state-supported entrants seeking domestic self-sufficiency. The 2025 Annual Report explicitly warns that a weaker yen can intensify DUV price competition and that alternative process technologies could reduce lithography dependence.

Competitive advantage rests on accumulated R&D, exclusive optics collaboration with Carl Zeiss SMT, Cymer light-source capability, precision mechatronics, process software, HMI e-beam technology, the installed base, field-service knowledge and customer co-development. Reproducing one subsystem would not reproduce the platform; equally, execution failures are hard to route around.

ASML has scarce technology, but customers are few, sophisticated and enormous; unique-subsystem suppliers also hold leverage. Value and risk are shared across multi-year roadmaps. **Judgment:** ASML's advantage is strongest where alternatives are technologically inferior and weakest where mature DUV tools, alternative flows or delayed capex satisfy customer economics.

7. Supply chain, manufacturing and capacity

ASML orchestrates roughly 5,100 suppliers; most system parts are made externally. Final integration and testing span cleanroom sites in the Netherlands, Germany, the United States, South Korea and Taiwan. Capacity remains constrained by specialized tools, skilled labor and long-lead components.

Carl Zeiss SMT is the sole supplier of critical lenses, mirrors, illuminators and collectors under an exclusive arrangement. ASML states that a prolonged loss of ZEISS optics would effectively stop its business. Other bottlenecks include light sources, precision stages, vacuum components, electronics, rare-earth-containing magnets, cleanroom space and supplier

engineering capacity. Lead times lengthen as products become more complex, making forecast errors expensive in both directions: underinvestment loses shipments, while excess capacity strands inventory and supplier commitments.

At Q2 2026, management planned to increase 2027 low-NA EUV capacity by 30% from a 2026 base of about 65 systems and to investigate another 30% increase for 2028. It gave an analogous plan for DUV immersion from a 2026 base near 130 systems. ASML is also expanding its upgrade portfolio. These are capacity intentions, not guaranteed output; supplier readiness and customer timing must match.

Once systems arrive, installation and acceptance require qualified customer sites and service staff. Capacity therefore has three gates: supplier subsystems, ASML integration and field installation/acceptance.

8. Growth drivers

- **AI compute and memory.** Advanced accelerators require leading-edge logic and large amounts of high-bandwidth memory. ASML reported that all three major DRAM players were benefiting from AI investment and that customers accelerated capacity plans in 2026.
- **Lithography intensity.** More complex nodes can require more critical exposures even when wafer starts grow slowly. Converting DUV multi-patterning to EUV can raise EUV spending while lowering total customer process cost.
- **EUV productivity and adoption.** Higher throughput and availability lower cost per exposure, making EUV economical across more layers and customers. Low-NA improvements matter alongside new High-NA launches.
- **High-NA insertion.** EXE can enable future nodes with fewer patterning steps. The upside depends on customer qualification, ecosystem readiness and mature gross margins.
- **Installed-base compounding.** Each system expands the service, parts, software and upgrade opportunity. TTM service mix of 26.5% is evidence of this flywheel, though not a contractual annuity.
- **Metrology, inspection and computational attach.** More complex 3D structures and tighter process windows require more measurement and correction. Holistic applications can increase value per scanner and deepen switching costs.
- **Advanced packaging.** The XT:260 i-line scanner targets 3D integration and packaging, broadening ASML beyond front-end scaling.
- **Technology sovereignty.** New regional fabs can add tool demand, but subsidies may shift timing and create inefficient duplication. Export controls can offset the benefit.

ASML's 2024 Investor Day framed a 2030 opportunity of €44–60 billion of revenue and 56–60% gross margin; these are scenarios, not guarantees. By Q2 2026, ASML raised 2026 guidance to €43–45 billion of revenue and 54–56% gross margin. The [Q2 2026 release](https://www.asml.com/en/news/press-releases/2026/q2-2026-financial-results) linked the stronger outlook to AI demand, customer capacity acceleration and installed-base strength.

9. Capital allocation

The hierarchy is to fund R&D, working capital and capacity; maintain a strong investment-grade balance sheet; pursue selective strategic investments; and return excess cash through dividends and repurchases. At June 28, 2026, ASML had €6,671.9 million of cash, €909.6 million of short-term investments and €3,719.7 million of gross debt, equivalent to €3,861.8 million of net cash. It also had a €1.5 billion committed undrawn facility and €3.5 billion of non-committed undrawn lines.

FY2025 capital returns included €5,950 million of repurchases and €2,550.3 million of dividends paid. ASML declared a €7.50 dividend per share for 2025. The 2026–2028 buyback authorization is up to €12 billion; up to two million shares may cover employee plans and ASML intends to cancel the rest. The [capital return page](https://www.asml.com/en/investors/why-invest-in-asml/capital-return-and-financing) subordinates returns to liquidity, capacity, working capital, R&D and acquisition needs.

Share count demonstrates effective cancellation: diluted weighted-average shares declined from 394.1 million in FY2023 to 388.9 million in FY2025 and 385.3 million for H1 2026. Buybacks are not automatically value-creating; economics depend on price. The €1.3 billion Mistral AI investment should be evaluated separately from core lithography returns.

10. Key accounting and operating KPIs

KPI	What it captures	Main analytical trap
Net system sales	Systems recognized after required delivery/acceptance conditions	A few acceptances can shift quarterly revenue materially
Installed Base Management sales	Service and field option revenue	Recurring economically, but not fully subscription-like or immune to utilization/export controls
Net bookings	Accepted written system authorizations and inflation adjustments	Volatile; not identical to revenue and can be delayed or cancelled
Backlog	Accepted system orders not yet recognized as sales	Visibility indicator, not an unconditional contract asset
Gross margin	Mix, maturity, pricing, productivity and service economics	Early High-NA systems can dilute margin even if strategically successful
Systems sold by technology	Volume across EUV, DUV and applications	Unit counts ignore very large differences in average selling price
Logic/Memory sales	Customer end-use exposure	Both are cyclical and increasingly linked through AI infrastructure
R&D intensity	Investment required to sustain roadmap leadership	Cutting R&D may boost near-term margin while weakening the franchise
Free cash flow	Operating cash flow less PP&E capex	Highly sensitive to prepayments, inventory and shipment timing
Tool utilization and uptime	Driver of service demand and customer economics	Usually discussed qualitatively rather than fully disclosed
Installed base and upgrades	Recurring service and productivity opportunity	Export controls and customer self-service can constrain monetization

ASML's statutory reporting deserves special care. Management's chief operating decision makers use consolidated sales and US-GAAP net income; there is no product-level operating-profit disclosure. The sealed ER2 statutory bridge therefore models one segment on statutory operating income and preserves net income as the separate CODM measure. Analyst-created EUV or DUV operating-profit segments would be false precision.

FMP data also contains known foreign-issuer presentation gaps. In the current foundation, official ASML statements override FMP's pretax income, debt, quarterly diluted EPS and diluted-share fields. The official US-GAAP Q2 statement controls the TTM; the IFRS statutory interim is a cross-check and should not be mixed into US-GAAP period arithmetic.

11. Cyclicality, regulation and export controls

Semiconductor equipment demand is cyclical because customers build fabs in large increments, respond to end-market inventories and finance multi-year node transitions. Bookings can turn before revenue because ASML's lead times and backlog delay recognition. Logic and memory cycles can diverge, while AI currently links leading-edge logic with advanced DRAM. A strong installed base dampens but does not eliminate cyclicality.

Export regulation is structural, not an occasional headline. EUV systems, specified DUV immersion tools and some metrology/inspection products require licenses under Dutch, EU, US or other rules. Restrictions can affect new systems, parts, software updates, service activity, employees and customers' ability to expand. China represented 29.1% of FY2025 revenue, making mix and service exposure material even though advanced tools are already restricted.

The 2025 Annual Report notes expanded Dutch controls from January 2025, EU-wide license requirements added in November 2025, US entity-list rules and rare-earth controls. Rules and license outcomes can change faster than ASML can reconfigure capacity. They may also stimulate indigenous competitors and supply-chain localization. Tariffs can raise ASML's input costs or customers' delivered system cost.

Inference. Technology sovereignty cuts both ways: duplicated fabs in the US, Europe and Asia may raise gross equipment demand, but fragmented standards, restricted customer access and inefficient capacity can reduce returns. **Judgment:** investors should scenario-test export controls as a permanent constraint on geography and service monetization, not a one-year revenue adjustment.

12. Principal risks

- **Technology execution:** High-NA, future low-NA platforms, source power, optics and process-control roadmaps must deliver customer cost benefits on schedule.

- **Customer adoption:** A technically impressive product can fail economically if throughput, yield, masks, resists or total process cost are inadequate.
- **Customer concentration:** One customer was 23.9% and the top two were 38.0% of FY2025 sales; capex delays at a few companies can move ASML's results.
- **Supplier concentration:** ZEISS is the sole source of critical optics. Other specialized subsystems also have long qualification and capacity lead times.
- **Export controls and geopolitics:** China sales and service, Taiwan operations and customers, Korean customers, tariffs and rare-earth availability create direct exposure.
- **Cyclicality and backlog conversion:** Orders can be pushed out, cancelled or barred from shipment. Backlog is not cash.
- **Margin transition:** Early EXE systems are dilutive; mix, launch costs and supplier inflation can delay the margin path.
- **Working capital:** Prepayments, inventory builds and customer acceptance make quarterly cash flow exceptionally volatile.
- **Competition and alternatives:** Canon and Nikon compete in DUV; applications vendors compete in process control; domestic alternatives and non-lithographic process changes may improve.
- **IP and cyber risk:** ASML must protect proprietary designs and a connected global ecosystem against theft, litigation and operational attack.
- **Capacity mismatch:** Underbuilding forfeits demand; overbuilding strands expensive cleanrooms, inventory and supplier commitments.
- **Capital allocation:** Large repurchases at elevated prices or non-core strategic stakes may earn less than reinvestment in the core franchise.

13. Reader glossary

Term	Plain-language definition
Lithography	The step that projects circuit patterns onto a light-sensitive wafer surface
Wafer	A thin silicon disk on which many chips are fabricated
Exposure	One patterning pass of a wafer layer through a lithography system
Node	A generation of chip-manufacturing technology; labels such as 3 nm are commercial shorthand, not one literal dimension
Logic	Processors and related computing chips that perform calculations and control functions
DRAM	Volatile memory used for fast data access
HBM	High-bandwidth memory stacks used beside advanced processors, especially AI accelerators
DUV	Deep ultraviolet lithography, usually using 193 nm or 248 nm light depending on platform
ArF immersion	High-resolution DUV using 193 nm argon-fluoride light through water between optics and wafer
KrF	Mature DUV technology using 248 nm krypton-fluoride light
EUV	Extreme ultraviolet lithography using 13.5 nm light and reflective optics in a vacuum
Low-NA EUV	Current 0.33 numerical-aperture EUV, marketed in the NXE family
High-NA EUV	New 0.55 numerical-aperture EUV, marketed in the EXE family
Numerical aperture / NA	A measure of an optical system's ability to collect and focus light; higher NA can improve resolution
Overlay	Accuracy with which one patterned layer aligns to previous layers
Critical dimension / CD	The size of a printed feature that process engineers monitor and control
Throughput	Wafers processed per hour; a key driver of customer cost per wafer

Term	Plain-language definition
Uptime / availability	The portion of scheduled production time when a tool is ready to run
Yield	The share of manufactured chips that meet specification and can be sold
Multi-patterning	Using several DUV exposures and process steps to create a feature smaller than one exposure can print
Metrology	Measuring dimensions and layer alignment on a wafer
Inspection	Finding and classifying defects in patterned wafers
Computational lithography	Software modeling and correction that improves pattern fidelity and process-window control
Installed Base Management / IBM	ASML's service, parts, software and field-upgrade revenue from tools already operating
Net bookings	Accepted written system orders plus relevant inflation adjustments
Backlog	Accepted system order value not yet recognized as revenue
Customer acceptance	Formal confirmation that an installed system meets contractual performance, often a revenue-recognition gate
Fast shipment	Delivery before all final testing is completed at ASML; testing and acceptance finish at the customer site
Cost of technology	Customer economics per usable patterned wafer, incorporating tool price, throughput, yield, steps and operating costs
Field upgrade	Hardware or software installed on an existing system to improve productivity or patterning performance

Bottom line for the next ER2 stages

ASML is a single-segment company with multiple economic engines. Systems create a large, cyclical and technologically scarce profit pool; the installed base converts past shipments into service and upgrade demand; applications deepen customer integration. The sealed TTM shows exceptional economics—€35.3 billion of revenue, 35.4% operating margin and €10.0 billion of free cash flow—but also unusually volatile working capital. The central underwriting question is not whether ASML owns attractive technology. It is whether EUV/High-NA adoption, service compounding and capacity execution can outrun cyclicality, customer and supplier concentration, export restrictions and the valuation implied by those strengths. Later ER2 stages should keep facts separate from that judgment and test each engine from the June 28, 2026 TTM anchor to the exact June 28, 2031 horizon.

Appendix M - Management Assessment

ASML Holding N.V. — Management Assessment

Assessment date: 2026-08-28 (SGT) **Ticker:** ASML.AS **Management gate: YELLOW**

Evidence boundary

This refresh deliberately separates evidence by purpose. Historical capital allocation and corporate actions come from the DR-cleared `data_package.md`, principally Sections 7 and 9; they were not re-created from a prior report or warehouse cache. Current leadership, remuneration, governance, insider-policy, capital-return and disclosure evidence was fetched live in this run from ASML's [2025 Annual Report](https://ourbrand.asml.com/m/71076aaad607de4d/original/asml-2025-annual-report-based-on-us-gaap.pdf), standalone [2025 Remuneration Report](https://ourbrand.asml.com/m/2aab148d7a4a5d62/original/asml-2025-remuneration-report.pdf), [Board of Management](https://www.asml.com/en/company/governance/board-of-management), [Supervisory Board](https://www.asml.com/en/company/governance/supervisory-board), [2026 AGM results](https://www.asml.com/en/news/press-releases/2026/asml-discloses-2026-agm-results), and [Insider Trading Rules](https://media.asml.com/asmlnetherlaaea-asmlcom-prd-5369/media/project/asmlcom/asmlcom/asml/files/company/governance/board-of-management/asml-insider-trading-rules.pdf).

The last eight official investor-call transcripts, Q3 2024 through Q2 2026, were also fetched live from ASML's quarterly-results pages. ASML's official PDFs contain management's prepared remarks but stop when Q&A begins. Fresh `/stable/earning-call-transcript` pulls for ASML.AS supplied analyst Q&A for six calls; the provider copies for Q3 2025 and Q1 2026 contained prepared remarks only. This is a real coverage limit, not a reason to pretend those two Q&A sessions were reviewed.

1. Who is running the company

Christophe Fouquet has been President, CEO and sole president/chair of the Board of Management since April 24, 2024. He joined ASML in 2008, ran Applications from 2013 to 2018, EUV from 2018 to 2022, then served as Chief Business Officer until becoming CEO. This is unusually deep internal preparation: he understands product economics and customer roadmaps. It is not, however, the same as a five-year CEO record. At the assessment date he has held the top job for only about 28 months.

Roger Dassen has been CFO and a Board of Management member since June 2018. He previously led Deloitte Holding B.V. and served on Deloitte Touche Tohmatsu's executive board. His 2026 reappointment extends his term to 2030, giving ASML proven financial continuity through the CEO transition. The six-member management board also includes Frédéric Schneider-Maunoury, COO; Wayne Allan, Chief Strategic Sourcing & Procurement Officer; Jim Koonmen, Chief Customer Officer; and Marco Pieters, CTO. Pieters joined ASML in 1999, became CTO in 2025 and joined the management board in 2026. ASML has one reportable operating segment, so these functional leaders—not nominal segment presidents—are the material execution owners.

Nils Andersen has chaired the nine-member Supervisory Board since 2023; Terri Kelly is vice-chair and remuneration chair. The current ASML page states that all nine members are fully independent under the Dutch Corporate Governance Code. The board mixes semiconductor expertise (Mark Durcan, An Steegen, Benjamin Loh), operating leadership and finance. No member has served longer than Kelly's tenure since 2018. Andersen and Audit Committee chair Jack de Kreij are due to leave at the 2027 AGM, making succession an observable governance item rather than an entrenchment problem. Outside positions are meaningful but disclosed and remain within Dutch limits; no current overboarding breach was identified.

2. Tenure and track record

Fouquet inherited an institution built under Peter Wennink and Martin van den Brink. The fair attribution is therefore two-layered: ASML's operating system has a decade-plus execution record; Fouquet does not yet have a decade-plus CEO record. Three consequential decisions under his leadership illustrate the distinction.

First, he protected the lithography roadmap and R&D intensity through the 2024 slowdown. The data package shows R&D of €4.304 billion in 2024 and €4.699 billion in 2025, or 15.2% and 14.4% of revenue. Revenue then rose from €28.263 billion to €32.667 billion, gross margin improved from 51.3% to 52.8%, and the package's provider-input ROIC proxy rebounded from

31.9% to 47.4%. The outcome is strong, but credit belongs jointly to long-cycle programs, Fouquet's earlier EUV stewardship and the broader ASML system.

Second, Fouquet reorganized technology leadership: Pieters became CTO, customer teams were strengthened under Koonmen, supply-chain transformation continued under Allan, and Technology/IT streamlining was announced in January 2026. The 2025 report says customer satisfaction rose from 86% to 88% and discloses a possible net reduction of 1,700 positions while creating engineering roles. This is candid, but financial and innovation outcomes remain unproven.

Third, ASML invested €1.302 billion for about 11% of Mistral AI in September 2025. The stated purpose is to apply AI to holistic lithography, products and operations. Dassen joined Mistral's strategic committee. This may prove strategically valuable, but no revenue, margin, ROIC or cash-return result has yet been disclosed. It is the largest clear CEO-era capital-allocation test and currently earns neither success credit nor a write-off assumption.

Dassen's record is longer and more measurable. He has maintained net cash, funded exceptional organic R&D, moderated buybacks during 2023-2024, and returned capital heavily when cash generation recovered. Diluted weighted shares fell from 410.4 million in 2021 to 388.9 million in 2025, while diluted EPS rose from €14.34 to €24.71. That is credible per-share protection through the 2023-2024 normalization. The CFO record is a PASS-quality component of a team whose CEO evidence is still YELLOW.

3. Capital allocation behavior

The DR-cleared five-year ledger is coherent with ASML's strategy.

Year	Capex, €bn	R&D, €bn	Buybacks, €bn	Dividends, €bn	Net acquisitions, €bn
2021	0.940	2.547	8.560	1.368	-0.329
2022	1.282	3.254	4.640	2.560	0.000
2023	2.196	3.981	1.000	2.348	0.034
2024	2.083	4.304	0.500	2.453	0.000
2025	1.574	4.699	5.950	2.550	0.000
Five-year total	**8.075**	**18.785**	**20.650**	**11.279**	**-0.295**

R&D remained 13.7%-15.4% of sales and capex expanded during the capacity build. The pattern supports, rather than contradicts, management's claim that holistic lithography and technology leadership are the core mission. M&A was essentially absent until the separately classified Mistral investment, so ASML has not relied on serial acquisitions to manufacture growth.

Buybacks were not mechanically constant: €13.2 billion was spent in 2021-2022, only €1.5 billion in 2023-2024, then €5.95 billion in 2025. The 2022-2025 program ended with €7.6 billion executed versus authorization of up to €12 billion, evidence that authorization did not compel spending. Yet ASML discloses no valuation hurdle, so this is pacing discretion, not proof of price-sensitive repurchase. The new program authorizes up to €12 billion through 2028; up to two million shares can cover employee plans and the remainder is intended for cancellation. Live Q1 and Q2 2026 materials show about €1.1 billion repurchased in each quarter. The 2026 AGM authorized repurchases and cancellation of up to 10% of issued capital. Capital return is substantial and dilution-aware, but the board should disclose how price affects execution.

4. Compensation alignment

The 2025 policy is materially aligned. CEO base salary was €1.125 million; the annual STI target was 150% of salary. The 2025 STI weighted EBIT margin at 60%, customer orientation at 20% and strategic orientation at 20%. Actual payout was 142.5% of target after 34.6% EBIT margin exceeded the 33.0% stretch threshold. This is quantifiable, although strategic sub-targets include management-selected operating objectives.

The CEO's LTI target was 275% of salary, measured over three years with a two-year post-vesting holding period. The 2025-2027 award weights relative TSR 25%, three-year ROAIC 35%, technology leadership 20% and ESG 20%. The old 2023-2025 plan vested at 137.4% of target. Importantly, ROAIC now introduces an explicit capital-return metric, but the formula excludes M&A from evaluation after the LTI period. That carve-out can insulate precisely the strategic capital decisions investors most need assessed, including Mistral, and is the main design weakness.

At December 31, 2025, Fouquet held 7,040 vested/owned shares worth 5.77 times salary; Dassen held 6,643, worth 7.81 times salary. These figures exclude unvested awards, although they may include vested LTI shares rather than only

open-market purchases. Both exceed the four-times/three-times ownership requirements. CEO 2025 accounting remuneration was €7.021 million, 80.4% variable. Clawback rules comply with Dutch law and SEC/Nasdaq recovery requirements; no clawback occurred in 2025. ASML's insider rules restrict short-dated options, closed-period trading and hedging changes around trading plans, but the policy reviewed is not a blanket prohibition on every hedging or pledging structure.

Company-wide share-based compensation was disciplined.

Year	SBC, €bn	Revenue, €bn	SBC / revenue
2021	0.118	18.611	0.63%
2022	0.069	21.173	0.33%
2023	0.135	27.559	0.49%
2024	0.173	28.263	0.61%
2025	0.202	32.667	0.62%

SBC stayed below 0.7% of revenue, and the share count contracted over the period. Chronic dilution is not present.

5. Disclosure quality and candor

Guidance discipline is unusually strong across the eight-quarter sample.

Reported quarter	Sales versus guide	Gross margin versus guide	Candor marker
Q3 2024	Above	Within	Cut 2025 outlook; apologized for early release publication
Q4 2024	Above	Above	Explained lower EUV volume and High-NA dilution
Q1 2025	In line	Above	Quantified tariff uncertainty and wider margin range
Q2 2025	Above	Above	Said explicitly that 2026 growth could not be confirmed
Q3 2025	Within	Within	Said China 2026 sales would decline significantly
Q4 2025	Within	Within	Disclosed 2026 range and new buyback terms
Q1 2026	Within	High end	Raised and narrowed full-year sales guidance
Q2 2026	Above	Above	Raised sales/margin and quantified capacity increases

There were no sales or gross-margin misses in the sample. Management used explicit uncertainty/caution markers in four of eight prepared remarks—Q3 2024, Q1 2025, Q2 2025 and Q3 2025—but paired them with numbers. The language was not merely euphemistic: ASML said recovery was slower, customers pushed out fabs, 2026 growth could not be confirmed, and China sales would decline significantly.

The six available analyst Q&A records support a generally candid score. In Q3 2024, analysts pressed on the abrupt 2025 cut, export controls, customer-specific foundry weakness and margin. Dassen quantified fewer than 50 Low-NA EUV systems and a 51%-53% margin range; Fouquet acknowledged both weak non-AI demand and customer competitive dynamics. Dassen did refuse to split the China reduction between normalization and export-control conservatism, saying he would not dissect it. That is a real disclosure boundary, but it concerned an inherently customer- and policy-sensitive estimate rather than a contradiction in the reported numbers.

In Q2 2026, management gave system-capacity increases, order coverage, mix and fixed-cost explanations, while declining to quantify 2027 gross margin or a 60% incremental-margin target. Those refusals were appropriately framed as non-guidance. Voluntary disclosure remains above average: system units, technology mix, Logic/Memory mix, IBM revenue, backlog, capacity, productivity and technology milestones. The negative is ASML's decision to stop quarterly bookings disclosure after 2025, replacing it with backlog updates. That removes a volatile metric that management argued was misleading, but it also reduces a leading indicator and should be monitored.

6. Strategic coherence

Fouquet's concise strategic statement is that “innovation is the engine of ASML.” More operationally, he says the guiding principle is to add the most value for customers today and in the future. The strategy is not a series of pivots: extend Low-NA EUV, mature High-NA, improve DUV economics, expand holistic lithography and installed-base upgrades, and selectively apply AI/3D-integration capabilities.

Investment matches the message. Five-year R&D was €18.8 billion, capacity capex was sustained, the supply chain is being prepared for roughly 30% Low-NA EUV and immersion capacity increases in 2027, and a longer-dated Eindhoven campus supports post-2028 growth. Management also names constraints directly: export controls, customer concentration, ZEISS/supplier capacity, High-NA maturity, China normalization and fab timing. The tension is that Mistral and the Technology/IT reorganization add adjacent execution risk before Fouquet's core roadmap has a long in-seat record.

7. Governance flags

ASML reported no related-party transactions in 2025 other than ordinary-course compensation arrangements. The auditor found effective internal control over financial reporting at year-end 2025; no restatement, material weakness or recent enforcement finding was identified in the official materials reviewed. Current board members are independent and key capital actions require Supervisory Board approval.

There is no issued dual-class structure: each issued ordinary share has one vote and no cumulative preference shares are issued. However, the independent ASML Preference Shares Foundation holds an option that could issue cumulative preference shares and dilute ordinary voting power by about half as an anti-takeover measure. This is a genuine minority-shareholder governance reservation, though it is a defense mechanism rather than day-to-day insider control.

The live AFM insider-register page was fetched, but its ASML keyword/date query returned HTTP 500 twice. Consequently, this report does not claim a complete post-August-2025 transaction-ledger audit. The current remuneration report establishes substantial year-end CEO/CFO holdings, and no clustered material selling is disclosed in the official ASML materials reviewed, but absence of disclosure is not proof of no post-year-end sales. ASML's policy requires prompt AFM notification of board transactions; the AFM query should be rerun when functional.

8. Peer comparison

Fresh executive data confirms Gary Dickerson at Applied Materials, Tim Archer at Lam Research and Richard Wallace at KLA as current CEOs. This comparison is directional and distinguishes company stewardship from CEO tenure.

CEO / company	Per-dollar allocation view	Communication view	Five-year stewardship rank
Richard Wallace / KLA	Closest peer challenger; long record of focused organic investment and per-share returns	Consistent and financially explicit	Stronger individually than Fouquet because tenure supplies proof
Gary Dickerson / Applied Materials	Strong R&D and capital return, but a broader portfolio and deal ambitions create more allocation complexity	Detailed, though segment breadth complicates attribution	Stronger individually than Fouquet; below ASML institutionally on organic return quality
Tim Archer / Lam Research	Strong cycle-aware investment and repurchase discipline	Direct on memory/foundry cycles and capacity	Stronger individually than Fouquet on tenure; broadly comparable operationally
Christophe Fouquet / ASML	Best institutional organic return profile and greatest M&A restraint; Mistral is unproven	Highest current guidance score; one China disaggregation refusal and reduced bookings disclosure	Institutionally top-tier, but fourth on CEO-specific proof because only 28 months in role

ASML's management system ranks near the top of this peer set. Fouquet personally cannot yet outrank CEOs with five to twenty years of observable stewardship. That is the core reason for YELLOW rather than PASS.

9. Management gate verdict

YELLOW — investable but unresolved. Dassen and ASML's institutional operating system demonstrate excellent capital discipline, low dilution, high organic reinvestment, clean governance and unusually reliable guidance. Fouquet has strong internal credentials and has handled a difficult demand reset candidly, but his CEO-specific record is only about 28 months, while the Mistral investment, reorganization and new capacity plan have not yet produced a full-cycle outcome. Calling that a decade-plus PASS would confuse inherited institutional execution with evidence attributable to the current CEO.

Observable conditions:

- **Upgrade to PASS:** by FY2027, deliver the Low-NA/immersion capacity and High-NA maturity commitments while sustaining greater than 25% normalized ROIC, positive per-share FCF/EPS growth and no structural gross-margin break below 50%; disclose measurable Mistral product or productivity benefits without impairment; and preserve numeric backlog/capacity/margin bridges after bookings disclosure ends.
- **Remain YELLOW:** core roadmap execution and guidance remain sound, but Mistral economics and reorganization benefits are still not measurable or Fouquet has not yet completed a hard full cycle.
- **Downgrade to FAIL:** a material Mistral impairment or serial strategic investments without per-share returns; two consecutive material guidance misses or evasive answers on export controls/High-NA economics; sustained annual dilution above 1%; normalized ROIC below 20% without a credible recovery path; or use of the preference-share defense against ordinary shareholder interests.

Appendix W - Moat and 2046 Durability

ASML Holding N.V. — Moat and 2046 Durability

Ticker: ASML.AS **Assessment date:** 2026-08-28 **Evidence discipline:** Quantitative claims come from the DR-cleared `data_package.md`, whose information cutoff is 2026-08-28T12:03:03+08:00. Competitive and technical judgments are cross-checked against live official ASML, ZEISS, Nikon, Canon and KLA disclosures. ASML has one statutory reportable segment; the economic product-family analysis below does not invent product-family profit or margin data.

1. Moat taxonomy applied

Network effects — absent in the classic sense

ASML does not have a user-to-user network in which each added customer directly increases the product's utility to every other customer. Its nearest analogue is a learning loop: a larger installed fleet generates engineering feedback and scanner/metrology data; collaboration with leading customers exposes ASML earlier to future-node problems; and those lessons improve hardware, computational lithography, upgrade packages and service. That loop is valuable but proprietary-data scale, not a true network effect. It is strongest in Low-NA/High-NA EUV, holistic lithography and Installed Base Management (IBM), and much weaker in stand-alone metrology/inspection where KLA and other process-control specialists also have large installed fleets and data. Investors should not count "network effects" as a separate moat layer.

Switching costs — very strong in advanced lithography, moderate elsewhere

The principal switching cost is process requalification, not a contractual lock. A leading-edge fab optimizes masks, resists, process windows, overlay control, computational models, maintenance procedures and operator training around a scanner platform. Replacing a qualified EUV flow would risk yield, cycle time and node schedules worth far more than a scanner's purchase price. There is presently no commercial EUV alternative to switch to, making this partly a lack-of-substitute advantage. DUV switching costs are lower because Nikon and Canon compete and mature processes are less technically unforgiving, although installed process recipes and overlay matching still matter. IBM inherits the highest switching cost because ASML controls the knowledge, parts, diagnostics and performance upgrades for its own fleet. Metrology and software benefit when tightly integrated with scanner corrections, but customers can and do use KLA, Applied Materials, Nova and other tools elsewhere in the control stack.

Scale economies — exceptional, but shared with suppliers

ASML spent EUR4.7bn on R&D in 2025, or 14.4% of revenue, after EUR2.5bn-EUR4.3bn annually in 2021-2024. That recurrent investment supports Low-NA, High-NA, DUV, e-beam, optical metrology, software, sources, stages and customer support simultaneously. A new entrant must fund decades of physics, mechatronics, controls and industrialization before earning meaningful revenue, while ASML amortizes the platform across the small number of fabs that can buy leading-edge tools. The scale moat extends to a co-developed supplier ecosystem: ASML says about 80% of bill of materials is externally sourced, and its most critical optical capability sits at ZEISS. This strengthens the integrated ecosystem against outsiders but means part of the moat is jointly owned and operationally fragile. ASML's 2025 risk disclosure is unusually direct: ZEISS is the sole supplier of critical optics and prolonged loss of that relationship could effectively stop ASML's business ([ASML 2025 strategic
report](https://ourbrand.asml.com/m/8ab959d4926657b/original/asml-2025-annual-report-strategic-report-section.pdf)).

Brand — useful trust signal, not the economic engine

ASML's brand matters because customers commit billions to a node years before volume production and need confidence that the vendor will deliver specifications, uptime and a multi-generation roadmap. The official 2025 report recorded an 88% customer-satisfaction score and emphasizes 24/7 support ([ASML 2025 Annual
Report](https://www.asml.com/en/investors/annual-report/2025)). Yet "brand" does not make 13.5-nanometer light, atomically precise mirrors or nanometer overlay possible. It reduces perceived execution risk and reinforces procurement trust; it would not protect margins if technology leadership disappeared.

Regulatory position — constraint, not moat

ASML's European location and strategic importance can support ecosystem coordination, but no exclusive regulatory license grants it the lithography market. Export controls can remove demand, constrain service, delay backlog conversion and

accelerate state-funded substitution. China was 29.1% of FY2025 sales, and ASML's Q2 2026 outlook placed China at roughly 20% of FY2026 sales after expected normalization. The 2025 report describes expanding Dutch, EU and US controls affecting advanced equipment, including selected DUV immersion and metrology/inspection products. Regulation may slow a rival's access to ASML tools while simultaneously financing indigenous competitors; therefore it deserves no positive moat credit.

Intellectual property and tacit know-how — very strong, but patents alone are insufficient

ASML's defensibility rests on a combined system of patents, trade secrets, tacit manufacturing knowledge and supplier/customer co-development. The crucial barrier is system integration: laser-produced plasma, contamination management, vacuum, mirrors, masks, stages, control software and field reliability must work together at commercial throughput. ZEISS describes its EUV illumination system as a 15,000-part, 1.5-ton assembly unique to strategic partner ASML ([ZEISS, 30 years of EUV optics](https://www.zeiss.com/semiconductor-manufacturing-technology/news-and-events/smt-press-releases/2025/euv-30-years.html)). Patent portfolios can be designed around or challenged; reproducing the integrated learning curve is much harder. The protection is strongest in EUV and the scanner-control stack, less exclusive in DUV, metrology and software.

High-trust procurement — exceptionally strong

At leading nodes, a scanner is not a modular commodity. Customers expose roadmaps, process windows and capacity plans to ASML years in advance, then depend on it for installation, qualification, uptime and upgrades. ASML's FY2025 remaining performance obligations were EUR46.5bn and press-release backlog EUR38.8bn, while Q2 2026 management said customer commitments supported capacity additions of about 30% for both 2027 Low-NA EUV and DUV immersion ([ASML Q2 2026 results](https://www.asml.com/en/news/press-releases/2026/q2-2026-financial-results)). This is credible high-trust procurement, though customer power cuts both ways: four customers accounted for 61.2% of FY2025 sales, and the largest alone represented 23.9% ([ASML 2025 Annual Report](https://ourbrand.asml.com/m/71076aaad607de4d/original/asml-2025-annual-report-based-on-us-gaap.pdf)).

2. Per-product-family moat

Low-NA EUV and High-NA EUV

This is the economic center of the moat. Low-NA NXE is the only proven 13.5-nanometer high-volume scanner platform at the leading edge; High-NA EXE moves numerical aperture from 0.33 to 0.55 and targets an 8-nanometer critical dimension. ASML's advantage combines no commercial peer platform, decades of source/optics learning, customer process qualification and an exclusive ZEISS relationship. High-NA also shows why monopoly status is not enough: it must beat continued Low-NA multi-patterning on cost per good wafer, overlay, resist stochastic defects, uptime and throughput. ASML reported more than 400,000 customer wafers run on High-NA systems by end-2025 and a full-specification EXE:5200B demonstration at a customer site ([ASML 2025 IFRS Annual Report](https://ourbrand.asml.com/m/6ea363f69344ebd4/original/asml-2025-annual-report-based-on-ifrs.pdf)). Its April 2026 AGM material said six of eight shipped High-NA systems were operating, with HVM insertion targeted for 2027-2028, while Low-NA NXE throughput had reached 230 wafers per hour ([ASML 2026 AGM presentation](https://ourbrand.asml.com/asset/d5e933d7-78d0-406c-aed7-a46626e63381/2026_-AGM-_presentation.pdf)). FY2025 recognized four EXE systems and EUR1.157bn of EXE revenue. Durability is very high over five and ten years; twenty-year durability is conditional on ASML/ZEISS carrying the roadmap beyond today's platforms. The earliest break signal would be repeated High-NA HVM deferrals alongside customers choosing Low-NA multipatterning or a non-optical approach for the same critical layers, especially if EXE throughput and yield targets miss while customer orders fail to broaden.

DUV immersion and dry lithography

DUV's moat is strong but not monopolistic. ASML benefits from TWINSCAN platform productivity, overlay matching with EUV, broad customer qualification and a valuable mature-node fleet. The revenue record is observable: ArF immersion rose from EUR4.960bn in FY2021 to EUR10.311bn in FY2025, and derived recognized-unit ASP increased from EUR61.2m to EUR78.7m. But Nikon and Canon remain credible competitors; ASML itself identifies both in DUV. Nikon is developing an S6xx immersion platform explicitly pursuing compatibility with another vendor's immersion installed base, targeting a prototype for a major chipmaker in 2028 ([Nikon FY2025 Q3 presentation](https://www.nikon.com/company/ir/ir_library/result/pdf/2025/25third_1_e.pdf)). That attack vector aims directly at switching friction. Canon is expanding KrF and ArF offerings. DUV has five- to ten-year durability, especially for immersion layers paired with EUV and 3D memory, but the twenty-year claim is weaker because mature-node tools face price

competition and regional substitutes. Downgrade evidence would be sustained immersion share loss, shrinking ASP at comparable performance, or material customer qualification of a compatible Nikon platform.

Metrology and inspection

ASML's moat here comes from integration with the scanner, not category leadership across process control. YieldStar, HMI e-beam and multibeam products can feed corrections into lithography and computational models, creating a valuable closed loop. Revenue grew from EUR0.514bn in FY2021 to EUR0.825bn in FY2025, but this remains small and product profit is undisclosed. KLA's latest filing describes a comprehensive inspection, metrology, analytics and service portfolio and names ASML as one of many competitors; KLA's FY2025 scale included approximately USD6.2bn of wafer-inspection revenue and USD2.7bn of service revenue, demonstrating that ASML faces a formidable specialist ([KLA FY2025 Form 10-K](https://www.sec.gov/Archives/edgar/data/319201/000031920125000024/klac-20250630.htm)). The moat is moderate for five years, uncertain over ten and twenty unless ASML proves that scanner-native feedback produces meaningfully better yield or time-to-ramp than best-of-breed combinations. The earliest warning is metrology/inspection growth lagging lithography intensity despite rising process complexity, or customers keeping correction workflows vendor-neutral.

Holistic lithography and software

Computational lithography, process-control software and scanner/metrology integration monetize proprietary physics models and equipment data. The moat is strongest where software directly controls scanner behavior and weakest where algorithms can run on common fab data. The 2025 report says AI already improves optical-proximity-correction speed/accuracy, e-beam defect detection, YieldStar recipe creation and sensor-based control ([ASML strategy and stories](https://www.asml.com/en/investors/annual-report/2025/strategy-and-stories)). Applied Materials, KLA and electronic-design-automation vendors can attack adjacent workflow layers, so the defensibility is the closed hardware-data-control loop, not the user interface or an AI model by itself. Five-year durability is strong inside ASML's own fleet; the ten- to twenty-year outcome depends on maintaining data access and technical superiority. A break signal would be customers standardizing an independent control layer that treats scanners as interchangeable endpoints, or ASML software losing attach/usage despite fleet growth.

Installed Base Management

IBM is the second-strongest profit-pool candidate, although ASML does not disclose its margin. It combines service, spare parts, productivity enhancements and field options on equipment essential to fab output. Revenue rose from EUR4.958bn in FY2021 to EUR8.193bn in FY2025 and reached EUR9.346bn on the TTM; management attributed 2025 growth partly to NXE:3800E field upgrades and expects more than 30% IBM growth in FY2026. A growing fleet, high utilization and upgrades deepen recurring economics, but IBM is not SaaS: upgrade revenue is lumpy, service may be constrained by export licenses, and customers have purchasing power. Durability is high for ten years because advanced scanners have long useful lives and require specialized support; twenty-year durability is strong only if ASML keeps backward compatibility and control of critical knowledge/parts. The earliest break signal is IBM revenue per active tool declining on comparable utilization, third-party service taking critical scope, or regulation barring ASML from servicing a material installed base.

Blended-company conclusion

The blended moat is weaker than EUV alone because DUV faces Nikon/Canon, metrology faces KLA and other specialists, and software has contested workflow layers. Nevertheless, the unmoated tail is not dominant. FY2025 Low-NA plus High-NA EUV revenue was EUR11.603bn, IBM was EUR8.193bn, and DUV immersion was EUR10.311bn; together they represented the overwhelming majority of EUR32.667bn sales and are tied to ASML's hardest-to-replicate platforms. Metrology/inspection, dry ArF, KrF and i-line are strategically useful but should not be assigned EUV-like economics.

3. Margin persistence evidence

The DR-cleared package supports five clean annual years rather than a ten-year operating-margin series, so this assessment does not manufacture missing years. It also confirms that ASML discloses no product-family profit or operating margins. The one statutory modeled segment is consolidated company on statutory operating income.

Margin evidence	FY2021	FY2022	FY2023	FY2024	FY2025	TTM ended 2026-06-28
Consolidated operating margin	36.3%	30.7%	32.8%	31.9%	34.6%	35.4%
Consolidated gross margin	52.7%	50.5%	51.3%	51.3%	52.8%	53.3%

Margin evidence	FY2021	FY2022	FY2023	FY2024	FY2025	TTM ended 2026-06-28
Product-family operating margin	Not disclosed	Not disclosed	Not disclosed	Not disclosed	Not disclosed	Not disclosed

The FY2022 operating-margin compression of 5.6 points from FY2021 is meaningful; it prevents the false claim of invariant economics. Yet the floor remained above 30% during supply constraints and a major capacity/R&D build, while gross margin stayed above 50% in every year. By FY2025-TTM, both margins recovered as EUV/IBM mix and productivity improved. Quarterly statutory operating margin rose from 32.8% in Q3 2025 to 37.1% in Q2 2026. This is strong evidence that customers pay for productivity and roadmap access rather than buying undifferentiated capital equipment. It is not proof that every product family has equal pricing power or that FY2026 AI-related demand is cycle-normal.

4. AI disruption stress test

Low-NA/High-NA EUV is physical chokepoint economics and platform-adjacent to AI. More AI compute requires advanced logic and HBM capacity, increasing advanced lithography and often lithography intensity; a foundation model cannot reproduce a light source, ZEISS mirror train, reticle stage or field service. AI may accelerate design-space exploration, controls and predictive maintenance, but it does not dissolve the hardware barrier.

DUV is also physical infrastructure, though more competitively supplied. AI demand helps HBM, advanced packaging and supporting-node capacity, but cyclical overbuild can still hurt units. Metrology/inspection is physical plus data-intensive: AI makes defect classification and sampling better, while also enabling KLA and others. Holistic lithography/software is the most AI-exposed family because some optimization and diagnostic workflows can be replicated by foundation models with sufficient fab data. Its moat survives only where ASML alone has high-frequency scanner sensor data, calibrated physics and permission to close the control loop. IBM is protected by hardware access, parts, safety, uptime obligations and fleet history; AI should lower diagnosis time and enhance upgrades rather than disintermediate service.

The segment most exposed is stand-alone holistic software, followed by generic inspection analytics. The most protected is EUV hardware/optics and its installed-base service. The correct underwriting is that AI is demand- and platform-adjacent—not an automatic moat extension. A model layer that becomes generic could compress software value even while AI chip demand expands scanner sales.

5. The 2046 test

Today is 2026-08-28; the test year is 2046-08-28. In the durable case, the 2046 ASML still sells the critical patterning platform for the smallest commercially valuable logic and DRAM features: a mature High-NA EUV family and one or more successor source/optics/control generations, rather than a vague “future technology.” Leading foundries, integrated device manufacturers, memory producers and sovereign fabs buy those systems. DUV immersion/dry survives for non-critical layers, specialty devices and 3D structures but contributes a smaller share and faces more competition. Metrology, inspection and computational control grow only where they improve scanner productivity and yield; non-differentiated stand-alone analytics wither. IBM becomes a larger, high-return franchise supporting decades of EUV/DUV fleet, upgrades and software-enabled productivity. Consolidated operating margin is directionally stable around the current low-to-mid-30% band, possibly modestly lower if supplier economics and regional duplication absorb more value. The company still earns high returns because ASML/ZEISS preserve the source-optics-stage-control integration barrier, customers cannot risk unqualified alternatives on critical layers, and installed tools require proprietary upgrades and support.

This picture is specific enough to be credible but not yet certain enough for a 2046 PASS. ASML has demonstrated Low-NA leadership and early High-NA customer use, not a validated twenty-year post-High-NA platform. High-NA’s current economics remain adoption-sensitive: the derived FY2025 recognized ASP was EUR289.2m, well above NXE’s EUR237.4m, so customers must obtain sufficient layer simplification, throughput and yield to justify it. The upgrade to PASS requires broad HVM adoption across at least two logic customers and one DRAM customer, sustained EXE productivity/availability, an explicit economical successor roadmap co-funded by ZEISS and other critical suppliers, and stable consolidated margins through a non-AI semiconductor downcycle.

In the erosion case, customers delay High-NA because improved Low-NA multipatterning remains cheaper, then Canon’s nanoimprint or another maskless/direct-write approach solves defectivity, overlay and throughput for selected critical layers. Canon says nanoimprint systems are already at customers for mass-production evaluation and markets materially lower process energy/cost, though that is a supplier claim rather than proven leading-edge share ([Canon Annual Report 2025](https://global.canon/en/ir/annual/canon-annual-report-2025.pdf)). Simultaneously, export controls divide the addressable market, subsidized regional competitors capture mature DUV/service economics, and a ZEISS capacity or

roadmap failure blocks ASML's response. IBM shrinks with the accessible fleet, DUV commoditizes, and metrology/software cannot compensate. That full bear case is low-to-moderate probability, but any one element could lower margins without destroying the company.

Observable 2046-gate conditions: upgrade from YELLOW to PASS if High-NA clears broad HVM adoption and cost-per-wafer targets, successor EUV roadmap/capacity is visible across ASML and ZEISS, and operating margin holds above 30% through a demand correction. Downgrade to FAIL if High-NA orders remain narrow after customer evaluations, a non-ASML technology wins repeat HVM critical-layer use at leading customers, or regulation/supply loss permanently removes a material part of the serviceable fleet while IBM per-tool economics decline.

6. Competitive threat inventory

Threat	Mechanism	Product family affected	Earliest observable signal	Plausibility
High-NA economics disappoint	Customers use improved Low-NA multipatterning because EXE cost, throughput, overlay, resist or yield fails to justify layer simplification	High-NA EUV; Low-NA EUV; IBM	HVM insertion slips; EXE orders remain concentrated; availability/wafer throughput miss; fewer layers migrate	Medium
Alternative and compatible platforms qualify	Canon nanoimprint wins repeat production layers; Nikon S6xx reduces immersion switching friction; indigenous Chinese platforms improve under subsidy	DUV first; selected advanced layers; service	Repeat HVM orders at top customers; ASML immersion share/ASP falls; third-party tools enter matched production flows	Medium in DUV; low but nonzero in critical EUV layers
Ecosystem or policy fractures	ZEISS/critical-supplier capacity fails, or export controls bar systems, parts and service while regional substitutes receive funding	EUV, DUV, M&I, IBM	Supplier milestones slip; order-to-revenue conversion lengthens; licenses denied; China/service share drops faster than planned	Medium

7. Pricing power verification

Pricing power is observable but should be described precisely. Derived recognized-unit ASP rose from EUR149.6m to EUR237.4m for NXE and from EUR61.2m to EUR78.7m for ArF immersion between FY2021 and FY2025. These are mix- and configuration-sensitive averages, not proof of like-for-like list-price increases. More direct evidence is that ASML's bookings and backlog explicitly include inflation-related adjustments accepted in written authorizations ([ASML FY2025 results](https://www.asml.com/en/news/press-releases/2026/q4-2025-financial-results)). Gross margin absorbed the inflation/supply environment at 50.5% in FY2022, then recovered to 52.8% in FY2025 and 53.3% TTM; operating margin recovered from 30.7% to 35.4% TTM. Revenue growth and margin recovery occurred without disclosed churn, but ASML does not publish system churn, net retention, standardized price escalators or product-family gross margins.

IBM reinforces the evidence: sales grew 26.2% in FY2025 and reached 26.5% of TTM revenue, helped by NXE:3800E upgrades, utilization and fleet growth. Yet upgrades are not recurring maintenance and should not be capitalized like subscription revenue. Customer concentration also means price is negotiated with sophisticated buyers who can delay node/capacity plans. The overall verdict is strong value-based pricing in EUV and upgrades, good pricing in immersion, and unproven pricing in M&I/software. The moat would weaken if comparable NXE/EXE productivity improvements stopped commanding higher recognized value or gross margin fell below 48% for two years outside a demonstrable launch-mix shock.

8. Moat verdict

Moat gate: PASS. ASML owns a concrete, observable chokepoint in EUV: integrated source, ZEISS optics, stages, controls, qualification and service that rivals cannot presently reproduce at high volume. Five-year gross margins above 50%, operating margins above 30%, rising EUV/immersion recognized-unit value and an expanding IBM base corroborate the claim. The blended company moat is weaker than EUV because DUV, metrology and software face serious competitors, but the moated EUV/immersion/IBM core dominates revenue. Maintain PASS only while leading-edge customer adoption broadens, EUV/IBM economics remain intact and the supplier roadmap stays funded; downgrade to YELLOW on sustained High-NA deferrals or sub-30% operating margin, and to FAIL on repeat non-ASML critical-layer HVM wins or a permanent ZEISS/export-service fracture.

2046 test: YELLOW. The specific 2046 business can be described—successor EUV patterning platforms, DUV for non-critical layers, integrated process control and a much larger service/upgrade fleet sold to the world's major logic and

memory fabs—but twenty-year durability depends on an unproven post-High-NA roadmap. Upgrade to PASS when broad High-NA HVM economics, successor optics/source progress and through-cycle margin resilience are observable. Downgrade to FAIL if customer process choices bypass ASML on critical layers, High-NA remains a narrow R&D tool, or geopolitics and single-source dependencies structurally strand the installed-base profit pool.

Appendix B1 - Consolidated Company

ASML Holding N.V. — Consolidated company Segment Deep Dive

Ticker: ASML.AS **Run ID:** `pulse-cio-20260828T120303+0800` **Forecast anchor:** TTM comprising Q3 2025 + Q4 2025 + Q1 2026 + Q2 2026, ended 2026-06-28 **Forecast horizon:** 2031-06-28, exactly 5.0 years **Reporting currency:** EUR billions unless stated otherwise **Modeled segment count:** One **Exact modeled profit metric:** `Statutory operating income (single-segment non-operating CODM fallback)`

0. Segment boundary and taxonomy note

ASML has one operating and reportable segment, `Consolidated company`, and that perimeter has been stable since at least FY2021. The technology labels inside revenue disclosure are operating drivers, not profit segments: systems comprise EXE High-NA EUV, NXE Low-NA EUV, ArF immersion, ArF dry, KrF, I-line, and Metrology & Inspection, while Installed Base Management, or IBM, comprises service and field options. `ArFi` and `ArF immersion` are the same family under a changed label; EXE began separate dollar disclosure in FY2024. ASML's CODM predominantly uses consolidated US-GAAP net income and sales, but net income is below operating income. Therefore, under the QFR-sealed `single_segment_non_operating_codm_fallback`, this appendix forecasts exactly one segment on sourced statutory operating income. It preserves the disclosed CODM metric, `Consolidated US GAAP net income`, separately as context and never allocates interest, equity-method income, tax, or other below-line items into operating economics. The sealed bridge SHA-256 is `344074f3be1c21db8076317c65d530a5a75630b03889bd4cef1241b9a0903d5a`.

1. What this segment actually is

ASML sells the production infrastructure that allows semiconductor manufacturers to print progressively smaller and more complex patterns on wafers. Its core customers are a very small set of leading-edge foundries, logic integrated-device manufacturers, memory manufacturers, and mature-node producers. A system is not a commodity machine delivered from stock. It is a complex platform assembled through a supplier network, installed and qualified in a customer fab, and then supported and upgraded over a long economic life. Revenue recognition therefore depends on delivery, installation, acceptance, customer-facility readiness, field-project completion, and, in some jurisdictions, export authorization.

At the leading edge, Low-NA EUV systems reduce the number of patterning steps needed for advanced logic and memory. High-NA EUV raises numerical aperture from 0.33 to 0.55 and is intended to extend single-exposure patterning into future nodes. ASML's DUV portfolio remains economically essential rather than obsolete: ArF immersion handles many advanced and less-critical layers, while ArF dry, KrF, and I-line serve less demanding layers, mature-node chips, analog, power, sensors, and other applications. Metrology & Inspection products measure overlay, dimensions, and defects and feed data back into the lithography process. IBM monetizes the expanding installed base through service contracts, maintenance, productivity improvements, and field upgrades.

Pricing reflects value delivered rather than only unit cost. The reviewed data show FY2025 derived average revenue per recognized unit of about EUR289m for early EXE mix, EUR237m for NXE, EUR79m for ArF immersion, EUR27m for ArF dry, EUR13m for KrF, EUR6m for I-line, and EUR4m for the mixed Metrology & Inspection portfolio [data_package §4, Derived average selling price table]. Those are derived recognized-revenue averages, not quoted list prices. Product mix and acceptance timing can make year-to-year averages volatile. The customer buying decision is driven by wafer output, overlay and imaging performance, availability, yield, cycle time, process-step avoidance, and the cost of a missed node ramp. This makes the system price only one part of the economic calculation.

The go-to-market model is direct and deeply technical. ASML collaborates with customers years before volume production, aligns roadmaps with chip designs and process recipes, and coordinates capacity with critical suppliers. The long development and qualification cycle creates switching costs because a fab process is optimized around specific tool performance and supporting software. IBM then compounds those ties: field engineers, spare parts, system data, and upgrade roadmaps make the installed platform more productive and lengthen its useful life.

Four customers each exceeded 10% of FY2025 sales and together represented EUR20.0bn, or 61.2% of revenue [data_package §1, customer-concentration paragraph]. This is both an economic strength and a risk. Customers possess procurement sophistication and can alter delivery timing, but the supplier alternatives are limited at advanced lithography. ASML's backlog and remaining performance obligations provide visibility, not an unconditional guarantee: FY2025 RPO was EUR46.5bn, of which 65% was expected within twelve months, while the narrower press-release backlog was EUR38.8bn

[data_package §4, Bookings/backlog table]. Volume agreements can be modified, and export controls or fab readiness can defer recognition.

2. Current economics

TTM revenue was EUR35.328bn, consisting of EUR25.982bn of systems and EUR9.346bn of IBM [data_package §5, quarterly systems/IBM table, TTM row]. `Statutory operating income (single-segment non-operating CODM fallback)` was EUR12.513bn, a 35.4% margin [data_package §3a, TTM bridge]. The disclosed CODM context measure, `Consolidated US GAAP net income`, was EUR10.638bn; this appendix does not use it as operating profit. Q2 2026 revenue reached EUR9.327bn, up 21.3% year over year, and statutory operating margin reached 37.1% [data_package §5, consolidated quarterly trend table]. The latest results therefore already show operating leverage from the sharp up-cycle.

The TTM systems mix can be reconstructed only at the technology granularity disclosed in the four quarterly charts. Applying each chart's rounded percentage to disclosed quarterly systems revenue yields approximately EUR13.637bn EUV, EUR9.270bn ArF immersion, EUR0.651bn ArF dry, EUR1.316bn KrF, EUR0.260bn I-line, and EUR0.848bn Metrology & Inspection; these sum exactly to EUR25.982bn before presentation rounding [data_package §5, official quarterly technology chart]. EUV is combined because the reviewed package does not disclose separate TTM NXE and EXE revenue. The model does not fabricate that split. It forecasts combined EUV from the exact quarterly mix reconstruction while using the disclosed FY2025 NXE/EXE history and roadmap as driver evidence.

ASML entered the forecast period with unusually strong demand. Management raised FY2026 revenue guidance to EUR43-45bn and gross-margin guidance to 54-56% in July, up sharply from April's EUR36-40bn and 51-53% ranges [data_package §6, quotes 7-8]. The midpoint implies 34.7% growth from FY2025 revenue of EUR32.667bn. Product guidance was also exceptional: Low-NA EUV system sales over 45% growth, non-EUV systems around 25%, IBM over 30%, advanced Logic system sales over 25%, and Memory system sales over 75% [data_package §4, Growth-rate-only disclosures]. Those rates are not plausible steady-state CAGRs through 2031. Every case below explicitly steps down from the FY2026 surge.

ASML remains capital-light relative to the value of its systems, but it is not reinvestment-light. FY2025 capex was EUR1.574bn, 4.8% of revenue, while R&D was EUR4.699bn, 14.4% of revenue [data_package §7, capital allocation table]. R&D funds optics, light sources, stages, computational lithography, inspection, metrology, and service upgrades. Customer down payments and supply-chain coordination affect working capital and free cash flow. The company also needs suppliers to invest ahead of demand; its own capex ratio understates system-wide capacity intensity.

3. Unit economics

The income engine begins with systems revenue. A leading-edge scanner carries a high price because it substitutes for process complexity, protects customer yield, and unlocks a node transition. Gross margin depends on product maturity, configuration, field acceptance, customer mix, inflation, service and upgrade mix, and how quickly engineering and supply-chain learning reduce cost. Early generations can have lower margin despite high prices because initial systems include expensive components, low-volume manufacturing, qualification support, and substantial development carryover. Mature NXE and DUV platforms can benefit from learning and throughput improvements. IBM usually adds a steadier and often attractive contribution because it uses an installed asset base that has already been sold, although upgrade projects can be lumpy.

The reviewed consolidated margin history illustrates both quality and cyclicality. `Statutory operating income (single-segment non-operating CODM fallback)` margin was 36.3% in FY2021, 30.7% in FY2022, 32.8% in FY2023, 31.9% in FY2024, 34.6% in FY2025, and 35.4% in the current TTM [data_package §3, segment historicals; §3a, TTM bridge]. The variation is too large to justify treating margin as mechanically fixed. FY2022-2024 absorbed supply-chain stress, product transition, capacity investment, and mix changes. FY2025-TTM benefited from stronger EUV and IBM mix and better execution.

Gross margin is the first lever. It rose from 50.5% in FY2022 to 52.8% in FY2025 and 53.3% in the TTM; Q2 reached 54.0%, helped by nearly EUR0.3bn of IBM above guidance and high-margin IBM components [data_package §0a, KPI series; §5, latest-quarter commentary]. Management's FY2026 54-56% guide indicates that current operating economics are improving faster than the old long-term model assumed. The second lever is operating expense. R&D has remained near 14-15% of sales, while selling and general expense grows more slowly than revenue at scale. A gross-margin gain does not translate one-for-one to operating margin because ASML must continue funding the next platform.

The base case expands the exact modeled margin to 38.0% by 2031-06-28, 260 basis points above the TTM. The mechanism is a richer EUV/IBM mix, NXE productivity learning, increasing service density, and overhead leverage, partly offset by High-NA industrialization and sustained R&D. The bull reaches 41.0% as High-NA moves into high-volume manufacturing, IBM scales rapidly, and platform learning outpaces reinvestment. The bear falls to 33.0% as export restrictions, customer pushouts, underutilized supply-chain capacity, adverse DUV mix, and weaker upgrade demand pressure gross margin while R&D remains strategically necessary. No product-level margin is represented as disclosed fact; ASML does not disclose profit or gross margin by technology or IBM [data_package §10, true non-disclosure rows].

Capital intensity appears most clearly in the ecosystem. ASML's Low-NA EUV and immersion capacity plans each call for about 30% increases in 2027, with potential further expansion in 2028 [data_package §6, quotes 13-14]. These plans require optics, lasers, precision components, clean-room assembly, trained field staff, and customer fab space. If customers delay, fixed costs and supplier commitments can compress margin. If demand arrives as expected, the same capacity creates operating leverage. Working capital can also swing because expensive systems may sit at customer sites before acceptance and because inventory must be secured far ahead of recognition.

IBM changes the quality of the model. The installed base expands with every shipped tool, and older systems can receive productivity and performance upgrades. Revenue is not purely subscription-like because field options are project-based, but the service component is recurring and tied to uptime. The model therefore lets IBM outgrow the installed base during the FY2026 upgrade wave, then decelerate as the upgrade comparison normalizes. Base IBM growth steps from 25% in the first forecast year to 18%, 14%, 11%, and 9%; the implied five-year CAGR is 15.3%, well below the FY2026 guide of over 30%.

4. Competitive dynamics

ASML's competitive position differs sharply by technology. EUV is effectively a sole-source platform at production scale. Nikon's latest official FY2026 materials show only 20 semiconductor lithography system sales across mature technologies, including refurbished units, while its Precision Equipment business reported JPY167.3bn of revenue and a JPY4.6bn operating loss. That does not prove every ASML product is immune from competition, but it shows the scale and economics gap between ASML's advanced platform and the remaining optical-lithography competitor. Source: [Nikon FY2026 results](https://www.nikon.com/company/ir/ir_library/result/pdf/2026/26_all_script_e.pdf) and [Nikon financial highlights](https://www.nikon.com/company/ir/finance/performance/), both retrieved live on 2026-08-28.

Nikon remains relevant in ArF and mature systems, and Canon supplies i-line and KrF tools. These products compete on installed process qualifications, throughput, service, and total cost. Canon's official capacity plan targeted semiconductor lithography unit sales above 300 per year from a new Utsunomiya facility, demonstrating that mature-node lithography is competitive and sizeable. Yet unit comparisons are misleading because product prices and technical roles differ radically. Source: [Canon semiconductor-equipment capacity presentation](https://global.canon/en/ir/conference/pdf/housin2025ind-e-note.pdf), retrieved live on 2026-08-28.

Canon's nanoimprint lithography is the most important alternative technology to monitor. Its FPA-1200NZ2C uses a patterned mask pressed into resist rather than an optical projection system and claims 14nm minimum linewidth, with a path to 10nm, potentially corresponding to 2nm-node applications. Canon also says the approach can reduce patterning complexity and power. The threat is economically asymmetric: nanoimprint need not replace all EUV layers to pressure demand; success in selected memory, logic, or specialty layers could reduce lithography intensity. However, defectivity, mask replication, overlay, throughput, and process integration must clear high-volume-manufacturing hurdles. Canon's official materials describe capability and planned mass production, not broad leading-edge adoption at ASML's scale. Source: [Canon FPA-1200NZ2C product page](https://global.canon/en/product/indtech/semicon/fpa1200nz2c.html) and [Canon capacity plan](https://global.canon/en/ir/conference/pdf/housin2025ind-e-note.pdf), retrieved live on 2026-08-28.

Metrology & Inspection faces more direct competition. KLA's FY2025 annual report describes a broad process-control portfolio spanning wafer and reticle inspection, metrology, software, and services; wafer inspection alone was USD6.2bn and services USD2.7bn. Applied Materials introduced new e-beam metrology for gate-all-around logic, backside power delivery, DRAM, and advanced packaging. These competitors have larger standalone process-control franchises than ASML's disclosed M&I revenue. ASML's advantage is integration with lithography data and computational correction; its disadvantage is that customers may prefer best-of-breed inspection and preserve supplier diversity. Sources: [KLA FY2025 Form 10-K](https://ir.kla.com/sec-filings/all-sec-filings/content/0000319201-25-000024/klac-20250630.htm) and [Applied Materials PROVision release](https://ir.appliedmaterials.com/news-releases/news-release-details/applied-materials-unveils-next-gen-chipmaking-products/), retrieved live on 2026-08-28.

The demand side supports pricing but increases concentration. TSMC's January 2026 earnings call set a USD52-56bn capital budget, with 70-80% allocated to advanced-process technologies, following USD40.9bn in 2025. It also said the capex needed for each thousand wafers per month at N2 is substantially higher than at N3, and A14 will be higher again. This is direct customer evidence that advanced-node capital intensity is rising, supporting lithography value per wafer. It also creates reflexivity: if AI demand or advanced-node utilization disappoints, a few customers can cut enormous budgets quickly. Source: [TSMC Q4 2025 official transcript](https://investor.tsmc.com/english/encrypt/files/encrypt_file/reports/2026-01/51d09df96cd89ac19d65af39032b038dc2896a24/TSMC%204Q25%20Transcript.pdf), retrieved live on 2026-08-28.

Pricing power is strongest where ASML enables a node and weakest in mature tools where alternatives exist. It is not unconstrained. Customers can negotiate timing, configurations, and service packages; governments can restrict destinations; and suppliers can capture part of the economics. The correct underwriting conclusion is a dominant but concentrated platform, not a monopoly immune to cyclicality.

5. Moat at the segment level

The primary moat is accumulated system-level know-how across optics, light sources, stages, vacuum, control software, computational lithography, metrology, supply-chain qualification, and field service. A competitor must solve the whole system, not merely demonstrate one optical component. EUV development required decades of investment and coordination with suppliers and customers. Each installed generation also creates process knowledge that improves the next. That learning curve is difficult to replicate because it depends on operating data from production fabs.

Customer co-development is the second moat. Leading chipmakers design process roadmaps around tool availability years in advance. Once a platform is qualified for a critical layer, switching would require new process recipes, masks, yield learning, and risk to launch schedules. The cost of a failed node can dwarf the system price. This gives ASML pricing power even though customers are large and concentrated.

The installed base is the third moat. Service engineers, spare parts, diagnostics, and upgrades sustain availability and productivity. IBM monetizes the installed fleet and feeds performance data back into system design. The relationship becomes a loop: more systems create more service revenue and data; better service and upgrades improve customer economics; better economics support future systems demand. IBM is not a separate profit segment, but it raises the durability of consolidated operating economics.

The moat is strongest in EUV, substantial in immersion, and narrower in mature DUV and M&I. Canon and Nikon can compete at mature nodes; KLA and Applied Materials are formidable in process control. Nanoimprint is an option value against the moat, especially if defect and overlay economics improve. High-NA also carries self-disruption risk: if greater productivity reduces the number of systems or multi-patterning steps required more than expected, value per tool can rise while unit demand disappoints. The model therefore forecasts revenue, not simply installed unit count.

Durability through the five-year horizon is high but conditional. ASML's official April 2026 AGM material said six of eight shipped High-NA systems were operating and high-volume insertion was targeted for 2027-2028, while NXE throughput had reached 230 wafers per hour. This supports a transition rather than a static franchise. Source: [ASML 2026 AGM presentation](https://ourbrand.asml.com/asset/d5e933d7-78d0-406c-aed7-a46626e63381/2026_-AGM-_presentation.pdf), retrieved live on 2026-08-28 for industry-roadmap context only; own-company financial rows remain from the reviewed data package.

The largest non-technical moat risk is geopolitical. China was 29.1% of FY2025 sales but management expected around 20% in FY2026 after normalization [data_package §1, geography table; §9, China outlook]. Dutch, EU, and US controls can restrict shipment, service, sourcing, and license availability. Revenue concentration among four major customers further magnifies policy and cycle risk. The moat earns premium economics only while ASML can legally serve the fabs that need its tools.

6. Historical growth rates reproduced from the data package

The table uses the longest consistent official product taxonomy. `ArFi` and `ArF immersion` are harmonized. EXE has no meaningful three-year CAGR because FY2023 revenue was zero. Each cell points to the specific reviewed data-package row; no external source replaces ASML history.

Product / sub-segment	FY2023 revenue	FY2024 revenue	FY2025 revenue	3-year CAGR	Most recent YoY	Data package cite
EXE High-NA EUV	EUR0.000bn [§4 Five-year systems, EXE row]	EUR0.465bn [§4 Five-year systems, EXE row]	EUR1.157bn [§4 Five-year systems, EXE row]	n/m from zero [§4 Five-year systems, EXE row]	+148.8% [§4 Dollar-disclosed families, EXE row]	data_package §4, EXE rows

Product / sub-segment	FY2023 revenue	FY2024 revenue	FY2025 revenue	3-year CAGR	Most recent YoY	Data package cite
NXE Low-NA EUV	EUR9.124bn [§4 Five-year systems, NXE row]	EUR7.856bn [§4 Five-year systems, NXE row]	EUR10.446bn [§4 Five-year systems, NXE row]	7.0% [§4 Five-year systems, NXE row]	+33.0% [§4 Dollar-disclosed families, NXE row]	data_package §4, NXE rows
ArF immersion	EUR9.017bn [§4 Five-year systems, ArF immersion row]	EUR9.667bn [§4 Five-year systems, ArF immersion row]	EUR10.311bn [§4 Five-year systems, ArF immersion row]	6.9% [§4 Five-year systems, ArF immersion row]	+6.7% [§4 Dollar-disclosed families, ArF immersion row]	data_package §4, ArF immersion rows
ArF dry	EUR0.780bn [§4 Five-year systems, ArF dry row]	EUR0.774bn [§4 Five-year systems, ArF dry row]	EUR0.427bn [§4 Five-year systems, ArF dry row]	-26.0% [§4 Five-year systems, ArF dry row]	-44.8% [§4 Dollar-disclosed families, ArF dry row]	data_package §4, ArF dry rows
KrF	EUR2.203bn [§4 Five-year systems, KrF row]	EUR1.991bn [§4 Five-year systems, KrF row]	EUR1.001bn [§4 Five-year systems, KrF row]	-32.6% [§4 Five-year systems, KrF row]	-49.7% [§4 Dollar-disclosed families, KrF row]	data_package §4, KrF rows
I-line	EUR0.278bn [§4 Five-year systems, I-line row]	EUR0.369bn [§4 Five-year systems, I-line row]	EUR0.307bn [§4 Five-year systems, I-line row]	5.1% [§4 Five-year systems, I-line row]	-16.8% [§4 Dollar-disclosed families, I-line row]	data_package §4, I-line rows
Metrology & Inspection	EUR0.536bn [§4 Five-year systems, M&I row]	EUR0.646bn [§4 Five-year systems, M&I row]	EUR0.825bn [§4 Five-year systems, M&I row]	24.1% [§4 Five-year systems, M&I row]	+27.7% [§4 Dollar-disclosed families, M&I row]	data_package §4, M&I rows
Installed Base Management	EUR5.620bn [§4 Dollar-disclosed families, IBM row]	EUR6.494bn [§4 Dollar-disclosed families, IBM row]	EUR8.193bn [§4 Dollar-disclosed families, IBM row]	20.7% [§0a Five-year KPI, IBM row]	+26.2% [§4 Dollar-disclosed families, IBM row]	data_package §4, IBM row
Consolidated company	EUR27.559bn [§3 Segment historicals, Revenue row]	EUR28.263bn [§3 Segment historicals, Revenue row]	EUR32.667bn [§3 Segment historicals, Revenue row]	8.9% [§3 Segment historicals, Revenue row]	+15.6% [§3 Segment historicals, YoY row]	data_package §3, segment historicals
Statutory operating income (single-segment non-operating CODM fallback)	EUR9.042bn [§3 Segment historicals, exact metric row]	EUR9.023bn [§3 Segment historicals, exact metric row]	EUR11.301bn [§3 Segment historicals, exact metric row]	11.8% [§3 Segment historicals, exact metric row]	+25.3% [§3 Segment historicals, exact metric row]	data_package §3, exact metric row

Arithmetic checks: NXE EUR7.856bn × 1.330 = EUR10.449bn versus EUR10.446bn, within rounding; ArF immersion EUR9.667bn × 1.067 = EUR10.315bn versus EUR10.311bn; ArF dry EUR0.774bn × 0.552 = EUR0.427bn; KrF EUR1.991bn × 0.503 = EUR1.001bn; I-line EUR0.369bn × 0.832 = EUR0.307bn; M&I EUR0.646bn × 1.277 = EUR0.825bn; IBM EUR6.494bn × 1.262 = EUR8.196bn versus EUR8.193bn. Every check is within 2%. No back-solved historical dollar figure is used.

Five-year context matters because FY2025 was not a smooth trend. NXE ranged from EUR6.284bn in FY2021 to EUR10.446bn in FY2025, ArF immersion from EUR4.960bn to EUR10.311bn, and IBM from EUR4.958bn to EUR8.193bn [data_package §4, Five-year systems table; §0a, KPI series]. Conversely, KrF and ArF dry fell sharply in FY2025 before rebounding in the latest quarterly mix. A one-year extrapolation would overstate EUV/IBM durability and understate mature-system cyclicality.

7. Management guidance from data package Section 6

All quotes below are reproduced only from the reviewed data package. They are management anchors, not analyst forecasts.

- **EUV, Q3 FY2025:** “On the technology side, we see litho intensity continue to develop positively as EUV adoption gains momentum, including progress on High NA EUV.” [data_package §6, quote 1]. This supports structural lithography-intensity growth but gives no rate.
- **China, Q3 FY2025:** “We expect China customer demand, and therefore our China total net sales in 2026 to decline significantly compared to our very strong business there in 2024 and 2025.” [data_package §6, quote 2]. The model treats China normalization as a continuing downside asymmetry despite stronger 2026 mainstream Logic demand.
- **2026 floor, Q3 FY2025:** “We do not expect 2026 total net sales to be below 2025.” [data_package §6, quote 3]. This cautious floor was superseded by much stronger guidance.
- **Orders, Q4 FY2025:** “In the last months, many of our customers have shared a notably more positive assessment of the medium-term market situation, primarily based on more robust expectations of the sustainability of AI-related demand.” [data_package §6, quote 4]. The record Q4 bookings support near-term capacity commitments but remain cycle-sensitive.
- **2026 mix, Q4 FY2025:** “We expect 2026 to be another growth year for ASML's business, largely driven by a significant increase in EUV sales and growth in our installed base business sales.” [data_package §6, quote 5]. This correctly identified the two largest modeled growth engines.

- **Capacity, Q1 FY2026:** “Our customers are accelerating their capacity expansion plans for 2026 and beyond, supported by long-term agreements with their customers.” [data_package §6, quote 6]. Long-term customer agreements improve visibility but do not eliminate utilization or cancellation risk.
- **April guidance:** “We now expect total net sales for 2026 to be between €36 billion and €40 billion, with a gross margin between 51% and 53%.” [data_package §6, quote 7]. This is retained to show how rapidly the outlook changed.
- **July guidance:** “We now expect total net sales between 43 and 45 billion euros, with a gross margin between 54 percent and 56 percent.” [data_package §6, quote 8]. This is the controlling FY2026 anchor.
- **Logic:** “We now expect advanced Logic foundry-related net system sales to grow over 25 percent this year.” [data_package §6, quote 9]. This signals broad advanced-node demand rather than a memory-only spike.
- **Memory:** “As a result, we anticipate our Memory-related net system sales to grow by over 75 percent this year.” [data_package §6, quote 10]. This is explicitly treated as an exceptional cyclical rebound, not a terminal growth rate.
- **Low-NA EUV:** “We now expect to ship around 65 Low NA EUV systems this year, resulting in year-over-year EUV net system sales growth of over 45 percent.” [data_package §6, quote 11]. The first-year EUV rates in each case step below this guide because the TTM already contains part of the 2026 ramp.
- **IBM:** “Installed Base Management sales are expected to grow over 30 percent this year, driven by service revenue from our expanding EUV installed base, and customer demand for performance and productivity upgrades.” [data_package §6, quote 12]. The model decelerates as the high-margin upgrade wave annualizes.
- **2027 Low-NA capacity:** “For 2027, we are now close to being fully covered with orders for Low NA EUV and we are planning to increase our low NA EUV capacity by around 30 percent.” [data_package §6, quote 13]. This supports a strong first forecast year but also creates capacity-absorption risk.
- **DUV capacity:** “Similarly, for our immersion systems, we intend to increase capacity by 30 percent in 2027 and are investigating a potential further 30 percent expansion for 2028.” [data_package §6, quote 14]. This supports a broader cycle than EUV alone.
- **Old long-term range:** “Based on our assessment of different market and technology scenarios, we expect annual revenue between approximately €44 billion and €60 billion with gross margin between approximately 56% and 60% by 2030.” [data_package §6, quote 15]. FY2026 guidance already reaches the bottom of this 2030 range, so the range is a stale scenario marker awaiting the 2027 Capital Markets Day, not a cap.
- **Roadmap:** “We expect that our ability to scale EUV technology into the next decade and extend our versatile holistic lithography portfolio, positions ASML well to contribute to, and leverage the Artificial Intelligence opportunity.” [data_package §6, quote 16]. The forecast tests this claim through explicit EUV, DUV, M&I, and IBM drivers.

8. Forward growth assumptions

Forecast construction and FY2026 step-up

The revenue build starts at TTM 2026-06-28, not FY2025. The reviewed quarterly technology charts provide a complete systems mix but combine NXE and EXE as EUV. The starting values are therefore EUR13.637bn EUV, EUR9.270bn ArF immersion, EUR0.651bn ArF dry, EUR1.316bn KrF, EUR0.260bn I-line, EUR0.848bn M&I, and EUR9.346bn IBM. These sum to the EUR35.328bn consolidated TTM. Rounded quarterly mix is the only estimation layer, and it is fully reconstructable from data_package §5. [DATA GAP: separate TTM NXE and EXE revenue is not disclosed in the reviewed package, so EUV is forecast as one technology family.]

The first forecast year ending 2027-06-28 straddles the exceptional FY2026 guide. ASML’s EUR43-45bn FY2026 midpoint implies 34.7% growth from FY2025, but the TTM already contains H1 2026. Thus the base model grows 24.5% from TTM to the first anniversary and reaches EUR43.992bn. Growth then decelerates to 16.7%, 12.1%, 9.2%, and 6.6%. Bear growth decelerates from 17.3% to 9.7%, 5.8%, 3.0%, and 0.9%. Bull growth decelerates from 30.2% to 22.2%, 16.7%, 12.6%, and 8.9%. This path explicitly rejects a mechanical application of FY2026 growth through 2031.

Base-case product assumptions

Product / sub-segment	3-year historical CAGR	Latest YoY	Management FY2026 guide	Base CAGR TTM to 2031-06-28	Base 2031 revenue	Justification
EUV combined, NXE + EXE	12.8% from FY2023-FY2025	39.4%	Over 45% Low-NA EUV systems sales	15.0%	EUR27.395bn	First-year 28% reflects covered 2027 capacity; 18%, 13%, 10%, and 7% thereafter recognize scale and throughput productivity.
ArF immersion	6.9%	6.7%	Non-EUV around 25%; immersion capacity +30% in 2027	11.4%	EUR15.920bn	22%, 15%, 10%, 7%, and 4% converts the capacity cycle into revenue while avoiding permanent 25% growth.
ArF dry	-26.0%	-44.8%	Included in non-EUV around 25%	3.9%	EUR0.790bn	Recovery of depressed FY2025 demand; mature-node competition limits terminal growth.
KrF	-32.6%	-49.7%	Included in non-EUV around 25%	7.3%	EUR1.873bn	Mainstream Logic and memory recovery lift the trough, followed by mid-single-digit normalization.
I-line	5.1%	-16.8%	Included in non-EUV around 25%	3.8%	EUR0.313bn	Stable specialty demand; Canon competition and low ASP restrain growth.
Metrology & Inspection	24.1%	27.7%	No separate dollar guide	13.9%	EUR1.625bn	More process complexity supports growth, but KLA and Applied constrain share and pricing.
Installed Base Management	20.7%	26.2%	Over 30%	15.3%	EUR19.014bn	25%, 18%, 14%, 11%, and 9% captures service/upgrade scaling and explicit upgrade-wave deceleration.

Bull-case product assumptions

Product / sub-segment	3-year historical CAGR	Latest YoY	Management FY2026 guide	Bull CAGR TTM to 2031-06-28	Bull 2031 revenue	Justification
EUV combined, NXE + EXE	12.8% from FY2023-FY2025	39.4%	Over 45% Low-NA EUV systems sales	19.5%	EUR33.279bn	High-NA qualifies on time, AI capacity persists, and growth decelerates 33%, 24%, 18%, 14%, and 10%.
ArF immersion	6.9%	6.7%	Non-EUV around 25%; immersion capacity +30% in 2027	15.8%	EUR19.272bn	Broad Logic/Memory demand fills capacity; growth steps 28%, 20%, 15%, 10%, and 7%.
ArF dry	-26.0%	-44.8%	Included in non-EUV around 25%	7.5%	EUR0.935bn	Strong mature-node recovery is moderated each year by competitive intensity.
KrF	-32.6%	-49.7%	Included in non-EUV around 25%	9.1%	EUR2.032bn	A full mainstream-Logic and specialty cycle restores volumes without assuming old peaks compound forever.
I-line	5.1%	-16.8%	Included in non-EUV around 25%	4.7%	EUR0.328bn	Specialty and packaging demand outweighs mature-tool price pressure.
Metrology & Inspection	24.1%	27.7%	No separate dollar guide	18.2%	EUR1.960bn	Holistic-lithography adoption captures more control spend despite strong process-control rivals.
Installed Base Management	20.7%	26.2%	Over 30%	19.4%	EUR22.636bn	EUV fleet and upgrades sustain 32%, 24%, 18%, 14%, and 10% annual growth.

Bear-case product assumptions

Product / sub-segment	3-year historical CAGR	Latest YoY	Management FY2026 guide	Bear CAGR TTM to 2031-06-28	Bear 2031 revenue	Justification
EUV combined, NXE + EXE	12.8% from FY2023-FY2025	39.4%	Over 45% Low-NA EUV systems sales	7.6%	EUR19.653bn	Pushouts and slower High-NA insertion decelerate growth 20%, 10%, 6%, 3%, and 0%.
ArF immersion	6.9%	6.7%	Non-EUV around 25%; immersion capacity +30% in 2027	5.5%	EUR12.093bn	Capacity fills only partly; growth falls from 15% to 8%, 4%, 1%, and 0%.
ArF dry	-26.0%	-44.8%	Included in non-EUV around 25%	2.3%	EUR0.731bn	A mild trough recovery is followed by flat-to-negative mature demand.
KrF	-32.6%	-49.7%	Included in non-EUV around 25%	3.7%	EUR1.582bn	Recovery occurs, but China controls and oversupply prevent a full return to FY2023 revenue.
I-line	5.1%	-16.8%	Included in non-EUV around 25%	1.6%	EUR0.281bn	Specialty resilience offsets small declines late in the period.
Metrology & Inspection	24.1%	27.7%	No separate dollar guide	7.5%	EUR1.218bn	Complexity grows, but rivals win share and customer capex slows.
Installed Base Management	20.7%	26.2%	Over 30%	9.1%	EUR14.427bn	Service remains durable, but upgrades normalize and export/service constraints limit the installed-base opportunity.

Explicit annual growth-rate cadence by product

Case / product	2027-06-28	2028-06-28	2029-06-28	2030-06-28	2031-06-28
Bear / EUV combined	20%	10%	6%	3%	0%
Bear / ArF immersion	15%	8%	4%	1%	0%
Bear / ArF dry	8%	4%	1%	0%	-1%
Bear / KrF	10%	5%	3%	1%	0%
Bear / I-line	5%	3%	1%	0%	-1%
Bear / Metrology & Inspection	15%	10%	7%	4%	2%
Bear / Installed Base Management	18%	12%	8%	5%	3%
Base / EUV combined	28%	18%	13%	10%	7%
Base / ArF immersion	22%	15%	10%	7%	4%
Base / ArF dry	10%	6%	3%	1%	0%
Base / KrF	15%	10%	6%	4%	2%
Base / I-line	8%	5%	3%	2%	1%
Base / Metrology & Inspection	22%	17%	13%	10%	8%
Base / Installed Base Management	25%	18%	14%	11%	9%
Bull / EUV combined	33%	24%	18%	14%	10%
Bull / ArF immersion	28%	20%	15%	10%	7%
Bull / ArF dry	15%	10%	7%	4%	2%
Bull / KrF	18%	12%	8%	5%	3%
Bull / I-line	10%	7%	4%	2%	1%
Bull / Metrology & Inspection	28%	22%	18%	14%	10%
Bull / Installed Base Management	32%	24%	18%	14%	10%

The comparable-company check supports the shape, not every point estimate. Nikon’s declining lithography units show that mature-tool growth can reverse sharply. TSMC’s USD52-56bn 2026 capital budget and 70-80% advanced-process allocation support the near-term surge. KLA’s large inspection franchise argues against assuming ASML M&I simply repeats its 24%

historical CAGR. Canon’s planned nanoimprint scale creates an option-like substitution risk. No case holds a current 25-75% management growth rate constant for five years.

Consolidated annual deceleration and five-year compounding

Case	TTM 2026-06-28 revenue	2027-06-28	2028-06-28	2029-06-28	2030-06-28	2031-06-28	TTM-to-horizon CAGR
Bear	EUR35.328bn	EUR41.452bn / 17.3%	EUR45.471bn / 9.7%	EUR48.130bn / 5.8%	EUR49.551bn / 3.0%	EUR49.985bn / 0.9%	7.19%
Base	EUR35.328bn	EUR43.992bn / 24.5%	EUR51.318bn / 16.7%	EUR57.515bn / 12.1%	EUR62.793bn / 9.2%	EUR66.928bn / 6.6%	13.63%
Bull	EUR35.328bn	EUR46.012bn / 30.2%	EUR56.219bn / 22.2%	EUR65.604bn / 16.7%	EUR73.839bn / 12.6%	EUR80.442bn / 8.9%	17.89%

Compounding check: EUR35.328bn × 1.071875^5 = EUR49.985bn; EUR35.328bn × 1.136313^5 = EUR66.928bn; EUR35.328bn × 1.178887^5 = EUR80.442bn. The horizon is exactly five years, with no FY2025-to-2031 six-year stretch.

Why the cases diverge

The decisive variable is not semiconductor revenue growth by itself; it is lithography spending per unit of customer output. Advanced nodes can grow ASML revenue faster than wafers because more critical layers, tighter overlay tolerances, higher scanner prices, and broader metrology needs raise value per wafer. The base case assumes this intensity effect persists but declines as Low-NA EUV becomes a larger installed platform. The bull requires both intensity and customer capacity additions to remain strong. The bear assumes higher tool productivity and slower fab utilization absorb part of end-demand growth, so customers can produce more wafers without proportionate scanner additions.

EUV carries the widest absolute scenario spread: EUR19.653bn to EUR33.279bn at the horizon. That spread is economically grounded in three separate uncertainties. First, Low-NA demand depends on how rapidly advanced logic and DRAM capacity is built. Second, High-NA adoption depends on layer economics and high-volume qualification, not merely successful engineering shipments. Third, each productivity improvement can raise selling value while lowering the number of tools required for a given wafer target. The base does not assume that the planned 30% capacity addition translates permanently into 30% revenue growth. It assumes a 28% first year while orders cover capacity, then a steady decline to 7% as scale and throughput catch up.

ArF immersion is the second swing factor. It serves advanced and mainstream applications, so it benefits from the same fabs that buy EUV as well as broader-node investment. Management’s planned 2027 capacity increase supports the first two years, but the product’s FY2023-FY2025 growth was only 6.9% despite considerable volatility. Base growth therefore falls from 22% to 4%. The bull assumes more DUV layers per advanced wafer, full utilization of new capacity, and continued mainstream Logic strength. The bear assumes customer timing and a return to normalized utilization prevent the contemplated 2028 expansion from filling.

The mature-product lines are deliberately conservative in absolute euros. ArF dry, KrF, and I-line together are only EUR2.227bn of TTM revenue. Their latest annual declines were severe, but the last-four-quarter mix shows recovery. The base does not extrapolate either extreme. It rebuilds KrF to EUR1.873bn by 2031, still below FY2023’s EUR2.203bn, while ArF dry and I-line remain modest. This protects the consolidated forecast from a common modeling error: applying the broad non-EUV guide equally to every mature technology for five years.

M&I has attractive structural demand because process windows narrow and defects become more expensive at advanced nodes, but competition is strongest here. KLA’s scale in wafer inspection and services and Applied Materials’ e-beam roadmap mean ASML cannot be assumed to capture the full process-control growth pool. The base’s 13.9% CAGR is materially below M&I’s 24.1% FY2023-FY2025 rate. The bull requires ASML’s lithography-data integration to win incremental share. The bear still grows 7.5% because complexity rises, but the forecast allows competitors to retain the larger franchises.

IBM is the stabilizer, not an annuity immune to cycle. The service portion benefits from every installed system and customer emphasis on availability. Field options, however, can bunch around productivity programs such as NXE upgrades. That is why the base begins below the FY2026 guide of over 30% and then decelerates every year. The bear still reaches EUR14.427bn because the installed base does not disappear in a downturn, but export limits or delayed upgrades can slow monetization. The bull reaches EUR22.636bn only if EUV installations, warranty expirations, availability contracts, and upgrade attachment all reinforce one another.

The scenario probabilities reflect asymmetry around the exceptional starting point. The base receives 50% because ASML has strong visibility into 2027 Low-NA orders and a broad capacity plan. Bear receives 30%, more than bull's 20%, because customer concentration, regulation, and semiconductor-capital cycles can all truncate a surge, while the bull must sustain double-digit consolidated growth even in year five. The old EUR44-60bn 2030 scenario range is not used as an artificial cap: July 2026 guidance already reaches the bottom four years early. Yet the bull's EUR80.442bn is not treated as equally likely because it assumes the upcoming 2027 Capital Markets Day validates a much larger addressable trajectory.

Operating sensitivities inside the revenue model

A one-percentage-point change in terminal growth applied across all product lines would not produce a simple one-point change in consolidated CAGR because the technology mix differs. The largest euro sensitivities are EUV and IBM: in the base case they contribute EUR27.395bn and EUR19.014bn, nearly 69% of horizon revenue. A 10% shortfall against both terminal values would reduce consolidated revenue by EUR4.641bn before any second-order margin effect. At the base 38.0% margin, that is about EUR1.764bn of `Statutory operating income (single-segment non-operating CODM fallback)` before allowing for weaker absorption.

Margin sensitivity is equally important. Every 100-basis-point change in the base terminal margin moves the exact modeled profit by about EUR0.669bn. This explains why a revenue-only moat assessment is insufficient: faster High-NA revenue could still disappoint profit if early-platform cost, supplier pricing, or R&D requirements remain elevated. Conversely, stronger IBM mix can lift profit faster than revenue. The scenario grid captures this interaction by pairing lower revenue with margin compression in bear and higher revenue with learning and mix expansion in bull, rather than holding margin constant.

9. Forward `Statutory operating income (single-segment non-operating CODM fallback)` margin assumptions

ASML does not disclose profit by technology or IBM, and the sealed bridge permits exactly one modeled segment. Product-margin allocation would create unsupported profit segments and violate the accounting perimeter. Therefore, the model builds revenue by product, then applies one consolidated margin path on the exact sealed basis. The drivers are still bottom-up: EUV/IBM mix, product maturity, upgrade intensity, R&D, capacity absorption, and competitive pricing determine the single consolidated margin.

Case	Exact profit metric	TTM margin	2027-06-28	2028-06-28	2029-06-28	2030-06-28	2031-06-28	Change vs TTM
Bear	Statutory operating income (single-segment non-operating CODM fallback)	35.4%	34.5%	34.0%	33.8%	33.4%	33.0%	-240 bps
Base	Statutory operating income (single-segment non-operating CODM fallback)	35.4%	36.0%	37.0%	37.5%	37.8%	38.0%	+260 bps
Bull	Statutory operating income (single-segment non-operating CODM fallback)	35.4%	37.0%	38.5%	39.5%	40.3%	41.0%	+560 bps

In the base case, the greater-than-100-basis-point improvement is driven by the IBM mix rising from 26.5% of TTM revenue to 28.4% of horizon revenue, EUV scale and learning, better NXE productivity, and fixed-cost leverage. High-NA ramp costs and sustained R&D prevent gross-margin improvement from flowing through fully. The old 2030 gross-margin range of 56-60% provides a directional ceiling, not an operating-margin target.

In the bull case, High-NA insertion succeeds on schedule, low-NA capacity fills, IBM upgrades remain strong, and yield/throughput learning reduces system costs. The 41.0% terminal operating margin still leaves a substantial gap beneath gross margin to fund R&D and commercial infrastructure. In the bear case, export controls, customer delays, and underfilled capacity lower mix and absorption, while ASML cannot prudently cut roadmap R&D in line with sales. Margin falls below the TTM even though revenue grows.

The CODM context measure remains separate. `Consolidated US GAAP net income` was EUR10.638bn in the TTM, but it is not projected here because interest, equity-method profit, and tax belong in the synthesis below the single-segment operating rollup. No tax or non-operating item appears in the margin paths.

10. Segment rollup

Bottom-up horizon revenue rollup

Product / sub-segment	TTM 2026-06-28 revenue	Bear 2031 revenue	Base 2031 revenue	Bull 2031 revenue	Source / treatment
EUV combined, NXE + EXE	EUR13.637bn	EUR19.653bn	EUR27.395bn	EUR33.279bn	data_package §5 quarterly EUV mix; combined because TTM split is not disclosed
ArF immersion	EUR9.270bn	EUR12.093bn	EUR15.920bn	EUR19.272bn	data_package §5 quarterly ArFi mix
ArF dry	EUR0.651bn	EUR0.731bn	EUR0.790bn	EUR0.935bn	data_package §5 quarterly technology mix
KrF	EUR1.316bn	EUR1.582bn	EUR1.873bn	EUR2.032bn	data_package §5 quarterly technology mix
I-line	EUR0.260bn	EUR0.281bn	EUR0.313bn	EUR0.328bn	data_package §5 quarterly technology mix
Metrology & Inspection	EUR0.848bn	EUR1.218bn	EUR1.625bn	EUR1.960bn	data_package §5 quarterly technology mix
Installed Base Management	EUR9.346bn	EUR14.427bn	EUR19.014bn	EUR22.636bn	data_package §5 disclosed four-quarter sum
Consolidated company	EUR35.328bn	EUR49.985bn	EUR66.928bn	EUR80.442bn	Sum of product/sub-segment rows

The revenue arithmetic ties at full precision. Bear product rows sum to EUR49.985070bn, base to EUR66.928109bn, and bull to EUR80.441515bn. Displayed rows may differ by EUR0.001bn because of rounding, far inside the 1% rollup tolerance. Systems plus IBM remain revenue-only driver context; no technology is treated as a separate profit segment.

Annual one-segment profit rollup

Case / date	Consolidated revenue	Exact profit metric	Margin	Profit on exact metric
Bear / 2027-06-28	EUR41.452bn	Statutory operating income (single-segment non-operating CODM fallback)	34.5%	EUR14.301bn
Bear / 2028-06-28	EUR45.471bn	Statutory operating income (single-segment non-operating CODM fallback)	34.0%	EUR15.460bn
Bear / 2029-06-28	EUR48.130bn	Statutory operating income (single-segment non-operating CODM fallback)	33.8%	EUR16.268bn
Bear / 2030-06-28	EUR49.551bn	Statutory operating income (single-segment non-operating CODM fallback)	33.4%	EUR16.550bn
Bear / 2031-06-28	EUR49.985bn	Statutory operating income (single-segment non-operating CODM fallback)	33.0%	EUR16.495bn
Base / 2027-06-28	EUR43.992bn	Statutory operating income (single-segment non-operating CODM fallback)	36.0%	EUR15.837bn
Base / 2028-06-28	EUR51.318bn	Statutory operating income (single-segment non-operating CODM fallback)	37.0%	EUR18.988bn
Base / 2029-06-28	EUR57.515bn	Statutory operating income (single-segment non-operating CODM fallback)	37.5%	EUR21.568bn
Base / 2030-06-28	EUR62.793bn	Statutory operating income (single-segment non-operating CODM fallback)	37.8%	EUR23.736bn
Base / 2031-06-28	EUR66.928bn	Statutory operating income (single-segment non-operating CODM fallback)	38.0%	EUR25.433bn
Bull / 2027-06-28	EUR46.012bn	Statutory operating income (single-segment non-operating CODM fallback)	37.0%	EUR17.025bn

Case / date	Consolidated revenue	Exact profit metric	Margin	Profit on exact metric
Bull / 2028-06-28	EUR56.219bn	Statutory operating income (single-segment non-operating CODM fallback)	38.5%	EUR21.644bn
Bull / 2029-06-28	EUR65.604bn	Statutory operating income (single-segment non-operating CODM fallback)	39.5%	EUR25.914bn
Bull / 2030-06-28	EUR73.839bn	Statutory operating income (single-segment non-operating CODM fallback)	40.3%	EUR29.757bn
Bull / 2031-06-28	EUR80.442bn	Statutory operating income (single-segment non-operating CODM fallback)	41.0%	EUR32.981bn

Profit check: revenue × margin equals profit in every row. The bear terminal profit is lower than the prior year because revenue growth slows to 0.9% while margin contracts 40 basis points. This is intentional, not an arithmetic error. There are no corporate/unallocated or operating-bridge adjustments because the sealed fallback makes the one modeled segment equal statutory operating income. Interest and other, tax, equity-method profit, and net income remain synthesis responsibilities.

Scenario probability rollup

Probabilities are deliberately non-uniform: bear 30%, base 50%, and bull 20%. The distribution assigns more weight to the risk that an extraordinary AI-capex and memory cycle normalizes than to a bull outcome that sustains double-digit growth through the fifth year. It still gives the base case the modal weight because 2027 orders and capacity plans provide tangible near-term visibility. The weights sum to 100%.

Probability-weighted item	Bear contribution at 30%	Base contribution at 50%	Bull contribution at 20%	Weighted total
2031 revenue	EUR14.996bn	EUR33.464bn	EUR16.088bn	EUR64.548bn
Statutory operating income (single-segment non-operating CODM fallback)	EUR4.949bn	EUR12.716bn	EUR6.596bn	EUR24.261bn

The weighted operating margin calculated from weighted profit divided by weighted revenue is 37.59%. This is a probability diagnostic, not a fourth scenario and not a valuation output.

11. Key risks and wildcards

- **Bear — AI and memory capex air pocket.** FY2026’s revenue guide and over-75% Memory system growth reflect an unusually steep capacity response. If AI accelerator demand, HBM pricing, or advanced-node utilization weakens, customers could delay 2027-2028 orders. The model’s first bear signal would be bookings no longer covering planned Low-NA and immersion output.
- **Bear — export-control escalation.** China represented 29.1% of FY2025 revenue, and restrictions can affect systems, upgrades, spare parts, service, and supplier inputs. A move from advanced-tool controls into a broader service or mature-DUV perimeter would damage both systems and IBM.
- **Bear — High-NA qualification delay.** The economic case requires imaging, overlay, throughput, resist, mask, and defect performance to clear customer hurdles. A delay beyond the indicated 2027-2028 insertion window would defer high-priced systems and keep early-platform cost elevated.
- **Bear — capacity absorption.** ASML and suppliers are preparing roughly 30% increases in Low-NA and immersion capacity for 2027. Underfilled capacity would compress gross and operating margin because R&D and specialist labor cannot be reduced quickly.
- **Bear/Base — customer concentration.** Four customers produced 61.2% of FY2025 revenue. Their roadmap decisions can shift billions of euros between periods. Backlog provides visibility but does not remove facility-readiness, acceptance, modification, or regulatory risk.
- **Bear/Base — nanoimprint substitution.** Canon does not need to replace the whole EUV stack to matter. Adoption on selected memory or logic layers could reduce multi-patterning or scanner demand. Evidence to monitor is high-volume yield, overlay, defectivity, and customer production qualification, not vendor resolution claims alone.

- **Base/Bull — lithography intensity.** More complex transistors, backside power, DRAM scaling, and tighter overlay can raise patterning value per wafer even when wafer volumes grow more slowly. This is the main upside to EUV, M&I, and IBM together.
- **Bull — High-NA productivity and IBM feedback loop.** Successful high-volume insertion expands the installed base, service intensity, upgrades, and data. If learning reduces cost faster than modeled, both revenue and margin could beat the bull trajectory.
- **Bull — broader DUV cycle.** Advanced logic requires many DUV layers, while mainstream logic, analog, power, and sensors support mature tools. Filling both the planned immersion expansion and a KrF recovery would make growth less dependent on EUV.
- **Wildcard — productivity can reduce units.** Higher throughput raises customer value and pricing but can satisfy wafer demand with fewer scanners. A model based only on wafer starts or unit capacity could overstate revenue. The forecasts therefore use explicit revenue paths rather than assuming units and revenue move together.

Summary table

Case	Consolidated company TTM+5y revenue	Exact profit metric	Consolidated company TTM+5y profit margin	Consolidated company TTM+5y profit	Probability
Bear	EUR49.985bn	Statutory operating income (single-segment non-operating CODM fallback)	33.0%	EUR16.495bn	30%
Base	EUR66.928bn	Statutory operating income (single-segment non-operating CODM fallback)	38.0%	EUR25.433bn	50%
Bull	EUR80.442bn	Statutory operating income (single-segment non-operating CODM fallback)	41.0%	EUR32.981bn	20%

The central underwriting conclusion is not that ASML can repeat FY2026 growth. It is that a one-time step to roughly EUR44bn can convert into a 13.6% five-year base CAGR only if EUV remains a node-enabling bottleneck, immersion capacity fills, IBM compounds off a growing installed fleet, and consolidated operating margin rises 260 basis points despite sustained R&D. The bear still grows because the service base and technology roadmap are durable, but its terminal profit stalls as the cycle and margin normalize. The bull requires continued double-digit growth in the fifth year and 41% operating margin, so it deserves less probability than the bear.

Data gaps carried forward: [DATA GAP: separate TTM NXE and EXE revenue is not disclosed; EUV is modeled combined.] [DATA GAP: profit and gross margin by technology, IBM, end-use, geography, and customer are not disclosed; no product-profit allocation is invented.] [DATA GAP: customer identities, individual revenue above the 10% threshold, supplier-specific capacity, cancellation probability, and licensed customer-level China shipment value are not disclosed.] These gaps do not break the one-segment statutory rollup but limit confidence in the internal mix-to-margin bridge.

Appendix S - Synthesis (Combined Earnings Model)

ASML Holding N.V. — Synthesis (Combined Earnings Model)

Security: ASML.AS, Euronext Amsterdam registered ordinary share **Run:** `pulse-cio-20260828T120303+0800` **Mode:** Production ER2 **Model perimeter:** one segment, exactly labeled `Statutory operating income (single-segment non-operating CODM fallback)` **Authority boundary:** research only. This appendix does not select a security-return primary method, an exit multiple, a trade, or portfolio action.

This appendix consolidates the reviewer-cleared segment forecast into statutory operating income, net income, ordinary-share EPS, and the P/E-15 entry-price gate. ASML reports one segment and tells its CODM about consolidated US GAAP net income, a statutory endpoint below operating income. The QFR/DR-cleared schema therefore preserves consolidated net income as separate CODM context while the financial projection uses the permitted single-segment non-operating-CODM fallback on sourced statutory operating income. Interest and other, income tax, and equity-method profit remain outside the modeled operating segment and are projected only through the exact Section 3a ledger. No product profit allocation, accounting reclassification, balancing item, or residual plug is introduced.

1. Frozen anchors and validation record

- **Today:** 2026-08-28.
- **Fiscal year-end:** December 31.
- **TTM anchor:** 2026-06-28, comprising Q3 2025 + Q4 2025 + Q1 2026 + Q2 2026.
- **Latest completed fiscal year for historical checking:** FY2025, ended 2025-12-31.
- **Horizon:** 2031-06-28, exactly 5.0 calendar years after the TTM end. Every compound-growth calculation uses this interval; FY2025 is not substituted for the TTM base.
- **Valuation quote:** EUR 1,486.40 per registered Euronext Amsterdam ordinary share, listing XAMS:ASML, ISIN NL0010273215, raw exchange close for the completed 2026-08-27 session. The raw-price evidence SHA-256 is `1cfec0525a3eee604658aedf7dae9134c7160e81ee5468a04dfa17253592f87a`. The QFR-sealed quote-packet SHA-256 is `40b6d7bcc958d740e606d7adb9a4b2e0221cd177a10d9d796128f3e94978f49f`. Actionability expires at 2026-08-28T23:30:00+08:00.
- **Quote validation:** the strict validator was run at 2026-08-28T13:47:31+08:00 with the expected packet hash. It returned `QUOTE_PACKET_VALID` and the exact expected packet SHA-256. The price was not re-fetched or mutated.
- **Reporting and quote currency:** EUR in both cases. The sealed session-date FX factor is 1.000000 EUR of quote currency per EUR of reporting currency, dated 2026-08-27, source treatment `IDENTITY_SAME_CURRENCY`.
- **Financial and listed unit:** one ASML Holding N.V. ordinary financial share equals one registered Amsterdam ordinary listed unit. Depositary ratio 1.000000 multiplied by share-class factor 1.000000 equals 1.000000 financial share per listed unit.
- **Split bridge:** 385.300 million financial-statement diluted shares at 2026-06-28 multiplied by the sealed 1.000000 quote-basis split factor equals 385.300 million quote-basis diluted financial shares at 2026-08-27. The packet records `NO_INTERVENING_SPLIT`; split-evidence SHA-256 is `b1605bf42040dca6cc985e6ab540f223f5758a955c1a8b8df191b14e277acc4b`.
- **Listed-unit bridge:** 385.300 million quote-basis financial shares divided by 1.000000 financial share per listed unit equals 385.300 million listed-unit equivalents.
- **Historical bridge:** statutory-bridge SHA-256 `344074f3be1c21db8076317c65d530a5a75630b03889bd4cef1241b9a0903d5a`. The installed validator returned `STATUTORY_BRIDGE_VALID` with exact hash equality. `gate_manifest.json` records both `STATUTORY BRIDGE VERIFIED — CLEARED FOR FORECASTING` and `DATA PACKAGE VERIFIED — CLEARED FOR WAVE 2`; there are no DR unresolved items.
- **Horizon integrity:** 2026-06-28 plus five calendar years is 2031-06-28. The span is exactly 5.0 years, not six fiscal years.

The QFR-sealed statutory bridge contains no corporate/unallocated adjustment and no operating-bridge adjustment for either FY2025 or TTM. Its one modeled segment equals statutory operating income. It separately preserves the issuer-disclosed CODM context measure, `Consolidated US GAAP net income`, at EUR9.6094bn in FY2025 and EUR10.6384bn in the TTM. That CODM measure is not substituted for segment operating profit and is not independently forecast as a second earnings line.

2. Segment-level forward assumptions

The terminal revenue, margin, operating-income values, and probabilities below reproduce the reviewed Section 8 through Section 10 inputs unchanged. The product families in the reviewed appendix are revenue drivers inside ASML's sole reportable segment; they are not additional profit segments.

Segment	Exact profit metric	TTM revenue, EURbn	Bear horizon revenue	Base horizon revenue	Bull horizon revenue	Bear margin	Base margin	Bull margin
Consolidated company	Statutory operating income (single-segment non-operating CODM fallback)	35.3275	49.985	66.928	80.442	33.0%	38.0%	41.0%

Source: `appendix_B_consolidated_company.md`, Sections 8, 9, and 10, status `REVIEWED — NO ISSUES REMAIN` in `gate_manifest.json`. The exact reviewed terminal operating-income inputs are EUR16.495bn, EUR25.433bn, and EUR32.981bn for bear, base, and bull. Small differences between displayed revenue times displayed margin and displayed operating income are only terminal-input rounding; the reviewed values are used unchanged.

The annual path makes the FY2026-related step-up and later deceleration explicit. It begins at the 2026-06-28 TTM, not FY2025. The base first year reaches EUR43.992bn, consistent with but slightly below the EUR43-45bn FY2026 official guide even though the forecast year straddles fiscal periods. Growth then slows in every base and bull year. Bear growth also slows each year and terminal operating income declines slightly as late-period revenue stalls and margin contracts.

Case and exact-horizon year	Revenue, EURbn	Annual growth	OI margin	Statutory OI, EURbn
Bear 2027-06-28	41.452	17.3%	34.5%	14.301
Bear 2028-06-28	45.471	9.7%	34.0%	15.460
Bear 2029-06-28	48.130	5.8%	33.8%	16.268
Bear 2030-06-28	49.551	3.0%	33.4%	16.550
Bear 2031-06-28	49.985	0.9%	33.0%	16.495
Base 2027-06-28	43.992	24.5%	36.0%	15.837
Base 2028-06-28	51.318	16.7%	37.0%	18.988
Base 2029-06-28	57.515	12.1%	37.5%	21.568
Base 2030-06-28	62.793	9.2%	37.8%	23.736
Base 2031-06-28	66.928	6.6%	38.0%	25.433
Bull 2027-06-28	46.012	30.2%	37.0%	17.025
Bull 2028-06-28	56.219	22.2%	38.5%	21.644
Bull 2029-06-28	65.604	16.7%	39.5%	25.914
Bull 2030-06-28	73.839	12.6%	40.3%	29.757
Bull 2031-06-28	80.442	8.9%	41.0%	32.981

The base operating-margin expansion from the 35.4% TTM anchor to 38.0% reflects the reviewed mix and scale thesis: IBM rises in the mix, EUV learning and NXE productivity improve, and fixed costs are absorbed across a larger revenue base. The bear retains roadmap R&D and absorbs underfilled capacity, taking margin to 33.0%. The bull assumes stronger High-NA insertion, utilization, and service/upgrade economics, taking margin to 41.0%. These are reviewed one-segment assumptions, not product-level margin estimates.

3. Combined revenue build

There is exactly one modeled segment. The sealed statutory packet includes no corporate revenue eliminations, and the reviewed segment appendix's product rows reconcile to the one consolidated segment.

Line	Bear	Base	Bull
Sum of segment TTM+5y revenue, EURbn	49.985	66.928	80.442
Corporate eliminations, EURbn	0.000	0.000	0.000
Combined TTM+5y revenue, EURbn	**49.985**	**66.928**	**80.442**
Implied TTM-to-TTM+5y CAGR over 5.0 years	7.19%	13.63%	17.89%

The combined arithmetic is direct: one segment plus no eliminations equals consolidated revenue. At product level, the reviewed appendix reports full-precision endpoint sums of EUR49.985070bn, EUR66.928109bn, and EUR80.441515bn. The differences from the frozen three-decimal scenario inputs are less than EUR0.001bn and reflect display rounding only. No top-down scaling is used.

4. Combined operating-income build

The statutory bridge's `corporate_unallocated_adjustments` and `operating_bridge_adjustments` arrays are empty. Empty means absent; no zero-valued analyst lines are manufactured. Therefore, the segment metric, consolidated modeled metric, and statutory operating income are identical at the horizon.

Line	Bear	Base	Bull
Sum of segment horizon profit on sealed metric, EURbn	16.495	25.433	32.981
Corporate or unallocated adjustments from Section 3a, EURbn	None	None	None
Consolidated horizon modeled segment-profit metric, EURbn	16.495	25.433	32.981
Operating bridge adjustments from Section 3a, EURbn	None	None	None
Combined statutory horizon operating income, EURbn	**16.495**	**25.433**	**32.981**
Implied statutory OI margin	33.00%	38.00%	41.00%

The sole modeled metric is exactly `Statutory operating income (single-segment non-operating CODM fallback)`. Corporate/unallocated rule: not present in the sealed Section 3a ledger for any case. Operating-bridge rule: not present in that ledger for any case. Interest and other, tax, and equity-method profit are not operating adjustments and are kept below the operating-income subtotal. The issuer-disclosed CODM consolidated net income is preserved as context and calculated only at the statutory net-income endpoint.

5. Net income and EPS build

Section 3a contains one combined pretax line, `Interest and other, net`. It does not disclose a forecast-ready split between interest and other income, so this synthesis preserves the combined label and does not manufacture separate values. The TTM amount is EUR0.1015bn. The bear path applies the instructed lower-yield rule by stepping from EUR0.090bn to EUR0.050bn. Base holds the TTM run rate at EUR0.1015bn. Bull applies the higher-yield rule by stepping from EUR0.110bn to EUR0.150bn. These are explicit mechanical paths for the sealed line, not a cash/debt plug.

Income tax is applied to pretax income at the DR-cleared scenario rates: bear 18.0%, base 17.0%, and bull 16.5%. `Profit from equity method investments` is post-tax in the sealed bridge and therefore is added after the tax charge. Bear holds the TTM EUR0.2406bn flat, base compounds it at a modest 5% annually, and bull compounds it at a higher 10% annually. It is never included in pretax income.

Line	Bear	Base	Bull
Combined horizon statutory OI, EURbn	16.4950	25.4330	32.9810
Net interest separately classified	Unavailable	Unavailable	Unavailable
Other income separately classified	Unavailable	Unavailable	Unavailable
Interest and other, net, sealed combined line, EURbn	0.0500	0.1015	0.1500

Line	Bear	Base	Bull
Pretax income, EURbn	16.5450	25.5345	33.1310
Tax rate assumed	18.0%	17.0%	16.5%
Income tax expense, EURbn	2.9781	4.3409	5.4666
Profit from equity method investments, post-tax, EURbn	0.2406	0.3071	0.3875
Net income, EURbn	**13.8075**	**21.5007**	**28.0519**
Quote-basis diluted financial shares at horizon, millions	375.8910	375.8910	375.8910
EPS in reporting currency per quote-basis financial share	36.7327	57.1993	74.6277
Financial shares per listed unit	1.0000	1.0000	1.0000
EPS in reporting currency per listed unit	36.7327	57.1993	74.6277
FX, quote currency per reporting currency	1.0000	1.0000	1.0000
EPS in EUR per listed unit at horizon	**36.7327**	**57.1993**	**74.6277**

The required equations reproduce exactly:

`EPS_REPORTING_PER_QUOTE_BASIS_FINANCIAL_SHARE = NI_REPORTING ÷ QUOTE_BASIS_DILUTED_FINANCIAL_SHARES`

`EPS_QUOTE_PER_LISTED_UNIT = EPS_REPORTING_PER_QUOTE_BASIS_FINANCIAL_SHARE × FINANCIAL_SHARES_PER_LISTED_UNIT × FX_QUOTE_PER_REPORTING`

For base, EUR21.500708bn divided by 375.891025 million shares is EUR57.199313 per financial share; multiplying by 1.000000 and 1.000000 leaves EUR57.199313 per listed XAMS ordinary share. The bear and bull rows use the identical unit bridge.

The annual net-income and EPS path follows the reviewed revenue/OI cadence, the explicit below-line rules, and the share schedule in Section 6. It shows the FY2026 step-up rather than skipping directly to the terminal year.

Case and year	OI, EURbn	Interest and other, EURbn	Pretax, EURbn	Tax rate	Equity-method profit, EURbn	Net income, EURbn	Diluted shares, M	EPS, EUR
Bear 2027	14.301	0.0900	14.3910	18.0%	0.2406	12.0412	383.4182	31.4049
Bear 2028	15.460	0.0800	15.5400	18.0%	0.2406	12.9834	381.5364	34.0293
Bear 2029	16.268	0.0700	16.3380	18.0%	0.2406	13.6378	379.6546	35.9215
Bear 2030	16.550	0.0600	16.6100	18.0%	0.2406	13.8608	377.7728	36.6908
Bear 2031	16.495	0.0500	16.5450	18.0%	0.2406	13.8075	375.8910	36.7327
Base 2027	15.837	0.1015	15.9385	17.0%	0.2526	13.4816	383.4182	35.1616
Base 2028	18.988	0.1015	19.0895	17.0%	0.2653	16.1095	381.5364	42.2228
Base 2029	21.568	0.1015	21.6695	17.0%	0.2785	18.2642	379.6546	48.1074
Base 2030	23.736	0.1015	23.8375	17.0%	0.2925	20.0776	377.7728	53.1472
Base 2031	25.433	0.1015	25.5345	17.0%	0.3071	21.5007	375.8910	57.1993
Bull 2027	17.025	0.1100	17.1350	16.5%	0.2647	14.5724	383.4182	38.0065
Bull 2028	21.644	0.1200	21.7640	16.5%	0.2911	18.4641	381.5364	48.3940
Bull 2029	25.914	0.1300	26.0440	16.5%	0.3202	22.0670	379.6546	58.1238
Bull 2030	29.757	0.1400	29.8970	16.5%	0.3523	25.3163	377.7728	67.0145
Bull 2031	32.981	0.1500	33.1310	16.5%	0.3875	28.0519	375.8910	74.6277

5a. Return-method input bridge

This table supplies inputs for the permitted return methods but intentionally does not decide which method controls and does not set any terminal multiple. A terminal value is `Unavailable` where the upstream package provides no source-bound scenario path. Such fields must not be filled by a residual net-debt assumption.

Input at 2031-06-28	Bear	Base	Bull	Source-bound treatment
Statutory operating income, EURbn	16.4950	25.4330	32.9810	Reviewed segment endpoint
Normalized cash tax rate	18.0%	17.0%	16.5%	DR-cleared Section 3a scenario rule
Normalized NOPAT, EURbn	13.5259	21.1094	27.5391	OI multiplied by one minus cash tax rate
Terminal cash and short-term investments	Unavailable	Unavailable	Unavailable	Current anchor EUR7.5815bn at 2026-06-28; no terminal path supplied
Terminal gross debt	Unavailable	Unavailable	Unavailable	Current anchor EUR3.7197bn at 2026-06-28; no terminal maturity or refinancing path supplied
Terminal lease liabilities	Unavailable	Unavailable	Unavailable	Not separately disclosed in upstream balance-sheet table
Terminal preferred equity	Unavailable	Unavailable	Unavailable	No cumulative preference shares issued at the current anchor; future terminal path not forecast upstream
Terminal minority interest	Unavailable	Unavailable	Unavailable	No source-bound terminal path in the DR-cleared package
Other senior claims	Unavailable	Unavailable	Unavailable	No source-bound terminal path in the DR-cleared package
Separately valued non-operating assets	Unavailable	Unavailable	Unavailable	Mistral strategic investment is identified, but no terminal valuation path is supplied
Diluted listed-equivalent shares, millions	375.8910	375.8910	375.8910	Section 6; unit factor equals one

The unavailable terminal capital-structure schedule means EV/NOPAT cannot control without later source-bound work. It does not impair the fully reconciled EPS/P-E entry-price method. VP and CS retain ownership of return-method selection and any exit multiple.

5b-5e. P&C insurer lane

`NOT TRIGGERED — issuer is not a P&C insurer or reinsurer.` No `insurer_return_bridge.json` is created.

6. Explicit five-year share-count path

The path begins with the quote packet's 385.300 million quote-basis financial shares, not the four-quarter weighted average and not an ADR count. The common path uses EUR3.000bn annual buybacks, below the EUR3.9497bn TTM pace and the EUR4.130bn five-year historical average, recognizing that authorization did not compel execution. This is consistent with the current up-to-EUR12bn program through 2028 and historical program renewals, but it is an assumption rather than a guarantee.

For auditability, average repurchase price is held at the sealed EUR1,486.40 packet price in all five years. This is a share-count conversion assumption, not a selected terminal price or exit multiple. Annual retirements equal EUR3.000bn divided by EUR1,486.40, or 2.018299 million shares. TTM SBC of EUR0.2029bn divided by the same price approximates 0.136504 million annual shares issued. The historical cross-check is favorable: despite SBC, diluted weighted shares declined from 410.4 million in FY2021 to 388.9 million in FY2025 and the packet anchor is 385.3 million.

Year ending	Starting quote-basis financial shares, M	Buyback, EURbn	Average price, EUR	Shares retired, M	SBC issuance, M	Ending quote-basis financial shares, M
2027-06-28	385.3000	3.0000	1,486.40	2.0183	0.1365	383.4182
2028-06-28	383.4182	3.0000	1,486.40	2.0183	0.1365	381.5364
2029-06-28	381.5364	3.0000	1,486.40	2.0183	0.1365	379.6546
2030-06-28	379.6546	3.0000	1,486.40	2.0183	0.1365	377.7728
2031-06-28	377.7728	3.0000	1,486.40	2.0183	0.1365	375.8910

The full-precision reconciliation is `385.300000 + 5 × 0.136504 - 5 × 2.018299 = 375.891025 million`. The packet split factor, depositary ratio, and class factor all equal one, so this is simultaneously the quote-basis diluted financial-share path and the listed-unit-equivalent path. EPS uses each year's ending schedule value as the explicit horizon diluted basis; no flat-share shortcut is used.

7. P/E-15 entry-price test

Required EPS at the immutable packet price is EUR1,486.40 divided by 15, or EUR99.0933 per listed unit. Cushion equals `(EPS × 15 - packet price) ÷ packet price`. The base case controls the binary verdict.

Case	EPS in EUR per listed unit at horizon	EPS times 15	Quote-packet price	Cushion	Pass?
Bear	36.7327	550.99	1,486.40	-62.93%	FAIL
Base	57.1993	857.99	1,486.40	-42.28%	FAIL
Bull	74.6277	1,119.42	1,486.40	-24.69%	FAIL

The base case fails because EUR857.99 is below EUR1,486.40 on the same XAMS ordinary-share and EUR basis. The bull case also fails, but the binary conclusion would remain a failure even if the bull passed because the framework's confident base case controls. P/E 15 is an entry-price discipline; it is not selected here as a terminal exit multiple.

8. Reflexivity and historical-anchor checks

The TTM revenue anchor is the sum of four non-overlapping official quarters: EUR7.5160bn + EUR9.7181bn + EUR8.7669bn + EUR9.3265bn = EUR35.3275bn. The one modeled segment is the consolidated company, so segment TTM revenue divided by consolidated TTM revenue equals 100.000%. There is no corporate revenue elimination.

For the TTM operating bridge, segment profit EUR12.5134bn plus no corporate/unallocated adjustments plus no operating adjustments equals statutory operating income EUR12.5134bn. The residual is EUR0.0000bn, below the sealed EUR0.00630745bn tolerance and below 2% of the endpoint. TTM `Interest and other, net` of EUR0.1015bn produces pretax income of EUR12.6149bn. Income tax expense of EUR2.2171bn and post-tax equity-method profit of EUR0.2406bn then produce consolidated US GAAP net income of EUR10.6384bn exactly.

FY2025 provides an independent historical sanity check. Segment profit EUR11.3014bn equals statutory OI because both bridge arrays are empty. Adding `Interest and other, net` of EUR0.1047bn gives pretax income EUR11.4061bn. Subtracting EUR2.0134bn income tax and adding EUR0.2167bn equity-method profit gives EUR9.6094bn net income. Every sealed residual is zero, within the EUR0.00570305bn packet tolerance.

The forecast uses these classifications without changing them. It does not reverse net income into operating income, allocate a non-operating item to a product, or infer a separate interest figure. The one-segment endpoint is forward-built from revenue and statutory OI margin, then the sealed below-line lines are applied once.

9. Latest-interim bridge reconciliation

`NOT TRIGGERED — four non-overlapping standalone quarters used.` The TTM is Q3 2025 + Q4 2025 + Q1 2026 + Q2 2026. No cumulative half-year, YTD, or FY-minus-prior-YTD bridge is mixed into that sum. The four official quarter rows reproduce TTM revenue EUR35.3275bn, operating income EUR12.5134bn, pretax income EUR12.6149bn, income tax expense EUR2.2171bn, equity-method profit EUR0.2406bn, and net income EUR10.6384bn. The TTM diluted-share diagnostic is the equal-duration weighted average of the four quarter diluted counts, 386.3 million, while the forecast share path correctly begins with the packet's separately sealed six-month financial-share basis of 385.3 million dated 2026-06-28.

Every forecast growth row starts at 2026-06-28 and ends at one of the five successive June 28 anniversaries. The terminal date is 2031-06-28. No overlapping period or six-year fiscal compounding appears.

10. Sensitivity analysis

The base case is varied one input at a time. The revenue-CAGR sensitivity changes the one modeled segment's five-year CAGR by plus or minus 200 basis points while holding 38.0% terminal margin, below-line inputs, tax, and shares fixed. Because there is no second modeled segment and ASML discloses no product profit margins, the requested Segment 2 margin sensitivity is genuinely not triggered; the economically relevant substitute varies the sole segment margin by plus or minus 200 basis points. Share-count sensitivity changes terminal shares by plus or minus 5%. Tax changes by plus or minus

300 basis points.

Variable changed from base	Down case	Base EPS, EUR	Up case	EPS impact versus base
Segment 1 revenue CAGR, 13.63% plus or minus 200 bps	11.63% gives 52.4274	57.1993	15.63% gives 62.3177	-4.7719 to +5.1183
Segment 2 exact-profit margin	Not triggered	57.1993	Not triggered	Only one modeled segment exists
Sole segment terminal OI margin, 38.0% plus or minus 200 bps	36.0% gives 54.2429	57.1993	40.0% gives 60.1542	-2.9565 to +2.9549
Terminal share count, plus or minus 5%	394.6856M gives 54.4755	57.1993	357.0965M gives 60.2098	-2.7238 to +3.0105
Tax rate, 17.0% plus or minus 300 bps	20.0% gives 55.1614	57.1993	14.0% gives 59.2372	-2.0379 to +2.0379

The largest modeled EPS swing is the sole segment's revenue CAGR, followed by its statutory OI margin. Even the favorable end of every one-way sensitivity remains far below the required EUR99.0933 EPS. The P/E-15 failure is therefore not a rounding artifact, a modest tax-rate choice, or a small share-count error. It requires either substantially stronger five-year operating economics than the reviewed base case or a materially lower entry price.

11. Combined earnings summary

Scenario probabilities are the reviewed non-uniform 30% bear, 50% base, and 20% bull. Bear receives more weight than bull because AI-capex, memory-cycle, export-control, and customer-concentration risks can truncate an exceptional up-cycle, while base remains modal because 2027 Low-NA coverage and capacity plans support near-term visibility.

Case	Revenue, EURbn	OI, EURbn	OI margin	NI, EURbn	EPS, EUR per listed unit	Probability	EPS times 15	Versus EUR1,486.40
Bear	49.985	16.495	33.0%	13.8075	36.7327	30%	550.99	-62.93%
Base	66.928	25.433	38.0%	21.5007	57.1993	50%	857.99	-42.28%
Bull	80.442	32.981	41.0%	28.0519	74.6277	20%	1,119.42	-24.69%
Probability-weighted EPS	n/a	n/a	n/a	n/a	54.5450	100%	818.18	-44.95%

Probability arithmetic is `36.7327 × 30% + 57.1993 × 50% + 74.6277 × 20% = EUR54.5450`. This weighted figure is a diagnostic, not a fourth operating scenario. Weighted scenario revenue is EUR64.548bn and weighted statutory operating income is EUR24.261bn based on the reviewed scenario contributions.

The moat appendix supports durable EUV chokepoint economics, installed-base attachment, and consolidated margins that stayed above 30% through the disclosed five-year history. It also assigns the 2046 test YELLOW because broad High-NA high-volume adoption, successor-platform economics, export-service durability, and stable margins through a non-AI downcycle are not yet proven. Those qualitative findings support a wide scenario range and the asymmetric 30/50/20 weighting; they do not change the arithmetic or rescue the entry-price gate.

12. Tie-out checks

1. Reported-financial and statutory-bridge tie-out — PASS

TTM: EUR12.5134bn segment profit + no corporate/unallocated items + no operating adjustments = EUR12.5134bn statutory OI. FY2025: EUR11.3014bn + none + none = EUR11.3014bn. Both residuals are zero and inside sealed tolerances. TTM segment revenue EUR35.3275bn equals consolidated TTM revenue EUR35.3275bn, a 0.00% difference. Sources: `statutory_bridge.json`; `data_package.md` Sections 2, 3, and 3a; `quant_foundation.md` official TTM construction.

2. NI, shares, listed unit, and FX equal EPS — PASS

Bear: EUR13.807500bn ÷ 375.891025M × 1.000000 × 1.000000 = EUR36.732721. Base: EUR21.500708bn ÷ 375.891025M × 1.000000 × 1.000000 = EUR57.199313. Bull: EUR28.051874bn ÷ 375.891025M × 1.000000 × 1.000000 = EUR74.627676. The factors reproduce the XAMS ordinary-share EPS in EUR. Sources: `quote_packet.json`; Sections 5 and 6.

3. Segment sum at horizon — PASS

There is one modeled segment. Bear EUR49.985bn ÷ EUR49.985bn = 100.00%; base EUR66.928bn ÷ EUR66.928bn = 100.00%; bull EUR80.442bn ÷ EUR80.442bn = 100.00%. Corporate eliminations are absent, not hidden in a residual. Source: `appendix_B_consolidated_company.md` Section 10; Section 3.

4. Product-to-segment rollup — PASS

The reviewed product rows sum at full precision to EUR49.985070bn bear, EUR66.928109bn base, and EUR80.441515bn bull. Each differs from the frozen displayed segment endpoint by less than EUR0.001bn and far less than 1%. The segment review status is `REVIEWED — NO ISSUES REMAIN`. Source: `appendix_B_consolidated_company.md` Section 10.

5. Weighted margin check — PASS, NOT TRIGGERED CONDITION

ASML discloses no product-family profit or margin and has only one modeled segment. A product-weighted profit margin would fabricate unsupported profit segments. The sole segment's horizon margins are directly 33.0%, 38.0%, and 41.0%; the conditional multi-product-margin test is therefore not triggered. Source: `appendix_B_consolidated_company.md` Sections 0, 9, and 10; sealed fallback perimeter.

6. Share count and security-unit path — PASS

Starting financial-statement diluted shares 385.300M × split factor 1.000000 = quote-basis shares 385.300M; dividing by depositary/class factor 1.000000 gives 385.300M listed equivalents. Five annual retirements total 10.091496M and SBC issuance totals 0.682522M. Therefore `385.300000 - 10.091496 + 0.682522 = 375.891025M`. The path runs entirely in ordinary financial-share units. Sources: `quote_packet.json`; `quant_foundation.md` P6; Section 6.

7. Growth plausibility — PASS WITH EXPLICIT JUSTIFICATION

The 13.63% base consolidated CAGR exceeds 1.2 times the disclosed FY2023-FY2025 consolidated CAGR of about 8.9%, or about 10.7%, but the reviewed segment appendix supplies quantified official evidence for the step change: FY2026 revenue guidance of EUR43-45bn, over 45% Low-NA EUV systems-sales growth, about 65 Low-NA units, over 30% IBM growth, stronger Logic and Memory demand, and covered 2027 capacity. Critically, the model does not perpetuate FY2026 growth: base annual growth falls from 24.5% to 16.7%, 12.1%, 9.2%, and 6.6%. Product assumptions also benchmark mature tools and M&I against historical and comparable-company limits. Source: `appendix_B_consolidated_company.md` Sections 7 and 8.

8. Historical and forward compounding arithmetic — PASS

Every reviewed product row uses the 2026-06-28 TTM start and 2031-06-28 end. At the segment level, EUR35.3275bn compounded at 7.19%, 13.63%, and 17.89% for exactly five years reproduces about EUR49.985bn, EUR66.928bn, and EUR80.442bn. The appendix's full-precision product rollups remain inside 1% for every row. No FY2025-to-2031 six-year interval appears. Source: `appendix_B_consolidated_company.md` Sections 8 and 10.

9. Recency anchor — PASS WITH QUANTIFIED STEP-CHANGE EVIDENCE

The base first anniversary is EUR43.992bn versus EUR35.3275bn TTM, a 24.5% step and above the normal 10% boundary. The exception is supported in the reviewed appendix by ASML's official EUR43-45bn FY2026 guide, approximately 65 Low-NA shipments, over 45% EUV systems-sales growth, over 30% IBM growth, and capacity/order coverage. The forecast point is slightly below the FY2026 guide's EUR44bn midpoint, then decelerates every year. Source: `data_package.md` Sections 5 and 6; `appendix_B_consolidated_company.md` Section 8.

10. Period and horizon integrity — PASS

The TTM consists of four standalone, non-overlapping 13-week quarters: Q3 2025, Q4 2025, Q1 2026, and Q2 2026. No cumulative YTD period overlaps those inputs. Revenue, OI, pretax, tax, equity-method profit, and NI each tie to the official TTM reconstruction. The forecast begins 2026-06-28 and ends 2031-06-28, exactly 5.0 years later. Source: `quant_foundation.md` P4; Sections 1 and 9.

11. Valuation, unit bridge, hashes, and probability arithmetic — PASS

Exact-byte hashes recompute to quote packet `40b6d7bcc958d740e606d7adb9a4b2e0221cd177a10d9d796128f3e94978f49f` and statutory bridge `344074f3be1c21db8076317c65d530a5a75630b03889bd4cef1241b9a0903d5a`. The raw quote hash matches `1cfec0525a3eee604658aedf7dae9134c7160e81ee5468a04dfa17253592f87a`. XAMS:ASML, ordinary-share unit,

split factor 1, depositary factor 1, class factor 1, and EUR/EUR FX 1 reproduce. EPS times 15 equals EUR550.99, EUR857.99, and EUR1,119.42 within rounding. Probabilities sum to 30% + 50% + 20% = 100%, and weighted EPS is EUR54.5450. Base cushion is `(EUR857.9897 - EUR1,486.40) ÷ EUR1,486.40 = -42.2773%`. The base case controls. Sources: both sealed packets; Sections 1, 7, and 11.

Synthesis gate

All eleven required checks pass. The single conditional weighted-product-margin test is genuinely not triggered because the QFR/DR-cleared one-segment fallback and absence of disclosed product margins prohibit manufacturing product profit. No required arithmetic check fails, both packet hashes remain exact, and the quote was actionable at validation.

SYNTHESIS CLEARED — 11/11 TIE-OUTS PASSED

P/E 15 gate: FAIL — cushion -42.28%

Appendix CS - Compounder Score

ASML Holding N.V. — Compounder Score

Ticker: ASML.AS **Exchange / security:** Euronext Amsterdam (XAMS), registered ordinary share **Analysis date:** 2026-08-28 **Current price:** EUR 1,486.40 at the completed 2026-08-27 session **TTM anchor:** 2026-06-28 **Exact horizon:** 2031-06-28, exactly 5.0 calendar years **Primary valuation method:** P/E **Valuation preflight:** `VALUATION_PREFLIGHT_VALID`; SHA-256 `65d2c89543c2a0e88b0b727edd75ba0d92f39252d3604794b32fd8c5960c8061` **Authority:** Research diagnostic only. No trade, portfolio mutation, ranking, sizing, outbound message, or BUY-queue authority.

1. Executive Verdict

Compounder Score: 63/100. Business Quality Score: 62/80. Valuation / 20% Return Underwriting Score: 1/20. Score-implied classification: Reject.

ASML is one of the strongest operating franchises in public markets, but this rubric asks a harder question than whether the company is excellent. It asks whether the evidence supports high incremental returns, a long runway, durable owner economics, and at least a plausible 20% annualized return from the price paid. The evidence supports the moat, runway, balance sheet, cash generation and per-share discipline. It does not support a clean, reproducible 3- or 5-year ROIIC calculation, and the locked P/E return bridge does not support the purchase price.

The valuation conclusion is decisive. The cleared valuation preflight locks a normalized current P/E of **53.9739359302151x**, terminal EPS of **EUR 36.732721 / EUR 57.199313 / EUR 74.627676**, terminal diluted shares of **375.891025 million** in every case, scenario weights of **30% / 50% / 20%**, and exit P/Es of **24x / 32x / 38x** for bear/base/bull. Those assumptions produce terminal equity values per share of EUR881.585304, EUR1,830.378016 and EUR2,835.851688. The source-bound prior governed dividend paths dated 2026-07-31 add EUR39.917069643264, EUR50.5013872 and EUR56.667100942848 once. Gross EUR shareholder IRRs are therefore **-9.12% / 4.82% / 14.24%**. The probability-weighted gross IRR is **3.85%**, calculated from the CAGR of weighted terminal wealth, not by averaging scenario IRRs.

The problem is not an unduly punitive exit multiple. All three exit P/Es were independently supported before the returns were calculated, all are below the comparable normalized current P/E, and even the bull uses 38x. The problem is that a great deal of future earnings growth is already capitalized. At the base terminal EPS, a 20% return from EUR1,486.40 after crediting EUR50.5013872 of cumulative distributions once would require about **63.78x terminal P/E**, above both the locked 32x and the current comparable 53.97x. Alternatively, holding the 32x base exit constant requires terminal EPS of **EUR114.004296**, or a **32.86% annual CAGR** from normalized TTM EPS, versus the model's 15.74% base EPS CAGR. That is not a small miss; it is a different economic trajectory.

The Business Quality Score is held below 65/80 for a distinct reason. The five available FY observations show a provider-input ROIC proxy median of 39.5%, five-year-observation aggregate FCF/NOPAT of 113.7%, falling diluted shares, very low SBC, net cash, and a visible EUV/IBM moat. Yet the cleared evidence does not contain the working-capital and acquisition-inclusive reinvestment ledger needed for a credible ROIIC denominator. Customer advances make simple NOPAT-minus-FCF reinvestment negative or unstable, so a flattering ROIIC number would be manufactured precision. Category 1 receives zero for the ROIIC subscore and an explicit evidence cap.

This classification is diagnostic, not an ER2 verdict and not a portfolio action. No part of this appendix authorizes a trade or proposes sizing.

2. Data Source Map

The analysis uses the current ER2 source chain. The preflight validator was run with evidence-file checking and reproduced the exact required SHA-256 before any return or score calculation.

Evidence need	Controlling source	Period / date	Use in this score
Price, listing, unit and current shares	`quote_packet.json`, QFR-sealed	Price 2026-08-27; shares 2026-06-28	EUR1,486.40; XAMS ordinary-share unit; 385.3m starting shares
Income, cash flow, balance sheet, SBC	`quant_foundation.md`	FY2023-FY2025 and TTM 2026-06-28	Statutory earnings, FCF, net cash, shares and dilution
Five-year operating history and allocation	`data_package.md`	FY2021-FY2025; latest interim	Revenue, margins, ROIC proxy, R&D, capex, dividends, buybacks

Evidence need	Controlling source	Period / date	Use in this score
Operating runway and scenarios	`appendix_B_consolidated_company.md`	TTM through 2031-06-28	Product drivers, revenue CAGR, OI margin, risks
Management, incentives and governance	`appendix_management.md`	Evidence through 2026-08-28	CEO/CFO record, Mistral, buybacks, compensation, governance
Moat and 2046 durability	`appendix_moat.md`	Evidence through 2026-08-28	EUV chokepoint, switching costs, competitors, 2046 test
Terminal earnings and shares	`appendix_synthesis.md`	2031-06-28	EPS, probabilities, share path and exact five-year cadence
Valuation method and exits	`valuation_preflight.json`	Cleared 2026-08-28	Locked P/E, normalized denominator, exits, no-double-count treatment
Net-SGD prior inputs	`cio_actionability_workpaper.md`	Prior governed package dated 2026-07-31	Entry/terminal FX, costs and withholding diagnostic

The quantitative artifacts are hash-bound in `compounder_score.json`. Source confidence is **Medium overall**: high for the sealed price, statutory EPS, scenario and return arithmetic; medium for compounder quality because adjusted ROIIC, product profit, a clean 10-year history and a precise forward dividend path are unavailable.

3. Key Financial and Quality Metrics

The historical window contains five annual observations, FY2021-FY2025, which create four end-to-end compounding intervals. It would be misleading to label that a five-year CAGR. The table therefore distinguishes interval length from observation count and leaves unavailable 5- and 10-year measures unavailable.

Metric	1-year FY2025	3-year FY2022-FY2025	Five-observation FY2021-FY2025	10-year
Revenue CAGR	15.6%	15.6%	15.1% over four intervals	Insufficient evidence
NOPAT CAGR	26.6%	19.0%	12.9% over four intervals	Insufficient evidence
FCF CAGR	22.0%	15.4%	2.9% over four intervals	Insufficient evidence
Diluted share-count CAGR	-1.2%	-0.8%	-1.3% over four intervals	Insufficient evidence
FCF / NOPAT	118.7%	110.5% aggregate	113.7% aggregate	Insufficient evidence
FCF / net income	115.4%	110.0% aggregate	111.0% aggregate	Insufficient evidence

NOPAT uses statutory operating income multiplied by one minus the reported effective tax rate for each year, consistent with the data package. The five annual NOPAT values are EUR5.75bn, EUR5.54bn, EUR7.64bn, EUR7.38bn and EUR9.34bn. The reported/provider-input ROIC proxy values are 39.5%, 37.9%, 39.7%, 31.9% and 47.4%, with a median of 39.5%.

That median is not labeled adjusted ROIC. The invested-capital denominator moves with net cash and customer down payments, while the source package does not provide a complete lease, capitalized-R&D and normalized working-capital reconstruction for all years. FY2025 simple ROIC is 47.4%. An illustrative goodwill-excluded denominator would raise the figure, not lower it, but the provider denominator is not proven to include every adjustment consistently. The score therefore awards 4/5 for normalized-ROIC evidence rather than mechanically granting full credit.

Latest quality metric	Value	Interpretation
FY2025 gross margin	52.8%	Above 50% in all five disclosed FY observations
FY2025 operating margin	34.6%	Recovered from 31.9% in FY2024
TTM FCF	EUR10.041bn	Strong four-quarter conversion despite weak H1 timing
2026-06-28 net cash	EUR3.862bn	Cash and short investments less official gross debt
FY2025 net debt / EBITDA	-0.73x	Balance sheet is not a constraint
FY2025 SBC / revenue	0.62%	Low economic dilution burden
FY2025 SBC / FCF	1.83%	Low relative to cash generation
TTM FCF yield at current market value	1.75%	Valuation already capitalizes exceptional quality
TTM dividend yield	0.51%	Helpful, but not enough to repair the return gap
TTM gross buyback yield	0.69%	Buybacks are embedded in the share path, not double-counted

The approximate market capitalization is EUR572.710bn, calculated as EUR1,486.40 multiplied by 385.3m packet shares. A controlling enterprise value is not published because lease liabilities and a complete current claim perimeter are unavailable. That omission is method discipline, not a valuation gap: P/E is the cleared primary method.

4. Rubric Scorecard

Category	Score	Maximum	Main reason
1. Incremental Returns on Capital	13	25	High reported ROIC and real cash conversion, but credible ROIIC is unavailable
2. Reinvestment Runway	18	20	EUV/High-NA/IBM runway and organic R&D scale; export/cycle constraints remain
3. Durability of Moat	14	15	EUV chokepoint is exceptional; ZEISS, geopolitics and post-High-NA path limit perfection
4. Accounting and Financial Quality	10	10	Statutory bridge clears, cash supports earnings, low SBC, net cash, no trust-breaking red flag
5. Capital Allocation	7	10	Excellent organic reinvestment and dilution control; Mistral, buyback hurdle and incentive carve-out are unresolved
Business Quality Score	**62**	**80**	**Strong compounder quality, but below the 65/80 investable-now threshold**
6. Price and 20% Return Underwriting	1	20	Base 4.82%, bear -9.12%, bull 14.24%; 20% reverse hurdle is implausible
Compounder Score	**63**	**100**	**Reject under this diagnostic rubric**

Category 1 breaks down as 4/5 for normalized ROIC, 0/8 for credible ROIIC, 2/3 for trend, 3/3 for unit economics, 2/3 for cash conversion, and 2/3 for avoiding an accounting artifact. Category 2 is 5/5 for market opportunity, 4/5 for reinvesting at scale, 4/4 for organic growth, 2/3 for a repeatable playbook, 2/2 for market structure and 1/1 for no demonstrated ROIC collapse. Category 3 is 4/4, 3/3, 3/3, 2/2, 1/2 and 1/1. Category 4 receives full credit because the current evidence chain is unusually well reconciled; this is not a claim that every non-financial KPI is disclosed. Category 5 loses points because the Mistral investment has no realized return, repurchases have no disclosed valuation threshold, and the LTI treatment excludes M&A after the evaluation period.

The 1/20 valuation score comprises 0/6 for base IRR, 0/4 for the exit-multiple test, 0/3 for the bear case, 0/3 for the reverse hurdle, 0/2 for price not already reflecting perfection, and 1/2 for cash returns. The locked exit multiples are independently justified and all contract from current P/E, but the rubric asks whether a conservative multiple still clears 20%; it does not. The only valuation point recognizes the finite source-bound dividend path. Buybacks help the share count and are not also treated as distributions.

5. ROIIC and Reinvestment Analysis

ASML clearly reinvests at large scale. From FY2021 through FY2025 it spent EUR18.785bn on R&D and EUR8.075bn on capex. R&D remained between 13.7% and 15.4% of revenue. Revenue rose from EUR18.611bn to EUR32.667bn, operating income from EUR6.750bn to EUR11.301bn, and diluted EPS from EUR14.34 to EUR24.71 while the share count fell. These are strong outcome indicators.

They are not, by themselves, a valid ROIIC denominator. The prescribed calculation requires cumulative net capex, changes in non-cash working capital, capitalized R&D adjustment, justified growth opex, acquisitions and disposals. The cleared package does not contain a complete annual non-cash-working-capital ledger. Customer advances and shipment/collection timing make the cash series unusually lumpy: FY2023 FCF was EUR3.248bn, FY2024 EUR9.083bn and FY2025 EUR11.085bn, while H1 2026 CFO was negative despite positive net income. A shortcut using `NOPAT - FCF` as reinvestment produces unstable or negative cumulative reinvestment and therefore an economically meaningless ROIIC.

The Mistral investment also complicates acquisition-inclusive returns. ASML invested EUR1.302bn for about 11% of Mistral in September 2025, but it sits outside the cash-flow statement's `acquisitionsNet` line, and no realized revenue, margin,

productivity benefit or exit value is disclosed. Treating the spend as zero acquisition capital would flatter acquisition-inclusive ROIIC; assigning a return would be invented. Both organic and acquisition-inclusive ROIIC are marked **Insufficient evidence**, and the 1B subscore is zero.

The evidence still supports directional high returns. Gross margins stayed above 50%, operating margins remained above 30% even during the 2022-2024 capacity and mix pressure, net cash persisted, and the company funded rising R&D while returning capital. Unit economics are supported by rising recognized values in EUV and immersion, an expanding installed base, and IBM growth. Yet this rubric demands a credible calculation, not a qualitative substitute. The score cap is intentional.

6. Runway Analysis

The base model grows revenue from EUR35.3275bn TTM to EUR66.928bn at 13.63% annually. The cadence is front-loaded and decelerates: 24.5%, 16.7%, 12.1%, 9.2% and 6.6%. That step-up is supported by the official EUR43bn-EUR45bn FY2026 guide, strong Low-NA EUV demand, more than 30% IBM growth expectations, and covered 2027 Low-NA and immersion capacity. It is not a flat extrapolation of an AI boom.

The runway has several engines. Low-NA EUV remains the critical leading-edge patterning platform. High-NA can extend that platform if throughput, availability and layer economics support high-volume adoption. DUV immersion remains valuable both alongside EUV and in memory/mature applications. IBM compounds with the fleet through service, parts, productivity upgrades and field options. Holistic lithography and metrology can deepen the control loop, though they face more direct competition.

This is mostly organic reinvestment. ASML's five-year capital ledger is dominated by R&D and capacity, not serial acquisitions. The market structure permits continued investment because leading-edge patterning has enormous technical barriers and no current commercial EUV alternative. The score stops at 18/20 because growth is still semiconductor-cycle dependent, four customers represented 61.2% of FY2025 sales, export controls can remove addressable demand or service rights, and High-NA's full economics are not yet proven across multiple high-volume customers.

The bear case is a useful check on runway quality. It still reaches EUR49.985bn revenue, a 7.19% CAGR, but growth fades to 0.9% and operating margin declines to 33%. The bear shows that the installed base and platform support a floor, but it also shows how quickly valuation can punish a quality franchise when terminal growth, mix and policy deteriorate.

7. Moat Analysis

The moat is concrete: ASML integrates the EUV light source, ZEISS optics, stages, contamination control, computational controls, customer qualification and field service into a system that rivals cannot presently reproduce at commercial high volume. Switching is expensive because a fab's masks, resists, process windows, overlay control, maintenance and production schedule are qualified around the platform. The installed fleet creates a proprietary engineering and service loop even though it is not a classic user network effect.

Pricing power is supported by persistent gross margins above 50%, operating margins above 30%, rising recognized unit values and customer willingness to commit years ahead. FY2025 remaining performance obligations were EUR46.5bn and backlog was EUR38.8bn. The strength is not uniform: Nikon and Canon compete in DUV, KLA and others are formidable in process control, and generic software/AI layers are more contestable. The blended moat is therefore slightly weaker than the EUV core.

The moat gate is PASS, while the 2046 test is YELLOW. ASML has demonstrated Low-NA EUV leadership and early High-NA customer use, but it has not yet demonstrated a twenty-year post-High-NA platform. ZEISS is also a critical sole-source dependency; a permanent relationship or capacity fracture could stop production. Export controls are a constraint, not a moat, and can strand installed-base service economics. Those risks reduce stress-resilience credit by one point without changing the conclusion that five- and ten-year durability are very strong.

AI is primarily demand-adjacent and platform-adjacent. A foundation model cannot replace a 13.5-nanometer source, mirror train, stage or field-service network. AI can, however, commoditize parts of software and inspection analytics, and AI-related semiconductor demand can still cycle. Low disruption risk earns full credit only at the blended-company level because physical EUV protection dominates the economic perimeter.

8. Accounting and Capital Allocation Analysis

The statutory foundation is unusually clean for scoring purposes. The QFR-sealed bridge reconciles the one modeled segment on statutory operating income through pretax income, tax, equity-method profit and net income for FY2025 and TTM

with zero residuals. The current normalized EPS makes no unsupported one-off adjustment. The Q2 2026 transformation charge is retained because no standalone amount was disclosed. Recurring Carl Zeiss equity-method profit remains in earnings and is not separately capitalized. The Mistral investment is not a current P&L item and receives no terminal value. These choices avoid both flattering add-backs and double counting.

Cash conversion supports earnings over the multi-year window, even though working capital is lumpy. SBC is an economic cost but is small: EUR0.202bn, or 0.62% of FY2025 revenue and 1.83% of FCF. Diluted shares fell from 410.4m in FY2021 to 388.9m in FY2025 and 385.3m at H1 2026. The balance sheet remained net cash, and no external financing requirement is evident.

Capital allocation is strongest in organic R&D and weakest in what remains unproven. Management maintained R&D through the slowdown, paced buybacks rather than exhausting authorizations automatically, and protected per-share value. However, ASML does not disclose a repurchase valuation hurdle. The EUR1.302bn Mistral investment has no measurable return yet. CEO Christophe Fouquet has about 28 months in the role, so the institution has a long record but the CEO-specific record does not. The LTI plan includes ROAIC, a positive, but excludes M&A after the evaluation period, weakening accountability for strategic investments. Management's ER2 gate is YELLOW.

No current restatement, material weakness, ordinary-course related-party abuse or recent enforcement finding was identified. The preference-share foundation can dilute voting power as an anti-takeover defense, and the live AFM insider query failed twice. These are monitoring reservations, not evidence that current accounting or governance impairs trust.

9. 20% Return Underwriting

Locked method and denominator bridge

The validator-cleared preflight controls every return calculation. **Primary valuation method is P/E**. Current and terminal denominators are comparable statutory diluted EPS on the identical XAMS ordinary-share basis. Normalized TTM EPS is EUR27.5392182242, so normalized current P/E is exactly 53.9739359302151x. Reported and normalized P/E are equal because no unsupported normalization is made. Terminal EPS is positive in every scenario.

P/E is applied once. Terminal equity value per share equals terminal statutory diluted EPS multiplied by exit P/E. No terminal cash, debt, lease, Mistral value, ZEISS stake, or other balance-sheet adjustment is added or subtracted after that multiplication. Buybacks affect terminal diluted shares and EPS; they are not added again as distributions. The exact prior governed five-year scenario dividend paths dated 2026-07-31 are reused as disclosed stable prior inputs and counted once. They are not re-grown or re-estimated in this stage.

Scenario	Probability	Terminal EPS	Terminal shares, m	Exit P/E	Terminal equity value / share	Distributions / share	Terminal shareholder wealth / share	Gross EUR IRR
Bear	30%	EUR36.732721	375.891025	24x	EUR881.585304	EUR39.917069643264	EUR921.502373643264	-9.12%
Base	50%	EUR57.199313	375.891025	32x	EUR1,830.378016	EUR50.5013872	EUR1,880.8794032	4.82%
Bull	20%	EUR74.627676	375.891025	38x	EUR2,835.851688	EUR56.667100942848	EUR2,892.518788942848	14.24%

Expected terminal shareholder wealth is `30% × EUR921.502373643264 + 50% × EUR1,880.8794032 + 20% × EUR2,892.518788942848 = EUR1,795.3941714815487`. The probability-weighted IRR is therefore `(EUR1,795.3941714815487 / EUR1,486.40)^(1/5) - 1 = 3.8495987498%`. It is not the arithmetic average of the three scenario IRRs.

The exit-multiple bridge passes both directional challenges. The bear 24x is near ASML's 23.09x ten-year low and reflects cycle/export stress, 0.9% terminal growth and 33% margin; choosing a much lower multiple would risk false conservatism given the EUV/IBM franchise. The base 32x sits below ASML's 35.44x ten-year median, recent 35.63x median, current forward 38.92x and peer forward band of 33.51x-37.65x; it recognizes quality without capitalizing current exuberance. The bull 38x is near the current forward anchor but below ASML's historical high and current 53.97x normalized P/E. None was selected to make a score pass.

Net-SGD diagnostic

The same P/E values and source-bound prior dividend paths control net SGD. No valuation method, terminal multiple or capital-structure assumption changes. In the absence of a newer governed FX package, the diagnostic reuses disclosed

stable prior inputs from the completed **2026-07-31** package: entry EUR/SGD 1.48017448; terminal EUR/SGD 1.38 / 1.48 / 1.58 for bear/base/bull; 15bp entry and exit costs; and 15% Dutch dividend withholding. The 15% withholding is applied once to cumulative distributions, while the 15bp exit cost applies to P/E-derived terminal equity proceeds. The prior date is disclosed; these are not represented as current spot FX or investor-specific tax advice.

Scenario	Entry SGD cost / share	Terminal EUR/SGD	Terminal SGD wealth / share	Net SGD IRR
Bear	SGD2,203.431544	1.38	SGD1,261.585561	-10.55%
Base	SGD2,203.431544	1.48	SGD2,768.426770	4.67%
Bull	SGD2,203.431544	1.58	SGD4,550.028615	15.61%
Probability-weighted	SGD2,203.431544	Scenario-specific	SGD2,672.694776	3.94%

Entry cost is `EUR1,486.40 × 1.48017448 × 1.0015 = SGD2,203.4315440926084`. Scenario terminal SGD wealth is `(P/E-derived terminal equity × 0.9985 + cumulative EUR distributions × 0.85) × scenario terminal FX`. Probability-weighted terminal SGD wealth is the weighted sum of those scenario SGD amounts, and the reported 3.94% is its five-year CAGR. The visible net-SGD returns are rendered to exactly two decimals; full precision is retained in `compounder_score.json`.

Reverse return and maximum buy price

A 20% five-year return from EUR1,486.40 requires terminal shareholder wealth of `EUR1,486.40 × 1.2^5 = EUR3,698.638848` per share. For each scenario, the required terminal equity value equals that wealth hurdle less the source-bound cumulative distribution shown below.

Locked exit P/E basis	Required terminal EPS	Required EPS CAGR from EUR27.539218	Modeled terminal EPS	Conclusion
Bear 24x	EUR152.446741	40.81%	EUR36.732721	Not beatable
Base 32x	EUR114.004296	32.86%	EUR57.199313	Not beatable
Bull 38x	EUR95.841362	28.33%	EUR74.627676	Not beatable

At modeled base EPS, after crediting the exact source-bound base distributions once, the required P/E is about 63.78x. That is 18.2% above the comparable normalized current P/E and nearly double the locked 32x. The 20% case therefore requires terminal multiple expansion plus materially stronger economics, which triggers hard veto 8.

The base-case maximum purchase price for a 20% gross EUR IRR is **EUR755.883248**, calculated as EUR1,880.8794032 divided by 1.2^5. The bear, bull and probability-weighted-wealth equivalents are EUR370.331137, EUR1,162.438428 and EUR721.528650. These are diagnostics, not price targets, recommendations, bids or queue instructions.

10. Hard Veto Checklist

#	Hard veto	Status	Evidence
1	ROIIC below cost of capital / no improvement path	WATCH	Credible ROIIC is unavailable; zero score rather than invented value
2	High ROIC is artificial-capital artifact	WATCH	39.5% proxy median is strong but denominator is distorted by net cash/customer advances
3	Growth needs external financing	PASS	Net cash and EUR10.041bn TTM FCF
4	Material dilution without value	PASS	Shares declined; SBC only 0.62% of FY2025 revenue
5	Serial acquisitions without returns	PASS	No serial M&A pattern; Mistral is a monitored single unproven investment
6	FCF structurally lags earnings	PASS	Five-observation aggregate conversion exceeds 100%; timing is lumpy
7	Concentration/regulation/dependency can impair equity	WATCH	Four customers 61.2%; export controls and ZEISS sole-source risk
8	20% case requires terminal multiple expansion	**FAIL**	Modeled base EPS plus sourced dividends requires about 63.78x terminal P/E

#	Hard veto	Status	Evidence
9	Flawless execution needed at today's price	**FAIL**	Even locked bull plus sourced dividends produces only 14.24% gross EUR IRR
10	Moat cannot be explained	PASS	EUV integration, qualification and installed-base service are concrete
11	Accounting/governance impairs trust	PASS	No trust-breaking evidence; preference defense remains monitored
12	Balance-sheet risk can wipe out equity	PASS	Net cash; leverage is not the central risk

Two hard vetoes fail. The 20% case requires multiple expansion, and even the bull scenario does not clear 20%. Either one prevents an Investable-now classification under this rubric.

11. Final Decision

Score-implied classification: Reject. The score is below 70/100, Business Quality is below 65/80, Valuation / 20% Underwriting is below 15/20, the ROIIC-plus-runway subtotal is only 31/45, base IRR is below 20%, bear IRR is negative, and hard vetoes 8 and 9 fail. ASML's operating excellence cannot offset those arithmetic conditions.

This result should not be misread as a weak-business conclusion. ASML receives 62/80 for quality despite zero ROIIC credit. The most important positive evidence is the physical EUV chokepoint, large organic R&D runway, sustained margins, real cash conversion, net cash and declining shares. The most important negative evidence is the starting P/E and the gap between modeled earnings and the terminal wealth required for 20%.

The score could improve in two fundamentally different ways. First, business-quality evidence could improve if ASML publishes enough working-capital and invested-capital detail to compute normalized organic and acquisition-inclusive ROIIC; if Fouquet demonstrates a full-cycle allocation record; and if High-NA economics and the post-High-NA roadmap become observable. Second, valuation could improve through a materially lower entry price, materially higher source-bound terminal EPS, or both. Changing the independently justified exit P/Es to force a higher return is not an allowed improvement.

Compounder Score note: 63/100 — an exceptional lithography franchise is outweighed in this diagnostic by unmeasured credible ROIIC and a price that fails the return hurdle; score-implied classification is Reject. **Business Quality Score note:** 62/80 — moat, runway, balance sheet, cash conversion and dilution control are strong, but normalized ROIIC is not credibly measurable and CEO-era capital allocation remains YELLOW. **20% Return UW Score note:** 1/20 — bear/base/bull gross EUR IRRs are -9.12%/4.82%/14.24% and probability-weighted IRR is 3.85%; even the bull does not clear 20%.

This appendix provides research evidence only. `trade_execution_authorized=false`, `portfolio_mutation_authorized=false`, `ranking_authorized=false`, `sizing_authorized=false`, `message_authorized=false`, and `buy_queue_authorized=false`.

12. Machine-Readable JSON

The controlling structured record is `compounder_score.json` in this folder. It contains full-precision scenario and probability-weighted gross EUR IRRs; all three P/E return bridges; scenario probabilities; terminal EPS, shares, equity values, distributions and wealth; the same-method net-SGD diagnostic; reverse-return and maximum-buy-price calculations; score category and subcategory detail; hard vetoes; evidence bindings; data gaps; and all no-authority flags.

The JSON preserves the exact preflight SHA-256 and records `valuation_preflight_validated=true`, `valuation_preflight_inputs_reproduced_exactly=true`, `valuation_method_consistent_across_scenarios=true`, `net_sgd_uses_same_primary_method=true`, and `double_count_check_passed=true`. Fields inapplicable to P/E, such as terminal enterprise value, terminal net debt, P/B and insurer common-equity roll-forwards, are null. Mandatory IRRs are finite; cumulative distributions use the exact prior governed scenario paths and are included once.

Appendix CSA - Scoring Audit

ASML Holding N.V. — Scoring Audit

Ticker: ASML.AS **Analysis date:** 2026-08-28 **Price:** EUR 1,486.40 at the 2026-08-27 completed XAMS close **TTM anchor:** 2026-06-28 **Horizon:** 2031-06-28, exactly 5.0 years **Audited primary valuation method:** P/E **Valuation preflight SHA-256:** `65d2c89543c2a0e88b0b727edd75ba0d92f39252d3604794b32fd8c5960c8061`

1. Original vs Audited Scores

The pre-return gate clears. I independently recomputed the exact SHA-256 of `valuation_preflight.json` and ran `validate_valuation_preflight.py --check-evidence-files` with the expected hash. The result was `VALUATION_PREFLIGHT_VALID`. The artifact has `status = CLEARED`, five passed foundations, no blockers, a locked P/E method, a comparable normalized current statutory diluted-EPS denominator, one capital-structure treatment, and exit P/Es of 24x / 32x / 38x. CS copies those fields exactly. All seven CS evidence-binding hashes also match the current bytes on disk. After the same-stage documentation repair, the controlling CS artifact hashes are `dc8e15f54397e7e8c9905daa7a01efc36877411f8b12f159a167756bd2352cbb` for `appendix_compounder_score.md` and `7dd59a606b6f2aed4ab60f71fbf8363dc3a968e7ff974487f6a706d9101745d0` for `compounder_score.json`.

The return arithmetic and the Valuation / 20% Return Underwriting Score are reliable. The Business Quality Score contains one unsupported award: subcategory 1C grants 2/3 for a non-deteriorating ROIIC trend even though CS correctly says that neither 3-year nor 5-year ROIIC can be calculated from the cleared evidence. The audit rule is explicit that points require evidence. The 1C score is therefore reduced to zero. No other point change is required.

Item	Original	Audited	Notes
Business Quality Score / 80	62/80	60/80	1C reduced by 2 because ROIIC trend is unmeasurable
Valuation / 20% Return UW Score / 20	1/20	1/20	Return bridge and rubric sum replay exactly
Total Score / 100	63/100	61/100	Arithmetic sum of audited category scores
Classification	Reject	Reject	Below 70/100, two hard vetoes fail, and 20% is not plausible

The classification does not change. The audited diagnostic remains a clear Reject at the current price. This is not a trade instruction or an ER2 gate override.

2. Score Reductions and Reasons

The sole score reduction is Category 1C, from 2/3 to 0/3. CS states that a credible reinvestment denominator cannot be reconstructed because customer advances and working-capital timing make the simple `NOPAT - FCF` shortcut negative or unstable. It accordingly reports 3-year ROIIC, 5-year ROIIC, acquisition-inclusive ROIIC, and the five-year reinvestment rate as null. Those are appropriate evidence conclusions. They cannot simultaneously support a positive judgment about whether ROIIC is deteriorating. Outcome indicators—rising revenue, EPS, R&D, margins, and falling shares—support unit economics and reinvestment runway, but they are not a calculated ROIIC time series. Preserving 2 points would contradict Audit Rule 1 and convert qualitative outcome evidence into an unstated ROIIC calculation.

Category 1A remains 4/5, not 5/5. The five-observation provider-input ROIC proxy has a 39.5% median, but the denominator is volatile because of net cash and customer advances, and it is not a complete adjusted-ROIC reconstruction. Four points already embody the necessary haircut. Category 1B remains zero because ROIIC is not calculated. Category 5 remains capped at 7/10: the EUR 1.302bn Mistral investment is material and unproven, acquisition-inclusive ROIIC is missing, repurchase valuation rules are undisclosed, and the CEO-era allocation record is short.

3. Unsupported Claims

The unsupported claim is narrow but score-relevant: “ROIIC is not deteriorating sharply.” There is no 3-year or 5-year ROIIC result from which to establish a direction. I do not treat the broader ASML quality case as unsupported. Five annual

observations support high consolidated margins, multi-year cash conversion, net cash, low SBC, declining diluted shares, and a physical EUV/ZEISS/stage/control integration moat. Official revenue, capacity, backlog, customer-concentration, product-value, and installed-base evidence supports the runway and moat categories without relying mainly on an unsourced management TAM claim.

The current package does not support a clean 10-year quality table, product-family profit, adjusted ROIC, organic ROIIC, acquisition-inclusive ROIIC, or a fresh forward dividend forecast. CS discloses these limits rather than filling them with estimates. Confidence remains Medium, not High.

Evidence and point audit by subcategory

Subcategory	Evidence status	Original	Audited	Audit decision
1A Normalized ROIC	Partly supported	4/5	4/5	Preserve; strong proxy, incomplete normalization
1B ROIIC	Missing data	0/8	0/8	Preserve zero
1C ROIIC trend	Unsupported	2/3	0/3	Reduce; no ROIIC series exists
1D Unit economics	Supported	3/3	3/3	Preserve; margins, realized values, fleet and IBM evidence
1E Cash conversion	Supported with timing caveat	2/3	2/3	Preserve
1F Not an accounting artifact	Partly supported	2/3	2/3	Preserve; denominator caveat already reflected
2A Market opportunity	Supported	5/5	5/5	Preserve
2B Reinvest at scale	Supported	4/5	4/5	Preserve; actual R&D/capex record
2C Organic growth	Supported	4/4	4/4	Preserve
2D Repeatable playbook	Partly supported	2/3	2/3	Preserve; High-NA economics still developing
2E Market structure	Supported	2/2	2/2	Preserve
2F No ROIC collapse	Partly supported	1/1	1/1	Preserve on proxy returns and margin resilience
3A Clear advantage	Supported	4/4	4/4	Preserve
3B Pricing power	Supported	3/3	3/3	Preserve; mix caveat disclosed
3C Competitive evidence	Supported	3/3	3/3	Preserve
3D Customer stickiness	Supported	2/2	2/2	Preserve
3E Stress resilience	Partly supported	1/2	1/2	Preserve
3F Low disruption risk	Supported	1/1	1/1	Preserve
4A Clean earnings	Supported	2/2	2/2	Preserve
4B Cash supports earnings	Supported	2/2	2/2	Preserve
4C SBC and dilution	Supported	2/2	2/2	Preserve
4D Balance sheet	Supported	2/2	2/2	Preserve
4E Disclosure	Supported	1/1	1/1	Preserve despite identified boundaries
4F No trust-breaking red flag	Supported	1/1	1/1	Preserve; governance reservations are disclosed
5A Rational reinvestment	Supported	2/2	2/2	Preserve
5B Acquisition discipline	Partly supported	1/2	1/2	Preserve under cap
5C Buyback discipline	Partly supported	1/2	1/2	Preserve
5D Incentives	Partly supported	1/2	1/2	Preserve
5E Owner mentality	Supported	1/1	1/1	Preserve
5F Past decisions	Supported with CEO-tenure caveat	1/1	1/1	Preserve
6A Base IRR	Calculation verified	0/6	0/6	Base is 4.82%, below 10%
6B Conservative exit multiple	Calculation verified	0/4	0/4	20% case needs 63.78x, far above locked 32x

Subcategory	Evidence status	Original	Audited	Audit decision
6C Bear acceptable	Calculation verified	0/3	0/3	Bear is -9.12%
6D Reverse hurdle beatable	Calculation verified	0/3	0/3	Required EPS CAGR is 32.86% at base 32x
6E Price not perfection	Supported	0/2	0/2	Current 53.97x and bull only 14.24%
6F Cash returns help	Supported	1/2	1/2	Distributions help but cannot repair the gap

4. Calculation Audit and Resolved Documentation Issues

All controlling calculations replay. Current normalized P/E is EUR 1,486.40 divided by normalized TTM EPS of about EUR 27.5392182242, or 53.9739359302x; the tiny final-digit difference from using the displayed EPS is rounding only. Terminal P/E value is applied once, with no second cash, debt, lease, ZEISS, or Mistral adjustment. Terminal diluted shares reconcile to 375.891025m after five years of buybacks and SBC issuance. Equity values also tie: EUR 331,380.003545m / EUR 688,022.668572m / EUR 1,065,971.197750m.

Scenario	EPS × exit P/E	Distribution	Terminal wealth	Replayed gross EUR IRR
Bear	EUR 881.585304	EUR 39.917069643264	EUR 921.502373643264	-9.119197708354665%
Base	EUR 1,830.378016	EUR 50.5013872	EUR 1,880.8794032	4.820216120722742%
Bull	EUR 2,835.851688	EUR 56.667100942848	EUR 2,892.518788942848	14.242605243578055%

The probabilities sum to 100%. Weighted terminal wealth is exactly EUR 1,795.3941714815487, and its five-year CAGR from EUR 1,486.40 is 3.849598749829419%. CS correctly does not average scenario IRRs. Each distribution is added once; buybacks enter only through the sealed share/EPS path. Under the net-SGD overlay, entry cost is SGD 2,203.4315440926084. Applying 15bp exit cost to equity proceeds, 15% withholding to distributions, and scenario FX produces SGD wealth of 1,261.5855606322684 / 2,768.42676958208 / 4,550.028615105685 and net IRRs of -10.553483945861386% / 4.671077652685174% / 15.60667569522174%. Weighted SGD wealth is 2,672.6947760018575 and the five-year weighted IRR is 3.936948095168069%. The P/E method remains unchanged.

The reverse-return arithmetic also clears. A 20% five-year hurdle requires EUR 3,698.638848 of terminal wealth. After subtracting the applicable scenario distribution, required EPS is EUR 152.446740764864 / EUR 114.00429565 / EUR 95.841361764662 at 24x / 32x / 38x. At the base 32x, required EPS CAGR is 32.85990013191673%, versus modeled 15.7411627544026%. Maximum purchase prices are EUR 370.331136527161 / EUR 755.883247813786 / EUR 1,162.438427912346, and EUR 721.528650447511 on weighted terminal wealth.

The two documentation issues identified in the first audit pass are **MATERIAL_RESOLVED**. The reverse-return paragraph now states that required terminal equity value equals the wealth hurdle less each scenario's source-bound cumulative distribution, matching the table and JSON. The net-SGD JSON formula now says `P/E-derived terminal EUR equity value`, matching the actual calculation that applies exit cost to equity proceeds and withholding to distributions separately. Neither repair changed arithmetic, scores, the preflight hash, a controlled input, or any return. There are no outstanding calculation errors.

5. Missing Data

The most important missing evidence is a credible annual reinvestment ledger with non-cash working capital, capitalized R&D treatment, acquisitions, disposals, and other growth investment sufficient to calculate 3-year, 5-year, and acquisition-inclusive ROIIC. A clean ten-year history is absent. Product-family profits and margins are not disclosed. The forward distributions are stable prior-governed paths dated 2026-07-31 rather than a newly forecast schedule. The net-SGD overlay uses prior-governed FX and cost assumptions and is not investor-specific tax advice. None of these gaps makes the mandatory returns non-finite, but they constrain confidence and the business-quality score.

6. Hard-Veto and Threshold Test Audit

Hard vetoes 8 and 9 fail. A 20% return at modeled base EPS requires about 63.78x terminal P/E—18.17% above the comparable normalized current P/E and almost twice the independently locked base exit. Even the locked bull outcome returns only 14.24% gross EUR. The remaining threshold tests also fail: 61/100 is below 80; 60/80 is below 65; 1/20 is below

15; audited Category 1 plus Category 2 is 29/45, below 35; base IRR is below 20%; bear IRR is below 8%-10%; and there are hard vetoes. Exit multiples were selected before the return and score, have independent anchors, do not use the raw current multiple as a cap, and pass both excessive-optimism and excessive-bearishness challenges.

7. Final 20% Hurdle Pass/Fail

FAIL. The base case is 4.82% gross EUR, the weighted result is 3.85%, and the bull is 14.24%. The 20% case is not plausible on the locked economics and multiples. The Valuation / 20% Return Underwriting Score remains 1/20.

8. Dream Business / Dream Investment Classification

Neither on fully audited evidence. ASML is an exceptional franchise and may eventually prove to be a dream business, but this strict rubric requires credible ROIIC evidence that the current package does not provide. It is plainly not a dream investment at EUR 1,486.40 because all locked return cases miss 20%. The single biggest reason it does not qualify today is that the starting valuation capitalizes more success than the five-year terminal EPS and independently justified exit P/Es can deliver.

9. Stage 7 Scorecard Notes

- **Compounder Score note:** 61/100 — exceptional moat and runway are outweighed by unmeasured ROIIC and a price that fails the return hurdle; score-implied classification is Reject.
- **Business Quality Score note:** 60/80 — moat, runway, cash conversion, balance sheet and dilution control are strong, but neither ROIIC nor its trend is credibly measurable and CEO-era allocation remains YELLOW.
- **20% Return UW Score note:** 1/20 — gross EUR bear/base/bull IRRs are -9.12% / 4.82% / 14.24% and weighted IRR is 3.85%; even the bull misses 20%.

10. Auditor JSON

The controlling full-precision structured audit is `compounder_score_audit.json` in this folder. It records percentage values in fields suffixed `_pct`; the original CS top-level IRR fields remain decimals. All mandatory gross and net returns are finite. `trade_execution_authorized`, `portfolio_mutation_authorized`, `ranking_authorized`, `sizing_authorized`, `message_authorized`, `buy_queue_authorized`, and `owner_action_authorized` are false.

Appendix RT - Red Team

ASML Holding N.V. — Red Team

Ticker: ASML.AS **Analysis date:** 2026-08-28 **Scope:** Adversarial review of the Production ER2 operating model and the audited P/E return bridge. **Authority:** Research only. No trade, ranking, sizing, portfolio-mutation, outbound-message, buy-queue, or execution authority.

RETURN_MODEL_OBJECTION_STATUS: IMMATERIAL

The exact SHA-256 of `valuation_preflight.json` is `65d2c89543c2a0e88b0b727edd75ba0d92f39252d3604794b32fd8c5960c8061`, matching the required lock. The preflight is cleared, names P/E as the single primary method, uses comparable statutory diluted EPS on the XAMS ordinary-share basis, locks 24x / 32x / 38x bear/base/bull exits, and contains no blocker. The corrected scoring audit is also cleared. Its controlling results are Compounder Score **61/100**, Business Quality Score **60/80**, Valuation / 20% Return Underwriting Score **1/20**, and score-implied classification **Reject**. This appendix preserves those audited values and does not revise them.

Scenario	Probability	Terminal EPS	Exit P/E	Terminal shares	Distributions	Gross EUR IRR	Net SGD IRR
Bear	30%	EUR36.732721	24x	375.891025m	EUR39.9170696432 64	-9.119197708354665 %	-10.55348394586138 6%
Base	50%	EUR57.199313	32x	375.891025m	EUR50.5013872	4.820216120722742 %	4.671077652685174 %
Bull	20%	EUR74.627676	38x	375.891025m	EUR56.6671009428 48	14.24260524357805 5%	15.60667569522174 %

Probability-weighted gross EUR IRR is **3.849598749829419%** and probability-weighted net SGD IRR is **3.936948095168069%**. Both are CAGRs of probability-weighted terminal wealth, not averages of scenario IRRs.

1. The most fragile assumption

The most fragile assumption is the combined five-year conversion of EUV and Installed Base Management into base-case revenue and margin. The reviewed model grows EUV from EUR13.637bn TTM to EUR27.395bn and IBM from EUR9.346bn to EUR19.014bn by 2031. Together they become EUR46.409bn, almost 69% of base terminal revenue. IBM alone compounds at 15.3% in base, while the model also relies on IBM mix rising from 26.5% of TTM revenue to 28.4% and helping consolidated operating margin expand from 35.4% to 38.0%.

This is fragile because IBM is not a subscription annuity. It includes lumpy field options and productivity upgrades, while export licenses can constrain service and upgrades. EUV is a physical chokepoint, but higher scanner throughput can satisfy a given wafer target with fewer tools. High-NA must also win on cost per good wafer, not merely demonstrate technical capability. ASML has evidence of customer commitments and capacity coverage, but it does not disclose product-family profit, cancellation probabilities, customer readiness, or a separate TTM NXE/EXE split.

The reviewed segment appendix already quantifies the first-order exposure: a 10% terminal shortfall in EUV and IBM removes EUR4.641bn of revenue and about EUR1.764bn of operating income at a 38% margin. Applying the base 17% tax rate and the locked share basis implies approximately EUR3.89 less EPS, reducing a non-controlling 32x base sensitivity to about EUR53.31 EPS and 3.39% gross EUR IRR, versus the audited 4.82%. If the same revenue miss coincides with a 36% rather than 38% terminal margin, the synthesis's margin sensitivity removes a further EUR2.96 of EPS; terminal EPS is then about EUR50.35 and gross EUR IRR about 2.25%, a 2.57-point decline. That stacked stress is not an audited replacement or a discovered calculation error. It proves that base earnings depend on two correlated assumptions that can fail together.

2. The most-likely-to-be-optimistic Stage 5 number

The number most likely to be revised down is the **38.0% base terminal statutory operating margin**. Revenue is at least anchored by the EUR43bn-EUR45bn FY2026 guide and disclosed 2027 capacity coverage. The terminal margin has less direct evidence because ASML does not disclose profit by EUV, DUV, IBM, metrology, or software. The model infers a 260-basis-point expansion from IBM mix, EUV learning and fixed-cost leverage while also assuming sustained R&D, a High-NA ramp, supplier capacity additions, and regional duplication.

ASML's five disclosed annual operating margins ranged from 30.7% to 36.3%; TTM is 35.4%. A 38% terminal margin is possible but already better than the recent through-cycle evidence. The synthesis shows that a two-point margin miss lowers EPS from EUR57.199313 to EUR54.2429. At the locked 32x and unchanged distributions, that alone lowers gross base IRR to roughly 3.75%, about 1.07 points below audited base. The risk becomes economically larger when under-absorption and weaker IBM upgrades occur together, which is precisely how a semiconductor-equipment downcycle would transmit.

3. The strongest bear case, stated in its strongest form

ASML is not disrupted out of EUV; it overbuilds into a concentrated AI and memory capital-expenditure peak. Low-NA and immersion capacity rise about 30% for 2027, but customer fab readiness, HBM economics and leading-edge utilization weaken in 2027-2028, pushing deliveries right while specialist labor, supplier commitments and roadmap R&D stay fixed. High-NA insertion remains narrow because Low-NA multipatterning retains a better cost-per-good-wafer trade-off for more layers than expected, while Nikon attacks immersion compatibility and Canon nanoimprint earns selected production qualifications rather than replacing EUV outright. IBM then fails to stabilize profit because upgrade revenue normalizes and export controls restrict parts or field options. Revenue drifts toward the reviewed bear path, operating margin falls toward 33%, and the market pays a near-trough 24x for only EUR36.732721 of terminal EPS, producing the audited -9.12% gross EUR IRR.

This mechanism can appear within two to six quarters. The earliest evidence is not a patent announcement. It is weaker order-to-capacity coverage, IBM growth decelerating faster than fleet growth, and gross/operating margin failing to absorb the capacity build. Nikon's primary-source roadmap targets a 2028 S6xx immersion prototype designed for compatibility with another vendor's installed environment; this is a real DUV threat but not evidence of an EUV replacement. Canon's disclosed nanoimprint shipment remains an R&D and prototype-production platform, so the red team does not fabricate a leading-edge HVM win.

4. Cross-examination of management commentary

Management's strongest claims are also the claims most exposed to sequencing risk.

First, Q1 2026 management said customers were accelerating capacity plans “for 2026 and beyond,” supported by downstream agreements. That improves visibility, but a customer's agreement with its customer does not guarantee fab construction, tool acceptance, export licensing, or node economics. The first contradiction would be delivery pushouts or a decline in order coverage for planned 2027 output.

Second, Q2 management said 2027 Low-NA EUV was “close to being fully covered with orders” while planning roughly 30% more capacity. Order coverage is not the same as recognized revenue, particularly for complex tools with facility-readiness and acceptance dependencies. The [official Q2 2026 release](https://www.asml.com/en/news/press-releases/2026/q2-2026-financial-results) confirms both the strong commitments and the expansion plan; it does not publish cancellation probability or customer-level conversion.

Third, Q2 management expected IBM sales growth above 30%, driven by the expanding EUV fleet and upgrades. The release also says Q2 revenue beat guidance primarily because IBM was higher than expected. That is supportive, but it raises the possibility that upgrade timing pulled revenue forward. If IBM growth falls below fleet growth after the upgrade burst, the model's EUR19.014bn base endpoint and margin-mix benefit are both too high.

The skeptical conclusion is not that management is evasive. The management gate is YELLOW because guidance has been unusually reliable, but CEO Christophe Fouquet has only about 28 months in the role and the Mistral investment, reorganization, and capacity expansion lack a full-cycle outcome.

5. Stage 5 tie-out reverification

The recency anchor is sound. TTM revenue is four non-overlapping official quarters ending 2026-06-28, totaling EUR35.3275bn. The first base year reaches EUR43.992bn, consistent with the midpoint of FY2026 guidance without extending the guide mechanically for five years. Quarterlies show acceleration rather than an already stale deceleration trend; the red-team issue is cycle height, not period construction.

The share path is arithmetically transparent but optimistic in its uniformity. It assumes EUR3bn annual repurchases at the sealed EUR1,486.40 price, offset by 0.136504m annual SBC issuance, reaching 375.891025m shares in every scenario. Repurchases are below the TTM pace and historical average, and the current authorization supports near-term execution. Yet a bull path would likely repurchase fewer shares if prices rise, while a bear board could preserve cash. Even eliminating all

five years of modeled buybacks while retaining SBC would produce about 385.983m terminal shares; on base net income this lowers EPS to about EUR55.70 and gross base IRR to about 4.28%, only 0.54 points below audit. It is a disclosed assumption, not a material bridge defect.

No product forecast obviously outruns history without a named mechanism, but ArF immersion deserves scrutiny. Base terminal revenue of EUR15.920bn implies 11.4% CAGR from EUR9.270bn TTM, above the 6.9% FY2023-FY2025 CAGR. The stated mechanism is a 30% capacity increase plus more DUV layers alongside EUV. Nikon's [official roadmap](https://www.nikon.com/company/ir/ir_library/result/pdf/2025/25third_1_e.pdf) makes that uplift less secure by targeting an immersion platform with compatibility as the attack vector. EUV/IBM remains the larger absolute sensitivity.

6. Score-derived 20% return claim most likely to be wrong

The audited score does **not** claim that 20% is plausible. It gives only **1/20**, and the red team agrees. At base EPS, a 20% return needs about 63.78x terminal P/E; at the locked 32x, it needs EUR114.004296 terminal EPS and 32.86% EPS CAGR versus 15.74% modeled. Even the audited bull returns 14.24% gross EUR.

The first assumption that would break any residual 20% hope is the terminal multiple, not the dividend. The 20% case requires both materially stronger earnings and a multiple above today's comparable 53.97x, whereas the preflight selected 32x before returns. No ordinary improvement in buybacks, tax, distributions, or High-NA mix bridges that gap. Removing the entire dividend path changes gross IRR by only 0.80 / 0.57 / 0.45 points in bear/base/bull. The 20% failure is therefore robust.

7. Two-sided valuation challenge

Strongest reason the model is too optimistic

The optimistic point is correlation. Base simultaneously assumes EUR66.928bn revenue, 38% operating margin, a 17% tax rate, continuing buybacks, and a 32x exit. None is absurd alone, but EUV/IBM conversion, fixed-cost absorption and margin expansion are positively correlated. The combined EUV/IBM 10% miss plus a 36% margin gives the 2.25% non-controlling base IRR stress described above, 2.57 points below audit. This does not reveal an invalid denominator, method, or arithmetic bridge; it shows that the base label contains less operating slack than the moat narrative may imply.

The 32x exit itself is not the main optimism. A 30x base sensitivity, inside the preflight's 30x-35x quality range, produces about 3.51% gross EUR IRR, 1.31 points below audit. A 36x bull sensitivity produces about 13.04%, 1.20 points below audited bull. Those changes reinforce Reject but do not cross the framework's two-point defect threshold.

Strongest reason the model is too bearish

The bear exit of 24x is close to ASML's 23.09x ten-year low even though the bear still grows revenue at 7.19%, retains 33% operating margin, remains profitable, and expands IBM to EUR14.427bn. At the upper end of the preflight's stated 23x-28x bear evidence range, a clearly labeled 28x sensitivity produces about **-6.39%** gross EUR IRR rather than -9.12%, a 2.73-point improvement. That is the strongest quantitative case that the bear is punitive.

It is not a supportable correction to the locked 24x. The higher 28x assumes the market looks through export and cycle stress; the audited bear specifically assumes near-zero terminal growth, margin contraction, and policy pressure. The sensitivity remains a loss and does not change actionability. It therefore does not constitute an unresolved valuation objection.

Scenario probabilities are judgment-heavy rather than empirically calibrated. The 30/50/20 distribution appropriately gives bear more weight than bull because the cycle can truncate upside. Even an extreme zero-bear, 80%-base, 20%-bull sensitivity yields only about 6.98% weighted gross EUR IRR, still below the 10%-15% mandate. Reaching 10% with no bear weight would require roughly 51% bull probability. The weighting precision is contestable, but the actionability conclusion is not.

The dividend path is dated 2026-07-31 rather than freshly forecast. Removing it entirely moves no scenario by one percentage point, so this is an evidence-recency limitation, not a gross-return blocker. The net-SGD entry FX is also prior-date. The [ECB's 2026-08-27 EUR/SGD reference rate was 1.4804](https://www.ecb.europa.eu/stats/policy_and_exchange_rates/euro_reference_exchange_rates/html/index.es.html), versus the model's 1.48017448. Replacing only the entry rate shifts each net-SGD IRR by approximately -0.003 percentage point. Terminal FX remains an explicit scenario assumption. The stale date should be disclosed, but it is economically immaterial and cannot rescue or overturn actionability.

Return-model objection	Classification	Reason
Corrected reverse-return and net-SGD labels	MATERIAL_RESOLVED	CSA documented the repairs; no arithmetic, score, preflight input, or return changed
P/E method, denominator, and double-count bridge	IMMATERIAL	Hash matched; method is consistent; cash/debt/investments are not added after EPS times P/E
Dividend-path recency	IMMATERIAL	Zero-dividend sensitivity moves IRRs by at most 0.80 point
Prior-date entry EUR/SGD	IMMATERIAL	Current ECB reference changes net returns by about 0.003 point
Uniform buyback/share path	IMMATERIAL	No-buyback stress changes base IRR by about 0.54 point
Exit-multiple and probability judgments	IMMATERIAL	Alternatives change sensitivities, but no evidence establishes a correction; Reject/actionability is robust

No P&C insurer bridge is required because ASML is an operating semiconductor-equipment company, not an insurer or reinsurer.

8. The signal that forces an exit

The single forced-exit research signal is **IBM year-over-year revenue growth below 10% for two consecutive reported quarters by the end of H1 2027, while the installed EUV fleet is still growing**. ASML reports IBM separately, making this observable. The threshold is deliberately below the current greater-than-30% FY2026 expectation and below the base model's 15.3% five-year IBM CAGR. Two consecutive quarters reduce the risk that one upgrade shipment merely moved between periods.

This signal would invalidate the thesis because IBM is both the revenue stabilizer and the mix argument for a 38% base margin. If fleet growth continues but IBM fails to grow 10%, either upgrades have been pulled forward, service value per tool is weakening, export/service access is narrowing, or customers are resisting the upgrade economics. Any of those breaks the mechanism that is supposed to offset cyclical systems volatility. This is a research kill criterion for owner review, not execution authority.

9. Conviction at the end of red team

The security thesis does not survive at EUR1,486.40, while the business-quality thesis survives. ASML's moat is real: EUV integration, ZEISS optics, customer qualification and installed-base service remain difficult to replicate. The model's P/E arithmetic and audited returns also survive the red-team checks. What fails is the price-to-outcome relationship. Base and probability-weighted gross returns are only 4.82% and 3.85%, and even bull is 14.24%; reasonable favorable challenges to the bear multiple or probability weights do not make the security meet the required return profile.

The synthesis narrative should therefore remain centered on valuation, not on a claim that EUV is about to be displaced. The operating risk that matters most is correlated EUV/IBM conversion and margin absorption during the 2027 capacity build. The strongest rebuttal is that 24x bear is punitive for a still-profitable monopoly-like franchise, but even that rebuttal cannot repair the base return.

Final return-model classification: `IMMATERIAL`**.** No unresolved correction is supported that changes any audited scenario return by at least two percentage points, changes actionability, or exposes an invalid valuation method, denominator, or terminal-equity bridge. The larger quantified moves in this appendix are explicitly stacked operating stresses or non-controlling alternative sensitivities, not corrections to the audited return model. No upstream rerouting is required.

Appendix D - Data Package (Raw Historicals)

ASML Holding N.V. — Data Package

Ticker: ASML.AS **Run ID:** `pulse-cio-20260828T120303+0800` **Information cutoff:** 2026-08-28T12:03:03+08:00 **Reporting currency / scale:** EUR; tables use EUR billions unless marked EUR millions or EUR per share. **Fiscal convention:** Calendar year. Latest completed quarter Q2 2026 ended 2026-06-28 and was published 2026-07-15. TTM is Q3 2025 + Q4 2025 + Q1 2026 + Q2 2026, ending 2026-06-28. The ER2 horizon is 2031-06-28, exactly five years.

All evidence was fetched live during this run from FMP stable endpoints or official ASML investor-relations materials. No local data-warehouse cache or prior-report bytes were used as evidence. New raw pulls are archived under `C:\Users\Admin\OneDrive\GPT\ER 2.0\ASML Holding N.V.\raw\pulse-cio-20260828T120303+0800\d\`.

0a. Industry classification and disclosure inventory

ASML is a foreign private issuer and semiconductor-capital-equipment / hardware company. It reports primarily under US GAAP, files Form 20-F, publishes EU-IFRS statutory accounts, and has one operating/reportable segment. Its official operating disclosure is much richer than FMP: fresh FMP annual and quarterly product and geographic segmentation endpoints each returned the exact empty array `[]`. Official annual reports nevertheless disclose revenue and units by lithography technology, revenue and units by Logic/Memory end-use, geography, customer concentration, new versus used systems, service/field-option revenue, backlog/RPO, and the single-segment CODM measure.

Live source inventory

Source	Live URL / endpoint	Periods / purpose	Run-local archive	SHA-256 / status
FMP income statement	`https://financialmodelingprep.com/stable/income-statement?symbol=ASML.AS&period=annual`	FY2018-FY2025; Sections 2/7	`d\fmp_income_annual.json`	`c36f286cb775419a6130a3cddf2b5b8a04ae1dde7a086f9356659f12b01c36dd`
FMP quarterly income	`https://financialmodelingprep.com/stable/income-statement?symbol=ASML.AS&period=quarter`	Last ten quarters	`d\fmp_income_quarter.json`	Fresh; 10 rows
FMP balance / cash flow	Stable `balance-sheet-statement`, `cash-flow-statement`, annual and quarterly	Capital, cash flow, shares	`d\fmp_balance_*.json`; `d\fmp_cashflow_*.json`	Fresh; 8-10 rows each
FMP product / geographic	Stable `revenue-product-segmentation` and `revenue-geographic-segmentation`, annual / quarter	Availability test	`d\fmp_product_*.json`; `d\fmp_geographic_*.json`	All four exact `[]`; SHA `4f53cda18c2baa0c0354bb5f9a3ecbe5ed12ab4d8e11ba873c2f11161202b945`
ASML 2025 Annual Report, US GAAP	[Official PDF](https://ourbrand.asml.com/m/71076aaad607de4d/original/asml-2025-annual-report-based-on-us-gaap.pdf)	FY2023-FY2025 technology/end-use/geography; segment note; capital/export	`d\official_2025_annual_usgaap.pdf`	`add58be9d9822ca12584b63c55c089b36e1ae5bf7a1825ebf1d1572628f2c52c`
ASML 2024 Annual Report, US GAAP	[Official PDF](https://ourbrand.asml.com/m/79d325b168e0fd7e/original/2024-Annual-Report-based-on-US-GAAP.pdf)	FY2022-FY2024 backfill	`d\official_2024_annual_usgaap.pdf`	`24570fe735f00c8c8b3305568c1b343be9051626ca04a465e8f505d2b97726a8`
ASML 2023 Annual Report, US GAAP	[Official PDF](https://media.asml.com/asmlnetherlaaea-asmlcom-prd-5369/media/project/asmlcom/asmlcom/asml/files/investors/shareholders/agm/2024/2023-annual-report-based-on-us-gaap-hbs8u3.pdf)	FY2021-FY2023 backfill	`d\official_2023_annual_usgaap.pdf`	`dae686c83f6f2b74f7ce86f4ece1a89618a977a276308b2e5953c450a5f2e1bf`
Q2 2026 US-GAAP statements	[Official PDF](https://ourbrand.asml.com/asset/ffeb8813-403b-49df-83c0-01aae7533dd6/Financial-statements-US-GAAP-Q2-2026.pdf)	Q2 / TTM statutory data	`d\official_q2_2026_financials.pdf`	`71717aab1e6c76eaac0eb64d2c54f02954d0e162429d4f3b7fca4e188375cf3f`

Source	Live URL / endpoint	Periods / purpose	Run-local archive	SHA-256 / status
Q2 2026 release / call	[Release](https://ourbrand.asml.com/asset/c8dbf3fc-4c5e-4406-83f6-27694b138245/Press-Release-Financial-Results-Q2-2026.pdf); [remarks](https://ourbrand.asml.com/asset/1fd3908a-0381-47b5-9b69-a3094f656651/2026_07_15-ASML-Transcript-investor-call-Q2-2026.pdf)	Latest outlook, capacity, IBM	`d\official_q2_2026_press_release.pdf`; `d\official_q2_2026_prepared_remarks.pdf`	`46af30754d38cb88805d48143479abf87746798b4642407580781d8292d8331a`; `4d091fc8d1e3e7d48c941537b321c23ca2f14d6df69ffd4480e338c3c13d3719`
Q3 2025-Q1 2026 packages	Official ASML Q3, Q4 and Q1 releases, presentations and remarks	Recency / call dates	Corresponding `d\official_q*_*.pdf`	Fresh, nonzero files
FMP transcripts	Stable `earning-call-transcript` for FY2025 Q3/Q4 and FY2026 Q1/Q2	Full call / date cross-check	`d\fmp_transcript_ASML_AS_*.json`	Dates 2025-10-15, 2026-01-28, 2026-04-14, 2026-07-15
ASML Investor Day 2024	[Official event](https://www.asml.com/en/investors/investor-days/2024)	Long-term market, product, capital model	`d\official_investor_day_2024_*.pdf`	Seven official decks fetched

Search terms applied to official annual/interim/results packages: `segment`, `Chief Operating Decision Maker`, `consolidated US GAAP net income`, `net system sales per technology`, `units`, `sales per system`, `installed base management`, `net service and field option sales`, `Logic`, `Memory`, `geographic`, `customer concentration`, `net bookings`, `backlog`, `remaining performance obligations`, `gross margin`, `R&D`, `capital expenditure`, `capacity`, `export control`, `China`, `share repurchase`, and `dividend`.

Completeness matrix

Dataset / family	Official source searched	Search terms / tables	Years available	Included?	If excluded, why	Relevance
Segment economics	2023-2025 annual; 2026 interim	segment; CODM; net income; sales	FY2021-FY2025; TTM	Yes	None	Sealed fallback / forecast basis
Systems by technology	Annual reports, Note 2	net system sales per technology; units	FY2021-FY2025	Yes	None	Product mix, units, ASP
End-use and IBM	Annual / quarterly packages	Logic; Memory; service / field options	FY2021-FY2025; latest four quarters	Yes	None	Cycle / installed-base durability
Bookings / backlog / RPO	Annual / Q4 releases	net bookings; backlog; RPO	Bookings FY2021-FY2025; RPO FY2022-FY2025; backlog FY2022-FY2025	Yes	FY2021 backlog not found in the official sources searched	Visibility / cancellation risk
Geography / concentration	Annual segment note	geographic; customers exceeding 10%	FY2021-FY2025	Yes	None	China/export/customer power
Gross-margin drivers	Annual MD&A; releases	gross margin; NXE; EXE; IBM mix	FY2021-FY2025; Q2	Yes	Product margins are true non-disclosure	Margin underwriting
R&D / capex / capacity	FMP; annual; Q2 remarks	R&D; PP&E; capacity; shipments	FY2021-FY2025; 2026 plans	Yes	Supplier-specific capacity not disclosed	Reinvestment / execution
Export controls	Annual risk; Q1/Q2 calls	NL / US / EU; China	Current	Yes	Licensed customer-level value not disclosed	Downside case
Capital return	FMP; annual / quarterly	dividends; treasury shares; repurchases	FY2021-FY2025; H1 2026	Yes	None	Shares / owner earnings

Five-year industry KPI series

KPI family	Granularity	FY2021	FY2022	FY2023	FY2024	FY2025	Latest interim / TTM	Source
Net system sales	EURbn	13.653	15.430	21.939	21.769	24.474	TTM 25.982	Official annual; Q2 statements
Installed Base Management	EURbn	4.958	5.743	5.620	6.494	8.193	TTM 9.346	Official annual / quarterly
Total system units	Lithography + M&I	505	561	600	583	535	TTM lithography-only 344	Annual Note 2; Q2 statements
Logic system sales	EURbn	9.589	9.978	15.985	13.195	16.054	Q2 2026 systems mix 51%	Annual Note 2; Q2 remarks
Memory system sales	EURbn	4.064	5.453	5.954	8.574	8.420	Q2 2026 systems mix 49%	Annual Note 2; Q2 remarks

KPI family	Granularity	FY2021	FY2022	FY2023	FY2024	FY2025	Latest interim / TTM	Source
Gross margin	Percent	52.7	50.5	51.3	51.3	52.8	TTM 53.3; Q2 54.0	FMP / official
Remaining performance obligations	EURbn	n/f	45.4	45.0	43.3	46.5	Latest full value FY2025	Annual reports; n/f is omitted, not undisclosed
Full-year net bookings	EURbn	26.240	30.674	20.041	18.899	28.035	Latest full value FY2025	Official Q4 2025 presentation; sum of quarterly bookings
Press-release backlog	EURbn	n/f	40.4	39.0	35.938	38.797	Latest full value FY2025	Official Q4 releases / presentations; FY2021 value not found

The technology history below is the longest clean series supported by the three freshly fetched annual reports. `ArFi` in 2021-2023 and `ArF immersion` thereafter are the same family; the label changed, not the category. EXE was first separately disclosed when revenue began in 2024.

1. Reporting structure and taxonomy

Reportable segment: `Consolidated company`. ASML states that it has one reportable segment because it is a holistic lithography solution provider developing, producing, marketing, selling, upgrading and servicing lithography, metrology and inspection systems. The CODM is the combined CEO/CFO function. The 2025 segment note says the CODM predominantly uses consolidated US-GAAP net income and sales to allocate resources and assess performance.

FY2025 reportable-segment revenue is EUR32.667bn, 100.0% of total. Revenue-only business context is systems EUR24.474bn (74.9%) and net service and field options / IBM EUR8.193bn (25.1%). These are not reportable segments and have no disclosed separate profit metric.

Reporting structure has been stable as one reportable segment since at least FY2021. Taxonomy investigation found no segment realignment in the latest three annual reports. Two disclosure refinements matter: `ArFi` became `ArF immersion`, and EXE revenue was separately disclosed from FY2024. The 2025 report expanded ASC 280 disclosure by naming consolidated US-GAAP net income and sales as CODM measures. These are disclosure changes, not economic segment changes.

Geographic sales history

Customer-facility geography, EURbn	FY2021	FY2022	FY2023	FY2024	FY2025	FY2025 %
Taiwan	7.328	8.096	8.075	4.354	8.338	25.5%
South Korea	6.223	6.046	6.949	6.409	8.160	25.0%
China	2.741	2.916	7.252	10.195	9.520	29.1%
United States	1.583	1.991	3.151	4.522	4.089	12.5%
Japan	0.459	1.009	0.614	1.156	1.421	4.3%
EMEA incl. Netherlands	0.149	0.634	1.232	1.339	0.529	1.6%
Singapore / Rest of Asia	0.128	0.483	0.286	0.289	0.611	1.9%
Total	18.611	21.173	27.559	28.263	32.667	100.0%

Source: official 2023 Annual Report Note 3 for FY2021-FY2023 and official 2025 Annual Report Note 3 for FY2024-FY2025. Four customers each exceeded 10% of FY2025 sales and together represented EUR20.0bn, or 61.2%; comparable concentration was 53.8% in 2024, 53.9% in 2023, 55.8% in 2022 and 67.2% in 2021. Customer names and individual sales are true non-disclosure after searching `customers individually exceeded 10%`, `largest customers`, and the segment note.

2. Consolidated historicals

Metric	FY2021	FY2022	FY2023	FY2024	FY2025	Source
Revenue (EURbn)	18.611	21.173	27.559	28.263	32.667	Fresh FMP annual; official tie

Metric	FY2021	FY2022	FY2023	FY2024	FY2025	Source
Operating income (EURbn)	6.750	6.501	9.042	9.023	11.301	Official US-GAAP annual statements
Operating margin	36.3%	30.7%	32.8%	31.9%	34.6%	Calculated
Net income (EURbn)	5.883	5.624	7.839	7.572	9.609	Fresh FMP annual; official tie
Diluted EPS (EUR)	14.34	14.13	19.89	19.24	24.71	Fresh FMP annual; official FY2025 24.72 rounding
Diluted weighted shares (m)	410.4	398.0	394.1	393.6	388.9	Fresh FMP annual
Capex (EURbn)	0.940	1.282	2.196	2.083	1.574	Fresh FMP annual cash flow
FCF (EURbn)	9.906	7.222	3.247	9.083	11.085	FMP; CFO less PP&E capex
ROIC, defined below	39.5%	37.9%	39.7%	31.9%	47.4%	Calculated from official OI and fresh FMP tax / invested-capital fields

ROIC is `NOPAT / FMP investedCapital`, with NOPAT equal to official statutory OI times one minus the FMP effective tax rate. Tax rates were 14.8%, 14.7%, 15.5%, 18.2% and 17.3%; NOPAT was EUR5.75bn, EUR5.54bn, EUR7.64bn, EUR7.38bn and EUR9.34bn. FMP invested-capital denominators were EUR14.55bn, EUR14.62bn, EUR19.25bn, EUR23.13bn and EUR19.72bn. This is a provider-input proxy rather than a fully normalized ROIC series. The year-end denominator is volatile because ASML holds material cash and customer down payments; 47.4% should not be mistaken for normalized incremental ROIC.

Fresh FMP FY2025 revenue EUR32.6673bn matches the official report exactly. Important discrepancies remain visible: FMP FY2025 pretax income is EUR11.6228bn versus official EUR11.4061bn because FMP includes EUR216.7m equity-method profit in pretax; FMP debt is EUR2.709bn because it omits EUR1.6819bn current borrowings/current long-term debt. Official sources control those items.

3. Segment historicals

ASML has one reportable segment but its disclosed CODM profit measure is consolidated US-GAAP net income, a below-operating-income statutory endpoint. The QFR-sealed schema-1.2 treatment therefore models one financial-projection segment and keeps the CODM disclosure separate.

Consolidated company	FY2021	FY2022	FY2023	FY2024	FY2025	Source
Revenue (EURbn)	18.611	21.173	27.559	28.263	32.667	FMP / official annual
YoY	n/a	13.8%	30.2%	2.6%	15.6%	Calculated
Statutory operating income (single-segment non-operating CODM fallback) (EURbn)	6.750	6.501	9.042	9.023	11.301	Official statutory OI
Margin on exact modeled basis	36.3%	30.7%	32.8%	31.9%	34.6%	Calculated

This is an ER2 modeling-basis repair, not issuer-disclosed segment operating profit. The disclosed CODM measure remains `Consolidated US GAAP net income`: FY2025 EUR9.6094bn and TTM EUR10.6384bn.

3a. Historical statutory-profit bridge and forecast-driver ledger

Sealed basis: `Statutory operating income (single-segment non-operating CODM fallback)` **Segment:** `Consolidated company` only. **Sealed SHA-256:** `344074f3be1c21db8076317c65d530a5a75630b03889bd4cef1241b9a0903d5a` (recomputed over exact bytes; matches QFR). **Currency / scale:** EUR millions.

FY2025 year ended 2025-12-31

Bridge line	Classification	Value	Source ID	Running subtotal
Consolidated company	segment profit	11,301.4	ASML_2025_AR_USGAAP	11,301.4

Bridge line	Classification	Value	Source ID	Running subtotal
Sum of reportable segment profit	segment profit subtotal	11,301.4	ASML_2025_AR_USGAAP	11,301.4
Consolidated modeled segment-profit metric	subtotal	11,301.4	ASML_2025_AR_USGAAP	11,301.4
Statutory operating income	statutory subtotal	11,301.4	ASML_2025_AR_USGAAP	11,301.4
Interest and other, net	other_non_operating	104.7	ASML_2025_AR_USGAAP	11,406.1
Pretax income	statutory subtotal	11,406.1	ASML_2025_AR_USGAAP	11,406.1
Tax and post-tax adjustments, net: income tax expense -2013.4; profit from equity method investments +216.7	tax	-1,796.7	ASML_2025_AR_USGAAP	9,609.4
Net income	statutory subtotal	9,609.4	ASML_2025_AR_USGAAP	9,609.4

Separate CODM disclosure: `Consolidated US GAAP net income`, EUR9,609.4m, source `ASML_2025_AR_USGAAP`. Corporate/unallocated and operating-adjustment arrays are empty; no zero placeholders or analyst plugs were added. All five residuals are 0.0; tolerance EUR5.70305m.

TTM ended 2026-06-28

Bridge line	Classification	Value	Source ID	Running subtotal
Consolidated company	segment profit	12,513.4	ASML_Q2_2026_USGAAP	12,513.4
Sum of reportable segment profit	segment profit subtotal	12,513.4	ASML_Q2_2026_USGAAP	12,513.4
Consolidated modeled segment-profit metric	subtotal	12,513.4	ASML_Q2_2026_USGAAP	12,513.4
Statutory operating income	statutory subtotal	12,513.4	ASML_Q2_2026_USGAAP	12,513.4
Interest and other, net	other_non_operating	101.5	ASML_Q2_2026_USGAAP	12,614.9
Pretax income	statutory subtotal	12,614.9	ASML_Q2_2026_USGAAP	12,614.9
Tax and post-tax adjustments, net: income tax expense -2217.1; profit from equity method investments +240.6	tax	-1,976.5	ASML_Q2_2026_USGAAP	10,638.4
Net income	statutory subtotal	10,638.4	ASML_Q2_2026_USGAAP	10,638.4

Separate CODM disclosure: `Consolidated US GAAP net income`, EUR10,638.4m, source `ASML_Q2_2026_USGAAP`. Corporate/unallocated and operating-adjustment arrays remain empty. All five residuals are 0.0; tolerance EUR6.30745m.

Forecast-driver schedule

Historical bridge line	FY2025	TTM	Forecast treatment	Driver and source	Bear / base / bull rule
Statutory operating income (single-segment non-operating CODM fallback)	11,301.4	12,513.4	One consolidated modeled segment	Revenue and statutory OI-margin build; Q2 guidance	Scenario-specific revenue / OI margin
Interest and other, net	104.7	101.5	Independently forecast below line	Cash, debt and yield schedule	Bear lower yield; base run-rate; bull higher yield
Income tax expense	-2,013.4	-2,217.1	Tax-rate schedule	ASML 2026 annualized ETR around 17%	Bear 18%; base 17%; bull 16.5%
Profit from equity method investments	216.7	240.6	Independently forecast post-tax	Investee earnings; never pretax	Bear flat; base modest growth; bull higher growth
Consolidated US GAAP net income	9,609.4	10,638.4	Mechanical endpoint	OI + below line + tax/post-tax	No independent plug

STATUTORY_BRIDGE_STATUS: VERIFIED — CLEARED FOR FORECASTING

4. Product / sub-segment historicals

Dollar-disclosed product families

Segment	Product	What it is	Dollar disclosure?	Last three FY revenues / source
Consolidated company	EXE High-NA EUV	0.55 NA next-generation EUV platform	Yes, from FY2024	FY2023 zero; FY2024 EUR0.465bn; FY2025 EUR1.157bn; annual Note 2
Consolidated company	NXE Low-NA EUV	0.33 NA EUV scanners	Yes	FY2023 EUR9.124bn; FY2024 EUR7.856bn; FY2025 EUR10.446bn; annual Note 2
Consolidated company	ArF immersion	Advanced DUV immersion scanners	Yes	FY2023 EUR9.017bn; FY2024 EUR9.667bn; FY2025 EUR10.311bn; annual Note 2
Consolidated company	ArF dry	Dry ArF lithography	Yes	FY2023 EUR0.780bn; FY2024 EUR0.774bn; FY2025 EUR0.427bn; annual Note 2
Consolidated company	KrF	Mature-node DUV lithography	Yes	FY2023 EUR2.203bn; FY2024 EUR1.991bn; FY2025 EUR1.001bn; annual Note 2
Consolidated company	I-line	Mature-node i-line lithography	Yes	FY2023 EUR0.278bn; FY2024 EUR0.369bn; FY2025 EUR0.307bn; annual Note 2
Consolidated company	Metrology & Inspection	YieldStar, e-beam and multibeam process control	Yes	FY2023 EUR0.536bn; FY2024 EUR0.646bn; FY2025 EUR0.825bn; annual Note 2
Consolidated company	Installed Base Management	Service and field options for installed tools	Yes	FY2023 EUR5.620bn; FY2024 EUR6.494bn; FY2025 EUR8.193bn; official statements

Five-year systems revenue and units

Technology	FY2021 EURbn / units	FY2022 EURbn / units	FY2023 EURbn / units	FY2024 EURbn / units	FY2025 EURbn / units
EXE	0 / 0	0 / 0	0 / 0	0.465 / 2	1.157 / 4
NXE	6.284 / 42	7.045 / 40	9.124 / 53	7.856 / 42	10.446 / 44
ArF immersion	4.960 / 81	5.237 / 81	9.017 / 125	9.667 / 129	10.311 / 131
ArF dry	0.432 / 22	0.624 / 28	0.780 / 32	0.774 / 28	0.427 / 16
KrF	1.321 / 131	1.654 / 151	2.203 / 184	1.991 / 152	1.001 / 78
I-line	0.142 / 33	0.212 / 45	0.278 / 55	0.369 / 65	0.307 / 54
Metrology & Inspection	0.514 / 196	0.660 / 216	0.536 / 151	0.646 / 165	0.825 / 208
Total	13.653 / 505	15.430 / 561	21.939 / 600	21.769 / 583	24.474 / 535

Source: official 2023 Annual Report Note 2 for FY2021-FY2023, official 2024 Annual Report Note 2 for FY2022-FY2024, and official 2025 Annual Report Note 2 for FY2023-FY2025. Overlapping years tie exactly.

Derived average selling price

Technology ASP, EURm / recognized unit	FY2021	FY2022	FY2023	FY2024	FY2025	Interpretation
EXE	n/a	n/a	n/a	232.5	289.2	Early High-NA mix / acceptance timing
NXE	149.6	176.1	172.2	187.1	237.4	Product mix and upgrades create lumpy ASP
ArF immersion	61.2	64.6	72.1	74.9	78.7	Rising platform/mix value
ArF dry	19.6	22.3	24.4	27.7	26.7	Mix-sensitive mature product
KrF	10.1	11.0	12.0	13.1	12.8	Mix-sensitive mature product
I-line	4.3	4.7	5.1	5.7	5.7	Relatively stable
Metrology & Inspection	2.6	3.1	3.6	3.9	4.0	Mixed portfolio, not a single-system price

ASPs are calculated as disclosed revenue divided by disclosed recognized units; they are not management-quoted list prices. No back-solved revenue appears here.

Bookings, backlog and concentration

Visibility KPI	FY2021	FY2022	FY2023	FY2024	FY2025	Source / caveat
Remaining performance obligations, EURbn	n/f	45.4	45.0	43.3	46.5	Annual reports; systems, service and field options
Backlog, EURbn	n/f	40.4	39.0	35.938	38.797	Official Q4 releases / presentations; narrower press-release definition
Full-year net bookings, EURbn	26.240	30.674	20.041	18.899	28.035	Official Q4 2025 presentation; sum of quarterly bookings
Customers exceeding 10% / combined sales	2 / 67.2%	2 / 55.8%	2 / 53.9%	4 / 53.8%	4 / 61.2%	Annual segment notes

RPO and backlog are not interchangeable. FY2025 RPO was EUR46.5bn and 65% was expected within 12 months; press-release backlog was EUR38.8bn and includes accepted system orders and inflation adjustments not yet in sales. Volume-purchase agreements may be modified and recognition depends on delivery/installation, facility readiness, field-project completion and export controls.

Growth-rate-only product disclosures

Segment	Product	Disclosure method	Latest disclosed rate	Source
Consolidated company	Advanced Logic foundry systems	Forward growth; no separate current-year absolute base	FY2026 net system sales over 25% growth	Q2 2026 remarks
Consolidated company	Memory systems	Forward growth; no separate current-year absolute base	FY2026 net system sales over 75% growth	Q2 2026 remarks
Consolidated company	Low-NA EUV	Forward systems-sales growth	FY2026 over 45%	Q2 2026 remarks
Consolidated company	Non-EUV systems	Forward systems-sales growth	FY2026 around 25%	Q2 2026 remarks
Consolidated company	Installed Base Management	Forward sales growth	FY2026 over 30%	Q2 2026 remarks

5. Most recent quarterly trend

ASML FY ends December 31. Most recently completed fiscal quarter at time of writing: FY2026 Q2, covering 2026-03-30 through 2026-06-28, reported on 2026-07-15 via the [official Q2 release](https://ourbrand.asml.com/asset/c8dbf3fc-4c5e-4406-83f6-27694b138245/Press-Release-Financial-Results-Q2-2026.pdf).

Quarter	Consolidated revenue, EURbn	YoY	Statutory operating margin	Source
Q3 2025	7.516	0.7%	32.8%	Official Q3 presentation, 2025-10-15
Q4 2025	9.718	4.9%	35.3%	Official Q4 presentation, 2026-01-28
Q1 2026	8.767	13.2%	36.0%	Official Q1 presentation, 2026-04-15
Q2 2026	9.327	21.3%	37.1%	Official Q2 statements, 2026-07-15

Quarter	Systems revenue, EURbn	IBM revenue, EURbn	Lithography units	Net bookings, EURbn	Source
Q3 2025	5.554	1.962	72	5.399	Official Q3 results
Q4 2025	7.584	2.134	102	13.158	Official Q4 results
Q1 2026	6.279	2.488	79	Not disclosed in release	Official Q1 release/statements
Q2 2026	6.565	2.762	91	Not disclosed in release	Official Q2 release/statements
TTM	25.982	9.346	344	Not additive across unavailable quarters	Four-quarter sum

Official quarterly technology, end-use and geography charts

The last-four-quarter image charts were independently extracted from the official Q4 2025 and Q2 2026 investor presentations. Technology and end-use percentages are rounded shares of net system sales; EUV combines Low-NA and High-NA. Unit counts are lithography systems and exclude Metrology & Inspection. These rows are product-mix context, not separately disclosed product profit.

Quarter	Net system sales, EURbn	EUV	ArFi	ArF dry	KrF	I-line	M&I	Logic	Memory	Lithography units: EUV / ArFi / ArF dry / KrF / I-line
Q3 2025	5.554	38%	52%	2%	3%	1%	4%	65%	35%	9 / 38 / 4 / 11 / 10
Q4 2025	7.584	48%	40%	2%	5%	1%	4%	70%	30%	14 / 37 / 5 / 29 / 17
Q1 2026	6.279	66%	23%	2%	6%	1%	2%	49%	51%	16 / 17 / 5 / 30 / 11
Q2 2026	6.565	57%	29%	4%	6%	1%	3%	51%	49%	16 / 23 / 8 / 35 / 9

Quarter	Taiwan	South Korea	China	United States	Japan	Rest of Asia	EMEA
Q3 2025	30%	18%	42%	6%	1%	3%	0%
Q4 2025	13%	22%	36%	17%	10%	2%	0%
Q1 2026	23%	45%	19%	12%	0%	1%	0%
Q2 2026	30%	43%	14%	9%	4%	0%	0%

The presentations round chart percentages to whole points; each regional row sums to 100%. H1 2026 total net sales were EUR18.1bn, comprising Logic EUR6.5bn, Memory EUR6.4bn and IBM EUR5.2bn on the official Q2 chart. This completes the current chart family needed for cycle and mix analysis; no image-only quarterly technology values remain omitted.

The latest quarter's headline growth check is consolidated sales: EUR9.3265bn versus EUR7.6917bn, +21.3%, directly visible in the fresh Q2 statement. Q2 gross margin reached 54.0%, helped by almost EUR0.3bn IBM above guidance and very high-margin IBM components. The Q2 release raised FY2026 guidance to EUR43-45bn sales and 54-56% gross margin from April's EUR36-40bn and 51-53% ranges.

6. Management commentary on forward growth

ASML has one reportable segment, so commentary is grouped under `Consolidated company`; topic tags identify product/driver. Quotes are verbatim from official materials fetched in this run. Fiscal period and actual call/event date are explicit.

Source map for every numbered quote: items 1-3 are from the [official Q3 2025 release](https://ourbrand.asml.com/m/6426a12faab0f2a0/original/ASML-Press-Release-Quarterly-Results-Q3-2025.pdf); items 4-5 from the [official Q4 2025 release](https://www.asml.com/en/news/press-releases/2026/q4-2025-financial-results); items 6-7 from the [official Q1 2026 release](https://ourbrand.asml.com/asset/6ec62875-6d6a-4ec5-a4d7-43f59ce8e5c5/ASML-Press-Release-Financial-Results-Q1-2026.pdf); items 8-14 from the [official Q2 2026 prepared remarks](https://ourbrand.asml.com/asset/1fd3908a-0381-47b5-9b69-a3094f656651/2026_07_15-ASML-Transcript-investor-call-Q2-2026.pdf); and items 15-16 from the [official Investor Day 2024 release](https://www.asml.com/en/news/press-releases/2024/asml-investor-day-2024). Live official materials and fresh FMP transcripts independently confirmed the dates; the Q1 FMP provider timestamp is one day earlier, as disclosed below.

- **Q3 FY2025 release, 2025-10-15 — Christophe Fouquet, CEO; EUV:** "On the technology side, we see litho intensity continue to develop positively as EUV adoption gains momentum, including progress on High NA EUV." Interpretation: lithography intensity, not only wafer capacity, is a structural driver.
- **Q3 FY2025 release, 2025-10-15 — Christophe Fouquet, CEO; China:** "We expect China customer demand, and therefore our China total net sales in 2026 to decline significantly compared to our very strong business there in 2024 and 2025." Interpretation: China normalization was embedded in the initial posture; Q2 later expected China around 20% of FY2026 sales.
- **Q3 FY2025 release, 2025-10-15 — Christophe Fouquet, CEO; 2026 floor:** "We do not expect 2026 total net sales to be below 2025." Interpretation: the pre-order-step-up floor preceded January, April and July upgrades.

- **Q4 FY2025 release, 2026-01-28 — Christophe Fouquet, CEO; orders:** “In the last months, many of our customers have shared a notably more positive assessment of the medium-term market situation, primarily based on more robust expectations of the sustainability of AI-related demand.” Interpretation: record EUR13.2bn Q4 bookings were framed as multi-year capacity demand.
- **Q4 FY2025 release, 2026-01-28 — Christophe Fouquet, CEO; mix:** “We expect 2026 to be another growth year for ASML's business, largely driven by a significant increase in EUV sales and growth in our installed base business sales.” Interpretation: EUV and IBM were the original growth engines.
- **Q1 FY2026 release, 2026-04-15 — Christophe Fouquet, CEO; capacity:** “Our customers are accelerating their capacity expansion plans for 2026 and beyond, supported by long-term agreements with their customers.” Interpretation: end-customer commitments increased demand visibility.
- **Q1 FY2026 release, 2026-04-15 — Christophe Fouquet, CEO; guidance:** “We now expect total net sales for 2026 to be between €36 billion and €40 billion, with a gross margin between 51% and 53%.” The same passage says the range accommodated export-control outcomes. Interpretation: April guidance retained regulatory uncertainty.
- **Q2 FY2026, call 2026-07-15 — Roger Dassen, CFO; outlook:** “We now expect total net sales between 43 and 45 billion euros, with a gross margin between 54 percent and 56 percent.” Interpretation: July supersedes January/April guidance.
- **Q2 FY2026, call 2026-07-15 — Christophe Fouquet, CEO; Logic:** “We now expect advanced Logic foundry-related net system sales to grow over 25 percent this year.” Interpretation: growth spans 3nm, 5/4nm, 2nm and early 1.4nm preparations.
- **Q2 FY2026, call 2026-07-15 — Christophe Fouquet, CEO; Memory:** “As a result, we anticipate our Memory-related net system sales to grow by over 75 percent this year.” Interpretation: DRAM additions plus rising lithography intensity produce an unusually strong cyclical step-up.
- **Q2 FY2026, call 2026-07-15 — Roger Dassen, CFO; EUV:** “We now expect to ship around 65 Low NA EUV systems this year, resulting in year-over-year EUV net system sales growth of over 45 percent.” Interpretation: units and mix jointly drive EUV revenue.
- **Q2 FY2026, call 2026-07-15 — Roger Dassen, CFO; IBM:** “Installed Base Management sales are expected to grow over 30 percent this year, driven by service revenue from our expanding EUV installed base, and customer demand for performance and productivity upgrades.” Interpretation: IBM combines recurring service with lumpy high-margin upgrades.
- **Q2 FY2026, call 2026-07-15 — Roger Dassen, CFO; capacity:** “For 2027, we are now close to being fully covered with orders for Low NA EUV and we are planning to increase our low NA EUV capacity by around 30 percent.” Interpretation: coverage is strong, but conversion depends on supply/customer readiness.
- **Q2 FY2026, call 2026-07-15 — Roger Dassen, CFO; DUV:** “Similarly, for our immersion systems, we intend to increase capacity by 30 percent in 2027 and are investigating a potential further 30 percent expansion for 2028.” Interpretation: DUV reacceleration broadens growth.
- **Investor Day 2024, event 2024-11-14 — Roger Dassen, CFO; long-term model:** “Based on our assessment of different market and technology scenarios, we expect annual revenue between approximately €44 billion and €60 billion with gross margin between approximately 56% and 60% by 2030.” Interpretation: a scenario range, not guidance; next Capital Markets Day is 2027-06-10.
- **Investor Day 2024, event 2024-11-14 — Christophe Fouquet, CEO; moat:** “We expect that our ability to scale EUV technology into the next decade and extend our versatile holistic lithography portfolio, positions ASML well to contribute to, and leverage the Artificial Intelligence opportunity.” Interpretation: the claim depends on roadmap execution and continued lithography intensity.

Quote self-check: the Q2 capacity quote appears in both the official prepared-remarks PDF and fresh FMP Q2 transcript. FMP date is 2026-07-15, exactly the official call date. Q1’s FMP date is 2026-04-14 while the official remarks/release state 2026-04-15; the official source controls and the one-day provider timestamp difference is disclosed rather than treated as another period.

7. Capital allocation history

Year	Capex, EURbn	Capex / revenue	R&D, EURbn	R&D / revenue	Buybacks, EURbn	Dividends, EURbn	Net acquisitions, EURbn	Source
FY2021	0.940	5.1%	2.547	13.7%	8.560	1.368	-0.329	Official Q4 2025 presentation for R&D; fresh FMP cash flow otherwise
FY2022	1.282	6.1%	3.254	15.4%	4.640	2.560	0.000	Official Q4 2025 presentation for R&D; fresh FMP cash flow otherwise
FY2023	2.196	8.0%	3.981	14.4%	1.000	2.348	0.034	Official Q4 2025 presentation for R&D; fresh FMP cash flow otherwise
FY2024	2.083	7.4%	4.304	15.2%	0.500	2.453	0.000	Official Q4 2025 presentation for R&D; fresh FMP cash flow otherwise
FY2025	1.574	4.8%	4.699	14.4%	5.950	2.550	0.000	Official Q4 2025 presentation for R&D; fresh FMP cash flow otherwise

FY2025 ASML-defined FCF is EUR11.027bn because it subtracts EUR1.574bn PP&E and EUR57.6m intangible purchases from EUR12.659bn CFO; FMP FCF EUR11.085bn subtracts PP&E only. FY2025 also included a EUR1.302bn strategic Mistral investment outside `acquisitionsNet`. ASML returned EUR8.5bn through dividends/buybacks in 2025.

The EUR12bn 2022-2025 program finished with EUR7.6bn executed. A new up-to-EUR12bn program began 2026-01-28 and runs through 2028-12-31; up to two million shares may cover employee plans and the remainder is intended for cancellation. H1 2026 treasury purchases were EUR2.078bn and dividends paid EUR1.656bn. FY2025 dividend was EUR7.50/share, +17%; the first FY2026 interim dividend was EUR1.88.

8. Balance-sheet snapshot

Item at FY2025	EURbn	Source / treatment
Cash and equivalents	12.916	Official 2025 annual
Short-term investments	0.406	Official 2025 annual
Current debt / borrowings	1.682	Official debt note; omitted by FMP
Long-term debt	2.709	Official annual balance sheet
Total debt	4.391	Official current + long-term
Net debt / (net cash)	-8.931	Debt less cash / investments
Net debt / EBITDA	-0.73x	Net cash divided by OI + D&A, approx. EUR12.31bn
Goodwill	4.589	Official annual
Other intangible assets	0.540	Official annual
Goodwill + intangibles	5.129	Sum
Shareholders’ equity	19.612	Official annual
Tangible book value	14.484	Equity less goodwill/intangibles

At 2026-06-28, cash plus short-term investments were EUR7.582bn and official gross debt EUR3.720bn, including EUR1.735bn current and EUR1.984bn long-term. FMP omitted current debt and understated gross debt by EUR1.735bn. The company remained net cash.

9. Recent corporate actions and regulatory developments

- **2025-09-08 — Mistral AI:** ASML invested EUR1.3bn for approximately 11% fully diluted, described as a strategic partnership for AI-driven innovation in holistic lithography and operations. Source: 2025 Annual Report.

- **2025-10-15 — China outlook:** management said China FY2026 sales would decline significantly from strong 2024-2025. By Q2 2026, stronger mainstream-Logic demand led ASML to expect China around 20% of FY2026 sales. Sources: Q3/Q2 calls.
- **2026-01-28 — New buyback:** up to EUR12bn through 2028-12-31, up to two million shares for employee plans, balance intended for cancellation. Source: Q4 release.
- **2026-01-28 — Organization:** streamlining Technology and IT to strengthen engineering/innovation; estimated transformation costs were recognized in Q2, mainly R&D. Sources: Q4 release and Q2 remarks.
- **2026-04-15 — Guidance upgrade:** FY2026 sales range rose to EUR36-40bn from EUR34-39bn; gross margin remained 51-53%. Source: Q1 release.
- **2026-07-15 — Major guidance upgrade:** FY2026 sales rose to EUR43-45bn and gross margin to 54-56%; FY2027 Low-NA EUV and immersion capacity plans each increased about 30%. Source: Q2 release/remarks.
- **Export controls — ongoing:** the 2025 report describes expanded Dutch controls effective 2025-01-15, primarily covering certain metrology/inspection systems, and November 2025 EU-list changes covering advanced equipment such as DUV immersion systems exported outside the EU; it also discusses evolving US restrictions and China rare-earth controls. Rules can restrict shipment, service, sourcing and license availability; RPO timing explicitly depends on export controls. Customer-level licensed shipment value is not disclosed.

10. Open data gaps, flags and self-verification

Classification	Gap / issue	Sources and search terms checked	Treatment
True non-disclosure	Profit by EUV, DUV, M&I, IBM, Logic, Memory or geography	2023-2025 annual; 2026 interim; `segment profit`, `operating income`, `gross margin by product`	Consolidated statutory OI only under sealed fallback
True non-disclosure	Customer identities / individual sales above 10%	Annual Note 3; `major customers`, `customers individually exceeded 10%`	Combined concentration only
True non-disclosure	Product gross margins / cancellation probabilities	Annual MD&A, RPO note, releases; `gross margin`, `cancellation`, `push out`	Qualitative drivers; no invented rates
Bounded historical non-fetch	FY2021 press-release backlog	2021 annual report and Q4 release; `backlog`, `order book`, `remaining performance obligations`	Not material: five-year bookings, FY2022-FY2025 backlog and FY2022-FY2025 RPO now provide the clean visibility history; no FY2021 backlog value was found in the official sources searched
Included after DR extraction	Quarterly technology / end-use / geography chart values for the last four quarters	Official Q4 2025 and Q2 2026 presentations; image charts independently read	Complete Q3 2025-Q2 2026 chart series added in Section 5; no remaining omission
Estimated	ASP by technology	Official sales divided by recognized units	Clearly labeled derived average
Not applicable	P&C ownership / fee-count-once bridge	Industry classification	ASML is not an insurer
Taxonomy flag	ArFi renamed ArF immersion; EXE separate from FY2024	Three annual reports	Harmonized with boundary disclosed
FMP discrepancy	FY2025 pretax and gross debt	Fresh FMP vs official statements	Official controls; visible in Sections 2/8
FMP discrepancy	FY2021-FY2024 R&D costs	Fresh FMP income versus official Q4 2025 US-GAAP presentation	Official R&D costs control; Section 7 corrected because FMP understated the series by EUR0.116bn-EUR0.362bn
FMP discrepancy	FY2021 operating income	Fresh FMP income EUR6.536bn versus official US-GAAP EUR6.750bn	Official controls; Section 2/3 corrected because FMP excluded EUR0.214bn other operating income
Bounded live-fetch failure	ASML 2025 Annual Report PDF direct web extraction	Identical attempts twice returned `(400) Content length is too large: 23928741`	Live official SEC 20-F/XBRL and ASML annual-report HTML supplied the same controlling tables
Bounded live-fetch failure	Q3 2025 prepared-remarks PDF	Identical attempts twice returned `(400) Timeout fetching`	Live official Q3 press-release PDF verified the quoted statements/date/speaker; fresh FMP transcript independently matched the period date

Classification	Gap / issue	Sources and search terms checked	Treatment
Bounded live-fetch failure	Investor Day 2024 closing-remarks PDF	Identical attempts twice returned `(400) Timeout fetching`	Live official Investor Day press release and event page verified the quoted statement/date/speaker

Mandatory live self-checks

- **Latest-quarter headline growth:** official Q2 2026 revenue EUR9.3265bn versus Q2 2025 EUR7.6917bn equals +21.3%; exact figures appear in the fresh official Q2 statement, SHA `71717aab1e6c76eaac0eb64d2c54f02954d0e162429d4f3b7fca4e188375cf3f`.
- **Management quote:** Q2's 2027 Low-NA EUV capacity plan of about +30% appears in the official 2026-07-15 remarks and fresh FMP transcript dated 2026-07-15; FMP raw SHA `8ef1e9a2ac5269cb340046f190573867fd4a6c45b055ecd91740bc0cc75f76a6`.
- **FY2025 revenue:** fresh FMP annual income reports EUR32.6673bn, matching official FY2025 EUR32.6673bn exactly, a 0.0% difference.

Downstream guardrails: one modeled segment only; exact profit basis `Statutory operating income (single-segment non-operating CODM fallback)`; preserve ASML's separate CODM `Consolidated US GAAP net income`; do not forecast technology profit margins as disclosed facts; do not mix FMP pretax/debt with controlling official values; anchor forward work on TTM 2026-06-28, not FY2025.