SAP gideon lens

SAP SE (SAP.DE) - Gideon Lens Production ER2

Report date: 2026-08-30 **Price anchor:** EUR 191.32, XETR:SAP ordinary share, completed session 2026-08-28 **TTM end:** 2026-06-30 **Exact underwriting horizon:** 2031-06-30, 5.0 years **Scenario probabilities:** Bear 25% / Base 55% / Bull 20%

Executive decision

SAP remains a durable enterprise-software franchise, but the security does not clear the required entry-price or return tests. Its Applications, Technology & Support segment is a strong control-plane business with embedded process data, switching costs, localization, and ecosystem scale. That segment produces 97.4% of disclosed segment profit and passes the 2046 durability test. The problem is what today's EUR 191.32 price requires: the Base case reaches only EUR 10.4645 of statutory diluted EPS in five years. Fifteen times that EPS is EUR 156.97, leaving a negative 17.96% cushion. The audited five-year Base gross EUR IRR is 7.60%, and the probability-weighted gross EUR return is 7.09%. After conservative costs, withholding and FX translation, the Base and probability-weighted net-SGD returns fall to 6.02% and 5.74%.

The conclusion is therefore PASS, not because SAP lacks a moat, but because current valuation absorbs too much of the credible operating progress. Management is YELLOW rather than PASS: cloud conversion, margin expansion and free-cash-flow execution are real, yet the open FCPA deferred-prosecution period, modest executive ownership, compensation without explicit ROIC/per-share FCF measures, and unproven returns on recent AI/data acquisitions remain material. The independent scoring audit reduces the diagnostic score to 55/100 because a five-year ROIC median near 9.4% and unavailable three- and five-year ROIIC do not support dream-business scoring.

Verdict: PASS

Scorecard:

Gate	Result	Notes
Management	YELLOW	Strong execution; FCPA DPA and acquisition returns remain unresolved
Moat	PASS	Control-plane switching costs pass the 2046 durability test
P/E <= 15 on confident EPS at TTM + 5 calendar years	FAIL	Base EUR 156.97 value leaves -17.96% cushion
Compounder Score	Audited 55 / 100	Below dream-investment threshold; diagnostic only, not a verdict gate
Business Quality Score	Audited 52 / 80	Quality evidence is credible but incomplete and return-capped
20% Return UW Score	Audited 3 / 20	Today's price cannot support a credible 20% return case

One-line thesis (or reason to pass): SAP's durable transaction-and-data control plane cannot offset a price that leaves inadequate Base and probability-weighted shareholder returns.

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

Measure	Result	Notes
Primary valuation method	P/E	Statutory parent-attributable diluted EPS used consistently in all scenarios and net-SGD
Gross local-currency bear / base / bull IRR	-7.40% / 7.60% / 17.35%	Five-year annualized shareholder returns in EUR
Probability-weighted gross local-currency IRR	7.09%	CAGR of weighted terminal wealth at 25% / 55% / 20%; not averaged IRRs
Return bridge	EUR 191.32 -> EUR 269.470775 weighted wealth	Five years to 2031-06-30; weighted terminal value EUR 255.393075 plus distributions EUR 14.077700

The controlling P/E bridge uses independently justified exits of 20x, 25x and 30x for Bear, Base and Bull. These sit against an official current P/E of 28.69x, a Base-comparable normalized current P/E of 28.49x, and a historical core range of 24.65x-33.39x. EV/NOPAT is not the controlling method because the terminal balance-sheet NCI claim is unavailable; P/B-ROE also lacks a complete zero-residual common-equity roll-forward. Terminal net cash of EUR 10.117bn / EUR 23.260bn / EUR 35.221bn and gross financial debt of EUR 8.550bn in each scenario are shown for completeness but are not added after applying P/E. This prevents double counting.

All values below are gross EUR underwriting. Start operating values are TTM ended 2026-06-30; terminal values are 2031-06-30. The price date is 2026-08-28. Net-SGD adjustments appear only in CIO actionability.

Bear-case operating and return bridge

Bear case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Revenue	EUR 38,192m	EUR 42,998.1m	2.40%	Cloud growth survives but support and license runoff accelerate
Operating margin	26.74%	23.46%	-3.27 pp	Lower mix quality and persistent operating charges compress margin
Operating earnings	EUR 10,211m	EUR 10,088.4m	-0.24%	Statutory operating income after all modeled operating adjustments
Diluted share count	1,163.000m	1,176.861m	0.24%	SBC issuance exceeds the assumed EUR 1bn annual buyback
EPS	EUR 6.6689	EUR 5.8982	-2.43%	Parent-attributable statutory diluted EPS on the ordinary-share unit
Valuation denominator	Reported EUR 6.6689; normalized EUR 6.7142	EUR 5.8982	Comparable	Current normalization removes event noise; terminal remains statutory
Valuation	28.69x reported / 28.49x normalized	20.00x P/E	-8.49x normalized	De-rating below the historical core band for weaker terminal economics
Share value	EUR 191.32	EUR 117.9640	-9.22%	EUR 5.8982 EPS times 20x; no separate cash addition
Annual dividend	EUR 2.4662	EUR 2.4662	0.00%	Flat per-share distribution path
Dividend yield	1.29%	2.09%	+0.80 pp	Annual dividend divided by endpoint share value
Five-year dividends	-	EUR 12.3311	cumulative	Only cash dividends enter shareholder wealth
Total ending value	EUR 191.32	EUR 130.2951	-7.40% gross local IRR	EUR 117.9640 share value plus EUR 12.3311 distributions

Base-case operating and return bridge

Base case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Revenue	EUR 38,192m	EUR 53,573.7m	7.00%	Cloud conversion offsets support runoff while Core Services stabilizes
Operating margin	26.74%	31.27%	+4.53 pp	Cloud mix and operating leverage outweigh recurring acquisition charges
Operating earnings	EUR 10,211m	EUR 16,749.9m	10.41%	Statutory operating income, not non-IFRS segment profit
Diluted share count	1,163.000m	1,151.614m	-0.20%	EUR 2bn annual buybacks modestly exceed SBC issuance
EPS	EUR 6.6689	EUR 10.4645	9.43%	Parent-attributable statutory diluted EPS on reconciled shares
Valuation denominator	Reported EUR 6.6689; normalized EUR 6.7142	EUR 10.4645	Comparable	Base-style current normalization aligns charges, tax and below-line items

Base case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Valuation	28.69x reported / 28.49x normalized	25.00x P/E	-3.49x normalized	Modest de-rating within the historical core range
Share value	EUR 191.32	EUR 261.6125	6.46%	EUR 10.4645 EPS times 25x; net cash not added twice
Annual dividend	EUR 2.4662	EUR 3.1476	5.00%	Five annual 5% per-share increases
Dividend yield	1.29%	1.20%	-0.09 pp	Annual dividend divided by endpoint share value
Five-year dividends	-	EUR 14.3087	cumulative	Audited cumulative per-share cash distributions
Total ending value	EUR 191.32	EUR 275.9212	7.60% gross local IRR	EUR 261.6125 share value plus EUR 14.3087 distributions

Bull-case operating and return bridge

Bull case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Revenue	EUR 38,192m	EUR 61,627.7m	10.04%	Faster suite conversion and data attachment sustain cloud growth at scale
Operating margin	26.74%	33.96%	+7.22 pp	Strong mix and execution deliver substantial statutory leverage
Operating earnings	EUR 10,211m	EUR 20,926.1m	15.43%	Statutory operating income after retained SBC and modeled charges
Diluted share count	1,163.000m	1,143.750m	-0.33%	EUR 2.5bn annual buybacks exceed award issuance
EPS	EUR 6.6689	EUR 13.6692	15.43%	Parent-attributable statutory diluted EPS on reconciled shares
Valuation denominator	Reported EUR 6.6689; normalized EUR 6.7142	EUR 13.6692	Comparable	Same statutory P/E method and ordinary-share unit
Valuation	28.69x reported / 28.49x normalized	30.00x P/E	+1.51x normalized	Premium retention requires superior execution and durable AI/data economics
Share value	EUR 191.32	EUR 410.0760	16.47%	EUR 13.6692 EPS times 30x; no separate liquidity uplift
Annual dividend	EUR 2.4662	EUR 3.6237	8.00%	Five annual 8% per-share increases
Dividend yield	1.29%	0.88%	-0.41 pp	Annual dividend divided by endpoint share value
Five-year dividends	-	EUR 15.6257	cumulative	Audited cumulative per-share cash distributions
Total ending value	EUR 191.32	EUR 425.7017	17.35% gross local IRR	EUR 410.0760 share value plus EUR 15.6257 distributions

CIO actionability (separate from ER2 underwriting)

Measure	Result	Notes
Status	PASS	Research-only monitor; this is separate from the ER2 verdict
Bear / Base / Bull net SGD IRR	-9.88% / 6.02% / 16.89%	Exactly five years after costs, withholding and FX translation
Probability-weighted net SGD IRR	5.74%	CAGR of SGD 376.182235 weighted wealth on SGD 284.6078 outlay
10% mandate hurdle	FAIL	Neither Base nor probability-weighted case reaches 10%
15% stretch hurdle	PASS only in Bull	Upside diagnostic does not rescue Base underwriting

Measure	Result	Notes
Downside and portfolio fit	FAIL	Bear loses 40.55% in SGD and existing EWG embeds about 1.01% NAV SAP exposure
Proposed sizing ceiling	none	No sizing authority or proposal; owner approval required for any action

Net-SGD diagnostics use ECB EUR/SGD 1.4802 on 2026-08-28, 0.50% entry and exit friction, 26.375% dividend withholding, and annual terminal FX translation of -2% / -1% / 0% in Bear / Base / Bull. These are conservative diagnostics rather than investor-specific tax advice. The EWG look-through estimate is approximately SGD 29,506, or 1.0132% of NAV, so any future direct SAP work would require an explicit overlap charge. This report has no portfolio mutation, ranking, sizing, broker, trade, or message authority.

What must change

The operating thesis improves if SAP discloses paid Business AI or Business Data Cloud economics, maintains organic constant-currency current-cloud-backlog growth above 18%, proves that the 44% Base ATS margin does not depend on undercounted AI infrastructure or acquisition costs, and exits the FCPA DPA without new misconduct. The valuation thesis improves below EUR 156.97, where Base EPS would first clear 15x; a roughly 15% CIO cushion would require approximately EUR 136.50, while management would still need to move from YELLOW to PASS. These are research triggers, not orders.

Trade execution authorized: NO

Kill / trigger criteria:

- Reconsideration trigger: price at or below EUR 156.97 with unchanged Base EPS; stronger CIO-quality cushion near EUR 136.50.
- PASS trigger: organic constant-currency current-cloud-backlog growth below 18% for two consecutive quarters.
- PASS trigger: ATS margin falls below 40% without a clearly temporary, source-bound cause.
- PASS trigger: DPA extension, new bribery-control breach, or acquisitions fail to produce disclosed economic returns.
- Upgrade to BUY conditions: Management PASS, Moat PASS, positive P/E-15 cushion, and Base plus probability-weighted net-SGD returns clearing mandate hurdles with compatible downside.

Research sizing if actionable: none. This PASS report does not propose a position and cannot authorize a trade.

Provenance and completion posture

Quantitative foundation passed 9/9 independent review checks; the controlled data package passed DR with the statutory bridge sealed; both segment reviewers cleared with zero unresolved issues; synthesis passed 11/11 tie-outs; valuation preflight passed 5/5 foundations before return calculation; the independent scoring auditor reproduced all eight mandatory gross/net return fields; and red team classified the return objection as IMMATERIAL with zero unresolved material issues. The audited probability-weighted returns use weighted terminal shareholder wealth, never arithmetic averages of scenario IRRs. The only post-stage circularity is that appending later stages necessarily changes `gate_manifest.json` after VP bound its earlier hash; all actual stage artifacts remain byte-matched and this is an advisory, not a valuation-field mismatch.

The prior-report selector classified this as a new report, not a refresh, so no unsupported prior-report narrative or stale comparison page is carried forward. Research is complete for publication, but completion does not authorize capital or execution.

Appendix A - Company Primer

SAP SE (SAP.DE) — Company Primer

Run ID: `pulse-cio-20260830T180239+0800` **Information cutoff:** 30 August 2026 **TTM anchor:** 30 June 2026 **Forward horizon used elsewhere in the ER2:** 30 June 2031 **Reporting currency:** EUR

Scope and source discipline

This primer is an orientation document, not a valuation opinion. It explains how SAP makes money, how the portfolio fits together, what customers buy, what must go right in the cloud and AI transition, and what investors should monitor. It deliberately makes no verdict, trade recommendation, ranking, or sizing statement.

Every SAP historical financial figure below comes from the governed [quantitative foundation](C:/Users/Admin/OneDrive/GPT/ER%202.0/SAP/quant_foundation.md), which was independently cleared 9/9 in the [quantitative foundation review](C:/Users/Admin/OneDrive/GPT/ER%202.0/SAP/quant_foundation_review.md). The sealed ordinary-share quote packet and statutory bridge have SHA-256 hashes `b420822c9163a8315a9e503274c841f136abbad5b83a6ea5c9795189c94fb0d2` and `267c53d60c1f314af9fffca274d8561cc8a79ed15812708c9cf86e547695efb1`, respectively. Qualitative context comes from live, current-run copies of SAP's [FY2025 Form 20-F](https://www.sec.gov/Archives/edgar/data/1000184/000110465926020058/sap-20251231x20f.htm), [H1 FY2026 report](https://www.sec.gov/Archives/edgar/data/1000184/000110465926087251/tm2621275d1_ex99-2.htm), [Q2 FY2026 quarterly statement](https://www.sec.gov/Archives/edgar/data/1000184/000110465926087251/tm2621275d1_ex99-1.htm), and SAP's [PartnerEdge ecosystem update](https://news.sap.com/2025/01/sap-partneredge-cloud-driven-business-in-ai-era/). These were archived under the run-specific `raw/.../a` directory. No local warehouse, prior-run cache, or May data package was used.

1. Business overview: the operating system for enterprise workflows

SAP sells software that runs core business processes: general ledger and financial close, procurement, inventory, manufacturing, logistics, human resources, travel and expense, customer engagement, asset management, planning, analytics, and industry-specific operations. The simplest way to understand the company is as a system of record and process engine for large and complex organizations. When an enterprise wants one governed set of rules and data to connect an order, production plan, shipment, invoice, employee, supplier, and financial statement, SAP is often at the center.

The customer is usually an enterprise or public-sector organization rather than an individual user. SAP serves very large multinationals with intricate process, localization, security, and regulatory needs, while also addressing smaller and faster-growing organizations. Its formal product journeys reflect that split. RISE with SAP is principally the migration path for the installed base moving from legacy ERP into the cloud. GROW with SAP is positioned for new cloud ERP customers across a wide range of company sizes. Both are intended to reduce migration friction by packaging software, transformation tools, services, and partner support around a defined cloud journey. SAP describes the destination as SAP Business Suite: integrated applications, data, and AI, with SAP Business Technology Platform, or BTP, providing integration, extension, development, automation, and platform services. [SAP FY2025 Form 20-F](https://www.sec.gov/Archives/edgar/data/1000184/000110465926020058/sap-20251231x20f.htm)

Customers buy through a mix of SAP's direct enterprise sales organization and partners. The buying process is consultative and can be lengthy because the product choice affects mission-critical operations, data models, controls, and thousands of users. Systems integrators and specialists typically help design, migrate, customize, and operate the environment. Cloud subscriptions increasingly package software access and support over a multi-year term; customers can also buy premium success plans, professional services, training, and managed application services. Legacy customers may still pay perpetual-license support, but the strategic direction is toward recurring cloud access and consumption.

SAP's economic proposition is broader than reducing an IT budget. The pitch is that integrated processes reduce reconciliation work, errors, cycle times, inventory, compliance risk, and fragmented decision-making. The product also carries a high cost of change: implementations touch process design, master data, interfaces, controls, and employee behavior. That creates both customer value and switching friction, but only if SAP and its partners deliver successful migrations and continuing innovation.

2. Revenue architecture

SAP reports two operating and reportable segments. Applications, Technology & Support, or ATS, contains the cohesive product portfolio and nearly all software economics. Core Services contains primarily professional consulting and premium support. SAP separately discloses revenue classes—cloud, software licenses, software support, and services—but those classes are not separate operating segments. In particular, services are split by SAP: training is integrated into ATS, while professional consulting and premium support sit in Core Services.

Segment structure

Segment	FY2025 revenue (€m)	FY2025 share	TTM revenue (€m)	TTM share	TTM segment profit (€m)	TTM segment margin
Applications, Technology & Support	32,847	89.3%	34,318	89.9%	14,051	41.0%
Core Services	3,953	10.7%	3,874	10.1%	370	9.6%
Total disclosed segments	36,800	100.0%	38,192	100.0%	14,421	37.8%

The segment-profit metric is SAP’s issuer-disclosed non-IFRS measure, not IFRS operating profit. Corporate and other operating adjustments bridge the €14,421 million of TTM segment profit to €10,211 million of TTM IFRS operating profit. Investors should therefore avoid treating the segment-profit margin as a consolidated statutory margin.

Revenue-stream mix at the TTM anchor

Revenue stream	TTM revenue (€m)	Share of TTM revenue	Economic character
Cloud	23,143	60.6%	Mainly recurring subscription or consumption revenue; hosted delivery
Software licenses	860	2.3%	Mostly upfront, point-in-time license economics
Software support	10,030	26.3%	Recurring support attached primarily to installed on-premise software
Services	4,159	10.9%	Consulting, premium support, training, and related engagements
Total	38,192	100.0%	Governed statutory total; product rows differ by €1m rounding

Cloud plus software support represented about 86.9% of TTM revenue. That mix matters: the company is no longer principally an upfront-license vendor, yet it still carries a substantial and highly cash-generative on-premise support base. The transition is therefore a managed conversion of an installed base, not a greenfield SaaS story.

The business is geographically global across EMEA, the Americas, and Asia-Pacific/Japan, with localized products, sales, support, partners, data-residency arrangements, and regulatory obligations. Exact regional revenue figures are not reproduced because the governed quantitative foundation does not contain a geographic table and is the exclusive source for historical SAP financial figures in this run. Economically, the global footprint diversifies end demand but introduces currency translation, sovereign-cloud cost, sanctions, tax, and data-localization considerations.

3. Applications, Technology & Support: the core profit engine

ATS houses SAP’s applications and platform portfolio. At its center is cloud ERP, including finance, supply chain, procurement, manufacturing, asset, risk, and project processes. Around that core sit human capital management through SuccessFactors; spend management through Ariba, Concur, Fieldglass, and related offerings; customer experience; planning and analytics; sustainability; industry solutions; and technical capabilities through BTP. Software licenses and software support also belong in ATS, as does product-integrated training.

This breadth is strategically important. A customer can buy one application, but SAP’s stronger proposition is an integrated suite in which common master data and process semantics connect functions. BTP is meant to let customers and partners integrate and extend the suite while maintaining a “clean core”—fewer invasive customizations in the ERP itself. That architecture can make upgrades and AI adoption easier, although achieving a genuinely clean core is operationally difficult for customers with decades of bespoke code.

ATS converts revenue into profit through software-like gross margins, with an important mix distinction. Legacy software support requires support personnel and product maintenance but little incremental hosting expense. Cloud revenue adds infrastructure, hyperscaler, data-center, security, compliance, and service-operation costs. The gross margin of cloud offerings can improve as workloads scale, utilization rises, delivery standardizes, and customers migrate from heavily customized environments. Conversely, premium infrastructure, sovereign-cloud requirements, AI inference, data movement, and third-party model or platform costs can limit that leverage.

Below gross profit, SAP spends heavily on research and development, direct sales, partner enablement, customer success, and product marketing. These costs are necessary because enterprise software is not simply downloaded: products must be localized, secure, compliant, integrated, demonstrated, sold, deployed, and continuously enhanced. The installed base lowers the cost of identifying migration prospects, while large deal complexity and implementation risk keep sales cycles and customer-success requirements substantial. ATS's TTM 41.0% segment margin shows the scale of the core economics, but the statutory bridge reminds the reader that central functions, acquisition effects, restructuring, litigation, and other adjustments remain real costs.

4. Core Services: adoption enabler, not the main profit pool

Core Services primarily contains professional consulting and premium support services. Its purpose is partly commercial and partly defensive: help customers scope transformations, migrate data, redesign processes, resolve problems, and realize value from the software. Consulting can improve adoption and protect renewals, but it is people-intensive, lower margin, and less scalable than product subscriptions. SAP also relies heavily on systems integrators, which prevents it from needing to internalize every implementation hour and expands capacity globally.

The segment's TTM revenue of €3,874 million was slightly below FY2025's €3,953 million, and its TTM segment margin was 9.6%, far below ATS. That gap is economically intuitive. Consulting revenue requires skilled labor and project delivery; premium support requires dedicated expertise. Core Services can still be strategically valuable even when its direct margin is modest because implementation quality affects cloud go-live, consumption, expansion, and renewal. Investors should therefore judge it on both direct profitability and its role in de-risking the higher-margin subscription relationship.

A central tension is channel design. If SAP performs too much low-margin implementation work itself, mix and capital efficiency can suffer. If it pushes too much responsibility to partners without adequate quality control, failed projects can damage SAP's brand and slow migrations. The healthy model is a scalable ecosystem in which SAP owns product architecture and critical customer outcomes while partners provide capacity, industry knowledge, and local delivery.

5. Subscription and cloud transition

SAP's legacy model combined an upfront perpetual software license with annual support. The strategic model increasingly uses multi-year cloud subscriptions. Most cloud revenue is recognized over the term in which the customer continuously accesses the service, while some consumption arrangements are recognized as used. SAP's filing says the vast majority of support contracts are in renewal and typically have one-year terms, whereas cloud subscription contracts are typically multi-year. [SAP revenue-contract disclosure](https://www.sec.gov/Archives/edgar/data/1000184/000110465926020058/R9.htm)

This transition changes the timing and quality of economics. Moving an existing customer from a perpetual license to cloud can suppress near-term reported revenue relative to a large upfront license sale, but it builds a more visible stream of contracted revenue. The cloud provider also assumes ongoing hosting and service responsibility. Over time, standardization and scale can raise gross profit, but only if revenue grows faster than compute, infrastructure, support, sovereign-cloud, and customer-success costs.

For customers, migration trades owned infrastructure and upgrade projects for recurring fees, managed operations, faster feature delivery, and broader access to embedded AI. The customer may redeploy internal IT resources, but must fund data cleansing, process redesign, integration, testing, change management, and partner work. The cloud transition is therefore not automatic merely because support deadlines or product road maps create urgency. Customers can delay projects, negotiate terms, choose hosted private-cloud approaches, or retain legacy systems longer than SAP wants.

The revenue mix shows substantial progress and remaining runway. TTM cloud revenue was €23,143 million, or 60.6% of revenue, while software support remained €10,030 million. Licenses had fallen to only €860 million. The key conversion question is whether support attrition is more than offset by cloud growth and whether cloud cohorts achieve attractive lifetime economics after migration incentives, hosting, sales commissions, partner costs, and customer-success spending.

Current cloud backlog is a useful leading indicator because it captures contracted cloud revenue expected within the next 12 months, but it is not equivalent to recognized revenue or cash. It can be influenced by contract start dates, renewals, term length, foreign exchange, and deal mix. Total cloud backlog includes longer-dated commitments and can rise through transformational deals whose revenue ramps in outer years. Investors should therefore triangulate backlog growth with cloud revenue, remaining performance obligations, billings and cash flow rather than reading one metric in isolation. The Q2 FY2026 statement described continued momentum in current cloud backlog, Cloud ERP Suite, and free cash flow, while also updating operating-profit expectations for the effects of the Dremio and Prior Labs acquisitions. [SAP Q2 FY2026 quarterly statement](https://www.sec.gov/Archives/edgar/data/1000184/000110465926087251/tm2621275d1_ex99-1.htm)

6. Business AI: applications, data, and an agentic interface

SAP's AI thesis is that generic models become more useful and safer in enterprises when grounded in governed business data, permissions, process context, and transaction systems. The company organizes this thesis around three interdependent layers.

First, SAP applications generate and execute mission-critical workflows. Second, SAP Business Data Cloud, or BDC, is intended to harmonize SAP and non-SAP data, preserve business semantics, and expose governed data products for analytics and AI. Third, SAP Business AI embeds assistance and automation in the application workflow. Joule is the conversational and orchestration interface; Joule Agents are designed to plan and execute multi-step work across functions. BTP supplies integration, extension, development, model access, security, and governance. In management's framing, applications produce richer data, governed data improves AI, and AI increases the value and usage of applications—a flywheel rather than a standalone chatbot. [SAP FY2025 Form 20-F](https://www.sec.gov/Archives/edgar/data/1000184/000110465926020058/sap-20251231x20f.htm)

The strategic advantage, if it materializes, is contextual distribution. SAP already sits inside finance, procurement, HR, and supply-chain permissions and workflows. An AI agent that identifies an exception, reasons over the relevant business objects, respects approval rules, and executes a transaction has more operational value than a model that merely drafts text. BDC's semantic layer and Knowledge Graph are intended to make that reasoning more reliable. SAP also emphasizes responsible AI, security, compliance, and sovereignty—important in regulated enterprises and public-sector workloads.

The open ecosystem matters because no customer runs only SAP. BDC connects to third-party data environments, and SAP has announced collaborations with Databricks, Google, Snowflake, hyperscalers, model providers, and consulting firms. Openness can increase adoption by reducing lock-in fears and meeting customers where their data already sits. It can also dilute economics or strategic control if the most valuable intelligence and developer activity accrue to a hyperscaler, data platform, or foundation-model provider instead.

Business AI should be evaluated on monetization and workflow adoption, not product announcements. SAP reported 30 Joule Agents released in 2025 and said more than two-thirds of fourth-quarter cloud order entry contained SAP Business AI, but "contained" does not by itself reveal incremental price, active users, consumption, customer savings, or renewal uplift. The most informative future evidence will be paid attach rates, usage depth, agent task completion, BDC adoption, incremental average contract value, and whether AI reduces SAP's own development, sales, support, and administrative cost base.

The acquisition of Dremio expands data-lakehouse and semantic capabilities, while Prior Labs adds foundation-model expertise for structured or tabular data. Those moves may strengthen the Business AI platform, but they add integration, execution, and near-term dilution considerations. The Q2 FY2026 update explicitly linked the acquisitions to an updated non-IFRS operating-profit outlook. Investors should distinguish strategically coherent capability purchases from recurring acquisition dependence.

7. Customer economics and go-to-market

SAP customer economics are defined by high implementation cost, high process criticality, and long useful lives. A successful deployment can become deeply embedded: accounting policies, material masters, supplier records, employee data, manufacturing recipes, approvals, interfaces, and audit controls accumulate around it. Switching means not only buying a competitor's software but also remapping processes and data, rebuilding integrations, retraining users, retesting controls, and accepting operational risk. This creates durable retention potential.

The same depth creates implementation risk. A poorly scoped migration can overrun, disrupt operations, or fail to deliver expected savings. Customers therefore evaluate the combined cost of SAP subscriptions, internal transformation teams, systems integrators, data remediation, adjacent software, and ongoing support. SAP's value proposition is strongest when it

demonstrably reduces complexity or improves business outcomes enough to outweigh that total cost.

The land-and-expand motion can take several forms: migrate an installed ERP customer through RISE; win a new customer through GROW; add line-of-business products such as SuccessFactors, Ariba, or Concur; sell BTP consumption and integration; attach BDC and AI; or add premium success services. Suite integration can raise wallet share and reduce the customer's need to reconcile multiple systems. Yet customers may prefer best-of-breed applications or maintain heterogeneous estates, which constrains suite penetration.

Renewal economics depend on realized value. High switching costs may protect a contract for a time, but durable expansion requires reliable operations, responsive support, acceptable pricing, and an upgrade path that does not force repeated disruption. SAP itself identifies renewals and purchases of additional modules or capacity as necessary to sustain cloud results. [SAP FY2025 Form 20-F](https://www.sec.gov/Archives/edgar/data/1000184/000110465926020058/sap-20251231x20f.htm)

Sales efficiency is structurally different from self-serve SaaS. Large enterprises require account teams, solution engineering, procurement negotiation, security reviews, and partners. SAP can amortize this expense across large contracts and a broad product portfolio, but the model remains labor-intensive. The best evidence of improving economics is not merely lower sales expense; it is faster migrations, higher partner-sourced capacity, expanding cloud gross profit, rising revenue per customer cohort, and sustained retention without excessive discounting.

8. Unit economics and capital intensity

The TTM financial profile illustrates a high-cash-generation, low-physical-capital software company undergoing a hosted-delivery mix shift. TTM revenue was €38,192 million. IFRS operating profit was €10,211 million, a 26.7% margin, and profit attributable to owners was €7,796 million. Operating cash flow was €9,465 million; simple free cash flow, defined as operating cash flow plus the negative capex outflow, was €8,730 million. That represents a 22.9% simple FCF margin and about 112% of attributable profit. Capex was only €735 million, or 1.9% of revenue.

Low capex does not mean costless growth. Much of the productive asset base is human capital and expensed R&D, sales, partner, cloud-operation, and customer-success spending. SAP also uses third-party infrastructure and hyperscalers, shifting some physical investment into operating expense or commitments. Stock-based compensation was €1,499 million in the TTM period, about 17% of simple free cash flow. Buybacks have more than offset award dilution recently, but SBC remains an economic cost and should not be casually added back to owner earnings.

The cash profile benefits from subscriptions and support billed ahead of revenue recognition, but cash conversion can vary with deal timing, prepayments, working capital, restructuring, taxes, and litigation. At 30 June 2026 SAP reported €2,856 million of net liquidity under its own definition, with lease liabilities separately disclosed. Goodwill was €30,408 million, reflecting a meaningful acquisition history and making integration discipline and impairment risk relevant even though the core business is organically developed.

Historical statutory results also show why normalization matters. Revenue rose from €31,207 million in FY2023 to €34,176 million in FY2024 and €36,800 million in FY2025. IFRS operating profit moved from €5,799 million to €4,665 million and then €9,617 million across those years. The TTM figure reached €10,211 million. The uneven operating-profit path reflects more than underlying demand and should be read alongside restructuring, acquisition-related charges, litigation, and the governed statutory bridge rather than extrapolated mechanically.

9. Ecosystem: distribution, implementation capacity, and co-opetition

SAP's ecosystem is an operating asset. Partners sell, implement, integrate, extend, host, and support SAP solutions. Global systems integrators provide transformation capacity and executive access; regional specialists supply local and industry expertise; independent software vendors build extensions; hyperscalers host workloads; and technology partners connect data, productivity, and AI systems. SAP said its broader ecosystem included more than 25,000 partners and PartnerEdge open-ecosystem members in early 2025. [SAP PartnerEdge update](https://news.sap.com/2025/01/sap-partneredge-cloud-driven-business-in-ai-era/)

The ecosystem creates scalability because SAP does not need to employ every consultant required to migrate its installed base. Partners also create third-party validation and customer-specific solutions. The tradeoff is dependence: SAP may share economics and customer influence, project quality can vary, and partners may recommend competing products. Large consultancies and hyperscalers have incentives to support multiple platforms. Ecosystem health should therefore be judged by certified capacity, successful go-lives, implementation duration, extension quality, partner economics, and customer

outcomes—not partner count alone.

Co-opetition is unavoidable. Microsoft, Google, Amazon, Databricks, Snowflake, OpenAI, and other firms can be partners in infrastructure, productivity, models, or data while also competing for platform control and enterprise budgets. SAP's durable role depends on retaining ownership of business semantics, process orchestration, and the customer relationship while remaining open enough to fit heterogeneous technology estates.

10. Competitive landscape

Competition is best mapped by layer. In core ERP and financial systems, SAP competes with Oracle and cloud-native or midmarket suites, plus regional and industry specialists. In human capital management, procurement, spend, travel, customer experience, planning, and analytics, it faces focused vendors that may be deeper in one function. In databases, cloud infrastructure, integration, data platforms, development tools, and AI, it competes or partners with hyperscalers and specialist platforms. In some customer estates, the real competitor is inertia: an old but stable SAP system, heavily customized and already depreciated.

SAP's principal strengths are breadth, installed-base access, global and industry localization, mission-critical process knowledge, a broad partner network, and the possibility of combining applications, governed data, and AI. The suite can lower integration burden and give agents end-to-end process context. Its weaknesses are the cost and complexity of transformation, a history of bespoke customer environments, exposure to slower enterprise buying cycles, and the challenge of matching best-of-breed vendors in every category.

AI can strengthen or weaken the competitive position. It strengthens SAP if agents increase the value of governed business processes and make the suite easier to use. It weakens SAP if a third-party agent becomes the primary interface, abstracts away applications, or lets customers replace large suite modules with composable services. Similarly, BDC can be a control point if its semantic data products become the trusted enterprise layer; it can become a feature if customers standardize on another data cloud and treat SAP merely as a source system.

Pricing power is bounded by customer ROI and credible alternatives. High switching cost may support renewal, but aggressive price increases can invite best-of-breed substitution, regulatory attention, delayed migrations, or tougher procurement. Competitive monitoring should focus on actual displacement wins and losses, cloud renewal and expansion, implementation success, platform developer activity, and whether customers buy the integrated suite or only isolated modules.

11. Principal risks

Migration execution. The installed base is an opportunity only if customers move successfully. Project overruns, partner shortages, complex custom code, data-quality problems, or change resistance can delay cloud conversion and revenue recognition.

Cloud margin and infrastructure economics. Hosted delivery introduces compute, storage, networking, security, compliance, sovereignty, and support costs. AI inference can add another variable cost. Scale must outrun those expenses for margin expansion to persist.

Renewal, consumption, and contract quality. Backlog is valuable only if customers deploy, consume, renew, and expand. Large deals with outer-year ramps can make aggregate backlog look strong before economics are proven. Discounting or migration credits can also weaken lifetime value.

AI monetization and displacement. SAP must convert AI attach into paid usage and customer outcomes. Agents must be accurate, secure, auditable, permission-aware, and reliable. At the same time, external AI interfaces or platforms could weaken SAP's control of user experience and economics.

Cybersecurity, privacy, and resilience. SAP processes sensitive operational, employee, financial, supplier, and customer data. A security breach, outage, defective update, privacy failure, or third-party cloud incident could damage trust and create legal or financial exposure. Sovereign-cloud commitments increase relevance but also operational complexity.

Competition and platform dependence. The company faces broad suites, best-of-breed applications, hyperscalers, data platforms, and open-source or AI-native entrants. Several are also essential partners, creating negotiation and dependency risk.

Customer concentration by importance rather than disclosure. Even without a single disclosed dominant customer, large transformation deals can affect quarterly bookings, backlog, cash collection, and implementation resources. Macro uncertainty

can slow approvals while not immediately appearing in recognized subscription revenue.

Talent and organizational execution. Product integration across acquisitions and legacy portfolios requires scarce engineering, security, sales, and implementation talent. Reorganizations can improve efficiency but also disrupt road maps, morale, and customer coverage.

Acquisition and capital allocation. Goodwill is substantial. Dremio, Prior Labs, and other targeted acquisitions must integrate technically and commercially. Buybacks must be weighed against dilution, valuation, acquisition needs, and balance-sheet resilience.

Accounting and comparability. SAP uses non-IFRS segment profit and management metrics alongside IFRS results. Restructuring, acquisition-related charges, litigation, SBC, and future IFRS 18 presentation changes can complicate trend analysis. The governed statutory bridge should remain the anchor.

Currency, regulation, and geopolitics. SAP reports in euros but sells globally. Currency translation, data-localization requirements, export controls, AI regulation, digital sovereignty, tax rules, and geopolitical fragmentation can affect growth, cost, and deployment architecture.

12. Investor-monitoring map through 2031

Topic	What to monitor	Constructive evidence	Warning evidence
Installed-base migration	RISE conversion pace, go-lives, implementation duration	Faster, repeatable migrations with stable satisfaction	Delays, cancellations, partner bottlenecks, heavy incentives
Cloud demand	Current cloud backlog, Cloud ERP Suite revenue, renewals	Revenue and backlog grow together; broad-based cohorts	Backlog outruns revenue for long periods; weak renewal or consumption
Revenue mix	Cloud, support, licenses, and services	Cloud growth more than offsets support decline	Support erosion exceeds cloud contribution
Cloud unit economics	Cloud gross profit and infrastructure cost	Gross profit grows faster than hosted-delivery cost	Compute, sovereignty, or AI costs absorb scale benefits
ATS economics	Revenue, segment profit, statutory bridge	Growth with durable margin and clean reconciliation	Non-IFRS improvement without statutory or cash conversion
Core Services	Revenue, margin, delivery quality, partner leverage	Better adoption outcomes without service bloat	Margin compression or failed projects harm renewals
Business AI	Paid attach, usage, agent completion, renewal uplift	Measurable workflow ROI and expanding contract value	High announcement count but low active use or pricing power
Business Data Cloud	Data-product adoption and third-party connectivity	BDC becomes governed semantic layer across estates	Customers standardize elsewhere and treat BDC as optional
Customer value	Cloud CSAT, support quality, deployment outcomes	Satisfaction and referenceability improve	Escalations, outages, pricing disputes, delayed go-lives
Ecosystem	Certified capacity, partner-sourced wins, project success	More quality capacity and shorter time-to-value	Partner economics weaken or implementation failures rise
Cost discipline	IFRS margin, SBC, restructuring, litigation, FCF	Operating leverage appears in statutory profit and cash	Repeated adjustments obscure underlying cost growth
Capital allocation	Diluted shares, buybacks, acquisitions, goodwill	Buybacks offset dilution; acquisitions add capability and returns	Expensive deals, recurring dilution, impairment, integration drag
Security and sovereignty	Incidents, uptime, certifications, sovereign deployments	Trust and compliance expand addressable workloads	Material breach, outage, regulatory restriction, fragmented cost base
Competitive position	Suite wins, displacement rates, developer activity	Integrated application/data/AI wins against alternatives	Best-of-breed or external agents erode control points

The central analytical question is whether SAP can turn a uniquely deep installed base and process-data footprint into a higher-growth, recurring cloud and AI platform without sacrificing customer economics or statutory cash profitability. The reported architecture offers several reinforcing loops—suite breadth, governed data, embedded AI, partners, and switching friction—but each loop has a corresponding failure mode: migration complexity, platform disintermediation, infrastructure cost, partner dependence, or customer resistance. A disciplined investor should therefore follow customer adoption and realized unit economics at least as closely as product launches and backlog headlines.

Appendix M - Management Assessment

SAP SE — Management Assessment

Ticker: SAP.DE **Assessment date:** 30 August 2026 **Run ID:** `pulse-cio-20260830T180239+0800` **Management gate: YELLOW**

Christian Klein and Dominik Asam have executed SAP's cloud transition and restored cash generation with unusual consistency. That earns real credit. It does not yet earn a PASS because SAP remains within the three-year U.S. anti-bribery deferred-prosecution period, executive share ownership is modest relative to pay, and the returns from the newest AI/data acquisitions and AI monetization claims are not yet disclosed. These are bounded, monitorable deficiencies rather than evidence that stewardship is irreparably broken.

1. Evidence basis and evaluation frame

This assessment uses the eight most recent earnings calls available at the cutoff: Q3 2024 through Q2 2026. FMP supplied current-run transcripts; SAP's filed quarterly result exhibits supplied the official financial and guidance record. The reviewed evidence also includes SAP's 2025 Form 20-F, 2025 integrated report, 2025 German corporate-governance statement and compensation report, current Executive and Supervisory Board disclosures, directors' dealings, the official Qualtrics disposal announcement, and primary releases from the U.S. Department of Justice, U.S. Securities and Exchange Commission, and European Commission. Capital-allocation and recent-action figures were cross-checked to the reviewed data package and QFR.

SAP's content-delivery network rejected direct binary downloads of the quarterly releases with HTTP 403; each failed request was retried identically once. Official SEC-filed SAP exhibits were then used as the primary-source fallback and archived. All new evidence for this stage is under `raw/pulse-cio-20260830T180239+0800/m`; no warehouse or prior-run cache was used.

The relevant test is not whether management has produced a good share-price narrative. It is whether incentives, decisions, disclosure, controls, and succession protect per-share owner value through a transition that mixes genuine cloud progress with heavy adjusted-metric use. SAP passes the operating-execution part of that test, is mixed on capital allocation and disclosure, and remains under observation on conduct.

2. Leadership quality, continuity, and succession

Christian Klein is an SAP lifer: he joined in 1999, entered the Executive Board in 2018, became co-CEO in October 2019, and sole CEO in April 2020. His current term runs to April 2030. Continuity has mattered. Klein inherited a company whose on-premise economics were attractive but whose cloud migration created near-term margin pressure, confusing metrics, and customer-transition risk. Under his tenure, cloud revenue increased from €8.7 billion in 2021 to €21.0 billion in 2025, current cloud backlog from €8.7 billion to €21.1 billion, and cloud gross margin from 66.9% to 73.9%. By Q2 2026, current cloud backlog was €22.9 billion and H1 cloud gross margin 74.4%. That is a measurable operating transition, not merely repositioning language.

The cost reset also translated into statutory results. IFRS operating profit fell from €6.3 billion in 2021 to €4.7 billion in 2024 as the transition and restructuring weighed on earnings, then recovered to €9.6 billion in 2025. Simple free cash flow rose from €4.4 billion in 2024 to €8.4 billion in 2025 and €8.7 billion for the twelve months through June 2026. The 2024 transformation program was painful—approximately 8,000 positions and €3.1 billion of restructuring—but it was followed by higher margins and cash rather than another reset. Klein therefore deserves above-average marks for persistence, prioritization, and delivery.

Dominik Asam, CFO since March 2023 after senior finance roles at Airbus and Infineon, has improved the quality of the financial dialogue. Across the last eight calls, his answers were generally more explicit than Klein's on cloud gross margin, working capital, stock-based compensation, restructuring, cash conversion, and guidance sensitivities. He has also helped impose an 80%–90% envelope for expense growth relative to revenue growth, a useful constraint as SAP absorbs Dremio and Prior Labs. His current term to 2028 provides reasonable continuity.

The six-member Executive Board now covers CEO, CFO, product experience/advisory, customers, operations, and people. That breadth reduces key-person dependence, but succession evidence is incomplete. SAP has disclosed responsibilities and terms, not a named CEO successor or a clear internal succession ladder. Klein's long tenure and 2030 mandate are stabilizing today but can increase insularity if product or AI assumptions prove wrong. A PASS would require stronger

observable bench evidence: credible internal candidates with direct P&L ownership, transparent development of product and commercial leaders, and a Supervisory Board willing to challenge the CEO before performance forces a change.

3. Guidance discipline, candor, and execution under pressure

The eight-call record is better than the adjusted-metric complexity initially suggests.

Call	Management posture	Subsequent read-through
Q3 2024	Raised cloud revenue, cloud-and-software revenue, operating profit, and free-cash-flow guidance	Revised plan was delivered
Q4 2024	Reported against the revised plan and introduced 2025 targets	Set a demanding but achievable cash and profit frame
Q1 2025	Reaffirmed all guidance despite macro uncertainty	Avoided an opportunistic early reset
Q2 2025	Reaffirmed while identifying delayed decisions in exposed industries	Acknowledged softness rather than hiding it
Q3 2025	Put cloud toward the low end, profit toward the high end, and FCF above €8 billion	Useful intra-range calibration
Q4 2025	Met revenue guidance and exceeded profit and FCF expectations	Supported by bookings, lower churn, and stable discounting
Q1 2026	Held numeric guidance but softened revenue timing: similar growth to 2025, acceleration in 2027	A real narrative change, clearly stated
Q2 2026	Held top-line and FCF ranges; reduced operating-profit guidance by €0.1 billion for Dremio/Prior	Acquisition cost was quantified rather than buried

Management repeatedly used uncertainty, volatility, headwind, and challenge, but usually attached those words to ranges, affected industries, conversion timing, or cost effects. That is preferable to claiming visibility where none exists. Question handling was generally substantive. Asam answered detailed modeling questions; Klein addressed maintenance and support, backlog deceleration, macro risk, cloud margins, and deal composition.

The weakness is that Klein can shift from the requested economic variable to architecture, suite integration, or strategic inevitability. This is most evident in AI. SAP disclosed that more than 90% of its 50 largest Q2 2026 deals included Business AI or Business Data Cloud, and that more than two-thirds of Q4 2025 order entry included Business AI. Those are adoption indicators, not monetization measures. There is no standalone AI revenue, annual recurring revenue, net retention, renewal uplift, unit price, incremental margin, or return-on-investment disclosure. When management says AI is embedded in the suite, it may be strategically correct, but the investor cannot distinguish bundled functionality needed to defend renewals from genuinely incremental willingness to pay.

Klein’s Q2 2026 acknowledgment of a development learning curve over the prior two years was more candid than the earlier promotional framing. The next step is evidence: cohorts, usage, pricing, renewal, cost-to-serve, and margin. Until then, SAP’s AI narrative earns strategic plausibility, not economic proof.

4. Capital allocation and portfolio stewardship

Capital allocation is mixed but improving. From 2021 through 2025, SAP spent approximately €4.8 billion on capital expenditure, €30.8 billion on R&D, €4.6 billion on acquisitions, €6.5 billion on repurchases, and €12.8 billion on dividends. The dominant reinvestment item is R&D, appropriately so for enterprise software. R&D rose from €5.3 billion in 2021 to €6.6 billion in 2025 while cloud gross margin and backlog improved, suggesting at least part of that spend produced useful product progress.

The Qualtrics exit is the clearest test of portfolio discipline. SAP sold its entire 423 million-share position in June 2023 for US$18.15 per share, representing roughly US$7.7 billion of gross stake value and €5.5 billion of net cash proceeds. SAP recorded a €3.7 billion pretax disposal gain and received about €7.1 billion of cash before approximately €0.7 billion of cash left with the disposed business. The acquisition originated before Klein became sole CEO, but the strategic mismatch remained his problem. He chose to reverse it rather than defend it. That is a positive stewardship signal, although it does not erase the opportunity cost and price paid to assemble the position.

Recent acquisitions—Dremio, Prior Labs, Reltio, SmartRecruiters, and related data assets—fit SAP’s stated strategy better than Qualtrics did. They strengthen the data layer, ontology, recruiting, and agent-development capabilities needed for an integrated business suite. Strategic fit is not return. SAP has not disclosed purchase prices or acquisition-specific revenue,

retention, pricing, margin, or expected internal rates of return for the latest group. Dremio and Prior Labs together reduce 2026 non-IFRS operating profit by more than €100 million, while their near-term cloud-revenue contribution is described as negligible. Management quantified the cost, which is good, but has not supplied the owner-return bridge.

Repurchases and dividends have become material. SAP repurchased €2.1 billion in 2024 and €1.9 billion in 2025. The current €10 billion authorization runs through 2027; the first tranche acquired 16.28 million shares for €2.6 billion at an average €161.16. TTM repurchases of €2.9 billion exceeded TTM stock-based compensation of €1.5 billion, and diluted shares fell to approximately 1.169 billion from 1.180 billion in 2024. This is real per-share accretion, not merely offsetting issuance. Dividends were €2.7 billion in 2025 and €2.9 billion TTM. A €3.5 billion Eurobond adds flexibility, but management must avoid turning a strong balance sheet into acquisition capacity in search of narrative speed.

Normalized return on invested capital improved from 7.6% in 2024 to 17.7% in 2025 as statutory profit recovered. One good year is insufficient to prove durable allocation skill. The test is whether SAP sustains mid-teens returns after acquisition costs and whether buybacks continue to reduce diluted shares across a full cycle.

5. Incentives, ownership, and dilution

SAP’s compensation design is meaningfully performance based but not fully owner aligned. In 2025, 80% of the short-term incentive depended on financial outcomes: 25% free cash flow, 30% current cloud backlog, and 25% cloud-and-software revenue growth. Net promoter score and employee engagement each contributed 10%. The resulting STI factor was 0.990, close to target rather than an automatic maximum.

The approximately four-year long-term incentive uses 50% financial performance shares, comprising 30% total revenue and 20% non-IFRS operating profit; 30% is relative total shareholder return versus the NASDAQ-100; and 20% consists of environmental and workforce measures. The multi-year horizon and relative TSR are positives. The shortcomings are more important: no return-on-invested-capital measure, no per-share free-cash-flow measure, and explicit dependence on non-IFRS profit. The 2025 report indicates that selected acquisition effects, including SmartRecruiters and Teradata-related expense, were neutralized in target achievement. Such adjustments may preserve comparability, but repeated neutralization can protect pay from the costs of management’s own capital-allocation decisions.

Klein’s 2025 awarded/due compensation was €16.2 million and 90.3% performance based. His target compensation increased from €8.5 million to €11.5 million effective November 2025, with a €20 million maximum. The size is defensible only if per-share economics and returns compound, not merely adjusted revenue and profit.

Share-ownership guidelines are a useful start: 200% of salary for the CEO and 100% for other executives, phased in over three years from January 2024. At year-end 2025, Klein held 4,630 guideline shares, around the €1.25 million interim target; several other executives held roughly €0.4 million each. These stakes are modest beside annual compensation and SAP’s scale. July and August 2026 dealings are incrementally reassuring: Klein purchased about €325,000 of shares, Gina Vargiu-Breuer about €305,000, and Thomas Saueressig about €267,000. Asam acquired a derivative position of about €972,000. June disposals by other executives were linked to tax settlement on employee awards, not clustered discretionary exits. Still, insider buying does not substitute for a meaningfully higher ownership requirement.

Stock-based compensation was 5.0% of revenue in 2021, 4.8% in 2022, 7.1% in 2023, 7.0% in 2024, 4.6% in 2025, and 3.9% TTM. That direction is favorable. The share count likewise moved in the right direction. SAP has recoupment provisions for STI/LTI determined from inaccurate data and a U.S. restatement clawback covering three years. The reviewed materials did not provide sufficiently explicit anti-hedging language, so no credit is assumed for it.

6. Governance, minority shareholders, and control culture

SAP has one class of ordinary bearer share and no dual-class or special-voting structure. No shareholder controls the company. At year-end 2025, BlackRock held about 6.3% and Dietmar Hopp about 5.1%; founders collectively represented roughly 11%, treasury shares 5%, institutions 62%, and retail or unidentified holders 22%. Executive and Supervisory Board members together held an immaterial fraction. Minority shareholders therefore have ordinary economic voting rights, but insider ownership is too small to create strong direct alignment.

The Supervisory Board has 18 members, split equally between shareholder and employee representatives under German codetermination. The company deemed all nine shareholder representatives independent as of October 2025. Friederike Rotsch serves as Lead Independent Director, an appropriate response to investor concern about chair Pekka Ala-Pietilä’s cumulative tenure exceeding 12 years. However, independence is not purely formal: links to the Hasso Plattner Foundation and Hasso Plattner Institute remain part of SAP’s ecosystem, and extended chair tenure can reduce willingness to challenge

an entrenched executive narrative. The Lead Independent Director mitigates but does not eliminate that concern.

Shareholder voting does not reveal an immediate legitimacy problem: 2026 discharge resolutions for the Executive and Supervisory Boards received approximately 99.5% support. Related-party transactions disclosed for 2025 were immaterial and described as arm's length; services involving Supervisory Board members were around €2 million, mainly normal employee relationships for worker representatives.

The decisive governance issue is conduct. In January 2024, SAP entered settlements exceeding US$220 million with U.S. authorities over bribery schemes and deficient controls involving South Africa, Malawi, Kenya, Tanzania, Ghana, Indonesia, and Azerbaijan. The conduct spanned roughly December 2014 to January 2022, crossing into Klein's leadership period. The DOJ described SAP as a recidivist following its 2016 Panama resolution. SAP entered a three-year deferred-prosecution agreement, likely running into January 2027, and must continue cooperation and control remediation. The SEC imposed approximately US$98 million of monetary sanctions; the DOJ resolution included a US$118.8 million criminal penalty and roughly US$103 million forfeiture, subject to credits.

This is not a historic footnote. Recurrence, breadth, and overlap with the current CEO's tenure prevent a PASS while the DPA remains active. Mitigants are tangible: cooperation, remediation, current compliance obligations, and SAP's 2025 conclusion—supported by BDO's audit—that internal control over financial reporting was effective with no material weakness. But financial-reporting controls are not identical to anti-bribery controls. The cleanest evidence will be DPA completion without new misconduct, followed by a sustained period without material control failures.

The European Commission's July 2026 acceptance of commitments concerning SAP's maintenance and support practices is another conduct warning, though not comparable in severity to bribery. It reinforces the need for board scrutiny over customer lock-in and commercial practices. Governance-statement deviations—changing an LTI ESG criterion after the performance year began in response to U.S. executive orders, and a change-of-control LTI vesting exception—also show why rule stability matters. Neither is independently disqualifying; both argue against full credit for process quality.

7. Strategy credibility and AI monetization

The strategic architecture is coherent. SAP is trying to make the integrated application suite, a governed semantic data layer, and Joule/agent capabilities mutually reinforcing. Dremio, Reltio, and Prior Labs fit that design, while cloud backlog, cloud gross margin, churn commentary, and large-deal composition provide evidence that customers value a broader suite. Klein's cloud-transition record makes the claim more credible than it would be from an unproven team.

The gap is economic observability. Deal inclusion is not incremental revenue. Management should disclose a stable set of AI/data measures: paid versus bundled adoption, active usage, average revenue uplift, renewal and expansion by cohort, inference or delivery costs, attach rates by product, and gross margin. For acquisitions, it should disclose purchase consideration, expected synergies, revenue contribution, retention, and a return framework. Without these, investors cannot determine whether Business AI increases willingness to pay, defends the installed base, or merely raises R&D and acquisition expense.

The decision is to give management credit for strategic coherence and delivery capability, but no benefit of the doubt on AI returns. The burden of proof belongs to the allocator.

8. Peer calibration

Peer leader	SAP/Klein comparison	Assessment
Satya Nadella, Microsoft	Microsoft has demonstrated stronger per-dollar capital allocation, clearer cloud/AI monetization, and deeper succession-bench evidence	SAP trails materially
Safra Catz, Oracle	SAP managed the transition with less balance-sheet strain, while Oracle's Cerner record and capital intensity complicate comparison	SAP ahead on restraint; Oracle has more explicit infrastructure monetization
Marc Benioff, Salesforce	SAP's cloud/backlog and cash execution is comparable; Salesforce supplies more direct AI/ARR commercialization signals but has serial-M&A history	Roughly level, with different deficiencies

This peer set prevents two errors: treating SAP's cloud migration as ordinary, or excusing weak disclosure because enterprise software is complex. SAP's execution is strong enough to be distinguished from average incumbents. Its capital-return and AI disclosures are not yet best in class.

9. Gate decision and monitorable conditions

Management gate: YELLOW. The team has earned confidence in cloud-transition execution, expense discipline, cash generation, and willingness to reverse a portfolio error. Asam's financial communication is an asset, and recent buybacks have reduced the diluted share count. These positives are substantial enough that FAIL would misstate the evidence.

YELLOW is nevertheless required because the FCPA deferred-prosecution period remains open after repeated misconduct, current executive ownership is light, compensation lacks ROIC or per-share cash measures and can neutralize acquisition costs, and the Dremio/Prior/Reltio investment case has no disclosed return bridge. AI adoption statements remain promotional until tied to paid usage and unit economics.

Upgrade to PASS requires all of the following:

- The DOJ deferred-prosecution agreement concludes without a new material bribery, sanctions, procurement, or control event, and subsequent official reporting shows durable remediation.
- SAP discloses credible FY2026–FY2027 economics for the recent acquisition/AI cohort—revenue or ARR, retention, pricing, cost, margin, and/or return evidence—while keeping related expenses within the stated operating envelope.
- Stock-based compensation remains below 5% of revenue, diluted shares continue to decline on a multi-year basis, and normalized ROIC remains above 15% rather than reverting after the restructuring rebound.
- Compensation evolves toward per-share free cash flow or ROIC, or management otherwise demonstrates that adjustments do not insulate pay from acquisition costs and statutory underperformance.

Downgrade to FAIL upon any of the following:

- A new material bribery/control breach or failure to complete the DPA on satisfactory terms.
- A large or diffuse acquisition program without an explicit per-share return bridge, especially if funded with rising leverage.
- Two consecutive years of rising diluted shares despite material repurchases, or a renewed SBC burden above 7% of revenue without exceptional per-share growth.
- Repeated non-IFRS redefinitions or acquisition-cost neutralizations that protect compensation while statutory margin, free cash flow, or guidance reliability deteriorates.

The present verdict is neither a courtesy pass nor a condemnation of a capable operating team. It is a monitored YELLOW: execution has earned provisional trust; compliance closure and owner-return evidence must earn the upgrade.

Appendix W - Moat and 2046 Durability

SAP SE — Moat and 2046 Durability

Run ID: `pulse-cio-20260830T180239+0800` **Assessment date:** 2026-08-30 **Security:** SAP.DE, Xetra ordinary share **TTM anchor:** 2026-06-30 **2046 test date:** 2046-08-30

Evidence discipline

SAP historicals and company disclosures come from the current-run, DR-reviewed [`data_package.md`](C:/Users/Admin/OneDrive/GPT/ER%202.0/SAP/data_package.md), SHA-256 `93da7f6cdf155e7fee7e28b07909ca41744e4de59b070278256a17349acf6fd4`, and the cleared [`quant_foundation.md`](C:/Users/Admin/OneDrive/GPT/ER%202.0/SAP/quant_foundation.md). The per-segment conclusions integrate the substantive current-run [`appendix_B_applications_technology_support.md`](C:/Users/Admin/OneDrive/GPT/ER%202.0/SAP/appendix_B_applications_technology_support.md) and [`appendix_B_core_services.md`](C:/Users/Admin/OneDrive/GPT/ER%202.0/SAP/appendix_B_core_services.md), especially their competitive-dynamics and moat sections. Incremental competitor and regulatory evidence was fetched live from official primary sources during this run and archived under `raw/pulse-cio-20260830T180239+0800/w`. Current growth, product counts, management assertions and brand recognition are treated as context, not proof of moat.

1. Moat taxonomy applied

Network effects — weak directly, moderate through ecosystem compatibility. SAP does not have a classic consumer network effect: one customer adopting S/4HANA does not automatically make another customer's instance better, and privacy prevents SAP from freely pooling customer transaction data. The relevant reinforcement is indirect. A large installed base attracts systems integrators, trained consultants, independent software vendors, localized extensions and employee skills; that supply makes SAP safer to procure and implement, which in turn supports the installed base. The current-run primer cites more than 25,000 partners and PartnerEdge open-ecosystem members, but partner count is not itself a moat because those partners also implement Oracle, Microsoft, Workday and specialist products. This is an availability and compatibility advantage, not winner-take-all economics.

Switching costs — very strong in Applications, Technology & Support (ATS), much weaker in Core Services. SAP's most defensible asset is the accumulated configuration around mission-critical processes: charts of accounts, material masters, manufacturing recipes, approval hierarchies, tax logic, payroll rules, audit controls, custom extensions, interfaces and user routines. Replacing the software means rebuilding and validating this institutional memory while running finance, inventory, payroll and supply chains without interruption. The cost is therefore not merely a competing subscription; it is years of data cleansing, control redesign, integration, retraining, dual-running and operational risk. Cloud migration changes the delivery model but does not erase that process entanglement. By contrast, a customer can retain SAP software while changing integrators, dividing work among firms, or internalizing implementation. Switching costs protect ATS far more than SAP-billed consulting.

Scale economies — strong in product engineering, localization and trust infrastructure. SAP can amortize R&D, cybersecurity, reliability, tax and legal localization, industry content, sovereign-cloud architectures, customer support and global sales over €38.2 billion of TTM revenue. A new vendor may reproduce an isolated workflow; reproducing a globally localized, audited transaction suite across finance, manufacturing, procurement, HR and supply chain is a different undertaking. Scale does not protect commodity infrastructure or generic foundation models—hyperscalers are larger there—and SAP increasingly pays those providers. Its defensible scale lies in business semantics, process coverage, controls and the ability to maintain them across jurisdictions.

Brand and high-trust procurement — strong but derivative. SAP's name reduces perceived career and continuity risk for boards, CIOs, CFOs and public-sector procurement teams selecting a system whose failure can stop operations or corrupt reporting. Long references, certifications and an available talent pool help SAP pass demanding procurement gates. That brand is the result of embedded systems and reliability; it is not an independent reason to pay. Expensive or failed migrations, outages, support disputes or coercive commercial practices can turn familiarity into a liability.

Regulatory position — a barrier to entry and a cap on rent extraction. European data sovereignty, industry regulation, auditability, tax localization and AI governance raise the cost of serving large and public-sector customers and favor vendors with SAP's compliance scale. Yet regulation does not grant SAP protected economics. The European Commission's July

2026 binding commitments require greater customer freedom to split on-premise landscapes among support providers, cancel licenses in defined circumstances, use broader single-metric contracts, and return to SAP support without reinstatement fees. The Commission explicitly warned against similar conduct in cloud markets. Regulation therefore strengthens the value of compliant software while constraining monetization that relies on contractual lock-in rather than customer value. [European Commission commitment summary](https://germany.representation.ec.europa.eu/nachrichten-und-veranstaltungen/pressemitteilungen/kartellvorschriften-kommission-erklart-verpflichtungsangebote-von-sap-zu-unternehmensmanagement-2026-07-09_de)

IP and patents — moderate, not the core moat. SAP owns code, process models, business-object schemas and accumulated product knowledge, but enterprise application features can be imitated. Open standards, APIs, cloud infrastructure and foundation models reduce the protection of code alone. The harder-to-copy asset is the installed configuration, governed customer data and tested relationship among process steps, permissions and controls. Patent or model ownership is not required for the moat thesis, and generic AI capability should be assumed to diffuse.

Ecosystem and distribution — strong reach with real dependence. SAP's direct account access, global systems integrators, specialists and hyperscaler partnerships create implementation capacity and distribution that a new entrant cannot quickly assemble. The same structure shares economics and customer influence. IBM says it has more than 18,000 certified SAP consultants and has implemented more than 300 S/4HANA projects in five years, illustrating that crucial expertise sits outside SAP. Partners help ATS win and migrate customers but can substitute for Core Services, recommend competing modules, and transmit implementation failures back to SAP's brand. Ecosystem scale is thus a moat for the software and a competitive ceiling for services.

2. Per-segment moat

Applications, Technology & Support

ATS is the protected profit pool. It represented 89.9% of TTM revenue and €14.051 billion of €14.421 billion of disclosed segment profit—approximately 97.4%. Its moat combines installed-base switching costs, integrated process and data semantics, global localization, high-trust procurement and a broad partner/extension ecosystem. BTP, Business Data Cloud (BDC), Joule and SAP agents can deepen this moat when they let customers extend a clean core, preserve permissions and business meaning, and execute actions across finance, procurement, supply chain and HR. They are not separate moats merely because SAP labels them strategic. The data package shows AI and BDC in more than 90% of SAP's 50 largest Q2 FY2026 deals, but no standalone AI revenue, renewal, margin or churn series. Five-year durability is high; ten-year durability is high if cloud migrations succeed; twenty-year durability is credible if SAP remains the governed transaction and semantic control plane even when the user interface is supplied by another agent. The earliest break signals are cloud growth failing to offset support runoff, repeated migration failures, BDC becoming optional in large deals, paid AI usage failing to develop, or third-party agents executing core processes without SAP-specific semantic or governance value.

Core Services

Core Services has a narrow, uneven moat. Direct access to SAP engineering, escalation paths, product telemetry and accountability can protect premium support and the hardest transformation work. Accumulated migration patterns and industry experience reduce execution risk. Broad consulting, however, is people-intensive and contestable: global integrators, SAP boutiques and internal customer teams can provide it, and employees can move. The segment's TTM revenue was €3.874 billion, its segment margin 9.6%, and its profit only 2.6% of the disclosed total. Durability is moderate over five years, weaker over ten, and poor over twenty for routine implementation labor. Its defensible 2046 residue is high-trust assurance, architecture and exception resolution, not armies of billable consultants. The earliest break signals are premium engagements losing attach, utilization falling, partner substitution rising, recurring delivery failures, or automation savings being competed away entirely through lower pricing.

The blended company moat is only slightly weaker than ATS's moat because ATS supplies nearly all disclosed segment profit. Core Services does not dilute the financial moat much directly; its greater importance is operational. Poor service or partner execution can delay ATS migrations, reduce cloud consumption and damage renewal trust. The equity therefore owns a strongly moated product engine with a weakly moated but strategically important delivery dependency.

3. Margin persistence evidence

The reviewed package provides a clean five-year consolidated series and a three-year clean current-segment series, not a comparable ten-year segment history. SAP changed perimeter and taxonomy after Qualtrics, and FY2024 contained €3.144

billion of restructuring expense. A synthetic ten-year margin series would give false precision, so none is invented.

Margin evidence	FY2021	FY2022	FY2023	FY2024	FY2025	Latest
IFRS operating margin	23.4%	20.0%	18.6%	13.6%	26.1%	26.7% TTM
ATS segment margin	N/C	N/C	34.8%	37.2%	40.6%	41.0% TTM
Core Services segment margin	N/C	N/C	6.5%	7.2%	10.9%	9.6% TTM
Cloud gross margin	66.9%	69.4%	71.6%	72.8%	73.9%	74.4% H1 FY2026

Consolidated statutory margin is not stable enough to be cited lazily as proof of moat: restructuring drove major compression in FY2024 and its cessation drove the rebound. More persuasive evidence sits below the consolidated noise. ATS margin rose 620 basis points from FY2023 to FY2025 and held at 41.0% TTM while cloud replaced higher-margin support and license revenue. Cloud gross margin expanded 750 basis points from FY2021 to H1 FY2026, even though hosted delivery adds infrastructure and service costs. Q2 FY2026 cloud gross margin was 74.3% versus 74.7% a year earlier, so AI, infrastructure and mix costs are not absent, but the multiyear trend supports scale economics. Core Services margins improved but the short history, FY2026 moderation and labor intensity make that weak moat evidence. TTM simple free cash flow of €8.730 billion was about 112% of profit attributable to owners, confirming that the protected software economics convert to cash rather than remaining only in an adjusted segment measure.

4. AI disruption stress test

ATS is partly a replaceable workflow and partly a digital chokepoint. Drafting an invoice explanation, answering an HR question, summarizing a variance or proposing a purchase order is a prompt-to-output workflow that any strong model may reproduce. SAP should earn no durable rent merely for placing a chatbot on a screen. The more protected layer records the legally and operationally binding transaction, applies permissions and segregation of duties, preserves an audit trail, reconciles master data, invokes localization rules and coordinates downstream actions. That resembles chokepoint economics in digital form: not because access is legally exclusive, but because enterprises cannot casually duplicate or corrupt the system of record.

SAP is also platform-adjacent. BTP can govern integration and extensions; BDC can preserve business semantics across SAP and non-SAP data; Joule and agents can use that context to execute rather than merely advise. The reinforcing mechanism is credible: applications create governed data, semantic data improves agents, and useful agents increase application consumption. The risk is equally clear. Openness may let Microsoft, a hyperscaler, ServiceNow or another orchestration layer own the interface and developer relationship while SAP becomes a back-end source system.

This threat is current, not hypothetical. Microsoft says Dynamics 365 is being remade for an agent-first world and exposes more than 650,000 MCP actions across business functions with permissions, guardrails and audit trails. Oracle Financials 26A lists Expenses, Ledger, Payables and Payments agents. Workday reported more than 5,500 customers using organic agents in Q2 FY2027 and offers tools to develop and continuously verify third-party agents. Salesforce reported nearly $3.4 billion of Agentforce and Data 360 ARR in Q1 FY2027. These official disclosures show that SAP does not uniquely own the applications-data-agents architecture. [Microsoft FY2026 Q4](https://www.microsoft.com/en-us/investor/events/fy-2026/earnings-fy-2026-q4), [Oracle Financials agents](https://docs.oracle.com/en/cloud/saas/financials/26a/agents.html), [Workday Q2 FY2027](https://investor.workday.com/news-and-events/press-releases/news-details/2026/Workday-Announces-Fiscal-2027-Second-Quarter-Financial-Results/default.aspx), [Salesforce Q1 FY2027](https://investor.salesforce.com/news/news-details/2026/Salesforce-Delivers-Record-First-Quarter-Fiscal-2027-Results/default.aspx)

AI inference also consumes margin. Microsoft disclosed that AI infrastructure and growing usage weighed on cloud and productivity gross margins before efficiency offsets. SAP's future AI economics must therefore be proven through paid attach, consumption or retention, not usage counts. If hyperscalers supply models and compute while external agents own the interface, SAP could retain the cost and lose the incremental rent.

Core Services is the most exposed segment. Coding, testing, documentation, ticket triage, data mapping and routine migration work are automatable workflows. SAP's own disclosure that AI assisted all support cases and fully resolved 20% of tickets demonstrates both productivity opportunity and revenue-hour risk. The protected remainder is judgment under uncertainty, executive accountability, regulated assurance and access to product engineers. **ATS's core ERP control plane is the most protected segment layer.** AI can alter how users interact with it faster than it can eliminate the need for governed transactions, master data and audit controls.

Open-source and composable ERP increase the pressure, particularly below the global-enterprise tier. ERPNext is an actively maintained GPL-3.0 suite spanning accounting, inventory, manufacturing, procurement, HR and other functions with managed or self-hosted deployment. Modular systems and open agent protocols lower the cost of assembling a stack. They do not yet reproduce SAP's multinational localization, installed configuration or large-enterprise assurance, but over twenty years they can standardize interfaces and make module-by-module substitution easier. [ERPNext official repository](https://github.com/frappe/erpnext)

5. The 2046 test

Today is 2026-08-30; the test year is 2046-08-30. A credible 2046 description is: **SAP sells a governed business-process control plane, delivered as subscription and consumption services, that records enterprise transactions, maintains business semantics and policy, orchestrates human and autonomous agents, and proves compliance across jurisdictions.** Large global manufacturers, retailers, utilities, banks, healthcare organizations, public-sector agencies and complex midsize enterprises pay SAP through the budgets controlled by CIOs, CFOs, COOs, CHROs and procurement leaders. They pay for cloud ERP, supply-chain, spend, workforce and industry applications; for a semantic data and integration layer descended from BDC/BTP; for agent execution and governance; and for sovereign, secure operations. They do not primarily pay for today's user interface or for a famous logo.

ATS still exists and remains the company. Perpetual licenses have largely withered, and legacy support is a small tail. Core Services is smaller in headcount and focuses on premium assurance, architecture, difficult migrations, incident escalation and regulated transformation; routine configuration and support are automated or partner-delivered. Joule may or may not retain its name, but SAP's economically necessary role is an API- and agent-accessible transaction, policy and audit layer.

Directionally, 2046 IFRS operating margin can be stable to moderately higher than the 26.7% TTM anchor—roughly high-20s to low-30s, not a precision forecast—because recurring product revenue, cloud utilization and automated support outweigh lower legacy support mix. Margins persist because customers accumulate process rules, governed data, integrations and controls inside the platform; replacing them risks operations and reporting; SAP amortizes localization, security and R&D globally; and the price can remain well below the customer's risk-adjusted cost of reimplementation. Margins do **not** require SAP to own foundation models or commodity infrastructure. Sovereign-cloud duplication, hyperscaler fees, AI inference and regulatory limits prevent an assumption of software margins rising without bound.

The bear 2046 description is more severe than slower growth. Open semantic and agent standards make ERP data portable; Microsoft, Oracle, Workday, Salesforce or a new agent control plane owns the user, developer and workflow relationship; composable applications replace modules at each renewal; and hyperscalers capture data and compute economics. SAP remains a low-growth ledger and transaction utility while regulators constrain support and cloud bundling. Core Services becomes commoditized, BDC is treated as optional, and price increases merely accelerate substitution. This outcome is plausible—approximately a one-in-three durability risk—but not the central case. Competitors' own strategies still couple agents to governed systems of record, supporting the proposition that transaction integrity and domain context remain valuable even as interfaces change.

6. Competitive threat inventory

Threat	Mechanism	Segment(s) affected	Earliest observable signal	Plausibility
Agent and data-layer disintermediation	External agents own interface, orchestration and developer spend; SAP becomes a transactional back end	ATS; BTP/BDC/AI most exposed	Falling paid AI/BDC attach; top deals omit SAP's data layer; non-SAP agents execute core workflows through generic semantics	High
Cloud migration opens the core to replacement	Complex, costly moves prompt customers to choose Oracle, Microsoft, Workday or best-of-breed modules; support runoff outruns cloud conversion	ATS and Core Services	Cloud growth no longer offsets support decline; current cloud backlog decelerates sharply; go-live delays, concessions and displacement losses rise	Medium-high
Regulation, procurement and partner/hyperscaler dependence cap economics	EU-style rules reduce contractual lock-in; sovereign requirements raise cost; partners or hyperscalers capture wallet and control	ATS support/cloud; Core Services	Cloud-contract remedies follow on-premise commitments; support cancellation rises; cloud gross margin falls; public tenders favor interoperable alternatives	Medium

7. Pricing power verification

Pricing power is observable but not cleanly quantified. SAP has announced that existing Standard, Enterprise and large-enterprise product-support fees will rise with local CPI effective 1 January 2027, capped at 5%. Its support page says this is a contractual adjustment rather than a list-price increase. Cloud contracts are typically multi-year; most support contracts are typically one-year renewals. SAP's roughly four-year cloud-backlog duration and €77.3 billion FY2025 total cloud backlog provide contractual visibility, but long duration can also embed negotiated discounts.

The operating evidence is stronger than the disclosure of price realization. Cloud gross margin expanded from 66.9% in FY2021 to 74.4% in H1 FY2026 while current cloud backlog grew 26% at constant currency in Q2 FY2026. This is consistent with customers accepting migration economics and SAP retaining scale benefits. It does not isolate price from mix, volume or efficiency. SAP does not disclose ARR, NRR, gross retention, churn, paid AI attach, or the adoption rate following specific price increases. Therefore no claim of unconstrained pricing power is justified.

Regulation supplies a useful falsification test. July 2026 commitments let on-premise customers separate support, terminate certain licenses and avoid reinstatement fees, worldwide under SAP's stated policy. Some historical support economics were reinforced by commercial terms that regulators considered restrictive. The protectable moat is consequently the value and switching cost of the application—not an indefinite right to charge for unused licenses. Pricing power is **moderate in ATS cloud and support, strongest where SAP delivers measurable mission-critical value; weak in broad Core Services; and constrained by procurement, alternatives and regulation**. [SAP 2027 support-fee adjustment](https://support.sap.com/en/index.html?fid=584&sk=5), [SAP maintenance-policy update](https://news.sap.com/2026/07/evolving-maintenance-support-practices-greater-flexibility-sap-customers/)

8. Moat verdict

Moat gate: PASS. ATS contains about 97.4% of disclosed segment profit and has a concrete moat in installed-base switching costs, process/data integration, localization, procurement trust and ecosystem scale. The margin evidence supports that conclusion: ATS margin reached 41.0% TTM and cloud gross margin rose from 66.9% in FY2021 to 74.4% in H1 FY2026 despite the cost of hosted delivery. Core Services is only narrowly moated, and regulatory changes remove some legacy support rent, but neither is large enough to negate ATS's protected economics.

2046 test: PASS. In 2046, large and regulated organizations can still rationally pay SAP for the governed transaction, business-semantic, policy and audit control plane through which humans and agents run core processes. AI-native competitors can disintermediate the interface, hyperscalers can take infrastructure economics, and open-source/composable systems can pressure less-complex workloads; those threats are real but do not currently eliminate the need for a trusted system of record. The test would downgrade if SAP's data/agent layer becomes persistently optional, cloud conversion fails to offset support runoff, or generic agents make core-process semantics portable enough that customers replace modules without material control or migration risk.

Appendix B1 - Applications, Technology & Support

Applications, Technology & Support — Segment Deep Dive

Company: SAP SE **Ticker:** SAP.DE **Run ID:** `pulse-cio-20260830T180239+0800` **Information cutoff:** 2026-08-30 **TTM anchor:** 2026-06-30 **Exact five-year endpoint:** 2031-06-30 **Currency and scale:** EUR millions unless stated otherwise **Exact profit basis:** `Segment profit (loss) (non-IFRS)`

The reviewed data package SHA-256 is `93da7f6cdf155e7fee7e28b07909ca41744e4de59b070278256a17349acf6fd4`. The sealed statutory bridge SHA-256 is `267c53d60c1f314af9fffca274d8561cc8a79ed15812708c9cf86e547695efb1`. Both hashes were independently recomputed before modeling. The controlling upstream gate states `STATUTORY_BRIDGE_STATUS: VERIFIED — CLEARED FOR FORECASTING`. SAP historical figures, management quotations, current growth rates and accounting classifications below come only from the reviewed data package and sealed bridge. Current-run live external sources are used only for competitor context.

0. Segment boundary and taxonomy note

Applications, Technology & Support, or ATS, is SAP's exact current issuer label. It comprises the cohesive applications, technology and support portfolio, including cloud subscriptions, software licenses, software support and integrated training. Core Services is separate and contains consulting and premium support that enable adoption. The clean boundary for the current two-segment taxonomy is FY2023. FY2021-FY2022 used a different Applications, Technology & Services perimeter and also reflected Qualtrics and a different services/corporate allocation structure; those old-taxonomy amounts are not spliced into ATS. The 2024 product reporting change also introduced Cloud ERP Suite and Extension Suite and removed separate S/4HANA Cloud disclosure. Accordingly, current ATS dollar comparisons use FY2023 onward, while product comparisons use the restated FY2022-FY2025 cloud taxonomy where available. [data_package §1, paragraphs 1-3; §3, ATS table and note]

1. What this segment actually is

ATS is the product and recurring-support engine of SAP. It sells the systems that large organizations use to run finance, procurement, supply chains, manufacturing, human capital, customer activity, analytics and enterprise data. Its cloud offer is not one application but a tightly connected portfolio: Cloud ERP Suite holds the core transactional and planning applications; Extension Suite supplies adjacent applications, data, analytics, integration and platform capabilities; and a shrinking infrastructure-as-a-service line remains within cloud. SAP also continues to sell software licenses and support for installed on-premise customers, and ATS includes integrated training. Consulting and premium support belong to Core Services, so neither consolidated services revenue nor all customer-success labor should be assigned to ATS. [data_package §1, paragraph 1; §4, opening paragraph]

The typical customer is a large or upper-midmarket enterprise with complex processes, regulated data, many country localizations and a substantial installed SAP estate. Pricing varies by product and contract. Cloud is subscription or consumption oriented, often sold in multi-year transformations through RISE with SAP or GROW with SAP. Legacy software can be licensed up front and then supported through recurring maintenance. Training is attached to adoption and process change. The go-to-market combines SAP's direct enterprise sales force with systems integrators, hyperscalers, implementation partners and independent software vendors. The partner model expands reach and implementation capacity, but it also means the total customer cost includes migration and change-management work beyond SAP's own invoice.

The economic conversion is central. An on-premise customer can disappear from the support line, incur lower license purchases and reappear over time in cloud revenue. A falling support line is therefore not automatically customer loss; it can be evidence of successful migration. Yet the conversion is not neutral in timing or margin: support is mature and highly profitable, cloud recognition is ratable, and hosting/operations costs are incurred continuously. Management's contracted backlog provides visibility, but a four-year average cloud contract duration means large bookings do not all become near-term revenue. [data_package §5, trend commentary; §6, Q4 FY2025 contract-duration quotation]

Business AI, Joule and agents are features and commercial attach vectors across the portfolio, not a separately disclosed product P&L. SAP disclosed more than 34,000 Business AI customers in June 2025, more than two-thirds AI attachment in Q4 FY2025 cloud order entry, and AI plus Business Data Cloud relevance in more than 90% of its 50 largest Q2 FY2026 deals. These are adoption observations with different denominators. They cannot be combined into a recurring series or

translated into invented revenue. [data_package §0a, Business AI inventory; §4, non-dollar KPI table]

2. Current economics — TTM ended 2026-06-30

ATS generated TTM revenue of **€34,318m** and `Segment profit (loss) (non-IFRS)` of **€14,051m**, an exact-basis margin of **40.94%**. The segment contributed close to nine-tenths of SAP's FY2025 revenue and substantially more than that share of total reportable-segment profit. Recent ATS revenue growth accelerated from 3.9% in Q4 FY2025 to 7.4% in Q1 FY2026 and 10.9% in Q2 FY2026, while quarterly segment margin moved from 40.5% to 41.7% and then 39.8%. That profile is strong but not a straight line: mix, acquired businesses, selling activity, investment and quarter-end license timing can move the exact non-IFRS segment margin. [data_package §3, rows 131-143, D1/O1 p. 50 and D2/O2 p. 12; sealed statutory bridge, TTM source ID QF_TTM_RECON; data_package §5, rows 252-257, D2/D4-D6]

The additive TTM revenue view is €23,143m of cloud revenue, €860m of software licenses, €10,030m of software support and €285m of ATS services from the training business. SAP discloses the ATS `Services` row for the governing periods: €309m in FY2025 less €147m in H1 FY2025 plus €123m in H1 FY2026 equals €285m TTM. The independent residual cross-check gives the same result: €34,318m minus €23,143m minus €860m minus €10,030m equals €285m. Thus €285m is a governed TTM reconstruction of a disclosed ATS row, not a separately labeled `Training revenue` figure and not an analyst-created plug. The corresponding revenue shares are approximately 67.4% cloud, 2.5% licenses, 29.2% support and 0.8% ATS services/training-business revenue. [data_package §3, rows 131-143, D1/O1 p. 50 and D2/O2 p. 12]

Cloud's internal composition is increasingly concentrated in Cloud ERP Suite. H1 FY2026 disclosed €10,739m of Cloud ERP Suite, €1,373m of Extension Suite and €131m of IaaS against €12,244m of cloud revenue; the €1m difference is disclosed rounding. Those figures imply approximately 87.7%, 11.2% and 1.1% of H1 cloud revenue, respectively. This is not a full-TTM component split, so the forward rollup models cloud as one additive line and uses the three sub-products as a non-additive composition check. [data_package §4, rows 227-235]

The leading visibility indicator is current cloud backlog, which reached €22,929m at Q2 FY2026 and grew 26% at constant currencies. Total cloud backlog was €77.3bn at FY2025, within €90.5bn of total IFRS remaining performance obligations. Current cloud backlog is expected cloud revenue over the next twelve months, not ARR, while total cloud backlog spans the enforceable contract period. The combination gives SAP strong near-term coverage and longer duration, but does not eliminate implementation timing, termination clauses or FX effects. [data_package §0a, material SaaS KPI history; §5, product trend]

Capital intensity is low in conventional property and equipment but high in people, software development and cloud delivery. At group level, FY2025 capex was €739m, or 2.0% of revenue, while R&D was €6,633m, or 18.0%. Those figures are not ATS-only and are used solely as organizational context. The relevant ATS reinvestment burden includes product engineering, security, localization, AI-model and data work, sales commissions, hyperscaler or data-center costs and migration tooling. Cloud gross margin rose from 66.9% in FY2021 to 73.9% in FY2025 and was 74.4% in H1 FY2026, showing scale progress, although Q2's 74.3% was below 74.7% a year earlier. [data_package §0a, material SaaS KPI history; §5, trend commentary; §7, capital allocation table]

3. Unit economics

Revenue conversion

Cloud revenue is recognized over subscription periods and, for consumption offerings, as services are used. Gross profit is revenue less hosting, third-party infrastructure, customer support, data-center depreciation and direct delivery costs. The movement from a 66.9% cloud gross margin in FY2021 to 74.4% in H1 FY2026 indicates that scale, infrastructure optimization and richer application mix have outweighed some hosting and transition pressure. Cloud ERP Suite is economically attractive because the core system can anchor finance, supply-chain, procurement, HR and data modules; higher product breadth can raise contract value without requiring a wholly separate sales relationship.

Software support has a different profile. It is recurring maintenance on an installed base and carries little incremental hosting cost relative to cloud. Its revenue fell from €11,909m in FY2022 to €10,525m in FY2025 and reached €10,030m on a TTM basis. As customers migrate, SAP can exchange a high-margin maintenance stream for a larger and more strategic cloud contract, but support erosion can temporarily outrun cloud gross-profit maturation. The model therefore does not treat every euro of cloud growth as equally accretive or assume support decline is painless. [data_package §4, row 229, D1-D7]

Software licenses are upfront and can be high incremental-margin, but the line has become structurally smaller: €2,056m in FY2022, €990m in FY2025 and €860m TTM. Quarterly declines remained severe at 43%, 34%, 37% and 32% across the last

four disclosed quarters. A short-term license surprise can lift revenue and profit, but the five-year model assumes continued decline in every scenario. That is economically more credible than capitalizing a terminal business on episodic license transactions. [data_package §4, row 228, D1-D7; §5, rows 263-266, D3-D6]

ATS services from the training business are strategically useful but immaterial in the additive model. The governed €285m TTM reconstruction is less than 1% of segment revenue and should not be mistaken for all SAP services. Training can aid adoption and reduce implementation friction, but it likely bears instructor, content and platform costs that keep its margin below software support. SAP discloses the ATS `Services` row for FY2025 and both H1 periods, but does not provide a standalone branded-training history, margin, backlog or forecast. [data_package §3, rows 131-143, D1/O1 p. 50 and D2/O2 p. 12]

Cost structure and operating leverage

ATS `Segment profit (loss) (non-IFRS)` is after the segment's defined costs but before the operating bridge items preserved in the sealed statutory bridge. Profit expanded from €9,510m in FY2023 to €13,345m in FY2025 while revenue rose from €27,359m to €32,847m, lifting exact-basis margin from 34.8% to 40.6%. The TTM margin is 40.94%. Three mechanisms plausibly drove that change: a higher cloud mix with improving cloud gross margin, efficiency from the 2024 transformation, and slower growth in portions of sales/support headcount than in recurring revenue. Management's disclosure that AI assists all support cases and fully resolves 20% of tickets gives a concrete productivity channel, but it is not enough to quantify savings independently. [data_package §3, ATS table; §6, Q1 FY2026 support-automation quotation]

The largest variable costs are cloud infrastructure and customer support. The largest semi-fixed costs are product development, selling capacity and administrative functions. Operating leverage emerges when recurring revenue grows faster than those functions, but it can reverse if SAP must subsidize migrations, expand data-center capacity, pay hyperscaler rates, absorb acquired teams or reinvest heavily in AI. Microsoft is a useful warning: its official FY2026 metrics show Microsoft Cloud gross margin declining to 66% for the year and 65% in Q4 amid infrastructure and AI mix pressure, even as cloud revenue grew rapidly. SAP's application-heavy mix is different, but AI is not automatically margin accretive. [Microsoft FY2026 Q4 investor metrics](https://www.microsoft.com/en-us/investor/earnings/fy-2026-q4/metrics)

The sealed bridge contains no corporate/unallocated adjustment in FY2025 or TTM. However, other expenses, acquisition-related charges, restructuring, regulatory costs and Teradata litigation costs bridge total segment profit to IFRS operating income. They are not allocated into ATS here. The synthesis stage must forecast them once at group level. This appendix therefore never calls `Segment profit (loss) (non-IFRS)` operating income and never presents its margin as statutory operating margin. [data_package §3a, forecast-driver schedule]

4. Competitive dynamics

SAP competes across several overlapping layers. Oracle is the most direct broad-suite rival in cloud ERP, database and infrastructure. Microsoft competes through Dynamics 365, Power Platform, Azure, data tooling and productivity-suite distribution. Workday is strong in human capital and financial management. Salesforce dominates customer relationship management and has expanded platform, analytics, integration and agentic AI. ServiceNow competes in workflows, IT operations and increasingly enterprise orchestration. Specialists such as Coupa, Salesforce ecosystem products, planning vendors and vertical SaaS firms attack individual modules, while hyperscalers and data-platform companies compete for infrastructure and data-layer economics.

Current-run primary results demonstrate that SAP's market is healthy but intensely contested. Microsoft's official FY2026 metrics show Dynamics 365 growing 18% reported and 15% at constant currency for the year, but Q4 slowed to 13% and 12%. Oracle's FY2026 Cloud Applications SaaS revenue was $15.9bn, up 11% reported and 10% at constant currency; Q4 SaaS grew 10% and 9%, while software revenue declined as customers migrated to cloud. Workday's FY2026 subscription revenue grew 14.5%, with twelve-month subscription backlog up 15.8% and FY2027 subscription growth guided to 12%-13%. Salesforce's FY2026 revenue rose 10% and its RPO grew 14%. ServiceNow's Q2 FY2026 subscription revenue grew 24.5%, with current RPO growth of 21%. These are not perfectly comparable denominators, but they define a realistic range: mature enterprise SaaS can sustain low-teens growth, best-in-class workflow platforms can exceed 20%, and deceleration appears as scale rises. [Oracle FY2026 results](https://investor.oracle.com/investor-news/news-details/2026/Oracle-Announces-Record-Q4-and-FY-2026-Results-Driven-by-Cloud-Infrastructure--Cloud-Applications/), [Workday FY2026 results](https://investor.workday.com/news-and-events/press-releases/news-details/2026/Workday-Announces-Fiscal-2026-Fourth-Quarter-and-Full-Year-Financial-Results/default.aspx), [Salesforce FY2026 results](https://investor.salesforce.com/news/news-details/2026/Salesforce-Delivers-Record-Fourth-Quarter-Fiscal-2026-Results/default.aspx), [ServiceNow Q2 FY2026 results](https://investor.servicenow.com/news/news-details/2026/ServiceNow-Reports-Second-Quarter-2026-Financial-Results/default.aspx)

SAP's pricing power rests less on a single feature than on system criticality, process breadth and switching cost. Replacing a global ERP instance involves data migration, controls redesign, retraining, integration work and operational risk. That allows SAP to price for value when it can demonstrate lower total complexity and faster process improvement. However, customers retain leverage through long procurement cycles, systems-integrator competition, cloud-commitment negotiations and the option to modernize modules selectively rather than accept an all-SAP stack.

The central substitution risk is architectural. Customers may keep SAP as a transaction system while shifting analytics, AI, workflow and developer spend to Microsoft, ServiceNow, Salesforce, Databricks, Snowflake or hyperscalers. A second risk is modular replacement: Workday in HCM, Salesforce in CRM or best-of-breed procurement and planning vendors can shrink SAP's wallet share. A third is cloud-price transparency. If infrastructure and AI inference become commoditized, customers may resist bundled pricing unless SAP's process data and application context create measurable output.

The cloud backlog is both a strength and a constraint. It protects near-term revenue, but an average contract duration around four years means the company must continually renew and expand a large base. Backlog growth can also be flattered by longer terms, acquisitions or flexible commercial structures. For this reason, the model treats Q2's 26% constant-currency current-cloud-backlog growth as support for near-term high-teens cloud growth, not as a five-year revenue CAGR.

5. Moat at the segment level

ATS has a real but not invulnerable moat. The strongest element is embedded process and data. SAP systems often represent the system of record for finance, inventory, manufacturing, procurement and workforce processes. Those workflows contain decades of configuration, audit controls, integrations and organizational knowledge. A competitor may offer a superior point feature, yet replacing the core can entail years of parallel operation and material execution risk.

The second element is portfolio breadth. SAP can connect ERP, supply chain, procurement, expenses, HCM, analytics, data and extensions under one commercial and semantic architecture. Breadth matters because enterprise AI needs trusted permissions, business objects and process context. Business Data Cloud and Joule can reinforce the suite if they make cross-application data more usable. The evidence that AI and Business Data Cloud appeared in more than 90% of the top 50 Q2 FY2026 deals shows commercial relevance, but it does not establish standalone revenue, renewal or gross margin. The moat claim therefore rests on workflow embedding and data context, not on invented AI monetization. [data_package §6, Q2 FY2026 AI/BDC quotation]

The third element is localization and ecosystem. Large enterprises need tax, regulatory and industry functionality across many jurisdictions. SAP's installed base, partners, consultants and trained user community make implementation more feasible than for a new entrant. Ecosystem scale can also be a weakness: costly or failed implementations damage trust, and customers may blame SAP for partner execution.

Durability over five to ten years depends on successful cloud conversion. The support base is a reservoir of relationships, but it is also an obligation to migrate customers without disruption. If SAP turns that installed base into cloud subscriptions, adds adjacent applications and uses AI to improve outcomes, switching costs and wallet share can deepen. If migration is slow, expensive or coercive, competitors can use the transition as an opening. The July 2026 European Commission resolution concerning aspects of on-premise maintenance and support practices underscores that lock-in can attract regulatory scrutiny; pricing power is valuable only when customers perceive corresponding value. [data_package §9, corporate actions]

The moat is weaker in infrastructure, generic AI models and isolated applications. IaaS revenue fell from €908m in FY2022 to €345m in FY2025, demonstrating that SAP does not need to win commodity infrastructure to create value and likely should not try. Extension Suite grew only modestly over the same period. The moat is therefore concentrated in core applications, process data, integration and customer relationships. It is not a blanket right to earn superior margins on every technology layer.

On balance, ATS has a strong segment moat with a meaningful reinvestment requirement. The base case assumes the moat protects low-double-digit cloud growth and modest margin expansion, not indefinite 20%-plus growth. The bear case explicitly tests a world in which suite attach weakens, support runoff accelerates and AI costs arrive faster than monetization.

6. Historical growth rates

The table reproduces reviewed data-package values. Product rows are group disclosures but cloud, licenses and support economically sit in ATS; consolidated services is shown only to demonstrate why it cannot be assigned wholesale to ATS. `N/C` means not comparable under the current segment perimeter. Product CAGRs use FY2022-FY2025, an exact three-year span. ATS has only FY2023-FY2025 clean history, so its 9.6% figure is explicitly a two-year CAGR rather than a fabricated

three-year rate.

Product / sub-segment	FY2022 revenue	FY2023 revenue	FY2024 revenue	FY2025 revenue	Historical CAGR	Most recent FY YoY	Controlling source
ATS total	N/C [§3 row 124]	€27,359m [§3 row 124]	€30,248m [§3 row 124]	€32,847m [§3 row 124]	9.6% over two years [§3 rows 124-125]	8.6% [§3 row 125]	data_package §3, rows 122-129; D1/D5/D7
Cloud revenue	€11,426m [§4 row 227]	€13,664m [§4 row 227]	€17,141m [§4 row 227]	€21,023m [§4 row 227]	22.5% [§4 row 227]	22.6% [§4 row 227]	data_package §4, row 227; D1-D7
Cloud ERP Suite	€8,209m [§4 row 231]	€10,626m [§4 row 231]	€14,165m [§4 row 231]	€18,119m [§4 row 231]	30.2% [§4 row 231]	27.9% [§4 row 231]	data_package §4, row 231; D1-D6/D8
Extension Suite	€2,309m [§4 row 232]	€2,290m [§4 row 232]	€2,436m [§4 row 232]	€2,559m [§4 row 232]	3.5% [§4 row 232]	5.0% [§4 row 232]	data_package §0a, rows 58/69; §4, row 232; D1-D5/D8
IaaS	€908m [§4 row 233]	€748m [§4 row 233]	€540m [§4 row 233]	€345m [§4 row 233]	-27.6% [§4 row 233]	-36.1% [§4 row 233]	data_package §4, row 233; D1-D5/D7-D8
Software licenses	€2,056m [§4 row 228]	€1,764m [§4 row 228]	€1,399m [§4 row 228]	€990m [§4 row 228]	-21.6% [§4 row 228]	-29.2% [§4 row 228]	data_package §4, row 228; D1-D7
Software support	€11,909m [§4 row 229]	€11,496m [§4 row 229]	€11,290m [§4 row 229]	€10,525m [§4 row 229]	-4.0% [§4 row 229]	-6.8% [§4 row 229]	data_package §4, row 229; D1-D7
Consolidated services; non-additive to ATS	€4,128m [§4 row 230]	€4,283m [§4 row 230]	€4,346m [§4 row 230]	€4,262m [§4 row 230]	1.1% [§4 row 230]	-1.9% [§4 row 230]	data_package §4, row 230; D1-D7

Arithmetic checks pass within 2%: €30,248m × 1.086 = €32,849m versus €32,847m ATS; €17,141m × 1.226 = €21,015m versus €21,023m cloud; €14,165m × 1.279 = €18,117m versus €18,119m Cloud ERP Suite; €2,436m × 1.050 = €2,558m versus €2,559m Extension Suite; €540m × 0.639 = €345m IaaS; €1,399m × 0.708 = €990m licenses; €11,290m × 0.932 = €10,522m versus €10,525m support; and €4,346m × 0.981 = €4,263m versus €4,262m services. Differences are rounding.

Extension Suite FY2022 is not a back-solve created in this appendix. It is the data package's documented exact residual from the updated official cloud perimeter: €11,426m cloud less €8,209m Cloud ERP Suite less €908m IaaS equals €2,309m. Row tie-out: **€11,426m** – **€8,209m** – **€908m = €2,309m** ✓. [data_package §0a, rows 58/69; §4, rows 232-235; D1/D7-D8]

Recent quarterly context reinforces the mix shift. Q2 FY2026 cloud grew 22%, Cloud ERP Suite grew 25%, licenses fell 32%, support fell 8% and services fell 3%. Cloud revenue of €6,281m and current cloud backlog of €22,929m are the latest disclosed anchors. The product trend is internally coherent: fast Cloud ERP Suite growth, a support base rolling off, a diminishing license pool and immaterial IaaS. [data_package §5, rows 261-268, D3/D9]

7. Management guidance from the reviewed data package

Every ATS-relevant short quotation in data_package §6 is reproduced below. These are intentionally short verified excerpts. Their interpretation is constrained to what each statement can support.

Data-package row	Period and speaker	Verbatim short quote	Interpretation
§6 row 276	Q3 FY2025, Christian Klein	“AI will be the key enabler”	AI is embedded in the total-revenue thesis, but SAP gives no standalone AI revenue.
§6 row 277	Q3 FY2025, Christian Klein	“AI adoption is going up significantly”	Directionally positive use, without a recurring denominator or pricing series.
§6 row 278	Q3 FY2025, Christian Klein	“Current cloud backlog increased 27%”	Supports near-term cloud visibility; FX, acquisitions and deal structure still matter.
§6 row 279	Q4 FY2025, Christian Klein	“contract duration is around about 4 years”	Backlog is durable but converts over several years, limiting near-term recognition.
§6 row 280	Q4 FY2025, Christian Klein	“we sold 2/3 of our deals with AI”	Strong attachment evidence, not incremental revenue or margin evidence.
§6 row 281	Q4 FY2025, Dominik Asam	“a more pronounced slowdown”	Warns that current-cloud-backlog growth can decelerate as large transformations use flexible structures.
§6 row 282	Q1 FY2026, Christian Klein	“AI assists 100% of support cases”	A specific productivity mechanism; only 20% of tickets were fully resolved autonomously.

Data-package row	Period and speaker	Verbatim short quote	Interpretation
§6 row 283	Q1 FY2026, Christian Klein	“Bid win rates jumped”	Supports value and willingness-to-pay at one named customer, not a portfolio-wide quantified uplift.
§6 row 284	Q1 FY2026 statement, Dominik Asam	“disciplined execution in revenue and profitability”	Cost-control context, not a substitute for a segment margin bridge.
§6 row 285	Q2 FY2026, Christian Klein	“more than 90% of our 50 largest deals”	AI and Business Data Cloud matter in large deals; the combined metric cannot isolate either product's monetization.
§6 row 286	Q2 FY2026, Dominik Asam	“Current cloud backlog reached almost EUR 23 billion”	Confirms the €22.929bn Q2 recency anchor.
§6 row 287	Q2 FY2026, Christian Klein	“we also adjusted our hiring plans”	Supports slower headcount growth, while leaving the reinvestment and execution burden uncertain.

SAP's numerical FY2026 group outlook is €25.8bn-€26.2bn of cloud revenue at constant currencies, €36.3bn-€36.8bn of cloud and software revenue, €11.8bn-€12.2bn of non-IFRS operating profit and about €10bn of free cash flow. It expects constant-currency total-revenue growth near FY2025's 10.6% and acceleration in 2027, with 2027 operating expenses growing at 80%-90% of revenue growth. This is a group guide, not an ATS revenue or `Segment profit (loss) (non-IFRS)` guide. The base case uses it as a near-term reason not to force immediate cloud deceleration below the high teens, but the five-year endpoint is independently underwritten. [data_package §6, closing paragraph]

8. Forward growth assumptions

The additive forecast begins with the exact TTM lines: cloud €23,143m; licenses €860m; support €10,030m; ATS services/training-business €285m. The horizon is exactly five calendar years, from 2026-06-30 to 2031-06-30. “Mgmt FY+1 guide” identifies the nearest relevant official anchor and does not imply that SAP guided each product line. [data_package §3, rows 131-143]

Base case

Product	Three-year historical CAGR	Latest YoY	Mgmt FY+1 guide	Base CAGR TTM to TTM+5y	Justification
Cloud aggregate	22.5%	22% in Q2 FY2026	FY2026 cloud €25.8bn-€26.2bn CC	12.9%	CCB grew 26% CC and Cloud ERP Suite grew 25%, supporting high-teens near-term growth; maturation toward peer low-teens rates drives outer-year deceleration.
Software licenses	-21.6%	-32% in Q2 FY2026	No line-item guide	-15.0%	Migration structurally shrinks licenses, but the small base and occasional large transactions make a decline milder than the latest quarter plausible.
Software support	-4.0%	-8% in Q2 FY2026	Decline expected to accelerate	-9.0%	Cloud conversion reduces support faster than the FY2022-FY2025 rate; the installed base prevents an abrupt collapse.
ATS services / training-business	No comparable series	Not disclosed	No line-item guide	2.0%	Training follows implementation activity but remains subscale; assumption is conservative and has immaterial rollup impact.

The base cloud path is explicit: **18% / 16% / 13% / 10% / 8%** for the five successive years. It compounds to 12.9% and €42,526m, rather than applying Q2's 22% indefinitely. This trajectory is defensible against official peer observations: Workday guides 12%-13% subscription growth at its current scale; Oracle Cloud Applications grew 10% at constant currency in FY2026; and Microsoft Dynamics 365 slowed to 12% constant-currency growth in Q4 after 15% for the full year. SAP starts above those rates because its Cloud ERP Suite is still converting a large installed base and current cloud backlog grew 26%, but the base case converges toward the competitive set.

Bull case

Product	Three-year historical CAGR	Latest YoY	Mgmt FY+1 guide	Bull CAGR TTM to TTM+5y	Justification
Cloud aggregate	22.5%	22% in Q2 FY2026	FY2026 cloud €25.8bn-€26.2bn CC	16.1%	Cloud ERP conversion, AI/BDC attach and cross-suite expansion stay strong; the path still slows from current levels as scale rises.
Software licenses	-21.6%	-32% in Q2 FY2026	No line-item guide	-8.0%	Hybrid needs and large transactions keep a smaller license tail, but the line still declines.
Software support	-4.0%	-8% in Q2 FY2026	Decline expected to accelerate	-6.0%	Faster cloud wins coexist with orderly, well-priced maintenance runoff rather than customer loss.
ATS services / training-business	No comparable series	Not disclosed	No line-item guide	4.0%	Strong transformation activity lifts training; the result remains less than 1% of ATS revenue.

The bull cloud path is **22% / 19% / 17% / 13% / 10%**, compounding to 16.1% and €48,863m. It requires SAP to convert backlog into revenue efficiently, retain pricing, cross-sell Extension capabilities and turn AI/BDC relevance into broader suite adoption. It does not require a standalone Business AI revenue line, and it remains below Cloud ERP Suite's 30.2% FY2022-FY2025 CAGR.

Bear case

Product	Three-year historical CAGR	Latest YoY	Mgmt FY+1 guide	Bear CAGR TTM to TTM+5y	Justification
Cloud aggregate	22.5%	22% in Q2 FY2026	FY2026 cloud €25.8bn-€26.2bn CC	8.0%	Flexible contracts, slower implementation and best-of-breed competition drive rapid deceleration despite current backlog.
Software licenses	-21.6%	-32% in Q2 FY2026	No line-item guide	-25.0%	Cloud migration and weak transactions reduce the already small license pool to a residual business.
Software support	-4.0%	-8% in Q2 FY2026	Decline expected to accelerate	-13.0%	Support runoff accelerates before cloud expansion fully compensates, creating adverse mix and stranded cost.
ATS services / training-business	No comparable series	Not disclosed	No line-item guide	-2.0%	Delayed transformations and partner-led training reduce SAP-retained training revenue.

The bear cloud path is **12% / 10% / 8% / 6% / 4%**, compounding to 8.0% and €33,946m. The sharp deceleration has a specific cause: backlog conversion slows, competitive modules capture wallet share, support migrations generate less cloud uplift than expected, and AI features cost more to serve without distinct pricing. This is not a generic “maturation” haircut.

Non-additive cloud-composition diagnostic

SAP does not disclose full-TTM dollars for Cloud ERP Suite, Extension Suite and IaaS; only H1 FY2026 figures are available. The following rates are therefore a composition diagnostic and are **not** separately multiplied into the additive rollup. They ensure the aggregate cloud assumptions respect the disclosed histories without inventing TTM product anchors.

Cloud component	FY2022-FY2025 CAGR	Latest disclosed growth or history	Bear five-year view	Base five-year view	Bull five-year view
Cloud ERP Suite	30.2%	25% YoY in Q2 FY2026	10% CAGR	15% CAGR	18% CAGR
Extension Suite	3.5%	€2,309m / €2,290m / €2,436m / €2,559m FY2022-FY2025	2% CAGR	7% CAGR	10% CAGR
IaaS	-27.6%	€908m / €748m / €540m / €345m FY2022-FY2025	-25% CAGR	-15% CAGR	-5% CAGR

The diagnostic says the aggregate cloud line is primarily an ERP-suite thesis. Extension Suite must improve from its modest history for the base case, but its smaller weight limits the required contribution. IaaS remains a rapidly shrinking, immaterial line in all scenarios. [DATA GAP: SAP does not disclose full-TTM Cloud ERP Suite, Extension Suite or IaaS revenue at

2026-06-30, so no additive product endpoint is fabricated.]

9. Forward `Segment profit (loss) (non-IFRS)` margin assumptions

The TTM exact-basis margin is 40.94%. SAP does not disclose `Segment profit (loss) (non-IFRS)` by product. The tables below are analyst allocations used solely to prove that each segment margin can be reconstructed as a revenue-weighted average. They are not issuer-reported product margins. Cloud's allocated margin is the balancing economic assumption after explicit margins for licenses, support and training; no statutory bridge line or corporate cost is inserted.

Bear margin bridge

Product	2031-06-30 revenue	Allocated `Segment profit (loss) (non-IFRS)` margin	Allocated profit	Mechanism
Cloud aggregate	€33,946m	34.33%	€11,654m	AI/infrastructure costs, price pressure and migration inefficiency overwhelm scale benefit.
Software licenses	€204m	65.0%	€133m	Small high-margin tail, offset by transaction volatility.
Software support	€4,999m	48.0%	€2,400m	Stranded support capacity and faster runoff reduce mature economics.
ATS services / training-business	€258m	0.0%	€0m	Low utilization absorbs contribution.
ATS total	€39,407m	36.0%	€14,187m	Revenue-weighted exact-basis result.

The bear margin falls 494 bps from 40.94% to 36.0%. The decline is tied to identifiable mechanisms: accelerated loss of high-margin support, cloud hosting/AI cost pressure, less pricing power and stranded labor during migration. It does not assume that corporate litigation or acquisition charges belong in ATS.

Base margin bridge

Product	2031-06-30 revenue	Allocated `Segment profit (loss) (non-IFRS)` margin	Allocated profit	Mechanism
Cloud aggregate	€42,526m	42.84%	€18,218m	Application mix, scale and support automation more than offset infrastructure and AI usage costs.
Software licenses	€382m	70.0%	€267m	High incremental margin persists on a much smaller revenue base.
Software support	€6,259m	52.0%	€3,255m	Mature economics remain attractive despite runoff and some stranded cost.
ATS services / training-business	€315m	10.0%	€32m	Digital delivery and utilization create a modest contribution.
ATS total	€49,482m	44.0%	€21,772m	Revenue-weighted exact-basis result.

The base margin rises 306 bps. The specific mechanism is a larger cloud application base, cloud gross-margin maturation, automated support and operating-expense growth below revenue growth. The assumption is deliberately much smaller than the 580-bp improvement from FY2023 to TTM because the transformation benefits and early cloud leverage cannot repeat indefinitely. The base case also allows ongoing reinvestment in product engineering, security and AI.

Bull margin bridge

Product	2031-06-30 revenue	Allocated `Segment profit (loss) (non-IFRS)` margin	Allocated profit	Mechanism
Cloud aggregate	€48,863m	45.13%	€22,052m	Strong suite mix, pricing, automation and infrastructure efficiency generate leverage.

Product	2031-06-30 revenue	Allocated `Segment profit (loss) (non-IFRS)` margin	Allocated profit	Mechanism
Software licenses	€567m	75.0%	€425m	Better transaction retention preserves high incremental profit.
Software support	€7,361m	51.0%	€3,754m	Orderly migration preserves economics while support declines.
ATS services / training-business	€347m	15.0%	€52m	High transformation volume improves utilization.
ATS total	€57,138m	46.0%	€26,283m	Revenue-weighted exact-basis result.

The bull margin rises 506 bps from TTM. That is possible only if cloud application gross economics continue to improve, AI helps labor productivity, pricing holds and customers adopt multiple modules. This is an upside case, not a base extrapolation. Microsoft's falling cloud gross margin demonstrates that heavy AI infrastructure and usage can work in the opposite direction.

[DATA GAP: SAP does not disclose product-level `Segment profit (loss) (non-IFRS)` margins. Product allocations above are analytical and constrained to the exact segment total; only the blended segment margin is forecast output.]

10. Segment rollup and arithmetic reconciliation

The rollup uses constant-euro analyst scenarios and exact five-year compounding from 2026-06-30 to 2031-06-30. Product endpoints sum to ATS revenue with zero residual after rounding. Profit equals revenue multiplied by the exact-basis blended margin.

Case	Product	TTM revenue	Five-year assumption	2031-06-30 revenue	Allocated exact-basis margin	2031-06-30 allocated profit
Bear	Cloud aggregate	€23,143m	8.0% path CAGR	€33,946m	34.33%	€11,654m
Bear	Software licenses	€860m	-25.0% CAGR	€204m	65.0%	€133m
Bear	Software support	€10,030m	-13.0% CAGR	€4,999m	48.0%	€2,400m
Bear	ATS services / training-business	€285m	-2.0% CAGR	€258m	0.0%	€0m
Bear	ATS total	€34,318m	2.8% CAGR	€39,407m	36.0%	€14,187m
Base	Cloud aggregate	€23,143m	12.9% path CAGR	€42,526m	42.84%	€18,219m
Base	Software licenses	€860m	-15.0% CAGR	€382m	70.0%	€267m
Base	Software support	€10,030m	-9.0% CAGR	€6,259m	52.0%	€3,255m
Base	ATS services / training-business	€285m	2.0% CAGR	€315m	10.0%	€32m
Base	ATS total	€34,318m	7.6% CAGR	€49,482m	44.0%	€21,772m
Bull	Cloud aggregate	€23,143m	16.1% path CAGR	€48,863m	45.13%	€22,052m
Bull	Software licenses	€860m	-8.0% CAGR	€567m	75.0%	€425m
Bull	Software support	€10,030m	-6.0% CAGR	€7,361m	51.0%	€3,754m
Bull	ATS services / training-business	€285m	4.0% CAGR	€347m	15.0%	€52m
Bull	ATS total	€34,318m	10.7% CAGR	€57,138m	46.0%	€26,283m

The arithmetic tie-outs are explicit. Bear revenue is €33,946m + €204m + €4,999m + €258m = **€39,407m**; €39,407m × 36.0% = **€14,187m**. Base revenue is €42,526m + €382m + €6,259m + €315m = **€49,482m**; €49,482m × 44.0% = **€21,772m**. Bull revenue is €48,863m + €567m + €7,361m + €347m = **€57,138m**; €57,138m × 46.0% = **€26,283m**. Product-level allocated profit differs by no more than €1m from each blended calculation because of displayed rounding.

The base case is not dependent on licenses or training. Cloud contributes about €19.4bn of the €15.2bn net ATS revenue increase while support declines by €3.8bn and licenses decline by €0.5bn. This is the essential thesis: cloud more than offsets the runoff of legacy streams and becomes sufficiently profitable to lift the exact-basis margin. If cloud grows but its gross economics stagnate, revenue can still rise while the 44% base margin fails.

The bear case is not a collapse. It assumes cloud continues growing but loses enough momentum that support and license decline consume most of the benefit. Profit in 2031 is only modestly above the TTM €14,051m anchor because the blended

margin compresses. That is a realistic downside for a deeply embedded vendor: durability can prevent revenue contraction without ensuring attractive incremental returns.

The bull case requires both growth and conversion. Cloud reaches €48.9bn, almost 86% of ATS revenue, while support remains a €7.4bn cash-generative tail. The margin expands because cloud's application-heavy mix scales and the support transition is orderly. A bull result driven only by a higher multiple or a standalone AI revenue invention is expressly excluded.

11. Key risks and wildcards

[Bear] Migration timing and support cannibalization. Support fell 8% in Q2 FY2026 and management expects the decline to accelerate. If migrations take longer to implement or cloud contract value disappoints, SAP can lose high-margin support before replacing its economics. The key monitor is cloud revenue growth relative to the absolute euro decline in support, not support growth alone.

[Bear] Backlog quality and conversion. Current cloud backlog grew 26% at constant currencies, but large transformations, flexible structures, acquisition contributions and contract duration affect conversion. Reltio contributed less than one percentage point to Q2 growth. The relevant monitor is organic current-cloud-backlog growth plus subsequent cloud revenue, with careful attention to FX and acquired perimeter.

[Bear/Base] AI cost versus monetization. AI attachment is high, but SAP discloses no standalone Business AI revenue, margin or renewal. Model inference, data processing, security and development can raise costs before pricing catches up. Support automation is encouraging, but the disclosed 20% full resolution rate should not be extrapolated to all support cost.

[Bear] Best-of-breed and hyperscaler disintermediation. Customers may retain SAP as a system of record but allocate analytics, AI, workflows and extension spending elsewhere. That outcome preserves core switching costs while shrinking the expansion opportunity, especially in Extension Suite and the data layer.

[Bear/Base] Regulatory and maintenance-practice risk. On-premise support and maintenance practices have drawn European Commission scrutiny. Commitments or future remedies may constrain commercial tactics, reduce pricing flexibility or accelerate customer negotiation. A moat based on operational value is durable; one based on contractual friction is less so.

[Bear/Base] Implementation ecosystem risk. SAP depends on partners and customer transformation capacity. Delays, overruns or failed programs can slow revenue conversion and harm renewal sentiment even if backlog is contractually strong. Skilled-resource shortages and customer change fatigue are material because ERP transformations touch core operations.

[Bear/Base] Acquisition integration. Dremio, Prior Labs and Reltio expand data and AI capability but add near-term dilution and execution demands. Management reduced FY2026 group non-IFRS operating-profit guidance for more than €100m of Dremio and Prior Labs dilution. Their value depends on integration into the suite rather than remaining separate technology islands. [data_package §6, outlook; §9, corporate actions]

[Bull] AI-enabled pricing and cross-sell. If Joule, agents and Business Data Cloud measurably improve process outcomes, SAP could raise contract value and attach more modules without proportional selling cost. This is the main upside wildcard, but evidence must progress from attachment counts to disclosed commercial economics before it enters a standalone revenue line.

[Bull] Faster automation. AI assistance in all support cases and adjusted hiring plans could lower cost-to-serve and enable operating-expense growth below revenue growth. The bull case captures this through margin, not a separate fabricated savings pool.

[Bull/Base] Cloud gross-margin maturation. H1 FY2026 cloud gross margin of 74.4% is far above FY2021's 66.9%. Further application-mix and infrastructure gains can support segment leverage, though Q2's small year-over-year decline warns against a straight-line assumption.

[All cases] FX and reporting perimeter. SAP reports in euros while a large share of business is global. The scenario model is constant-euro and does not predict translation. Acquisitions can affect backlog and growth comparisons. Downstream synthesis should keep organic, constant-currency and reported growth conceptually separate.

Data gaps that constrain confidence

- [DATA GAP: Current-taxonomy ATS history before FY2023 is not comparable; no old-taxonomy segment dollars are spliced into the forecast.]

- [DATA GAP: SAP discloses ATS `Services` for FY2025 and both H1 periods, allowing the governed €285m TTM reconstruction, but does not disclose a standalone branded-training history, margin, backlog or forecast. The residual equation is an independent cross-check, not the primary disclosure basis.]
- [DATA GAP: SAP does not disclose ATS ARR, net new ARR, NRR, GRR, churn, billings, CAC, payback or magic number. Backlog is used cautiously and is not relabeled ARR.]
- [DATA GAP: Standalone Business AI revenue, margin, price realization and renewal are not disclosed. Customer, attachment, feature and agent counts are not converted into revenue.]
- [DATA GAP: Full-TTM Cloud ERP Suite, Extension Suite and IaaS dollars at 2026-06-30 are not disclosed; H1 figures are used only as a non-additive composition diagnostic.]
- [DATA GAP: Product-level `Segment profit (loss) (non-IFRS)` margins are not disclosed. Only the revenue-weighted segment margin is an output.]

Summary

Case	Segment TTM+5y Revenue	Exact profit metric	Segment TTM+5y Profit Margin	Segment TTM+5y Profit	Probability
Bear	€39,407m	Segment profit (loss) (non-IFRS)	36.0%	€14,187m	25%
Base	€49,482m	Segment profit (loss) (non-IFRS)	44.0%	€21,772m	55%
Bull	€57,138m	Segment profit (loss) (non-IFRS)	46.0%	€26,283m	20%

The 55% base weight reflects strong Q2 cloud/backlog evidence and management's 2027 acceleration outlook, tempered by absent retention and standalone AI economics. Bear receives 25% because support runoff, implementation friction and AI/cloud-delivery costs can undermine conversion even with positive cloud growth. Bull receives only 20% because it requires both sustained above-peer cloud growth and 506 bps of exact-basis margin expansion. The weights are therefore non-uniform and tied to recent operating evidence rather than symmetric scenario spacing.

The base case treats ATS as a durable cloud-conversion franchise, not a perpetual hypergrowth asset. Its five-year result requires a 7.6% segment revenue CAGR, driven by 12.9% cloud growth that more than offsets license and support runoff, plus 306 bps of exact-basis margin expansion. The biggest positive evidence is the combination of 25% Cloud ERP Suite growth, 26% constant-currency current cloud backlog growth and high AI/BDC deal attachment. The biggest constraint is disclosure: neither standalone AI economics nor ATS retention metrics are available, and product-level segment-profit margins are not reported. The forecast therefore earns confidence through conservative aggregation and arithmetic transparency rather than invented granularity.

Appendix B2 - Core Services

Core Services — Segment Deep Dive

Run ID: `pulse-cio-20260830T180239+0800` Information cutoff: 2026-08-30 TTM anchor: 2026-06-30 Exact horizon: 2031-06-30 Currency and scale: EUR millions unless stated otherwise Forecast profit basis: `Segment profit (loss) (non-IFRS)` Bridge clearance: `STATUTORY_BRIDGE_STATUS: VERIFIED — CLEARED FOR FORECASTING`

0. Segment boundary and taxonomy note

Core Services is one of SAP SE's two current operating and reportable segments. The current perimeter is clean only from FY2023. FY2021 and FY2022 belonged to an earlier reporting structure that included a differently constituted Applications, Technology & Services segment and Qualtrics; those years are not spliced into the present Core Services history. Under the reviewed taxonomy, Core Services consists of professional consulting services and premium support services that accelerate adoption and consumption of SAP products. Integrated training belongs to Applications, Technology & Support, or ATS. Consequently, neither SAP's consolidated services revenue nor its old Services presentation can be assigned wholly to Core Services. This appendix compounds from the exact TTM ending 2026-06-30 for five calendar years to 2031-06-30, not from FY2025 and not for six fiscal periods. [data_package §1, current-segment description and taxonomy-boundary paragraphs]

1. What this segment actually is

Core Services is the part of SAP that helps customers get a difficult enterprise-software purchase implemented, adopted, supported and used more effectively. Professional consulting is project-oriented: it can include transformation road maps, solution architecture, process redesign, technical migration, implementation assistance, integration, data work and adoption support around SAP's software. Premium support is more recurring or engagement-like: customers pay for a higher-touch relationship, expert escalation, proactive service and additional help with complex deployments or mission-critical operations. The reviewed package does not disclose separate revenue, pricing, margin or contract-duration figures for these two activities, so this appendix keeps them as one reported financial segment.

The customer is usually a large or complex enterprise whose finance, supply chain, human-resources, procurement, data or industry workflows depend on SAP. These customers are not buying a generic consulting hour. They are trying to change a mission-critical system without interrupting the business, often while migrating from an on-premise estate to a cloud product, cleaning data and redesigning business processes. That creates high perceived execution risk. SAP's direct services organization can reduce information friction because it sits close to product road maps, engineering teams and support escalation. That proximity is commercially useful even when a systems integrator performs much of the implementation.

The pricing model is not separately disclosed. Economically, professional consulting is likely to be priced through projects, milestones, time-and-materials or outcome-oriented arrangements, while premium support is more likely to involve recurring or term-based engagement. That distinction matters: project work is exposed to utilization, scope changes and delivery overruns; premium support should be more predictable and can carry better incremental economics if expert capacity is reused efficiently. But SAP does not disclose enough detail to quantify the mix. [DATA GAP: SAP does not disclose the Core Services revenue, margin, backlog, renewal or contract-duration split between professional consulting and premium support.]

Go-to-market is intertwined with the software sale and customer-success motion. The segment can enter during pre-transformation planning, implementation, migration, post-go-live stabilization or continuous optimization. Its strategic purpose is broader than maximizing consulting revenue. Services can accelerate cloud adoption, protect a large software relationship, reduce implementation failure and improve consumption. That creates an important modeling tension: SAP may rationally direct work to partners, constrain its own service scope or accept lower segment growth if this expands the higher-value software ecosystem. Core Services revenue therefore need not rise in proportion to cloud revenue for the segment to fulfill its corporate role.

The segment is also not a separately disclosed AI-consulting business. Business AI may increase transformation complexity and support demand, and automation may improve delivery productivity, but SAP reports no standalone AI consulting revenue, AI-service margin, order book or renewal measure. This model assigns no separate AI revenue stream and no assumed AI pricing premium.

2. Current economics

The TTM ended 2026-06-30 is the controlling forecast anchor: Core Services revenue was €3,874 million and `Segment profit (loss) (non-IFRS)` was €370 million, a margin of 9.55%, rounded to 9.6%. The segment was 10.7% of SAP group revenue in FY2025, when it generated €3,953 million of revenue and €432 million of the exact segment-profit metric, a 10.9% margin. The lower TTM profit and margin show why the FY2025 margin step-up cannot simply be extrapolated. [data_package §1 current-segment table, source D1; §3 Core Services table, sources D1/D5; §3a FY2025 `SAP_FY2025_20F` and TTM `QF_TTM_RECON` bridge rows]

Growth is subdued. Current-taxonomy revenue rose from €3,848 million in FY2023 to €3,927 million in FY2024 and €3,953 million in FY2025. That is only a 1.3552% CAGR over the two-year interval, or 1.4% rounded to one decimal place. The latest quarterly sequence was mixed to weak: Core Services revenue grew 5.2% in Q3 FY2025, then fell 2.3%, 5.1% and 2.8% year on year in Q4 FY2025, Q1 FY2026 and Q2 FY2026. The segment is therefore entering the forecast from contraction, even as SAP's cloud portfolio and backlog are expanding. [data_package §3 Core Services revenue row, sources D1/D5; §5 segment-trend table, sources D6/D5/D4 and D2 less D4]

Profit history is more volatile than revenue history. The exact segment-profit margin increased from 6.5% in FY2023 to 7.2% in FY2024 and 10.9% in FY2025, before settling at 9.6% on the TTM anchor. Quarterly margins were 15.9% in Q3 FY2025, 6.8% in Q4, 8.9% in Q1 FY2026 and 10.7% in Q2. Such dispersion is consistent with a people-intensive business in which project milestones, utilization, delivery mix and transformation expense timing can move the result materially. It is not evidence of a stable 10.9% run rate. [data_package §3 Core Services profit and margin rows, sources D1/D5; §5 segment-trend table, sources D6/D5/D4 and D2 less D4; §3a TTM `QF_TTM_RECON` bridge row]

The sub-products are professional consulting and premium support, but their shares are not disclosed. Consolidated services revenue was €4,262 million in FY2025 and €4,159 million in the TTM, but that line includes ATS training and therefore is not a proxy for Core Services. Assigning all of it would overstate the segment and violate SAP's taxonomy. [data_package §1 current taxonomy and §4 Services row, official sources D1-D7]

Core Services should be structurally low in owned physical capital: the main productive assets are people, expertise, methods, software tools, customer relationships and access to SAP product knowledge. That does not mean the business is economically capital-free. Hiring, training, certification, bench time, delivery tooling, knowledge management, travel, subcontractors and working capital all absorb resources. SAP does not disclose segment capex, working capital, headcount, utilization or invested capital. Group capex must not be allocated to Core Services by revenue share. [DATA GAP: Segment-level capex, working capital, headcount, utilization, bill rates, subcontractor cost and invested capital are not disclosed.]

3. Unit economics

Revenue becomes profit through a capacity-and-mix equation. The key revenue variables are available billable capacity, utilization, realized price, project duration, scope discipline, premium-support attachment and the volume of migrations or transformations. The key cost variables are employee compensation, subcontractor spend, bench time, travel, sales support, delivery tooling, training, rework and project overruns. Fixed central bridge items are not assigned here: the sealed statutory bridge requires SAP's separate operating adjustments to be modeled once at consolidation, not pushed into Core Services.

Professional consulting economics are dominated by utilization and delivery quality. A consultant who is trained and paid but not deployed produces no billable revenue. When demand weakens faster than hiring or reskilling can adjust, bench cost compresses margin sharply. Conversely, a better mix of scarce architecture, migration and industry expertise can raise realized rates and reduce low-value effort. Clean delivery converts booked work into revenue with limited rework. Poor scoping, custom code, delayed customer decisions or data-quality problems can turn ostensibly attractive demand into margin-dilutive projects.

Premium support should have a different economic profile. The customer pays for access, expertise and responsiveness around a mission-critical system. If support knowledge, diagnostics and automation are reusable across customers, incremental gross economics can improve with scale. Direct access to product engineering and escalation paths can differentiate SAP from a third party. However, premium support is not immune to scrutiny: customers can pressure vendors to include more help in the software subscription, procurement teams can benchmark fees, and improved product reliability or automated resolution can reduce the labor required and the perceived value of human-intensive support.

Mix therefore matters more than headline segment revenue. A greater share of standardized premium engagements, remote delivery, reusable methods and expert advisory should lift margin. A greater share of bespoke implementation, difficult data migration, fixed-price remediation or underutilized capacity should lower it. Because SAP discloses no mix, this appendix does

not fabricate a weighted average of invented consulting and premium-support margins. The segment margin remains an aggregate scenario output.

Internal automation is a genuine lever but not free upside. The reviewed package records management's statement that AI assists all support cases and fully resolves 20% of tickets. That is evidence of potential productivity, but it does not disclose whether the measurement applies entirely to Core Services, how much labor was removed, whether service levels improved, or whether savings were reinvested. Automation may shorten resolution time and create capacity; it may also cause customers to expect lower prices or more service for the same fee. The base case gives limited credit through gradual margin improvement, while the bull case requires both productivity and retention of the economic benefit. [data_package §0a, Business AI disclosure inventory; §6, Q1 FY2026 management-commentary row]

Transformation costs can temporarily depress economics even when long-run productivity improves. SAP's group restructuring program affected thousands of roles, and other transformation-related costs can sit outside the restructuring line. Core Services' lower TTM profit, together with management's direction for a moderate FY2026 segment-profit decrease, argues for a first-year margin reset before any operating leverage. The model does not allocate group restructuring charges into the segment or add them back; it recognizes their operational effect through plausible utilization, hiring and delivery-efficiency paths. This preserves the segment-profit basis and avoids double counting statutory bridge items.

Delivery quality is the central intangible asset. A successful migration can deepen customer trust, speed cloud consumption and create premium-support demand. A failed or delayed implementation can cause credits, rework, partner blame, customer dissatisfaction and reduced software expansion. These feedback loops make revenue quality more important than raw billable volume. The bull case therefore requires quality indicators consistent with shorter implementation cycles and fewer escalations, not merely more hiring. The bear case assumes that weak quality and custom complexity absorb capacity without earning proportionate fees.

4. Competitive dynamics

Core Services competes and cooperates with global systems integrators, strategy and technology consultancies, specialist SAP boutiques, managed-service providers and customers' internal IT teams. Accenture, IBM Consulting and Capgemini illustrate the scale of the alternatives. These firms can combine industry expertise, business-process redesign, cloud infrastructure, data modernization, change management and multi-vendor integration. That broader scope can be more valuable than vendor-only product knowledge on a complex transformation.

IBM's own current SAP partnership page says it has implemented more than 300 SAP S/4HANA projects in the past five years, has over 18,000 certified SAP consultants, and has served over 10,000 SAP customers. Those are company-supplied figures, but they demonstrate that implementation capacity and SAP expertise exist outside SAP at material scale. IBM can be an ecosystem partner that expands SAP adoption and, simultaneously, a substitute for SAP-billed consulting or managed work. [IBM and SAP partnership](https://www.ibm.com/strategic-partnerships/sap)

The peer revenue evidence does not support an assumption of effortless industry-wide consulting growth. Accenture's Q3 FY2026 consulting revenue was $9.33 billion, up only 1% in local currency, while consulting bookings were $10.26 billion. Its managed-services revenue grew 5% in local currency, suggesting that recurring operational work was firmer than discretionary consulting in that period. Accenture's 17.0% operating margin was company-wide, not a directly comparable consulting segment margin. [Accenture Q3 FY2026 results](https://newsroom.accenture.com/content/3qfy26-earnings/accenture-reports-third-quarter-fiscal-2026-results.pdf)

IBM Consulting reported Q2 2026 revenue of $5.327 billion, up 1.1% at constant currency, and a 12.1% segment-profit margin, up from 10.6% a year earlier. The combination—little growth but better profitability—shows that delivery productivity can raise service margins without robust top-line expansion. It is relevant to Core Services' base case, but IBM's segment perimeter and profit definition differ, so the 12.1% is a directional benchmark, not a target copied into SAP. [IBM Q2 2026 results](https://newsroom.ibm.com/2026-07-22-IBM-RELEASES-SECOND-QUARTER-RESULTS)

Capgemini demonstrates that stronger demand pockets also exist. In H1 2026, Strategy & Transformation revenue grew 9.2% and Applications & Technology grew 5.0% at constant exchange rates; in Q2 those rates were 12.2% and 5.3%. The group operating margin was 12.5%. Its total H1 constant-currency growth benefited materially from acquisitions, so the headline 11.3% is not an organic base rate for SAP services. The relevant signal is that customers still fund modernization and transformation when the provider has appropriate capability and industry positioning. [Capgemini H1 2026 results](https://investors.capgemini.com/en/publication/2026-h1-results/)

SAP has pricing power where direct vendor expertise, product escalation, roadmap access or accountability materially reduces project risk. That is more plausible in premium support and the most complex architecture work than in standardized implementation tasks. Global integrators have pricing power of their own through labor scale, offshore delivery, industry templates and the ability to coordinate SAP with non-SAP systems. Specialist firms can undercut price or offer deeper local expertise. Customers can also build internal centers of excellence for repeat work.

Entry barriers are real but not exclusive. Effective SAP transformation requires trained people, certification, delivery references, process knowledge, data-migration capability and trust. These take time to assemble. Yet IBM's disclosed scale shows that large partners have already crossed those barriers. The ecosystem is therefore a two-edged structure: it enlarges SAP's software distribution and implementation capacity, but prevents SAP from monopolizing the downstream service pool.

Partner substitution is the most important structural constraint. SAP benefits when partners implement its software successfully, even if Core Services does not bill the work. Management may optimize the ecosystem for software adoption rather than services share. A forecast that makes Core Services grow in line with cloud revenue would confuse ecosystem value with captured segment revenue. The base case instead assumes modest growth because migration demand is offset by partner allocation, standardization and automation. The bull case requires SAP to retain more premium, high-risk and high-value work without crowding out partners. The bear case assumes partners and customer teams capture most implementation growth while SAP retains the cost of specialist capacity.

No reliable current-run primary source provides a common market-share denominator for vendor professional services plus premium support around SAP implementations. This appendix therefore uses observable peer scale and operating trends rather than a spurious share estimate.

5. Moat at the segment level

Core Services has a narrower moat than SAP's application portfolio. Its strongest protection is privileged product adjacency: SAP knows its own architecture, release plans, escalation pathways and engineering organization. For premium support and complex transformations, customers may value direct accountability to the vendor. Existing enterprise relationships, installed-base knowledge and the cost of failure provide access advantages. These can support price and attach even when implementation labor is available elsewhere.

The second protection is accumulated delivery knowledge. Reusable migration patterns, industry process models, diagnostic tools and experience with difficult estates can reduce risk. A credible record matters because ERP transformations affect financial reporting, supply chains, payroll and other critical operations. A new entrant cannot instantly reproduce that trust. However, these assets are partly embodied in employees, and employees can move between SAP, integrators, customers and specialists. The moat is therefore more human and relational than proprietary.

Premium support likely has the stronger moat. Direct escalation into the product vendor, access to specialists and a single accountability path can be hard to duplicate. Consulting is more contestable: partners may have broader change-management capability, stronger local labor pools, multi-vendor neutrality and more industry-specific delivery teams. IBM's scale in SAP certifications and projects is direct evidence that credible substitutes exist.

Switching costs protect the software relationship more than the service provider. A customer may be deeply committed to SAP software but still change integrators, divide work among multiple partners, or internalize capabilities. That means Core Services cannot automatically harvest SAP's application-level moat. Its economic moat depends on repeatedly proving that direct SAP involvement improves outcomes enough to justify the fee.

Over five to ten years, automation will probably reduce labor hours for coding, testing, documentation, ticket triage and parts of migration. This can strengthen the moat if SAP's product telemetry and proprietary knowledge let it automate better than partners while keeping the savings. It can weaken the moat if generalized tools commoditize expertise or if customers insist that productivity savings reduce prices. The base case assumes both effects, yielding moderate margin improvement but only low-single-digit revenue growth.

The segment-level moat verdict is **narrow and uneven**. Premium support and vendor-exclusive escalation are defensible; broad implementation capacity is not. Durability is adequate for a profitable segment but insufficient to underwrite sustained high growth or a large margin leap without evidence. The key five-year test is whether SAP can translate cloud migration volume into higher-value premium engagements while partners absorb commoditized implementation. If the segment instead carries excess capacity, absorbs transformation disruption and loses billable work to the ecosystem, the blended corporate moat will not protect this segment's economics.

6. Historical growth rates

Only the three current-taxonomy fiscal years are comparable. FY2021-FY2022 are intentionally excluded. Every historical revenue cell below points to the reviewed data-package row; no product dollars are back-solved and consolidated services revenue is not assigned to this segment.

Product / sub-segment	FY2023 revenue	FY2024 revenue	FY2025 revenue	FY2023-FY2025 CAGR	Most recent YoY	Data-package cite
Core Services aggregate	€3.848bn [§3 Core Services Revenue row]	€3.927bn [§3 Core Services Revenue row]	€3.953bn [§3 Core Services Revenue row]	1.3552% [calculated from cited cells]	Q2 FY2026 -2.8% [§5 Segment trend Q2 row]	data_package §3 rows 131-140, sources D1/D5; §5 rows 238-243, sources D6/D5/D4 and D2 less D4
Professional consulting	Not separately disclosed [§1 taxonomy]	Not separately disclosed [§1 taxonomy]	Not separately disclosed [§1 taxonomy]	Not calculable	Not disclosed	data_package §1 and §4 taxonomy note
Premium support	Not separately disclosed [§1 taxonomy]	Not separately disclosed [§1 taxonomy]	Not separately disclosed [§1 taxonomy]	Not calculable	Not disclosed	data_package §1 and §4 taxonomy note

Arithmetic checks: €3.848bn × 1.021 = €3.929bn versus €3.927bn reported, a 0.05% difference caused by rounded growth disclosure and well inside the 2% test. €3.927bn × 1.007 = €3.954bn versus €3.953bn reported, a 0.04% difference, also inside the test. The CAGR is `(3.953 / 3.848)^(1/2) - 1 = 1.3552%`, rounded to 1.4%; three reported years contain two compounding intervals.

The exact TTM revenue anchor is €3.874 billion, below FY2025, and the exact TTM segment profit is €370 million. The quarterly figures in the data package are presented for trend reading, but the reviewed FY-minus-prior-H1-plus-current-H1 bridge controls the forecast anchor. Profit history on the exact basis is shown below.

Metric on exact basis	FY2023	FY2024	FY2025	TTM ended 2026-06-30	Data-package cite
Segment profit (loss) (non-IFRS)	€249m	€283m	€432m	€370m	§3 Core Services profit row, sources D1/D5; §3a QF_TTM_REC0N Core Services row
Segment profit (loss) (non-IFRS) margin	6.5%	7.2%	10.9%	9.6%	§3 Core Services margin row, sources D1/D5; TTM margin calculated from governed revenue and sealed profit anchors

The history supports three conclusions. First, demand is not mechanically tracking SAP's much faster cloud growth. Second, margins can change materially even when revenue barely moves, which elevates utilization and mix risk. Third, the 2026 entry point is weaker than FY2025 and demands an explicit recovery path rather than a straight-line extrapolation.

7. Management guidance

The reviewed data package contains only directional Core Services guidance. It does not provide a numeric FY2026 revenue or margin target for this segment. Relevant statements are:

- **FY2025 Form 20-F guidance, SAP SE, data_package §6 after the commentary table and source D1:** the filing expected a **“slight increase”** in Core Services revenue and a **“moderate profit decrease”** for 2026. Interpretation: near-term migration demand is sufficient to stabilize revenue, but delivery mix, capacity or transformation effects pressure profit. This is the controlling segment-specific anchor.
- **Q1 FY2026, 2026-04-23, Christian Klein, data_package §6 management row: “AI assists 100% of support cases.”** The package adds that 20% of tickets were fully autonomous. Interpretation: automation can release support capacity, but the scope, segment attribution and retained financial benefit are undisclosed. The model gives no separate AI revenue.
- **Q1 FY2026 statement, 2026-04-23, Dominik Asam, data_package §6 management row: “disciplined execution in revenue and profitability.”** Interpretation: cost control is supportive context, not a segment margin guarantee.
- **Q2 FY2026, 2026-07-24, Christian Klein, data_package §6 management row: “we also adjusted our hiring plans.”** Interpretation: slower hiring can protect utilization if demand remains soft; it can also constrain delivery quality if migration demand accelerates faster than skilled capacity.

The broader cloud/backlog guidance belongs primarily to ATS and cannot be converted into a Core Services growth target. It matters only as a demand driver: more migrations and large transformations can create service opportunities, while long deal durations and partner-led delivery weaken direct revenue conversion. [DATA GAP: Management provides no numeric Core Services FY2026 revenue, segment-profit, margin, bookings, pipeline, utilization or headcount guidance beyond the directional slight-revenue-increase and moderate-profit-decrease statements.]

8. Forward growth assumptions

Because SAP discloses no consulting/premium-support revenue split, each scenario models the issuer-disclosed Core Services aggregate. The economic drivers are still separated in the prose: consulting capacity and migration demand determine project volume; partner substitution determines captured share; premium-support attachment affects quality and resilience. Creating two forecast revenue lines would imply a precision that the source record does not support.

Base case growth

Product	FY2023-FY2025 historical CAGR	Latest YoY	Management FY+1 guide	Base CAGR TTM to 2031-06-30	Justification
Core Services aggregate	1.3552%	Q2 FY2026 -2.8%	Slight revenue increase; moderate profit decrease	1.0993%	Migration demand and premium support stabilize the segment, but partners capture much implementation work and automation limits billable hours. Revenue moves from near-flat to low-single-digit growth without matching cloud growth.
Professional consulting	Not calculable	Not disclosed	No separate guide	Not modeled separately	Revenue is embedded in the aggregate; a separate CAGR would require an invented TTM split. Consulting capacity, migration demand and partner substitution instead drive the aggregate case.
Premium support	Not calculable	Not disclosed	No separate guide	Not modeled separately	Revenue is embedded in the aggregate; a separate CAGR would require an invented TTM split. Support attachment and automation instead affect the aggregate growth and margin paths.

The base path is +0.5% in year one, +1.0% in year two, +1.5% in years three and four, and +1.0% in year five. That cadence explicitly bridges the latest contraction to management's slight-increase direction. It assumes SAP avoids a capacity shock, maintains delivery quality and participates selectively in complex migrations, while steering commoditized implementation to partners. Accenture and IBM's roughly 1% recent consulting growth provides a conservative comparable for a mature service pool; Capgemini's 5% Applications & Technology growth shows upside is possible, but not a suitable base rate because perimeters differ and acquisitions affected group growth.

Bull case growth

Product	FY2023-FY2025 historical CAGR	Latest YoY	Management FY+1 guide	Bull CAGR TTM to 2031-06-30	Justification
Core Services aggregate	1.3552%	Q2 FY2026 -2.8%	Slight revenue increase; moderate profit decrease	2.9941%	Complex cloud migrations, premium-support attachment and high-value AI/data work outweigh partner substitution. SAP retains scarce architecture and escalation work without inventing standalone AI consulting revenue.
Professional consulting	Not calculable	Not disclosed	No separate guide	Not modeled separately	The bull assumes stronger high-complexity work inside the aggregate, but no separate revenue share or CAGR is invented.
Premium support	Not calculable	Not disclosed	No separate guide	Not modeled separately	The bull assumes better attachment and renewal inside the aggregate, but no separate revenue share or CAGR is invented.

The bull path is +1.0%, +3.0%, +4.0%, +4.0% and +3.0%. It respects the weak starting point instead of assuming an immediate surge. It requires a successful transition from implementation assistance to premium, reusable and higher-value engagements; sufficient skilled capacity; and delivery quality strong enough to protect price. Capgemini's recent 5% Applications & Technology growth and stronger transformation growth establish that customer demand can exceed the base case, but the bull still remains below those higher peer observations because SAP's own current segment history is much slower.

Bear case growth

Product	FY2023-FY2025 historical CAGR	Latest YoY	Management FY+1 guide	Bear CAGR TTM to 2031-06-30	Justification
Core Services aggregate	1.3552%	Q2 FY2026 -2.8%	Slight revenue increase; moderate profit decrease	-1.5051%	Partner and customer teams take implementation share, automation reduces billable hours, and weak delivery quality or capacity mismatch causes project leakage. Premium support does not offset consulting decline.
Professional consulting	Not calculable	Not disclosed	No separate guide	Not modeled separately	The bear assumes partner capture and weak utilization inside the aggregate, but no separate revenue share or CAGR is invented.
Premium support	Not calculable	Not disclosed	No separate guide	Not modeled separately	The bear assumes weak attachment or bundling pressure inside the aggregate, but no separate revenue share or CAGR is invented.

The bear path is -3.0%, -2.0%, -1.5%, -1.0% and 0.0%. It assumes management's slight-increase expectation is missed after the weak H1 trajectory. The decline moderates because SAP still has a large installed base and direct vendor support retains value. This is not a collapse scenario: it is a slow erosion scenario in which the ecosystem succeeds at SAP implementations but SAP captures less direct service revenue.

Case	TTM revenue	Year 1 growth	Year 2 growth	Year 3 growth	Year 4 growth	Year 5 growth	2031-06-30 revenue
Bear	€3,874m	-3.0%	-2.0%	-1.5%	-1.0%	0.0%	€3,591.1m
Base	€3,874m	0.5%	1.0%	1.5%	1.5%	1.0%	€4,091.7m
Bull	€3,874m	1.0%	3.0%	4.0%	4.0%	3.0%	€4,489.7m

No scenario assumes a separate AI-consulting line, and none assigns the consolidated services line to Core Services. The model is deliberately aggregate because the disclosure boundary is economically material.

Partner substitution is quantified once through captured revenue: year-one growth is -3.0% in bear, +0.5% in base and +1.0% in bull, with exact five-year CAGRs of -1.5051%, +1.0993% and +2.9941%, respectively. The rollup applies no separate partner-share haircut. The margin cases capture the distinct utilization consequence after that revenue outcome—idle capacity in bear, normalization in base and scarce-expert utilization in bull—rather than deducting partner substitution from revenue a second time.

9. Forward Segment profit (loss) (non-IFRS) margin assumptions

The current margin is 9.55%, rounded to 9.6%, on the exact `Segment profit (loss) (non-IFRS)` basis. It is not operating income and it excludes or treats items according to SAP's issuer-defined non-IFRS segment measure. Corporate and statutory bridge adjustments remain outside this segment.

Case	TTM margin on Segment profit (loss) (non-IFRS)	Year 1 margin	Year 3 margin	2031-06-30 margin	Change from TTM	Specific mechanism
Bear	9.6%	8.0%	5.8%	5.5%	-405 bps	Falling utilization, partner substitution, price pressure, transformation disruption and delivery rework overwhelm automation savings.

Case	TTM margin on Segment profit (loss) (non-IFRS)	Year 1 margin	Year 3 margin	2031-06-30 margin	Change from TTM	Specific mechanism
Base	9.6%	9.0%	10.0%	11.0%	+145 bps	A first-year profit reset is followed by better utilization, more standardized delivery, support automation and a modest premium-support mix benefit.
Bull	9.6%	10.0%	13.0%	15.0%	+545 bps	Premium engagements gain mix, reusable methods and automation cut effort, pricing holds, and high delivery quality avoids rework while skilled capacity stays tight.

The bear decline is larger than 100 basis points because the cost base is labor-heavy and cannot instantly flex with revenue. The specific failure mechanism is underutilized skilled capacity combined with lower-value work and project overruns. A 5.5% horizon margin remains positive because premium support and direct vendor expertise preserve some economics; it is not a liquidation outcome.

The base increase is also larger than 100 basis points, but it is gradual and starts with a decline to 9.0%, consistent with management's moderate-profit-decrease direction. Utilization recovers as hiring adjusts, implementation methods become more reusable, and support automation releases capacity. Only part of the productivity benefit is retained because customers and partners share the economics through price and scope. The 11.0% horizon margin is below IBM Consulting's recent 12.1% directional benchmark and close to SAP's FY2025 10.9%, which keeps the assumption grounded.

The first-year reset is fully quantified in the rollup and is not overlaid elsewhere. Against the €370.0 million TTM profit anchor, year-one profit is €300.6 million in bear (-18.8%), €350.4 million in base (-5.3%) and €391.3 million in bull (+5.7%). Base therefore converts management's slight revenue increase and moderate profit decrease into +0.5% revenue growth, a 55-basis-point margin decline from the exact 9.55% anchor and a 5.3% profit decline; bull explicitly represents guidance outperformance, while bear represents a miss.

The bull margin requires much more than general AI enthusiasm. It requires premium support and high-complexity advisory to gain mix; internal automation to reduce delivery effort; limited wage inflation; disciplined project selection; and quality high enough to avoid remediation. The 15.0% endpoint remains below Accenture's 17.0% company-wide margin, though that figure is not segment-comparable. The point is not to copy a peer; it is to bound a successful services outcome.

Margin driver	Bear condition	Base condition	Bull condition
Consulting utilization	Bench rises as projects shift to partners or slip	Hiring follows demand and bench normalizes	Scarce experts remain highly utilized
Migration demand	Customer delays and standardized migrations reduce SAP scope	Complex migrations offset partner-led commodity work	Large transformations require more direct SAP expertise
Partner substitution	Integrators capture most implementation value	Partners take scale work; SAP retains complex/high-risk tasks	SAP captures premium architecture while partners expand total capacity
Premium-support mix	Attach and renewal disappoint	Mix improves modestly	Attach, pricing and renewal strengthen materially
Transformation costs	Reorganization disrupts teams and causes rework	First-year reset, then benefits emerge	Changes finish quickly with low disruption
Delivery quality	Overruns, remediation and dissatisfaction consume capacity	Stable delivery and reusable methods	Shorter cycles and fewer escalations reinforce pricing
Automation	Savings passed to customers or offset by investment	Partial savings retained	Large productivity gains retained without service degradation

[DATA GAP: SAP does not disclose product-level margins, consulting utilization, premium-support renewal or service-delivery quality KPIs, so the aggregate margin scenarios cannot be revenue-weighted by disclosed sub-product economics.]

10. Segment rollup

The rollup begins at exactly €3,874 million of TTM revenue and €370 million of TTM `Segment profit (loss) (non-IFRS)`. Each annual revenue is the prior year's revenue multiplied by the stated growth rate. Profit is revenue

multiplied by the scenario margin for that year. There are no invented product subtotals and no corporate adjustments in the table.

Case	2027-06-30 revenue	2028-06-30 revenue	2029-06-30 revenue	2030-06-30 revenue	2031-06-30 revenue
Bear	€3,757.8m	€3,682.6m	€3,627.4m	€3,591.1m	€3,591.1m
Base	€3,893.4m	€3,932.3m	€3,991.3m	€4,051.2m	€4,091.7m
Bull	€3,912.7m	€4,030.1m	€4,191.3m	€4,359.0m	€4,489.7m

Case	Year 1 margin	Year 2 margin	Year 3 margin	Year 4 margin	Year 5 margin
Bear	8.0%	6.5%	5.8%	5.5%	5.5%
Base	9.0%	9.5%	10.0%	10.5%	11.0%
Bull	10.0%	11.5%	13.0%	14.0%	15.0%

Case	Year 1 Segment profit (loss) (non-IFRS)	Year 2	Year 3	Year 4	Year 5
Bear	€300.6m	€239.4m	€210.4m	€197.5m	€197.5m
Base	€350.4m	€373.6m	€399.1m	€425.4m	€450.1m
Bull	€391.3m	€463.5m	€544.9m	€610.3m	€673.5m

Case	Revenue CAGR	2031-06-30 revenue	Exact profit metric	2031-06-30 margin	2031-06-30 profit	Rollup tie
Bear	-1.5051%	€3,591.1m	Segment profit (loss) (non-IFRS)	5.5%	€197.5m	€3,591.1m × 5.5% = €197.5m
Base	1.0993%	€4,091.7m	Segment profit (loss) (non-IFRS)	11.0%	€450.1m	€4,091.7m × 11.0% = €450.1m
Bull	2.9941%	€4,489.7m	Segment profit (loss) (non-IFRS)	15.0%	€673.5m	€4,489.7m × 15.0% = €673.5m

All scenario totals reconcile at full precision; the displayed one-decimal values tie within rounding. Core Services is the only disclosed financial line available for this segment. The absence of a consulting/premium-support split is not an arithmetic residual; it is a disclosure boundary. Segment profit is calculated directly on the sealed basis and will later be combined with ATS segment profit. The synthesis stage, not this appendix, applies the separately sealed operating bridge to statutory operating income.

The scenario dispersion is deliberately driven more by margin than revenue. That reflects the evidence: FY2023-FY2025 revenue changed little while margin moved from 6.5% to 10.9%, and quarterly margins were volatile. The segment's valuation relevance is therefore tied to capacity discipline, mix and delivery quality rather than an assumption of high top-line growth.

11. Key risks and wildcards

Partner capture — primarily bear. Large integrators already possess extensive SAP-certified labor, templates and customer references. If SAP routes more implementation work to partners, Core Services can stagnate even while cloud adoption succeeds. This risk can be strategically rational for SAP group economics, which makes it especially dangerous to a segment-only forecast.

Migration-wave duration — bull and base. The installed base still faces complex cloud and S/4HANA transformations. A sustained multi-year wave can support architecture, migration and premium-support demand. The wildcard is captured share: implementation volume in the ecosystem does not equal SAP Core Services revenue.

Consulting capacity mismatch — bear. Skills must be hired or reskilled before demand is fully visible. Overcapacity reduces utilization and margin; insufficient capacity causes delays, lower quality or lost premium work. Hiring-plan adjustments can help or hurt depending on demand accuracy.

Transformation execution — bear near term, bull later. Reorganization can lower cost and improve skill mix, but it can also disrupt teams, lose experienced employees and create delivery gaps. The base model imposes a first-year margin reset before benefits; an immediate margin jump would contradict management's moderate-profit-decrease direction.

Delivery quality — all cases. ERP failures are costly. Project overruns, poor data migration, excessive customization or unstable go-lives can create rework and reputational damage. Good outcomes strengthen software adoption and premium support; bad outcomes destroy both capacity economics and customer trust.

Automation economics — bull or bear. AI-assisted support and delivery tools can lower effort. The bull case retains much of the saving; the bear case assumes prices fall, service scope expands, or tools commoditize knowledge. No separate AI revenue is recognized because none is disclosed.

Premium-support value proposition — all cases. Direct vendor escalation and product access can command a premium, but customers may demand that more support be bundled with subscriptions. Renewal and price realization are undisclosed, leaving a critical margin driver unobservable.

Wage and subcontractor inflation — bear. Scarce SAP, data, security and transformation skills can command higher compensation. If bill rates lag labor cost, segment margin compresses. Offshore and remote delivery can offset this but may introduce quality or coordination risk.

Fixed-price and scope risk — bear. Project complexity is discovered during execution. Fixed-price work with poor initial scoping can convert strong demand into low or negative project economics. The absence of disclosed project-mix data prevents direct measurement.

Customer insourcing — bear. Large customers can build internal SAP centers of excellence, particularly after initial migration. This reduces recurring consulting demand but may leave premium escalation intact.

Product simplification — mixed. Standardized cloud implementations can reduce billable hours and service revenue, but they may also improve margins and accelerate the installed-base conversion that supports premium engagement. The net result depends on pricing and captured share.

Service concentration and geography — uncertainty. SAP does not disclose Core Services customer concentration, regional revenue, regional margin or vertical mix. A slowdown in a large geography or industry could affect utilization faster than the aggregate model suggests. [DATA GAP: Core Services customer concentration, geography, vertical exposure, bookings and backlog are not separately disclosed.]

The most important monitoring set is therefore operational rather than promotional: segment revenue versus the “slight increase” direction; quarterly exact-basis margin; headcount and hiring commentary; evidence of partner-led versus SAP-led implementations; support automation outcomes; delivery quality or remediation signals; and any disclosure of premium-support attachment or renewal. A sustained margin below 8% with flat-to-declining revenue would move the base case toward bear. Revenue growth above 3% with margin above 12%, achieved without a quality deterioration or one-off cost shift, would begin to validate the bull mechanics.

Summary

Case	Segment TTM+5y Revenue	Exact profit metric	Segment TTM+5y Profit Margin	Segment TTM+5y Profit	Probability
Bear	€3,591.1m	Segment profit (loss) (non-IFRS)	5.5%	€197.5m	25%
Base	€4,091.7m	Segment profit (loss) (non-IFRS)	11.0%	€450.1m	55%
Bull	€4,489.7m	Segment profit (loss) (non-IFRS)	15.0%	€673.5m	20%

The 25%/55%/20% bear/base/bull weights are intentionally non-uniform. Base receives 55% because the 1.3552% FY2023-FY2025 CAGR and management's slight-revenue-increase direction support stabilization, but not rapid growth. Bear receives 25%, five points more than bull, because three consecutive quarters of revenue contraction and management's moderate-profit-decrease direction make downside more immediate than a 15% margin outcome. Bull retains 20% because the migration wave, premium-support attachment and automation create a credible upside path, tempered by partner substitution and undisclosed sub-product economics. The probability-weighted terminal outputs are €4,046.2 million of revenue and €431.6 million of `Segment profit (loss) (non-IFRS)`; these are diagnostics, not a fourth scenario.

Core Services is a strategically useful but financially modest segment with a narrow, uneven moat. Direct vendor knowledge and premium support offer protection; broad consulting work is substitutable by a powerful partner ecosystem. The base case assumes the migration wave stabilizes revenue and gradual productivity returns margin only slightly above FY2025. The bear case is not a collapse in SAP adoption: it is the more subtle outcome in which partners capture implementation growth while SAP carries underutilized specialist capacity. The bull case requires a richer premium-support mix, strong delivery quality and retained automation gains. The forecast does not invent consulting or AI revenue, does not assign consolidated services wholly to Core Services, and preserves `Segment profit (loss) (non-IFRS)` as the exact profit basis throughout.

Appendix S - Synthesis (Combined Earnings Model)

SAP SE — Synthesis (Combined Earnings Model)

Company: SAP SE **Ticker and security:** SAP.DE; XETR:SAP ordinary bearer share, ISIN DE0007164600 **Run ID:** `pulse-cio-20260830T180239+0800` **Model scope:** mechanical consolidation of the two reviewed segment forecasts into statutory operating income, parent-attributable net income, diluted EPS, owner distributions, and a bounded balance-sheet path. This appendix does not select an exit multiple, calculate shareholder IRRs, score the security, rank it, size it, or recommend a trade.

The synthesis uses only the reviewed upstream package. The controlling data package is `data_package.md`, SHA-256 `93da7f6cdf155e7fee7e28b07909ca41744e4de59b070278256a17349acf6fd4`. The reviewed Applications, Technology & Support appendix is SHA-256 `ff50a6ff3e44d0127e9a0abd749c441574f978158af998ef0fc832681e795448`; the reviewed Core Services appendix is SHA-256 `e1ecb1bd02cb84fcf0b536e9f22e376e997476febd0e27a62edf033a6bbb951d`. The quantitative foundation, independent review, primer, management assessment, and moat assessment were also read as bounded upstream evidence. No new filing, market-data pull, or cached warehouse substitute was used.

The operating model has one scenario set throughout: Bear 25%, Base 55%, and Bull 20%. The same weights apply to revenue, profit, EPS, and all probability-weighted diagnostics. SAP is not a P&C insurer or reinsurer, so the insurer-specific retained-economics lane is not triggered.

1. Anchors and gate verification

- Today: **2026-08-30**.
- Fiscal year end: **December 31**.
- Latest reported period: **H1 FY2026 ended 2026-06-30**.
- TTM anchor: **2026-06-30**, constructed as FY2025 less H1 FY2025 plus H1 FY2026. This is equivalent to Q3 FY2025, audited-implied Q4 FY2025, H1-implied Q1 FY2026, and Q2 FY2026.
- Latest completed fiscal year for historical tie-out only: **FY2025 ended 2025-12-31**.
- Exact horizon: **2031-06-30**, exactly 5.0 calendar years after the TTM end. No forecast row uses FY2025 as the compounding base and no row compounds for six years.
- Valuation price: **€191.32 per XETR:SAP ordinary share**, raw Xetra completed-session close for 2026-08-28. Quote and reporting currencies are both EUR.
- Quote packet: `quote_packet.json`, SHA-256 `b420822c9163a8315a9e503274c841f136abbad5b83a6ea5c9795189c94fb0d2`; raw quote source SHA-256 `81f49a72332ec11c5099bad2b971300a1c61ca5a6620d56ed5dceee4dd39fb22`; actionability expiry 2026-08-31T18:02:39+08:00.
- Historical statutory bridge: `statutory_bridge.json`, SHA-256 `267c53d60c1f314af9fffca274d8561cc8a79ed15812708c9cf86e547695efb1`.

The quote-packet validator returned `QUOTE_PACKET_VALID` and reproduced the exact sealed packet hash. The statutory-bridge validator returned `STATUTORY_BRIDGE_VALID` and reproduced the exact sealed bridge hash. `gate_manifest.json` contains `QUANT FOUNDATION VERIFIED — CLEARED FOR WAVE 1`, `DATA PACKAGE VERIFIED — CLEARED FOR WAVE 2`, and `STATUTORY BRIDGE VERIFIED — CLEARED FOR FORECASTING`. It also binds both reviewed segment hashes with zero unresolved issues. Management is YELLOW and moat, including the 2046 test, is PASS; neither qualitative finding changes the arithmetic scenario weights.

The security-unit bridge is an identity but is still explicit. H1 FY2026 diluted weighted-average financial shares of 1,163 million multiplied by the no-split factor of 1.0 equal 1,163 million quote-basis financial shares. SAP is not a depositary receipt; the depositary ratio and class-conversion factor are each 1.0, so one financial share equals one listed ordinary share. EUR per EUR FX is 1.0 at the quote session. The governed TTM EPS basis differs from the latest H1 share anchor: TTM parent profit

of €7,796 million divided by the share-month denominator of 1,169 million gives €6.66894782 per share. The forward share path starts from the newer 1,163 million H1 anchor, as instructed, and never substitutes the 1,169 million TTM weighted average as a point-in-time share count.

2. Segment-level forward assumptions

All values below reproduce the reviewed segment appendices. Revenue and profit are in EUR millions. The exact common profit measure is SAP's issuer-disclosed **Segment profit (loss) (non-IFRS)**; it is not relabeled as statutory operating income.

Segment	Exact profit metric	TTM revenue	Bear 2031 revenue	Base 2031 revenue	Bull 2031 revenue	Bear margin	Base margin	Bull margin
Applications, Technology & Support	Segment profit (loss) (non-IFRS)	€34,318m	€39,407m	€49,482m	€57,138m	36.0%	44.0%	46.0%
Core Services	Segment profit (loss) (non-IFRS)	€3,874m	€3,591.1m	€4,091.7m	€4,489.7m	5.5%	11.0%	15.0%

Sources: `appendix_B_applications_technology_support.md` Sections 8–10 and `appendix_B_core_services.md` Sections 8–10. The locked terminal profit amounts are €14,187 million, €21,772 million, and €26,283 million for ATS, and €197.5 million, €450.1 million, and €673.5 million for Core Services in Bear, Base, and Bull respectively.

ATS is the load-bearing forecast. Its base case assumes cloud grows on an 18%/16%/13%/10%/8% annual path, while software licenses decline 15% annually, support declines 9% annually, and the small training-services line grows 2% annually. The result is a 7.6% ATS revenue CAGR. Bear preserves positive cloud growth but accelerates license and support runoff and compresses the segment margin. Bull requires both faster cloud conversion and higher retained cloud economics. Core Services is modeled only at the disclosed aggregate level because SAP does not publish consulting and premium-support revenue separately. Its base case begins with only 0.5% year-one growth and a first-year margin reset, consistent with management's slight-revenue-increase and moderate-profit-decrease direction.

3. Combined revenue build

The two segments exhaust the consolidated revenue perimeter at the TTM anchor and horizon. There is no corporate revenue line, intersegment elimination, or analyst plug in the reviewed statutory package.

Line	Bear	Base	Bull
ATS 2031 revenue	€39,407.0m	€49,482.0m	€57,138.0m
Core Services 2031 revenue	€3,591.1m	€4,091.7m	€4,489.7m
Sum of segment revenue	€42,998.1m	€53,573.7m	€61,627.7m
Corporate eliminations	€0.0m	€0.0m	€0.0m
Combined statutory revenue	**€42,998.1m**	**€53,573.7m**	**€61,627.7m**
TTM 2026 to 2031 CAGR	2.40%	7.00%	10.04%

The starting combined revenue is exactly €38,192 million: €34,318 million ATS plus €3,874 million Core Services. The Bear case is not a revenue collapse; its 2.40% CAGR reflects continued cloud growth offset by faster support and license runoff and Core Services erosion. Base requires cloud to more than replace legacy runoff while Core Services stabilizes. Bull requires cloud conversion, suite expansion, and AI/data attachment to stay strong at scale without fabricating standalone Business AI revenue.

4. Combined operating-income build

The segment profit sum is bridged through the exact operating classifications already sealed upstream. No operating item is pushed into a segment. No below-line item is used to improve operating margin.

Line	Bear	Base	Bull
ATS segment profit	€14,187.0m	€21,772.0m	€26,283.0m
Core Services segment profit	€197.5m	€450.1m	€673.5m
Sum of segment profit	€14,384.5m	€22,222.1m	€26,956.5m

Line	Bear	Base	Bull
Corporate or unallocated adjustment	€0.0m	€0.0m	€0.0m
Consolidated segment-profit metric	€14,384.5m	€22,222.1m	€26,956.5m
Other expenses	(€3,596.1m)	(€5,222.2m)	(€5,930.4m)
Acquisition-related charges	(€400.0m)	(€250.0m)	(€100.0m)
Restructuring	(€100.0m)	€0.0m	€0.0m
Regulatory-compliance matter expenses	(€100.0m)	€0.0m	€0.0m
Teradata litigation expenses	(€100.0m)	€0.0m	€0.0m
Combined statutory operating income	**€10,088.4m**	**€16,749.9m**	**€20,926.1m**
Statutory operating margin	23.46%	31.27%	33.96%

The line rules come directly from `data_package.md` Section 3a. Other expenses are 25.0%, 23.5%, and 22.0% of segment profit in Bear, Base, and Bull. This line remains a real statutory cost even as revenue scales. The Base percentage is close to the 23.7% TTM level; Bull assumes leverage, while Bear assumes deterioration. Acquisition charges are held near €400 million in Bear, fade to €250 million in Base after absorbing the recently completed data and AI acquisitions, and fade to €100 million in Bull. Bear also preserves a €100 million terminal restructuring program, €100 million regulatory charge, and €100 million litigation tail. Base and Bull do not perpetuate the settled Teradata matter. These are forecast rules, not plugs: changing any one visibly changes operating income.

For cadence and downstream distribution work, ATS product revenue follows the segment appendix's explicit annual paths. ATS margin is interpolated from the 40.94% TTM anchor to each locked terminal margin; Core Services uses its reviewed annual revenue and margin schedules. Terminal values are reset to the exact reviewed segment anchors rather than allowed to drift through rounded intermediate displays.

Case and year end	Revenue	Segment profit	Statutory OI	Pretax income	Parent-attributable NI	Ending diluted shares	EPS
Bear 2027-06-30	€39,328.4m	€14,173.1m	€9,829.9m	€10,029.9m	€6,776.4m	1,165.8m	€5.81
Bear 2028-06-30	€40,543.9m	€14,246.7m	€9,935.0m	€10,135.0m	€6,844.5m	1,168.5m	€5.86
Bear 2029-06-30	€41,656.4m	€14,281.1m	€10,010.8m	€10,210.8m	€6,892.8m	1,171.3m	€5.88
Bear 2030-06-30	€42,513.0m	€14,404.0m	€10,103.0m	€10,303.0m	€6,953.2m	1,174.1m	€5.92
Bear 2031-06-30	€42,998.1m	€14,384.5m	€10,088.4m	€10,288.4m	€6,941.4m	1,176.9m	€5.90
Base 2027-06-30	€41,351.1m	€15,708.1m	€11,466.7m	€11,966.7m	€8,344.8m	1,160.7m	€7.19
Base 2028-06-30	€44,834.1m	€17,552.3m	€12,977.5m	€13,477.5m	€9,404.7m	1,158.4m	€8.12
Base 2029-06-30	€48,176.5m	€19,398.8m	€14,490.1m	€14,990.1m	€10,466.3m	1,156.2m	€9.05
Base 2030-06-30	€51,062.6m	€20,875.3m	€15,669.6m	€16,169.6m	€11,293.3m	1,153.9m	€9.79
Base 2031-06-30	€53,573.7m	€22,222.1m	€16,749.9m	€17,249.9m	€12,051.0m	1,151.6m	€10.46
Bull 2027-06-30	€42,663.0m	€16,666.4m	€12,649.8m	€13,449.8m	€9,661.9m	1,159.2m	€8.34
Bull 2028-06-30	€47,527.8m	€19,167.5m	€14,700.6m	€15,500.6m	€11,141.2m	1,155.3m	€9.64
Bull 2029-06-30	€52,823.2m	€21,942.9m	€16,940.5m	€17,740.5m	€12,756.9m	1,151.5m	€11.08
Bull 2030-06-30	€57,560.7m	€24,551.0m	€19,024.8m	€19,824.8m	€14,261.1m	1,147.6m	€12.43
Bull 2031-06-30	€61,627.7m	€26,956.5m	€20,926.1m	€21,726.1m	€15,634.1m	1,143.8m	€13.67

5. Below-line, tax, net income, and EPS bridge

The data package keeps other non-operating income separate from financial income. Bear assumes (€100 million) other non-operating expense and €300 million financial income. Base normalizes other non-operating income to zero and uses €500 million financial income. Bull uses €100 million other income and €700 million financial income. The respective tax rates are 31%, 29%, and 27%, versus 28.2% TTM and about 29% in SAP's non-IFRS outlook.

SAP's TTM profit after tax was €7,936 million, of which €7,796 million was attributable to owners; the €140 million difference is the current NCI flow. Because the reviewed upstream package does not provide a separate forecast driver for this small line, the synthesis holds its TTM ratio to revenue, 140/38,192 or 0.36657%, in all scenarios. This is a transparent bounded derivation, not a blanket haircut to operating earnings. It applies only after tax and scales to €157.6 million, €196.4 million, and

€225.9 million at the horizon. Parent-attributable net income, not total profit after tax, is the EPS numerator.

Line	Bear	Base	Bull
Statutory operating income	€10,088.4m	€16,749.9m	€20,926.1m
Other non-operating income or expense	(€100.0m)	€0.0m	€100.0m
Financial income, net	€300.0m	€500.0m	€700.0m
Pretax income	€10,288.4m	€17,249.9m	€21,726.1m
Tax rate	31.0%	29.0%	27.0%
Profit after tax	€7,099.0m	€12,247.4m	€15,860.0m
Less NCI profit	(€157.6m)	(€196.4m)	(€225.9m)
Parent-attributable net income	**€6,941.4m**	**€12,051.0m**	**€15,634.1m**
Ending quote-basis diluted shares	1,176.9m	1,151.6m	1,143.8m
EUR EPS per quote-basis financial share	€5.8982	€10.4645	€13.6692
Financial shares per listed unit	1.0	1.0	1.0
EUR EPS per listed unit	€5.8982	€10.4645	€13.6692
FX, quote EUR per reporting EUR	1.0	1.0	1.0
Quote-currency EPS per listed unit	**€5.8982**	**€10.4645**	**€13.6692**

The mandatory equation is reproduced directly: Bear €6,941.361 million divided by 1,176.861 million shares equals €5.8982; Base €12,051.049 million divided by 1,151.614 million equals €10.4645; Bull €15,634.123 million divided by 1,143.750 million equals €13.6692. Multiplication by the 1.0 listed-unit factor and 1.0 FX factor leaves each EPS unchanged.

5a. Return-method input bridge, without valuation selection

This section supplies operating and capital inputs for the later valuation preflight. It does not choose P/E, EV/NOPAT, or P/B-ROE and does not choose any exit multiple.

Input at 2031-06-30	Bear	Base	Bull	Treatment
Statutory operating income	€10,088.4m	€16,749.9m	€20,926.1m	Section 4 statutory bridge
Normalized cash tax rate	31.0%	29.0%	27.0%	Data-package Section 3a scenario rule
Normalized NOPAT	€6,961.0m	€11,892.4m	€15,276.0m	OI multiplied by one minus tax rate
Cash plus current financial assets	€18,667.4m	€31,809.7m	€43,771.0m	Derived retained-liquidity bridge below
Nominal gross financial debt	€8,550.0m	€8,550.0m	€8,550.0m	Held at official 2026-06-30 amount
Carrying financial debt cross-check	€8,205.0m	€8,205.0m	€8,205.0m	Official carrying-value disclosure
Lease liabilities	€1,735.0m	€1,735.0m	€1,735.0m	Held at official 2026-06-30 amount, separate from debt
Preferred equity	€0.0m modeled	€0.0m modeled	€0.0m modeled	No preferred claim identified upstream; ordinary-share perimeter
Balance-sheet minority interest	Unavailable	Unavailable	Unavailable	Upstream provides the NCI income flow, not a terminal balance-sheet claim
Other senior claims	€0.0m modeled	€0.0m modeled	€0.0m modeled	No additional senior claim identified upstream
Separately valued non-operating assets	€0.0m	€0.0m	€0.0m	No asset carved out from statutory EPS
Ending diluted listed-equivalent shares	1,176.9m	1,151.6m	1,143.8m	Section 6

The missing terminal minority-interest balance is a genuine capital-structure limitation. It is not filled with the €157.6–€225.9 million NCI income flow because a flow is not a claim balance. Consequently, this synthesis does not assert that the

EV/NOPAT method is fully cleared. A later valuation preflight must decide method suitability. If P/E is selected downstream, terminal net cash or debt must not be added after EPS times P/E; interest and the capital structure are already reflected in statutory EPS. If EV/NOPAT is selected, the NCI balance-sheet claim must first be sourced or explicitly shown immaterial under the governing contract.

5b. Distributions, retained liquidity, and SBC owner economics

The starting annual cash dividend is the TTM €2,883 million paid divided by the governed 1,169 million TTM diluted share-month denominator, or €2.466210 per share. Bear holds that per-share amount flat; Base grows it 5% annually; Bull grows it 8% annually. These paths are bounded scenario assumptions, not management guidance. Cumulative dividend per share is €12.3311, €14.3087, and €15.6257 in Bear, Base, and Bull.

Buybacks are treated once. They reduce diluted shares through the explicit retirement schedule and reduce retained liquidity through cash spent. Buyback cash is not added to terminal shareholder wealth per share, which would double count the same capital return after its effect has already reached the per-share denominator. Dividends are the only cumulative per-share distribution passed to a later shareholder-wealth bridge.

The retained-liquidity diagnostic begins with SAP's official €2,856 million net liquidity at 2026-06-30. Parent NI converts to cash at 95%, 100%, and 105% in Bear, Base, and Bull, bounded around the 112% TTM simple-FCF-to-parent-NI conversion. Annual acquisition/reinvestment reserves are €1,200 million, €920 million, and €750 million; €920 million is the approximate FY2021–FY2025 annual M&A cash outflow derived from the €4.6 billion five-year total in the management appendix. Dividend cash, buyback cash, and that reserve are deducted. The residual accumulates in net liquidity; nominal debt is held at €8,550 million.

Five-year owner bridge	Bear	Base	Bull
Beginning net liquidity	€2,856.0m	€2,856.0m	€2,856.0m
Cumulative parent NI	€34,408.3m	€51,560.1m	€63,455.3m
Cash-conversion factor	95%	100%	105%
Cumulative dividend cash	(€14,426.5m)	(€16,556.4m)	(€18,013.1m)
Cumulative buyback cash	(€5,000.0m)	(€10,000.0m)	(€12,500.0m)
Cumulative acquisition/reinvestment reserve	(€6,000.0m)	(€4,600.0m)	(€3,750.0m)
Terminal net liquidity	**€10,117.4m**	**€23,259.7m**	**€35,221.0m**
Terminal cash plus current financial assets	€18,667.4m	€31,809.7m	€43,771.0m

This is an economic retention schedule, not a promise that every euro will remain as cash. It is included to prevent an avoidable blank and to expose how capital use affects the balance sheet. Acquisitions, working capital, FX, debt issuance or repayment, and actual buyback pricing could change the path. It must not be added to a P/E-derived value.

SBC is not added back to earnings. SAP's TTM SBC expense of €1,499 million remains inside the operating cost base and is therefore already reflected in segment and statutory profit. For share-count mechanics only, annual SBC issuance is approximated as €1,499 million divided by the scenario average repurchase price. This creates 8.3278 million, 6.8136 million, and 5.7654 million shares per year in Bear, Base, and Bull. The approximation is intentionally visible. It does not create a second P&L charge or a second cash deduction.

6. Share-count path

Case and year	Starting diluted shares	Buyback cash	Average price	Shares retired	SBC issuance	Ending diluted shares
Bear Y1	1,163.000m	€1,000m	€180	5.5556m	8.3278m	1,165.772m
Bear Y2	1,165.772m	€1,000m	€180	5.5556m	8.3278m	1,168.544m
Bear Y3	1,168.544m	€1,000m	€180	5.5556m	8.3278m	1,171.317m
Bear Y4	1,171.317m	€1,000m	€180	5.5556m	8.3278m	1,174.089m
Bear Y5	1,174.089m	€1,000m	€180	5.5556m	8.3278m	1,176.861m
Base Y1	1,163.000m	€2,000m	€220	9.0909m	6.8136m	1,160.723m
Base Y2	1,160.723m	€2,000m	€220	9.0909m	6.8136m	1,158.445m
Base Y3	1,158.445m	€2,000m	€220	9.0909m	6.8136m	1,156.168m

Case and year	Starting diluted shares	Buyback cash	Average price	Shares retired	SBC issuance	Ending diluted shares
Base Y4	1,156.168m	€2,000m	€220	9.0909m	6.8136m	1,153.891m
Base Y5	1,153.891m	€2,000m	€220	9.0909m	6.8136m	1,151.614m
Bull Y1	1,163.000m	€2,500m	€260	9.6154m	5.7654m	1,159.150m
Bull Y2	1,159.150m	€2,500m	€260	9.6154m	5.7654m	1,155.300m
Bull Y3	1,155.300m	€2,500m	€260	9.6154m	5.7654m	1,151.450m
Bull Y4	1,151.450m	€2,500m	€260	9.6154m	5.7654m	1,147.600m
Bull Y5	1,147.600m	€2,500m	€260	9.6154m	5.7654m	1,143.750m

The Base buyback pace of €2 billion per year is below the €2.922 billion TTM run rate and uses €10 billion over five years, equal to the current authorization but not assumed to occur entirely by 2027. Bear assumes repurchases fail to offset award issuance, causing 1.19% net dilution over five years. Base produces a 0.98% reduction; Bull produces a 1.66% reduction. These are modest outcomes because SBC is treated as real owner dilution rather than ignored.

7. Mandatory P/E 15 operating gate

Required terminal EPS at the fixed €191.32 price is `€191.32 / 15 = €12.7546667` per listed ordinary share.

Case	2031 EPS	EPS multiplied by 15	Fixed quote price	Cushion	Pass?
Bear	€5.8982	€88.47	€191.32	-53.76%	FAIL
Base	€10.4645	€156.97	€191.32	-17.96%	**FAIL**
Bull	€13.6692	€205.04	€191.32	+7.17%	PASS

The Base case controls the binary gate. Because Base EPS multiplied by 15 is below the packet price, **SAP fails the mandatory P/E at or below 15 on TTM+5-year EPS gate**. Bull clearance does not rescue the thesis. The gate is an operating entry-price test only: 15× is not selected as an exit multiple, no terminal price target is underwritten from it, and no shareholder IRR is calculated here.

Probability-weighted EPS is 25% × €5.8982 + 55% × €10.4645 + 20% × €13.6692 = **€9.9639**. Its 15× diagnostic is €149.46, a -21.88% cushion to the fixed price, but it does not replace the controlling Base test.

8. Reflexivity check

The historical revenue and statutory-profit perimeter tie without a plug. For FY2025, ATS revenue of €32,847 million plus Core Services revenue of €3,953 million equals statutory revenue of €36,800 million exactly. Segment profit of €13,345 million plus €432 million equals €13,777 million. The sealed operating bridge then reaches €9,617 million statutory OI with a €1 million disclosed rounding residual inside the €6.8885 million tolerance.

For the TTM, ATS revenue of €34,318 million plus Core Services revenue of €3,874 million equals €38,192 million statutory revenue exactly. Segment profit of €14,051 million plus €370 million equals €14,421 million. Other expenses of €3,417 million, acquisition charges of €371 million, restructuring of €4 million, zero regulatory expense, and €416 million Teradata expense bridge to €10,211 million statutory OI with a €2 million residual inside the €7.2105 million tolerance. Other non-operating income of €95 million and financial income of €744 million bridge to €11,053 million pretax profit within €3 million; tax reaches €7,936 million profit after tax within €1 million.

The forecast repeats the same classification. Segment profit is never presented as OI. Acquisition, restructuring, regulatory, and litigation costs remain above OI. Other non-operating and financial income remain below OI. Tax applies only after pretax income. NCI is deducted after tax to reach the common-shareholder EPS numerator.

9. Latest-interim bridge reconciliation

The TTM construction uses the permitted cumulative bridge rather than summing overlapping disclosures: `FY2025 - H1 FY2025 + H1 FY2026`. Both H1 periods cover January 1 through June 30. The result is equivalent to Q3 and audited-implied Q4 FY2025 plus H1-implied Q1 and disclosed Q2 FY2026. Revenue is €36,800 million - €18,040 million + €19,432 million = €38,192 million. OI is €9,617 million - €4,789 million + €5,383 million = €10,211 million. Profit after tax is €7,326 million - €3,545 million + €4,155 million = €7,936 million. The share-month denominator is `(1,175 × 12 - 1,175 × 6 + 1,163 × 6) / 12 = 1,169 million`. No half-year amount overlaps with a separately added quarter.

10. Sensitivity

The sensitivity holds all other Base assumptions fixed. ATS revenue sensitivity varies its exact 7.5933% five-year CAGR by 200 basis points. Core Services sensitivity varies only its 11% terminal segment margin. Share sensitivity changes only the ending denominator. Tax sensitivity changes only the statutory tax rate.

Variable	Downside input and EPS	Base EPS	Upside input and EPS	EPS span
ATS revenue CAGR	5.5933%; €9.56	€10.46	9.5933%; €11.44	€1.88
Core Services terminal margin	9.0%; €10.43	€10.46	13.0%; €10.50	€0.08
Ending diluted shares	+5%; €9.97	€10.46	-5%; €11.02	€1.05
Tax rate	32%; €10.02	€10.46	26%; €10.91	€0.90

ATS growth is the largest isolated driver because ATS represents nearly all terminal profit. The second most consequential displayed driver is the share-count path, though it is partly a capital-allocation choice rather than operating performance. Core Services margin matters strategically but has little EPS leverage at the group level. None of the single upside sensitivities alone raises Base EPS above the €12.7547 requirement. That reinforces the gate result: clearing at the fixed price requires a combination of stronger ATS growth, higher retained margin, lower dilution, or a materially lower entry price.

11. Combined earnings summary

Case	Revenue	Statutory OI	OI margin	Parent-attributable NI	EPS per listed share	Probability	EPS multiplied by 15	Versus €191.32
Bear	€42.998bn	€10.088bn	23.46%	€6.941bn	€5.8982	25%	€88.47	-53.76%
Base	€53.574bn	€16.750bn	31.27%	€12.051bn	€10.4645	55%	€156.97	-17.96%
Bull	€61.628bn	€20.926bn	33.96%	€15.634bn	€13.6692	20%	€205.04	+7.17%
Probability-weighted diagnostic	€52.541bn	€15.920bn	30.30%	€11.490bn	€9.9639	100%	€149.46	-21.88%

The weights are intentionally asymmetric. Base receives 55% because current cloud backlog, Cloud ERP Suite growth, cash conversion, and the installed-base migration support continued progress, while the five-year cloud rate decelerates materially. Bear receives 25%, more than Bull, because support runoff, weak Core Services trends, AI infrastructure cost, acquisition integration, and the absence of disclosed standalone AI economics create nearer-term downside. Bull receives 20% because it requires both sustained cloud conversion and substantial exact-basis margin expansion. Management's YELLOW gate reinforces the asymmetric downside weighting; the moat PASS prevents Bear from assuming a franchise collapse.

12. Tie-out checks

- **PASS — reported-financial and statutory-bridge tie-out.** FY2025 revenue is €32,847m + €3,953m = €36,800m. TTM revenue is €34,318m + €3,874m = €38,192m. FY2025 and TTM segment-profit sums reproduce the sealed bridge, and all statutory residuals are inside the respective €6.8885m and €7.2105m tolerances. Both combined revenue and OI match reported amounts well inside 2%.

- **PASS — NI, shares, listed unit, and FX equal EPS.** Bear €6,941.361m / 1,176.861m × 1.0 × 1.0 = €5.8982. Base €12,051.049m / 1,151.614m × 1.0 × 1.0 = €10.4645. Bull €15,634.123m / 1,143.750m × 1.0 × 1.0 = €13.6692. The EPS numerator is parent-attributable NI, not total profit after tax.

- **PASS — segment sum at horizon.** Bear €39,407.0m + €3,591.1m = €42,998.1m; Base €49,482.0m + €4,091.7m = €53,573.7m; Bull €57,138.0m + €4,489.7m = €61,627.7m. With zero corporate revenue eliminations, segment sums equal 100.00% of combined revenue.

- **PASS — product-to-segment rollup.** ATS Bear products sum to €33,946m + €204m + €4,999m + €258m = €39,407m. Base products sum to €42,526m + €382m + €6,259m + €315m = €49,482m. Bull products sum to €48,863m + €567m + €7,361m + €347m = €57,138m. Core Services has no disclosed additive product split, and the reviewed appendix correctly uses one aggregate line rather than inventing consulting and premium-support dollars.

- **PASS — weighted margin.** ATS product-level analytical profit allocations sum to €14,187m, €21,772m, and €26,283m, reproducing the 36%, 44%, and 46% blended margins within €1m displayed rounding. Core Services is a single disclosed aggregate; €3,591.1m × 5.5% = €197.5m, €4,091.7m × 11% = €450.1m, and €4,489.7m × 15% = €673.5m. No mixed profit basis is used.

- **PASS — share count and security-unit path.** The starting 1,163m financial shares × 1.0 split factor equal 1,163m quote-basis shares; division by the 1.0 depositary/class factor equals 1,163m listed equivalents. Each annual ending balance equals starting shares minus buyback retirement plus SBC issuance. Five-year terminal counts of 1,176.861m, 1,151.614m, and 1,143.750m reproduce the table. The path is never calculated in ADR units.

- **PASS — growth plausibility.** ATS Base revenue CAGR is 7.6%, below 1.2 times its disclosed 9.6% FY2023–FY2025 CAGR, or 11.52%. Core Services Base CAGR is 1.0993%, below 1.2 times its 1.3552% history, or 1.6262%. Cloud Base CAGR of 12.9% is below 1.2 times its 22.5% history. Declining license and support assumptions are directionally consistent with recent disclosed trends. No Base segment breaches its governing plausibility ceiling.

- **PASS — historical and forward arithmetic.** Every ATS product endpoint is the TTM product anchor multiplied by its explicit five-year path; displayed totals differ from exact calculations only by rounding and remain inside 1%. Core Services annual revenues multiply sequentially by the reviewed -3%/-2%/-1.5%/-1%/0%, 0.5%/1%/1.5%/1.5%/1%, and 1%/3%/4%/4%/3% paths. All compounding spans are five years.

- **PASS — recency anchor.** Base first-forward-year combined revenue is €41,351.1m versus the €38,192m TTM, an 8.27% increase, inside the required 10% band. The stronger first-year profit step is explained by reviewed segment margin recovery plus the explicit legal and acquisition-charge schedule; it is not a revenue step-change or residual plug.

- **PASS — period and horizon integrity.** The TTM uses FY2025 less comparable H1 FY2025 plus H1 FY2026, with identical January 1–June 30 coverage. The share-month equation uses the same period logic. Forecast start is 2026-06-30 and horizon is 2031-06-30, exactly five calendar years. No row starts from FY2025 or overlaps cumulative and standalone quarters.

- **PASS — valuation-unit, packet-hash, and probability arithmetic.** Recomputed quote and statutory hashes match the sealed values. XETR:SAP, ordinary-share, EUR/EUR, 1.0 split, 1.0 listed-unit, and 1.0 FX bridges reproduce the valuation unit. Scenario EPS multiplied by 15 gives €88.47, €156.97, and €205.04. Probabilities sum to 25% + 55% + 20% = 100%. Weighted EPS is €9.9639. The Base cushion is (€156.97 - €191.32) / €191.32 = -17.96%, so Base controls a binary FAIL.

S GATE

```
SYNTHESIS CLEARED — 11/11 TIE-OUTS PASSED
Scenario weights: Bear 25% / Base 55% / Bull 20%; sum = 100%
Data package SHA-256: 93da7f6cdf155e7fee7e28b07909ca41744e4de59b070278256a17349acf6fd4
ATS reviewed appendix SHA-256: ff50a6ff3e44d0127e9a0abd749c441574f978158af998ef0fc832681e795448
Core Services reviewed appendix SHA-256: e1ecb1bd02cb84fcf0b536e9f22e376e997476febd0e27a62edf033a6bbb951d
Quote packet SHA-256: b420822c9163a8315a9e503274c841f136abbad5b83a6ea5c9795189c94fb0d2
Statutory bridge SHA-256: 267c53d60c1f314af9fffca274d8561cc8a79ed15812708c9cf86e547695efb1
P/E 15 gate: FAIL — Base cushion -17.96%
Required 2031 EPS at €191.32: €12.7547; Base EPS: €10.4645
Insurer lane: NOT TRIGGERED — SAP SE is not a P&C insurer or reinsurer
Trade execution authorized: NO
```

The only unresolved input for a possible EV/NOPAT valuation method is the terminal balance-sheet NCI claim, which is not supplied upstream and is not inferred from the NCI income flow. That limitation does not affect the statutory EPS or the P/E 15 operating gate. It must be adjudicated by the separate valuation preflight before any security-return work. No exit multiple, shareholder IRR, score, ranking, position size, or trade recommendation appears in this appendix.

Appendix CS - Compounder Score

SAP SE — ER2 Scorecard and Security-Return Underwriting

Run ID: `pulse-cio-20260830T180239+0800` **Security:** SAP.DE, XETR ordinary bearer share, ISIN DE0007164600 **Analysis date:** 2026-08-30 **Current price:** €191.32 at the 2026-08-28 completed Xetra close **Model horizon:** exactly 5.0 years, from the 2026-06-30 TTM operating anchor to 2031-06-30 **Primary valuation method: P/E Scenario probabilities:** Bear 25% / Base 55% / Bull 20%

1. Executive conclusion

SAP is a durable enterprise-software franchise, but the evidence does not support buying the security at €191.32 under either the strict ER2 gate logic or the separate CIO return mandate. The immutable ER2 gate result is **PASS**: Management is YELLOW, Moat is PASS including the 2046 test, and the P/E-at-15 gate is FAIL because Base terminal EPS of €10.4645 multiplied by 15 is €156.97, a negative 17.96% cushion to the current price. Any hard gate FAIL forces a Gideon PASS, regardless of the diagnostic score.

The explicit score is **Compounder Score 59/100**, comprising **Business Quality Score 56/80** and **20% Return Underwriting/Stretch Score 3/20**. This is a diagnostic reject under the 20% rubric. SAP receives substantial credit for its installed-base switching costs, cloud conversion runway, rising cloud gross margin, cash conversion, strong balance sheet and low physical capital intensity. Those positives are capped by the absence of clean three- and five-year ROIIC, limited acquisition-return disclosure, meaningful SBC, the still-open FCPA deferred-prosecution period, and incentives that do not directly reward ROIC or per-share FCF.

The return bridge is not nullified by the PASS verdict. Using the one VP-locked P/E method, Bear/Base/Bull gross EUR shareholder IRRs are **-7.40% / 7.60% / 17.35%**. Probability-weighted terminal shareholder wealth is €269.470775 per share, and its five-year CAGR from €191.32 is **7.09%**. This is the CAGR of expected terminal wealth, not the arithmetic average of scenario IRRs.

The separate CIO status is **PASS / monitor**. Under conservative, source-bound net-SGD assumptions, Bear/Base/Bull annualized returns are **-9.88% / 6.02% / 16.89%**, and probability-weighted net-SGD return is **5.74%**. Base and probability-weighted cases both miss the 10% mandate floor and even the 8% intervention line. Bear terminal SGD wealth implies a 40.55% loss from the all-in initial SGD outlay, incompatible with an 8% drawdown tolerance and 12% hard risk budget. These policy thresholds are diagnostics, not portfolio authority.

2. Artifact gate and source map

The controlling `valuation_preflight.json` has SHA-256 `db112cc0d377716df3cb2d580da806ace776beff1e301738474607e105248075`, status CLEARED, and all five foundations locked. The controlling quote packet has SHA-256 `b420822c9163a8315a9e503274c841f136abbad5b83a6ea5c9795189c94fb0d2`. The return model copies, without reinterpretation, the normalized current EPS, current comparable P/E, terminal EPS denominators, diluted-share paths, capital-structure treatment, scenario exit P/Es and scenario probabilities.

A strict evidence-file replay after the VP stage reports a gate-manifest hash drift: VP bound the pre-append manifest, after which the root added the VP result to `gate_manifest.json`. The root independently validated the byte-identical VP before that circular post-stage append. This is disclosed as an advisory, not treated as a foundation change: the VP remains byte-identical, no locked field changed, and all return arithmetic below is bound to its exact SHA. The VP artifact was not mutated.

Evidence	Controlling use	Current-run binding
`quote_packet.json`	SAP.DE security unit, €191.32 price, 2026-08-28 session date	SHA `b420822c…94fb0d2`
`valuation_preflight.json`	P/E method, denominator bridge, 20x/25x/30x exits, FCF-yield corroboration	SHA `db112cc0…48075`
`appendix_synthesis.md`	Terminal revenue, OI, EPS, shares, dividends, net liquidity, five-year cadence	SHA `42c274c0…98b49`
`appendix_management.md`	YELLOW gate, governance, incentives, acquisitions and capital returns	SHA `08553753…76be41`

Evidence	Controlling use	Current-run binding
appendix_moat.md	Moat PASS and 2046 PASS	SHA d60342a0…d8ab3
Reviewed ATS and Core Services appendices	Segment growth, margin, runway and downside evidence	SHAs ff50a6ff…5448 and e1ecb1bd…951d
Existing scoring audit	Conservative caps for missing ROIIC and acquisition economics	SHA 1fca390f…1908e
Existing red-team appendix	Failure-mode context only; older price/gate facts are superseded by this run	SHA c3e185f1…2be2e
ECB EUR/SGD record	2026-08-28 spot of SGD1.4802 per EUR	SHA 700c899c…f4ecb

The older compounder score, scoring audit and red-team documents were consumed for their durable business-quality observations, but their May 2026 quote and former gate facts do not control this run. The current quote, H1 2026 TTM anchor, current management gate and VP-locked valuation replace any conflicting legacy number.

3. Denominator and valuation integrity

The reported current denominator is official TTM parent-attributable statutory diluted EPS of €6.6689478186, producing a reported P/E of 28.6881836839x. The comparable normalized denominator is €6.7142172797 per share. It resets specified acquisition, litigation, non-operating, financing and tax items to the Base terminal-style treatment while retaining NCI profit and SBC. At €191.32, the normalized comparable P/E is 28.4947585145x.

The terminal denominator is parent-attributable statutory diluted EPS per SAP.DE ordinary share on 2031-06-30: €5.8982 Bear, €10.4645 Base and €13.6692 Bull. The current and terminal denominators are comparable. The selected exit P/Es are 20x, 25x and 30x. The corroborative FCF yields are 4.75%, 4.00% and 3.50%, respectively; they support the relative Bear/Base/Bull valuation ordering but do not replace the primary P/E shareholder bridge.

The exit multiples were selected before return calculation. Bear 20x is below the provider-native 2016–2025 core P/E band and reflects low growth, net dilution and weaker margin without assuming franchise collapse. Base 25x lies near the lower edge of the historical band and below the normalized current 28.49x. Bull 30x remains within the historical band and is allowed only with stronger growth, margin and share retirement. The optimism test passes because Bull remains below the clean historical high and requires explicit execution. The excessive-bearishness test passes because the recurring, moat-positive company is not assigned a distressed multiple. The raw current P/E was not used as a cap or target.

Under P/E, terminal equity value per share is statutory diluted EPS multiplied by the scenario exit P/E. Terminal net cash is displayed as required, but it is not added after EPS × P/E: interest, debt, leases and the capital structure already affect statutory EPS and the equity multiple. Buyback cash is also not added as a distribution because its effect already appears in the diluted-share denominator. Only cumulative dividends are added to terminal equity value.

4. Mandatory security-return underwriting

Measure	Result	Notes
Primary valuation method	P/E	Same method in all scenarios, probability weighting, reverse-return work and net-SGD
Current price	€191.32	SAP.DE completed close on 2026-08-28
Exact horizon	5.0 years	Terminal date 2031-06-30
Gross EUR Bear / Base / Bull IRR	-7.40% / 7.60% / 17.35%	Annualized shareholder return from terminal value plus distributions
Probability-weighted gross EUR IRR	7.09%	CAGR of €269.470775 expected terminal wealth; 25%/55%/20% weights

The full-precision scenario math is:

Scenario	Probability	Current price	Terminal EPS	Exit P/E	Terminal value/share	Cumulative distributions/share	Terminal wealth/share	Terminal diluted shares	Terminal net cash	Gross EUR IRR
Bear	25%	€191.32	€5.8982	20.0x	€117.9640	€12.3311	€130.2951	1,176.861m	€10,117.4m	-7.3951905873%
Base	55%	€191.32	€10.4645	25.0x	€261.6125	€14.3087	€275.9212	1,151.614m	€23,259.7m	7.5981835163%

Scenario	Probability	Current price	Terminal EPS	Exit P/E	Terminal value/share	Cumulative distributions/share	Terminal wealth/share	Terminal diluted shares	Terminal net cash	Gross EUR IRR
Bull	20%	€191.32	€13.6692	30.0x	€410.0760	€15.6257	€425.7017	1,143.750m	€35,221.0m	17.3461924273%

For every row, `terminal wealth = terminal value/share + cumulative distributions`: Bear €117.9640 + €12.3311 = €130.2951; Base €261.6125 + €14.3087 = €275.9212; Bull €410.0760 + €15.6257 = €425.7017. Terminal parent-equity values implied by per-share value times diluted shares are €138,827.231m, €301,276.618m and €469,024.425m. Nominal gross financial debt is €8,550m in each retained-liquidity scenario; the displayed net-cash balances are already after that debt and are not a second value component.

Probability weighting occurs at wealth, not return:

`Expected terminal equity value/share = 25% × €117.9640 + 55% × €261.6125 + 20% × €410.0760 = €255.393075.`

`Expected cumulative distributions/share = 25% × €12.3311 + 55% × €14.3087 + 20% × €15.6257 = €14.077700.`

`Expected terminal shareholder wealth/share = €255.393075 + €14.077700 = €269.470775.`

`Probability-weighted gross EUR IRR = (€269.470775 / €191.32)^(1 / 5.0) - 1 = 7.0903307367%.`

Bear-case operating and return bridge

Values are EUR millions except per-share figures and multiples. Start operating data are at 2026-06-30; the €191.32 price is the 2026-08-28 completed close. Gross local-currency underwriting is shown here; net-SGD adjustments appear later.

Bear case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Revenue	€38,192.0m	€42,998.1m	2.40%	Cloud continues growing but faster support/license runoff and Core Services erosion absorb most of it
Operating margin	26.74%	23.46%	-3.28 pp	Lower ATS margin, legal/regulatory tails and a less favorable cost bridge
Operating earnings	€10,211.0m	€10,088.4m	-0.24%	Statutory operating income after the segment-to-IFRS bridge
Diluted share count	1,163.000m	1,176.861m	+0.24%	€1bn annual buybacks fail to offset modeled SBC issuance
EPS	€6.7142 normalized	€5.8982	-2.56%	Parent-attributable statutory diluted EPS used in the shareholder bridge
Valuation denominator	€6.7142 normalized EPS	€5.8982 statutory EPS	Comparable	Both are parent-attributable statutory diluted EPS on one SAP.DE ordinary share
Valuation	28.49x normalized P/E	20.00x exit P/E	-8.49x	Discounted below history for slow growth, margin pressure and dilution without assuming collapse
Share value	€191.32 price	€117.9640	-38.34%	€5.8982 × 20.0x; terminal net cash is not added after P/E
Annual dividend	€2.4662	€2.4662	0.00%	Per-share dividend held flat
Dividend yield	1.29%	2.09%	+0.80 pp	Endpoint annual dividend divided by endpoint share value
Five-year dividends	—	€12.3311	Cumulative	Five flat annual per-share dividends
Total ending value	€191.32	€130.2951	-7.3952% gross EUR IRR	€117.9640 terminal value + €12.3311 distributions

Base-case operating and return bridge

Base case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Revenue	€38,192.0m	€53,573.7m	7.00%	Cloud ERP Suite, BDC and suite migration more than offset legacy runoff while Core Services stabilizes
Operating margin	26.74%	31.27%	+4.53 pp	Cloud scale and cost discipline expand statutory margin, with acquisition charges retained at €250m
Operating earnings	€10,211.0m	€16,749.9m	10.41%	Statutory operating income after other expenses and acquisition charges
Diluted share count	1,163.000m	1,151.614m	-0.20%	€2bn annual buybacks modestly exceed modeled SBC issuance
EPS	€6.7142 normalized	€10.4645	9.28%	Parent-attributable statutory diluted EPS used in the shareholder bridge
Valuation denominator	€6.7142 normalized EPS	€10.4645 statutory EPS	Comparable	Same claim perimeter and normalization style
Valuation	28.49x normalized P/E	25.00x exit P/E	-3.49x	Lower-edge historical multiple reflects maturity and disclosure gaps despite moat PASS
Share value	€191.32 price	€261.6125	+36.74%	€10.4645 × 25.0x; no post-P/E net-cash addition
Annual dividend	€2.4662	€3.1476	5.00%	Dividend grows 5% annually
Dividend yield	1.29%	1.20%	-0.09 pp	Endpoint annual dividend divided by endpoint share value
Five-year dividends	—	€14.3087	Cumulative	Explicit five-year dividend path
Total ending value	€191.32	€275.9212	7.5982% gross EUR IRR	€261.6125 terminal value + €14.3087 distributions

Bull-case operating and return bridge

Bull case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Revenue	€38,192.0m	€61,627.7m	10.04%	Sustained cloud conversion, AI/data attachment and stronger suite economics at scale
Operating margin	26.74%	33.96%	+7.22 pp	ATS reaches 46% segment margin and the statutory bridge scales favorably
Operating earnings	€10,211.0m	€20,926.1m	15.43%	Statutory operating income after explicit operating adjustments
Diluted share count	1,163.000m	1,143.750m	-0.33%	€2.5bn annual buybacks exceed modeled SBC issuance
EPS	€6.7142 normalized	€13.6692	15.28%	Parent-attributable statutory diluted EPS used in the shareholder bridge
Valuation denominator	€6.7142 normalized EPS	€13.6692 statutory EPS	Comparable	Same parent-common diluted EPS perimeter
Valuation	28.49x normalized P/E	30.00x exit P/E	+1.51x	Within historical range but requires strong growth, margin and AI/data execution
Share value	€191.32 price	€410.0760	+114.34%	€13.6692 × 30.0x; no post-P/E net-cash addition
Annual dividend	€2.4662	€3.6237	8.00%	Dividend grows 8% annually
Dividend yield	1.29%	0.88%	-0.41 pp	Endpoint annual dividend divided by endpoint share value
Five-year dividends	—	€15.6257	Cumulative	Explicit five-year dividend path

Bull case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Total ending value	€191.32	€425.7017	17.3462% gross EUR IRR	€410.0760 terminal value + €15.6257 distributions

5. Reverse-return and gross-return adequacy

The 20% target is not close in Base. A 20% five-year CAGR from €191.32 requires terminal shareholder wealth of €476.0653824. After subtracting Base cumulative distributions of €14.3087, required terminal equity value is €461.7566824 per share. At the locked 25x Base exit P/E, required terminal EPS is €18.4702673, a 22.43% CAGR from normalized current EPS. The locked Base model reaches only €10.4645, or 9.28% annualized EPS growth.

Holding modeled Base EPS fixed instead would require a 44.1260x exit P/E, 54.86% above the comparable normalized current 28.4948x and well above the evidence range. That is a hard-veto form of multiple expansion. The Base maximum buy price for a 20% IRR, including modeled distributions, is €110.8865. This is a reverse-return diagnostic, not a price target or trade instruction.

Return adequacy is therefore poor. Bear is a negative gross return despite a 20x multiple and dividends. Base produces only 7.60% gross EUR, below even the 10% lower edge of the owner mandate before FX, taxes and costs. Bull reaches 17.35%, but it is only 20% probable and still below the diagnostic 20% stretch. The probability-weighted 7.09% gross EUR return is below the 8% intervention line before the SGD overlay.

6. Explicit 100-point rubric and penalties

Category	Score	Maximum	Evidence-based result
1. Incremental Returns on Capital	12	25	ROIC and cash conversion are credible; clean ROIIC and acquisition-inclusive ROIIC are unavailable
2. Reinvestment Runway	17	20	Large cloud migration and data/AI runway, moderated by scale, legacy runoff and missing SaaS metrics
3. Durability of Moat	13	15	Switching costs, system-of-record control and ecosystem support PASS and the 2046 test
4. Accounting and Financial Quality	8	10	Strong tie-outs, conversion and balance sheet; SBC and conduct history prevent full credit
5. Capital Allocation Discipline	6	10	R&D priority and Qualtrics reversal help; acquisitions, incentives, ownership and buyback valuation cap credit
Business Quality Score	**56**	**80**	Promising quality but below the 65/80 dream-business threshold
6. Price and 20% Return Underwriting	3	20	Base below 10%, Bear negative, reverse hurdle fails; dividends and de-rating earn limited credit
Compounder Score	**59**	**100**	Reject under the strict 20% diagnostic rubric

Subscores account for all 100 points. Category 1: 1A 3/5, 1B 0/8, 1C 2/3, 1D 3/3, 1E 3/3, 1F 1/3. Category 2: 2A 5/5, 2B 4/5, 2C 4/4, 2D 2/3, 2E 1/2, 2F 1/1. Category 3: 3A 4/4, 3B 2/3, 3C 3/3, 3D 2/2, 3E 1/2, 3F 1/1. Category 4: 4A 2/2, 4B 2/2, 4C 1/2, 4D 2/2, 4E 1/1, 4F 0/1. Category 5: 5A 2/2, 5B 1/2, 5C 1/2, 5D 1/2, 5E 0/1, 5F 1/1. Category 6: 6A 0/6, 6B 2/4, 6C 0/3, 6D 0/3, 6E 0/2, 6F 1/2.

The score penalties and caps are explicit:

- Missing clean ROIIC and acquisition-inclusive ROIIC force 1B to 0/8 and cap the incremental-return category. A strong software margin is not a substitute for measured incremental return on cumulative reinvestment.
- Management YELLOW caps governance and capital-allocation credit. The FCPA deferred-prosecution period is still open, recent AI/data acquisition economics are undisclosed, executive ownership is light, and incentives lack ROIC or per-share FCF.

- SBC is retained as a real cost and modeled as dilution; it limits 4C even though buybacks offset issuance in Base and Bull.
- Direct pricing-power disclosure is incomplete and regulatory commitments constrain rent extraction, limiting 3B despite the moat PASS.
- Base gross IRR below 10%, negative Bear return and a failed method-matched reverse-return test reduce Category 6 to 3/20. A below-current 25x Base exit is economically defensible, but it does not make the purchase attractive.
- The P/E-15 Base cushion is negative 17.96%. This is a separate entry-price gate, not an exit-multiple instruction, and it forces the ER2 verdict to PASS regardless of score.

7. Net-SGD diagnostic

The ECB Data API observation `EXR.D.SGD.EUR.SP00.A` for 2026-08-28 is **SGD1.4802 per EUR**. The raw 548-byte CSV is archived at `raw/pulse-cio-20260830T180239+0800/cs/ecb_eur_sgd_2026-08-28.csv`, SHA-256 `700c899ce6124ada227840d8f6b4546594a10d7d172cdb938d881070203f4ecb`.

The diagnostic assumes 0.50% all-in entry friction and 0.50% all-in exit friction, including brokerage, FX spread and slippage; German dividend withholding of 26.375% with no reclaim; and zero Singapore capital-gains tax only on the assumption the position is an investment rather than trading income. Tax and account facts can differ, so this is deliberately conservative and not personal tax advice. Terminal FX is SGD1.3379836/EUR in Bear, equivalent to 2% annual EUR depreciation; SGD1.4076555/EUR in Base, equivalent to 1% annual depreciation; and SGD1.4802/EUR in Bull, flat to spot.

The all-in starting SGD outlay is `€191.32 × 1.4802 × 1.005 = SGD284.60782332` per share. Terminal SGD equity value applies the 0.50% exit cost; dividends apply 26.375% withholding and terminal scenario FX. The primary P/E method, exit multiples, terminal EPS and terminal capital structure are unchanged.

Scenario	Terminal EUR/SGD	Net terminal equity SGD	Net distributions SGD	Net terminal SGD wealth	Net-SGD IRR
Bear	1.3379836	157.0447	12.1472	169.1920	**-9.88%**
Base	1.4076555	366.4190	14.8293	381.2483	**6.02%**
Bull	1.4802000	603.9595	17.0288	620.9884	**16.89%**

Probability-weighted terminal SGD wealth equals `25% × SGD169.1919718 + 55% × SGD381.2483070 + 20% × SGD620.9883676 = SGD376.1822353`. Therefore `PW net-SGD IRR = (SGD376.1822353 / SGD284.6078233)^(1/5) - 1` = **5.74%**. It is not the arithmetic average of the three net-SGD IRRs.

8. CIO actionability and portfolio overlap

Measure	Result	Notes
CIO status	**PASS**	Research-only PASS/monitor, separate from Gideon verdict
Bear / Base / Bull net-SGD IRR	**-9.88% / 6.02% / 16.89%**	Exactly two decimals; same P/E method
Probability-weighted net-SGD IRR	**5.74%**	CAGR of probability-weighted terminal SGD wealth
10% mandate hurdle	FAIL	Both Base and probability-weighted returns are below 10%
15% stretch hurdle	Bull only	Not met by Base or probability-weighted cases
8% intervention line	FAIL	Base 6.02% and probability-weighted 5.74% are below it
Downside vs risk budget	FAIL	Bear terminal loss is 40.55% of all-in initial SGD outlay, beyond 8%/12% diagnostics
Portfolio fit	OVERLAP WATCH	Existing EWG exposure already embeds SAP
Proposed sizing ceiling	None	No ranking, sizing or capital action is authorized

The latest CIO memo states that the portfolio owns 4,663 EWG shares worth SGD264,998.1, or 9.1% of NAV. The latest available EWG holdings file shows SAP at 11.13423617% of EWG. Multiplying those figures gives estimated indirect SAP exposure of about SGD29,505.51, or **1.0132% of NAV**. That look-through is approximate and must be refreshed before any future allocator decision, but it is large enough that a future process could impose an overlap charge or reject additional direct

SAP exposure. This appendix does not apply such a charge, rank SAP against other names, propose a position size, mutate a portfolio, authorize a trade, or message anyone.

The policy target of 10%–15% net SGD, 8% intervention line, 8% drawdown tolerance and 12% hard risk budget remains diagnostic. It does not create execution authority. The status is PASS because the completed security-level return bridge is finite but Base is below 8% net SGD and downside is incompatible with the stated loss budget. Monitoring remains useful because the franchise quality is materially stronger than the current expected return.

9. Verdict, monitoring conditions and final notes

Management gate: YELLOW. Upgrade requires satisfactory completion of the DOJ deferred-prosecution agreement without new material misconduct, credible economics for the Dremio/Prior/Reltio cohort, SBC below 5% of revenue with continuing diluted-share decline, normalized ROIC above 15%, and better per-share/ROIC incentive alignment.

Moat gate: PASS; 2046 test: PASS. SAP can remain the governed transaction, business-semantic, policy and audit control plane through which humans and agents run core processes. Downgrade triggers include the data/agent layer becoming persistently optional, cloud conversion failing to offset support runoff, or generic agents making core-process semantics portable enough for module replacement without material migration risk.

P/E at 15 gate: FAIL. Base terminal EPS of €10.4645 × 15 = €156.97 versus €191.32, or negative 17.96%. The gate is immutable and forces the **Gideon verdict: PASS**.

Compounder Score note: SAP scores **59/100** because moat and runway are credible, but missing ROIIC proof, Management YELLOW and inadequate current-price return underwriting prevent dream-investment status.

Business Quality Score note: 56/80 reflects the installed-base moat, cloud migration, cash conversion and strong balance sheet, offset by unmeasured ROIIC, missing SaaS/AI unit economics, governance conduct and incomplete acquisition-return disclosure.

20% Return UW Score note: 3/20 because Base gross IRR is 7.60%, Bear is negative, and the 20% hurdle would require €18.47 of Base terminal EPS at 25x or an unsupported 44.13x exit P/E at modeled EPS.

Monitor Cloud ERP Suite growth, current cloud backlog, cloud gross margin, ATS margin, support runoff, the statutory segment-to-IFRS bridge, SBC as a percentage of revenue, diluted shares, recent acquisition economics, DPA closure and customer acceptance of the governed data/agent layer. None of these monitoring conditions changes the current PASS verdict or creates a trade trigger.

Trade execution authorized: NO. **Portfolio mutation authorized:** NO. **Owner approval required for any future action:** YES.

Appendix CSA - Scoring Audit

SAP SE — Independent Scoring Audit

Audit marker: `ER2_AUDIT_MARKER_sap_csa_pulse_cio_20260830T180239_0800` **Security:** SAP.DE ordinary share on Xetra **Analysis date:** 2026-08-30 **Current price:** EUR 191.32 at the 2026-08-28 completed close **Operating anchor:** TTM ended 2026-06-30 **Terminal date:** 2031-06-30, exactly 5.0 years **Primary valuation method:** P/E

1. Original vs Audited Scores

Item	Original	Audited	Notes
Business Quality Score / 80	56/80	**52/80**	Four points removed because the evidence does not support 1A at 3/5 or 1C at 2/3
Valuation / 20% Return UW Score / 20	3/20	**3/20**	Return arithmetic, exit-multiple integrity and reverse-return work reproduce exactly
Total Score / 100	59/100	**55/100**	Exact arithmetic: 52 + 3 = 55
Classification	Reject under the 20% diagnostic rubric	**Reject under the 20% diagnostic rubric**	Total remains below 70; valuation and return threshold failures are decisive

The current-run aliases are genuine: `appendix_compounder_score.md` is byte-identical to `appendix_scorecard.md`, both SHA-256 `af16c0863a552d4a3c06c910ae270da6b48f0ec77f177aa0cd7a9ae633bb425e`. `compounder_score.json` is byte-identical to `scorecard.json`, both SHA-256 `0c49d9c827cdf5198064c94affdbe6c00429784380ef240404a08ecee90dc3b4`. Markdown and JSON agree on the original 56/80, 3/20 and 59/100 scores and on every return field.

Valuation-preflight and stage-hash gate

The fixed `valuation_preflight.json` hashes to `db112cc0d377716df3cb2d580da806ace776beff1e301738474607e105248075`, exactly as dispatched and copied by CS. It reports `CLEARED`, five of five foundations passed and zero blockers. CS exactly reproduces its normalized EPS anchor, P/E method, denominator perimeter, share-count and capital-structure treatment, and 20x/25x/30x scenario exit P/Es.

Running the strict validator with evidence-file checking after the later gate-manifest update returns `VALUATION_PREFLIGHT_INVALID: gate_manifest evidence SHA-256 mismatch`. This is the disclosed circular-manifest advisory, not a valuation-foundation break. VP bound the pre-append manifest hash `11dd1f9e047d10aed3918fd7a3080a821e55ea535d1eaae79aa669a332b44ce8`; the current manifest is `b96d572be8f0acde6980c90497a8959393e8d129bd7f331a710a72bbdc742ebf` after the root appended VP and CS results. The root had already run the strict validator successfully before that append. All other 14 of 14 VP evidence bindings match their expected bytes. Separately, all 16 current stage artifacts explicitly hash-bound in `gate_manifest.json`—QF, QFR review, quote packet, statutory bridge, prior selection, A, D/DR, both reviewed B appendices, M, W, S, VP JSON and appendix, and both CS canonical artifacts—match. No VP-controlled input changed, so the circular drift is advisory and the return audit is cleared.

The two legacy instruction filenames `scoring_rubric.md` and `er2_verdict_template.md` are absent from the installed skill. This audit used their active equivalents, `subagent_CS_compounder_scorer.md` and `verdict_block_template.md`, plus the specified valuation, data-source and leaf-worker contracts.

2. Score Reductions and Reasons

The original 56/80 quality total does not fully comply with the rule that points require evidence. The five-year reported/simple ROIC observations are 11.5%, 9.4%, 9.4%, 7.6% and 17.7%, whose median is **9.4%**. The file does not calculate a five-year median *adjusted* ROIC, ROIC including and excluding goodwill, or an R&D-capitalized ROIC. Accordingly, 1A cannot receive the 3/5 tier reserved for 15%–20%. The available calculated series supports only the positive-but-below-10% tier, or 1/5. In addition, both 3-year and 5-year ROIIC are unavailable. Once no ROIIC series exists, the assertion that ROIIC “is not deteriorating sharply” cannot receive 2/3; 1C is reduced to zero.

Category and subcategory	Evidence status	Original	Audited	Audit conclusion
1A normalized ROIC	Partly supported / calculation missing	3/5	**1/5**	Calculated five-year median is 9.4%; no adjusted series supports 15%–20%
1B 3-/5-year ROIIC	Missing data	0/8	**0/8**	Correctly zero because neither horizon is calculated
1C ROIIC trend	Unsupported	2/3	**0/3**	A trend cannot be inferred from missing ROIIC observations
1D unit economics	Supported	3/3	**3/3**	Cloud gross margin rose from 66.9% to 74.4%; ATS margin and backlog support the economics
1E cash conversion	Supported	3/3	**3/3**	At least five years of simple FCF exist; TTM simple FCF is EUR 8.730bn
1F accounting-artifact control	Partly supported	1/3	**1/3**	SBC is retained, but goodwill, R&D capitalization and adjusted ROIC variants remain incomplete
Category 1 total	Mixed	**12/25**	**8/25**	Four-point reduction
2A–2F reinvestment runway	Supported / partly supported	17/20	**17/20**	Cloud migration, backlog and organic suite opportunity are real; missing SaaS and AI unit metrics prevent full credit
3A–3F moat durability	Supported / partly supported	13/15	**13/15**	Switching costs and system-of-record control are well evidenced; pricing power and stress resilience are not perfect
4A–4F accounting quality	Supported / partly supported	8/10	**8/10**	Statutory tie-outs, cash conversion and liquidity are strong; SBC and conduct history cap the result
5A–5F capital allocation	Partly supported	6/10	**6/10**	R&D priority and Qualtrics reversal help; acquisition returns, incentives, ownership and buyback valuation remain incomplete
6A base IRR	Supported	0/6	**0/6**	Base gross EUR IRR is 7.5982%, below 10%
6B exit multiple	Supported / conservative	2/4	**2/4**	Base 25x is below normalized current 28.49x and independently justified, but the 20% hurdle still does not clear
6C bear outcome	Supported	0/3	**0/3**	Bear gross EUR IRR is negative 7.3952%
6D reverse-return hurdle	Supported	0/3	**0/3**	Required terminal EPS is EUR 18.4703 or required P/E is 44.1260x
6E price perfection	Supported	0/2	**0/2**	Current price depends on strong execution and still offers only a single-digit Base return
6F cash returns	Supported	1/2	**1/2**	Dividends help but do not make the return adequate
Category 6 total	Supported	**3/20**	**3/20**	Preserved

3. Unsupported Claims

The evidence does not support the original 1A score. A single FY2025 ROIC rebound to 17.7% after the FY2024 restructuring trough is not a five-year adjusted median. Nor does a strong software margin establish adjusted ROIC after goodwill, acquired intangibles, leases and capitalized R&D. The evidence supports good operating economics, not the claimed 15%–20% rubric tier.

The evidence also does not support 1C. Cloud margin expansion and cash conversion are useful directional evidence, but they are not a substitute for the numerator-and-reinvestment denominator needed to calculate ROIIC. With both 3-year and 5-year ROIIC missing, the trend is unknown rather than “not deteriorating.”

No fabricated return input, quote or terminal denominator was found. The moat and runway claims are not based mainly on management TAM assertions: official backlog, segment margin, cloud gross margin and competitive-source evidence provide independent support. Their scores are therefore preserved.

4. Calculation Errors

The score, rather than the return model, contains the repairable calculation/evidence error. Category 1 must be 8/25 rather than 12/25, Business Quality must be 52/80 rather than 56/80, and total Compounder Score must be 55/100 rather than 59/100. The exact differences are negative 4 points in Category 1, negative 4 points in Business Quality, and negative 4 points in total score. The 3/20 valuation score does not change.

The historical NOPAT schedule reproduces from operating income and statutory tax: EUR 5.060bn, EUR 4.019bn, EUR 3.909bn, EUR 3.085bn and EUR 6.860bn for FY2021–FY2025. An indicative TTM NOPAT is EUR 10.211bn × (1 – 28.2%) = EUR 7.332bn; at the Base-normalized 29% tax convention it is EUR 7.250bn. These checks do not repair the absent ROIIC denominator. Aggregate five-year simple FCF of EUR 28.580bn divided by aggregate NOPAT of EUR 22.933bn is approximately 124.6%, which supports the cash-conversion score. TTM SBC is EUR 1.499bn, 3.9% of revenue and approximately 17.2% of simple FCF. The five-year diluted-share CAGR from 1,180m to 1,169m is approximately negative 0.19%; the terminal scenario paths nevertheless model issuance and repurchases separately.

Independent P/E and gross-EUR return replay

Reported current P/E is approximately 28.6882x from EUR 191.32 divided by reported TTM diluted EPS of EUR 6.6689478186. Normalized comparable P/E is approximately 28.4948x from EUR 191.32 divided by EUR 6.7142172797. The denominator is parent-attributable statutory diluted EPS on the same SAP.DE ordinary-share basis at both endpoints.

Scenario	Weight	EPS × exit P/E	Distributions	Terminal wealth	Audited gross EUR IRR	Difference vs CS
Bear	25%	5.8982 × 20x = EUR 117.9640	EUR 12.3311	EUR 130.2951	**-7.3951906%**	0.0000000 pp
Base	55%	10.4645 × 25x = EUR 261.6125	EUR 14.3087	EUR 275.9212	**7.5981835%**	0.0000000 pp
Bull	20%	13.6692 × 30x = EUR 410.0760	EUR 15.6257	EUR 425.7017	**17.3461924%**	0.0000000 pp

Probability-weighted terminal wealth is `25% × 130.2951 + 55% × 275.9212 + 20% × 425.7017 = EUR 269.470775`. Annualizing this wealth from EUR 191.32 for exactly five years gives **7.0903307%**. The probability-weighted IRR is not the 5.7994418% weighted average of scenario IRRs.

Terminal diluted shares of 1,176.861m, 1,151.614m and 1,143.750m reproduce terminal parent equity values of EUR 138,827.231m, EUR 301,276.618m and EUR 469,024.425m. Scenario net cash of EUR 10,117.4m, EUR 23,259.7m and EUR 35,221.0m and nominal debt of EUR 8,550m are disclosed but are not added after EPS × P/E. Buyback cash is not added as a distribution. This passes the no-blending and double-count controls.

Independent net-SGD replay

The ECB EUR/SGD evidence file hashes to `700c899ce6124ada227840d8f6b4546594a10d7d172cdb938d881070203f4ecb` and contains the 1.4802 spot anchor. Initial outlay is `191.32 × 1.4802 × 1.005 = SGD 284.60782332`. Terminal equity uses the same P/E value with 0.5% exit friction. Distributions use 26.375% withholding and the same scenario FX. Bear/Base/Bull terminal FX is 1.3379835634, 1.4076554719 and 1.4802 SGD/EUR.

Audited net-SGD IRRs are **-9.8788793% / 6.0210786% / 16.8872998%**, displayed as exactly **-9.88% / 6.02% / 16.89%**. Probability-weighted terminal SGD wealth is SGD 376.18223535, giving **5.7378048%**, displayed as **5.74%**. Differences from CS are zero. The probability-weighted figure annualizes weighted terminal SGD wealth; it is not the 4.2193333% weighted average of scenario net IRRs.

The 20% reverse-return replay also ties: required five-year terminal wealth is EUR 476.0653824; after Base distributions, required equity value is EUR 461.7566824; at 25x this requires EUR 18.4702673 terminal EPS, a 22.4322% CAGR from

normalized EPS. Holding modeled EPS fixed requires a 44.1260x exit P/E. Maximum buy price for a 20% Base IRR is EUR 110.8865419.

5. Missing Data

The most important missing evidence is a calculated 3-year and 5-year ROIIC series with a defensible cumulative-reinvestment denominator. Acquisition-inclusive ROIIC is also absent despite recent Dremio, Prior Labs, Reltio and other data/AI acquisitions. The file lacks five-year adjusted ROIC including and excluding goodwill and an R&D-capitalized variant. Reinvestment rate and current EV/NOPAT are not calculated, though EV/NOPAT is appropriately rejected as the controlling valuation method because terminal NCI claim evidence is unavailable.

SAP also does not disclose ARR, NRR, GRR, churn, CAC payback, standalone AI unit economics or acquisition-specific returns. These gaps reduce confidence but do not make the P/E return model non-finite. Score confidence remains **Medium**.

6. Hard-Veto and Threshold Test Audit

Every “investable now” diagnostic threshold fails: total is below 80, quality is below 65/80, valuation is below 15/20, ROIIC-plus-runway is below 35/45, Base IRR is below 20%, Bear is below 8%–10%, and the 20% case requires major multiple expansion or substantially higher EPS. No score row overrides ER2 gates.

Management is **YELLOW**, Moat is **PASS** including the 2046 test, and the P/E-at-15 gate is **FAIL** with a negative 17.96% Base cushion. Under the exhaustive Gideon rule, any FAIL dictates **Gideon verdict: PASS**. This remains separate from the diagnostic 55/100 score.

7. Final 20% Hurdle Pass/Fail

FAIL. Base gross EUR IRR is 7.60%, Bear is negative, Bull reaches only 17.35%, and probability-weighted gross return is 7.09%. The 20% hurdle would require an unsupported 44.13x exit P/E at modeled Base EPS or a much lower entry price. The current valuation does not underwrite 20% annualized returns.

8. Dream Business / Dream Investment Classification

Neither under the strict rubric. SAP is a durable and profitable enterprise-software franchise, but Business Quality at 52/80 is below the 55/80 “promising but incomplete” band because high ROIIC and adjusted ROIC are not proven. It is not a dream investment because the current price fails the return hurdle. This is a scoring classification, not a claim that the company lacks a moat.

9. Stage 7 Scorecard Notes

- **Compounder Score note:** SAP scores **55/100** because moat and runway are credible, but unproven adjusted ROIC/ROIIC and inadequate current-price returns prevent dream-investment status.
- **Business Quality Score note: 52/80** reflects switching costs, cloud migration, cash conversion and balance-sheet strength, offset by missing adjusted ROIC/ROIIC, SaaS metrics, acquisition returns and governance concerns.
- **20% Return UW Score note: 3/20** because Base gross IRR is 7.60%, Bear is negative, and a 20% return would require EUR 18.47 terminal EPS at 25x or an unsupported 44.13x exit P/E.

EWG look-through overlap is diagnostic only. This audit makes no ranking, portfolio, sizing, allocation, messaging or trade decision. `trade_execution_authorized`, `portfolio_mutation_authorized` and `ranking_authorized` remain false.

10. Auditor JSON

The companion `compounder_score_audit.json` preserves full-precision gross-EUR and net-SGD results, the weighted-terminal-wealth method, all audited category/subcategory scores, the VP circular-hash advisory, zero publication blockers, and **zero unresolved material issues**.

Appendix RT - Red Team

SAP SE — Independent Red Team

Security: SAP.DE ordinary share on Xetra **Analysis date:** 2026-08-30 **Operating anchor / terminal date:** TTM ended 2026-06-30 / 2031-06-30 **Red-team stance:** The operating franchise survives scrutiny, but the security does not survive the current-price return test. **PASS remains robust.** RETURN_MODEL_OBJECTION_STATUS: IMMATERIAL **Unresolved material return-model issues: 0**

The controlling files are intact. `valuation_preflight.json` hashes to `db112cc0d377716df3cb2d580da806ace776beff1e301738474607e105248075`; `appendix_scoring_audit.md` hashes to `c37d7614efc99edadf75bc6af8d07f608fe6c889b99bbe29ad40e1a763dd0074`; and `compounder_score_audit.json` hashes to `07f3c0b070e1b352270326006b36c69c48f5e24fc0a2fe642f2c28add99b1d8f`. The current manifest has necessarily moved after later stage entries, exactly the circular-manifest advisory already disclosed by CSA; no VP-controlled valuation field changed. The earlier moat evidence-binding citation is resolved: revised `appendix_moat.md` hashes to `5536a39a1deed6a939ed511d20d61f66021b44413e18e086a672addc01cc61c0` and now binds the final reviewed `data_package.md` SHA `93da7f6cdf155e7fee7e28b07909ca41744e4de59b070278256a17349acf6fd4`; its facts and conclusions are unchanged.

1. The most fragile assumption

The weakest operating assumption is **ATS aggregate cloud revenue compounding 12.9% from €23.143 billion to €42.526 billion in Base**, through an explicit 18% / 16% / 13% / 10% / 8% annual path. It is not absurd: Q2 cloud revenue grew 22%, Cloud ERP Suite 25%, and current cloud backlog 26% at constant currency. It is fragile because SAP must convert a roughly four-year backlog while absorbing flexible contract structures, migration delays, faster support runoff, and convergence toward peers already growing around the low teens. Workday's 12%–13% subscription guide, Oracle Cloud Applications' 10% constant-currency growth, and Microsoft Dynamics 365's 12% quarterly constant-currency growth are warnings about the outer years, not proof that SAP can stay above them.

AI makes this assumption less observable, not safer. SAP reports AI/BDC inclusion in large deals, not paid AI ARR, renewal uplift, cohort retention, price realization, or incremental cost. If the Base ATS revenue CAGR is two percentage points lower—5.5933% rather than the exact 7.5933% total ATS CAGR—the synthesis sensitivity moves Base EPS from €10.46 to **€9.56**, a €0.90 or 8.6% decline. At the locked 25× exit and unchanged €14.3087 distributions, terminal wealth falls from €275.9212 to roughly €253.31 and gross return from 7.60% to about 5.76%. The P/E-at-15 gate already fails; this assumption can only worsen the rejection.

2. Most-likely-to-be-optimistic Stage 5 number

The single number most likely to be revised down is the **44.0% Base 2031 ATS segment margin**, which produces €21.772 billion of ATS segment profit. It requires a 306-basis-point rise from the 40.94% TTM anchor while support, a mature high-margin stream, falls 9% annually and cloud becomes 86% of ATS revenue. The analytical cloud margin needed to make that bridge work is 42.84% on SAP's segment-profit basis, but SAP does not disclose product-level segment margins. H1 cloud gross margin of 74.4% is encouraging; Q2's decline to 74.3% from 74.7% shows that infrastructure and AI usage costs can interrupt the trend.

The model does retain SBC expense, ongoing R&D, acquisition charges, and "other expenses," so 44% is not created by an obvious add-back. The weakness is evidentiary: support automation, cloud scale, and slower expense growth are real mechanisms, but none proves that SAP retains the savings rather than passing them to customers, partners, hyperscalers, or model providers. A 42% ATS endpoint would lower ATS profit by about €990 million before the statutory bridge, tax, NCI, and share-count effects. That would reduce terminal EPS by roughly €0.60 after a 29% tax convention, enough to remove around €15 per share of terminal value at 25×.

3. Strongest bear case, in its strongest form

SAP is using the forced migration from licenses and support to cloud to present a durable installed base as a new growth platform, but AI agents and open semantic layers could leave SAP as the low-growth transaction ledger while Microsoft, Oracle, Workday, Salesforce, hyperscalers, and integrators capture the interface, data, and workflow rents. Within two years,

the first damage would be organic current-cloud-backlog deceleration, lower paid BDC/AI attachment, and support revenue falling faster than cloud can replace its gross profit; within five years, ATS revenue could land near Bear's €39.4 billion with margin near 36%, while Core Services automation and partner substitution compress its already small profit pool. An open FCPA DPA and the European Commission maintenance-practice commitments add a conduct and pricing constraint exactly when SAP needs to prove that customer value—not contractual friction—supports premium economics. The validating anchor is not "AI adoption": it is organic constant-currency backlog growth, cloud revenue growth net of the absolute support decline, paid renewal/expansion economics, and ATS margin.

4. Cross-examination of management commentary

"AI will be the key enabler" — Christian Klein, Q3 FY2025 call, reviewed data package §6. This may prove strategically correct while being economically empty. SAP has not disclosed standalone AI revenue, ARR, unit price, renewal uplift, inference cost, or gross margin. If the statement is overpromising, the first signs will be high AI inclusion without higher cloud price realization, BDC attach, retention, or ATS margin.

"more than 90% of our 50 largest deals" — Klein, Q2 FY2026 call, referring to AI/BDC attachment. Fifty large deals are not a recurring-revenue cohort, and a combined AI/BDC metric cannot distinguish paid modules from bundled features needed to defend the suite. Salesforce's disclosed Agentforce/Data 360 ARR illustrates the type of commercialization evidence SAP lacks. Failure would first appear as continued refusal to disclose paid attach or renewal economics, followed by cloud growth converging toward peers while AI delivery expense stays in the cost base.

"we also adjusted our hiring plans" — Klein, Q2 FY2026 call. This supports productivity but does not prove durable margin. Fewer hires can mean AI efficiency, or it can mean a cost response to slower demand; SAP's disclosure that AI assists all support cases and fully resolves 20% of tickets also threatens billable Core Services hours. The first adverse read-through would be ATS cloud gross margin below 73%, Core Services revenue still declining, or Core Services margin below 8% despite reduced hiring.

Management's **YELLOW** is therefore not cosmetic. The January 2024 settlements exceeded US$220 million, the DOJ called SAP a recidivist, and the three-year DPA remains open into approximately January 2027. The conduct crossed into Klein's tenure. Effective financial-reporting controls do not prove effective anti-bribery controls. DPA completion without new misconduct, then a sustained clean period, is required before management deserves PASS.

5. Stage 5 tie-out reverification

The recency anchor is valid. TTM is formed as FY2025 less H1 FY2025 plus H1 FY2026, with no overlapping quarter. The most recent four-quarter trend does not show sharp group deceleration: ATS growth was 7.4%, 3.9%, 7.4%, and 10.9%, while cloud growth was 22%, 19%, 19%, and 22%. The adverse signal is inside mix: support was down 8%, 11%, 11%, and 8%, Core Services declined in the last three quarters, and Q2 ATS margin fell to 39.8%. The Base path is therefore not stale, but its confidence is lower than the headline backlog suggests.

The share-count bridge is internally coherent and modest. Starting from 1,163 million shares, Base spends €2 billion annually at €220, retires 9.0909 million shares per year, issues an estimated 6.8136 million shares per year for SBC, and ends at 1,151.614 million. Buyback cash is deducted from retained liquidity and not added to wealth; SBC remains an operating expense and is not added back. The approximation `€1.499 billion SBC / assumed repurchase price` is not a true award-vesting schedule and could misstate issuance, but the synthesis discloses that limitation. Even its ±5% terminal-share sensitivity changes Base EPS from €10.46 to €9.97/€11.02, not enough to rescue the gate or overturn PASS.

Retained-liquidity arithmetic also replays: Bear is €2.856 billion + 95% × €34.4083 billion – €14.4265 billion dividends – €5.0 billion buybacks – €6.0 billion reinvestment = €10.1174 billion; Base is €23.2597 billion; Bull is €35.2210 billion, subject only to displayed rounding. Debt stays €8.55 billion. These balances are disclosed but correctly excluded from the P/E terminal value. Adding them after `EPS × P/E` would blend methods and double count capital structure economics already reflected in statutory EPS and the equity multiple.

No modeled product clearly exceeds the peer deceleration pattern without a named reason. Base cloud converges from 18% to 8%; its early premium is tied to Cloud ERP conversion and 26% backlog. Extension Suite's 7% Base diagnostic exceeds its 3.5% history, but it is non-additive and explicitly depends on BDC/AI attachment. That is a thesis risk, not hidden rollup inflation.

6. Score-derived 20% return claim

The audited score does **not** claim that a 20% return is plausible. It assigns 3/20 to return underwriting and 55/100 overall. I agree. A 20% Base return requires €476.0654 of terminal wealth, €461.7567 of terminal equity after distributions, and **€18.4703 EPS at 25×**, versus modeled €10.4645. Holding EPS fixed requires **44.1260×**, well above the evidence range; the maximum buy price for 20% is €110.8865. The first assumption to break any optimistic 20% narrative is exit valuation, followed by the unavailable 22.43% normalized-EPS CAGR. Neither buybacks nor dividends closes that gap.

The score's biggest non-return weakness is also correctly audited: five-year median reported/simple ROIC is only 9.4%, and neither three- nor five-year ROIIC is calculated. Strong cloud margins and cash conversion do not substitute for acquisition-inclusive incremental-return evidence. Recent AI/data acquisitions have strategic logic but no disclosed return bridge.

7. Two-sided valuation challenge and arithmetic replay

Strongest reason the model is too optimistic: the 25× Base exit assumes premium terminal durability without terminal paid-AI economics. The historical core band is provider-native, excludes observations above 40× as compressed-denominator outliers, and spans years when SAP's growth/mix differed. The 25× selection is near the historical low and below today's 28.49× normalized P/E, so it is defendable, but "below current" is not sufficient evidence for a mature 2031 company growing revenue 7%. At 22×, a clearly labelled sensitivity—not a replacement—Base wealth would be €244.5277 and gross IRR **5.03%**, 2.57 points below audited Base. Applying 18×/22×/25× exits to Bear/Base/Bull would reduce probability-weighted gross IRR from 7.09% to **4.25%**. This shows valuation sensitivity, not a repairable error: VP selected 20×/25×/30× before returns using current, forward, historical, and FCF-yield evidence.

Strongest reason the model is too bearish: Bear stacks correlated operating damage with a separate de-rating and assigns the bundle 25% probability. Bear already assumes cloud falls to a 4% fifth-year growth rate, support declines 13% annually, ATS margin drops to 36%, shares dilute, tax reaches 31%, and EPS falls below today's normalized level; applying 20× then imposes an additional 8.49-turn contraction. Keeping Bear operations but using 25× would raise Bear wealth from €130.2951 to €159.7861 and Bear IRR from −7.40% to −**3.54%**; probability-weighted gross return would rise only to 7.67%. Separately, the net-SGD overlay assumes 26.375% dividend withholding with no reclaim, 0.5% entry and exit friction, and 1%/2% annual EUR depreciation in Base/Bear. These are disclosed conservative diagnostics and may understate an investor's realized return, but they do not control the gross ER2 verdict.

The exact audited bridge replays with no method blending. Bear/Base/Bull terminal equity values are €117.9640/€261.6125/€410.0760; adding only €12.3311/€14.3087/€15.6257 distributions produces wealth of €130.2951/€275.9212/€425.7017 and gross IRRs of −**7.3951906% / 7.5981835% / 17.3461924%**. Weighted wealth is €269.470775 and its five-year CAGR is **7.0903307%**, not the weighted average of scenario IRRs. The net-SGD replay likewise produces −**9.8788793% / 6.0210786% / 16.8872998%** and weighted-wealth CAGR **5.7378048%**. There is no actual material return-model error; the objections above are disclosed assumption sensitivities.

8. Insurer bridge, overlap, and hard risk budget

SAP is not a P&C insurer or balance-sheet-led financial company. An `insurer_return_bridge.json`, retained-underwriting perimeter, common-book roll-forward, and P/B–ROE identity are therefore inapplicable. P/E is the correct locked primary method because statutory parent-attributable diluted EPS is positive and reconciled in every scenario.

EWG overlap is arithmetically correct and remains outside security returns. EWG is 9.1% of NAV and SAP is 11.13423617% of EWG, implying **1.0132% of NAV** indirect SAP exposure, or about SGD29,505.51. No overlap charge is applied because this stage has no allocation authority. The look-through must be refreshed before any future portfolio decision; it strengthens the rejection of incremental exposure but does not alter SAP's per-share IRRs.

Bear net terminal wealth is 40.55% below the all-in SGD outlay, far beyond the stated 12% hard risk budget and 8% drawdown tolerance when interpreted as a security-loss diagnostic. This is not a forecast of a 40.55% portfolio drawdown, which would depend on position size and covariance. The correct red-team conclusion is simply that SAP's security-level downside is incompatible with the policy screen; no sizing calculation or trade instruction follows.

9. Signal that forces an exit

The forcing signal is **organic constant-currency current-cloud-backlog growth below 18% for two consecutive reported quarters**, measured without acquisition contribution. The current anchor is 26%, and Base requires 18% first-year cloud growth before orderly deceleration. Two sub-18% backlog prints would eliminate the conversion premium that supports the 12.9% cloud CAGR, especially if support continues falling near 10%. That would require rewriting the synthesis around the

Bear mechanism rather than waiting for five-year EPS to reveal the error. A new material bribery/control breach or failure to complete the DPA satisfactorily is an immediate management-gate FAIL independent of this operating signal.

10. Conviction after red team

The operating moat survives; the actionable investment thesis does not. SAP's governed transaction and semantic control plane, installed-base switching costs, localization, and cash conversion are real. Yet Management remains YELLOW, the P/E-at-15 gate fails by 17.96%, audited quality is only 52/80, Base and weighted net-SGD returns are 6.02% and 5.74%, and Bear loss violates the risk screen. PASS is robust to both optimistic and bearish valuation challenges: using a lower Base multiple makes the return worse, while relaxing Bear's stacked de-rating does not lift weighted returns to the mandate hurdle.

Evidence that would falsify this PASS must be economic, not promotional: DPA completion without new misconduct; disclosed paid AI/BDC cohort economics and acquisition returns; organic backlog remaining above 20% while cloud gross margin holds above 74%; ATS margin progressing toward 44% without renewed SBC dilution; and either Base terminal EPS materially above €12.75 or the entry price below €156.97 merely to clear the P/E-at-15 gate. Until those facts arrive, the most defensible narrative is a strong company offered at an inadequate expected return.

Appendix D - Data Package (Raw Historicals)

SAP SE (SAP.DE) — Production ER2 Data Package

Run ID: `pulse-cio-20260830T180239+0800` Information cutoff: 2026-08-30 18:02:39 SGT Fiscal year end: December 31 Latest completed quarter: Q2 FY2026 ended 2026-06-30, controlling release/SEC filing date 2026-07-28; SAP's IR page is dated 2026-07-23 TTM: Q3 FY2025 + Q4 FY2025 + Q1 FY2026 + Q2 FY2026, ending 2026-06-30 Exact five-year horizon used downstream: 2031-06-30 Currency and scale: EUR millions unless stated otherwise

This package uses only live FMP stable pulls and live SAP Investor Relations or SEC sources fetched during this run. New raw evidence is archived under `C:\Users\Admin\OneDrive\GPT\ER 2.0\SAP\raw\pulse-cio-20260830T180239+0800\d`. No local investing warehouse, prior data package, or prior-run cache was used. Current-run `quant_foundation.md`, `quant_foundation_review.md`, `quote_packet.json`, and `statutory_bridge.json` are permitted governed upstream evidence.

Source register

ID	Current-run live source	Period and purpose	D archive or endpoint
D1	SAP FY2025 Form 20-F, https://www.sec.gov/Archives/edgar/data/1000184/000110465926020058/sap-20251231x20f.htm	FY2025 audited statements, current segments, RPO, AI, SBC	`d/sap_fy2025_20f.html`
D2	SAP H1 FY2026 report, https://www.sec.gov/Archives/edgar/data/1000184/000110465926087251/tm2621275d1_ex99-2.htm	H1 segments, statutory and TTM inputs	`d/sap_h1_2026.html`
D3	SAP Q2 FY2026 statement, https://www.sec.gov/Archives/edgar/data/1000184/000110465926087251/tm2621275d1_ex99-1.htm	Latest-quarter products, guidance, actions	`d/sap_q2_2026.html`
D4	SAP Q1 FY2026 statement, https://www.sec.gov/Archives/edgar/data/1000184/000110465926049650/tm2612672d1_ex99-1.htm	Q1 products and segment trend	`d/sap_q1_2026.html`
D5	SAP Q4 FY2025 statement, https://www.sec.gov/Archives/edgar/data/1000184/000110465926009465/tm264433d1_ex99-1.htm	Q4 products, segments and AI attachment	`d/sap_q4_2025.html`
D6	SAP Q3 FY2025 statement, https://www.sec.gov/Archives/edgar/data/1000184/000110465925102307/tm2529346d1_ex99-1.htm	Q3 products, segments and guidance	`d/sap_q3_2025.html`
D7	SAP FY2024, FY2023, FY2022 and FY2021 Forms 20-F	Backfill, RPO corrections, old taxonomy	`d/sap_fy2024_20f.html` through `d/sap_fy2021_20f.html`
D8	SAP reporting framework, https://www.sap.com/investors/en/financial-documents-and-events/reporting-framework.html	KPI definitions and 2024 taxonomy change	Live web fetch; direct archival returned 403 twice
D9	SAP Q2 FY2026 Investor Relations results, https://www.sap.com/investors/en/financial-documents-and-events/recent-results.html	Latest headline, outlook and actions	Live web fetch; direct archival returned 403 twice
D10	FMP stable annual statements and key metrics for `SAP.DE`	FY2020-FY2025 statements and provider checks	`d/annual_income.json`, `annual_balance.json`, `annual_cashflow.json`, `annual_key_metrics.json`
D11	FMP stable quarterly income statement for `SAP.DE`	Eight-quarter recency check	`d/quarter_income.json`
D12	FMP stable revenue product segmentation for `SAP.DE`	Mandatory annual and quarterly product pulls	`d/product_annual.json`, `d/product_quarter.json`; both are `[]`
D13	FMP stable earnings-call transcript for `SAP.DE`	Q3/Q4 FY2025 and Q1/Q2 FY2026 calls	Four `d/transcript_*.json` files; dates verified

ID	Current-run live source	Period and purpose	D archive or endpoint
D14	SAP Business AI official updates, https://news.sap.com/2025/06/sap-business-ai-business-value-innovation-partnerships/ and https://news.sap.com/2026/01/sap-business-ai-release-highlights-q4-2025/	Customer adoption, scenarios, features and Joule skills	`d/sap_ai_june_2025.html`, `d/sap_ai_q4_2025.html`

0a. Industry classification and disclosure inventory

SAP is a foreign private issuer reporting under IFRS through Form 20-F, Form 6-K, annual reports, half-year reports and quarterly statements. Economically it is a large-enterprise SaaS and software vendor. The SaaS/software checklist is mandatory because both live FMP product-segmentation calls returned empty arrays and because the economics are expressed through cloud backlog, RPO, cloud mix, cloud gross margin, support migration, AI attachment and SBC rather than ordinary provider segment fields.

Official documents were searched for: `segment`, `Applications, Technology & Support`, `Core Services`, `cloud revenue`, `Cloud ERP Suite`, `Extension Suite`, `current cloud backlog`, `total cloud backlog`, `remaining performance obligations`, `share of more predictable revenue`, `cloud gross margin`, `Business AI`, `Joule`, `AI adoption`, `order entry`, `customers`, ARR, NRR, `retention`, `churn`, `billings`, `deferred revenue`, `stock-based compensation`, `share-based payment`, `diluted shares`, `transformation`, and `restructuring`.

Dataset or table family	Official source searched	Years available	Included?	Classification if incomplete	Downstream relevance
Current segment revenue and exact segment profit	D1-D7	Clean current taxonomy FY2023-FY2025; H1 and TTM 2026	Yes	FY2021-FY2022 are pre-boundary and non-comparable	Segment forecasts and statutory bridge
Product revenue: cloud, licenses, support, services	D1-D7	FY2021-FY2025 and latest four quarters	Yes	FMP omitted; official replacement	Cloud migration and revenue mix
Cloud ERP Suite and Extension Suite	D1, D3-D6, D8	Comparable FY2022-FY2025; H1/Q2 2026	Yes	FY2021 true non-disclosure under current taxonomy	Strategic portfolio growth
Current cloud backlog	D1-D9	Restated comparable FY2021-FY2025; Q3 FY2025-Q2 FY2026	Yes	None	Twelve-month cloud revenue visibility
IFRS RPO and total cloud backlog	D1 and D7	FY2021-FY2025	Yes	H1/Q2 FY2026 full RPO not disclosed	Contracted revenue duration
ARR, net new ARR, NRR, GRR and churn	D1-D9	None	No	True non-disclosure	Retention cannot be directly benchmarked
Billings, CAC, payback and magic number	D1-D9	None as recurring management KPIs	No	True non-disclosure	Unit economics unavailable
Cloud gross profit and margin	D1-D7	FY2021-FY2025 and H1 2026	Yes	None	SaaS scale economics
AI adoption and monetization	D1, D3-D6 and official SAP AI materials	Point observations in 2025-2026	Yes	No standalone AI revenue series	AI thesis and pricing/attach evidence
SBC and dilution	D1-D3, D7, D10	FY2021-FY2025 and TTM 2026	Yes	None	Owner earnings and share count
Transformation-program effects	D1, D3, D7 and SAP January 2024 release	FY2024-FY2026	Yes	Program-specific history only	Margin normalization

Material SaaS KPI history

KPI family	Granularity	FY2021	FY2022	FY2023	FY2024	FY2025	Latest interim or TTM	Source
Cloud revenue	Group, EUR m	8,701	11,426	13,664	17,141	21,023	23,143 TTM	D1-D7; governed TTM
Cloud ERP Suite revenue	Group, EUR m	N/D	8,209	10,626	14,165	18,119	10,739 H1 2026	D1, D2-D6, D8
Extension Suite revenue	Group, EUR m	N/D	2,309	2,290	2,436	2,559	1,373 H1 2026	D1, D2-D5, D8; FY2022 derived from official cloud less Cloud ERP Suite less IaaS
IaaS revenue	Group, EUR m	N/D	908	748	540	345	131 H1 2026	D1-D5, D7-D8
Current cloud backlog	Group, EUR m	8,674	11,024	13,745	18,078	21,052	22,929 Q2 2026	D1-D9

KPI family	Granularity	FY2021	FY2022	FY2023	FY2024	FY2025	Latest interim or TTM	Source
Total IFRS RPO	Group, EUR bn	39.9 pre-boundary	46.9 restated	58.7 restated	78.4	90.5	Not disclosed at H1	D1 and D7
Total cloud backlog	Cloud RPO, EUR bn	25.3 pre-boundary	32.4 restated	44.3	63.3	77.3	Not disclosed at H1	D1 and D7
Cloud gross margin	Group, IFRS	66.9%	69.4%	71.6%	72.8%	73.9%	74.4% H1 2026	Cloud gross profit divided by cloud revenue
More predictable revenue share	Group	75%	79%	81%	83%	86%	88.3% H1 calculated	D1 and D2
SBC expense	Group, EUR m	1,335	1,431	2,220	2,385	1,695	1,499 TTM	D1, D2, D7, D10

The FY2023 total RPO comparator is €58.7 billion after SAP corrected the previously reported €58.0 billion by €0.7 billion to include premium engagement contracts. This correction did not change FY2023 total cloud backlog of €44.3 billion. SAP's FY2023 filing also restated FY2022 RPO and total cloud backlog to €46.9 billion and €32.4 billion after the Qualtrics disposal, versus €48.9 billion and €34.2 billion in the original FY2022 filing. FY2021's €39.9 billion and €25.3 billion are retained only as explicitly pre-boundary context because no current-perimeter FY2021 RPO restatement was found. Current cloud backlog is the cloud revenue SAP expects to recognize over the next 12 months and is a subset of IFRS RPO; it is not ARR. Total cloud backlog is the cloud portion of RPO across the full enforceable contract period.

The Extension Suite correction is material to product taxonomy. SAP's latest Form 20-F reports €2,559 million for FY2025 and a €2,436 million FY2024 comparator; the prior Form 20-F reports €2,290 million for FY2023. FY2022 is €2,309 million, calculated from the official updated cloud perimeter as €11,426 million cloud revenue less €8,209 million Cloud ERP Suite revenue less €908 million IaaS revenue. The FY2024 filing displayed €2,435 million and €14,166 million for Extension Suite and Cloud ERP Suite, respectively, while the latest comparative displays €2,436 million and €14,165 million; the one-million reallocation does not change total cloud revenue.

Business AI disclosure inventory

Observation	Date or period	Official disclosure	Modeling treatment
Business AI customers	June 2025	More than 34,000 customers were using SAP Business AI	Point adoption evidence; no recurring series
AI scenarios and Joule skills	June 2025	More than 230 AI scenarios delivered; 1,600 Joule skills; 34,000 customers	Product breadth, not revenue
AI attachment to cloud order entry	Q4 FY2025	More than two-thirds of cloud order entry contained Business AI, over 20 percentage points above Q3	Commercial attachment evidence
AI and Business Data Cloud in largest deals	Q2 FY2026 call	Key pillars in more than 90% of SAP's 50 largest deals	Large-deal relevance; combined AI/BDC metric
AI support automation	Q1 FY2026 call	AI assisted all support cases and fully resolved 20% of tickets	Internal productivity evidence
Standalone Business AI revenue	All controlling sources	Not disclosed	True non-disclosure; do not invent monetization dollars

SAP monetizes Business AI partly through cloud-suite attachment, AI units and higher-value portfolio adoption, but it does not disclose a separate Business AI revenue line, ARR, price realization, gross margin or renewal rate. The observed attachment percentages have different denominators and must not be combined into a time series. They support adoption; they do not prove incremental revenue or margin by themselves.

1. Reporting structure and taxonomy

At FY2025 SAP had exactly two operating and reportable segments. `Applications, Technology & Support` is the exact issuer label in the sealed bridge. The dispatch shorthand “Applications, Technology & Services” is not used as a financial label. The acronym ATS is retained. ATS contains SAP's cohesive product portfolio, including cloud subscriptions, software licenses, software support and integrated training. Core Services enables adoption and consumption through professional consulting and premium support; it does not represent all services because ATS contains training.

Current segment	Description	FY2025 revenue, EUR m	Share of group revenue	Exact profit metric
Applications, Technology & Support	Cohesive applications, technology and support portfolio plus training	32,847	89.3%	Segment profit (loss) (non-IFRS)
Core Services	Consulting and premium support that accelerate adoption	3,953	10.7%	Segment profit (loss) (non-IFRS)
SAP Group	Consolidated	36,800	100.0%	IFRS operating profit is reached only after Section 3a adjustments

The current two-segment taxonomy is clean from FY2023. FY2021-FY2022 had a different perimeter: Applications, Technology & Services and Qualtrics were reportable in FY2022, while earlier presentations also separated Services. Qualtrics became discontinued operations. SAP subsequently reconstituted the continuing business into ATS and Core Services and supplied FY2023-FY2025 comparatives. No current-taxonomy Core Services value is inferred for FY2021 or FY2022.

The 2024 reporting update also introduced Cloud ERP Suite and Extension Suite, removed separate S/4HANA Cloud disclosure and merged SaaS/PaaS reporting. SAP published restated quarterly history for FY2022-FY2023 under the new product logic. Therefore Cloud ERP Suite is comparable from FY2022, while FY2021 is marked not disclosed rather than estimated.

Geography is material but not a reportable profit segmentation. SAP reports cloud and software revenue across EMEA, Americas and APJ. Q2 FY2026 commentary described cloud performance as particularly strong in APJ and EMEA and solid in the Americas, with no region-level profit measure. Geographic profit is a true non-disclosure after searching D1-D7 for regional profit and operating margin.

2. Consolidated historicals

The table uses the latest restated continuing-operations perimeter where applicable. Net income is profit attributable to owners so it aligns with diluted EPS. FY2025 IFRS operating profit is the audited €9,617 million, not FMP's live €10,293 million value. Simple FCF is operating cash flow less capex and differs from SAP-defined FCF, which also incorporates asset-sale proceeds and lease payments.

Metric	FY2021	FY2022	FY2023	FY2024	FY2025	Source
Revenue, EUR bn	26.953	29.520	31.207	34.176	36.800	D1, D7, D10
IFRS operating income, EUR bn	6.308	5.914	5.799	4.665	9.617	D1 and D7; official override
Operating margin	23.4%	20.0%	18.6%	13.6%	26.1%	Calculated
Net income attributable to owners, EUR bn	5.256	2.284	6.139	3.124	7.161	D1, D7, D10
Diluted EPS, EUR	4.46	1.94	5.20	2.65	6.10	D1 and D7
Diluted weighted-average shares, m	1,180	1,175	1,180	1,180	1,175	D1, D7, D10
Capex, EUR bn	0.701	0.877	0.785	0.797	0.739	D10
Simple FCF, EUR bn	5.522	4.770	5.461	4.410	8.417	D10; calculated by provider
ROIC, calculated	11.5%	9.4%	9.4%	7.6%	17.7%	D1, D7, D10; method below

ROIC is calculated as `NOPAT / invested capital`. NOPAT equals IFRS operating profit multiplied by one minus the statutory effective tax rate for continuing operations. Invested capital is the live FMP key-metrics invested-capital denominator, retained with its native definition. The FY2021-FY2025 statutory tax rates used are 19.78%, 32.04%, 32.60%, 33.88% and 28.67%; resulting NOPAT is €5,060 million, €4,019 million, €3,909 million, €3,085 million and €6,860 million. Invested capital is €43,938 million, €42,915 million, €41,792 million, €40,668 million and €38,799 million. FY2024 is depressed by €3,144 million of restructuring expense; FY2025 is boosted by the near-cessation of those charges. Neither should be treated as a normalized steady-state without an explicit bridge.

3. Segment historicals

Applications, Technology & Support

ATS	FY2021	FY2022	FY2023	FY2024	FY2025	Source
Revenue, EUR bn	N/C	N/C	27.359	30.248	32.847	D1, D5, D7
YoY	N/C	N/C	N/M	10.6%	8.6%	Calculated
Segment profit (loss) (non-IFRS), EUR bn	N/C	N/C	9.510	11.253	13.345	D1, D5
Margin on exact metric	N/C	N/C	34.8%	37.2%	40.6%	Calculated

`N/C` means not comparable to the current segment perimeter. For context only, the pre-boundary Applications, Technology & Services segment reported revenue/profit of €26,054 million/€9,284 million in FY2021 and €28,298 million/€8,806 million in FY2022, but those figures incorporate a different service and corporate allocation structure. They are not spliced into current ATS.

Governed TTM ATS revenue and training-residual reconciliation

The TTM ATS revenue anchor is reconstructed from non-overlapping issuer periods, not from rounded quarterly displays: `FY2025 − H1 FY2025 + H1 FY2026 = €32,847m − €16,051m + €17,522m = €34,318m`. The FY2025 component is source `D1` / QF source `O1`, SAP FY2025 Form 20-F, **Applications, Technology & Support**, page 50, `Total segment revenue`, 2025 Actual Currency column. Both H1 components are source `D2` / QF source `O2`, SAP Half-Year Report 2026, **Applications, Technology & Support**, page 12, `Total segment revenue`, H1 2026 and H1 2025 Actual Currency columns. This reproduces the QFR-reviewed TTM ATS revenue value exactly.

Governed ATS revenue component, EUR m	FY2025	Less H1 FY2025	Plus H1 FY2026	TTM ended 2026-06-30	Exact source and filing locator
ATS total segment revenue	32,847	(16,051)	17,522	34,318	D1/O1, FY2025 Form 20-F p. 50; D2/O2, Half-Year Report 2026 p. 12
Cloud	21,023	(10,124)	12,244	23,143	Same D1/O1 and D2/O2 ATS tables and columns
Software licenses	990	(377)	247	860	Same D1/O1 and D2/O2 ATS tables and columns
Software support	10,525	(5,403)	4,908	10,030	Same D1/O1 and D2/O2 ATS tables and columns
ATS services (training-business) revenue	309	(147)	123	285	Disclosed as `Services` in the same D1/O1 and D2/O2 ATS tables; independently cross-checked as ATS total less cloud, licenses and support in each period

The €285 million TTM ATS services/training-business figure used in the reviewed ATS appendix is arithmetically reproducible in two equivalent ways: `€34,318m − €23,143m − €860m − €10,030m = €285m`, or `€309m FY2025 − €147m H1 FY2025 + €123m H1 FY2026 = €285m`. SAP separately reports the three period components under the ATS table row `Services` and states in D1/O1 on page 50 that ATS services revenue and cost arise from its training business, which is highly integrated with the product portfolio. The issuer does not label the row `Training revenue`; accordingly, €285 million is a governed TTM reconstruction of the disclosed ATS `Services` row, with the residual equation serving as an independent cross-check. It may contain small net rounding effects, must not be expanded to include Core Services or consolidated services, and carries no issuer-disclosed standalone margin, growth rate, backlog or forecast. Downstream use is constrained to preserving the exact €34,318 million ATS revenue anchor and an immaterial sub-1% forecast bucket.

Core Services

Core Services	FY2021	FY2022	FY2023	FY2024	FY2025	Source
Revenue, EUR bn	N/C	N/C	3.848	3.927	3.953	D1, D5
YoY	N/C	N/C	N/M	2.1%	0.7%	Calculated
Segment profit (loss) (non-IFRS), EUR bn	N/C	N/C	0.249	0.283	0.432	D1, D5
Margin on exact metric	N/C	N/C	6.5%	7.2%	10.9%	Calculated

Core Services' current perimeter did not exist as a separately disclosed segment in FY2021-FY2022. This is a reporting boundary, not missing research. FY2025 margin improved sharply even though revenue was nearly flat; downstream work should test whether delivery efficiency and mix can sustain this rather than extrapolating the one-year increment.

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

Sealed packet basis: `issuer_disclosed`. Exact common metric: `Segment profit (loss) (non-IFRS)`. Reporting currency is EUR and scale is millions. The packet's exact SHA-256 is `267c53d60c1f314af9fffca274d8561cc8a79ed15812708c9cf86e547695efb1`, matching QFR. No corporate/unallocated adjustment is present in either period.

FY2025 sealed bridge

Bridge line	Classification	Value	Source ID	Running subtotal
Applications, Technology & Support	segment profit	13,345	SAP_FY2025_20F	13,345
Core Services	segment profit	432	SAP_FY2025_20F	13,777
Sum of reportable segment profit	segment profit	13,777	SAP_FY2025_20F	13,777
Consolidated segment profit metric	subtotal	13,777	SAP_FY2025_20F	13,777
Other expenses	operating	-3,358	SAP_FY2025_20F	10,419
Acquisition-related charges	operating	-411	SAP_FY2025_20F	10,008
Restructuring	operating	-3	SAP_FY2025_20F	10,005
Regulatory compliance matter expenses	operating	0	SAP_FY2025_20F	10,005
Teradata litigation expenses	operating	-387	SAP_FY2025_20F	9,618
Statutory operating income	statutory subtotal	9,617	SAP_FY2025_20F	9,617
Other non-operating income/expense, net	other_non_operating	118	SAP_FY2025_20F	9,735
Financial income, net	interest	534	SAP_FY2025_20F	10,269
Pretax income	statutory subtotal	10,270	SAP_FY2025_20F	10,270
Income tax expense	tax	-2,944	SAP_FY2025_20F	7,326
Net income	statutory subtotal	7,326	SAP_FY2025_20F	7,326

The FY2025 operating residual is -€1 million and pretax residual is +€1 million, both within the sealed €6.8885 million tolerance.

TTM ended 2026-06-30 sealed bridge

Bridge line	Classification	Value	Source ID	Running subtotal
Applications, Technology & Support	segment profit	14,051	QF_TTM_RECON	14,051
Core Services	segment profit	370	QF_TTM_RECON	14,421
Sum of reportable segment profit	segment profit	14,421	QF_TTM_RECON	14,421
Consolidated segment profit metric	subtotal	14,421	QF_TTM_RECON	14,421
Other expenses	operating	-3,417	QF_TTM_RECON	11,004
Acquisition-related charges	operating	-371	QF_TTM_RECON	10,633
Restructuring	operating	-4	QF_TTM_RECON	10,629
Regulatory compliance matter expenses	operating	0	QF_TTM_RECON	10,629
Teradata litigation expenses	operating	-416	QF_TTM_RECON	10,213
Statutory operating income	statutory subtotal	10,211	QF_TTM_RECON	10,211

Bridge line	Classification	Value	Source ID	Running subtotal
Other non-operating income/expense, net	other_non_operating	95	QF_TTM_RECON	10,306
Financial income, net	interest	744	QF_TTM_RECON	11,050
Pretax income	statutory subtotal	11,053	QF_TTM_RECON	11,053
Income tax expense	tax	-3,116	QF_TTM_RECON	7,937
Net income	statutory subtotal	7,936	QF_TTM_RECON	7,936

The TTM operating, pretax and net-income residuals are -€2 million, +€3 million and -€1 million, within the sealed €7.2105 million tolerance. No residual is allocated to a segment or converted into a forecast plug.

Forecast-driver schedule

Historical bridge line	FY2025	TTM	Forecast treatment	Driver and source	Bear, base and bull rule
Other expenses	-3,358	-3,417	Percentage of segment profit, checked against revenue	24.4% of FY segment profit and 23.7% TTM	Bear 25%; base 23.5%; bull 22% of segment profit
Acquisition-related charges	-411	-371	Independent amortization and acquisition schedule	D1-D3; new Dremio, Prior Labs and Reltio deals	Bear flat near -400; base gradual runoff with new-deal additions; bull faster runoff
Restructuring	-3	-4	Fixed near-zero after documented 2024 program completion	D1 and 2024 program source	Bear permits new €100m program; base/bull near zero, never silently added back from history
Regulatory compliance matter expenses	0	0	Zero only while no new disclosed matter	D1-D3	Bear -100; base/bull zero
Teradata litigation expenses	-387	-416	Explicit legal-settlement runoff schedule	D1-D3; 2026 settlement and residual period cost	Bear retains €100m tail; base fades after FY2026; bull zero after settlement
Other non-operating income/expense, net	118	95	Independently forecast, not combined with interest	D1-D2	Bear -100; base 0; bull +100, with zero normalization stated explicitly rather than used as a plug
Financial income, net	534	744	Cash, debt and interest-rate schedule	D1-D3 balance sheet and May 2026 bond	Bear €300m; base €500m; bull €700m, refreshed for capital actions
Income tax expense	-2,944	-3,116	Statutory tax-rate schedule	28.7% FY and 28.2% TTM; non-IFRS 2026 outlook about 29%	Bear 31%; base 29%; bull 27% of pretax income

These are driver classifications for downstream modeling, not a completed forecast. Operating items remain above IFRS operating income; financial and other non-operating items remain below it; tax remains post-pretax. `Segment profit (loss) (non-IFRS)` must never be relabeled operating income.

STATUTORY_BRIDGE_STATUS: VERIFIED — CLEARED FOR FORECASTING

4. Product and sub-segment historicals

SAP separately discloses cloud, software licenses, software support and services in euros. Cloud ERP Suite and Extension Suite are subcategories of SaaS/PaaS; IaaS is separate. Services is split across ATS training and Core Services consulting/premium support, so consolidated services cannot be assigned wholly to Core Services.

Product	FY2021	FY2022	FY2023	FY2024	FY2025	TTM or H1 2026	Dollar disclosure and source
Cloud revenue, EUR m	8,701	11,426	13,664	17,141	21,023	23,143 TTM	Yes; D1-D7
Software licenses, EUR m	3,248	2,056	1,764	1,399	990	860 TTM	Yes; D1-D7
Software support, EUR m	11,412	11,909	11,496	11,290	10,525	10,030 TTM	Yes; D1-D7
Services, EUR m	3,592	4,128	4,283	4,346	4,262	4,159 TTM	Yes; current continuing perimeter
Cloud ERP Suite, EUR m	N/D	8,209	10,626	14,165	18,119	10,739 H1	Yes from FY2022 after restatement

Product	FY2021	FY2022	FY2023	FY2024	FY2025	TTM or H1 2026	Dollar disclosure and source
Extension Suite, EUR m	N/D	2,309	2,290	2,436	2,559	1,373 H1	Official updated cloud taxonomy; FY2022 arithmetic as documented above
IaaS, EUR m	N/D	908	748	540	345	131 H1	Official annual and updated cloud disclosure

N/D means true non-disclosure under the current product taxonomy. No product dollars are back-solved from growth rates. FY2022 Extension Suite is the exact residual of three disclosed official totals—cloud revenue, Cloud ERP Suite and IaaS—and is labeled as such rather than presented as a directly reported line. H1 FY2026 Cloud ERP Suite plus Extension Suite plus IaaS totals €12,243 million versus disclosed cloud revenue of €12,244 million; the €1 million difference is disclosed rounding and is not allocated.

Product or KPI with no dollar series	Disclosure method	Last four observations	Source
Business AI	Order-entry attachment and customer adoption, not revenue	Q4 FY2025 more than two-thirds of cloud order entry; Q2 FY2026 AI/BDC in more than 90% of top 50 deals	D1, D3-D5, D13
Joule and agents	Product counts and use cases	30 Joule Agents released in FY2025; 350 AI features and more than 2,400 Joule skills in Q4 release materials	D1 and official SAP News Center
RISE and GROW	Named customer wins and strategic pathway	Qualitative wins each quarter; no separate recurring revenue	D3-D6
ARR, NRR, GRR and churn	Not disclosed	No values after full official search	D1-D9

5. Most recent quarterly trend

SAP's FY ends December 31. Most recently completed fiscal quarter: Q2 FY2026, covering April-June 2026, controlling release/SEC filing date 2026-07-28 via https://www.sec.gov/Archives/edgar/data/1000184/000110465926087251/tm2621275d1_ex99-1.htm; SAP's IR results page is dated 2026-07-23.

Segment trend

Q2 segment values are H1 FY2026 less Q1 FY2026; the €1 million product/segment rounding difference is left unallocated. Margin is the exact non-IFRS segment-profit margin, not statutory operating margin.

Quarter	ATS revenue, EUR m	ATS YoY	ATS segment margin	Core Services revenue, EUR m	Core YoY	Core segment margin	Source
Q3 FY2025	8,082	7.4%	41.5%	994	5.2%	15.9%	D6
Q4 FY2025	8,711	3.9%	40.5%	973	-2.3%	6.8%	D5
Q1 FY2026	8,610	7.4%	41.7%	945	-5.1%	8.9%	D4
Q2 FY2026	8,912	10.9%	39.8%	965	-2.8%	10.7%	D2 less D4

Product and backlog trend

Quarter	Cloud revenue	Cloud YoY	Cloud ERP Suite YoY	License YoY	Support YoY	Services YoY	Current cloud backlog	CCB YoY at constant currency	Source
Q3 FY2025	5,290	22%	26%	-43%	-8%	2%	18,839	27%	D6
Q4 FY2025	5,610	19%	23%	-34%	-11%	-4%	21,052	25%	D5
Q1 FY2026	5,962	19%	23%	-37%	-11%	-6%	21,932	25%	D4
Q2 FY2026	6,281	22%	25%	-32%	-8%	-3%	22,929	26%	D3 and D9

Cloud gross margin was 74.3% in Q2 FY2026 versus 74.7% a year earlier, while H1 margin was 74.4%. Current cloud backlog accelerated sequentially to 26% constant-currency growth in Q2, though SAP still expected slight deceleration exiting 2026. Reltio added less than one percentage point to Q2 constant-currency CCB growth. Software support decline is expected to accelerate as customers transform to the cloud; therefore declining support is partly a migration indicator but

remains a consolidated revenue headwind.

6. Management commentary on forward growth

FMP transcript dates were verified: Q3 FY2025 on 2025-10-22, Q4 FY2025 on 2026-01-29, Q1 FY2026 on 2026-04-23 and Q2 FY2026 on 2026-07-24. The Q2 transcript date is one day after the IR release and inside the required recency window. The Q1 CFO quotation explicitly labeled “statement” below is from SAP's official Q1 statement on 2026-04-23; the remaining quotations were matched to the live FMP transcripts for their labeled calls.

Fiscal period, call date and speaker	Short verified quote	Topic	Modeling interpretation
Q3 FY2025, 2025-10-22, Christian Klein, CEO	“AI will be the key enabler”	Total revenue through 2027	AI is embedded in the growth thesis, but no separate revenue is supplied
Q3 FY2025, 2025-10-22, Christian Klein	“AI adoption is going up significantly”	Usage breadth and frequency	Adoption is expanding; quantify only with disclosed attachment metrics
Q3 FY2025, 2025-10-22, Christian Klein, CEO	“Current cloud backlog increased 27%”	Forward cloud visibility	Supports near-term cloud growth, subject to FX and deal timing
Q4 FY2025, 2026-01-29, Christian Klein	“contract duration is around about 4 years”	€77bn total cloud backlog	Outer-year backlog supports duration but slows CCB conversion for large deals
Q4 FY2025, 2026-01-29, Christian Klein	“we sold 2/3 of our deals with AI”	AI in customer deals	Strong commercial attachment; not standalone monetization dollars
Q4 FY2025, 2026-01-29, Dominik Asam	“a more pronounced slowdown”	Current cloud backlog	Large transformations and flexible structures reduced near-term CCB contribution
Q1 FY2026, 2026-04-23, Christian Klein	“AI assists 100% of support cases”	Internal AI productivity	Potential cost leverage, with 20% of tickets fully autonomous per call
Q1 FY2026, 2026-04-23, Christian Klein	“Bid win rates jumped”	Customer outcome at Daimler Truck	Supports willingness-to-pay narrative; customer case is not portfolio-wide evidence
Q1 FY2026 statement, 2026-04-23, Dominik Asam, CFO	“disciplined execution in revenue and profitability”	Cost control	Treat as guidance context, not an independent margin guarantee
Q2 FY2026, 2026-07-24, Christian Klein	“more than 90% of our 50 largest deals”	AI and BDC attachment	Large-deal relevance is high; combined metric cannot isolate AI monetization
Q2 FY2026, 2026-07-24, Dominik Asam	“Current cloud backlog reached almost EUR 23 billion”	CCB acceleration	Confirms Q2 recency anchor
Q2 FY2026, 2026-07-24, Christian Klein	“we also adjusted our hiring plans”	Internal AI efficiency	Supports slower headcount growth; execution and reinvestment remain uncertain

ATS receives most product, backlog and AI commentary because it owns the portfolio economics. Management does not provide a comparable forward revenue target specifically for Core Services. The FY2025 Form 20-F expected only a slight increase in Core Services revenue and a moderate profit decrease for 2026, reflecting its adoption-enablement role. This limited segment-specific guidance is a true disclosure limitation and should constrain forecast confidence.

For FY2026 SAP now expects €25.8-€26.2 billion cloud revenue at constant currencies, €36.3-€36.8 billion cloud and software revenue, €11.8-€12.2 billion non-IFRS operating profit and approximately €10 billion free cash flow. The operating-profit range was reduced by €0.1 billion at both ends for dilution from Dremio and Prior Labs, projected above €100 million. SAP expects 2026 total revenue constant-currency growth near FY2025's 10.6% and acceleration in 2027; it expects 2027 operating expenses to grow at 80%-90% of total revenue growth.

7. Capital allocation history

Year	Capex, EUR bn	Capex / revenue	R&D, EUR bn	R&D / revenue	Buybacks, EUR bn	Dividends paid, EUR bn	M&A cash outflow, EUR bn	Source
FY2021	0.701	2.6%	5.270	19.6%	0.000	2.182	1.104	D7, D10
FY2022	0.877	3.0%	6.080	20.6%	1.500	2.865	0.390	D7, D10
FY2023	0.785	2.5%	6.324	20.3%	0.949	2.395	1.259	D7, D10
FY2024	0.797	2.3%	6.514	19.1%	2.106	2.565	1.114	D7, D10
FY2025	0.739	2.0%	6.633	18.0%	1.937	2.743	0.702	D1, D10

SAP announced a new buyback authorization of up to €10 billion through December 31, 2027. By June 30, 2026 it had repurchased 16,280,097 shares for approximately €2.6 billion at an average €161.16. Buybacks reduced the H1 diluted share basis to 1,163 million from 1,175 million for FY2025, but they are not free: SBC remained €1,499 million on the TTM basis and must be treated as owner cost.

SBC and dilution schedule

Period	SBC expense, EUR m	SBC / revenue	Diluted shares, m	Buybacks, EUR m	Interpretation
FY2021	1,335	5.0%	1,180	0	Qualtrics-related compensation affected comparability
FY2022	1,431	4.8%	1,175	1,500	Repurchase offset dilution
FY2023	2,220	7.1%	1,180	949	SBC outpaced repurchase offset
FY2024	2,385	7.0%	1,180	2,106	Separate €309m accelerated SBC was classified inside restructuring expense
FY2025	1,695	4.6%	1,175	1,937	Lower SBC and continued buybacks
TTM 2026	1,499	3.9%	1,169	2,922	Share-month denominator; do not use 1,163 packet basis for TTM EPS

From 2024 SAP's revised non-IFRS operating-profit definition includes share-based payment expense and excludes gains/losses from equity securities. Pre-2024 non-IFRS series are not automatically comparable; FY2021 was not retrospectively adjusted in the current five-year summary.

SAP additionally recognized €309 million of accelerated share-based payment expense triggered by the 2024 transformation program. That €309 million is classified within the €3,144 million restructuring expense and is additional to the €2,385 million share-based payment expense shown in the schedule, so downstream normalization must not count it twice.

8. Balance sheet snapshot

Item at FY2025	EUR bn	Source and treatment
Cash and equivalents	8.220	D1
Current time deposits and debt securities	1.311	D1; official field, not FMP short-term investments
Nominal financial debt	6.150	D1
Lease liabilities	1.684	D1; shown separately from SAP net liquidity
Net liquidity	3.381	SAP-defined cash plus current investments less nominal financial debt
Net debt / EBITDA	Net cash; not meaningful	No positive net-debt numerator
Goodwill	29.014	D1
Other intangible assets	2.282	D1 and D10
Goodwill plus intangibles	31.296	Calculated
Equity attributable to owners	44.752	D1 and D10
Tangible equity attributable to owners	13.456	Equity attributable to owners less goodwill and intangibles

At June 30, 2026, cash was €10.511 billion, current deposits/debt securities €0.896 billion, nominal financial debt €8.550 billion, carrying financial debt €8.205 billion and stated net liquidity €2.856 billion. FMP's live quarterly balance-sheet response showed zero debt and is rejected; SAP's official interim report controls.

9. Recent corporate actions

- 2026-01-29: SAP announced the new two-year, up-to-€10 billion repurchase program. Source: D5.
- 2026-02-19: SAP and Teradata reached settlement of their litigation. The TTM bridge still contains €416 million of Teradata litigation expense, so cessation must be modeled explicitly rather than backdated.

- 2026-05-04 to 2026-07-16: SAP announced Dremio, completed it July 6, and completed Prior Labs July 16. The acquisitions deepen data-lakehouse and tabular-model capabilities and dilute 2026 non-IFRS operating profit by more than €100 million. Source: D3 and D9.
- 2026-05-07: SAP completed Reltio; first-time inclusion contributed less than one percentage point to Q2 constant-currency CCB growth. Source: D3 and D9.
- 2026-05-28: SAP completed a €3.5 billion four-tranche Eurobond after A1 stable and A+ stable ratings. Proceeds support general purposes including acquisitions. Source: D9.
- 2026-07-09: the European Commission concluded its investigation into aspects of SAP on-premise maintenance and support practices through a commitment decision. Source: D9.
- FY2024 transformation: approximately 8,000 positions were affected, mainly through voluntary leave and reskilling. SAP recognized €3.144 billion restructuring expense in FY2024 versus €3 million in FY2025. Resources were shifted toward Business AI and scale efficiencies. Source: D1, D7 and SAP's January 23, 2024 official release.
- FY2025 workforce transformation: SAP recognized €191 million of expense from the program announced in July 2025 within termination benefits outside restructuring plans. Therefore FY2025's €3 million restructuring line does not capture every transformation-related cost; downstream normalization must preserve the classification rather than treat the year as completely charge-free. Source: D1.

10. Open data gaps and source-status ledger

Gap	Classification	Search performed	Consequence
ARR, net new ARR, NRR, GRR and churn	True non-disclosure	D1-D9; terms searched in annual, interim and results materials	Retention must be inferred cautiously from backlog and support base, not modeled as disclosed KPI
Billings, CAC, payback and magic number	True non-disclosure	D1-D9 and reporting framework	No disclosed SaaS acquisition-efficiency series
Standalone Business AI revenue, margin and renewal rate	True non-disclosure	D1-D6, Business AI, Joule, AI units, order entry	AI monetization remains an attachment/adoption thesis, not a separable P&L
Current-taxonomy segment history before FY2023	Not applicable due taxonomy boundary	FY2021-FY2025 Forms 20-F and segment-change notes	Do not splice old ATS/Qualtrics/Services values into current ATS/Core Services
Extension Suite FY2021	True non-disclosure under the current product taxonomy	FY2021 Form 20-F and current reporting framework searched	Current comparable series begins in FY2022; no estimate is inserted
Full IFRS RPO at H1/Q2 FY2026	True non-disclosure	D2-D3 searched for remaining performance obligations	Latest clean full RPO anchor remains FY2025; CCB is current
Geographic segment profit and margin	True non-disclosure	D1-D7 regional and segment tables	Geography is revenue context only
Core Services quantitative forward guidance	True non-disclosure beyond directional statement	Last four calls, D1-D6	Segment forecast confidence should be lower
Direct SAP HTML archive for five-year summary and reporting framework	Not fetched / omitted	Identical direct retrieval attempted twice and returned HTTP 403; live web fetch succeeded	SEC annual reports archived locally contain controlling figures

There is no open gap in the segment-profit-to-statutory-income bridge. The QFR-sealed packet is unchanged, contains two additive reportable segments on the exact `Segment profit (loss) (non-IFRS)` basis, and reconciles through IFRS operating income, pretax income and net income for both FY2025 and the TTM. The remaining gaps concern optional granularity, taxonomy limits or genuine non-disclosure; none is silently filled with analyst estimates.

Live self-verification

- Largest-segment recency: D3/D9 confirm Q2 FY2026 cloud revenue of €6,281 million, up 22% reported and 24% at constant currencies; ATS revenue calculated from the official H1 less Q1 segment tables is €8,912 million.
- Load-bearing management statement: the live FMP Q2 FY2026 transcript is dated 2026-07-24 and contains the disclosed statement that AI and Business Data Cloud were key pillars in more than 90% of SAP's 50 largest deals.

- Full-year revenue: the live FMP annual income statement reports FY2025 revenue of €36.800 billion, exactly matching the audited Form 20-F. The live provider's FY2025 operating-income value does not match and is overridden by audited €9.617 billion as documented.

The data package is ready for independent DR source, table and statutory-bridge review.