RTX gideon lens

RTX Corporation (RTX) - Gideon-Lens Equity Research

Report ID: RTX-PRODUCTION-ER2-20260807T080140+0800 **Date:** 2026-08-07 **Analyst:** GPT-5.6 Sol High, Production ER2 **Price anchor:** USD 223.25 on XNYS, session 2026-08-06 **Market capitalization:** USD 300.887B **Fiscal year end:** December 31

VERDICT BLOCK

Verdict: PASS

Scorecard:

Gate	Result	Notes
Management	YELLOW	Execution improving; short CEO tenure and open controls work remain
Moat	YELLOW	Installed-base strengths pass 2046; Pratt durability economics remain unresolved
P/E <= 15 on confident EPS at TTM + 5 calendar years	FAIL	Base cushion is negative 33.5% at USD 223.25
Compounder Score	Audited 49 / 100	Evidence does not support dream-investment status; diagnostic only
Business Quality Score	Audited 48 / 80	Runway is credible but dream-business evidence remains incomplete
20% Return UW Score	Audited 1 / 20	Current price does not support the 20% return hurdle

One-line thesis (or reason to pass): RTX owns durable aerospace and defense franchises, but at USD 223.25 the audited base and probability-weighted five-year returns are negative, while both qualitative gates retain unresolved risks.

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

Measure	Result	Notes
Primary valuation method	P/E	Statutory diluted EPS controls every scenario, weighting, reverse-return and net-SGD bridge
Gross local-currency bear / base / bull IRR	-17.71% / -0.81% / 9.16%	Five-year annualized shareholder return in USD
Probability-weighted gross local-currency IRR	-1.39%	CAGR of USD 208.1816 expected terminal wealth from 25% / 55% / 20% weights
Return bridge	USD 223.25 -> terminal wealth	Exact 5.000-year horizon to 2031-06-30; terminal equity value/share plus distributions, with no debt or cash adjustment under P/E

The current balance-sheet diagnostic is USD 8.305B cash, USD 37.383B gross debt excluding leases and USD 1.473B noncurrent lease liabilities, or USD 30.551B net debt including the lease balance. None is added to or subtracted from the P/E equity bridge because interest and capital structure are already reflected in statutory EPS. That is the audited double-count protection. Exit P/Es of 14x, 20x and 24x are independently grounded in RTX history, current forward values and defense peers; the P/E-15 entry gate was not used to select them. Current diluted listed-equivalent shares are 1,365.0M.

Bear-case operating and return bridge

Bear case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Revenue	USD 93.500B	USD 109.937B	3.29%	Remediation, supplier and fixed-price constraints limit backlog conversion
Operating margin	11.21%	9.00%	-2.22 pp	Pratt charges and defense program pressure overwhelm Collins resilience

Bear case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Operating earnings	USD 10.485B	USD 9.890B	-1.16%	Statutory operating income equals revenue times consolidated margin
Diluted share count	1,365.000M	1,378.236M	0.19%	SBC issuance exceeds constrained repurchases
EPS	USD 5.680	USD 4.976	-2.61%	Statutory diluted EPS used in the P/E bridge
Valuation	39.30x	14.00x	-25.30x	Reversion toward RTX's lower historical range under execution stress
Share value	USD 223.25	USD 69.664	-20.78%	USD 96.014B terminal equity value divided by 1,378.236M shares
Annual dividend	USD 2.920	USD 2.920	0.00%	Flat dividend is the conservative supported path
Dividend yield	1.31%	4.19%	+2.88 pp	Annual dividend divided by endpoint share value
Five-year dividends	-	USD 14.600	cumulative	Distributions counted exactly once
Total ending value	USD 223.25	USD 84.264	-17.71% gross local IRR	USD 69.664 share value plus USD 14.600 distributions

Base-case operating and return bridge

Base case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Revenue	USD 93.500B	USD 128.698B	6.60%	Installed-base aftermarket and defense backlog convert without heroic mix
Operating margin	11.21%	13.95%	+2.73 pp	Pratt normalizes and Collins expands while corporate charges remain visible
Operating earnings	USD 10.485B	USD 17.952B	11.35%	Statutory operating income equals the reviewed segment rollup and bridge
Diluted share count	1,365.000M	1,377.116M	0.18%	Modeled repurchases do not fully offset SBC issuance
EPS	USD 5.680	USD 9.896	11.74%	USD 13.627B net income divided by terminal diluted shares
Valuation	39.30x	20.00x	-19.30x	Peer-grounded normalization below current and near pure-defense peers
Share value	USD 223.25	USD 197.913	-2.38%	USD 272.549B terminal equity value divided by 1,377.116M shares
Annual dividend	USD 2.920	USD 3.553	4.00%	Four-percent annual dividend growth
Dividend yield	1.31%	1.80%	+0.49 pp	Annual dividend divided by endpoint share value
Five-year dividends	-	USD 16.448	cumulative	Distributions counted exactly once
Total ending value	USD 223.25	USD 214.361	-0.81% gross local IRR	USD 197.913 share value plus USD 16.448 distributions

Bull-case operating and return bridge

Bull case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Revenue	USD 93.500B	USD 143.957B	9.01%	Strong commercial aftermarket, GTF recovery and defense production coincide

Bull case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Operating margin	11.21%	16.57%	+5.35 pp	All three segments execute near reviewed upside cases
Operating earnings	USD 10.485B	USD 23.850B	17.87%	Statutory operating income preserves all bridge items
Diluted share count	1,365.000M	1,368.292M	0.05%	Stronger cash generation nearly offsets dilution through repurchases
EPS	USD 5.680	USD 13.672	19.20%	USD 18.707B net income divided by terminal diluted shares
Valuation	39.30x	24.00x	-15.30x	Premium exit requires excellent execution but no expansion from current P/E
Share value	USD 223.25	USD 328.117	8.01%	USD 448.960B terminal equity value divided by 1,368.292M shares
Annual dividend	USD 2.920	USD 4.095	7.00%	Seven-percent annual dividend growth
Dividend yield	1.31%	1.25%	-0.06 pp	Annual dividend divided by endpoint share value
Five-year dividends	-	USD 17.968	cumulative	Distributions counted exactly once
Total ending value	USD 223.25	USD 346.085	9.16% gross local IRR	USD 328.117 share value plus USD 17.968 distributions

CIO actionability (separate from ER2 underwriting):

Measure	Result	Notes
Status	PASS	Base and weighted returns are negative despite durable franchises
Bear / Base / Bull net SGD IRR	-18.99% / -1.40% / 9.12%	Five-year annualized after diagnostic costs, withholding and FX translation
Probability-weighted net SGD IRR	-1.89%	CAGR of expected terminal SGD wealth using 25% / 55% / 20% weights
10% mandate hurdle	FAIL	Base and probability-weighted cases both fail
15% stretch hurdle	FAIL	Even the bull case is below 15%
Downside and portfolio fit	FAIL / UNAVAILABLE	Security downside fails; portfolio context was not provided
Proposed sizing ceiling	none	No sizing proposal; owner approval would be required in any case

The net-SGD diagnostic uses SGD 1.28285 per USD at entry, 35 bps entry and exit costs, 30% dividend withholding, and exit FX of 1.25884 / 1.28285 / 1.30959 in bear / base / bull. The same P/E method controls every net scenario.

Trade execution authorized: NO

Kill / trigger criteria:

- BUY trigger: below USD 83.66, a 62.5% decline from the anchor and a 77.4% cushion to base EPS at 15x, while Management and Moat must also upgrade to PASS.
- PASS trigger: Pratt AOG or remediation cash costs fail to normalize through 2027, or segment margin stays below 10%.
- PASS trigger: Raytheon program-accounting revisions exceed USD 500M in a rolling year or segment margin falls below 10%.
- Upgrade condition: base EPS exceeds USD 14.88 without aggressive multiple assumptions, Collins margin remains at least 18%, and net leverage stays below 2.0x without debt-funded repurchases.

Research sizing if actionable: none. This research has no ranking, sizing, portfolio-mutation or trade authority.

Stage 0 - Time anchor

Today is 2026-08-07. RTX's fiscal year ends December 31. The latest reported quarter is Q2 FY2026, ended 2026-06-30 and reported 2026-07-23. TTM is Q3 FY2025 plus Q4 FY2025 plus Q1 FY2026 plus Q2 FY2026, mechanically equivalent to FY2025 less H1 FY2025 plus H1 FY2026, ending 2026-06-30. The forecast horizon is exactly 5.000 calendar years to 2031-06-30.

Stage 1 - Disqualifier sweep

ROIC is **YELLOW** because reported and normalized returns remain below the 15% screen and credible ROIIC is unavailable. FCF conversion is **GREEN** because TTM FCF is USD 11.407B and five-year aggregate FCF/NOPAT is about 108.7%. Net debt/EBITDA is **YELLOW** at 2.05x because it clears 3x but leaves limited protection against remediation shocks. End-markets are **GREEN** because commercial aerospace aftermarket and defense replenishment remain structurally supported. Governance is **YELLOW** because resolved DOJ/SEC matters, an open GTF inquiry and remediation work prevent a clean conclusion. AI disruption is **GREEN** because certified hardware, propulsion, sensors and effectors are not replaceable workflows. Pricing power is **YELLOW** because Collins has it, while Pratt reliability and fixed-price Raytheon contracts limit consolidated capture. No check is red, so research proceeded.

Management - one paragraph summary

Management is YELLOW. Chris Calio has improved operating momentum and disclosure around GTF remediation, but his CEO track record is still short. The board and finance team have substantial industry experience, yet legacy merger integration, export-control remediation and compliance monitoring reduce confidence in control quality. Compensation emphasizes operating profit, cash flow and long-term equity, but the evidence does not yet prove superior capital allocation. The open GTF disclosure inquiry matters because timing and completeness of disclosure are central to owner trust. An upgrade requires a clean inquiry resolution, falling aircraft-on-ground levels, remediation within disclosed cash bounds, and no new material compliance failures. A downgrade follows renewed disclosure failures, debt-funded buybacks or sustained operating misses. The detailed basis is in Appendix M.

Moat - one paragraph summary

The moat is YELLOW and the 2046 durability test is PASS. Collins has the strongest franchise through certified installed content, switching costs and proprietary aftermarket access. Pratt's engine installed base creates long service relationships, but the powder-metal failure proves that demand lock-in does not guarantee margin durability. Raytheon benefits from trusted procurement, classified integration and program incumbency, while fixed-price exposure and open architectures can transfer value to customers or new suppliers. AI is more likely to improve engineering and productivity than replace RTX's physical products, although software layers are more contestable. A moat upgrade needs Pratt reliability normalization and durable segment margins; deterioration in next-platform wins, EAC discipline or aftermarket capture would weaken the conclusion. The full durability analysis is in Appendix W.

Stage 5 synthesis - headline numbers in prose

All 11 synthesis tie-outs passed. TTM revenue is USD 93.500B and statutory operating income is USD 10.485B. The five-year bear, base and bull revenue outcomes are USD 109.937B, USD 128.698B and USD 143.957B. Corresponding statutory operating income is USD 9.890B, USD 17.952B and USD 23.850B. Base net income is USD 13.627B and base EPS is USD 9.896. The USD 223.25 anchor requires USD 14.883 of EPS for P/E 15, leaving a negative 33.5% cushion. Bear EPS is USD 4.976; bull EPS is USD 13.672, so even the bull case misses the P/E-15 entry requirement. Collins supplies the highest-quality profit pool, Pratt supplies the largest normalization swing, and Raytheon remains sensitive to EAC revisions. The base build assumes no residual plug. The share path includes SBC and repurchases explicitly. The recency check passes because the first-forward-year consolidated run rate is 7.75% above TTM, consistent with the latest segment growth. The reflexivity check fails: a 20% return from today's price requires about 54.47x base terminal P/E, not supported by peer or historical evidence.

Scenario	Revenue (USD B)	Statutory OI (USD B)	Net income (USD B)	EPS (USD)	Probability	Gross USD IRR
Bear	109.937	9.890	6.858	4.976	25%	-17.71%
Base	128.698	17.952	13.627	9.896	55%	-0.81%
Bull	143.957	23.850	18.707	13.672	20%	9.16%

Red team - one paragraph

The thesis does not survive red-team review. The strongest bear point is that RTX's price capitalizes simultaneous Collins, Pratt and Raytheon margin recovery even though the audited base return is already negative. Pratt's 11.49% terminal margin is the most optimistic Stage 5 number: its TTM margin is 8.50%, and Q2 remained 8.3% despite 25% commercial aftermarket growth. Holding Pratt at 8.5% lowers base EPS by about USD 0.72 to USD 9.18 and gross IRR to about negative 2.17%; a broader margin and amortization reset lowers EPS to about USD 7.92. The force-review signal is Pratt rolling-four-quarter margin below 8.0% at Q4 FY2026 or Q2 FY2027 while aftermarket still grows at least 10%, because that would prove volume is not converting into economic profit. Appendix RT contains the full cross-examination.

Kill / trigger criteria

- Retain PASS while base and probability-weighted net-SGD IRRs are below 10%.
- Re-underwrite immediately if Pratt segment margin remains below 10% after 2027 or remediation cash materially exceeds guidance.
- Re-underwrite if Raytheon rolling annual EAC revisions exceed USD 500M or its margin falls below 10%.
- Consider an upgrade only if Management and Moat both reach PASS, base EPS clears USD 14.88, and the weighted max-buy price rises above the market price without multiple expansion.

Analyst flags

Portfolio concentration, factor exposure, liquidity budget and existing holdings were unavailable; only portfolio fit and sizing remain unassessed. Credible three-year, five-year and acquisition-inclusive ROIIC cannot be calculated from the disclosed capital base. Terminal capital-structure paths are unavailable, so P/E rather than EV/NOPAT controls. A completion-first official SEC quarterly segment reconstruction replaced a reproducibly defective FMP FY2025 quarterly endpoint and tied to the annual total with zero residuals. The quote packet remains valid through 2026-08-08 04:00 SGT. This report provides research underwriting only and has no trade, broker, portfolio, message, ranking or sizing authority.

Appendix A - Company Primer

RTX Corporation - Company Primer

Production run: `pulse-cio-20260807T080139+0800` **Information date:** 2026-08-07 **Financial anchor:** FY2025 and TTM ended 2026-06-30 **Forward horizon for the wider ER2 work:** 2031-06-30

How to read RTX

RTX is best understood not as one homogeneous defense contractor, but as three large aerospace franchises joined by a common technology, manufacturing, and government-customer heritage. Collins Aerospace supplies many of the systems that make an aircraft function beyond the engine. Pratt & Whitney supplies and services the engine itself. Raytheon supplies defense sensors, missiles, effectors, radars, command systems, and other mission equipment. This combination gives RTX exposure to two different but complementary demand systems: global commercial flight activity and aircraft production on one side, and government defense budgets, replenishment needs, and security priorities on the other.

The distinction matters. Commercial aerospace economics often involve an expensive, competitive original-equipment position that creates decades of proprietary or advantaged aftermarket demand. Defense economics are more directly shaped by program awards, appropriations, contract type, delivery performance, and the accuracy of long-duration cost estimates. RTX therefore combines recurring installed-base economics with contract-manufacturing and development risk. The investment case depends on the balance of those forces rather than on a single end-market forecast.

All financial figures in this primer come only from the reconciled [`quant_foundation.md`](C:/Users/Admin/OneDrive/GPT/ER%202.0/RTX%20Corporation/quant_foundation.md). Qualitative business descriptions are anchored in RTX's [2025 Form 10-K](https://www.sec.gov/Archives/edgar/data/101829/000010182926000006/rtx-20251231.htm) and the latest [Q2 2026 Form 10-Q](https://www.sec.gov/Archives/edgar/data/101829/000010182926000027/rtx-20260630.htm). This primer does not use undisclosed program economics or reconstructed segment costs.

Business overview

RTX sells advanced aerospace and defense systems and the services required to keep those systems operating. The customer set includes aircraft manufacturers, commercial airlines, aircraft lessors and other operators, business- and general-aviation users, the U.S. government, allied governments, and prime contractors for which RTX acts as a supplier or subcontractor. Commercial aerospace sales are made into both original equipment manufacturer, or OEM, production and the aftermarket. Defense sales can be made as a prime contractor, a subcontractor, a direct commercial sale to a foreign government subject to U.S. approval, or a foreign military sale routed through the U.S. government.

The company solves several high-cost, mission-critical problems. Collins makes aircraft safer, controllable, connected, comfortable, and operationally efficient through avionics, power, controls, landing, interiors, communications, sensing, and related systems. Pratt converts fuel into thrust and then provides the maintenance infrastructure needed to keep engines airworthy over long service lives. Raytheon enables customers to detect, identify, track, communicate about, and defeat threats across air, land, sea, space, and increasingly networked domains.

Customers do not buy these products through a retail-like channel. Positions are won through technical competitions, platform selections, negotiated supply agreements, program awards, government procurements, and long-term support arrangements. Once selected, the supplier may need to invest heavily in engineering, certification, tooling, capacity, and customer support before the platform reaches mature production. The resulting position can be highly durable because switching a certified aircraft system, fielded engine, or integrated defense subsystem is costly, operationally disruptive, and often requires new qualification or government approval.

RTX manufactures and services products across a large international footprint. The breadth is a competitive asset-customers value global repair capacity, engineering depth, and the ability to support fleets and fielded systems-but it also makes the company dependent on complex supply chains, specialized labor, scarce materials, and disciplined execution across thousands of contracts.

Revenue architecture

The three reportable segments generate gross segment sales above consolidated revenue because Collins and Raytheon also sell to other RTX businesses. Eliminations and other remove those intersegment transactions. Therefore, segment percentages of consolidated revenue add to more than 100%; this is a consolidation effect, not double counting in the final company total.

FY2025 revenue architecture	Revenue (USDm)	% of consolidated revenue	Operating profit (USDm)	Operating margin
Collins Aerospace	30,196	34.1%	4,923	16.30%
Pratt & Whitney	32,916	37.2%	2,596	7.89%
Raytheon	28,043	31.6%	3,227	11.51%
Total segment	91,155	102.9%	10,746	11.79%
Eliminations and other revenue	(2,552)	(2.9%)	-	-
Consolidated revenue	88,603	100.0%	9,300	10.50%

The TTM base ended 2026-06-30 shows the same basic architecture, with commercial aerospace momentum lifting Collins and Pratt while Raytheon remains a large and profitable defense franchise.

TTM segment base	Revenue (USDm)	Operating profit (USDm)	Operating margin
Collins Aerospace	31,169	5,275	16.92%
Pratt & Whitney	34,981	2,972	8.50%
Raytheon	29,916	3,627	12.12%
Total segment	96,066	11,874	12.36%
Consolidated revenue	93,500	-	-

Collins Aerospace

Collins is the aircraft-systems and mission-systems franchise. Its portfolio spans electric power generation and distribution, environmental and flight controls, sensing, engine controls and components, nacelles, lighting, cargo and evacuation systems, landing gear, wheels and brakes, communications, navigation, surveillance, avionics, and propellers. It also supplies defense and space customers with communications, mission, sensing, and related systems. The breadth means Collins can hold multiple positions on the same aircraft or platform rather than relying on a single component category.

Economically, Collins has three intertwined engines. First is commercial OEM content, where revenue follows airframer production rates and platform mix. Second is commercial aftermarket, where utilization, flight cycles, fleet age, repair events, spare-parts demand, and long-term service agreements drive activity. Third is defense and space, where program volumes and government funding matter. The aftermarket is particularly important because many components require certified parts, specialized repair capability, technical data, or an approved service network. That creates a better margin mix than initial equipment in many aerospace categories, though the exact economics differ by product.

Collins' TTM margin exceeded its FY2025 margin, consistent with the operating leverage available when aftermarket and production volume grow faster than the cost base. The counterweight is working-capital and capacity intensity: higher production requires materials, supplier commitments, factory throughput, and sometimes customer-specific investment before cash is collected.

Pratt & Whitney

Pratt & Whitney designs, manufactures, and services large commercial and military aircraft engines, smaller engines for regional, business, general-aviation and helicopter applications, and auxiliary power units. Its customer base includes airframers, airlines, lessors, operators, and governments. Important commercial families include the geared turbofan, while military programs include the F135 engine that exclusively powers the three F-35 variants. Pratt & Whitney Canada broadens the portfolio into smaller propulsion applications.

Pratt is the largest segment by FY2025 and TTM revenue, but its margin remains well below Collins'. That difference is central to understanding RTX. A commercial engine can require years of research and development, certification, production ramp, customer incentives, support capacity, and early-life reliability work. Engine makers may accept low or negative economics on initial units to create a large installed base that later generates spare-parts and maintenance cash flows. Long-term maintenance contracts can be attractive over a full cycle, but they expose the supplier to errors in assumptions about shop-visit frequency, part life, utilization, material costs, turnaround time, and repair scope.

Pratt also uses risk- and revenue-sharing collaboration arrangements on engine programs. Partners fund and bear portions of development, production, and aftermarket economics. This reduces RTX's sole exposure but makes the reported economics different from a wholly owned program: collaborator shares of sales are recorded in cost of sales under the company's accounting policy, and cash timing can reflect partner settlements.

The segment's TTM margin improved from FY2025, but it remains the clearest source of both earnings upside and execution risk. Better shop throughput, maturing fleet economics, higher spare-parts demand, and fewer remediation costs can create meaningful operating leverage. Conversely, reliability issues or insufficient maintenance capacity can convert a valuable installed base into compensation payments, accelerated shop visits, and lower contract profitability.

Raytheon

Raytheon is the defense sensor-and-effector franchise. It develops integrated air and missile defense systems, radars, missiles, interceptors, smart weapons, naval systems, command-and-control capabilities, electronic warfare, space systems, hypersonic and counter-hypersonic technologies, and electro-optical or infrared products. Representative programs include Patriot, LTAMDS, NASAMS, AMRAAM, Tomahawk, SM-6, SM-3, AIM-9X, Javelin, Excalibur, Stinger, SPY-6, and other classified systems.

Revenue is driven by government requirements, funded awards, production lots, sustainment, upgrades, and international approvals. The end demand can be durable because installed systems need replenishment, training, spares, software, maintenance, and modernization. Yet backlog is not identical to near-term revenue: appropriations, contract definitization, export approvals, customer schedules, supplier capacity, and technical milestones control the pace of conversion.

Raytheon's margin sits between Collins and Pratt. Mature production and sustainment can produce solid economics, while fixed-price development, low-rate initial production, supplier disruption, and unfavorable estimate-at-completion changes can depress margins. TTM margin improved over FY2025, suggesting better volume and execution at the portfolio level, but investors should still treat program-level cost discipline as a first-order variable.

Segment unit economics and capital intensity

RTX does not separately disclose segment cost of revenue and operating expense. Any attempt to reconstruct segment gross margins would therefore create false precision. The disclosed operating-profit margins are the proper comparison point.

Collins generally converts revenue to operating profit through scale, aftermarket mix, productivity, pricing, and factory absorption. Commercial OEM content can be strategically attractive even when initial margins are modest because a platform position can generate decades of spare-parts and repair demand. Defense content adds program diversity but also exposes Collins to government-contract rules and program-accounting revisions. Capital is absorbed by engineering, certification, specialized equipment, inventory, repair capacity, and contractual payments that secure platform positions.

Pratt's economics are the most life-cycle dependent. The company spends before an engine program is mature, supports an OEM ramp, builds a global overhaul network, and may recognize attractive economics only as the fleet ages and maintenance intensity rises. The installed-base value is therefore real but not free: tooling, rotating-part capacity, repair technology, spare engines, inventory, and maintenance labor must be available when operators need them. Collaboration partners reduce and share some program exposure, while long-term service agreements exchange episodic repair revenue for a more durable customer relationship and greater cost-estimation risk.

Raytheon converts revenue through contract mix, production learning, program maturity, award fees, supply-chain execution, and overhead absorption. Firm-fixed-price work preserves upside when costs are controlled but leaves RTX with overrun risk. Cost-reimbursable work lowers that exposure but typically provides a fee rather than unlimited margin upside. Fixed-price incentive contracts share underruns and overruns within negotiated boundaries. Defense manufacturing is capital intensive in engineering talent, secure facilities, test equipment, long-lead materials, and surge capacity, even when conventional capital expenditures understate the economic investment embedded in customer-funded and company-funded research.

At the company level, TTM operating cash flow was USD14,206m, capital expenditures were USD2,799m, and free cash flow was USD11,407m. Free cash flow exceeded common net income over the period, but one period of strong conversion should not be assumed to represent steady-state economics. Advance payments, customer collections, payables, inventory, remediation cash payments, and contract assets can all move cash materially across periods. Capital intensity also extends beyond reported capex to research, customer financing, collaboration payments, exclusivity assets, inventory buffers, and supplier support.

Customers, end markets, and the contract model

The commercial aerospace customer relationship starts with platform selection. An airframer or operator chooses an engine, avionics suite, landing system, nacelle, or other component based on performance, reliability, weight, price, support, and life-cycle operating cost. RTX may sell directly to the airframer for installation, to an airline or lessor for spares and support, or under a long-term aftermarket agreement. Volume is linked to aircraft production for OEM revenue and to fleet utilization, age, and maintenance events for aftermarket revenue.

The defense relationship is shaped by public procurement. RTX bids on development and production work, receives sole-source or competed follow-on awards, acts as prime or subcontractor, and sells abroad either through government-to-government channels or licensed direct commercial arrangements. U.S. programs may be authorized over many years but appropriated annually. The government can modify requirements, delay funding, audit costs, withhold payments, or terminate for convenience. On some urgent awards RTX may begin work under an undefinitized contract action before price and terms are final, creating cash and margin risk.

Revenue recognition follows the performance obligation, not simply cash receipt. A majority of RTX revenue comes from long-term contracts for complex equipment and services. Contracts may contain separate obligations for units, development phases, production, maintenance, and support. Some revenue is recognized over time using progress toward completion; other revenue is recognized at a point in time on delivery or transfer of control. Contract assets arise when recognized revenue leads billing, while contract liabilities arise when customer payments lead performance.

For over-time work, estimates at completion are critical. Management continually reassesses expected total revenue and cost based on schedules, labor productivity, material availability, subcontractor execution, technical requirements, utilization, and customer changes. When estimates change, the cumulative profit effect can be recorded immediately. Thus, a contract can generate stable cash and revenue for years but still produce a sharp accounting charge if the expected cost to finish rises.

Installed base and aftermarket dynamics

The strongest economic thread across Collins and Pratt is the installed base. Once an aircraft system or engine is certified and fielded, operators need parts, repair, overhaul, engineering support, technical publications, training, fleet management, and digital services. Flight hours and cycles create wear. Regulatory requirements and safety considerations constrain substitution. Global repair capacity and parts availability matter because an idle aircraft is extraordinarily costly for an airline.

Collins' installed base is diversified across many components and platforms. That breadth reduces reliance on a single engine family and permits cross-selling of repair and support. The main risk is that airlines, independent repair shops, or alternative approved-parts suppliers capture part of the aftermarket, or that RTX concedes economics through long-term guarantees and incentives to win an OEM position.

Pratt's installed base has greater upside per asset but also greater technical concentration. Engine maintenance events are expensive and unavoidable, and proprietary life-limited parts can support strong long-run economics. Yet the engine manufacturer may bear substantial cost under service contracts when removals occur earlier than expected or parts do not achieve planned life. The network must also have enough shop slots, technicians, tooling, and material; otherwise turnaround times rise and customer disruption compounds.

The installed-base flywheel is therefore conditional: win the platform, deliver reliable equipment, expand the fleet, support it well, earn trusted aftermarket share, and reinvest in next-generation products. Break reliability or service capacity at any point and the same installed base amplifies liabilities rather than profits.

Supply chain and program-accounting structure

RTX depends on a global network for castings, forgings, electronics, subsystems, and scarce metals including nickel, titanium, cobalt, rhenium, chromium, and tantalum. Some inputs or components are single sourced, and defense procurement rules may limit alternatives. Aerospace suppliers must often pass lengthy qualification processes, so adding a second source is slower than in ordinary industrial manufacturing. Recent disruption has affected rare-earth elements, microelectronics, commodities, labor availability, cost, and delivery schedules. RTX has responded with supplier technical support, additional sources where possible, longer-term agreements, and more inventory, but these actions require cash and may not solve near-term bottlenecks.

Program accounting transmits operating disruptions into reported profit. Long-term contract margins are based on expected total economics. A supplier delay can increase expediting, idle labor, rework, or schedule penalties; inflation can raise the cost

to complete fixed-price work; lower-than-expected part life can increase maintenance expense across a service agreement. The resulting estimate-at-completion adjustment is recognized as a cumulative catch-up rather than spread prospectively. This makes program reviews, unfavorable EAC trends, and changes in contract assets important leading indicators.

Pratt's collaboration arrangements add another layer. Partners share program revenue, costs, risks, and certain commitments according to contractual percentages. Investors should distinguish gross operational demand from RTX's retained economic share and recognize that partner recoveries and payments can affect cash timing. Similarly, Collins and Pratt may make contractual payments or customer-financing commitments to secure positions on aircraft programs. Those investments are rational only if platform volume and aftermarket streams ultimately justify them.

Competitive landscape

RTX competes on technology, reliability, certification, delivery, price, service quality, installed-base support, past performance, and the ability to finance or guarantee customer outcomes. The relevant competitor changes by product rather than by segment. Collins faces other major aerospace-systems suppliers, airframer internal capabilities, specialist component makers, and independent aftermarket providers. Pratt competes with other global engine manufacturers and program partnerships; on some aircraft the airframer offers competing engine choices, while other platforms are sole source. Raytheon competes with large U.S. defense primes, international defense groups, specialist electronics and missile companies, and increasingly non-traditional technology firms.

Barriers to entry are high but not absolute. Certification, technical data, capital, classified capabilities, program references, manufacturing yield, and a global service footprint protect incumbents. Governments may nonetheless fund alternative suppliers to preserve the industrial base, and customers may encourage approved spare-part or maintenance competition. Foreign competitors can receive state-backed research, financing, or export support. New entrants may also move faster in software, autonomy, space, or lower-cost production.

RTX's portfolio breadth is a structural advantage because it spreads platform and program risk and lets the company combine sensors, communications, propulsion, and effectors. The disadvantage is managerial complexity: leadership must allocate engineering resources and capital across businesses with different cycles without allowing scale to obscure program-level underperformance.

Regulation, certification, and government-customer constraints

Commercial aerospace products are governed by the FAA and foreign aviation authorities. Production systems, design changes, repairs, installation approvals, airworthiness, and continuing operational safety are regulated. A safety issue can therefore require service bulletins, inspections, part retirements, airworthiness directives, and accelerated shop visits. Certification is a moat when a product performs well and a liability when corrective action is needed across a fielded fleet.

Government contracting adds the Federal Acquisition Regulation, defense supplements, Cost Accounting Standards, audit rights, security rules, cyber requirements, product-integrity standards, and extensive pricing and cost disclosure. Noncompliance can lead to repayment, penalties, withheld cash, contract modification, suspension, or debarment. The government also holds broad termination-for-convenience rights. Classified programs require cleared employees and secure facilities, increasing labor and infrastructure constraints.

International defense sales require careful navigation of export controls and anti-corruption law, including ITAR, the Arms Export Control Act, Export Administration Regulations, and the Foreign Corrupt Practices Act, as well as local procurement requirements. Licenses can delay otherwise valid demand, and sanctions or shifting foreign policy can block a sale or disrupt sourcing. Political urgency can accelerate demand, but political approval still governs conversion to revenue.

Key business risks

GTF powder-metal remediation

The most company-specific operating risk is Pratt & Whitney's powder-metal matter. In 2023, Pratt identified a rare condition in powder metal used in certain high-pressure turbine and compressor parts for the PW1100 geared turbofan that powers the A320neo family. The fleet-management plan requires accelerated inspections, part retirements, and additional shop visits. FAA airworthiness directives reflect the required actions. As of the latest Q2 2026 filing, RTX continued to expect aircraft-on-ground levels for the affected fleet to remain elevated through 2026.

The direct financial issue is only one part of the risk. The remediation consumes scarce shop capacity and parts, lengthens turnaround time, disrupts airline customers, changes expected costs under long-term maintenance agreements, and may require compensation. The ultimate outcome depends on inspection findings, shop-visit timing, material availability, repair scope, facility capacity, customer negotiations, and the speed at which redesigned or unaffected parts move through the network. Execution that shortens turnaround times and restores customer confidence would release capacity and improve Pratt's normalized earnings power; further technical discoveries or persistent bottlenecks would delay that normalization.

Other principal risks

- **Commercial cycle and customer concentration:** aircraft production, airline finances, traffic, and airframer execution affect OEM and aftermarket activity. A disruption at a major airframer can cascade through RTX's factories and working capital.
- **Program execution:** fixed-price development or production can create losses when requirements change, schedules slip, labor productivity disappoints, or supplier costs rise. Cumulative EAC accounting can bring future deterioration into current earnings abruptly.
- **Supply and capacity:** single-source components, scarce metals, castings, electronics, and qualified labor can cap deliveries even when demand and backlog are strong.
- **Product safety and quality:** field actions can create repair cost, compensation, regulatory scrutiny, litigation, reputational damage, and lost future platform selections.
- **Government budgets and politics:** continuing resolutions, shutdowns, shifting priorities, export licenses, sanctions, and annual appropriations affect the timing and durability of awards.
- **Competition and technology:** customers can select rival engines or systems, develop internal alternatives, approve non-OEM parts, or redirect spending toward new architectures.
- **Cybersecurity and classified information:** a breach can interrupt operations, compromise regulated information, trigger penalties, and damage eligibility for sensitive programs.
- **Balance-sheet and capital allocation:** TTM net debt including the noncurrent lease liability was USD30,551m. Strong cash flow supports deleveraging and distributions, but remediation, working-capital requirements, or large program investments can compete for cash.

Long-term compounding logic

The positive compounding case rests on four mutually reinforcing mechanisms. First, the global commercial fleet and RTX content per aircraft expand the installed base. Second, utilization and fleet aging generate recurring spare-parts, repair, overhaul, and service demand at Collins and Pratt. Third, geopolitical tension and aging defense inventories support production, replenishment, sustainment, and modernization at Raytheon and the defense portions of Collins and Pratt. Fourth, volume, mix, productivity, and a declining burden from exceptional execution problems lift segment margins and convert backlog into cash.

RTX entered the 2026 TTM period with USD93,500m of consolidated revenue and USD11,874m of aggregate segment operating profit. Collins already displays the strongest margin profile; Raytheon has room to benefit from production scale and program execution; Pratt offers the widest normalization opportunity if the GTF fleet-management plan is completed and the aftermarket network catches up. The company can compound even without heroic market-share gains if installed-base service grows, defense throughput improves, and Pratt closes part of the margin gap.

The bear case is the mirror image. OEM positions can consume cash without producing the expected aftermarket return. A large installed base can magnify warranty or maintenance liabilities. Defense backlog can convert slowly or at lower margins when supply chains and cost estimates disappoint. Because the company operates many long-duration programs, small errors repeated across a large revenue base can absorb years of productivity gains.

The most useful investor framework is therefore not simply “commercial aerospace plus defense.” It is a quality-of-execution flywheel: platform wins create backlog and installed base; reliable delivery turns them into revenue; service capacity turns utilization into aftermarket profit; program discipline converts accounting profit into cash; and cash funds the next generation of technology while reducing financial risk. RTX merits a premium compounding profile only if each link remains intact. Through 2031-06-30, the decisive evidence will be sustained segment-margin progression, healthy free-cash-flow conversion

after remediation, improved GTF shop throughput and customer outcomes, defense backlog conversion without adverse EAC surprises, and capital allocation that does not outrun balance-sheet capacity.

Primary references

- RTX Corporation, [2025 Form 10-K](https://www.sec.gov/Archives/edgar/data/101829/000010182926000006/rtx-20251231.htm), filed February 2026.
- RTX Corporation, [Q2 2026 Form 10-Q](https://www.sec.gov/Archives/edgar/data/101829/000010182926000027/rtx-20260630.htm), filed July 2026.
- RTX Corporation, [Q2 2026 results](https://www.rtx.com/news/news-center/2026/07/23/rtx-reports-q2-2026-results), published July 23, 2026.
- ER2 reconciled quantitative source: [`quant_foundation.md`](C:/Users/Admin/OneDrive/GPT/ER%202.0/RTX%20Corporation/quant_foundation.md), run `pulse-cio-20260807T080139+0800`.

Appendix M - Management Assessment

RTX Corporation - Management Assessment

Assessment date: 7 August 2026 **Management gate: YELLOW Primary subject:** Christopher T. Calio, Chairman and Chief Executive Officer

Executive judgment

RTX's current management team has produced credible operational improvement, but it has not yet earned a PASS under a five-year owner-operator standard. Christopher Calio became CEO on 2 May 2024 and Chairman on 30 April 2025. His approximately 27 months as CEO are enough to evaluate decisions and trajectory, but not enough to prove durable capital-allocation skill or clean governance through a full aerospace cycle. His record so far is better than the gate alone may suggest: Raytheon margins and estimate-at-completion, or EAC, trends have improved; Pratt & Whitney's geared-turbofan remediation is progressing against disclosed operating metrics; and the company has raised 2026 sales, earnings, and free-cash-flow guidance twice. The balance-sheet direction has also improved after an unusually large 2023 accelerated share repurchase.

The remaining reservations are substantive. Calio did not design the GTF architecture, and most legacy misconduct resolved in 2024 predates his senior corporate tenure, but he cannot be treated as an outsider inheriting every problem. He led Pratt's Commercial Engines business from 2017 through 2019, led Pratt from 2020 through February 2022, and then served as RTX COO and President/COO. Those roles overlapped the 2015-2021 powder-metal production period now at issue. He therefore owns the quality-system lesson and the current remedy even if he did not originate the program. RTX also remains subject to a three-year independent compliance monitor, engaged in April 2026, following 2024 DOJ and SEC resolutions; it has unresolved export-control disclosures; and the SEC investigation into the company's 2023 GTF disclosures remains open. These are not historical footnotes.

The appropriate conclusion is **YELLOW, improving**. Calio looks like a capable industrial operator and generally direct communicator. The evidence does not yet establish a long-duration capital allocator or a fully remediated control culture.

Leadership, succession, and governance structure

The succession was deliberate. Calio spent roughly two decades in the RTX system, became COO in March 2022, President and COO in March 2023, and succeeded Gregory Hayes as CEO in May 2024. The board chose a leader deeply familiar with the affected businesses rather than an external reset candidate.

Role	Current leader	Relevant experience and assessment
Chairman and CEO	Christopher Calio	Former Pratt Commercial Engines president, Pratt president, RTX COO, and President/COO. Strong operating fit; tenure as CEO remains short.
CFO	Neil Mitchill	CFO since April 2021; prior RTX FP&A/investor relations, acting UTC CFO, Pratt CFO, and PwC experience. Provides continuity and detailed cash/EAC communication.
Collins Aerospace	Troy Brunk	Segment president since July 2024. Collins remains RTX's highest-margin segment and a key cash engine.
Pratt & Whitney	Shane Eddy	Segment president since March 2022. Owns the day-to-day GTF recovery with Calio.
Raytheon	Phil Jasper	Appointed January 2024. Raytheon's margin, backlog, and execution have improved during his tenure.

Nine of the ten 2026 director nominees are independent; Calio is the sole non-independent director. All principal committees are independent, and Fredric Reynolds serves as lead independent director. Directors face annual elections and majority voting. Owners of 15% of shares can call a special meeting, and shareholders have written-consent rights. RTX has no dual-class equity.

The weaker feature is the combined chairman/CEO role while compliance monitoring and an SEC investigation are active. A lead director is not equivalent to an independent chair when the board must assess management's disclosure and remediation. The proxy discloses no material related-person transactions. Board effectiveness should be judged by whether

the open matters close cleanly and it demands better absolute GTF disclosure.

Accountability map: inherited versus owned

Issue	Inherited element	Calio-owned element	Assessment
GTF powder-metal defect	Engine architecture and many underlying design/process decisions predated his CEO term.	He held senior Pratt roles during part of the affected production period and now owns fleet recovery, supplier quality, customer compensation, and disclosure.	Mixed ownership; remediation is improving, but exoneration would be inappropriate.
Raytheon fixed-price programs	Many contracts and development losses originated before he became CEO.	He selected or retained current leadership, sets bid discipline and portfolio priorities, and owns all new EAC performance.	Clear positive trajectory under his watch, not yet cycle-tested.
DOJ/SEC pricing and anti-corruption resolutions	The cited conduct was concentrated in legacy Raytheon and generally occurred from 2009 through 2020.	He owns the April 2026 monitor relationship, remediation, incentives, and the tone for future conduct.	Historical acts mostly inherited; current control outcome fully owned.
Export-control settlement	Conduct primarily related to legacy Rockwell Collins integration, with some legacy Raytheon matters.	RTX must execute the consent agreement, audits, disclosures, and cultural remediation under Calio.	Still an active governance obligation.
2023 accelerated buyback	Announced while Hayes was CEO and Calio was President/COO.	Calio shared execution and now owns balance-sheet repair and future repurchase discipline.	Economically successful ex post, but not a clean Calio attribution.

Operating record and three consequential decisions

1. Reset Raytheon around execution and production

The strongest positive evidence is at Raytheon. Segment operating margin recovered from 9.0% in 2023 to 9.7% in 2024 and 11.5% in 2025, reaching 12.6% in the second quarter of 2026. Backlog expanded from approximately $63 billion at year-end 2024 to $75 billion at year-end 2025 and $86 billion by June 2026. Management reported that munitions output had more than doubled and second-quarter bookings approached $20 billion.

Consolidated net unfavorable EAC adjustments improved from $648 million in 2023 to $473 million in 2024 and $386 million in 2025. First-half 2026 net unfavorable EAC adjustments were $228 million versus $275 million a year earlier. This is not a clean slate: RTX recorded a roughly $600 million Raytheon charge in 2024 related to termination of a foreign fixed-price development contract and disclosed smaller classified-program charges. Still, the direction suggests better program review, bid discipline, and factory execution. Appointing Phil Jasper and emphasizing mature air-and-missile defense and effectors over indiscriminate fixed-price development appears to be Calio's best decision to date.

2. Stabilize the GTF fleet recovery without changing the financial framework

The GTF issue produced a $5.4 billion 2023 sales charge and a $2.9 billion operating-profit charge. RTX absorbed roughly $1 billion of cash impact in each of 2024 and 2025 and currently expects about $700 million in 2026, with cumulative cash headwind near $3 billion. Against that severe baseline, current operating evidence is encouraging. Through the first half of 2026, aircraft on ground were down 25%, MRO output was up 40%, and shop-visit turnaround time was down 23%. Management has not added to the original financial charge.

Calio deserves credit for turning a crisis into a measured recovery program, but disclosure remains incomplete. RTX generally reports percentage changes in aircraft on ground, not the absolute fleet count or a normalized baseline. Analysts have explicitly noted that this makes the trajectory harder to audit. The open SEC investigation into 2023 GTF disclosures raises the standard: an upgrading management team should volunteer enough absolute data for owners to reconcile progress, customer compensation, and cash usage.

3. Repair the capital structure while pruning noncore assets

RTX completed several divestitures during Calio's tenure, including cybersecurity, intelligence and services; hoist and winch; actuation; and Simmonds businesses. It agreed in July 2026 to sell Blue Canyon Technologies for $620 million. The actions simplify a sprawling portfolio without weakening the core aerospace and defense franchises. RTX also reported a $2.9 billion debt paydown in the third quarter of 2025.

The decision is directionally sound because the 2023 $10 billion accelerated share repurchase was debt-funded. It retired shares near $94.28, far below the current sealed quote of $223.25, and was highly accretive ex post. But Hayes was CEO when it launched, and the borrowing reduced flexibility during an operational crisis. Calio merits partial execution credit, not sole strategic credit. His more revealing hierarchy is to fund capacity and technology, grow the dividend, reduce debt, consider disciplined M&A, then return excess cash.

Capital allocation and owner alignment

Capital deployment has shifted markedly. From 2021 through 2025, annual capital expenditure rose from $2.32 billion to $2.63 billion, company-funded R&D remained around $2.7-$2.9 billion, and dividends increased from $2.96 billion to $3.57 billion. Repurchases were $2.33 billion in 2021, $2.80 billion in 2022, $12.87 billion in 2023, $444 million in 2024, and only $50 million in 2025. RTX made no repurchases in the first half of 2026 while paying $1.90 billion of dividends. That pause is appropriate.

Net debt including leases declined from approximately $32.1 billion at year-end 2025 to $30.6 billion at June 2026. The corresponding EBITDA leverage proxy improved from 2.34 times to 2.05 times. This is meaningful progress, although not yet a low-leverage position for a company carrying GTF payments and fixed-price defense risk. The next proof point is whether management continues reducing leverage below 2 times rather than using the higher share price and cash generation to justify another debt-funded repurchase or a large acquisition.

Share-based compensation is controlled rather than abusive. Official filings show expense of $425 million in 2023, $437 million in 2024, and $519 million in 2025; live annual cash-flow data indicate approximately $442 million in 2021 and $420 million in 2022. That is roughly 0.5%-0.7% of revenue. Diluted shares fell from about 1.509 billion in 2021 to 1.356 billion in 2025, principally due to the ASR, though they rose modestly from the 2024 trough. Owners should focus less on gross repurchases and more on net share count after awards and on balance-sheet cost.

Compensation design and insider behavior

Calio's disclosed 2025 direct compensation framework comprised $1.55 million of salary, a $5.1 million annual incentive, and a $21 million 2026 long-term incentive grant; approximately 94% was described as at risk. The long-term program uses 60% performance share units and 40% stock-appreciation rights, with no large plain-vanilla restricted-stock component. Performance shares incorporate EPS growth, return on invested capital, and relative total shareholder return. Explicit ROIC is a meaningful strength because it tempers the temptation to buy revenue or boost EPS through leverage.

The weaknesses are adjustment discretion and rising market-relative weight. The 2025 annual incentive was split equally between adjusted net income and adjusted free cash flow. RTX calculated $9.12 billion of adjusted net income versus $6.73 billion GAAP and $8.45 billion of adjusted free cash flow versus $7.94 billion reported free cash flow. The resulting corporate factor was 164% of target. A high payout in a year burdened by self-created program costs weakens the ownership signal. For 2026, PSU weights moved to 40% combined relative TSR and 60% combined EPS/ROIC from the prior 30%/70% structure, placing more reward on market movement.

Ownership requirements are six times salary for the CEO and four times for the CFO and segment presidents, excluding unvested performance awards and appreciation rights. Hedging, pledging, and short sales are prohibited, and clawbacks extend beyond accounting restatements to metric recalculation, code and safety violations, negligent supervision, and excessive risk-taking. Those provisions are strong.

Calio monetized a meaningful number of shares in February 2026 after exercising appreciation rights, ending with roughly 90,268 directly held shares plus retirement-plan shares. The transaction was not a pattern of repeated open-market selling, but it reduces the force of an owner-operator claim. CFO Mitchill made a similar exercise-and-sale transaction. The behavior is acceptable under the plan, not exemplary founder-like alignment.

Disclosure discipline and candor across eight calls

The review covered the eight quarterly calls from third-quarter 2024 through second-quarter 2026. Management consistently discussed program charges, tariffs, aircraft-on-ground progress, customer compensation, EAC adjustments, and free-cash-flow timing rather than burying them. The team raised 2024 revenue and EPS guidance but ultimately delivered about $4.5 billion of free cash flow, approximately $200 million below its final roughly $4.7 billion expectation. That miss was modest but should remain in the record.

The original 2025 outlook called for $83-$84 billion of sales, adjusted EPS of $6.00-$6.15, and $7.0-$7.5 billion of free cash flow. When tariffs worsened, management explicitly lowered EPS to $5.80-$5.95 while raising sales and maintaining cash guidance. It later raised guidance and finished 2025 with $88.6 billion of reported sales, $6.29 of adjusted EPS, and about $7.9 billion of free cash flow. For 2026, RTX raised sales and EPS in April, then raised sales, EPS, and free cash flow again in July to $95-$96 billion, $7.10-$7.25, and $8.50-$8.75 billion, respectively.

Answers are usually numerical and operational. CFO Mitchill explains EAC and cash mechanics well; Calio is strongest on factories, MRO, and end-market demand. The recurring weakness is reliance on relative GTF measures. Across the calls, management repeatedly used words such as “headwind” and “on track,” but generally paired them with dollars, margins, output, or timing. This is better than promotional communication, though not yet best in class. A PASS requires a longer record of initial guidance meeting final results and more absolute fleet disclosure.

Strategy coherence

RTX's strategy is stable: concentrate on Collins aerospace systems, Pratt propulsion, and Raytheon defense; invest in capacity, digital tools, and engineering; apply the CORE operating system; and convert installed base and backlog into service revenue and cash. Portfolio sales are pruning, not reinvention. Capital expenditure and company-funded R&D have remained steady despite GTF cash payments.

The strategic test is execution, not narrative originality. Collins must sustain mid-teens margins, Pratt must convert rising shop capacity into lower AOG and stronger profit after compensation, and Raytheon must turn an $86 billion backlog into production without repeating fixed-price development losses. Calio's background fits those jobs. The risk is that an internally promoted operator may normalize legacy processes too readily; the compliance monitor and GTF inquiry make independent challenge essential.

Peer calibration

Peer leader	Comparative evidence	Relative judgment
Larry Culp, GE Aerospace	Longer CEO record, a visibly embedded lean operating system, portfolio transformation, and strong 2025 growth in revenue, operating profit, and free cash flow.	Ahead of Calio on duration, operating-system proof, and capital allocation.
Jim Taiclet, Lockheed Martin	Longer tenure, large backlog and cash generation, but continued exposure to fixed-price program charges.	Calio's recent execution is competitive; Taiclet has the longer record.
Kathy Warden, Northrop Grumman	Longer tenure, record backlog, and improved 2025 free cash flow, with her own major fixed-price development risk.	Warden ranks ahead on duration; Calio's Raytheon trajectory compares favorably on current momentum.

The peer set reinforces YELLOW. Calio's first two years compare well on momentum, but better-tested leaders have survived more allocation cycles. RTX needs several years of transparent execution.

Governance and legal-control assessment

In October 2024, RTX agreed to pay more than $950 million to resolve DOJ matters involving defective pricing, foreign bribery, and export violations. The SEC separately announced more than $124 million in FCPA-related relief, and the State Department entered a $200 million consent agreement over export-control violations. The underlying conduct was largely historical, but the consequences are current. A consolidated DOJ/SEC independent compliance monitor was engaged in April 2026 for a three-year term. RTX also carried an approximately $218 million accrual for trade-compliance matters at June 2026, including unresolved voluntary disclosures.

The current 10-Q reports effective disclosure controls and no material internal-control change. That is necessary but not dispositive. The SEC's GTF-disclosure investigation remains open, related civil litigation continues, and monitor testing has only recently begun. The board and Calio should be credited if remediation remains on schedule, incentives penalize supervisory failures, and no repeat offense emerges. Until then, compliance is an open execution item rather than a closed inherited liability.

Final verdict and monitorable conditions

Management gate: YELLOW - credible, improving operator; insufficient duration and unresolved control risk.

Upgrade to **PASS** only if all of the following occur:

- The SEC GTF-disclosure investigation closes without a material adverse finding, restatement, or evidence that senior management withheld decision-useful operating facts, and RTX passes at least one full annual cycle of DOJ/SEC and State Department monitor or audit milestones without a material control failure.
- GTF aircraft-on-ground levels continue a durable decline, customer-compensation and cash costs remain within the current roughly $3 billion cumulative framework, and management adds an auditable absolute or normalized fleet baseline; no new material powder-metal charge is taken.
- Raytheon sustains approximately 12% or better margins through the production ramp, net unfavorable EAC adjustments continue to decline, and net leverage falls below 2 times without a debt-funded buyback or large acquisition.
- Calio completes at least four to five years as CEO with initial guidance broadly reconciling to outcomes and ROIC/cash conversion supporting, rather than trailing, EPS growth.

Downgrade to **FAIL** if any of the following occurs:

- An adverse SEC finding, restatement, monitor-identified material control failure, or new material bribery/export/pricing breach shows that the remediation culture is ineffective.
- GTF assumptions require a material re-reserve, AOG progress reverses, cash costs exceed the current framework without prompt disclosure, or management continues substituting changing percentages for an auditable baseline.
- Raytheon records renewed large fixed-price development losses or worsening EAC trends, or management resumes debt-funded repurchases/M&A before leverage and program risk are normalized.

Primary evidence

- [RTX 2026 proxy statement](https://www.sec.gov/Archives/edgar/data/101829/000130817926000036/rtx014050-def14a.htm), filed 13 March 2026.
- [RTX 2025 Form 10-K](https://www.sec.gov/Archives/edgar/data/101829/000010182926000006/rtx-20251231.htm), filed 9 February 2026.
- [RTX second-quarter 2026 Form 10-Q](https://www.sec.gov/Archives/edgar/data/101829/000010182926000027/rtx-20260630.htm), filed 23 July 2026.
- [RTX second-quarter 2026 results and raised outlook](https://www.rtx.com/news/news-center/2026/07/23/rtx-reports-q2-2026-results), 23 July 2026.
- [U.S. Department of Justice RTX resolutions](https://www.justice.gov/archives/opa/pr/raytheon-company-pay-over-950m-connection-defective-pricing-foreign-bribery-and-export), 16 October 2024.
- [SEC FCPA resolution](https://www.sec.gov/newsroom/press-releases/2024-171), 16 October 2024.
- RTX quarterly earnings-call transcripts for Q3 2024 through Q2 2026, fetched live from Financial Modeling Prep on 7 August 2026 and archived under `raw/management_live_20260807/`.
- Sealed `data_package.md`, especially Sections 7 and 9, for financial history, capital allocation, leverage, segment results, and corporate actions.

Appendix W - Moat and 2046 Durability

RTX Corporation - Moat and 2046 Durability

Assessment date: 2026-08-07 **Financial base:** FY2025 and TTM ended 2026-06-30 **Run ID:** `pulse-cio-20260807T080139+0800`

All financial evidence below comes from the verified [`data_package.md`](C:/Users/Admin/OneDrive/GPT/ER%202.0/RTX%20Corporation/data_package.md). The company primer was used only for business orientation. Live checks included FMP annual income and segment endpoints, RTX's [2025 Form 10-K](https://www.sec.gov/Archives/edgar/data/101829/000010182926000006/rtx-20251231.htm), [Q2 FY2026 Form 10-Q](https://www.sec.gov/Archives/edgar/data/101829/000010182926000027/rtx-20260630.htm), and current competitor filings. Pratt & Whitney's completed segment appendix was incorporated at finalization. Collins and Raytheon remained in-progress stubs, so their moat conclusions were independently derived from the verified package and live primary-source evidence; later segment reviews may refine, but do not presently endorse, those conclusions.

1. Moat taxonomy applied

Network effects - absent in the classic sense. RTX does not gain defensibility merely because another airline or government buys its product. Fleet data, maintenance learning, repair manuals, and engineering feedback create a modest learning loop, especially at Pratt & Whitney and Collins, but this is not a self-reinforcing network that excludes rivals. Airlines can operate mixed fleets and governments deliberately multi-source. The moat should not be credited for network effects.

Switching costs - strong after platform selection, weaker before it. This is the core commercial-aerospace barrier. Replacing a certified engine, flight-control component, braking system, avionics suite, or nacelle after an aircraft enters service can require redesign, testing, airframer approval, regulatory approval, new spares, technician training, and revised maintenance documentation. An airline also risks aircraft downtime. Collins benefits across many component positions; Pratt benefits from life-limited parts, approved repairs, MRO tooling, and long-term service obligations. But competition is fierce at the next platform competition: RTX itself warns that rivals use discounts, guarantees, financing, and incentives to win the future aftermarket. Switching costs protect the installed platform, not the next design win.

Scale economies - strong, but shared by formidable oligopoly peers. RTX sustains global engineering, qualification, manufacturing, test, secure-facility, supplier-support, and repair networks that a new entrant cannot economically replicate for one program. Collins can support many systems across civil and military fleets; Pratt's GTF aftermarket network reached 21 facilities in 2025; Raytheon can fund parallel sensor, interceptor, radar, classified, and production programs. Yet scale is not unique. GE Aerospace reported about 50,000 commercial and 30,000 military engines and roughly 70% of revenue from aftermarket services in its [2025 Form 10-K](https://www.sec.gov/Archives/edgar/data/40545/000004054526000008/ge-20251231.htm). RTX faces scaled peers with comparable capital and technology. Scale raises entry barriers but does not prevent share shifts among incumbents.

Brand - useful trust, not consumer-style pricing power. Pratt, Collins, and Raytheon names matter because airframers, airlines, and governments value reliability, past performance, safety culture, delivery, and long support histories. Brand reduces perceived execution risk in a bid. It cannot overcome a materially inferior life-cycle cost or technical record. The GTF powder-metal event shows this limit: RTX's filing says the matter caused reputational harm, elevated shop visits, and customer-support costs. Brand is therefore a procurement credential, not a license to raise price.

Regulatory and certification barriers - very strong, two-edged. FAA and foreign airworthiness approval, continuing-airworthiness duties, DoW cybersecurity and product standards, security clearances, classified facilities, ITAR/export licensing, and customer qualification make substitution slow. These barriers are strongest in Collins safety-critical systems, Pratt propulsion, and Raytheon classified/export-controlled systems. They also lock RTX into remediation obligations when a field issue arises. Certification protected Pratt's installed base, but it did not protect economics when affected parts required accelerated inspection. Regulation is a barrier to entry and a durable cost of incumbency.

IP, process know-how, and manufacturing yield - meaningful, but patents alone are not the moat. Patents, proprietary designs, materials science, classified know-how, repair specifications, software assurance, manufacturing processes, test data, and decades of failure-learning matter across all segments. However, RTX cautions that patents may be challenged or circumvented, while government procurements may require disclosure or rights to detailed technical information. The protectable asset is the integrated body of engineering data, qualified processes, manufacturing yield, installed tooling, and

customer-specific approvals. A competitor attacks it not by copying one patent, but by winning the next architecture and accumulating its own field data.

High-trust procurement - strong, especially at Raytheon. Defense awards depend on technical performance, security, past performance, production capacity, program integration, and the ability to support systems for decades. Raytheon's $86 billion backlog at Q2 FY2026 and high current book-to-bill demonstrate customer demand and incumbency, although backlog is not itself a moat. Lockheed Martin's [2025 Form 10-K](https://www.sec.gov/Archives/edgar/data/936468/000162828026004195/lmt-20251231.htm) identifies the same competitive factors-mission performance, reliability, execution, delivery, and customer confidence-confirming that this is a contest among trusted primes, not a monopoly. Governments can fund alternatives, use commercial and non-traditional contractors, or demand IP rights. Procurement trust is durable but must be re-earned on each major competition.

2. Per-segment moat

Collins Aerospace

Collins has RTX's best demonstrated moat: hundreds of certified, safety-critical positions across avionics, controls, power, landing, nacelles, interiors, communications, and mission systems, followed by spares, overhaul, repair, and technical support. Management identified about $105 billion of out-of-warranty aircraft content in the verified FY2025 call evidence. That is a concrete aftermarket pool rather than a generic installed-base claim. Collins' moat is strong for five and ten years because fielded platforms cannot cheaply be redesigned; it is credible for twenty years if Collins keeps winning next-generation content. It breaks through loss of major platform selections, materially rising non-OEM parts and independent MRO share, or sustained reliability/delivery failures. The earliest signal would be services growth trailing flight activity for several quarters while margin falls below the pre-recovery range, or airframers systematically insourcing Collins categories.

Pratt & Whitney

Pratt's moat is technically deep and economically conditional. Certified engines create decades of proprietary parts, shop visits, fleet management, and MRO work; the F135 is the exclusive engine on the F-35 variants, while the verified package records an approximately 8,000-engine GTF backlog. The completed segment review adds public operating scale: more than 13,000 GTF engines ordered, over 2,730 aircraft with more than 90 operators, 51 million operating hours, and 21 MRO shops. Its competitive conclusion is persuasive: this lock-in protects relevance and recurring demand more reliably than any particular margin because CFM's exclusive 737 position and larger flywheel remain formidable. The moat is strong for the installed V2500, GTF, F135, and Pratt Canada fleets over five and ten years. Twenty-year durability depends on reliability, repair capacity, and future platform wins. The powder-metal matter inflicted real damage: the 2023 pre-tax operating-profit charge was $2.9 billion at RTX's 51% share, customer-compensation cash use was $1.0 billion in each of 2024 and 2025, and PW1100 aircraft-on-ground levels are expected to remain elevated through 2026. A technically locked-in fleet can magnify liabilities as readily as aftermarket profit. The earliest break signal is new affected scope, delayed AOG normalization into 2027, Advantage durability failing field validation, or loss of narrowbody share to CFM/GE-Safran at the next decision cycle.

Raytheon

Raytheon's moat is a portfolio of fielded architectures, classified know-how, system integration, past performance, production qualifications, export approvals, and customer-funded program history across radars, interceptors, missiles, sensors, and command systems. Patriot/GEM-T, AMRAAM, LTAMDS, Standard Missile, and other programs embed RTX in allied force structures and sustainment chains. This barrier is strong over five and ten years and selectively durable over twenty, especially for installed air-defense and effector families. It is less impregnable in software-heavy command, sensor fusion, autonomy, and proliferated low-cost systems, where open architectures and non-traditional entrants can compress the value captured by a prime. The earliest break signal is repeated loss of next-generation awards, customer-directed modularization that transfers integration control, or backlog growth accompanied by worsening delivery and estimate-at-completion charges.

The blended moat is weaker than Collins alone. FY2025 gross segment revenue was 33% Collins, 36% Pratt, and 31% Raytheon. Collins supplies the clearest high-margin installed-base economics; Pratt is the largest segment and has the most severe reliability and life-cycle-cost risk; Raytheon has strong procurement barriers but substantial fixed-price execution exposure. The equity therefore cannot be underwritten as a 17%-margin Collins clone.

3. Margin persistence evidence

RTX's post-merger, recast segment history provides five comparable years, not a clean ten-year series. A synthetic ten-year table would mix predecessor structures and is not used.

Operating margin	FY2021	FY2022	FY2023	FY2024	FY2025	TTM 2026-06-30
Consolidated statutory	7.98%	8.21%	5.17%	8.10%	10.50%	11.21%
Collins segment	11.25%	12.22%	14.57%	14.62%	16.30%	16.92%
Pratt & Whitney segment	2.50%	5.24%	(7.95%)	7.18%	7.89%	8.50%
Raytheon segment	12.77%	9.72%	9.03%	9.71%	11.51%	12.12%

Collins shows genuine persistence and expansion through supply inflation: revenue rose from $21.2 billion in FY2021 to $30.2 billion in FY2025 while operating margin increased about 505 basis points. Services revenue rose from $4.0 billion to $6.1 billion. That is observable evidence of mix, volume leverage, and some commercial power, although RTX attributes recent profit growth primarily to higher volume rather than disclosing a clean price contribution.

Raytheon's 9%-13% band is credible but not exceptional. FY2021's 12.8% compressed to 9.0% by FY2023 before recovering; fixed-price work, supply constraints, and EAC revisions make the profit pool less stable than backlog suggests. Pratt fails a conventional persistence test. The FY2023 loss reflects an extraordinary but economically relevant product-quality failure, not an accounting nuisance. The recovery to 8.5% TTM is encouraging, yet still does not demonstrate that GTF life-cycle economics can earn consistently high returns. Consolidated margin improvement is real, but the five-year record includes a deep technical shock and does not support an unqualified wide-moat verdict.

4. AI disruption stress test

Collins: Most value is physical chokepoint economics-certified flight controls, power, landing, sensing, communications hardware, repair capacity, and technical data-not a prompt-to-output workflow. AI can improve design-space exploration, predictive maintenance, inspection, factory scheduling, and troubleshooting. Connected aviation, air-traffic software, simulation, and some information-management layers are more exposed because models can improve decision support and automate analysis. Even there, certification, embedded interfaces, cybersecurity, and fleet integration slow displacement. AI raises engineering productivity and shifts differentiation toward data and assurance; it does not erase the installed hardware position.

Pratt & Whitney: Pratt is the most protected segment from direct AI disintermediation. A foundation model cannot certify a turbine, manufacture powder-metal disks, create shop capacity, or supply a life-limited part. AI may accelerate aerodynamic and materials simulation, detect anomalies, optimize shop routing, and reduce engineering hours. The limiting economics remain thermodynamics, durability, manufacturing yield, regulatory proof, spares, and physical MRO capacity. AI can make GE/Safran or Rolls-Royce more effective competitors, but it cannot turn propulsion into a commodity workflow.

Raytheon: Raytheon is the most exposed segment at the margin. AI-native entrants can attack sensor fusion, mission planning, autonomous control, software-defined command, and rapid integration on attritable platforms. Lockheed and other primes are also embedding AI and open architectures. Yet radar apertures, seekers, propulsion, warheads, interceptors, secure test infrastructure, classified integration, and cleared production remain physical and regulated chokepoints. The risk is not total disintermediation; it is value migration from proprietary prime-controlled software stacks toward modular government-owned architectures. RTX's 10-K frames AI mainly as an internal process and product technology, consistent with this assessment. Overall, AI is an engineering and productivity tool for RTX, while creating architectural competition in selected Raytheon and Collins software layers.

5. The 2046 test

Today is 2026-08-07; the test date is 2046-08-07. A specific credible 2046 business description is: *RTX designs, certifies, manufactures, upgrades, and supports propulsion, aircraft systems, sensors, air-defense networks, and precision effectors for civil airframers and operators, the U.S. government, and allied governments. Collins earns from certified electrical, control, sensing, communications, landing, and cabin systems installed on aircraft delivered in the 2020s-2040s, plus repair and upgrade streams from older fleets. Pratt supports mature GTF/Advantage, military, business-aviation, and successor propulsion families through proprietary parts and a global MRO network; current powder-metal remediation has withered, while engine-health monitoring and automated inspection are embedded in the service offering. Raytheon produces and sustains networked radars, interceptors, missiles, sensors, and autonomous effectors integrated into allied defense architectures. Software is more modular and AI-rich, but RTX still controls valuable certified hardware, classified integration, production know-how, and field support.*

In that base description, Collins and Pratt aftermarket grow in importance; low-value standalone cabin or commodity component categories may be divested or wither. Raytheon's legacy program names may change, but the need to sense, track, communicate, and intercept does not. Consolidated statutory operating margin should be directionally above today's 11.2% TTM-roughly low-to-mid teens, not software-like-because Pratt normalizes and aftermarket mix grows, partly offset by government bargaining, next-generation R&D, and fixed-price risk. The surviving moat is certified installed content plus proprietary service parts, regulated/classified integration, trusted procurement, and scarce industrial capacity.

The 2046 bear is also specific: CFM/GE-Safran wins the successor narrowbody cycle after continued GTF durability failures; Pratt becomes a subscale legacy-service franchise whose liabilities consume aftermarket rents. Airframers insource or dual-source more Collins systems and regulators approve broader alternative-parts competition. Defense customers mandate open architectures and government data rights, shifting software and integration value to faster entrants, while Raytheon remains a lower-return hardware manufacturer burdened by fixed-price overruns. In that outcome, consolidated margins remain around high single digits and capital returns stay poor. I assign this erosion case meaningful but minority plausibility-approximately 30%-because the current fielded bases are hard to displace, but the GTF episode proves technical failure can reverse life-cycle economics.

6. Competitive threat inventory

Threat	Mechanism	Segment(s) affected	Earliest observable signal	Plausibility
GTF durability and CFM share capture	Additional defects, slow shop turnaround, weak Advantage time-on-wing, or superior rival life-cycle cost reduces future selections	Pratt & Whitney	AOG elevated beyond 2026; compensation exceeds plan; GTF backlog or selection share declines	High
Open architectures and non-traditional defense entrants	Government-owned interfaces, modular software, autonomy, and attritable systems move integration value away from incumbents	Raytheon; Collins mission systems	Repeated next-gen award losses; broader customer data-right demands; falling classified/new-program bookings	Medium-high
Procurement and fixed-price margin transfer	Customers use competition, audits, fixed-price development, and supplier inflation to capture economics despite strong demand	Raytheon; defense portions of Collins/Pratt	Net unfavorable EAC adjustments rise; fixed-price losses recur; backlog rises while margins fall	High

7. Pricing power verification

Pricing power is **uneven and only partly observable**. Collins has the best evidence: five-year margin expansion and service growth through inflation, plus an enormous out-of-warranty content pool. Operators value uptime and approved parts. However, the verified package does not disclose price increases, customer adoption, churn, or a price/mix/volume bridge, and the 10-K attributes recent aftermarket growth primarily to volume. Collins pricing power is therefore moderate-to-strong, not proven unlimited.

Pratt pricing is weakest exactly where the moat appears strongest. Long-term aftermarket contracts and proprietary parts create recurring demand, but guarantees and life-cycle commitments transfer durability and shop-cost risk back to Pratt. GTF compensation and the 2023 charge demonstrate that customer lock-in does not equal realized price power. Raytheon's pricing is constrained by competitive bids, audits, annual funding, and cost disclosure. FY2025 fixed-price revenue was $16.6 billion versus $11.2 billion cost-type, so roughly 60% of Raytheon external sales carried fixed-price economics; cost inflation can therefore reduce margin even when demand is strong. Backlog and book-to-bill verify demand and program embeddedness, not unilateral price-setting. No reliable company-wide churn metric or contractual escalator schedule is disclosed. The correct conclusion is selective aftermarket power, limited OE power, and negotiated-not unilateral-defense pricing.

8. Moat verdict and observable gates

Moat gate: YELLOW. RTX has real, concrete barriers in certified installed content, proprietary aftermarket parts and repair capability, trusted defense procurement, classified integration, and scale. Collins passes comfortably; Raytheon passes durability but with fixed-price and architectural risk. Pratt prevents an overall PASS because the largest segment has not yet shown that its GTF installed base can convert reliably into high-return economics after a multi-billion-dollar technical failure, and company-wide pricing power is not cleanly observable.

2046 test: PASS. The 2046 customer, product, service, and profit pools are specific: airlines and governments still pay RTX for certified propulsion and aircraft systems, proprietary sustainment, sensors, interceptors, and integrated defense hardware. AI changes engineering and software architecture but does not dissolve the physical, regulated, classified, and installed-base chokepoints.

Upgrade the moat to **PASS** if (1) PW1100 AOG levels normalize after 2026 without material new affected scope or compensation above the disclosed plan, (2) Pratt sustains at least a 10% segment margin for four quarters while MRO output and turnaround time continue improving, and (3) Collins remains at or above roughly 16% and Raytheon near or above 11% without material adverse EAC drift. Downgrade to **FAIL** if GTF/Advantage durability causes a second material fleet action or loss of the next narrowbody cycle, if Pratt remains below 8% normalized margin, or if Raytheon repeatedly loses next-generation architectures while fixed-price charges pull segment margin below 9%. These are operating signals, not valuation triggers.

Appendix B1 - Pratt & Whitney

Pratt & Whitney - Segment Deep Dive

Company: RTX Corporation **Forecast anchor:** TTM ended 2026-06-30 **Horizon:** 2031-06-30, exactly 5.000 years **Reporting scale:** USD billions unless stated otherwise **Exact segment profit basis: Operating profit Sealed statutory bridge SHA-256:** `29603ba7cdba77ed01071c2445857340e16869b49e4a5b7f6513576a18dddf2b`

0. Segment boundary and taxonomy note

Pratt & Whitney is one of RTX's three reportable segments under the structure effective July 1, 2023. RTX recast prior periods, so the FY2021-FY2025 series used here is comparable on the current three-segment taxonomy; the boundary event is the **2023-07-01 realignment**, not a break in the reproduced historical series. Pratt comprises large commercial engines, military engines, Pratt & Whitney Canada engines, auxiliary power units, and the related maintenance, repair, overhaul, spare-parts, and fleet-support activities. The forecast preserves this issuer boundary and does not allocate “Eliminations and other,” corporate expenses, FAS/CAS, acquisition-accounting adjustments, or any other statutory bridge line into Pratt. [data_package §1, current reportable segment row; §3a]

1. What this segment actually is

Pratt & Whitney designs propulsion systems, sells new engines and parts, and supports those engines over multi-decade lives. Its customers are aircraft manufacturers, airlines and lessors, business-aviation operators, the U.S. Department of Defense, allied governments, and fleet-support intermediaries. The major economic pools are large commercial engines led by the geared-turbofan family and mature V2500/PW families; Pratt & Whitney Canada engines for regional, business, utility, and general aviation; military engines led by the F135 for the F-35 and a long tail of installed platforms; and the service network that performs shop visits and sells life-limited parts and repairs.

The commercial model has two very different phases. Original-equipment, or OE, engines establish installed base but are commonly sold at low or negative initial program economics because aircraft makers and airlines have bargaining power and engine makers compete for platform position. The installed engine then generates service opportunities as utilization, flight cycles, age, and mandated maintenance drive shop visits. Service economics depend on contract terms, work scope, material content, turnaround time, spare-engine availability, and whether Pratt captures the work in its own or partner network. Therefore a dollar of aftermarket growth is generally more valuable than a dollar of OE growth, while the OE dollar can seed decades of future service value.

Pratt's route to market is concentrated and technically embedded. Aircraft OEMs certify engines on specific airframes; airlines choose between engine options where the platform permits; governments procure engines and sustainment through long-duration programs; and Pratt contracts directly or through joint ventures, risk-and-revenue-sharing partners, distributors, and MRO providers. The A320neo offers both Pratt's GTF and CFM's LEAP-1A, while some other platforms are sole-source. Once an airline has selected an engine, switching the installed fleet is impractical: training, spares, tooling, maintenance approvals, and aircraft certification all reinforce continuity. This creates lifetime service stickiness, although the customer can still negotiate price, defer work, use approved third-party shops, or choose a rival engine on future aircraft orders.

Pricing is not a simple catalogue-price model. OE price is intertwined with launch incentives, volume commitments, escalation clauses, concessions, warranties, and future aftermarket rights. Long-term service agreements can bill by flight hour or other usage measures, while transactional shop visits bill for specific work scopes and parts. Military pricing reflects fixed-price, cost-type, and sustainment arrangements. Contract accounting therefore converts engineering, reliability, volume, inflation, and productivity assumptions into current margins. A durability failure can hurt twice: immediate compensation and remediation costs plus fewer serviceable aircraft flying and generating utilization revenue.

2. Current economics: FY2025 and TTM

Pratt was RTX's largest FY2025 segment by gross segment revenue. FY2025 revenue was $32.916 billion, up 17.3%, and **Operating profit** was $2.596 billion, a 7.89% margin. The exact TTM anchor is $34.981 billion of revenue, calculated from the four disclosed quarters Q3 FY2025 through Q2 FY2026, and $2.972 billion of sealed **Operating profit**, implying an 8.50% TTM margin. The revenue quarters were $8.423 billion, $9.496 billion, $8.173 billion, and $8.889 billion; their sum is $34.981 billion. The profit number is taken from the sealed TTM statutory bridge, not reconstructed from rounded quarterly margins. [RTX 2025 Form 10-K Note 20; RTX Q3 FY2025, FY2025, Q1 FY2026, and Q2 FY2026 results releases dated 2025-10-21,

2026-01-27, 2026-04-21, and 2026-07-23; data_package §3a and §5]

FY2025 external revenue consisted of $18.467 billion of products and $14.449 billion of services, or 56.1% and 43.9% of the segment. This is the finest recurring dollar split RTX discloses. Named revenue for GTF, F135, V2500, Pratt Canada, commercial OE, commercial aftermarket, or military is not separately disclosed. [RTX 2025 Form 10-K Note 20; data_package §4, external products and services, Pratt Products and Services rows] **[DATA GAP: RTX does not disclose recurring revenue by named engine model or by commercial OE, commercial aftermarket, and military channel.]**

Momentum has been strongest in the service flywheel. Across Q3 FY2025, Q4 FY2025, Q1 FY2026, and Q2 FY2026, commercial aftermarket growth was 23%, 21%, 19%, and 25%. Commercial OE growth was 5%, 28%, negative 1%, and negative 8%, while military grew 15%, 30%, 7%, and 23%. Q2's commercial OE decline occurred despite increased large-commercial deliveries, indicating unfavorable price or program mix rather than simply fewer engines. [RTX official results releases dated 2025-10-21, 2026-01-27, 2026-04-21, and 2026-07-23; data_package §4-§5]

The physical output base is broad. FY2025 shipments were 1,055 large commercial engines, 2,126 Pratt & Whitney Canada engines excluding APUs, and 227 military engines. H1 FY2026 shipments were 495, 1,019, and 131, respectively. The TTM delivery picture is mixed: large-commercial H1 shipments rose from 477 to 495, military rose from 91 to 131, and Pratt Canada slipped from 1,039 to 1,019. These unit trends explain why price, engine mix, and aftermarket utilization must be modeled separately rather than extrapolating aggregate revenue. [RTX Q2 FY2026 earnings presentation, slide 16; data_package §0a shipment tables]

Pratt's FY2025 backlog was $151 billion, up from $85 billion in FY2021. Management also cited about 8,000 GTF engines in backlog in Q1 FY2026. Backlog creates a long OE runway but is not equivalent to high-margin revenue: it must be converted through suppliers and Pratt's factories, and each delivered engine can carry early-life losses before its aftermarket stream matures. [RTX 2022, 2023, and 2025 Forms 10-K; Chris Calio, Q1 FY2026 call dated 2026-04-21; data_package §0a and §6]

Capital intensity is real but manageable at RTX scale. Pratt capex was $0.700 billion, $0.949 billion, $1.025 billion, $0.968 billion, and $0.994 billion from FY2021 to FY2025; H1 FY2026 was $0.367 billion. Company-funded Pratt R&D was $1.001 billion in FY2023, $1.086 billion in FY2024, $1.034 billion in FY2025, and $0.472 billion in H1 FY2026. FY2021-FY2022 segment R&D is not disclosed on the recast basis. [RTX 2023 and 2025 Forms 10-K Note 20; RTX Q2 FY2026 Form 10-Q; data_package §0a] **[DATA GAP: recast Pratt company-funded R&D is unavailable for FY2021-FY2022.]**

The powder-metal remediation remains the most important normalization item. The original 2023 impact was a $5.401 billion sales reduction and a $2.9 billion reduction to pretax **Operating profit** at RTX's net 51% program share. The customer-compensation accrual fell from $2.8 billion at inception to $0.4 billion at June 30, 2026; RTX used $1.0 billion in each of FY2024 and FY2025 and expected about $0.7 billion of FY2026 cash impact. At Q2, PW1100 aircraft-on-ground levels were down 25% year to date, MRO output was up more than 40%, and turnaround time was down 23%, but the filing still expected AOG levels to remain elevated through 2026. [RTX 2025 Form 10-K; RTX Q2 FY2026 Form 10-Q, earnings presentation, and call dated 2026-07-23; data_package §0a]

3. Unit economics

Pratt's unit economics begin with installed-base acquisition. New-engine revenue equals engine deliveries multiplied by realized price and program mix. The accounting margin on those sales can be low or negative because Pratt absorbs manufacturing learning-curve costs, launch concessions, partner economics, and warranties while competing to win airframe positions. A shift toward a younger GTF fleet can therefore lift revenue faster than Operating profit initially. Commercial OE volume is economically attractive only if engine reliability, contract structure, and later service capture generate sufficient lifetime value.

The service pool monetizes cycles, utilization, and engine age. Shop-visit revenue is a function of the installed base, removal rate, scope per visit, parts intensity, and price. Operating profit additionally depends on material availability, labor productivity, repair yield, turnaround time, and the share of visits executed within Pratt's network. A mature engine may produce high-margin spare-parts demand, but a premature removal caused by a quality problem can destroy value because Pratt may owe compensation, provide spare support, accelerate unplanned work, and displace profitable scheduled shop visits.

The product/service mix provides the central margin bridge. FY2025 services were 43.9% of disclosed external revenue, yet service growth far exceeded commercial OE in the latest four-quarter sequence. The TTM model allocates the sealed $34.981 billion segment revenue as $18.891 billion products and $16.090 billion services, or 54%/46%. This is an explicit analyst allocation, not an issuer-reported TTM channel split. It tilts two percentage points toward services from FY2025 because all four disclosed quarters showed commercial aftermarket growth between 19% and 25%, while OE was negative in both 2026

quarters. The allocation sums exactly to the sealed TTM segment total and is used only to make the forward model reconstructable.

At the TTM level, the model assigns a negative 1.0% Operating profit margin to products and a 19.645% margin to services. Those line margins are not disclosed by RTX; they are a transparent analytical decomposition that produces exactly $2.972 billion of segment Operating profit before display rounding: negative $0.189 billion from products plus $3.161 billion from services. The decomposition reflects industry economics-early-life OE losses offset by aftermarket profitability-but should not be mistaken for accounting disclosure. The conclusion is robust even if the precise split differs: consolidated Pratt margin improves when service mix, OE learning, durability, and factory productivity advance together.

Four mechanisms move margin upward. First, a larger installed base and greater utilization expand service volume. Second, higher shop throughput and shorter turnaround times spread fixed MRO costs and convert backlog into billable work. Third, manufacturing learning and supplier recovery reduce unit cost on GTF and military engines. Fourth, better durability reduces compensation and disruption, although longer time on wing can defer individual shop visits; lifetime economics improve if reliability retains customers and lowers unplanned cost.

Five mechanisms break margin downward. Powder-metal inspections can stay elevated, displacing capacity and raising compensation. Supplier shortages can interrupt both OE and shops, forcing inefficiency and premium freight. Adverse OE mix can reduce profit even when units rise, as Q2 FY2026 demonstrated. Contract estimates can deteriorate if inflation, learning, or reliability assumptions prove optimistic. Finally, service capture can leak to partners or third parties, or customers can negotiate concessions after poor fleet availability.

Reinvestment is not discretionary. Pratt must fund hot-section durability, GTF Advantage industrialization, new military propulsion, repair development, tooling, and MRO capacity before all revenue arrives. FY2025 capex plus company-funded R&D totaled about $2.0 billion. This burden is a moat-building investment when it strengthens certification, reliability, and network capacity, but it also means Operating profit and free cash flow can diverge during production and remediation ramps.

4. Competitive dynamics

In large commercial narrowbody propulsion, the direct competitor is CFM International, the GE Aerospace/Safran venture. Airbus confirms the A320neo family offers two engine choices-Pratt GTF and CFM LEAP-1A-so Pratt must compete on fuel burn, reliability, delivery confidence, maintenance cost, and commercial terms. Boeing's 737 family uses the LEAP-1B exclusively, giving CFM a large sole-source position Pratt cannot access. On the A220 and Embraer E2, the GTF is embedded, which offsets part of that disadvantage. [Airbus A320 family](https://www.airbus.com/en/products-services/commercial-aircraft/passenger-aircraft/a320-family)

GE Aerospace illustrates the scale of the rival flywheel. It reported an installed base of 80,000 engines, roughly $190 billion of backlog at year-end 2025, record LEAP deliveries up 28%, and the first annual LEAP program break-even in 2025-about nine years after entry into service. That long route to break-even validates the analytical assumption that next-generation OE is initially margin-dilutive and the payoff depends on decades of services. GE also said priority-supplier material input rose 40% and engine deliveries rose 26%, evidence that disciplined supplier execution can unlock both output and eventual margin. [GE Aerospace 2025 annual report](https://www.geaerospace.com/investor-relations/annual-report)

The competitive durability race is especially relevant. GE disclosed that it was installing LEAP durability upgrades and targeting more than a doubling of time on wing, while Pratt says GTF Advantage and its hot-section retrofit can deliver a step-change in durability. Neither company can rely solely on fuel burn; dispatch reliability and maintenance intervals increasingly determine airline selection and service economics. Pratt's public GTF page lists more than 13,000 engines ordered by about 100 customers, more than 2,730 aircraft with over 90 operators, 51 million hours of experience, and 21 MRO shops. Those figures demonstrate scale, but GE's larger installed base and cross-platform position remain formidable. [Pratt GTF](https://www.rtx.com/prattwhitney/products/commercial-engines/gtf)

Rolls-Royce is the principal widebody competitor and a useful aftermarket benchmark, though the platform overlap with Pratt's current narrowbody center of gravity is limited. Rolls reported 69% of 2025 Civil Aerospace underlying revenue from services, 17.0 million large-engine long-term-service-agreement flying hours, and 1,079 large-engine shop visits. Its economics show how a mature installed base can create a service-heavy mix substantially above Pratt's disclosed 43.9% service share. Rolls also emphasizes pricing, improved OE profitability, and time-on-wing initiatives, reinforcing that service mix alone is insufficient without contract quality and reliability. [Rolls-Royce 2025 results](https://www.rolls-royce.com/investors/results-reports-and-presentations/financial-results/rr-holdings-plc-2025-full-year-results.aspx)

Military competition is program specific. Pratt's F135 position is protected by certification and integration on all F-35 variants; Pratt states the engine supports more than 1,100 aircraft, over 1,300 engines, 20 allied countries, 32 bases, and 12 ships. GE Aerospace competes for future adaptive propulsion and other military platforms, while Rolls-Royce, Honeywell, and Safran compete in selected military, helicopter, transport, and business-aviation applications. The moat is strongest on an awarded, fielded program and weaker at the next platform competition, where procurement policy, cost, industrial-base goals, and technical performance can reset share. [Pratt F135 history](https://www.rtx.com/prattwhitney/products/military-engines/f135/history-of-the-f135-engine)

Pricing power is therefore asymmetric. Pratt has meaningful power over proprietary life-limited parts and certified repairs within an installed fleet, but airline concentration, OEM bargaining leverage, alternative engine options, government procurement rules, and the reputational consequences of AOG events constrain that power. Entry barriers are very high-billions of dollars of R&D, certification, materials science, safety validation, global support, and decades of performance data-but incumbency does not prevent share loss between platforms or punitive concessions after execution failures.

5. Moat at the segment level

Pratt has a real but conditional moat. The strongest element is certification-linked installed-base lock-in. An airline cannot practically replace an installed engine family without changing aircraft or undertaking an uneconomic recertification and support reset. Military engines are even more tightly integrated with the airframe, mission systems, depots, and sovereign supply chain. Proprietary parts, repair intellectual property, engineering data, and regulatory approvals reinforce service capture over decades.

The second moat is accumulated technical knowledge. Geared architecture, high-temperature materials, aerodynamics, controls, manufacturing processes, and field data are difficult to reproduce. Pratt's 51 million GTF flight hours and broad engine portfolio create learning loops that new entrants lack. The third moat is network breadth: airlines value local capacity, spare support, predictable turnaround, and global recovery capabilities. Expanding from 17 GTF engine centers in 2025 toward a larger network directly strengthens availability and customer confidence. [RTX on GTF durability](https://www.rtx.com/news/2025/06/06/making-a-more-durable-gtf-engine)

The moat does not automatically protect margins. Powder-metal defects show that proprietary architecture can concentrate risk as well as value. When reliability misses, contractual compensation, emergency shop work, and future pricing concessions transfer economics back to customers. Capacity constraints can also strand the installed-base advantage: a customer whose aircraft cannot fly because an engine waits for parts experiences the network as a liability rather than a moat.

Over five to ten years, the moat should remain durable if three conditions hold. GTF Advantage and retrofit hardware must deliver the promised time-on-wing improvement; supplier and MRO output must normalize fleet availability; and Pratt must retain service economics without conceding excessive value. The 8,000-engine GTF backlog, $151 billion segment backlog, and growing young fleet make displacement unlikely, but CFM's scale and durability campaign cap upside. In short, Pratt's moat protects relevance and recurring demand more reliably than it protects any particular margin. The base case therefore allows meaningful Operating profit expansion but stops well short of mature pure-aftermarket margins.

6. Historical growth rates reproduced from the data package

The table uses FY2023-FY2025 reported dollars and a true three-year CAGR from FY2022 to FY2025. FY2023 products and total revenue include the $5.401 billion powder-metal sales reduction, so the visually dramatic FY2024 rebound is not a sustainable run rate. Every historical cell points to the exact data-package row; no named-engine revenue is back-solved.

Product / sub-segment	FY2023 rev	FY2024 rev	FY2025 rev	FY2022-FY2025 CAGR	Most recent YoY	Data package cite
Pratt & Whitney total	$18.296B [data_package §3, Pratt Revenue row]	$28.066B [data_package §3, Pratt Revenue row]	$32.916B [data_package §3, Pratt Revenue row]	17.0% [data_package §3, Pratt Revenue row]	17.3% [data_package §3, Pratt YoY row]	RTX 2023 and 2025 Forms 10-K segment tables; data_package §3
Products / engines and equipment	$8.579B [data_package §4, Pratt Products row]	$16.316B [data_package §4, Pratt Products row]	$18.467B [data_package §4, Pratt Products row]	14.2% [data_package §4, Pratt Products row]	13.2% [data_package §4, Pratt Products row]	RTX 2023 and 2025 Forms 10-K Note 20; data_package §4
Services / MRO, parts and support	$9.717B [data_package §4, Pratt Services row]	$11.748B [data_package §4, Pratt Services row]	$14.449B [data_package §4, Pratt Services row]	21.2% [data_package §4, Pratt Services row]	23.0% [data_package §4, Pratt Services row]	RTX 2023 and 2025 Forms 10-K Note 20; data_package §4

Arithmetic checks: $28.066B × 1.173 = $32.921B versus disclosed $32.916B, a 0.02% rounding difference ✓. $16.316B × 1.132 = $18.470B versus $18.467B, a 0.02% difference ✓. $11.748B × 1.230 = $14.450B versus $14.449B, a 0.01% difference ✓. All are comfortably inside the 2% contract.

The product/service rows sum exactly to Pratt revenue in FY2023 and FY2025 and differ by only $0.002 billion in FY2024 due to disclosed rounding. There are no back-solved historical dollar rows. For the growth-only channels, the verified operating record is:

Product / channel	Q3 FY2025 YoY	Q4 FY2025 YoY	Q1 FY2026 YoY	Q2 FY2026 YoY	Dollar revenue disclosed?	Data package cite
Commercial OE	5%	28%	(1%)	(8%)	No	[data_package §4, growth-only Pratt row 1]
Commercial aftermarket	23%	21%	19%	25%	No	[data_package §4, growth-only Pratt row 2]
Military	15%	30%	7%	23%	No	[data_package §4, growth-only Pratt row 3]

The delivery history adds physical context without pretending units are revenue:

Engine shipment category	FY2021	FY2022	FY2023	FY2024	FY2025	FY2021-FY2025 CAGR	Data package cite
Military	218	219	206	180	227	1.0%	[data_package §0a, annual Pratt shipments row 1]
Large commercial	623	712	875	996	1,055	14.1%	[data_package §0a, annual Pratt shipments row 2]
Pratt & Whitney Canada excluding APUs	1,825	1,965	2,063	2,078	2,126	3.9%	[data_package §0a, annual Pratt shipments row 3]

The contrast is important. Large-commercial shipments compounded at 14.1%, yet reported OE channel growth turned negative in H1 FY2026 because mix and realized economics outweighed unit volume. Services, by contrast, grew 23.0% in FY2025 and remained near or above 20% in each recent quarter. This is why the forward model decelerates both lines but keeps services structurally faster.

7. Management guidance from data package Section 6

- **Fleet plan - [data_package §6, Pratt row 1].** Chris Calio, Q3 FY2025: “GTF fleet management plan... remains on track.” This supports using disclosed remediation timing in base, but “on track” does not remove tail risk from inspections, parts availability, compensation, or AOG duration.

- **MRO throughput - [data_package §6, Pratt row 2].** Chris Calio, Q3 FY2025: “deliver about 30% MRO output growth for the year.” The statement confirms that capacity expansion and material flow were translating into completed work, a necessary precursor to aftermarket revenue and lower turnaround time.

- **Advantage industrialization - [data_package §6, Pratt row 3].** Chris Calio, Q4 FY2025: “begun production cut in of the Advantage engine.” This anchors a multi-year product transition. Initial cut-in can add cost and complexity before learning and durability benefits appear.

- **Capacity - [data_package §6, Pratt row 4].** Chris Calio, Q4 FY2025: “Pratt will continue to invest in capacity across multiple sites.” The base case therefore does not assume costless growth; it allows utilization and fixed-cost leverage only after continued capex and process investment.

- **GTF deliveries - [data_package §6, Pratt row 5].** Chris Calio, Q1 FY2026: “mid to high single-digit delivery growth for the year.” This is a bounded near-term volume anchor, but the Q2 OE sales decline shows delivery growth is not the same as revenue growth when engine and contract mix change.

- **GTF backlog - [data_package §6, Pratt row 6].** Chris Calio, Q1 FY2026: “a backlog of about 8,000 engines.” The backlog supports production visibility beyond one cycle while raising the cost of any supplier bottleneck because delayed engines defer both OE and future service revenue.

- **Time on wing - [data_package §6, Pratt row 7].** Chris Calio, Q2 FY2026: “Advantage will double the time on wing performance.” Achievement would reduce unplanned removals, improve airline economics, and strengthen future selections. It can defer some shop visits, but better reliability should improve lifetime value and lower remediation cost.

- **Fleet-plan status - [data_package §6, Pratt row 8].** Chris Calio, Q2 FY2026: “financial and technical outlook remains on track.” Base keeps the plan trajectory intact. Bear assumes the statement proves premature as powder-metal scope, compensation, or capacity pressure persists.

There is no issuer-provided Pratt five-year revenue or Operating profit margin target in the verified package. **[DATA GAP: management provides operational anchors but no Pratt TTM-to-2031 segment revenue or Operating profit margin target.]**

8. Forward growth assumptions

Model anchor and product mapping

The model compounds exactly five annual periods from 2026-06-30 to 2031-06-30. The TTM product/service allocation is $18.891 billion products and $16.090 billion services, summing to $34.981 billion. It is an analytical allocation described in Section 3, necessitated by the absence of a disclosed TTM product/service table. Named commercial OE, aftermarket, and military growth disclosures inform the two dollar lines but are not assigned fabricated revenue weights.

Base case growth

Product	3-yr historical CAGR	Latest YoY	Mgmt FY+1 guide	Base CAGR TTM→TTM+5y	Justification
Products / engines and equipment	14.2%	FY2025 13.2%; Q2 commercial OE (8%), military 23%	GTF deliveries mid- to high single digits	5.2%	Backlog and military demand support units, but Q2 mix pressure, supplier limits, and low-margin GTF ramp drive a sharp normalization from the powder-metal-distorted history.
Services / MRO, parts and support	21.2%	FY2025 23.0%; Q2 commercial aftermarket 25%	About 30% FY2025 MRO output growth; fleet plan on track	8.6%	Installed-base growth and shop capacity sustain high-single-digit compounding, while AOG normalization and a larger base produce orderly deceleration from extraordinary remediation-era throughput.

Base annual growth is products 4%, 7%, 7%, 5%, and 3%; services 13%, 11%, 9%, 6%, and 4%. Exact factors are 1.287737724 and 1.507186949, producing $24.327 billion and $24.251 billion. The path acknowledges that current services growth above 20% cannot persist at the same rate, but avoids an unsupported cliff: service deceleration is 13% to 4% across five years as the fleet plan peaks and the revenue base grows. This is directionally comparable to the normalizing path of scaled engine-service businesses rather than a generic “maturation” haircut.

Bull case growth

Product	3-yr historical CAGR	Latest YoY	Mgmt FY+1 guide	Bull CAGR TTM→TTM+5y	Justification
Products / engines and equipment	14.2%	FY2025 13.2%; Q2 commercial OE (8%), military 23%	GTF deliveries mid- to high single digits	7.6%	Supplier recovery converts the 8,000-engine GTF backlog, military volumes remain strong, and Advantage gains selection momentum without repeating the distorted FY2024 rebound.
Services / MRO, parts and support	21.2%	FY2025 23.0%; Q2 commercial aftermarket 25%	Advantage expected to double time on wing; fleet plan on track	11.7%	Fleet growth, pricing, 21-shop network expansion, and rapid turnaround gains outweigh visit deferral from better durability; share leakage stays limited.

Bull annual growth is products 7%, 10%, 9%, 7%, and 5%; services 17%, 15%, 12%, 9%, and 6%. Exact factors of 1.441371855 and 1.741141584 yield $27.229 billion and $28.015 billion. The scenario does not simply hold Q2's 25%

aftermarket rate: it decelerates every year, but starts higher because shop capacity, material availability, and fleet utilization resolve faster than base.

Bear case growth

Product	3-yr historical CAGR	Latest YoY	Mgmt FY+1 guide	Bear CAGR TTM→TTM+5y	Justification
Products / engines and equipment	14.2%	FY2025 13.2%; Q2 commercial OE (8%), military 23%	GTF deliveries mid- to high single digits	2.4%	Supplier failures, adverse engine mix, customer deferrals, and CFM share gains leave Pratt unable to convert backlog smoothly even as military partially offsets commercial weakness.
Services / MRO, parts and support	21.2%	FY2025 23.0%; Q2 commercial aftermarket 25%	Fleet plan said to be on track	5.0%	Extended powder-metal work raises near-term activity but constrains profitable scheduled visits; poor availability, concessions, and slower utilization cap service economics after the initial remediation pulse.

Bear annual growth is products 1%, 3%, 4%, 3%, and 1%; services 9%, 7%, 5%, 3%, and 1%. Exact factors of 1.125513054 and 1.273966985 yield $21.262 billion and $20.498 billion. This case deliberately distinguishes revenue from value: remediation may keep MRO bays busy, but low-yield or compensated work does not deserve a bullish revenue or margin multiple.

Scenario levers

The growth cases make the required operating levers explicit. Powder-metal remediation affects shop mix, AOG, compensation, and customer trust. Installed base and utilization drive future service demand. OE/aftermarket mix determines revenue quality. Fleet availability influences airline flight hours and future engine selection. Deliveries depend on supplier material and factory learning. Shop capacity and turnaround determine whether demand converts to revenue. Contract accounting and pricing determine whether output becomes Operating profit. Military delivery cadence and sustainment provide diversification but also introduce program timing.

9. Forward Operating profit margin assumptions

The exact metric in every row is **Operating profit**. Current TTM margin is 8.50% on $2.972 billion of sealed Operating profit. Product-level margins below are analytical decompositions, not RTX disclosures; corporate and statutory bridge adjustments remain outside Pratt.

Case	Product TTM+5y revenue	Product Operating profit margin	Service TTM+5y revenue	Service Operating profit margin	Blended Pratt Operating profit margin	Change vs. TTM
Bear	$21.262B	(2.0%)	$20.498B	15.5%	6.59%	(191) bps
Base	$24.327B	2.5%	$24.251B	20.5%	11.49%	+299 bps
Bull	$27.229B	5.0%	$28.015B	23.0%	14.13%	+563 bps

In bear, OE deteriorates from the modeled negative 1.0% TTM margin to negative 2.0% because unfavorable mix, premium freight, supplier disruption, fixed-price exposure, and adverse program-estimate catch-ups overwhelm learning. Service margin falls from the modeled 19.645% TTM level to 15.5% as compensation, low-yield remediation work, AOG support, parts shortages, and capacity congestion persist. The 191-basis-point blended decline is deliberately severe because a case premised on failed execution cannot simultaneously assume better product economics. Even at 6.59%, the segment remains above its FY2022 margin because services represent 49.1% of bear revenue, so this is a stress case rather than a collapse case.

Base expands almost 300 basis points. The specific mechanisms are a 350-basis-point improvement in product margin from negative 1.0% to positive 2.5% as GTF learning, Advantage cut-in, supplier recovery, and less remediation reduce unit cost; a modest 85-basis-point improvement in service margin from 19.65% to 20.5% through pricing, scope, and shop productivity; and a service mix shift from 46.0% to 49.9%. This is material but not heroic: it leaves Pratt below mature service-heavy peers and recognizes ongoing capacity and technology investment.

Bull expands 563 basis points. Product margin reaches 5.0% as deliveries scale with stable suppliers, Advantage avoids an adverse learning reset, and military programs execute cleanly. Service margin reaches 23.0% through repair yield, parts availability, pricing, turnaround, and broad capture of a larger installed base. Service becomes 50.7% of revenue. This outcome requires both reliability and industrial execution; one without the other cannot produce the modeled margin.

The counterintuitive durability effect is handled explicitly. Doubling time on wing may delay some shop visits, which limits service volume upside late in the horizon. However, it also lowers unplanned removals, compensation, spare-engine support, and customer disruption. Base and bull assume the avoided cost and retention benefit exceed visit deferral; bear assumes durability milestones slip and therefore captures neither benefit cleanly.

10. Segment rollup: exact bottom-up compounding

Revenue and Operating profit build

Case	Product TTM base	Product 5-year factor	Product TTM+5y revenue	Service TTM base	Service 5-year factor	Service TTM+5y revenue	Pratt TTM+5y revenue
Bear	$18.891B	1.125513054×	$21.262B	$16.090B	1.273966985×	$20.498B	$41.760B
Base	$18.891B	1.287737724×	$24.327B	$16.090B	1.507186949×	$24.251B	$48.577B
Bull	$18.891B	1.441371855×	$27.229B	$16.090B	1.741141584×	$28.015B	$55.244B

Case	Product Operating profit	Service Operating profit	Pratt Operating profit	Pratt Operating profit margin	Revenue CAGR TTM→TTM+5y	Probability
Bear	$(0.425)B	$3.177B	$2.752B	6.59%	3.61%	25%
Base	$0.608B	$4.971B	$5.580B	11.49%	6.78%	55%
Bull	$1.361B	$6.444B	$7.805B	14.13%	9.56%	20%

Every rollup is reconstructable. Bear revenue is $21.262B + $20.498B = $41.760B, and profit is negative $0.425B + $3.177B = $2.752B. Base revenue is $24.327B + $24.251B = $48.577B after unrounded arithmetic, and profit is $0.608B + $4.971B = $5.580B. Bull revenue is $27.229B + $28.015B = $55.244B, and profit is $1.361B + $6.444B = $7.805B. Rounding differences are below $0.001 billion and well inside the 1% contract.

The 55% base, 20% bull, and 25% bear probabilities are intentionally non-uniform. Base is most likely because disclosed fleet metrics and management status support ongoing recovery. Bear receives more weight than bull because the favorable case requires simultaneous Advantage durability, supplier, MRO-capacity, service-capture, OE-learning, and program-accounting execution, while any one failure can impair profit conversion. Probability-weighted TTM+5y revenue is about $48.21 billion and Operating profit about $5.32 billion, but synthesis should preserve the full cases rather than substitute the weighted mean for a scenario.

No corporate or statutory bridge line is included here. The synthesis stage should add Pratt's Operating profit to the other segments on the same exact basis, then forecast eliminations, corporate expense, FAS/CAS, and acquisition-accounting adjustments once at consolidated level.

11. Key risks and wildcards

[Bear] Powder-metal scope and duration. Additional inspections, life-limit changes, or repair complexity could extend AOG, compensation, and low-yield shop loading beyond 2026. The reported 25% year-to-date AOG reduction and 40% MRO output growth are encouraging directions, not proof that the tail is eliminated. Absolute AOG counts, annual completed inspections, and shop visits are not disclosed. **[DATA GAP: RTX does not publish absolute PW1100 AOG counts or a complete annual series of inspections and shop visits.]**

[Bear/Base] Supplier execution. Forgings, castings, rotating parts, electronics, and specialized materials can constrain both OE and MRO. A missing part can strand an otherwise complete engine or lengthen a shop visit. Premium freight and schedule disruption also damage margin before they reduce revenue.

[Bear/Base] Fleet availability and customer behavior. Poor availability can reduce utilization, postpone future service revenue, trigger concessions, and influence future engine selections toward CFM. Conversely, rapid AOG normalization can reduce remediation workload faster than scheduled aftermarket capacity fills, creating a temporary revenue air pocket even while economics improve.

[Base/Bull] GTF Advantage and hot-section performance. The 2026 entry into service, retrofit availability, and early-2028 full-production switchover are pivotal. Delivered durability close to the promised doubling would strengthen selection, reduce support cost, and improve lifetime value. A miss would undermine both growth and margin.

[Bull/Base] Installed-base flywheel. Pratt publicly reports more than 2,730 GTF-powered aircraft with over 90 operators and 13,000 engine orders. A larger young fleet can sustain service growth for decades if Pratt captures the work. The wildcard is timing: greater time on wing improves value but defers removals.

[Bear/Bull] OE and aftermarket mix. The largest valuation sensitivity is not aggregate revenue but mix and line profitability. Bull has services above 50% of segment revenue and positive 5% product margin; bear retains loss-making product economics and lower-quality service work. Quarterly revenue can beat while Operating profit disappoints if OE or compensated MRO dominates.

[Bear] Fixed-price and program accounting. Commercial and military program economics embed long-duration assumptions for cost, reliability, inflation, learning, warranties, partner shares, and fixed-price execution; misses can produce cumulative catch-ups. The model does not allocate RTX-level EAC adjustments to Pratt because the data package does not disclose a Pratt-specific amount and the sealed segment metric already governs historical and forecast treatment. Instead, the bear line-margin assumptions carry the downside without inventing a separate adjustment.

[Base/Bull] Military demand. F135 production and sustainment, allied adoption, Engine Core Upgrade, and other military engines diversify commercial risk. The F135's embedded fleet is a strong service moat. Procurement timing, budget disputes, cost scrutiny, and competition for next-generation propulsion can make quarterly growth volatile.

[Bear] CFM competitive pressure. CFM's exclusive 737 position, scale, supplier improvement, and LEAP durability kits can win A320neo selections or force commercial concessions. Pratt's geared architecture and fuel efficiency preserve a strong offering, but customer confidence depends on availability rather than brochure performance.

[All cases] Capacity investment and cash conversion. Additional MRO centers, tooling, working capital, and supplier support are prerequisites to growth. Operating profit can improve before cash conversion if inventory and capex rise. The segment appendix forecasts Operating profit only; it does not convert segment profit into free cash flow.

Summary

Case	Segment TTM+5y Revenue	Exact profit metric	Segment TTM+5y Profit Margin	Segment TTM+5y Profit	Probability
Bear	$41.760B	Operating profit	6.59%	$2.752B	25%
Base	$48.577B	Operating profit	11.49%	$5.580B	55%
Bull	$55.244B	Operating profit	14.13%	$7.805B	20%

Pratt's five-year thesis is a conversion problem rather than a demand problem. The backlog and installed base make sustained revenue growth credible; the investment case depends on converting that demand through suppliers, factories, and shops while GTF durability moves from customer burden to competitive advantage. Base assumes the company succeeds progressively, not perfectly: services grow faster than products, product losses turn into modest profit, and the sealed Operating profit margin reaches 11.49% by 2031-06-30. Bull requires clean Advantage execution and strong service capture. Bear assumes the backlog remains real but expensive to convert.

Appendix B2 - Collins Aerospace

Collins Aerospace - Segment Deep Dive

Company: RTX Corporation **Forecast base:** TTM ended 2026-06-30 **Exact horizon:** 2031-06-30, exactly 5.000 calendar years **Reporting currency:** USD **Exact sealed segment profit basis: Operating profit Sealed statutory bridge SHA-256:** `29603ba7cdba77ed01071c2445857340e16869b49e4a5b7f6513576a18dddf2b`

This appendix forecasts Collins Aerospace only. RTX historical dollar figures, growth rates, and management quotations come exclusively from the verified `data_package.md` and sealed `statutory_bridge.json`. External sources are used only to establish industry demand, competitors, certification barriers, and substitution risk. Dollar totals are in billions unless otherwise stated.

0. Segment boundary and taxonomy note

RTX moved from four principal businesses to three reportable segments on 2023-07-01. The 2023 Form 10-K recast prior periods, and the verified data package supplies Collins Aerospace on the present three-segment basis back to FY2021. Therefore the FY2021-FY2025 comparisons below are taxonomy-consistent; no legacy-segment dollars are spliced into the series. Collins comprises avionics, interiors, mission systems, controls, aerostructures, landing systems, and aftermarket services [data_package §1, current reportable-segment table, Collins row, lines 118-124].

1. What this segment actually is

Collins is a diversified Tier 1 aerospace systems supplier rather than an aircraft or engine manufacturer. It supplies the equipment that lets an aircraft fly, communicate, navigate, generate and distribute power, manage air, land, stop, carry passengers, perform a mission, and remain serviceable over decades. The portfolio spans flight-control and actuation systems, avionics and communications, electrical power, environmental control, landing gear and brakes, aerostructures, interiors, mission systems, and associated spares, repairs, upgrades, and support. That breadth matters economically: Collins can sell content at the aircraft-production stage, then monetize the same installed equipment through replacement parts, repairs, modifications, software, and service events.

The customer set has three overlapping layers. First are commercial airframers and business-jet manufacturers, which choose systems during aircraft development and negotiate production pricing, qualification, delivery schedules, warranties, and performance guarantees. Second are airlines, lessors, and maintenance organizations, which buy spares, repairs, retrofits, cabin modifications, and reliability support. Third are defense ministries, U.S. government agencies, and military prime contractors, which buy mission systems and aircraft equipment through both production and sustainment programs. In FY2025 Collins generated $18.858 billion from commercial aerospace and other commercial customers, $7.061 billion from the U.S. government excluding foreign military sales, $0.436 billion through FMS, and $1.230 billion from foreign governments directly [data_package §4, FY2025 customer-type table, Collins column, lines 266-273]. That disclosed external-customer mix was approximately 68% commercial and 32% government-related.

Pricing is contract-specific. Original-equipment, or OE, revenue generally reflects negotiated unit pricing tied to aircraft production, with escalation clauses, productivity commitments, and customer concessions. It can be lower margin because the supplier is securing decades of installed-base participation, carrying launch costs, absorbing inefficiencies during a ramp, and sharing productivity with the airframer. Aftermarket revenue is driven by flight hours, cycles, removals, mandated maintenance, reliability events, obsolescence, fleet age, and upgrades. It tends to have stronger pricing and mix because approved parts and repair capabilities are safety-critical and because the cost of downtime is high. Defense pricing ranges from competitively bid production lots to sole-source sustainment and cost-type work; program performance, funding, and customer oversight still constrain the economics.

Go-to-market is therefore platform-led and life-cycle-led. A design win on a new aircraft or mission platform can create a long production tail and an even longer service tail, but it requires early engineering, certification, tooling, capacity, and customer-specific integration. Once equipment is installed, the supplier benefits from technical data, repair know-how, regulatory approvals, tooling, and parts availability. Airlines and governments can still seek alternate repair sources, negotiate long-term agreements, redesign future platforms, or pressure pricing, so the installed base is an advantage rather than an unrestricted tollbooth.

The finest recurring dollar disclosure is not the named product family. RTX does not disclose recurring Collins dollars by avionics, interiors, landing systems, aerostructures, or mission systems. It discloses external products and external services. FY2025 external product revenue was $21.467 billion, external service revenue was $6.118 billion, and intersegment revenue was $2.611 billion, reconciling to segment revenue of $30.196 billion [data_package §4, external products and services table, Collins rows and reconciliation note, lines 251-264]. Accordingly, the bottom-up forecast uses those three reconstructable streams and uses commercial OE, commercial aftermarket, and defense growth disclosures as qualitative cross-checks. It does not fabricate named-product dollars.

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

Collins generated $31.169 billion of TTM revenue by summing the four verified quarters: $7.621 billion in Q3 FY2025, $7.736 billion in Q4 FY2025, $7.602 billion in Q1 FY2026, and $8.210 billion in Q2 FY2026 [data_package §5, Collins quarterly table, lines 309-316]. The sealed TTM bridge reports $5.275 billion of Collins **Operating profit**, implying a 16.923% TTM margin [data_package §3a, TTM bridge, Collins row, lines 211-224]. This appendix preserves that metric label. It does not allocate eliminations, corporate expense, FAS/CAS, acquisition-accounting adjustments, pension income, interest, tax, or noncontrolling interests into Collins; those are downstream consolidation items assigned to the synthesis stage.

The quarterly pattern shows continued demand with some mix and execution volatility. Revenue grew 8%, 3%, 5%, and 8% year over year across Q3 FY2025 through Q2 FY2026. **Operating profit** margin was 16.5%, 18.1%, 17.2%, and 15.9% [data_package §5, Collins quarterly table, lines 311-316]. The lower Q2 margin despite the strongest absolute revenue quarter is a useful warning: OE ramps can add sales faster than profit when factory inefficiency, unfavorable mix, engineering, supplier friction, or customer economics absorb the incremental volume. A high backlog does not mechanically guarantee near-term margin expansion.

Demand visibility is strong. Collins backlog rose from $24 billion in FY2021 to $25 billion, $30 billion, $36 billion, and $42 billion in FY2025 [data_package §0a, material KPI table, Collins backlog row, lines 64-71]. The four-year backlog CAGR was about 15.0%, faster than the 9.3% four-year revenue CAGR, so booked demand has outgrown reported conversion. That is constructive but double-edged: the book supports future sales, while a widening backlog also signals that supply, labor, qualification, and customer schedules can delay conversion.

Capital intensity is moderate for an aerospace systems manufacturer and meaningful in the present ramp. Collins capex was $697 million, $671 million, $628 million, $786 million, and $793 million from FY2021 through FY2025; H1 FY2026 capex was $374 million [data_package §0a, segment capex table, Collins row, lines 92-96]. FY2025 capex equaled 2.63% of segment revenue. Company-funded Collins R&D was $1.317 billion in FY2023, $1.408 billion in FY2024, $1.301 billion in FY2025, and $629 million in H1 FY2026 [data_package §0a, segment R&D table, Collins row, lines 84-90]. FY2025 R&D equaled 4.31% of segment revenue. Together, R&D and capex consumed nearly 7% of sales before working-capital needs, which is why the capacity and technology moat must be evaluated alongside cash conversion.

FY2025 external products represented 77.8% of disclosed external Collins revenue and services 22.2%. Including $2.611 billion of intersegment sales, the segment mix was 71.1% external products, 20.3% external services, and 8.6% intersegment. The service percentage understates Collins' economic aftermarket exposure because some replacement parts are classified as products, while the reported service line captures repair and service revenue rather than every aftermarket dollar. Management's installed-base disclosures are therefore important context but cannot be translated into an undisclosed aftermarket revenue figure.

For model construction, the FY2025 mix is applied to the $31.169 billion TTM total because TTM product/service dollars are not separately disclosed. This creates an analyst allocation of $22.159 billion external products, $6.315 billion external services, and $2.695 billion intersegment and other. These are modeling bases, not issuer-reported TTM line items. [DATA GAP: TTM Collins revenue by external products, external services, and intersegment sales is not separately disclosed in the verified data package.]

3. Unit economics

Collins' revenue-to-profit conversion begins with a portfolio of long-duration platform positions. At OE inception, the supplier incurs engineering and development, tooling, certification, supplier qualification, test equipment, capacity, and launch inefficiency. The customer often has bargaining power because a large airframer can award a program to a small number of qualified Tier 1 suppliers and negotiate aggressive initial economics. The supplier accepts those economics when the installed base, spares, repairs, and upgrade opportunity produces an attractive whole-life return. This is the core tension in the segment: rising OE volume expands future installed content but can dilute current margin if the ramp is inefficient or if initial

shipset economics are weak.

External product gross profit depends on unit volume, shipset mix, labor hours, material availability, quality, supplier expedites, learning-curve capture, inflation pass-through, and contractual productivity. A commercial OE surge can raise revenue without proportional profit when Collins must use overtime, premium freight, dual sourcing, or out-of-sequence work. Conversely, stable schedules and higher throughput can produce absorption and learning benefits. Defense products add program-mix and contract-risk differences. Mature production and sustainment work can be attractive; fixed-price development or immature programs can generate estimate-at-completion pressure when technical scope or input cost deviates from plan.

External services convert revenue more favorably because the installed equipment already exists, replacement and repair demand is often time-sensitive, and certification plus intellectual property narrows the qualified supply set. Utilization, cycles, and fleet age drive removals; aircraft availability makes turnaround time valuable; and obsolescence creates upgrade demand. Service margins can still be pressured by repair labor, rotable inventory, warranty, material shortages, airline purchasing consortia, independent MRO competition, and airline attempts to obtain parts-manufacturer approvals or alternate repairs. Digital and connectivity also introduce a different competitive model, with software cadence and cyber investment closer to recurring technology services than traditional spares.

The disclosed historical margin shows that mix, scale, and execution have improved. Collins **Operating profit** margin rose from 11.25% in FY2021 to 12.22% in FY2022, 14.57% in FY2023, 14.62% in FY2024, and 16.30% in FY2025 [data_package §3, Collins table, Operating profit margin row, lines 157-162]. TTM margin advanced further to 16.923%. The improvement is economically credible given commercial aerospace recovery, aftermarket growth, production leverage, and portfolio productivity, but it is not a straight line. Q2 FY2026 margin of 15.9% demonstrates that quarterly mix and ramp costs remain capable of reversing leverage temporarily.

R&D is both a cost and an entry ticket. The segment's $1.301 billion of company-funded R&D in FY2025 supports new avionics, power and thermal architectures, connected aircraft, flight controls, mission systems, interiors, and platform-specific integration. Customer-funded engineering may sit in revenue or cost structures depending on contract form, so company-funded R&D alone does not capture all technical reinvestment. A model that assumes service mix expands indefinitely while R&D intensity falls sharply would overstate economics: new design wins and continued certification require ongoing spend.

Capex similarly carries two roles. Maintenance capex sustains factories, test cells, repair shops, and quality systems. Growth capex expands capacity and de-bottlenecks the supply chain. Management said Collins would increase capex in 2026 and had launched capacity expansion for air-traffic systems [data_package §6, Collins guidance table, lines 344-352]. Near-term free cash flow can therefore lag reported profit even in a favorable demand environment. Over the horizon, successful investment should raise output and absorption; unsuccessful investment creates underutilized capital or fails to solve supplier bottlenecks.

Margins break upward if external services outgrow products, OE factories move down learning curves, supplier performance normalizes, pricing offsets inflation, portfolio pruning removes weak programs, and the capacity build converts backlog without excess cost. Margins break downward if Boeing or Airbus schedules shift abruptly, labor and electronics remain scarce, OEM concessions outrun productivity, defense programs incur charges, interiors face redesign or quality costs, or capacity additions arrive before demand. The base case assumes modest net improvement rather than extrapolating the FY2021-TTM expansion, because much of the post-pandemic recovery benefit has already been captured.

4. Competitive dynamics

Collins competes in several oligopolistic but not monopolistic arenas. Honeywell Aerospace is the closest broad portfolio peer in avionics, environmental control, electrical power, wheels and brakes, connectivity, defense electronics, and aftermarket. Honeywell's 2025 annual report described Aerospace Technologies as a global supplier of avionics, electric power, environmental controls, communications, radar, wheels and brakes, thermal systems, spares, repairs, and maintenance. It reported $17.510 billion of aerospace sales, including $7.777 billion commercial aftermarket, $2.513 billion commercial OE, and $7.220 billion defense and space. Honeywell's 2026 proxy showed a 24% 2025 segment margin and stated that its avionics are present on roughly 90% of global aircraft. Those figures do not map directly to Collins' broader segment, but they prove that a scaled rival has comparable installed-base economics and strong margin capability ([Honeywell 2025 Annual Report](https://investor.honeywell.com/static-files/c7f9f713-d9e0-4a93-9b2d-a90f1ab588cb), [Honeywell 2026 Proxy](https://investor.honeywell.com/static-files/1c621f6b-9730-4720-bad5-f9dcc91ec9e0)).

Thales is a major avionics, flight-management, in-flight entertainment, connectivity, and defense competitor. Its 2024 registration document explicitly names Garmin, GE Aerospace, Honeywell, and RTX as leading avionics players and lists Airbus, Boeing, Bombardier, Embraer, Gulfstream, and major defense manufacturers as customers. It also identifies Panasonic Avionics, Safran, SES, Starlink, and Viasat in in-flight connectivity and entertainment. This matters because Collins faces different competitive sets inside one reported segment: the competitor for a flight-management computer is not necessarily the competitor for a business-class seat, military radio, or wheel and brake ([Thales 2024 Universal Registration Document](https://www.thalesgroup.com/sites/default/files/2025-08/Thales-Universal-Registration-Document-2024-EN.pdf)).

Safran is particularly formidable in landing systems, nacelles, wiring, and aircraft interiors. Safran describes itself as the world's second-largest aircraft equipment manufacturer, identifies its landing-systems business as a global leader across more than 80 civil and military programs and 35,000 equipped aircraft, and claims the leading position in aircraft interiors and systems. Safran Cabin reports more than one million seats in service, while Safran Nacelles supplies Airbus, Boeing, COMAC, business-jet, and regional platforms ([Safran aircraft equipment](https://www.safran-group.com/group/profile/aircraft-equipment), [Safran Landing Systems](https://www.safran-group.com/companies/safran-landing-systems), [Safran aircraft interiors](https://www.safran-group.com/group/profile/aircraft-interiors)). Those are competitor claims rather than independently audited shares, but they establish that Collins encounters peers with scale, certifications, platform access, and installed bases of their own.

Competition is fiercest at a new-platform award or major redesign. The airframer can compare weight, reliability, integration risk, energy efficiency, development schedule, price, and lifetime support. The winning supplier may obtain a durable position, but the economic price of winning can include launch investment and initial pricing concessions. Competition declines after certification and fleet entry because switching an integrated safety-critical system requires redesign, testing, documentation, spares transition, pilot and maintenance procedures, and regulatory approval. Airlines can more readily switch suppliers for less-integrated cabin elements or connectivity services than for flight controls, power management, or landing systems.

Certification is a genuine entry barrier. The FAA states that DO-178C and DO-254, together with system-development practices such as ARP-4754A, are the standards and recommended practices used to establish confidence in airborne software and electronic hardware. FAA Advisory Circular 20-115D recognizes DO-178C as an acceptable means of showing compliance for airborne software. That does not prohibit new entrants, but it makes consumer-software speed and failure tolerance inappropriate analogies for flight-critical equipment ([FAA aircraft software and hardware](https://www.faa.gov/aircraft/air_cert/design_approvals/air_software/abstraction_layer), [FAA AC 20-115D](https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/1032046)).

Pricing power is therefore strongest in proprietary aftermarket parts, approved repairs, upgrades, and urgent availability; medium in sole-source or technically differentiated mature production; and weakest during competitive sourcing for a new program. It is bounded by OEM concentration, airline sophistication, military procurement rules, and customer ability to certify alternatives. Collins' broad portfolio may improve negotiating balance and integration value, but it also exposes the segment to portfolio complexity and cross-program execution.

Substitution risk differs by category. Aircraft still require flight controls, power, landing, thermal management, communications, and interiors, so functional substitution is low. Supplier substitution is meaningful at new platform selection. Digital functions can migrate toward open architectures, modular computing, airline-owned applications, or satellite-native connectivity ecosystems. Thales' competitive disclosures and Starlink's appearance in the connectivity set show how a hardware-installed-base model can encounter faster-cycle entrants. The base case assumes Collins retains most core platform positions but must reinvest and share some value in digital layers.

5. Moat at the segment level

Collins has a real segment moat, but its strength is uneven. The strongest protected assets are certified, safety-critical, deeply integrated systems with large installed fleets, proprietary repair data, global support capability, and decades of operating history. The weakest are more modular cabin components, commoditizing hardware, and digital services where standards or customer preferences reduce switching friction.

The first moat layer is platform embedment. An aircraft system is selected years before entry into service. The supplier collaborates with the airframer, proves design compliance, industrializes production, and supports certification. Once a fleet accumulates, changing a critical system can require a business case large enough to justify engineering, certification, downtime, training, inventory change, and operational risk. That creates long asset lives and recurring service opportunities.

The second layer is regulatory and technical assurance. Certification does not create an absolute exclusive right, but it raises the cost, time, documentation, and liability burden for a challenger. Collins' accumulated reliability data and engineering teams matter most where failure consequences are severe. The FAA's formal treatment of airborne software and electronic hardware supports the conclusion that high-criticality avionics are structurally different from ordinary electronics.

The third layer is the installed base and service network. Management cited more than $100 billion of out-of-warranty Collins content in Q3 FY2025 and about $105 billion in Q4 FY2025 [data_package §6, Collins guidance table, lines 344-349]. These are content-value measures, not revenue or backlog, and they should not be capitalized mechanically. They nevertheless indicate a large pool of equipment for which maintenance, parts, repair, modifications, and upgrades may recur. Global availability, rotable inventory, field support, repair approvals, and turnaround performance reinforce customer dependence.

The fourth layer is breadth and integration. Collins can combine avionics, controls, power, sensors, interiors, and mission systems into higher-level architectures. That can reduce interfaces for an OEM and improve system optimization. Breadth also spreads R&D and support infrastructure across commercial, business aviation, and defense customers. The disadvantage is complexity: a broad portfolio can hide weak programs, increase working capital, and diffuse accountability. Scale is only a moat if it produces reliability, delivery, and cost outcomes.

The moat is contestable. Honeywell's comparable avionics reach and aftermarket base, Safran's leadership in landing and interiors, and Thales' strength in avionics and connectivity show that Collins does not own the whole aircraft. Large airframers can dual-source where architecture permits, demand concessions, sponsor alternatives, or alter work scope on the next platform. Airlines can push for parts and repair competition. Governments can mandate competition and data rights. New digital architectures can separate applications from proprietary boxes.

Over five to ten years, the likely moat outcome is durable rather than widening automatically. Existing certified positions and the service base should remain valuable through 2031, while fleet growth adds installed content. Airbus expects the global fleet above 100 seats to exceed 49,000 aircraft by 2044 and the aviation services market to reach $311 billion, a 3.6% CAGR. It expects digital and connectivity to rise from $9 billion in 2025 to $26 billion in 2044, much faster than the overall service market ([Airbus Global Services Forecast 2025-2044](https://www.airbus.com/en/newsroom/press-releases/2025-10-airbus-projects-resilient-growth-of-services-market-in-the-next-20)). The market supports Collins' base, but digital growth can reward both incumbents and new architectures. The appropriate conclusion is a strong installed-base moat with competitive leakage, not an unconstrained monopoly.

6. Historical growth rates reproduced from the data package

The present taxonomy is available for five years. The required FY-3, FY-2, and FY-1 columns below are FY2023, FY2024, and FY2025. The three-year CAGR uses FY2022 to FY2025, exactly three intervals. Product and service dollars are external revenue; segment revenue includes intersegment sales. Each historical cell cites the specific verified data-package row.

Product / sub-segment	FY2023 revenue	FY2024 revenue	FY2025 revenue	3-year CAGR	Most recent YoY	Data package cite
Collins Aerospace total	$26.253B [data_package §3, Collins Revenue row, line 159]	$28.284B [data_package §3, Collins Revenue row, line 159]	$30.196B [data_package §3, Collins Revenue row, line 159]	9.42% [calculated from FY2022 and FY2025 in line 159]	6.8% [data_package §3, Collins YoY row, line 160]	§3 Collins table, Revenue and YoY rows, lines 157-162
External products	$19.034B [data_package §4, Collins Products row, line 257]	$20.272B [data_package §4, Collins Products row, line 257]	$21.467B [data_package §4, Collins Products row, line 257]	8.26% [calculated from FY2022 and FY2025 in line 257]	5.89% [calculated from FY2024 and FY2025 in line 257]	§4 external products/services table, Collins Products row, line 257
External services	$5.260B [data_package §4, Collins Services row, line 258]	$5.657B [data_package §4, Collins Services row, line 258]	$6.118B [data_package §4, Collins Services row, line 258]	11.50% [calculated from FY2022 and FY2025 in line 258]	8.15% [calculated from FY2024 and FY2025 in line 258]	§4 external products/services table, Collins Services row, line 258

No named Collins product-family dollars were disclosed, and none are back-solved. The verified growth-only channel disclosures were commercial OE at 16%, 9%, 15%, and 26%; commercial aftermarket at 13%, 13%, 7%, and 10%; and defense at 6%, 2%, 9%, and 7% from Q3 FY2025 through Q2 FY2026 [data_package §4, growth-only table, Collins rows, lines 291-297]. Those rates cross-check the forecast but do not create channel revenue dollars.

The segment-total internal arithmetic is consistent within the required 2% tolerance: $23.052B × 1.139 = $26.256B versus $26.253B reported; $26.253B × 1.077 = $28.274B versus $28.284B; and $28.284B × 1.068 = $30.207B versus $30.196B. All differences are below 0.05% and arise from rounded disclosed growth rates. The product and service YoY calculations also tie: $20.272B × 1.0589 = $21.466B and $5.657B × 1.0815 = $6.118B. No historical row fails the 2% check.

The full five-year pattern is informative. Segment revenue rose from $21.152 billion in FY2021 to $30.196 billion in FY2025, a 9.31% four-year CAGR [data_package §3, Collins Revenue row, line 159]. External products rose from $15.648 billion to $21.467 billion, an 8.23% four-year CAGR, while external services rose from $3.965 billion to $6.118 billion, an 11.45% CAGR [data_package §4, Collins Products and Services rows, lines 257-258]. Service growth outpaced products and supported margin, but the forward cases deliberately slow both from recovery-era rates.

7. Management guidance quoted from data package §6

Every Collins-relevant forward quotation in the verified package is reproduced below. The interpretation is this appendix's modeling use, not an additional management quote.

Data package row	Period, call date and speaker	Verbatim quote	Interpretation
§6 Collins row 1, line 346	Q3 FY2025, 2025-10-21, Chris Calio	"over $100 billion of out-of-warranty content at Collins"	A large installed base supports service durability, but content value is not annual revenue.
§6 Collins row 2, line 347	Q3 FY2025, 2025-10-21, Neil Mitchill	"commercial OE side, we expect sales to grow around 10%"	The near-term production ramp was expected to remain strong; five-year growth should normalize below a single-year guide.
§6 Collins row 3, line 348	Q4 FY2025, 2026-01-27, Chris Calio	"about $105 billion of out-of-warranty aircraft content at Collins"	The serviceable content pool expanded and supports aftermarket demand through the horizon.
§6 Collins row 4, line 349	Q4 FY2025, 2026-01-27, Chris Calio	"Collins will increase CapEx this year"	Backlog conversion requires cash investment and tempers near-term free-cash-flow conversion.
§6 Collins row 5, line 350	Q1 FY2026, 2026-04-21, Chris Calio	"underlying demand for our OE products and aftermarket services remains durable"	The base case retains positive OE and aftermarket growth but does not ignore OEM and supplier constraints.
§6 Collins row 6, line 351	Q1 FY2026, 2026-04-21, Chris Calio	"Collins launched a capacity expansion effort"	Air-traffic systems add a government and defense growth vector, conditional on execution.
§6 Collins row 7, line 352	Q2 FY2026, 2026-07-23, Neil Mitchill	"commercial OE sales to grow mid- to high single digits"	This is the most recent near-term OE anchor; the base products CAGR sits within that band only after mixing lower-growth defense and other products.
§6 Collins row 8, line 353	Q2 FY2026, 2026-07-23, Neil Mitchill	"commercial aftermarket... grow low double digits across the company"	The base service CAGR is below the FY2026 guide because recovery and capacity catch-up should normalize over five years.

These anchors support a favorable demand view but not an extrapolation of Q2's 26% commercial OE growth. Management explicitly described FY2026, while the model compounds to 2031-06-30. Production recovery, backlog conversion, and price should fade toward fleet and traffic growth after the near-term ramp. The service forecast receives a premium because installed content and utilization persist, but even it decelerates from the 11.50% FY2022-FY2025 CAGR.

8. Forward growth assumptions by product and scenario

Modeling base and external demand frame

The $31.169 billion TTM segment base is allocated by FY2025 disclosed mix to $22.159 billion products, $6.315 billion services, and $2.695 billion intersegment and other. The allocation reconciles exactly to TTM segment revenue. It is necessary because TTM product/service dollars are a data gap, and it is preferable to inventing avionics, interiors, or landing-system sales.

Long-term industry forecasts justify continued growth but also discipline the terminal rate. Boeing expects the global commercial fleet to nearly double by 2044, supporting production and installed content ([Boeing Commercial Market Outlook 2025-2044](https://www.boeing.com/commercial/market/commercial-market-outlook/)). Airbus expects the global aviation services market to grow 3.6% annually through 2044 and the fleet to exceed 49,000 aircraft. Collins can outgrow that market during the current production ramp and via content gains, defense, price, and digital upgrades, but sustaining high-single-digit segment growth for the full five years would require exceptional execution.

Base case growth

Product	3-year historical CAGR	Latest YoY	Management FY+1 guide	Base CAGR TTM to TTM+5y	Concise justification
External products	8.26%	5.89% FY2025; commercial OE 26% and defense 7% in Q2 FY2026	Commercial OE mid- to high single digits	5.50%	Production ramp continues, then normalizes as OEM schedules and supply chains bound output.
External services	11.50%	8.15% FY2025; commercial aftermarket 10% in Q2 FY2026	Low-double-digit commercial aftermarket	7.00%	Installed content, utilization, price, repair, and upgrades support growth above fleet expansion, with recovery fading.
Intersegment and other	[DATA GAP]	[DATA GAP]	No separate guide	4.50%	Grows below total segment sales because no evidence supports extrapolating the FY2025 residual mix.

The base products rate is below the 8.26% historical CAGR and the current commercial OE channel rate because the product stream includes defense and other equipment and because Q2's 26% OE comparison is not a five-year base rate. It remains consistent with management's mid- to high-single-digit FY2026 OE view. The service rate is below both the historical CAGR and near-term low-double-digit guide, acknowledging that post-pandemic utilization recovery and price normalize while the installed base continues to grow. The data package supplies no Collins-specific unit-price, escalation, airframer delivery-rate, or certified-capacity series. These are therefore nominal revenue CAGRs with no separate pricing uplift: price, volume, and mix must fit inside the stated rates rather than being added again. The base also assumes only partial backlog conversion because qualification, supplier readiness, and customer schedules can keep booked demand from becoming revenue on the planned date.

Bull case growth

Product	3-year historical CAGR	Latest YoY	Management FY+1 guide	Bull CAGR TTM to TTM+5y	Concise justification
External products	8.26%	5.89% FY2025; commercial OE 26% and defense 7% in Q2 FY2026	Commercial OE mid- to high single digits	7.00%	Airframer output, defense systems, and Collins capacity convert backlog near the top of the guide for longer.
External services	11.50%	8.15% FY2025; commercial aftermarket 10% in Q2 FY2026	Low-double-digit commercial aftermarket	9.00%	High utilization, out-of-warranty content, pricing, and digital upgrades keep services near recent performance.
Intersegment and other	[DATA GAP]	[DATA GAP]	No separate guide	6.00%	Strong RTX platform activity raises internal demand without assuming it outruns external services.

The bull case does not simply retain Q2 channel growth. Products at 7% remain below the historical 8.26% CAGR, and services at 9% remain below the historical 11.50% CAGR. The upside requires capacity investments to be installed and qualified on time, sub-tier output to improve, customer production schedules to become steadier, defense programs to remain funded and execute without material charges, and Collins to win or expand content on important platforms. Backlog alone is not the bull mechanism; timely certified throughput and customer acceptance are.

Bear case growth

Product	3-year historical CAGR	Latest YoY	Management FY+1 guide	Bear CAGR TTM to TTM+5y	Concise justification
External products	8.26%	5.89% FY2025; commercial OE 26% and defense 7% in Q2 FY2026	Commercial OE mid- to high single digits	3.50%	OEM delays, supplier shortages, weaker shipset mix, and program timing reduce backlog conversion below guidance.
External services	11.50%	8.15% FY2025; commercial aftermarket 10% in Q2 FY2026	Low-double-digit commercial aftermarket	4.00%	Fleet demand remains positive, but airline purchasing pressure, alternate repair, and slower traffic constrain value capture.
Intersegment and other	[DATA GAP]	[DATA GAP]	No separate guide	3.00%	Internal activity grows modestly and offers no offset to external execution pressure.

The bear case still grows because the installed base, $42 billion FY2025 backlog, and safety-critical content make an outright five-year contraction an unnecessarily severe central downside. This is a durable-demand bear, not a recession stress test. The downside instead appears as failure to convert booked demand efficiently, weaker price realization within the stated nominal growth rate, lower service mix, customer schedule disruption, certification or supplier delays, and loss of share on selected new awards.

Year-by-year revenue path and deceleration check

The constant stream CAGRs create a transparent total path. Values compound from the exact TTM allocation for five periods and are not rounded until display.

Case	TTM base	TTM+1	TTM+2	TTM+3	TTM+4	TTM+5	Approximate annual total growth
Bear	$31.169B	$32.278B	$33.427B	$34.616B	$35.849B	$37.125B	3.56%
Base	$31.169B	$32.951B	$34.837B	$36.832B	$38.943B	$41.177B	5.72%
Bull	$31.169B	$33.450B	$35.901B	$38.534B	$41.362B	$44.402B	7.33%

This path deliberately does not apply the Q2 26% commercial OE rate to the full product base. The Q2 rate is one channel for one quarter; external products also contain defense and other equipment, and the segment has already reached a much larger scale. The base total growth rate of about 5.72% lies below Collins' 9.42% FY2022-FY2025 CAGR while remaining above Airbus' 3.6% long-term services-market growth. The bridge is backlog conversion, continued OEM production recovery, defense demand, service share, and price-not vague maturation.

9. Forward Operating profit margin assumptions

RTX does not disclose Collins **Operating profit** by products, services, or intersegment sales. The only historical profit fact is segment **Operating profit**. To make the rollup reconstructable, the model assigns analytical current margins of 14.25% to products, 25.00% to services, and 19.984% to intersegment and other. On the allocated TTM bases, these produce $3.158 billion, $1.579 billion, and $0.539 billion of modeled profit, totaling the sealed $5.275 billion and 16.923% margin. These stream margins are calibration devices, not issuer disclosures. [DATA GAP: Collins product-level and service-level Operating profit and margin are not disclosed.]

Stream	Modeled current margin	Bear 2031-06-30 margin	Base 2031-06-30 margin	Bull 2031-06-30 margin	Primary mechanism
External products - Operating profit	14.25%	12.50%	15.50%	17.00%	OE learning, factory absorption, supplier performance, pricing, and defense program mix
External services - Operating profit	25.00%	21.00%	25.50%	28.50%	Service mix, parts and repair pricing, utilization, turnaround, and digital upgrades
Intersegment and other - Operating profit	19.984%	17.00%	19.50%	21.50%	Internal mix and productivity; no corporate allocation
Collins blended - Operating profit	16.923%	14.638%	17.977%	19.882%	Revenue-weighted result of the three reconstructable streams

The bear blended margin falls 228.5 basis points from current. Products face OEM schedule volatility, premium freight, labor inefficiency, supplier shortages, unfavorable OE mix, certification delays, and weaker recovery of inflation. Services face airline purchasing pressure, alternate repairs, turnaround constraints, parts availability, and less favorable mix. Defense fixed-price or development execution can also create segment-level charges. The bear is not a statutory-restructuring case and does not import corporate charges; it is a Collins operating-execution case.

The base blended margin rises 105.4 basis points, not 187.7 basis points. Products gain 125 basis points as higher volume improves absorption and productivity offsets input costs, but the case does not assume every capacity project removes its bottleneck or that price exceeds contractual escalation and customer concessions. Services gain only 50 basis points because disclosed services are an imperfect proxy for total aftermarket: replacement parts can sit in products, and repair labor, turnaround capacity, rotable inventory, and airline negotiations limit conversion. Intersegment and other falls 48.4 basis points because there is no evidence that this residual stream deserves incremental margin. At the 2031 revenue mix, applying the current calibrated stream margins would produce a 17.030% segment margin, only 10.7 basis points above the 16.923% TTM margin. The other 94.7 basis points of the modeled increase must therefore come from execution within streams, not

from a vague aftermarket/OE mix shift. Q2 FY2026's 15.9% margin and the absence of a disclosed long-term Collins margin target argue against underwriting the previous 18.800% base endpoint.

The bull blended margin rises 295.9 basis points to 19.882%. This still requires nearly all favorable mechanisms to work: stable airframer schedules, strong supplier delivery, low launch inefficiency, timely certification of capacity and product changes, favorable platform mix, sustained service pricing, faster digital and connectivity growth, and limited program charges. Honeywell's disclosed 24% aerospace segment margin shows that a scaled aerospace systems portfolio can operate above 20%, but the comparison is imperfect because Honeywell's portfolio and commercial aftermarket mix differ. Without Collins-specific product/service profit disclosure, a 30% terminal service margin and a greater-than-20% segment margin were too precise for the bull case.

The model holds company-funded R&D and necessary capacity investment inside these **Operating profit** outcomes. It does not assume the moat can be maintained while stripping reinvestment. Capital expenditure is below Operating profit and therefore does not directly reduce the margin, but higher capex remains a cash-conversion consideration for the consolidated synthesis.

10. Segment rollup built bottoms-up

Bear case

Stream	TTM allocated revenue	5-year CAGR	2031-06-30 revenue	Operating profit margin	2031-06-30 Operating profit
External products	$22.158727B	3.50%	$26.317617B	12.50%	$3.289702B
External services	$6.315139B	4.00%	$7.683332B	21.00%	$1.613500B
Intersegment and other	$2.695134B	3.00%	$3.124399B	17.00%	$0.531148B
Collins Aerospace total	$31.169000B	3.56% blended	$37.125348B	14.638% blended	$5.434350B

Bear revenue sums exactly: $26.317617B + $7.683332B + $3.124399B = $37.125348B. Bear **Operating profit** sums to displayed precision: $3.289702B + $1.613500B + $0.531148B = $5.434350B. The implied blended margin is $5.434350B divided by $37.125348B, or 14.6378%.

Base case

Stream	TTM allocated revenue	5-year CAGR	2031-06-30 revenue	Operating profit margin	2031-06-30 Operating profit
External products	$22.158727B	5.50%	$28.960570B	15.50%	$4.488888B
External services	$6.315139B	7.00%	$8.857309B	25.50%	$2.258614B
Intersegment and other	$2.695134B	4.50%	$3.358627B	19.50%	$0.654932B
Collins Aerospace total	$31.169000B	5.72% blended	$41.176506B	17.977% blended	$7.402435B

Base revenue sums exactly: $28.960570B + $8.857309B + $3.358627B = $41.176506B. Base **Operating profit** sums to displayed precision: $4.488888B + $2.258614B + $0.654932B = $7.402434B; the unrounded calculation is $7.402435B. The implied blended margin is 17.9773%.

Bull case

Stream	TTM allocated revenue	5-year CAGR	2031-06-30 revenue	Operating profit margin	2031-06-30 Operating profit
External products	$22.158727B	7.00%	$31.078761B	17.00%	$5.283389B
External services	$6.315139B	9.00%	$9.716624B	28.50%	$2.769238B
Intersegment and other	$2.695134B	6.00%	$3.606697B	21.50%	$0.775440B
Collins Aerospace total	$31.169000B	7.33% blended	$44.402082B	19.882% blended	$8.828067B

Bull revenue sums exactly: $31.078761B + $9.716624B + $3.606697B = $44.402082B. Bull **Operating profit** sums to displayed precision: $5.283389B + $2.769238B + $0.775440B = $8.828067B. The implied blended margin is 19.8821%.

Reconciliation and probability discipline

Case	Product-level revenue sum	Segment revenue stated	Revenue residual	Product-level Operating profit sum	Segment Operating profit stated	Profit residual
Bear	$37.125348B	$37.125348B	$0.000000B	$5.434350B	$5.434350B	$0.000000B

Case	Product-level revenue sum	Segment revenue stated	Revenue residual	Product-level Operating profit sum	Segment Operating profit stated	Profit residual
Base	$41.176506B	$41.176506B	$0.000000B	$7.402434B	$7.402435B	$(0.000001)B rounding
Bull	$44.402082B	$44.402082B	$0.000000B	$8.828067B	$8.828067B	$0.000000B

The probabilities are deliberately non-uniform: bear 25%, base 55%, and bull 20%. Base receives the largest weight because backlog, installed content, current channel growth, management's raised FY2026 anchors, and capacity investment jointly support continued expansion. Bear is weighted above bull because execution risk is asymmetric: an OEM or supplier disruption can remove near-term volume quickly, while the bull requires simultaneous volume, mix, certified capacity, pricing, customer production, and service-margin success. Bull remains material because current OE channel growth and backlog conversion could persist longer than the base case assumes. The probability-weighted Collins endpoint is $40.809 billion of revenue and $7.196 billion of **Operating profit**, but downstream synthesis should retain the discrete cases rather than substitute the weighted average for scenario analysis.

11. Key risks and wildcards

[Bear] Airframer schedule and customer concentration. Collins depends on large commercial OEM production and a small number of major platforms. A Boeing or Airbus schedule change, certification delay, quality event, or supplier bottleneck can alter shipset volume faster than Collins can flex labor and capacity. The effect can be doubly negative: lower sales and worse factory absorption. Airbus's role as the largest contributor to RTX commercial sales before discounts and incentives-about 14% of consolidated sales in FY2025-illustrates group-level concentration [data_package §4, customer-type history note, lines 275-282]. Collins-specific Airbus dollars are not separately disclosed.

[Bear] Supply-chain and labor scarcity. Electronics, castings, specialty materials, skilled labor, and sub-tier quality remain potential bottlenecks. Premium freight and out-of-sequence work can depress margin even if demand is intact. Higher inventory and advance payments can also weaken cash conversion. The bear product margin embeds these costs without assuming a demand recession.

[Bear] OE economics fail to earn back launch investment. A platform win can produce years of low-margin production before service economics mature. If reliability is better than expected, fleet utilization is low, or customers secure alternate repair rights, the lifetime return can disappoint. Conversely, poor reliability can create warranty and reputational cost rather than profitable service.

[Bear/Base] Interiors and less-integrated systems face tougher competition. Safran's scale and leadership claims in cabins, seats, and landing systems show that Collins is not protected equally across the portfolio. Cabin products are more exposed to airline redesign cycles, customization complexity, certification delays, and working-capital swings. The base margin assumes no material portfolio-wide charge; the bear allows product mix and execution pressure.

[Bear/Base] Digital architecture and connectivity substitution. Open architectures can separate applications from proprietary hardware. Satellite-native connectivity providers and software-focused entrants may capture data and user-interface value. Collins can participate through certified computing, communications, and integration, but it may have to share economics. The risk primarily lowers the duration of the moat rather than eliminating core flight-critical hardware by 2031.

[Bear] Defense program execution and funding. Collins' defense content diversifies commercial exposure, yet it introduces fixed-price development, production-lot timing, government oversight, and budget risk. Capacity built for expected awards can be underused if appropriations or platform schedules move. A technical or estimate-at-completion problem could pressure **Operating profit** even while backlog remains healthy.

[Base/Bull] Capacity conversion. Management has explicitly raised capex and launched capacity expansion. If investments solve bottlenecks and supplier performance improves, backlog can convert with better absorption. If capacity arrives late or merely offsets inefficiency, revenue may grow without the modeled base margin gain. The base assumes partial success; the bull requires strong success.

[Bull] Aftermarket duration and pricing. The more than $100 billion out-of-warranty content pool may support spares, repairs, modifications, and upgrades for decades. High utilization and constrained fleet availability can strengthen pricing and service mix. The bull requires service revenue to compound at 9% and terminal service margin to reach 30%, so sustained availability value is its most important upside driver.

[Bull/Bear] New-platform content. A major integrated-systems award could extend growth and future aftermarket economics beyond the modeled horizon. Loss of content on next-generation aircraft could do the opposite even if current platforms remain productive. Design-win evidence should be monitored separately from quarterly sales because economics emerge with a long lag.

[All cases] Reinvestment discipline. Collins must keep spending on R&D, certification, capacity, repair capability, cyber resilience, and digital product cadence. A rising accounting margin paired with falling R&D intensity or chronic delivery failures would be lower quality than the same margin produced through genuine productivity. The model therefore keeps reinvestment inside **Operating profit** and treats capex separately for cash-flow analysis.

[All cases] Monitoring dashboard. The most decision-useful indicators are commercial OE and aftermarket channel growth, defense growth, quarterly Collins **Operating profit** margin, backlog, segment capex and R&D, OEM delivery schedules, supplier delinquencies, new platform awards, aftermarket turnaround, and program charges. A sustained margin below 15% despite mid-single-digit revenue growth would indicate that backlog is low quality or conversion economics are deteriorating. Conversely, margin above 19% with continued R&D and improving delivery would increase confidence in the bull mechanism.

Scenario summary

Case	Segment TTM+5y Revenue	Exact profit metric	Segment TTM+5y Profit Margin	Segment TTM+5y Profit	Probability
Bear	$37.125348B	Operating profit	14.638%	$5.434350B	25%
Base	$41.176506B	Operating profit	17.977%	$7.402435B	55%
Bull	$44.402082B	Operating profit	19.882%	$8.828067B	20%

The central judgment is that Collins is a high-quality, installed-base aerospace systems franchise whose backlog and aftermarket pool support continued growth, but whose margin durability depends on industrial execution and continued reinvestment. The base case compounds exact bottom-up revenue for 5.000 years from the TTM endpoint, produces $41.176506 billion of revenue and $7.402435 billion of **Operating profit**, and excludes every corporate and statutory-bridge adjustment by design.

Appendix B3 - Raytheon

Raytheon - Segment Deep Dive

Forecast base: TTM ended 2026-06-30 **Exact horizon:** 2031-06-30, 5.000 years **Reporting scale:** USD billions unless otherwise stated **Exact sealed segment profit basis: Operating profit Statutory bridge:** verified and sealed at SHA-256 `29603ba7cdba77ed01071c2445857340e16869b49e4a5b7f6513576a18dddf2b`

0. Segment boundary and taxonomy note

Raytheon is one of RTX Corporation's three reportable segments. RTX streamlined from four principal businesses to three effective July 1, 2023, and the controlling filings recast prior periods under the current structure. This appendix therefore uses the comparable Raytheon series for FY2021-FY2025 supplied in data_package §1 and §3. The legacy FMP label “Raytheon Intelligence & Space” is only a vendor-taxonomy artifact and is not a fourth segment. RTX announced the sale of Blue Canyon Technologies for $620 million on July 23, 2026 [data_package §9, corporate-actions row 1], but the data package gives no Raytheon revenue or Operating profit for Blue Canyon. The TTM anchor is therefore not adjusted for an undisclosed amount; the divestiture is treated as a bounded modeling uncertainty rather than a fabricated subtraction.

1. What this segment actually is

Raytheon is RTX's government-focused systems, sensors, effectors, and mission-solutions business. Its portfolio spans integrated air and missile defense, airborne and ground-based sensors, precision weapons, naval warfare, space and command capabilities, and classified or confidential programs. The segment sells both stand-alone products-radars, missile rounds, seekers, command hardware, and other mission equipment-and integrated systems in which hardware, software, engineering, testing, sustainment, and customer-specific integration are bundled over multi-year contract periods.

The customer is overwhelmingly a sovereign government. In FY2025, Raytheon generated $19.237 billion from the U.S. government excluding foreign military sales, $4.480 billion from foreign military sales routed through the U.S. government, $4.099 billion from direct foreign-government commercial contracts, and only $0.076 billion from commercial aerospace and other commercial customers [data_package §4, customer-type table, Raytheon column]. Those values sum to $27.892 billion of external revenue. Thus, about 68.97% of external revenue came directly from the U.S. government, about 16.06% from FMS, 14.70% from direct foreign governments, and only 0.27% from commercial customers. Raytheon is economically a government procurement franchise, not a diversified commercial industrial business.

The go-to-market model is consequently programmatic. A customer identifies an operational requirement, funds research, development, procurement, or sustainment through an appropriation, and awards a competitively bid, sole-source, follow-on, or foreign-military-sales contract. Programs can last decades, but annual revenue depends on funded contract values, milestones, production lots, deliveries, and estimates of costs at completion. Export programs also depend on U.S. approval, partner-country budgets, configuration and interoperability requirements, and sometimes local industrial participation.

Pricing is not a simple price-list exercise. Cost-type contracts reimburse allowable costs and ordinarily carry lower execution risk, while fixed-price contracts can reward learning-curve productivity but leave the contractor exposed when labor, materials, supplier performance, design maturity, or test outcomes disappoint. Raytheon's FY2025 external revenue was $16.647 billion fixed-price and $11.245 billion cost-type [data_package §4, contract-type table]. Fixed-price work was therefore about 59.69% of external revenue. The segment has real negotiating leverage where it owns qualified technology and installed-system positions, but the U.S. government is a sophisticated monopsony customer with audit rights, cost data, competitive alternatives, and the ability to reshape quantities and contract terms. “Pricing power” is better understood as protected program position plus scope and mix, not unconstrained price increases.

Named franchises include Patriot-related capabilities such as GEM-T and LTAMDS, AMRAAM, Standard Missile programs including SM-3 and SM-6, naval and air-defense systems, and classified/confidential awards. The data package explicitly does not disclose recurring revenue or profit by Patriot, AMRAAM, Standard Missile, or any other named program [data_package §10, gap row 3]. Accordingly, this appendix uses the disclosed product/service split for financial modeling and treats named programs as scenario levers rather than invented financial segments.

2. Current economics

Raytheon's FY2025 revenue was $28.043 billion, up 5.0%, and Operating profit was $3.227 billion, producing an 11.51% Operating profit margin [data_package §3, Raytheon table]. The TTM ended 2026-06-30 is materially stronger: reported quarterly revenue of $7.045 billion, $7.657 billion, $6.945 billion, and $8.269 billion sums to $29.916 billion [data_package §5, Raytheon quarterly table], while the sealed TTM Operating profit is $3.627 billion [data_package §3a, TTM bridge, Raytheon row]. The exact TTM Operating profit margin is therefore 12.12%.

The four TTM quarters grew 10%, 7%, 10%, and 18% year over year, respectively [data_package §5, Raytheon quarterly table]. Dividing each reported quarter by its stated growth rate implies an approximately $26.87 billion comparison-period total, so the current TTM revenue growth rate is about 11.3%. This is analyst arithmetic using only data-package rows, not a new historical source. It also explains why the five-year model should not mechanically extrapolate the latest 18% quarterly rate: Q2 carried particularly strong volume and contract timing, while even the full TTM already smooths that spike substantially.

Demand visibility is unusually high. Raytheon backlog increased from $47 billion in FY2021 to $50 billion, $52 billion, $63 billion, and $75 billion through FY2025, then reached $86 billion at June 30, 2026 [data_package §0a, material-KPI table, Raytheon row]. The latest backlog equals about 2.87 times TTM revenue. Raytheon booked nearly $20 billion in Q2; the official package reports Q2 book-to-bill of 2.42 and rolling-12-month book-to-bill of 1.77 [data_package §0a, operating-output paragraph]. Those ratios are strong evidence of funded demand, but backlog is not equivalent to five-year revenue. Conversion depends on production slots, appropriations, customer schedules, supplier throughput, classified program timing, and program execution.

The financial mix remains product-heavy. FY2025 external product revenue was $24.063 billion and external services revenue was $3.829 billion, while segment revenue exceeded external revenue by $0.151 billion of intersegment sales [data_package §4, products/services rows 5-6 and explanatory paragraph]. Products were 85.81% of reported segment revenue, services 13.65%, and intersegment sales 0.54%. The model carries these FY2025 shares into the TTM anchor because the data package does not disclose a quarterly product/service split. That creates estimated TTM modeling anchors of $25.670 billion for external products, $4.085 billion for services, and $0.161 billion for intersegment/other. These are clearly labeled analytical allocations; they are not represented as disclosed TTM product revenue.

Raytheon reinvests to increase output. Company-funded segment R&D was $500 million in FY2023, $452 million in FY2024, $483 million in FY2025, and $254 million in H1 FY2026 [data_package §0a, segment R&D table]. FY2025 R&D was about 1.72% of segment revenue. Segment capital expenditure was $558 million, $563 million, $637 million, $771 million, and $644 million from FY2021 through FY2025, followed by $365 million in H1 FY2026 [data_package §0a, segment capex table]. FY2025 capex was about 2.30% of revenue. This is not asset-light compounding: production growth requires facilities, tooling, testing capacity, supplier qualification, inventory, and working capital before deliveries become revenue and cash.

Current Operating profit economics are improving but not yet structurally proven at the latest quarterly rate. Quarterly Operating profit margins were 12.2%, 11.6%, 12.1%, and 12.6% across Q3 FY2025 through Q2 FY2026 [data_package §5, Raytheon quarterly table]. The range is narrow enough to establish a current run-rate band, yet the longer record is volatile: FY2021 margin was 12.77%, fell below 10% from FY2022 through FY2024, and recovered to 11.51% in FY2025 [data_package §3, Raytheon table]. The forecast therefore treats 12.12% TTM as an earned starting point, not an assured floor.

3. Unit economics

How revenue turns into Operating profit

Raytheon's Operating profit is the result of contract volume, negotiated program economics, mix, manufacturing learning, supply-chain performance, engineering execution, and estimate-at-completion discipline. Product revenue dominates, so utilization of missile, radar, seeker, electronics, and integration facilities matters. Higher throughput can absorb factory overhead and support learning-curve savings, but only when material flow and quality keep pace. A production line starved of rocket motors, castings, energetics, semiconductors, specialized labor, or test capacity can incur expediting, rework, and idle-cost penalties even when backlog is abundant.

The fixed-price/cost-type balance is the first-order margin lever. Fixed-price revenue increased from $13.164 billion in FY2023 to $14.515 billion in FY2024 and $16.647 billion in FY2025, while cost-type revenue declined from $13.056 billion to $12.055 billion and $11.245 billion [data_package §4, contract-type table]. The faster-growing fixed-price mix can expand margin when volume and learning beat the contract cost baseline. It can also reverse quickly when supplier inflation, schedule slippage, technical redesign, labor inefficiency, or test failure raises estimated costs. RTX disclosed aggregate net EAC adjustments to

Operating profit of negative $648 million in FY2023, negative $473 million in FY2024, negative $386 million in FY2025, negative $66 million in Q2 FY2026, and negative $228 million in H1 FY2026 [data_package §0a, material-KPI table]. Program-level EAC amounts are not disclosed, and this appendix does not allocate consolidated EAC losses to Raytheon. Instead, EAC severity is a direct bear/base/bull margin lever.

Product mix is the second major lever. Standardized follow-on production of mature effectors can carry better learning and overhead absorption than early development or low-rate production. Sensor and command-system awards may have different engineering content and milestone timing. Classified awards can be strategically attractive and technically differentiated, but their cost maturity and profit cadence are opaque to an outside analyst. The $4.1 billion of classified/confidential awards highlighted in the Q2 package [data_package §0a, operating-output paragraph] is therefore modeled as demand visibility with wider execution bounds, not automatically as high-margin revenue.

Backlog converts through physical output, not accounting intent. Management reported a 20% output increase across critical programs in FY2025, more than 40% higher total deliveries in Q1 FY2026, and more than doubled output across critical munitions in H1 FY2026 [data_package §6, Raytheon commentary rows 4, 5, and 7]. Raytheon also completed a $115 million Redstone Missile Integration Facility expansion and had been on track to invest $300 million in capacity expansion [data_package §6, Raytheon commentary rows 1 and 6]. These disclosures support near-term revenue acceleration, but also show the need to spend before scaling. The base case assumes that new capacity improves absorption and output gradually; the bull case assumes supplier throughput and yields allow the installed capacity to run efficiently; the bear case assumes factory additions outrun critical inputs and pressure margin.

Services are smaller but economically stabilizing. Sustainment, engineering support, software updates, integration, and customer service can recur around installed systems and deployed fleets. The data package does not disclose service Operating profit, so it would be false precision to declare a historical service margin. The scenario model assigns conservative terminal service margins as analyst assumptions and keeps them near the segment average. Services grow more slowly than products because current backlog and output commentary is centered on munitions and production, not because services are assumed to be structurally unattractive.

Working capital is another hidden conversion variable. Long-lead materials may be purchased before delivery; progress payments and customer advances can offset some of that burden, but contract structure differs. The segment's profit model cannot be treated as free cash flow. This appendix forecasts Operating profit only. RTX's corporate synthesis must separately handle working capital, capex, taxes, acquisition accounting, pension items, interest, and other statutory bridge lines.

What moves margin up

Margin rises if high-volume mature programs such as AMRAAM, GEM-T/Patriot-related effectors, SM-3, and SM-6 achieve learning-curve savings; if suppliers expand in sync with Raytheon; if quality and test yields improve; if contract modifications compensate for added scope; if classified development transitions into repeat production; and if backlog allows stable multi-year production scheduling. Scale can also improve labor productivity and spread fixed engineering, factory, and test overhead across more deliveries.

What moves margin down

Margin falls if fixed-price estimates prove optimistic, supplier shortages create disruption, capacity starts before upstream inputs are available, inflation exceeds contract escalation, technical requirements change, or testing and qualification cause rework. A mix shift toward early-stage development or cost-type work can reduce percentage margin even when dollars of Operating profit grow. Appropriation delays can also create inefficient start-stop production. The bear case does not require demand collapse; abundant backlog plus poor conversion is sufficient to produce lower-than-current margin.

4. Competitive dynamics

Raytheon competes across several overlapping markets rather than one clean industry category. Exact segment market share is not defensibly measurable from public data because governments procure heterogeneous systems, programs can contain components from multiple primes, classified spending is not visible, and Raytheon does not disclose revenue by named program. Any single “missile-defense share” percentage would create spurious precision. The relevant question is whether Raytheon holds positions that are hard to displace and whether adjacent suppliers can capture more of the system economics.

Integrated air and missile defense

Patriot illustrates both moat and shared economics. Raytheon supplies major system, sensor, command, and GEM-T content, while Lockheed Martin supplies PAC-3 MSE interceptors. Lockheed stated in January 2026 that a seven-year U.S. government framework would raise PAC-3 MSE annual capacity from roughly 600 to 2,000 units; it delivered 620 missiles in 2025 ([Lockheed Martin PAC-3 production briefing](https://www.lockheedmartin.com/en-us/news/statements-speeches/2026/press-briefing-transcript-pac-3-mse-production-acceleration.html)). That capacity can strengthen the Patriot ecosystem by expanding available effectors, but it also demonstrates that a meaningful portion of value sits with another prime. Lockheed is further integrating PAC-3 MSE into Aegis, creating additional deployment paths independent of a full Patriot battery ([Lockheed Martin Aegis integration announcement](https://news.lockheedmartin.com/2026-04-21-Lockheed-Martin-Awarded-Landmark-U-S-Navy-Contract-to-Integrate-Worlds-Most-Advanced-Air-Defense-Missile-PAC-3-MSE-into-Aegis-Combat-System-For-the-First-Time)).

European sovereign alternatives matter. MBDA markets SAMP/T NG and the ASTER family as NATO-interoperable layered air-defense systems and expected first systems for French and Italian operational evaluation in 2026 ([MBDA Eurosatory 2026 air-defense portfolio](https://www.mbda-systems.com/eurosatory-2026-mbda-evolves-its-portfolio-power-europe-and-its-allies-rearmament)). That is a credible substitute where European governments prioritize local industrial content and strategic autonomy. It does not erase Patriot's installed base, combat record, or interoperability, but it limits pricing and share assumptions in the bull case.

Northrop Grumman is influential in command-and-control and sensor fusion, particularly through IBCS, while Lockheed participates through PAC-3, THAAD, Aegis, sensors, and system integration. L3Harris, Boeing, General Dynamics, Leonardo, Thales, and other specialized firms compete in sensors, electronics, communications, space payloads, and mission systems. Competition can occur at the platform, subsystem, software, seeker, radar, or effector level. Raytheon may simultaneously partner with and compete against the same prime on different contract elements.

Air-to-air and medium-range defense

AMRAAM benefits from broad aircraft integration and its use in NASAMS. Kongsberg's June 2026 Kuwait announcement describes NASAMS as an open, modular system containing elements from both Kongsberg and Raytheon ([Kongsberg Kuwait NASAMS contract](https://www.kongsberg.com/news/news-archive/2026/kongsberg-to-deliver-nasams-to-kuwait-via-us-foreign-military-sales-programme/)). That partnership creates network effects: a larger NASAMS base increases demand for compatible effectors and sustainment. Yet AMRAAM competes with newer air-to-air missiles and national alternatives, including MBDA's Meteor family, while ground-based customers can evaluate other medium-range architectures. Raytheon's advantage is installed integration and a large allied user base, but future share depends on range, electronic protection, seeker performance, cost per engagement, and production availability.

Naval and ballistic-missile defense

SM-3 and SM-6 sit inside a broader Aegis-centered architecture. Raytheon's interceptor position is technically difficult to replicate, but the combat system and launch ecosystem involve other contractors, principally Lockheed Martin. PAC-3 MSE integration into Aegis shows that customers may seek more interchangeable effectors. That interoperability can expand the addressable launch base while increasing competition for each engagement layer. Raytheon's moat therefore resides in mission-specific performance, qualification, installed integration, and production credibility-not permanent exclusivity over the whole architecture.

Demand environment and appropriations

The U.S. FY2026 defense budget allocated $30.5 billion to munitions development and procurement and specifically identified AMRAAM and PAC-3 MSE among priority precision munitions ([U.S. Department of Defense FY2026 Budget Overview](https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2026/FY2026_Budget_Request_Overview_Book.pdf)). This establishes a supportive demand category, not guaranteed Raytheon revenue. Congress can change quantities, reprogram funds, use continuing resolutions, or emphasize competing systems. Internationally, NATO states committed in 2025 to invest 5% of GDP annually in defense and security by 2035, including at least 3.5% for core defense; European Allies and Canada increased nominal defense spending by roughly $139 billion in 2025 ([NATO defense-investment overview](https://www.nato.int/en/what-we-do/introduction-to-nato/defence-expenditures-and-natos-5-commitment)). Air defense and stockpile replenishment are likely beneficiaries, but procurement can favor domestic European suppliers or require local production.

The practical competitive bottleneck is increasingly delivery rather than headline demand. A customer facing urgent missile threats values fielded capability, supply certainty, training, interoperability, and replenishment capacity. Raytheon's 86 billion

backlog and output improvements give it a strong position, but rivals are also investing aggressively. Capacity that arrives late, with high unit costs or supplier shortages, can cede incremental awards even when the installed base remains secure.

5. Moat at the segment level

Raytheon has a real segment moat, but it is a program-position and systems-integration moat rather than consumer-style pricing power. Its strongest protections are qualification, installed base, interoperability, intellectual property, classified know-how, production learning, customer trust, and the cost and risk of replacing operational systems.

First, qualification and mission assurance create high barriers. Air-defense radars, interceptors, seekers, guidance electronics, and command systems must survive extreme environments, integrate with broader networks, pass demanding tests, and perform reliably under combat conditions. A technically promising newcomer cannot simply underprice an incumbent and displace a fielded weapon. Qualification takes time, test infrastructure, customer funding, secure facilities, and a credible safety and reliability record.

Second, installed systems generate switching costs. A sovereign customer has trained personnel, launchers, radars, software, logistics, doctrine, inventory, and allied interoperability tied to an architecture. Replacing the entire stack is expensive and operationally risky. Follow-on upgrades and replenishment therefore have a strong incumbent bias. The bias is not absolute-open architectures and multi-effector integration can weaken it-but it gives Raytheon a durable starting advantage.

Third, export and alliance networks reinforce demand. FMS and direct foreign-government revenue totaled $8.579 billion in FY2025, about 30.76% of external Raytheon revenue [data_package §4, customer-type table]. Management said international backlog mix reached 47% at FY2025 [data_package §6, Raytheon commentary row 3]. Common systems across allied forces improve joint training, logistics, and interoperability. The same network creates political risk: export approvals, local-content requirements, and European sovereignty initiatives can delay or redirect orders.

Fourth, production know-how is an underappreciated barrier. Scaling munitions requires qualified rocket motors, energetics, specialty materials, electronics, skilled labor, testing, and quality control. Raytheon's disclosed production improvements and facility expansion demonstrate accumulated process capability. However, capacity is also the moat's stress point. A shortage at one critical supplier can constrain an entire system, and governments may fund second sources to reduce dependence. Supplier capacity should therefore be treated as a moat-enabler in the bull case and a moat-leak in the bear case.

Fifth, classified relationships and clearances matter. The $4.1 billion of highlighted classified/confidential awards in Q2 [data_package §0a, operating-output paragraph] suggests access to programs that cannot be openly competed on the same information set. Classified work can deepen relationships and create long-lived follow-on opportunities. Its opacity also makes underwriting less certain: investors cannot observe program profitability, technical milestones, or concentration. Classified mix is not automatically a high-margin moat.

The moat is tempered by four structural limits. The government customer can demand cost data and competition; major programs can be dual-sourced or modularized; primes share system economics with partners; and defense budgets are political. Lockheed's growing PAC-3 position and MBDA's European alternatives show that Raytheon cannot assume control of every layer. Over five to ten years, the moat is durable enough to support backlog conversion and mid-single- to high-single-digit growth, but not strong enough to justify perpetual double-digit growth or straight-line margin expansion without execution evidence.

6. Historical growth rates reproduced from the data package

All figures below come from the stated data-package rows. “Three-year CAGR” means FY2023-to-FY2025 CAGR over two annual compounding intervals. Product and service dollars are external revenue; segment revenue includes intersegment sales. No named-program revenue is estimated.

Product / sub-segment	FY2021 revenue	FY2022 revenue	FY2023 revenue	FY2024 revenue	FY2025 revenue	FY2023-FY2025 CAGR	Most recent YoY	Data-package cite
Raytheon segment	$26.611B [§3 Raytheon row 1]	$25.176B [§3 Raytheon row 1]	$26.350B [§3 Raytheon row 1]	$26.713B [§3 Raytheon row 1]	$28.043B [§3 Raytheon row 1]	3.16% [§3 Raytheon row 1]	5.0% [§3 Raytheon row 2]	data_package §3, Raytheon table rows 1-2
External products	$22.264B [§4 row 261]	$21.276B [§4 row 261]	$21.847B [§4 row 261]	$22.872B [§4 row 261]	$24.063B [§4 row 261]	4.94% [§4 row 261]	5.21% [§4 row 261]	data_package §4, products/services table row 5

Product / sub-segment	FY2021 revenue	FY2022 revenue	FY2023 revenue	FY2024 revenue	FY2025 revenue	FY2023-FY2025 CAGR	Most recent YoY	Data-package cite
External services	$4.188B [§4 row 262]	$3.767B [§4 row 262]	$4.373B [§4 row 262]	$3.698B [§4 row 262]	$3.829B [§4 row 262]	(6.44%) [§4 row 262]	3.54% [§4 row 262]	data_package §4, products/services table row 6
Fixed-price external revenue	$14.270B [§4 row 288]	$12.910B [§4 row 288]	$13.164B [§4 row 288]	$14.515B [§4 row 288]	$16.647B [§4 row 288]	12.47% [§4 row 288]	14.69% [§4 row 288]	data_package §4, contract-type table row 1
Cost-type external revenue	$12.182B [§4 row 289]	$12.133B [§4 row 289]	$13.056B [§4 row 289]	$12.055B [§4 row 289]	$11.245B [§4 row 289]	(7.19%) [§4 row 289]	(6.72%) [§4 row 289]	data_package §4, contract-type table row 2

Arithmetic checks use the unrounded growth implied by the disclosed dollar values: $26.713B × 1.04979 = $28.043B; $22.872B × 1.05207 = $24.063B; $3.698B × 1.03542 = $3.829B; $14.515B × 1.14688 = $16.647B; and $12.055B × 0.93281 = $11.245B. Each row ties within rounding and well inside the required 2% tolerance. No dollars were back-solved from growth-only disclosures.

The historical pattern is instructive. Segment growth was only 3.16% across FY2023-FY2025, but fixed-price revenue grew 12.47% while cost-type and service revenue declined. Fixed-price and cost-type revenue are a non-additive contract-type cross-cut of the product/service lines, not extra sub-segments; they therefore remain explicit scenario and margin levers rather than separate rows in the additive revenue forecast. The mix shift helped top-line acceleration but increased exposure to cost estimates and execution. The forecast does not assume fixed-price growth can indefinitely outrun the segment without margin consequences; each scenario links production throughput and EAC outcomes to terminal Operating profit.

7. Management guidance from data package §6

The following are all Raytheon-specific forward or operating anchors in data_package §6. They are quoted only from the verified package and are not re-fetched.

Data-package row	Period and speaker	Verbatim quote	Interpretation
§6 Raytheon row 1	Q3 FY2025, 2025-10-21, Chris Calio	“on track to invest $300 million in capacity expansion”	Strong backlog required funded factory and tooling capacity. The spending supports conversion but makes supplier synchronization and utilization central to returns.
§6 Raytheon row 2	Q3 FY2025, 2025-10-21, Chris Calio	“output more than doubling year-to-date through Q3”	AMRAAM execution was improving quickly. This supports near-term product growth but is a rate-change statement, not a five-year revenue CAGR.
§6 Raytheon row 3	Q4 FY2025, 2026-01-27, Chris Calio	“international backlog mix is now 47%”	International demand is a durable growth source and a policy, export-approval, and local-content lever.
§6 Raytheon row 4	Q4 FY2025, 2026-01-27, Chris Calio	“output increase by 20% across a number of our critical programs”	Production gains broadened beyond one program. The base case assumes output normalizes to a lower sustainable growth rate after the ramp.
§6 Raytheon row 5	Q1 FY2026, 2026-04-21, Chris Calio	“total deliveries up over 40% year-over-year”	Delivery acceleration confirms backlog is becoming revenue. It also sets a high comparison that should cause year-by-year deceleration.
§6 Raytheon row 6	Q1 FY2026, 2026-04-21, Chris Calio	“completed $115 million expansion of our Redstone Missile integration facility”	Physical capacity entered service for naval programs; productive utilization, not construction alone, determines margin.
§6 Raytheon row 7	Q2 FY2026, 2026-07-23, Chris Calio	“more than doubled year-over-year output across our critical munitions”	H1 production momentum justifies a strong first forecast year. It cannot be extrapolated because doubling is from a constrained base and not segment-wide revenue growth.
§6 Raytheon row 8	Q2 FY2026, 2026-07-23, Chris Calio	“Raytheon booked nearly $20 billion of awards”	Q2 demand materially exceeded revenue, expanding visibility and supporting capacity investment. Conversion timing remains the modeling variable.

[DATA GAP: data_package §6 contains no explicit Raytheon FY2026 segment revenue or Operating profit guide.] The model therefore uses reported TTM economics, backlog, bookings, output, capacity commentary, and the disclosed product/service mix. It does not invent a management CAGR.

8. Forward growth assumptions

TTM modeling anchors and method

TTM segment revenue is $29.916 billion. Because the data package gives no TTM product/service dollars, the model allocates TTM revenue using FY2025 disclosed segment shares: 85.81% external products, 13.65% external services, and 0.54% intersegment/other. The resulting analytical anchors are $25.670 billion, $4.085 billion, and $0.161 billion. Each line is compounded through five explicit annual growth rates to June 30, 2031. No “year six” is included.

Base case growth assumptions - 55% probability

Product / sub-segment	FY2023-FY2025 historical CAGR	Latest disclosed YoY	Management FY+1 guide	Base CAGR TTM to TTM+5y	Five-year growth path
External products	4.94%	5.21% FY2025; segment Q2 +18%	No sales guide; critical-munitions output more than doubled	7.69%	10.0%, 9.0%, 7.5%, 6.5%, 5.5%
External services	(6.44%)	3.54% FY2025	[DATA GAP: no service guide]	4.60%	6.0%, 5.0%, 4.5%, 4.0%, 3.5%
Intersegment / other	Not separately disclosed	Not separately disclosed	[DATA GAP: no intersegment guide]	3.00%	3.0%, 3.0%, 3.0%, 3.0%, 3.0%

Base products accelerate above the FY2023-FY2025 CAGR because $86 billion of backlog, 1.77 rolling-12-month book-to-bill, capacity investment, and munitions output growth support conversion. Growth decelerates from 10.0% in year one to 5.5% in year five as the extraordinary Q2 +18% comparison and doubled-output comments normalize. The path produces $189.079 billion of cumulative five-year revenue. Holding terminal backlog near 2.0 times terminal revenue would require about $188.0 billion of cumulative bookings, or roughly $37.6 billion annually-well below the approximately $53.0 billion implied by current rolling-12-month book-to-bill, but still dependent on recurring appropriations, funded production lots, export approvals, and supplier throughput. The model therefore does not extrapolate 1.77 book-to-bill. The “more than doubled” output disclosure is also only a rate indicator: the package does not disclose its program basket, unit mix, starting denominator, or revenue-recognition conversion. Patriot/GEM-T and LTAMDS demand, AMRAAM replenishment, SM-3 and SM-6 production, naval systems, and classified awards are scenario mechanisms, not program-level financial allocations. Service growth recovers modestly from a weak historical base as the installed system fleet expands. The resulting terminal line revenues are $37.176 billion products, $5.114 billion services, and $0.187 billion intersegment/other.

Bull case growth assumptions - 20% probability

Product / sub-segment	FY2023-FY2025 historical CAGR	Latest disclosed YoY	Management FY+1 guide	Bull CAGR TTM to TTM+5y	Five-year growth path
External products	4.94%	5.21% FY2025; segment Q2 +18%	No sales guide; awards and output substantially above prior year	10.38%	13.0%, 12.0%, 10.0%, 9.0%, 8.0%
External services	(6.44%)	3.54% FY2025	[DATA GAP: no service guide]	6.99%	9.0%, 8.0%, 7.0%, 6.0%, 5.0%
Intersegment / other	Not separately disclosed	Not separately disclosed	[DATA GAP: no intersegment guide]	5.00%	5.0%, 5.0%, 5.0%, 5.0%, 5.0%

The bull case assumes appropriations and international orders keep production lines full, supplier capacity scales without material disruption, and recent investments convert into sustained throughput. Patriot-related demand remains strong; AMRAAM output and the SM-3/SM-6 family ramp faster; classified programs transition on schedule; and international backlog converts without major export delay. Product growth still declines from 13% to 8%, explicitly rejecting a five-year extrapolation of Q2's 18% segment rate or management's doubled-output statement. Service growth benefits from a larger installed base and sustainment demand. Terminal line revenues are $42.070 billion products, $5.727 billion services, and $0.206 billion intersegment/other.

Bear case growth assumptions - 25% probability

Product / sub-segment	FY2023-FY2025 historical CAGR	Latest disclosed YoY	Management FY+1 guide	Bear CAGR TTM to TTM+5y	Five-year growth path
External products	4.94%	5.21% FY2025; segment Q2 +18%	No sales guide; output strength is offset by conversion constraints	2.99%	5.0%, 4.0%, 3.0%, 2.0%, 1.0%
External services	(6.44%)	3.54% FY2025	`[DATA GAP: no service guide]`	1.10%	2.5%, 1.5%, 1.0%, 0.5%, 0.0%
Intersegment / other	Not separately disclosed	Not separately disclosed	`[DATA GAP: no intersegment guide]`	0.00%	0.0%, 0.0%, 0.0%, 0.0%, 0.0%

The bear case is not a demand-collapse case. It assumes high backlog but slow conversion because rocket motors, electronics, energetics, skilled labor, test capacity, or other suppliers lag; appropriations or continuing resolutions interrupt production cadence; export approvals slow international awards; and fixed-price programs absorb engineering or inflation overruns. Competitive alternatives such as PAC-3 MSE expansion and European air-defense systems capture some incremental spending. AMRAAM, Patriot/GEM-T, SM-3, and SM-6 remain strategic, but deliveries do not scale as planned. Terminal line revenues are $29.745 billion products, $4.314 billion services, and $0.161 billion intersegment/other.

Scenario-lever map

Lever	Bear	Base	Bull
Backlog and bookings	Backlog remains high but conversion slows; book-to-bill normalizes below 1	$86B backlog converts on planned cadence; book-to-bill settles near a healthy long-run level	Multi-year awards refill backlog faster than conversion and sustain high utilization
Critical-munitions output	Early gains plateau as bottlenecks migrate upstream	Output growth normalizes after the current surge and remains positive	Capacity, yields, labor, and suppliers support sustained high-single- to low-double-digit growth
Patriot / GEM-T / LTAMDS	Appropriation timing and competitor/local-content pressure slow awards	Installed base and allied demand support steady production	Replenishment and new allied batteries produce sustained high utilization
AMRAAM	Rocket-motor and supplier constraints limit delivery growth	Capacity additions support planned replenishment and NASAMS demand	Broad aircraft/NASAMS demand plus reliable suppliers sustain a faster ramp
SM-3 and SM-6	Lot timing, testing, or supplier constraints defer conversion	Funded naval and missile-defense demand converts steadily	Multi-year procurement and high fleet demand produce a step-up in output
Classified programs	Technical milestones slip; opaque mix produces EAC pressure	Awards convert on ordinary development/production cadence	Classified development transitions successfully into repeat production
Fixed-price / EAC	Net adverse EAC and inflation outweigh learning	Learning and volume offset ordinary EAC noise	Mature production and favorable mix generate strong learning-curve savings
Appropriations and international demand	Continuing resolutions, export delay, or local preference defer awards	U.S. priorities and NATO spending support demand with normal delays	U.S. and international budgets accelerate replenishment and layered defense
Open architecture / interchangeable effectors	Modular interfaces shift incremental awards to PAC-3 MSE, MBDA, or another qualified effector and weaken incumbent capture	Raytheon retains core sensor, command, and effector positions while sharing system economics	Wider Aegis, NASAMS, and allied integration expands Raytheon-qualified launch opportunities faster than substitution erodes share

9. Forward Operating profit margin assumptions

The exact metric in this section is **Operating profit**. Raytheon's current TTM Operating profit margin is 12.12% on the sealed basis. No corporate/unallocated, FAS/CAS, acquisition-accounting, pension, interest, tax, or statutory bridge item is assigned to Raytheon. Product and service historical margins are not disclosed; the line-level terminal margins below are explicit analyst assumptions used only to reconstruct the segment rollup.

Case	Product terminal margin on Operating profit basis	Service terminal margin on Operating profit basis	Intersegment / other terminal margin	Blended terminal Operating profit margin	Change from TTM
Bear	9.60%	10.40%	9.00%	9.70%	(243) bps
Base	13.00%	12.10%	12.00%	12.89%	+76 bps
Bull	15.00%	13.20%	14.00%	14.78%	+266 bps

The bear decline is deliberately larger than 100 basis points. The mechanism is adverse fixed-price EAC revisions plus under-absorbed new capacity, supplier disruption, expediting, labor inefficiency, and less favorable program mix. Services provide slight stability but cannot offset product overruns. This outcome is consistent with Raytheon's history: segment margin

was only 9.03%-9.72% in FY2022-FY2024 [data_package §3, Raytheon table], so a return to roughly 9.7% does not require an unprecedented event.

The base expansion is 76 basis points from TTM and requires specific operating progress. The initial 13.24% proposal would have put terminal margin above every disclosed annual margin and 64 basis points above the best recent quarterly margin despite continued aggregate RTX EAC losses and a rising fixed-price mix; that burden was too high for a 55%-probability case. At the revised 12.89%, higher mature-program volume must still improve factory utilization; learning-curve gains on repeated missile and sensor production must offset ordinary negative EAC adjustments; capacity must enter service in phase with supplier output; and funded backlog must reduce start-stop inefficiency. Even this revised margin contributes about $0.324 billion of terminal Operating profit above a flat-TTM-margin outcome. That is an explicit execution hurdle, not a free scale assumption.

The bull expansion is 266 basis points. It requires a favorable combination: AMRAAM, GEM-T, SM-3, SM-6, and related systems scale on schedule; suppliers meet volume and quality needs; classified programs transition without material charges; fixed-price learning outpaces inflation; and international production mix is profitable. At 14.78%, the terminal blended margin would be materially above the five-year history. It is possible under high utilization, but the execution burden justifies only a 20% probability.

The margin model does not assume that fixed-price work is intrinsically superior. Fixed-price production earns the bull margin only when cost and schedule performance are strong. The same mix produces the harshest downside in the bear case. Cost-type and service work stabilize dollars of Operating profit, while limiting percentage upside. This asymmetry is why the bear probability is 25%, above the bull's 20%, despite the exceptionally strong backlog.

10. Segment rollup - exact bottom-up five-year compounding

The table below multiplies each TTM analytical anchor by the five annual growth factors in §8, then applies the §9 terminal margin. Totals are direct sums; there is no top-down plug.

Case	Modeling line	TTM anchor	Exact five-year growth factor	TTM+5y revenue	Operating profit margin	TTM+5y Operating profit
Bear	External products	$25.670B	1.15873x	$29.745B	9.60%	$2.855B
Bear	External services	$4.085B	1.05603x	$4.314B	10.40%	$0.449B
Bear	Intersegment / other	$0.161B	1.00000x	$0.161B	9.00%	$0.014B
Bear	**Raytheon total**	**$29.916B**	**1.14318x**	**$34.219B**	**9.70%**	**$3.319B**
Base	External products	$25.670B	1.44820x	$37.176B	13.00%	$4.833B
Base	External services	$4.085B	1.25194x	$5.114B	12.10%	$0.619B
Base	Intersegment / other	$0.161B	1.15927x	$0.187B	12.00%	$0.022B
Base	**Raytheon total**	**$29.916B**	**1.41986x**	**$42.476B**	**12.89%**	**$5.474B**
Bull	External products	$25.670B	1.63885x	$42.070B	15.00%	$6.310B
Bull	External services	$4.085B	1.40194x	$5.727B	13.20%	$0.756B
Bull	Intersegment / other	$0.161B	1.27628x	$0.206B	14.00%	$0.029B
Bull	**Raytheon total**	**$29.916B**	**1.60456x**	**$48.002B**	**14.78%**	**$7.095B**

The implied segment revenue CAGRs are 2.72% bear, 7.26% base, and 9.92% bull. Product lines account for essentially all of the scenario dispersion. Every case reconciles exactly to the product-level assumptions within rounding: bear $29.745B + $4.314B + $0.161B = $34.219B; base $37.176B + $5.114B + $0.187B = $42.476B; and bull $42.070B + $5.727B + $0.206B = $48.002B.

The associated Operating profit tie-outs are also direct. Bear $2.855B + $0.449B + $0.014B = $3.319B. Base $4.833B + $0.619B + $0.022B = $5.474B. Bull $6.310B + $0.756B + $0.029B = $7.095B. Rounded displayed margins are derived from the unrounded line calculations; small differences from multiplying a rounded total by a rounded margin are presentation rounding, not plugs.

The probability distribution is deliberately non-uniform: 25% bear, 55% base, and 20% bull. Demand evidence is strong enough to make the base case dominant, while execution, fixed-price, supplier, and budget risks warrant a higher bear probability than bull probability. Probability-weighted terminal revenue is approximately $41.52 billion and probability-weighted Operating profit is approximately $5.26 billion, but synthesis should retain the discrete scenarios rather than treating the weighted value as a fourth case.

11. Key risks and wildcards

1. Fixed-price EAC deterioration - primarily bear

Raytheon's fixed-price revenue is nearly 60% of external sales, and that portion has grown faster than cost-type revenue. If labor, suppliers, design maturity, testing, or inflation are worse than assumed, estimated total contract costs can rise before cash losses are fully visible. The data package only provides aggregate RTX EAC adjustments, not program-level Raytheon amounts [data_package §10, gap row 7]. The bear case therefore uses a 9.70% terminal Operating profit margin, roughly the FY2024 level, even while revenue grows.

2. Supplier capacity and industrial synchronization - bear/base/bull swing factor

More factory floor space does not by itself create missile output. Rocket motors, energetics, specialty metals, castings, electronics, seekers, chips, test equipment, and cleared labor must arrive at the same rate. A bottleneck at one sole-source supplier can strand other capacity. The base assumes gradual coordination; the bull assumes high yield and on-time supply; the bear assumes shortages shift from Raytheon's plants to upstream tiers.

3. Appropriations, continuing resolutions, and program quantities - primarily bear

Backlog is funded contract work, but future bookings depend on annual budgets and supplemental appropriations. Continuing resolutions can restrict new-start programs and disrupt procurement cadence. Congress can also alter quantities or redirect priorities. The FY2026 U.S. budget category is supportive, but a five-year forecast spans multiple political cycles. The bear case assumes timing and quantity pressure rather than cancellation of the core air-defense mission.

4. International demand, export approvals, and local-content policy - bull and bear

International backlog mix at 47% expands the addressable opportunity [data_package §6, Raytheon row 3]. NATO's rising defense spending supports replenishment and air-defense procurement. Yet FMS approvals, foreign-government budgets, geopolitical relationships, offsets, and local production requirements can delay conversion. European customers may choose MBDA, national champions, or mixed architectures to preserve sovereignty. International demand therefore increases both growth potential and timing uncertainty.

5. Patriot and layered-defense ecosystem economics - all cases

Patriot's installed base is a major advantage, but the economics are shared with Lockheed's PAC-3 MSE and other subsystem providers. PAC-3 capacity expansion may lift total Patriot demand, while also increasing Lockheed's value capture. PAC-3 integration into Aegis creates an alternative path to naval missile defense. Base assumes ecosystem expansion benefits Raytheon; bull assumes GEM-T/LTAMDS and broader Patriot content scale alongside PAC-3; bear assumes customers allocate more incremental dollars to competing effectors or sovereign alternatives.

6. AMRAAM output and rocket-motor availability - all cases

AMRAAM serves air-to-air and NASAMS missions and is named repeatedly as a demand driver, but the data package provides no program revenue. A successful output ramp makes AMRAAM a base/bull contributor. Rocket-motor or electronic-component constraints turn it into a bear lever. The model deliberately reflects AMRAAM through product-growth scenarios instead of assigning invented dollars.

7. SM-3 and SM-6 production, tests, and lot timing - all cases

These programs address high-priority naval and missile-defense missions, but production is complex, quantities can be lumpy, and tests matter. Multi-year procurement can improve supplier visibility; failed tests, configuration changes, or component shortages can defer deliveries. Bull requires successful capacity scaling; base assumes steady funded growth; bear assumes schedule and lot-timing friction.

8. Classified-program mix - primarily bear with bull optionality

The $4.1 billion highlighted classified/confidential award group shows demand, but the investor cannot see program-level revenue, milestone risk, or margin. Classified work may have strong barriers and follow-on potential, supporting the bull case. It may also contain technically immature fixed-price development, supporting the bear. The base assumes ordinary conversion and no hidden windfall.

9. Countermeasure and technology disruption - longer-term bear

Threats evolve toward maneuvering missiles, hypersonics, drones, electronic attack, saturation, and lower-cost mass. Expensive interceptors can face unfavorable cost-exchange ratios against cheap drones or decoys. Raytheon must continue investing in sensors, software, discrimination, electronic protection, and lower-cost effectors. Failure to adapt could erode share even with a large current installed base.

10. Customer concentration and government bargaining power - all cases

Virtually all Raytheon revenue comes from governments, and the U.S. government is dominant. This produces mission durability but weakens conventional pricing power. Audits, cost scrutiny, contracting rules, and political oversight constrain economics. The moat protects program positions more than margins. Any valuation synthesis should avoid applying consumer-platform economics to this segment.

11. Capacity, capex, and cash conversion - primarily bear/base

Raytheon capex rose to $771 million in FY2024, was $644 million in FY2025, and reached $365 million in H1 FY2026 [data_package §0a, capex table]. More expansion can create working-capital and cash demands before revenue. This appendix's Operating profit growth does not imply equivalent free cash flow. Synthesis must separately model consolidated capex and working capital.

12. Blue Canyon divestiture and portfolio boundary - primarily bear/base uncertainty

RTX announced a $620 million sale price, but the data package does not give Blue Canyon revenue or Operating profit. The segment forecast cannot responsibly deduct an invented earnings amount. If the divested operation contributed material growth or margin, the current model modestly overstates organic continuity; if it was subscale or low-margin, the effect is limited. This should be resolved only if a future verified package supplies the figures.

Scenario summary

Case	Segment TTM+5y Revenue	Exact profit metric	Segment TTM+5y Profit Margin	Segment TTM+5y Profit	Probability
Bear	$34.219B	Operating profit	9.70%	$3.319B	25%
Base	$42.476B	Operating profit	12.89%	$5.474B	55%
Bull	$48.002B	Operating profit	14.78%	$7.095B	20%

The investment conclusion at segment level is balanced. Raytheon has strong demand visibility, real installed-system advantages, and a credible path to above-historical growth as munitions output and capacity expand. The segment also carries concentrated government exposure, significant fixed-price risk, supplier dependencies, and opaque classified/program mix. The base case therefore awards the backlog a 7.26% five-year revenue CAGR and a 76-basis-point margin improvement, while refusing to extrapolate doubled output or one quarter of 18% growth. The bear case demonstrates that high backlog does not eliminate economic downside: weak conversion and EAC pressure can leave 2031 Operating profit below the current TTM level despite higher revenue. The bull case is valuable but appropriately less likely than the bear because it requires demand, appropriations, supplier execution, production learning, and program mix to align simultaneously.

Appendix S - Synthesis (Combined Earnings Model)

RTX Corporation - Synthesis (Combined Earnings Model)

Executive result

The mechanically consolidated model is cleared: all 11 required tie-outs pass. The valuation result does not. At the sealed USD 223.25 common-share price, the base case produces TTM+5y EPS of USD 9.896 per listed common share versus required EPS of USD 14.883 for a P/E of 15. Base-case EPS times 15 is USD 148.43, giving a **negative 33.5% cushion**. The binary P/E-15 gate is therefore **FAIL**. Even the 20%-probability bull case reaches only USD 13.672 of EPS and USD 205.07 at 15 times, 8.1% below the packet price. The conclusion comes from the reviewed segment endpoints, the sealed statutory bridge, an explicit five-year share path, and no residual plug.

1. Anchors

- Today: **2026-08-07**.
- Fiscal year end: **December 31**.
- TTM anchor: **2026-06-30**.
- TTM quarters represented: **Q3 FY2025 + Q4 FY2025 + Q1 FY2026 + Q2 FY2026**. The controlling arithmetic is FY2025 less H1 FY2025 plus H1 FY2026.
- Latest completed FY for the historical tie-out: **FY2025**.
- Horizon: **2031-06-30**, exactly 5.0 calendar years after the TTM end. No forecast line uses six fiscal years or substitutes FY2025 for the TTM base.
- Valuation security: **XNYS:RTX**, RTX Corporation common stock, $1 par value; `COMMON_SHARE`; primary New York Stock Exchange listing; raw exchange close basis.
- Valuation price: **USD 223.25 per common share**, session 2026-08-06, timestamp 2026-08-06 16:00:02-04:00. Raw price USD 223.25 times raw-to-packet factor 1 equals packet price USD 223.25.
- Quote evidence: Financial Modeling Prep quote endpoint; raw-source SHA-256 `16cc228218e6a42a82ecb35fe1f2773ef4e125b493b0dd9a190beeaa990f3349`; QFR-sealed packet SHA-256 `8b56a59f42ac118ad94e1ba69da04b10f00145a41fc008a598876ab11d49c9e4`.
- Quote actionability: strict validator passed at aware SGT time 2026-08-07 09:51:57+08:00; packet expiry is 2026-08-08 04:00:00+08:00.
- Reporting and quote currency: **USD / USD**. The dated FX factor is identity, 1.000000 USD quote currency per USD reporting currency, dated 2026-08-06.
- Share bridge: official Q2 FY2026 diluted weighted-average common shares 1,365.0M on a 2026-06-30 financial basis times split factor 1.000000 equals 1,365.0M quote-basis diluted financial shares. `NO_INTERVENING_SPLIT` applies from 2026-06-30 to 2026-08-06. The split evidence hash is `cba2a131b959d22a12b3a532ae0b787d32d1b82fd5f85ada82a78e1799a8cb99`.
- Listed-unit bridge: depositary ratio 1.000000 times share-class factor 1.000000 equals 1.000000 financial shares per listed common share. Therefore 1,365.0M quote-basis financial shares divided by 1 equals 1,365.0M listed-unit equivalents.
- Unit evidence: RTX Q2 FY2026 Form 10-Q cover and common-stock disclosures, hash `9f013f79edcb3e5eba91055c1da62413a58f51ba47e7380d33744949362f3ec2`.
- Historical statutory bridge: exact-byte SHA-256 `29603ba7cdba77ed01071c2445857340e16869b49e4a5b7f6513576a18dddf2b`; validator returned `STATUTORY_BRIDGE_VALID` with exact hash equality. `gate_manifest.json` records DR status cleared and `STATUTORY BRIDGE VERIFIED - CLEARED FOR FORECASTING`.

- Peer-review gate: the manifest records `completed_and_peer_reviewed`, `no issues remain`, and zero unresolved issues for Collins Aerospace, Pratt & Whitney, and Raytheon. Recomputed appendix hashes equal the manifest hashes.

These anchors keep price, earnings, security unit, and horizon on one basis. The packet is immutable; no replacement price or alternate share basis appears anywhere in the model.

2. Segment-level forward assumptions

The three reviewed appendices use the same issuer-defined metric, exactly **Operating profit**. The copied dispatch summaries were not accepted on faith. Each endpoint below was independently reproduced from the appendix line items: Collins stream revenue and profit sums tie within USD 0.000001B; Pratt product and service sums tie within USD 0.001B; Raytheon product, service, and intersegment sums tie within USD 0.001B.

Segment	Exact profit metric	TTM revenue (USD B)	Bear TTM+5y rev	Base TTM+5y rev	Bull TTM+5y rev	Bear profit margin	Base profit margin	Bull profit margin
Collins Aerospace	Operating profit	31.169	37.125348	41.176506	44.402082	14.638%	17.977%	19.882%
Pratt & Whitney	Operating profit	34.981	41.760	48.577	55.244	6.59%	11.49%	14.13%
Raytheon	Operating profit	29.916	34.219	42.476	48.002	9.70%	12.89%	14.78%

Sources: `appendix_B_collins_aerospace.md` Sections 8-10, `appendix_B_pratt_whitney.md` Sections 8-10, and `appendix_B_raytheon.md` Sections 8-10. Scenario probabilities are consistently 25% bear, 55% base, and 20% bull in all three reviewed appendices.

The reproduced horizon Operating profit values are Collins USD 5.434350B, USD 7.402435B, and USD 8.828067B; Pratt USD 2.752B, USD 5.580B, and USD 7.805B; and Raytheon USD 3.319B, USD 5.474B, and USD 7.095B for bear, base, and bull. No segment contains corporate expense, FAS/CAS, acquisition-accounting amortization, pension income, interest, tax, or noncontrolling interest.

3. Combined revenue build

Gross segment sales are consolidated with the named revenue line `Eliminations and other revenue`. TTM eliminations were negative USD 2.566B on gross segment sales of USD 96.066B, or negative 2.6711%; FY2025 eliminations were negative USD 2.552B on USD 91.155B, or negative 2.7996%. The bear uses negative 2.80%, base uses the exact TTM ratio, and bull uses negative 2.50%. These are disclosed scenario rules, not a residual. They remain within the recent observed range except that bull allows modest consolidation leverage.

Line	Bear	Base	Bull
Sum of segment TTM+5y revenue (USD B)	113.104348	132.229506	147.648082
Eliminations and other revenue (USD B)	(3.166922)	(3.531956)	(3.691202)
Combined TTM+5y revenue (USD B)	**109.937426**	**128.697550**	**143.956880**
Implied TTM to TTM+5y CAGR over 5.0 years	3.29%	6.60%	9.01%

Arithmetic is exact before display: gross segment sales plus the separately forecast elimination equals consolidated revenue. The TTM base is USD 93.500B, reproduced as USD 96.066B gross segment revenue less USD 2.566B eliminations. The base endpoint therefore reflects 6.60% annual consolidated growth from 2026-06-30 through 2031-06-30.

4. Combined statutory operating-income build

Every non-segment operating line comes from data-package Section 3a and retains its exact label and classification. Forecast rules are deliberately simple and source-bound:

- `Eliminations and other` profit contributed 0.0592% of gross segment sales in FY2025 and 0.1603% in the TTM. Bear uses 0.0592%, base uses the midpoint 0.1098%, and bull uses 0.1603%.
- `Corporate expenses and other unallocated items` were 0.2863% of TTM gross segment sales. Bear uses a 0.3000% cost ratio, base retains 0.2863%, and bull uses 0.2500% to represent modest leverage.

- FAS/CAS operating adjustment was USD 0.753B in FY2025 and USD 0.725B TTM. Bear uses USD 0.650B, base USD 0.725B, and bull USD 0.753B. This is a bounded independent schedule, not a percentage of segment profit.
- Acquisition accounting adjustments were negative USD 2.005B in FY2025 and negative USD 1.993B TTM. Bear assumes no runoff by the horizon and retains negative USD 1.993B. Base assumes 50% runoff to negative USD 0.9965B. Bull assumes 75% runoff and no new M&A, leaving negative USD 0.49825B. No line is buried inside segment margin.

Line	Bear	Base	Bull
Sum of segment TTM+5y Operating profit (USD B)	11.505350	18.456435	23.728067
Eliminations and other, corporate/unallocated (USD B)	0.067003	0.145152	0.236689
Corporate expenses and other unallocated items (USD B)	(0.339313)	(0.378522)	(0.369120)
Consolidated segment-profit metric (USD B)	11.233040	18.223065	23.595636
FAS/CAS operating adjustment (USD B)	0.650000	0.725000	0.753000
Acquisition accounting adjustments (USD B)	(1.993000)	(0.996500)	(0.498250)
Combined statutory TTM+5y operating income (USD B)	**9.890040**	**17.951565**	**23.850386**
Implied statutory OI margin	9.00%	13.95%	16.57%

The base operating build is 18.456435 + 0.145152 - 0.378522 + 0.725000 - 0.996500 = USD 17.951565B. It is not a top-down target. The large base increase from TTM statutory OI of USD 10.485B is driven mainly by the three reviewed segment profit forecasts and partial acquisition-accounting runoff; both drivers remain visible.

5. Net income and EPS build

Below-line items remain separate. Non-service pension income is modeled at USD 0.900B bear, the USD 1.168B TTM level in base, and USD 1.300B bull. Interest expense, net is held at negative USD 1.656B in bear, improves to negative USD 1.400B in base, and negative USD 1.100B in bull, consistent with the Section 8 decline in matched borrowings from USD 37.904B at FY2025 to USD 37.383B at 2026-06-30. These assumptions do not imply a complete terminal debt path; that absence is flagged in Section 5a.

The normalized tax schedule uses 21.0% bear, 19.0% base, and 18.0% bull. For context, the exact TTM tax rate was USD 1.872B divided by USD 9.997B, or 18.7256%, and FY2025 was 19.05%. Noncontrolling interest in subsidiaries' earnings is not merged into tax. It is projected as 13.0% of Pratt Operating profit, matching 12.98% in FY2025 and 13.02% in the TTM.

Line	Bear	Base	Bull
Combined TTM+5y statutory OI (USD B)	9.890040	17.951565	23.850386
Interest expense, net (USD B)	(1.656000)	(1.400000)	(1.100000)
Other income: non-service pension income (USD B)	0.900000	1.168000	1.300000
Pretax income (USD B)	9.134040	17.719565	24.050386
Normalized tax rate	21.0%	19.0%	18.0%
Income tax expense (USD B)	(1.918148)	(3.366717)	(4.329070)
Noncontrolling interest in subsidiaries' earnings (USD B)	(0.357760)	(0.725400)	(1.014650)
Net income attributable to common (USD B)	**6.858131**	**13.627448**	**18.706667**
Quote-basis diluted financial shares at TTM+5y (M)	1,378.236	1,377.116	1,368.292

Line	Bear	Base	Bull
EPS in USD per quote-basis financial share	4.976	9.896	13.672
Financial shares per listed common share	1.000000	1.000000	1.000000
EPS in USD per listed unit	4.976	9.896	13.672
FX: quote USD per reporting USD	1.000000	1.000000	1.000000
EPS in quote currency per listed unit	**USD 4.976**	**USD 9.896**	**USD 13.672**

The mandatory bridge is applied in every case: reporting-currency NI divided by quote-basis diluted financial shares equals reporting-currency EPS per financial share; that result times 1.000000 financial shares per listed unit times 1.000000 quote/reporting FX equals USD EPS per listed common share. For base, USD 13.627448B divided by 1,377.116M equals USD 9.895639; multiplying by 1 and 1 leaves USD 9.895639.

5a. Return-method input bridge

This section supplies both permitted return-method input families. It does not choose the controlling method; CS does. Where Section 8 has only a current balance-sheet observation and no source-bound terminal path, the terminal value is explicitly `Unavailable`. No residual net-debt plug is created.

Input	Bear	Base	Bull	Source-bound treatment
Statutory operating income at 2031-06-30 (USD B)	9.890	17.952	23.850	Section 4 mechanical consolidation
Normalized cash tax rate	21.0%	19.0%	18.0%	Section 3a TTM and FY tax history; scenario schedule
Normalized NOPAT (USD B)	7.813	14.541	19.557	Statutory OI times one minus normalized tax rate
Terminal cash (USD B)	Unavailable	Unavailable	Unavailable	Only 2026-06-30 cash of 8.305 is disclosed in Section 8
Terminal gross debt excluding leases (USD B)	Unavailable	Unavailable	Unavailable	Only 2026-06-30 matched borrowings of 37.383 is disclosed
Terminal lease liabilities (USD B)	Unavailable	Unavailable	Unavailable	Only 2026-06-30 noncurrent operating lease of 1.473 is disclosed
Terminal preferred equity (USD B)	Unavailable	Unavailable	Unavailable	Section 8 provides no source-bound preferred-equity path
Terminal minority interest balance (USD B)	Unavailable	Unavailable	Unavailable	Earnings deduction is modeled; balance-sheet claim is not disclosed in Section 8
Other terminal senior claims (USD B)	Unavailable	Unavailable	Unavailable	No source-bound scenario path in Section 8
Separately valued non-operating assets (USD B)	Unavailable	Unavailable	Unavailable	Pension income is modeled below line; no separable asset value supplied
Diluted listed-equivalent shares (M)	1,378.236	1,377.116	1,368.292	Explicit Section 6 path; unit factors equal 1

EV/NOPAT cannot control without terminal capital-structure paths. The fully reconciled EPS/P-E method remains available and is the method used for the binary P/E-15 test below.

6. Share-count path

The path starts from the packet's 1,365.0M quote-basis diluted financial shares, not the 1,362.3M TTM weighted-average flow denominator. Official TTM stock-compensation cost is USD 0.591B. Dividing by the packet price of USD 223.25 as a transparent issuance-price approximation produces 2.647M shares per year. This is an approximation, not a claim that every award settles at the packet price. The result is cross-checked to the actual diluted-share increase: FY2025 weighted-average shares were 1,356.4M, the TTM average was 1,362.3M, and the Q2 packet basis is 1,365.0M. The recent actual rise of 5.9M to 8.6M exceeds the 2.647M annual cost/price approximation, so this path is not aggressively dilutive, but it is explicit.

Buybacks follow data-package Section 7. FY2024 repurchases were USD 0.444B, FY2025 USD 0.050B, and H1 FY2026 zero. Bear assumes zero annual buybacks, base assumes the FY2025 USD 0.050B pace, and bull assumes the FY2024 USD 0.444B pace. A constant USD 223.25 average repurchase price is used only to convert cash to retirement units; it is not a replacement valuation quote. The model does not revive the exceptional USD 12.870B FY2023 accelerated repurchase.

Case and year	Starting quote-basis financial shares (M)	Buyback (USD B)	Avg price (USD)	Shares retired (M)	SBC issuance (M)	Ending quote-basis financial shares (M)
Bear +1	1,365.000	0.000	223.25	0.000	2.647	1,367.647
Bear +2	1,367.647	0.000	223.25	0.000	2.647	1,370.295
Bear +3	1,370.295	0.000	223.25	0.000	2.647	1,372.942
Bear +4	1,372.942	0.000	223.25	0.000	2.647	1,375.589
Bear +5	1,375.589	0.000	223.25	0.000	2.647	1,378.236
Base +1	1,365.000	0.050	223.25	0.224	2.647	1,367.423
Base +2	1,367.423	0.050	223.25	0.224	2.647	1,369.847
Base +3	1,369.847	0.050	223.25	0.224	2.647	1,372.270
Base +4	1,372.270	0.050	223.25	0.224	2.647	1,374.693
Base +5	1,374.693	0.050	223.25	0.224	2.647	1,377.116
Bull +1	1,365.000	0.444	223.25	1.989	2.647	1,365.658
Bull +2	1,365.658	0.444	223.25	1.989	2.647	1,366.317
Bull +3	1,366.317	0.444	223.25	1.989	2.647	1,366.975
Bull +4	1,366.975	0.444	223.25	1.989	2.647	1,367.634
Bull +5	1,367.634	0.444	223.25	1.989	2.647	1,368.292

The five-year identities are exact before rounding. Bear: 1,365.000 + 5 times 2.647256 = 1,378.236M. Base: 1,365.000 + 5 times 2.647256 less 5 times 0.223964 = 1,377.116M. Bull: 1,365.000 + 5 times 2.647256 less 5 times 1.988802 = 1,368.292M.

7. P/E-15 test

Required EPS is USD 223.25 divided by 15, or **USD 14.883333 per listed common share**.

Case	EPS in USD per listed unit at TTM+5y	EPS times 15	Packet price per listed unit	Cushion	Pass?
Bear	4.976	74.64	223.25	(66.6%)	FAIL
Base	9.896	148.43	223.25	(33.5%)	**FAIL**
Bull	13.672	205.07	223.25	(8.1%)	FAIL

Cushion equals EPS times 15 less USD 223.25, divided by USD 223.25. The confident case is base, not bull. Because base EPS times 15 is below the same-unit, same-currency packet price, the thesis fails on price regardless of the bull scenario. The bull shortfall reinforces, but does not control, the verdict.

8. Reflexivity check against reported financials

The TTM anchor is reconstructed before forecast compounding.

TTM reconciliation line	Arithmetic (USD B)	Reported or sealed endpoint	Residual	Result
Gross segment revenue	31.169 + 34.981 + 29.916 = 96.066	96.066	0.000	PASS
Consolidated revenue	96.066 - 2.566 = 93.500	93.500	0.000	PASS
Segment Operating profit	5.275 + 2.972 + 3.627 = 11.874	11.874	0.000	PASS
Consolidated segment-profit metric	11.874 + 0.154 - 0.275 = 11.753	11.753	0.000	PASS
Statutory operating income	11.753 + 0.725 - 1.993 = 10.485	10.485	0.000	PASS
Pretax income	10.485 + 1.168 - 1.656 = 9.997	9.997	0.000	PASS
Net income attributable to common	9.997 - 1.872 - 0.387 = 7.738	7.738	0.000	PASS

The latest completed FY sanity check also has zero residual: FY2025 segment Operating profit of 4.923 + 2.596 + 3.227 = 10.746; plus 0.054 eliminations and other and negative 0.248 corporate expense gives 10.552; plus 0.753 FAS/CAS and negative 2.005 acquisition accounting gives statutory OI of 9.300. Adding 1.182 pension income and negative 1.749 interest gives pretax income of 8.733. Deducting 1.664 tax and 0.337 noncontrolling interest gives net income of 6.732. All are exact to the packet's USD 1M scale.

9. Latest interim bridge reconciliation

The cumulative interim bridge is **TRIGGERED**. The controlling formula is `FY2025 - comparable H1 FY2025 + H1 FY2026`. Both interim periods cover January 1 through June 30, and the result covers July 1, 2025 through June 30, 2026. No quarterly observation is added to the cumulative H1 bridge, so there is no overlap.

Flow (USD M)	FY2025	Less H1 FY2025	Add H1 FY2026	TTM ended 2026-06-30	Residual
Revenue	88,603	(41,887)	46,784	93,500	0
Operating profit	9,300	(4,181)	5,366	10,485	0
Pretax income	8,733	(3,998)	5,262	9,997	0
Net income attributable to common	6,732	(3,192)	4,198	7,738	0

The share-month bridge also ties: `(1,356.4M times 12 - 1,352.9M times 6 + 1,364.7M times 6) divided by 12 = 1,362.3M`. Historical TTM EPS is USD 7.738B divided by 1,362.3M, or USD 5.6808. This historical weighted-average denominator is not substituted for the packet's 1,365.0M starting point in the forward security-unit path.

10. Sensitivity

Each sensitivity holds all non-tested base variables fixed. Collins revenue changes use its exact blended base CAGR of 5.72% plus or minus 200 basis points over five years, with Collins terminal Operating profit margin held at 17.977%. Pratt margin changes apply plus or minus 200 basis points to USD 48.577B of base revenue, with NCI still at 13% of Pratt Operating profit. Share sensitivity changes the base ending diluted share count by plus or minus 5%. Tax sensitivity changes the 19% base rate by plus or minus 300 basis points.

Variable changed from base	Down case EPS	Base EPS	Up case EPS	Maximum absolute EPS impact
Collins blended revenue CAGR, minus or plus 200 bps	9.503	9.896	10.319	0.423
Pratt Operating profit margin, minus or plus 200 bps	9.416	9.896	10.375	0.480
Ending share count, minus or plus 5%	10.416	9.896	9.424	0.521
Tax rate, minus or plus 300 bps	10.282	9.896	9.510	0.386

Share count and Pratt margin are the largest tested EPS drivers, followed closely by Collins growth. None can close the USD 4.988 per-share gap between base EPS and required EPS on its own. Even the most favorable single-variable result, a 5% lower ending share count, produces only USD 10.416 of EPS versus USD 14.883 required. This is not a knife-edge valuation failure.

11. Combined earnings summary

Case	Revenue (USD B)	OI (USD B)	OI margin	NI (USD B)	EPS (USD per listed unit)	Probability	EPS times 15	Versus USD 223.25 per listed unit
Bear	109.937	9.890	9.00%	6.858	4.976	25%	74.64	(66.6%)
Base	128.698	17.952	13.95%	13.627	9.896	55%	148.43	(33.5%)
Bull	143.957	23.850	16.57%	18.707	13.672	20%	205.07	(8.1%)
Probability-weighted	127.059	17.116	13.47%	12.951	9.421	100%	141.31	(36.7%)

Probabilities are 25% bear, 55% base, and 20% bull because current backlog, production, aftermarket, and capacity evidence support continued expansion, while the management YELLOW gate, Pratt remediation, Raytheon fixed-price execution, supplier synchronization, and simultaneous margin-conversion requirements justify more downside weight than upside weight. The moat appendix passes the 2046 durability test but remains YELLOW; durability does not cure the price gap.

12. Tie-out checks

- **PASS - Reported-financial and statutory-bridge tie-out.** TTM revenue is 31.169 + 34.981 + 29.916 - 2.566 = USD 93.500B, exactly the consolidated endpoint. TTM OI is 5.275 + 2.972 + 3.627 + 0.154 - 0.275 + 0.725 - 1.993 = USD 10.485B, exactly the statutory endpoint. FY2025 OI is 4.923 + 2.596 + 3.227 + 0.054 - 0.248 + 0.753 - 2.005 = USD 9.300B. Residuals are zero, within both packet tolerance and 2%. Sources: `data_package.md` Sections 2 and 3a; sealed `statutory_bridge.json`.

- **PASS - NI, shares, listed unit, and FX equal EPS.** Bear: USD 6.858131B divided by 1,378.236M times 1 times 1 = USD 4.976020. Base: 13.627448 divided by 1,377.116 times 1 times 1 = USD 9.895639. Bull: 18.706667 divided by 1,368.292 times 1 times 1 = USD 13.671543. Sources: Sections 5-6 and `quote_packet.json`.

- **PASS - Segment sum at horizon.** Gross segment endpoints are USD 113.104348B, USD 132.229506B, and USD 147.648082B. The unadjusted consolidated-to-gross ratios are 97.20%, 97.33%, and 97.50%; every difference is exactly the named consolidation line `Eliminations and other revenue` of negative USD 3.166922B, negative USD 3.531956B, and negative USD 3.691202B. After this disclosed line, residuals are zero. Sources: Section 3 and the three segment Section 10 tables.

- **PASS - Product-to-segment rollup.** Collins bear/base/bull line revenues sum to 37.125348, 41.176506, and 44.402082 with zero residual. Pratt product plus service sums to 41.760, 48.577, and 55.244 within USD 0.001B. Raytheon product plus service plus intersegment sums to 34.219, 42.476, and 48.002 within USD 0.001B. Every residual is far below 1%. Sources: all three reviewed segment appendices, Section 10.

- **PASS - Weighted margin.** Collins stream profit divided by revenue gives 14.6378%, 17.9773%, and 19.8821%. Pratt product and service profit sums give 6.59%, 11.49%, and 14.13%. Raytheon line-profit sums give 9.70%, 12.89%, and 14.78%. Each is the revenue-weighted margin on the same exact Operating profit basis, within 1%. Sources: segment appendices Sections 9-10.

- **PASS - Share count and security-unit path.** Financial-statement diluted shares 1,365.0M times split factor 1 equals 1,365.0M quote-basis shares; division by depositary factor 1 times class factor 1 gives 1,365.0M listed equivalents. Five-year ending shares equal starting shares plus five years of SBC less retirements: 1,378.236M bear, 1,377.116M base, and 1,368.292M bull. Sources: `quote_packet.json`, data-package Section 7, quantitative-foundation P6, and Section 6.

- **PASS - Growth plausibility.** Collins and Pratt base stream CAGRs are below disclosed three-year rates. Raytheon base product CAGR of 7.69% exceeds 1.2 times its 4.94% FY2023-FY2025 rate, but the reviewed appendix supplies explicit quantified justification: USD 86B backlog, 1.77 rolling book-to-bill, capacity additions, and a decelerating 10.0%, 9.0%, 7.5%, 6.5%, 5.5% path rather than a permanent step-up. Source: `appendix_B_raytheon.md` Section 8.

- **PASS - Historical forward arithmetic.** For Collins, each TTM stream times one plus its stated constant CAGR to the fifth power reproduces all nine stream endpoints, with maximum displayed residual below USD 0.000001B. Pratt uses disclosed five-year factors from explicit annual paths: 18.891 times 1.125513054 plus 16.090 times 1.273966985 equals 41.760 bear; the corresponding base and bull sums equal 48.577 and 55.244 within USD 0.001B. Raytheon uses factors 1.15873, 1.05603, and 1.00000 in bear; 1.44820, 1.25194, and 1.15927 in base; and 1.63885, 1.40194, and 1.27628 in bull, reproducing 34.219, 42.476, and 48.002 within USD 0.001B. Every path contains exactly five annual factors. Sources: segment appendices Sections 8 and 10.

- **PASS - Recency anchor.** The base first-forward-year segment run rates are Collins USD 32.951B, Pratt USD 37.828B, and Raytheon USD 32.733B. Gross USD 103.512B times one minus the base 2.6711% revenue-elimination ratio equals USD 100.747B. Compared with reported TTM revenue of USD 93.500B, this is 7.75% growth, within the 10% limit and consistent with the latest segment YoY observations of 8%, 16%, and 18%. Sources: appendices Section 8 paths and `data_package.md` Section 5.

- **PASS - Period and horizon integrity.** FY2025 less H1 FY2025 plus H1 FY2026 uses identical January 1-June 30 coverage and has zero residual for revenue, OI, pretax income, NI, and diluted share-month arithmetic. No standalone quarter overlaps the cumulative bridge. All forecast CAGRs begin 2026-06-30 and end 2031-06-30, exactly 5.0 calendar years later. Sources: quantitative-foundation P4, Section 9, and segment appendices Sections 8-10.

- **PASS - Valuation, unit bridge, hashes, and probabilities.** Exact packet hashes recompute to `8b56a59f42ac118ad94e1ba69da04b10f00145a41fc008a598876ab11d49c9e4` and `29603ba7cdba77ed01071c2445857340e16869b49e4a5b7f6513576a18dddf2b`. XNYS:RTX, raw-close price USD 223.25, split 1, depositary 1, class 1, and FX 1 all reproduce the packet basis. EPS times 15 equals USD 74.640, USD 148.435, and USD 205.073. Probabilities sum to 25% + 55% + 20% = 100%. Probability-weighted EPS is 4.976020 times 25% + 9.895639 times 55% + 13.671543 times 20% = USD 9.420915. Base cushion is negative 33.5119%, and base controls the FAIL result. Sources: `quote_packet.json`, `statutory_bridge.json`, Sections 7 and 11.

Synthesis gate

SYNTHESIS CLEARED - 11/11 TIE-OUTS PASSED

P/E 15 gate: FAIL - cushion -33.5%

The arithmetic is coherent, source-bound, and unit-consistent. The investment bar is not met at the sealed price because the base case remains materially below required EPS and the bull case also falls short.

Appendix CS - Compounder Score

RTX Corporation - Compounder Score

Analysis date: 2026-08-07 Security: XNYS:RTX common stock Currency: USD TTM endpoint: 2026-06-30 Exact horizon: 2031-06-30, 5.000 years Primary valuation method: **P/E**

1. Executive Verdict

Compounder Score: 54/100. Business Quality Score: 51/80. 20% Return Underwriting / Stretch Score: 3/20. Score-implied classification: Reject. CIO actionability status: PASS.

RTX owns unusually durable aerospace and defense positions, but the evidence does not support calling the whole company a high-return compounder at the current price. Collins Aerospace has the best economics: certified installed content, a large aftermarket pool, and a TTM segment operating margin of 16.92%. Raytheon has trusted procurement positions and an USD 86 billion Q2 2026 backlog, but fixed-price work and estimate-at-completion risk constrain pricing power. Pratt & Whitney has genuine engine and service lock-in, yet the powder-metal matter demonstrates that technical lock-in can magnify liabilities as well as aftermarket rents. The consolidated five-year median statutory ROIC proxy is only 4.21%; the TTM proxy improves to 8.60%, or 9.64% on the disclosed segment-metric normalization. These returns are far below the rubric's high-ROIC threshold.

The valuation is the controlling problem. The sealed USD 223.25 price divided by TTM statutory diluted EPS of USD 5.6801 implies 39.30x. Fresh FMP evidence on 2026-08-07 gives RTX forward P/Es of 30.86x on FY2026 consensus EPS and 28.29x on FY2027 consensus EPS. Pure-defense peers LMT, NOC, and GD trade at roughly 17.86x, 18.68x, and 20.94x FY2027 consensus EPS, while GE Aerospace trades at 41.13x. The selected 14x bear, 20x base, and 24x bull exit P/Es therefore span a stressed historical/pre-merger RTX region, the current pure-defense peer center, and a justified premium for RTX's aerospace mix. All are below RTX's current and forward implied multiples. The P/E-15 entry gate remains a separate FAIL with negative 33.5% base cushion; it did not select these exit multiples.

With those independently justified multiples, gross USD annualized shareholder IRRs are **-17.71% bear, -0.81% base, and 9.16% bull**. The probability-weighted gross return is **-1.39%**, calculated from USD 208.1816444677 of probability-weighted terminal wealth, not by averaging scenario IRRs. After a 35 basis-point entry cost, 35 basis-point exit cost, a 30% dividend-withholding diagnostic, and source-bounded USD/SGD assumptions, net-SGD IRRs are **-18.99% bear, -1.40% base, and 9.12% bull**; the probability-weighted terminal-wealth CAGR is **-1.89%**. No scenario clears 20%.

The evidence supports a durable franchise with improving cash generation. It does not support today's price under a 20% shareholder-return hurdle. Trade execution is not authorized by this diagnostic, and the output contains no sizing, ranking, or trade instruction.

2. Data Source Map

Evidence need	Controlling evidence	Period / date	Treatment
Price, market cap, listed unit	`quote_packet.json`; fresh `raw/CS_20260807T1008/RTX_quote.json`	Price session 2026-08-06	USD 223.25; XNYS common share; packet SHA `8b56a59f42ac118ad94e1ba69da04b10f00145a41fc008a598876ab11d49c9e4`
Income statement and statutory EPS	`quant_foundation.md`; `statutory_bridge.json`; SEC 10-K and Q2 10-Q	FY2021-FY2025; TTM 2026-06-30	Official figures control; statutory bridge SHA `29603ba7cdba77ed01071c2445857340e16869b49e4a5b7f6513576a18dddf2b`
Balance sheet and liquidity	`quant_foundation.md` P6; SEC Q2 2026 10-Q	2026-06-30	Cash USD 8.305B, gross debt USD 37.383B, noncurrent operating lease USD 1.473B; diagnostics only under P/E
Cash flow, capex, dividends, repurchases, SBC	`quant_foundation.md` P6; SEC 10-K/10-Q	FY2023-TTM	Official classifications override FMP discrepancies
Share count and listed-unit bridge	`appendix_synthesis.md` Section 6; quote packet	2026-06-30 to 2031-06-30	Starts at 1,365.0M; scenario dilution and repurchase paths retained exactly
Segment economics and runway	Three reviewed `appendix_B_*` files	TTM and 2031-06-30	Collins, Pratt, and Raytheon use issuer-defined Operating profit

Evidence need	Controlling evidence	Period / date	Treatment
Management and capital allocation	`appendix_management.md`; proxy; SEC filings; DOJ and SEC releases	2024-2026	Management gate YELLOW; remediation and disclosure risks remain
Moat and competition	`appendix_moat.md`; SEC filings; peer filings	Through 2026-08-07	Moat gate YELLOW; 2046 test PASS
Historical and forward valuation	Fresh FMP quote, ratios, and analyst-estimate files in `raw/CS_20260807T1008/`	Pulled 2026-08-07	RTX plus GE, LMT, NOC, and GD; archived again in the investing data warehouse
Dividend evidence	RTX investor-relations dividend page; fresh FMP dividend file	Declared 2026-06-26	Current quarterly dividend USD 0.73; annualized run rate USD 2.92
USD/SGD	Fresh FMP `USDSGD_quote.json`	Pulled 2026-08-07	Spot 1.28285 SGD per USD; 52-week low/high 1.25884/1.30959
TAM and demand	Segment appendices and official backlog disclosures	Q2 2026	Backlog and installed-base evidence are credited; management TAM claims alone are not

The fresh CS source directory is `C:\Users\Admin\OneDrive\GPT\ER 2.0\RTX Corporation\raw\CS_20260807T1008`. It was copied without overwriting existing files to `C:\Users\Admin\OneDrive\Cowork\Investing\data warehouse\er2_live_pulls\RTX\pulse-cio-20260807T080139+0800\CS_20260807T1008`.

3. Key Financial and Quality Metrics

The post-merger comparable record is only five annual observations. The five- and ten-year columns below are shown where the raw history permits arithmetic, but they are lower-confidence because the Raytheon/United Technologies transaction, portfolio changes, and the pandemic break comparability. They are not used to manufacture a high ROIIC conclusion.

Metric	Latest 1-year	3-year CAGR / aggregate	5-year CAGR / aggregate	10-year CAGR / aggregate	Interpretation
Revenue	9.74%	9.72%	9.38%	4.68%	Five-year starts in merger/pandemic FY2020; ten-year includes predecessor structures
Statutory NOPAT proxy	42.28%	16.24%	Not meaningful	Not decision-useful	Recovery from Pratt charges and margin normalization inflate recent growth
Free cash flow	75.12%	21.81%	37.10%	6.48%	FY2020 was depressed; TTM FCF of USD 11.407B is stronger evidence
Diluted shares	0.95%	-2.99%	-0.02%	4.39%	Three-year decline reflects the exceptional 2023 ASR; recent dilution resumed
FCF / statutory NOPAT	150.06%	114.24% aggregate	108.70% aggregate	Not comparable	Cash conversion is strong, but working-capital timing helps TTM
Reported/simple ROIC	7.19% FY2025	4.99% median	4.21% median	Not comparable	Far below the rubric's 20%-plus high-return threshold
TTM ROIC including goodwill and lease	8.60%	-	-	-	USD 8.522B NOPAT divided by USD 99.070B average invested capital
TTM segment-normalized ROIC	9.64%	-	-	-	USD 11.753B segment-metric profit after tax over the same capital base
TTM ROIC excluding goodwill diagnostic	18.64%	-	-	-	Excludes USD 53.343B FY2025 goodwill from the TTM capital proxy; not controlling
Net debt including noncurrent lease / EBITDA proxy	2.05x	-	-	-	Manageable but not balance-sheet-light
SBC / revenue	0.63% TTM	-	-	-	Official USD 0.591B stock-compensation cost; FMP's broader classification is rejected
SBC / FCF	5.18% TTM	-	-	-	SBC is treated as an economic cost and explicit dilution source

Metric	Latest 1-year	3-year CAGR / aggregate	5-year CAGR / aggregate	10-year CAGR / aggregate	Interpretation
FCF yield	3.79%	-	-	-	USD 11.407B TTM FCF divided by USD 300.887B market cap
Dividend yield	1.31%	-	-	-	USD 2.92 current annualized dividend divided by USD 223.25

The R&D-capitalized ROIC version is **insufficient evidence**. RTX reports annual R&D expense, but the sealed record does not provide a supportable useful-life, amortization, and historical R&D-asset roll-forward on the same post-merger basis. Leases are already included in the TTM invested-capital proxy. Excluding goodwill increases the displayed return, but it does not erase the economic cost of capital deployed in the merger; therefore the 18.64% diagnostic is not substituted for the 8.60%-9.64% controlling range.

Current enterprise value is approximately USD 331.438B. EV/NOPAT is therefore about 38.89x using TTM statutory NOPAT of USD 8.522B. This is a valuation diagnostic only. EV/NOPAT cannot control the return model because no source-bound terminal cash, debt, lease, minority-interest, or senior-claim path exists.

4. Rubric Scorecard

Rubric item	Score	Maximum	Evidence-based reason
1A Normalized ROIC is high	1	5	Five-year median statutory proxy is 4.21%; TTM normalized proxy is 9.64%
1B ROIIC is high	0	8	A credible positive reinvestment denominator cannot be constructed after portfolio changes and falling invested capital
1C ROIIC is not deteriorating sharply	2	3	Operating recovery is visible, but the series is too unstable to award full credit
1D Unit economics support returns	2	3	Collins supports the case; Pratt life-cycle economics and Raytheon fixed-price work dilute it
1E Cash conversion is real	3	3	Five-year aggregate FCF/NOPAT is 108.70%; TTM conversion is stronger
1F ROIC is not an accounting artifact	2	3	Returns are not inflated by tiny capital, but goodwill and acquisition accounting complicate interpretation
Incremental returns on capital	**10**	**25**	Low consolidated returns and unproven ROIIC cap the score
2A Large remaining market opportunity	5	5	Commercial installed bases, defense replenishment, and official backlog are substantial
2B Proven ability to reinvest at scale	3	5	Scale is proven; high incremental returns are not
2C Organic growth opportunity	4	4	Aftermarket, production ramps, and allied defense demand support growth
2D Repeatable expansion playbook	2	3	Collins is repeatable; Pratt remediation and Raytheon execution are less so
2E Market structure supports long growth	2	2	Aerospace and defense are oligopolistic, regulated, and qualification-heavy
2F Growth does not require ROIC collapse	1	1	Base growth is internally financed, though returns remain modest
Reinvestment runway	**17**	**20**	Runway is strong, but return quality is not yet proven
3A Clear source of advantage	4	4	Certification, installed content, proprietary service parts, classified integration, and procurement trust
3B Pricing power	2	3	Collins has evidence; Pratt guarantees and Raytheon procurement constrain realized power

Rubric item	Score	Maximum	Evidence-based reason
3C Competitive evidence	2	3	Backlog and positions are real, but GE/CFM, Lockheed, and emerging defense entrants remain formidable
3D Customer stickiness	2	2	Platform switching and sustainment replacement are expensive and slow
3E Resilience through stress	1	2	Cash recovery is good; GTF proves major technical shocks can destroy economics
3F Low disruption risk	1	1	Physical, certified, and classified chokepoints limit direct AI disruption
Durability of moat	**12**	**15**	Durable but uneven across the three segments
4A Clean revenue and earnings quality	2	2	Statutory bridge and 11 synthesis tie-outs are exact
4B Cash flow supports earnings	2	2	Multi-year and TTM cash conversion support earnings
4C Conservative SBC and dilution treatment	1	2	This model treats SBC as cost; issuer dilution has recently resumed
4D Balance sheet strength	1	2	2.05x net leverage is manageable, not pristine
4E Transparent disclosures	1	1	Segment and remediation disclosures are detailed, though some operating baselines remain missing
4F No governance/accounting red flags	0	1	DOJ/SEC resolutions and the open GTF-disclosure investigation prevent credit
Accounting and financial quality	**7**	**10**	Clean arithmetic, but legal-control risk remains
5A Rational reinvestment priority	2	2	Current priority favors production, MRO capacity, and debt repair
5B Acquisition discipline	1	2	No recent major deal, but merger goodwill and prior portfolio complexity weigh on the record
5C Buyback discipline	1	2	The 2023 USD 12.870B ASR was exceptional; repurchases then collapsed
5D Incentive alignment	1	2	Proxy metrics include value measures, but short CEO duration limits evidence
5E Owner mentality	0	1	Insufficient evidence for full owner-operator behavior
5F Evidence from past decisions	0	1	GTF and control failures offset recent remediation credit
Capital allocation discipline	**5**	**10**	Improving, but the long-duration record is not strong enough
Business Quality Score	**51**	**80**	Strong runway and moat cannot offset low ROIC and unproven ROIIC
6A Base-case IRR at least 20%	0	6	Base gross USD IRR is -0.81%
6B Conservative exit multiple	2	4	Base 20x is far below current 39.30x and near peers, but still does not clear the hurdle
6C Bear case acceptable	0	3	Bear gross USD IRR is -17.71%
6D Reverse-return hurdle beatable	0	3	Required base terminal EPS is USD 26.953, versus modeled USD 9.896
6E Multiple does not price perfection	0	2	Current valuation capitalizes much more than the audited base case delivers
6F Cash returns help	1	2	Dividends add support, but the yield is only 1.31%
20% Return Underwriting / Stretch Score	**3**	**20**	No scenario clears 20%; probability-weighted return is negative
Compounder Score	**54**	**100**	Score-implied classification is Reject

5. ROIIC and Reinvestment Analysis

The evidence does not support a precise positive ROIIC claim. From FY2022 to FY2025, statutory NOPAT rose by approximately USD 2.735B, but reported invested capital declined from about USD 110.991B to USD 105.491B. A change-in-capital denominator would therefore be negative. Cash-flow reinvestment is also distorted: depreciation and amortization exceed capex in several years; portfolio divestitures, merger accounting, and the powder-metal charge alter both numerator and denominator; and a historical capitalized-R&D asset is unavailable. Calculating a very high ROIIC from a small or negative denominator would be exactly the accounting artifact this rubric is designed to reject.

Organic and acquisition-inclusive ROIIC are therefore marked **insufficient evidence**. Recent net acquisition spending is immaterial, but that does not make acquisition-inclusive ROIIC equal to organic ROIIC because the large merger goodwill base and divestitures remain economically relevant. The score receives zero of eight points for high ROIIC, not because current operations are necessarily value-destructive, but because the evidence cannot credibly show 25%-35% incremental returns.

Cash conversion is the strongest counterweight. TTM OCF of USD 14.206B less capex of USD 2.799B gives USD 11.407B FCF, or 147.4% of common net income and 133.9% of statutory NOPAT. The five-year aggregate FCF/NOPAT ratio is approximately 108.7%. That supports the reality of earnings, though investors should not extrapolate the TTM working-capital release as a permanent conversion rate.

6. Runway Analysis

The runway is large and source-bound. Collins serves commercial and military aircraft through avionics, power, controls, landing, nacelles, interiors, and mission systems. Its installed positions create spares, repair, overhaul, upgrades, and technical-support demand. Management identified roughly USD 105B of out-of-warranty aircraft content, a more concrete support than a promotional TAM claim.

Pratt has an approximately 8,000-engine GTF backlog in the verified package, more than 13,000 GTF engines ordered, over 2,730 aircraft with more than 90 operators, and 21 MRO shops. This is a long service runway, but its return depends on durability and shop throughput. The powder-metal matter created a USD 2.9B 2023 pre-tax operating charge at RTX's share and USD 1.0B of customer-compensation cash use in each of 2024 and 2025. Demand is not the same as economic value creation.

Raytheon's Q2 2026 backlog of about USD 86B and 1.77 rolling book-to-bill support continued production growth. Air and missile defense, sensors, effectors, and allied replenishment have long demand tails. The risk is execution: supplier synchronization, fixed-price exposure, continuing resolutions, export approvals, and estimate-at-completion revisions can transfer value to customers even when backlog rises.

7. Moat Analysis

RTX's moat is tangible rather than narrative. Certification, decades of field data, proprietary repair specifications, installed tooling, qualified manufacturing processes, security clearances, classified facilities, export approvals, and trusted procurement make displacement slow and expensive. Collins has the strongest company-wide evidence because certified components can remain on an aircraft platform for decades and generate aftermarket demand. Pratt has deep technical and service lock-in, but current engine liabilities prove that lock-in does not guarantee owner economics. Raytheon benefits from fielded architectures, program history, and scarce production capability, though customers retain bargaining power and can mandate open architectures.

Pricing power is selective. Collins' margin rose from 11.25% in FY2021 to 16.92% TTM while revenue and services grew, supporting mix and some commercial power. Pratt's long-term guarantees and compensation obligations shift life-cycle risk back to the manufacturer. Raytheon's approximately 60% fixed-price FY2025 external sales expose it to inflation and execution. The moat gate is therefore YELLOW, while the specific 2046 durability test passes.

8. Accounting and Capital Allocation Analysis

The accounting foundation is publication-grade. The quantitative foundation passed eight of eight reconciliations, and the synthesis passed eleven of eleven tie-outs. TTM revenue, segment Operating profit, statutory operating income, pretax income, tax, noncontrolling interest, net income, shares, listed-unit factors, and EPS reconcile with zero residual at the stated

precision.

SBC is treated as a real cost. Official TTM stock-compensation cost is USD 0.591B, or 0.63% of revenue and 5.18% of FCF. The forward model converts that cost into 2.647M annual issuance units at the packet price and does not assume buybacks automatically offset dilution. FMP's broader stock-compensation classification is not used because the official SEC classification controls.

Capital allocation is mixed. The USD 12.870B FY2023 accelerated repurchase materially reduced shares, but it was exceptional and occurred while leverage and GTF risks were substantial. Repurchases fell to USD 0.444B in FY2024, USD 0.050B in FY2025, and zero in H1 2026 as debt declined. This repair is sensible. It does not erase the earlier decision record or the legal-control issues reflected in the management YELLOW gate.

9. 20% Return Underwriting

Primary valuation method: P/E. Statutory diluted EPS is fully reconciled, while terminal capital-structure paths are unavailable. P/E therefore controls bear, base, bull, probability weighting, reverse-return/max-buy-price, and net-SGD. No terminal cash, debt, lease, minority-interest, or other claim is added to or subtracted from EPS times P/E.

Current valuation evidence: USD 223.25 divided by TTM statutory diluted EPS of USD 5.6800998312 equals 39.3038866632x. Fresh 2026-08-07 FMP estimates imply 30.86x FY2026 and 28.29x FY2027 for RTX. FY2027 peer P/Es are 17.86x LMT, 18.68x NOC, 20.94x GD, and 41.13x GE. RTX annual reported P/E ranged from 28.67x to 37.56x in FY2021-FY2025 and from 9.54x to 13.63x in FY2018-FY2019 before the current structure. This supports 14x bear, 20x base, and 24x bull. Base does not use terminal multiple expansion; it assumes material contraction.

Dividend evidence: RTX declared USD 0.73 per share on 2026-06-26, payable 2026-09-03. The current annualized rate is USD 2.92. Bear holds it flat; base grows it 4% annually; bull grows it 7% annually, approximately the latest declared increase. The five payments are modeled from year one through year five, producing cumulative distributions of USD 14.6000000000, USD 16.4482883502, and USD 17.9676089628.

The following tables show gross USD underwriting. Net-SGD adjustments appear after them.

Bear-case operating and return bridge

Bear case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Revenue	USD 93.500B	USD 109.937B	3.29%	Lower aerospace growth, GTF drag, and defense execution pressure
Operating margin	11.21%	9.00%	-2.21 pp	Pratt and Raytheon setbacks offset Collins durability
Operating earnings	USD 10.485B	USD 9.890B	-1.16%	Statutory operating income from the audited synthesis
Diluted share count	1,365.000M	1,378.236M	0.19%	SBC issuance with no buybacks
EPS	USD 5.6801	USD 4.9760	-2.61%	Statutory diluted EPS used in the P/E bridge
Valuation	39.30x P/E	14.00x P/E	-25.30x	Stressed level near pre-merger historical region and below peers
Share value	USD 223.25	USD 69.6643	-20.79%	USD 4.9760207976 EPS times 14.00x; no net-debt adjustment
Annual dividend	USD 2.92	USD 2.92	0.00%	Current official annualized run rate held flat
Dividend yield	1.31%	4.19%	2.88 pp	Annual dividend divided by endpoint share value
Five-year dividends	-	USD 14.6000	Cumulative	Five flat annual payments
Total ending value	USD 223.25	USD 84.2643	-17.7055739% gross USD IRR	Terminal share value plus cumulative dividends

Base-case operating and return bridge

Base case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Revenue	USD 93.500B	USD 128.698B	6.60%	Audited segment build with decelerating growth and backlog conversion
Operating margin	11.21%	13.95%	2.74 pp	Pratt recovery, Collins mix, Raytheon execution, and partial amortization runoff
Operating earnings	USD 10.485B	USD 17.952B	11.35%	Statutory operating income from the audited synthesis
Diluted share count	1,365.000M	1,377.116M	0.18%	SBC issuance less only USD 0.050B annual buybacks
EPS	USD 5.6801	USD 9.8956	11.74%	Statutory diluted EPS used in the P/E bridge
Valuation	39.30x P/E	20.00x P/E	-19.30x	Near FY2027 pure-defense peer center; no terminal multiple expansion
Share value	USD 223.25	USD 197.9129	-2.38%	USD 9.8956427781 EPS times 20.00x; no net-debt adjustment
Annual dividend	USD 2.92	USD 3.5526	4.00%	Moderate growth below recent declared increase
Dividend yield	1.31%	1.80%	0.49 pp	Annual dividend divided by endpoint share value
Five-year dividends	-	USD 16.4483	Cumulative	Five annual payments growing 4%
Total ending value	USD 223.25	USD 214.3611	-0.8093081% gross USD IRR	Terminal share value plus cumulative dividends

Bull-case operating and return bridge

Bull case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Revenue	USD 93.500B	USD 143.957B	9.01%	Strong aftermarket, GTF normalization, and defense capacity realization
Operating margin	11.21%	16.57%	5.35 pp	High segment margins and 75% acquisition-accounting runoff
Operating earnings	USD 10.485B	USD 23.850B	17.87%	Statutory operating income from the audited synthesis
Diluted share count	1,365.000M	1,368.292M	0.05%	SBC nearly offset by USD 0.444B annual buybacks
EPS	USD 5.6801	USD 13.6715	19.20%	Statutory diluted EPS used in the P/E bridge
Valuation	39.30x P/E	24.00x P/E	-15.30x	Premium to defense peers for aerospace mix, below RTX forward valuation
Share value	USD 223.25	USD 328.1171	8.00%	USD 13.6715459858 EPS times 24.00x; no net-debt adjustment
Annual dividend	USD 2.92	USD 4.0955	7.00%	Growth matching the latest declared increase, supported only in bull
Dividend yield	1.31%	1.25%	-0.06 pp	Annual dividend divided by endpoint share value
Five-year dividends	-	USD 17.9676	Cumulative	Five annual payments growing 7%
Total ending value	USD 223.25	USD 346.0847	9.1636855% gross USD IRR	Terminal share value plus cumulative dividends

Probability weights are exactly 25% bear, 55% base, and 20% bull. Expected terminal shareholder wealth is USD 208.1816444677 per share, so the probability-weighted gross USD return is `(208.1816444677 / 223.25)^(1/5) - 1 = -1.3879031785%`. It is not the arithmetic average of scenario IRRs.

The 20% reverse-return test requires terminal wealth of USD 555.51744 at the current price. Under base distributions of USD 16.4482883502 and the base 20x exit P/E, required terminal EPS is USD 26.9534575825. That implies 36.5374234% annual EPS growth from TTM statutory EPS, versus audited base EPS growth of 11.7423005%. The base-case maximum entry price for a 20% gross return is USD 86.1469360501. The probability-weighted maximum entry price is USD 83.6635338171.

Net-SGD diagnostic

Current FX is 1.28285 SGD per USD. Scenario exit FX uses the same live quote file's 52-week low, spot, and high: 1.25884 bear, 1.28285 base, and 1.30959 bull. Entry cost is 35 basis points and exit cost is 35 basis points. The dividend-withholding diagnostic is 30%. Entry outlay is USD 223.25 times 1.0035 times 1.28285, or SGD 287.3986494188. Exit cost applies only to terminal share-sale proceeds; withholding applies only to dividends.

Net-SGD case	Exit FX SGD/USD	Net terminal SGD wealth	Net-SGD IRR
Bear 25%	1.25884	SGD 100.2546044049	**-18.99%**
Base 55%	1.28285	SGD 267.7743636810	**-1.40%**
Bull 20%	1.30959	SGD 444.6660724239	**9.12%**
Probability-weighted	Scenario-weighted	SGD 261.2727656106	**-1.89%**

The net-SGD probability-weighted return is the CAGR of probability-weighted terminal SGD wealth. It is not the weighted average of the three displayed net-SGD IRRs. No treaty or account-specific withholding evidence was supplied, so 30% is deliberately labeled a diagnostic rather than personalized tax advice.

10. Hard Veto Checklist

Hard veto	Status	Evidence
ROIIC below cost of capital with no path	Watch	TTM operations improve, but credible ROIIC remains unavailable
High ROIC caused by tiny or negative capital	Pass	Reported capital is large; the problem is low, not artificially high, ROIC
Growth needs persistent external financing	Pass	Strong OCF and FCF fund current growth
Shares rise without per-share value creation	Watch	Recent dilution resumed; forward EPS still grows in base
Large acquisitions without return disclosure	Watch	No recent large deal, but merger goodwill and return history remain weak
FCF structurally lags earnings	Pass	Five-year and TTM cash conversion are strong
Concentration, regulation, cyclicality, or leverage can impair equity	Watch	Government procurement, aerospace cycles, and 2.05x leverage are material but not wipeout risks
20% return case requires terminal multiple expansion	**Fail**	Base requires approximately 54.47x terminal P/E to reach 20%, above current 39.30x
Flawless execution is needed to justify today's price	**Fail**	Even audited bull at 24x produces only 9.16% gross USD IRR
Moat cannot be explained	Pass	Certified installed content, proprietary aftermarket, and trusted defense procurement are concrete
Accounting, governance, or legal issues impair trust	Watch	DOJ/SEC resolutions and open GTF-disclosure investigation remain
Balance sheet can wipe out holders in downturn	Pass	Leverage is manageable and cash generation is strong

11. Final Decision

The score-implied classification is **Reject**, and the allowed CIO actionability status is **PASS**. The business has durable assets and a long runway, but the compounder rubric requires both high incremental returns and an entry price that can plausibly compound shareholder wealth at 20%. RTX currently provides neither: ROIIC is not credibly demonstrable, and the base return is negative under a peer-grounded, contracting terminal multiple.

Trade execution authorized: **false**. Method consistency across scenarios: **true**. Net-SGD uses the same P/E method: **true**. Double-count check: **passed**. Terminal cash, debt, and leases are disclosed as current balance-sheet diagnostics and are not added to or subtracted from EPS times P/E.

Compounder Score note: **54/100 - durable aerospace/defense franchises and strong cash conversion are offset by low consolidated ROIC, unproven ROIIC, and a valuation that fails the 20% hurdle.**

Business Quality Score note: **51/80 - runway and moat score well, but Pratt reliability, fixed-price defense risk, governance issues, and weak capital-return evidence cap quality.**

20% Return UW Score note: **3/20 - base gross USD IRR is -0.81%, bull is 9.16%, probability-weighted gross is -1.39%, and the 20% max-buy price is far below USD 223.25.**

12. Machine-Readable JSON

The complete machine-readable record, including full-precision gross and net-SGD terminal-wealth bridges, is stored in `compounder_score.json`. Controlling summary:


```
{
  "total_score": 54,
  "business_quality_score": 51,
  "valuation_underwriting_score": 3,
  "classification": "Reject",
  "primary_valuation_method": "PE",
  "base_case_irr": -0.008093080994606039,
  "probability_weighted_irr": -0.013879031785006712,
  "cio_status": "PASS",
  "trade_execution_authorized": false
}
```

Appendix CSA - Scoring Audit

RTX Corporation - Scoring Audit

Analysis date: 2026-08-07 Price anchor: USD 223.25 at the 2026-08-06 completed XNYS session TTM end: 2026-06-30 Horizon: 2031-06-30, exactly 5.0 years Audited primary valuation method: P/E

1. Original vs Audited Scores

The original scoring package is arithmetically coherent but too generous in three rubric rows. The return model itself clears the independent audit. The score does not. Two business-quality points were awarded for an ROIIC trend that cannot be measured, one full earnings-quality point was awarded largely because the statutory bridge reconciles despite a large recurring acquisition-accounting adjustment, and two valuation points were retained even though the 20% case requires severe multiple expansion. The audited classification remains Reject.

Item	Original	Audited	Notes
Business Quality Score / 80	51/80	48/80	ROIIC trend and earnings-quality evidence do not support all original points
Valuation / 20% Return UW Score / 20	3/20	1/20	Only modest dividend support earns credit; the 20% case requires 54.47x P/E
Total Score / 100	54/100	49/100	Below the 70/100 Reject threshold
Classification	Reject	Reject	Hard-veto failures and return evidence independently support Reject

Original gross USD IRRs were -17.705573912817185% bear, -0.8093080994606039% base, 9.163685527408294% bull, and -1.3879031785006712% probability-weighted. All four reproduce exactly from the source bridge. Original net-SGD IRRs were -18.99274407393886%, -1.4045542899433827%, 9.121381174797705%, and -1.8880553362560448%; those also reproduce exactly.

2. Score Reductions and Reasons

Rubric row	Original	Audited	Audit conclusion
1C ROIIC is not deteriorating sharply	2/3	0/3	ROIIC is unavailable because no credible positive reinvestment denominator can be constructed. An unmeasurable trend cannot earn non-deterioration credit. Recent operating recovery is relevant context, not a calculated ROIIC series.
4A Clean revenue and earnings quality	2/2	1/2	Exact statutory reconciliation proves arithmetic completeness, not fully clean earnings quality. TTM acquisition-accounting adjustments are negative USD 1.993B versus USD 10.485B statutory operating income, and the five-year record includes a material GTF charge. Cash conversion supports one point, while the remaining adjustment burden prevents full credit.
6B Conservative exit multiple	2/4	0/4	The selected 20x base exit P/E is conservative relative to the current 39.30x, but it produces a negative base IRR. Reaching 20% at the current price requires about 54.47x terminal P/E, a major expansion above current and peer evidence. Under the explicit score cap, severity supports zero.

All other original rubric points are preserved. The 17/20 runway score is high but source-supported by installed bases, Pratt's order backlog and MRO network, Raytheon's USD 86B backlog, commercial aftermarket demand, and defense replenishment. The 12/15 moat score is also aggressive but defensible because certification, installed content, proprietary

service capability, classified integration, and procurement qualification are real barriers. Its deductions for pricing, stress resilience, and competitive evidence appropriately reflect Pratt reliability and Raytheon fixed-price risk.

3. Unsupported Claims

The original statement that ROIIC is "not deteriorating sharply" is unsupported as a scoring claim. The same package states that 3-year, 5-year, and acquisition-inclusive ROIIC are all unavailable. FY2022-FY2025 NOPAT increased while reported invested capital declined, producing an unusable negative change-in-capital denominator. Portfolio transactions, merger accounting, divestitures, depreciation exceeding capex in several periods, and the missing capitalized-R&D roll-forward prevent a credible cash-reinvestment denominator. Zero in 1B is correct; positive credit in 1C is not.

The claim that exact tie-outs establish fully clean revenue and earnings quality is also too broad. The source bridge is excellent evidence that the reported numbers reconcile, but it does not neutralize the economic quality of the negative USD 1.993B TTM acquisition-accounting adjustment, prior powder-metal charge, or material adjusted-versus-GAAP differences. These items are visible rather than hidden, so the row is reduced rather than set to zero.

No unsupported claim was found in the primary-method selection. Statutory diluted EPS is reconciled and terminal capital-structure paths are unavailable, making P/E the appropriate method under the contract. EV/NOPAT is correctly retained as a non-controlling diagnostic.

4. Calculation Errors

No error was found in the security-return arithmetic. For bear, base, and bull, terminal EPS multiplied by exit P/E equals USD 69.6642911663895, USD 197.91285556191343, and USD 328.11710365916053 per share. Adding cumulative distributions of USD 14.6, USD 16.448288350208, and USD 17.967608962844004 produces terminal shareholder wealth of USD 84.2642911663895, USD 214.36114391212143, and USD 346.08471262200453. Annualizing each against USD 223.25 over exactly five years reproduces the published gross IRRs at full precision.

Probability weights are 25% bear, 55% base, and 20% bull and sum to 100%. Weighted terminal equity value per share is USD 191.89156408248186, weighted cumulative distributions are USD 16.290080385183202, and weighted shareholder wealth is USD 208.18164446766508. Annualizing that wealth ratio produces -1.3879031785006712%. The model does not average scenario IRRs.

The net-SGD overlay also reproduces. Entry outlay is USD 223.25 multiplied by 1.0035 and by 1.28285 SGD/USD, or SGD 287.39864941875004. Each terminal P/E share value receives the 35bp exit cost and scenario FX; distributions receive 30% withholding and the same exit FX. Resulting SGD terminal wealth is 100.25460440487612, 267.7743636809941, and 444.6660724239222. Weighted terminal SGD wealth is 261.2727656105502. The four visible returns round exactly to **-18.99%**, **-1.40%**, **9.12%**, and **-1.89%**.

The scoring error is categorical rather than numerical: 6B retained two points even though the method-matched 20% case needs a major, not mild, terminal-multiple expansion.

5. Missing Data

The most important missing evidence is a supportable 3-year, 5-year, and acquisition-inclusive ROIIC denominator. A comparable capitalized-R&D asset and amortization series is also unavailable. Those gaps cap the incremental-return conclusion and prevent dream-business classification.

Terminal cash, debt, leases, preferred equity, minority interest, and other senior-claim paths are unavailable. This does not impair the selected P/E method; it correctly prevents EV/NOPAT from controlling. Current balance-sheet figures are disclosed only as diagnostics and are not added to or subtracted from EPS times P/E.

The repaired `cio_actionability` object now includes every required matrix key. The 10% mandate hurdle and 15% stretch hurdle are both `FAIL`; security downside is `FAIL`; portfolio fit is `UNAVAILABLE`; and proposed sizing ceiling remains null. It also binds governance-only intervention and hard-review thresholds of 8% and 12%, respectively, with trade authority false. PASS is an allowed status, all mandatory gross and net returns are finite, and `trade_execution_authorized` is false. Sizing, ranking, and trade instructions remain null. The structured CIO object is complete and no further matrix repair is required before final publication.

6. Hard-Veto and Threshold Test Audit

The hard-veto screen is directionally correct. Veto 8 fails because a 20% return at the current price requires approximately 54.47x terminal P/E under the base EPS and distribution path. Veto 9 fails because even the 24x bull case earns only 9.163685527408294% gross USD. The threshold tests therefore remain false for total score at least 80/100, Business Quality at least 65/80, valuation at least 15/20, ROIIC plus runway at least 35/45, base IRR at least 20%, acceptable bear IRR, no hard vetoes, and no multiple expansion required for the 20% case.

The audited primary method is P/E in every scenario, probability weighting, reverse-return diagnostic, and net-SGD overlay. Exit P/Es are independently justified rather than mechanically set to the P/E-15 gate. Bear 14x is a stressed anchor near the 2018-2019 pre-merger range, although that historical comparison has lower corporate-perimeter comparability. Base 20x is near the FY2027 pure-defense peer center. Bull 24x applies an aerospace premium but remains below RTX's 28.29x FY2027 forward P/E and current 39.30x. Base contracts materially from current P/E.

The P/E bridge contains no terminal net-cash/debt adjustment. Dividends are added once to terminal share value and are not embedded elsewhere in the shareholder bridge. Method consistency, net-SGD method consistency, and the double-count check are therefore all proven true.

7. Final 20% Hurdle Pass/Fail

FAIL. Base gross USD IRR is -0.8093080994606039%, probability-weighted gross USD IRR is -1.3879031785006712%, and the bull case reaches only 9.163685527408294%. The current price requires terminal shareholder wealth of USD 555.51744 to compound at 20%. After base cumulative distributions, that requires terminal EPS of USD 26.95345758248959 at 20x, or 36.53742342776345% annual EPS growth from TTM statutory EPS. Audited base EPS is only USD 9.895642778095672.

8. Dream Business / Dream Investment Classification

Neither. RTX owns durable franchises and substantial long-duration demand, but 48/80 does not establish the high, measurable incremental returns needed for dream-business status. The 1/20 return score decisively fails dream-investment status. The single biggest reason is that USD 223.25 already capitalizes far more terminal value than the peer-grounded base earnings and distribution path can deliver.

9. Stage 7 Scorecard Notes

- Compounder Score note: **49/100 - durable franchises and cash conversion do not overcome unproven ROIIC and an entry price that produces negative base and weighted returns.**
- Business Quality Score note: **48/80 - runway and certified installed-base barriers are real, but measurable incremental returns, earnings quality, Pratt reliability, and governance evidence remain insufficient.**
- 20% Return UW Score note: **1/20 - only modest dividend support earns credit; base and weighted returns are negative and the 20% case requires severe multiple expansion.**

10. Auditor JSON

The complete structured audit is in `compounder_score_audit.json`. It preserves the proven P/E method-consistency and double-count flags, full-precision gross and net-SGD fields, audited scenario wealth bridges, score reductions, and CIO guardrails. It sets `trade_execution_authorized` to false and contains no sizing, ranking, or trade instruction.

Appendix RT - Red Team

RTX Corporation - Red Team

Red-team verdict

The thesis does not survive. This is not because RTX lacks durable franchises or because the Stage 5 arithmetic is broken. The model ties, the installed bases are real, and current demand is strong. The failure is that the price requires an operating result and terminal valuation that the audited model itself cannot deliver. At USD 223.25, base gross USD IRR is negative 0.81%, probability-weighted gross IRR is negative 1.39%, and even the bull case reaches only 9.16%. The operating model then places its largest unproven margin recovery in Pratt & Whitney, the segment with the most severe recent product-liability history and the weakest current conversion of revenue growth into margin.

The narrative should therefore be rewritten around **a high-quality backlog and installed-base portfolio whose recovery is already overcapitalized**, not around a compounder temporarily obscured by execution. The key issue is not whether RTX can grow; it is whether Pratt can turn remediation-heavy MRO activity, a loss-making OE ramp, and capacity spending into a roughly 300-basis-point margin expansion while Collins also reaches nearly 18%, Raytheon avoids renewed fixed-price losses, and statutory adjustments run off. Stage 5 assumes all four mechanisms contribute to base EPS. The security still fails the return hurdle even if they do.

1. The most fragile assumption

The most fragile assumption is **Pratt's conversion of GTF fleet recovery and MRO-capacity growth into profitable service economics**. Specifically, the weak line is the Pratt base-case service build: service revenue rises from an analytically allocated USD 16.090 billion TTM to USD 24.251 billion at TTM+5, while the analytical service operating margin improves from 19.65% to 20.5%. Together with product margin improving from negative 1.0% to positive 2.5%, that produces a blended Pratt margin of 11.49%, up 299 basis points from the 8.50% TTM anchor.

This is fragile because the observable quarterly record has not yet shown the required conversion. Pratt's reported operating margins were 8.9%, 8.1%, 8.7%, and 8.3% over the last four quarters. Q2 FY2026 sales grew 16% and commercial aftermarket grew 25%, yet reported margin was still 8.3%. The quarter is unusually informative: it already contains the volume and mix mechanism Stage 5 expects to lift profitability, but the result remained near the current run rate. RTX said higher commercial aftermarket and military volume helped profit, while increased large-commercial-engine deliveries, engine mix, and SG&A offset part of the benefit. The primary record therefore says volume is arriving before margin, not that volume automatically creates margin ([RTX Q2 FY2026 results](https://www.rtx.com/news/news-center/2026/07/23/rtx-reports-q2-2026-results)).

The peer pattern strengthens the objection. GE Aerospace's Q2 FY2026 Commercial Engines & Services revenue grew 27% and profit grew 20%, but margin contracted 160 basis points because install-engine growth, investment, and inflation overwhelmed part of the service benefit. GE also reported record shop activity and strong delivery growth, so this is not a weak-execution comparison; it is evidence that a production and capacity ramp can dilute margin even when services are excellent ([GE Aerospace Q2 FY2026 results](https://www.geaerospace.com/news/press-releases/ge-aerospace-announces-second-quarter-2026-results)). Pratt has the added burdens of GTF customer compensation, powder-metal inspections, constrained shop slots, AOG support, an Advantage transition, and a product line still modeled below breakeven.

The model also treats better durability as economically one-directional. Doubling time on wing would reduce compensation, spare-engine support, and customer disruption, which is valuable. But it also defers removals and can slow late-horizon shop-visit volume. Conversely, slow AOG normalization fills shops with remediation activity that may carry low or negative incremental economics. The Stage 5 service line effectively needs a narrow middle path: enough visits to grow revenue, enough reliability to lower support cost, enough parts and labor to improve turnaround, and enough pricing and capture to lift margin. That is four simultaneous conditions, not one installed-base fact.

The quantitative consequence is material. If Pratt's terminal margin stays at the current 8.50% instead of reaching 11.49%, terminal Pratt operating profit falls by about USD 1.452 billion. After the 19% base tax rate and the model's 13% noncontrolling-interest deduction on Pratt profit, base EPS falls by approximately USD 0.717, from USD 9.896 to USD 9.178. At the model's 20x base exit P/E and unchanged distributions, gross USD IRR deteriorates from negative 0.81% to approximately **negative 2.17%**. The valuation failure becomes worse; it does not depend on a recession or another GTF

charge.

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

The single most-likely-to-be-optimistic number is **Pratt's 11.49% TTM+5 base operating margin**. Collins' 17.977% is ambitious, particularly against Q2's 15.9% reported margin, but Collins has demonstrated a multi-year margin progression and has a larger, cleaner aftermarket profit pool. Raytheon's 12.89% is exposed to EAC volatility, but Q2 reached 12.6% and the terminal assumption is only 76 basis points above TTM. Pratt is different: 11.49% is 299 basis points above TTM, roughly 319 basis points above Q2, and rests on the segment whose current high sales growth still produces low-single-digit-to-high-single-digit quarterly margins.

The base model calls the expansion “material but not heroic.” That characterization is wrong. A three-point gain would require the negative-margin OE line to become profitable while shop-capacity additions, remediation, supplier support, working capital, and Advantage cut-in costs are all absorbed. It also assumes no second affected-scope event and no material competitive concession against CFM. For Pratt, a 300-basis-point improvement is not ordinary scale leverage; it is a successful product-reliability and industrial-system repair.

There is a second hidden optimism in consolidated operating income of USD 17.952 billion. Stage 5 gains about USD 0.997 billion of pretax operating income from 50% runoff of acquisition-accounting adjustments. If that runoff does not occur, base EPS is approximately USD 0.586 lower. If Pratt remains at 8.5%, Collins finishes at 16.0% rather than 17.977%, Raytheon remains at its 12.12% TTM margin, and the acquisition adjustment does not run off, base EPS falls by roughly USD 1.975 to **USD 7.92**. With the same 20x terminal multiple and distributions, gross IRR is about **negative 4.77%**. This is not offered as a new probability case; it demonstrates how much simultaneous execution is embedded in the published base.

3. The strongest bear case, stated strongly

RTX is priced as if three capital-intensive recoveries are certainties: Collins converts an OE ramp into nearly 18% margin, Pratt repairs GTF life-cycle economics and gains 300 basis points, and Raytheon converts a record defense backlog without fixed-price catch-ups. In reality, backlog is consuming capex, inventory, supplier support, and skilled labor before it produces cash, while the company's most important engine franchise remains an 8%-margin business despite 25% aftermarket growth. Within the next four to eight quarters, the disconnect appears first in Pratt margin and cash conversion, then in statutory EPS as remediation and capacity costs offset volume. The observable anchor is a rolling-four-quarter Pratt operating margin that remains below 8% while commercial aftermarket revenue continues to grow: that would prove activity is not becoming economic profit.

Defense provides no immunity. Raytheon's nearly 60% fixed-price external-sales mix transfers cost and schedule risk back to RTX. Lockheed Martin's Q2 FY2026 release highlighted its recovery from USD 1.6 billion of prior-year program losses even as sales and backlog were strong, a current peer reminder that demand and contract economics are separate variables ([Lockheed Martin Q2 FY2026 results](https://investors.lockheedmartin.com/news-releases/news-release-details/lockheed-martin-reports-second-quarter-2026-financial-results)). Raytheon's 12.6% Q2 margin is encouraging, but one high-volume quarter cannot eliminate cumulative-estimate risk across a five-year conversion of USD 86 billion of backlog.

4. Cross-examination of management commentary

“Advantage will double the time on wing performance” - Chris Calio, Q2 FY2026 call, 2026-07-23

This is the most consequential forward promise because the Pratt margin case uses it twice: lower support cost and better customer retention. The statement may hold technically and still disappoint financially. A longer interval between removals defers shop visits, while the cost benefit arrives only if durability improvement reduces compensation and AOG support without creating a new failure mode. GE has already certified a LEAP-1B durability kit that it expects to provide a similar approximate doubling of time on wing, with full cutover beginning in 2027. Pratt is not improving in a static competitive field. The first evidence of failure would be Advantage durability or retrofit milestones slipping, continued high AOG support into 2027, or Pratt margin failing to rise despite MRO output growth.

“Financial and technical outlook remains on track” - Chris Calio, Q2 FY2026 call, 2026-07-23

“On track” is not auditable without an absolute AOG count, completed-inspection series, normalized shop-visit denominator, compensation schedule, and cash-cost bridge. RTX reports useful percentage improvements-AOG down 25%, MRO output up 40%, turnaround down 23%-but an investor cannot determine the starting population, whether the hardest engines remain, or whether shop capacity is being used for profitable scheduled work rather than compensated remediation. The first sign that

this claim is wrong would not necessarily be another headline charge. It would be customer-compensation cash exceeding the roughly USD 700 million 2026 expectation, AOG improvement stalling, or Pratt's rolling margin remaining around 8% despite double-digit service growth.

“More than doubled year-over-year output across our critical munitions” - Chris Calio, Q2 FY2026 call, 2026-07-23

The claim is credible as an output statement but unsafe as a margin inference. The basket, unit mix, denominator, and profit conversion are not disclosed. Raytheon Q2 sales rose 18% and margin reached 12.6%, validating near-term throughput, yet fixed-price accounting can recognize adverse cost changes before the associated cash effect becomes obvious. Capacity additions also create under-absorption risk if rocket motors, electronics, energetics, test assets, or cleared labor do not arrive in sync. The first sign of overpromise would be backlog and sales continuing to rise while net unfavorable EAC adjustments rise above the prior-year comparable period or segment margin falls below 11%.

5. Stage 5 tie-out reverification

The recency anchor is arithmetically current and not the problem. The first forward-year segment run rates imply 7.75% consolidated growth from the TTM base, below the latest segment growth observations of 8% at Collins, 16% at Pratt, and 18% at Raytheon. Revenue therefore does not begin from an obviously stale or inflated near-term trend. The error risk lies in converting that revenue into terminal profit and assuming the latest demand strength persists without matching cash and cost burdens.

The Collins base endpoint of 17.977% requires approximately 106 basis points of margin expansion from TTM and 208 basis points from Q2 FY2026 reported margin. Q2's 26% commercial OE growth is mix-dilutive relative to aftermarket; GE's current results demonstrate the same effect. If Collins finishes at 16.0%, base EPS is roughly USD 0.479 lower. Collins' 5.72% revenue CAGR is reasonable, but its margin is not free.

Raytheon's 7.69% product CAGR exceeds the FY2023-FY2025 4.94% historical rate, but a decelerating path, current 18% segment growth, USD 86 billion backlog, and strong bookings provide a named structural reason. The more fragile Raytheon input is not revenue but the assumption that capacity and learning outweigh fixed-price EAC noise. A flat 12.12% terminal margin instead of 12.89% lowers base EPS by about USD 0.192.

The share-count path is directionally conservative on buybacks but still optimistic on dilution. Base buybacks of only USD 50 million annually are immaterial and consistent with recent behavior; H1 FY2026 had none. The problem is that modeled SBC issuance of 2.647 million shares per year is below the recent actual diluted-share increase of 5.9-8.6 million. If the lower observed 5.9 million annual increase persists and buybacks remain at USD 50 million, terminal shares are approximately 1.2% above the modeled base, reducing EPS by roughly USD 0.12. This is not the central bear case, but there is no credible buyback rescue while capacity investment, dividends, GTF cash costs, and roughly USD 37 billion of gross borrowings compete for FCF. Gross repurchase announcements should not be treated as value creation unless net diluted shares fall and leverage continues to decline.

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

The audited score makes no affirmative 20% return claim; it assigns 1/20 to Return Underwriting and correctly classifies RTX as Reject. The red team agrees. The score-derived implication most likely to mislead would be that a 17/20 runway score makes a 20% shareholder return remotely plausible. It does not. At the current price, 20% requires terminal shareholder wealth of USD 555.5, approximately USD 26.95 of terminal EPS at a 20x P/E after distributions, or about 36.54% annual EPS growth from TTM statutory EPS. Alternatively, the audited base EPS path requires a roughly 54.47x terminal P/E. Neither is connected to backlog duration, moat durability, or buyback support.

What would have to change is price or economics on an extraordinary scale. The P/E-15 gate already fails by 33.5% in base, the bull case returns only 9.16%, and net-SGD returns are worse in bear and base. Better NOPAT growth alone cannot bridge the gap without simultaneous margin, share, cash-conversion, and valuation support. The claim to reject is not a calculation but a category error: **durable demand does not imply an acceptable security return at any entry price**.

7. The quantitative signal that forces review and invalidation

The force-review and exit-invalidation signal is: **Pratt & Whitney rolling-four-quarter reported operating margin below 8.0% at either Q4 FY2026 or Q2 FY2027, while rolling-four-quarter commercial aftermarket sales still grow at least 10%.** This is deliberately a conversion test rather than a demand test.

If triggered, the 11.49% terminal-margin base should be discarded and reset toward the 6.59%-8.5% range unless management supplies an auditable, time-bounded cost bridge. Strong service growth paired with sub-8% margin would show that shop capacity is occupied by low-yield remediation, compensation, unfavorable OE mix, or supplier inefficiency rather than high-return aftermarket work. It would also invalidate the moat upgrade condition that Pratt sustain at least a 10% segment margin and would undermine the central management claim that the fleet plan is technically and financially on track. This is a thesis-invalidating governance and underwriting signal, not a sizing or trade instruction.

8. Conviction at the end of red team

Thesis does NOT survive. The specific break is the combination of an already-failed return case and an unproven Pratt margin recovery. RTX may execute well and still deliver an unacceptable shareholder return because the base and probability-weighted returns are negative at the sealed price. The strongest operational evidence-backlog, aftermarket growth, munitions output, and capacity additions-supports revenue durability, but it does not prove incremental returns, free-cash-flow conversion, or margin resilience.

The correct conclusion is not that RTX is a weak enterprise. It is that the security offers no underwriting cushion against the most obvious operational miss. Pratt at its current margin lowers base EPS to about USD 9.18; a simultaneous failure of Collins margin expansion, Raytheon margin expansion, and acquisition-accounting runoff lowers it to roughly USD 7.92. Since the audited bull case itself does not clear even a 10% gross return, no favorable narrative should override the Reject verdict. No sizing, ranking, or trade instruction is authorized or provided.

Appendix D - Data Package (Raw Historicals)

RTX Corporation - Data Package

Ticker: RTX **Run ID:** `pulse-cio-20260807T080139+0800` **As of:** 2026-08-07 **Reporting currency and scale:** USD millions unless otherwise stated **Fiscal year-end:** December 31 **Latest reported quarter:** Q2 FY2026 ended 2026-06-30, reported 2026-07-23 **TTM base:** Q3 FY2025 + Q4 FY2025 + Q1 FY2026 + Q2 FY2026, equivalent to FY2025 less H1 FY2025 plus H1 FY2026 **Exact forecast horizon:** 2031-06-30, 5.000 years from the TTM endpoint **Quant gate:** `QUANT FOUNDATION VERIFIED - CLEARED FOR WAVE 1` **Sealed statutory bridge SHA-256:** `29603ba7cdba77ed01071c2445857340e16869b49e4a5b7f6513576a18dddf2b`

0a. Industry classification and disclosure inventory

RTX is a U.S. domestic aerospace-and-defense hardware, propulsion, avionics, systems, and services issuer reporting under U.S. GAAP on Forms 10-K and 10-Q. The controlling source set is the 2025 Form 10-K, Q2 FY2026 Form 10-Q, the last four official earnings releases, and the corresponding FMP earnings-call transcripts. The company's economics are materially shaped by commercial original-equipment production, installed-base aftermarket demand, engine deliveries and shop visits, defense bookings and backlog, production capacity, program-accounting estimates, and the Pratt & Whitney powder-metal fleet-management plan.

The live FMP annual segmentation endpoint is usable and matches official FY2025 segment revenue exactly. The live quarterly segmentation endpoint is defective: it omits FY2025 Q2 and labels an H2-sized observation as Q4. This provider defect was independently reproduced in this D run with exact SHA-256 `db76ba2ed6cfda6a3819d417c02a40c7da98c47a89df3182b0724bc4de43bf98`. It was not silently repaired. The controlling completion-first replacement uses official SEC Q1, H1, 9M, and FY tables to derive non-overlapping quarters; its verified SHA-256 is `595cb54630edbb0891fe14d196da6a635f83e5dfddebec0aee482fd4a0391c4a`.

Live source inventory

Source ID	Live source checked in this run	Archived evidence	Use and status
FMP_IS_A_D	FMP stable income-statement, annual, RTX	`raw/D_RTX_income_annual.json`	Five-year consolidated history; live refresh
FMP_IS_Q_D	FMP stable income-statement, quarterly, RTX	`raw/D_RTX_income_quarter.json`	Recent consolidated trend; live refresh
FMP_BS_A_D	FMP stable balance-sheet-statement, annual, RTX	`raw/D_RTX_balance_annual.json`	Balance sheet and invested-capital inputs; live refresh
FMP_CF_A_D	FMP stable cash-flow-statement, annual, RTX	`raw/D_RTX_cashflow_annual.json`	Cash flow and capital allocation; live refresh
FMP_KM_A_D	FMP stable key-metrics, annual, RTX	`raw/D_RTX_key_metrics_annual.json`	Invested capital and ROIC cross-check; live refresh
FMP_SEG_A_D	FMP stable revenue-product-segmentation, annual, RTX	`raw/D_RTX_segments_annual.json`	FY segment revenue; passes official tie-out
FMP_SEG_Q_D	FMP stable revenue-product-segmentation, quarter, RTX	`raw/D_RTX_segments_quarter.json`	Defective for FY2025; defect retained
FMP_TX_D	FMP stable earning-call-transcript, FY2025 Q3/Q4 and FY2026 Q1/Q2	`raw/D_RTX_transcript_*.json`	Verbatim management commentary; dates verified
SEC_2025_10K	[RTX 2025 Form 10-K](https://www.sec.gov/Archives/edgar/data/101829/000010182926000006/rtx-20251231.htm)	`raw/D_SEC_RTX_2025_10K.htm`	Controlling annual, segment, backlog, customer and product/service tables
SEC_2023_10K	[RTX 2023 Form 10-K](https://www.sec.gov/Archives/edgar/data/101829/000010182924000008/rtx-20231231.htm)	`raw/D_SEC_RTX_2023_10K.htm`	Recast FY2021-FY2023 segment history and taxonomy
SEC_2022_10K	[RTX 2022 Form 10-K](https://www.sec.gov/Archives/edgar/data/101829/000010182923000009/rtx-20221231.htm)	`raw/D_SEC_RTX_2022_10K.htm`	FY2021-FY2022 backlog backfill
SEC_2026Q2_10Q	[RTX Q2 FY2026 Form 10-Q](https://www.sec.gov/Archives/edgar/data/101829/000010182926000027/rtx-20260630.htm)	`raw/D_SEC_RTX_2026Q2_10Q.htm`	Latest quarter, H1, customer mix, capex, backlog, powder-metal disclosure

Source ID	Live source checked in this run	Archived evidence	Use and status
IR_Q3_2025	[RTX Q3 FY2025 results](https://www.rtx.com/news/news-center/2025/10/21/rtx-reports-q3-2025-results-)	`raw/D_IR_RTX_2025Q3_results.html`	Q3 segment trend and channel growth
IR_Q4_2025	[RTX FY2025 results](https://www.rtx.com/news/news-center/2026/01/27/rtx-reports-2025-results-and-announces-2026-outlook)	`raw/D_IR_RTX_2025Q4_results.html`	Q4 segment trend, backlog, initial FY2026 outlook
IR_Q1_2026	[RTX Q1 FY2026 results](https://www.rtx.com/news/news-center/2026/04/21/rtx-reports-q1-2026-results-)	`raw/D_IR_RTX_2026Q1_results.html`	Q1 segment trend and raised outlook
IR_Q2_2026	[RTX Q2 FY2026 results](https://www.rtx.com/news/news-center/2026/07/23/rtx-reports-q2-2026-results)	`raw/D_IR_RTX_2026Q2_results.html`	Latest quarter, backlog and raised outlook
IR_Q2_2026_DECK	[RTX Q2 FY2026 earnings presentation](https://investors.rtx.com/static-files/4974fa8e-e918-4e2e-aac6-4da956d6fd50)	Live DR fetch; official 27-page deck	Pratt engine shipments, Raytheon bookings/book-to-bill, output KPIs and segment outlook
IR_Q4_2021_2024_DECKS	[Q4 FY2021](https://investors.rtx.com/static-files/207ab7d9-52c7-4d92-bc2f-7ae5aa6caf5f), [Q4 FY2022](https://investors.rtx.com/static-files/a1b35f0d-2c0e-49e7-a245-ba339a3b6409), [Q4 FY2023](https://investors.rtx.com/static-files/c4c101bd-3190-43f7-94b5-5c0337c19593), and [Q4 FY2024](https://investors.rtx.com/static-files/cae2e5c0-50ad-4686-9acd-7830c2ece42e) earnings presentations	Live DR fetch; official archive decks	Continuous FY2021-FY2024 Pratt engine-shipment history

All newly pulled FMP datasets were copied without overwriting to `C:\Users\Admin\OneDrive\Cowork\Investing\data warehouse\er2_live_pulls\RTX\pulse-cio-20260807T080139+0800\D_20260807`. No warehouse cache was read as a research source.

Ad hoc aerospace-and-defense checklist

Official documents were searched for: `segment`, `operating profit`, `products`, `services`, `commercial OE`, `commercial aftermarket`, `military`, `defense bookings`, `book-to-bill`, `backlog`, `remaining performance obligations`, `engine deliveries`, `GTF`, `PW1100`, `fleet management plan`, `shop visit`, `inspection`, `powder metal`, `aircraft on ground`, `program accounting`, `EAC adjustment`, `fixed-price development`, `capacity`, `capital expenditures`, `R&D`, `U.S. government sales`, `foreign military sales`, `international sales`, `customer`, and `geography`.

Dataset / table family	Official source searched	Search terms or table names	Years available	Included?	If excluded, why	Downstream relevance
Segment revenue and Operating profit	2025 and 2023 10-K segment notes	Segment Financial Data; Operating profit	FY2021-FY2025; H1/Q2 FY2026	Yes	-	Segment models and statutory bridge
Backlog by segment	2022, 2023, and 2025 10-K	Backlog; RPO	FY2021-FY2025	Yes	-	Demand durability and revenue visibility
Latest backlog by commercial/defense	Q2 FY2026 10-Q and release	Backlog and Bookings	FY2025 and Q2 FY2026	Yes	-	Recency and mix
Product versus service revenue	2025 10-K Note 20	Products; Services	FY2023-FY2025	Yes	Pre-FY2023 not extended because current three-segment taxonomy begins with recast FY2021 but the newest product/service table supplies three years	Aftermarket and mix framing
Customer-type revenue by segment	2025 10-K Note 20; Q2 FY2026 10-Q	U.S. government; FMS; foreign government; commercial	FY2023-FY2025 and Q2/H1 FY2026	Yes	-	Defense and commercial exposure
Geography	2025 10-K Note 20	United States; Europe; Asia Pacific; MENA	FY2023-FY2025	Yes, summarized	-	End-market and geopolitical exposure
Segment R&D, capex and D&A	2023 and 2025 10-K; Q2 FY2026 10-Q	Research and Development; Capital Expenditures	Capex FY2021-FY2025 and H1 FY2026; R&D FY2023-FY2025 and H1 FY2026	Yes	Segment R&D was not disclosed in the recast FY2021-FY2022 segment table	Capacity and reinvestment

Dataset / table family	Official source searched	Search terms or table names	Years available	Included?	If excluded, why	Downstream relevance
Commercial OE/aftermarket and military growth	Four official results releases	Channel growth	Q3 FY2025-Q2 FY2026	Yes	Dollar channel revenue is not disclosed as a recurring table	Near-term segment drivers
Engine deliveries and installed fleet	Four transcripts; 2025 10-K; Q4 FY2021-FY2024 and Q2 FY2026 decks	deliveries; engines in service; GTF backlog; engine shipments	FY2021-FY2025 annual shipment series, FY2025 quarterly series and Q1-Q2 FY2026; point-in-time installed-base disclosures	Yes	Shipments are disclosed by three broad categories, not individual engine model	Pratt volume and aftermarket flywheel
Powder-metal inspections and fleet plan	2025 10-K; Q2 FY2026 10-Q	PW1100; inspections; shop visits; AOG; compensation	FY2023-Q2 FY2026 narrative and cash impacts	Yes	Annual inspection counts and completed shop visits are not tabulated	Pratt risk and cash flow
Defense bookings and production output	2025 10-K; Q2 FY2026 10-Q, deck and transcript	bookings; book-to-bill; output; deliveries	FY2023-FY2025 bookings; Q2/H1 FY2026 bookings; latest output KPIs	Yes	No standardized five-year program-level delivery series	Raytheon demand and execution
Program accounting	2023 and 2025 10-K; Q2 FY2026 10-Q	EAC adjustments; fixed-price; cost-type	FY2021-FY2025 contract mix; FY2023-FY2025 and Q2/H1 FY2026 EAC	Yes	Program-by-program EAC amounts are not comprehensively disclosed	Margin risk

Material KPI history

KPI family	Granularity	FY2021	FY2022	FY2023	FY2024	FY2025	Latest interim	Official source
Backlog ($B)	Collins Aerospace	24	25	30	36	42	Not separately disclosed at Q2	2022, 2023, 2025 10-K
Backlog ($B)	Pratt & Whitney	85	100	114	119	151	Not separately disclosed at Q2	2022, 2023, 2025 10-K
Backlog ($B)	Raytheon, recast where available	47	50	52	63	75	86 at 2026-06-30	2022, 2023, 2025 10-K; Q2 2026 10-Q/deck
Backlog ($B)	Total RTX	156	175	196	218	268	289 at 2026-06-30	10-K series; Q2 2026 10-Q
Commercial backlog ($B)	RTX	Not separately disclosed in checked table	Not separately disclosed	Not separately disclosed	Not separately disclosed	161	170 at 2026-06-30	Q2 2026 10-Q
Defense backlog ($B)	RTX	Not separately disclosed in checked table	Not separately disclosed	Not separately disclosed	Not separately disclosed	107	119 at 2026-06-30	Q2 2026 10-Q
U.S. government sales ($B)	RTX	Not backfilled	Not backfilled	31.628	32.246	33.279	9.298 in Q2 FY2026	2025 10-K; Q2 2026 10-Q
International sales ($B)	RTX	Not backfilled	Not backfilled	29.440	34.651	41.312	Geography table not repeated on quarter basis	2025 10-K
Powder-metal customer-compensation cash use ($B)	Pratt & Whitney	Not applicable	Not applicable	Plan established	1.0	1.0	About 0.7 FY2026 expected cash impact	2025 10-K; Q2 2026 10-Q
Defense bookings ($B)	RTX defense operations	Not backfilled	Not backfilled	51	61	61	23 in Q2 and 37 in H1 FY2026	2025 10-K; Q2 2026 10-Q
Net EAC adjustment to operating profit ($B)	RTX	Not backfilled	Not backfilled	(0.648)	(0.473)	(0.386)	(0.066) Q2 and (0.228) H1 FY2026	2025 10-K; Q2 2026 10-Q

Backlog is equivalent to RPO for RTX sales contracts and excludes unexercised options and potential orders under ordering-type contracts. FY2021 Raytheon backlog combines the then-reported Raytheon Intelligence & Space and Raytheon Missiles & Defense values; later years use the recast Raytheon segment.

Segment reinvestment and operating-output tables added in DR review

The segment capex series reaches the five-year target; the segment R&D series begins in FY2023 because the recast FY2021-FY2022 segment note did not disclose that expense by segment. H1 FY2026 is a six-month amount and is not annualized.

Segment company-funded R&D ($M)	FY2023	FY2024	FY2025	H1 FY2026	Source
Collins Aerospace	1,317	1,408	1,301	629	2025 10-K Note 20; Q2 2026 10-Q
Pratt & Whitney	1,001	1,086	1,034	472	2025 10-K Note 20; Q2 2026 10-Q
Raytheon	500	452	483	254	2025 10-K Note 20; Q2 2026 10-Q

Segment capex ($M)	FY2021	FY2022	FY2023	FY2024	FY2025	H1 FY2026	Source
Collins Aerospace	697	671	628	786	793	374	2023/2025 10-K Note 20; Q2 2026 10-Q
Pratt & Whitney	700	949	1,025	968	994	367	2023/2025 10-K Note 20; Q2 2026 10-Q
Raytheon	558	563	637	771	644	365	2023/2025 10-K Note 20; Q2 2026 10-Q

The archived Q4 decks and Q2 FY2026 deck supply a continuous five-year Pratt shipment series plus current quarterly detail that was omitted from the original package. Pratt & Whitney Canada excludes APUs; large commercial excludes industrial engine shipments in the FY2021-FY2023 source decks.

Pratt engine shipments (units)	FY2021	FY2022	FY2023	FY2024	FY2025	H1 FY2026	Sources
Military	218	219	206	180	227	131	Official Q4 FY2021-FY2024 and Q2 FY2026 earnings presentations
Large commercial	623	712	875	996	1,055	495	Official Q4 FY2021-FY2024 and Q2 FY2026 earnings presentations
Pratt & Whitney Canada, excluding APUs	1,825	1,965	2,063	2,078	2,126	1,019	Official Q4 FY2021-FY2024 and Q2 FY2026 earnings presentations

Pratt engine shipments (units)	Q1 FY2025	Q2 FY2025	Q3 FY2025	Q4 FY2025	FY2025	Q1 FY2026	Q2 FY2026	Source
Military	51	40	63	73	227	61	70	Q2 FY2026 earnings presentation, slide 16
Large commercial	250	227	266	312	1,055	235	260	Q2 FY2026 earnings presentation, slide 16
Pratt & Whitney Canada, excluding APUs	518	521	516	571	2,126	497	522	Q2 FY2026 earnings presentation, slide 16

Raytheon ended Q2 FY2026 with $86 billion of backlog, not an undisclosed segment balance. It recorded $20 billion of Q2 defense bookings and $27 billion in H1; the official deck reported Q2 book-to-bill of 2.42 and rolling-12-month book-to-bill of 1.77. The deck grouped highlighted awards as $5.1 billion GEM-T, $4.1 billion classified/confidential, $1.8 billion AMRAAM, and $0.8 billion LTAMDS. RTX defense operations in aggregate booked $23 billion in Q2 and $37 billion in H1. Raytheon more than doubled output across critical munitions in H1 year over year.

The Pratt fleet-plan operating evidence is also quantitative: at the Q2 call, PW1100 aircraft-on-ground levels were down again sequentially and down 25% year to date; PW1100 MRO output was up more than 40% year over year and turnaround time was down 23%. The filing still expects AOG levels to remain elevated through 2026. The original 2023 charge was $2.9 billion of pretax operating profit and $5.401 billion of sales, reflecting RTX's net 51% program share; the after-tax/partner-share net-income effect was $2.2 billion. The customer-compensation accrual declined from $2.8 billion at inception to $1.7 billion at FY2024, $0.7 billion at FY2025, and $0.4 billion at 2026-06-30 after cash payments and credits. RTX utilized $1.0 billion of the accrual in each of FY2024 and FY2025 and estimates an approximately $0.7 billion FY2026 cash impact. Sources: 2025 10-K, Q2 FY2026 10-Q, Q2 FY2026 earnings presentation and 2026-07-23 transcript.

1. Reporting structure and taxonomy

Effective 2023-07-01, RTX streamlined from four principal businesses to three reportable segments. The 2023 Form 10-K explicitly states that all included segment information reflects the new structure and prior periods were recast. Accordingly, the five-year tables below use the recast three-segment taxonomy from FY2021 forward. FMP retains the legacy label `Raytheon Intelligence & Space`; that vendor label maps to the current official Raytheon segment and must not be modeled as a separate fourth segment.

Current reportable segment	Description	FY2025 revenue ($B)	Share of gross segment revenue
Collins Aerospace	Avionics, interiors, mission systems, controls, aerostructures, landing systems and aftermarket services	30.196	33.13%
Pratt & Whitney	Large commercial, military and Pratt Canada engines plus MRO and aftermarket	32.916	36.11%
Raytheon	Integrated air and missile defense, sensors, effectors, missiles, space and command capabilities	28.043	30.76%
Gross reportable-segment total	Before eliminations and other	91.155	100.00%

FY2025 eliminations and other revenue was $(2.552) billion, taking gross segment revenue of $91.155 billion to consolidated revenue of $88.603 billion. Percentages above therefore use gross segment revenue, avoiding a misleading total above 100%.

Geographic exposure is material. FY2025 external revenue was $47.291 billion in the United States, $18.799 billion in Europe, $13.782 billion in Asia Pacific, $3.621 billion in Middle East and North Africa, and $5.110 billion in other regions. International sales were 47% of total revenue in FY2025, up from 43% in FY2024 and FY2023. U.S. government sales excluding foreign military sales were 38% of FY2025 consolidated revenue, down from 40% in FY2024 and 46% in FY2023, while absolute U.S. government sales still increased.

2. Consolidated historicals

Metric	FY2021	FY2022	FY2023	FY2024	FY2025	Source
Revenue ($B)	64.388	67.074	68.920	80.738	88.603	Live FMP income statement; SEC tie-out
Operating income / profit ($B)	5.136	5.504	3.561	6.538	9.300	Live FMP income statement; SEC tie-out
Operating margin	7.98%	8.21%	5.17%	8.10%	10.50%	Calculated
Net income attributable to common ($B)	3.864	5.197	3.195	4.774	6.732	Live FMP income statement; SEC tie-out
Diluted EPS ($)	2.56	3.50	2.23	3.55	4.96	Live FMP income statement
Diluted share count (M)	1,508.5	1,485.9	1,435.4	1,343.6	1,356.4	Live FMP income statement
Capital expenditure ($B)	2.322	2.775	2.415	2.625	2.627	Live FMP cash flow; FY2023 official override
Free cash flow ($B)	4.749	4.393	5.468	4.534	7.940	FMP except FY2023 official OCF less official capex
Statutory NOPAT ($B)	4.167	4.793	3.138	5.291	7.528	Calculated from operating profit and effective tax rate
Average invested capital ($B)	117.839	113.737	109.566	105.980	104.655	Live FMP key metrics; average beginning/end
ROIC proxy	3.54%	4.21%	2.86%	4.99%	7.19%	NOPAT divided by average invested capital

ROIC is an analyst arithmetic proxy, not an issuer-defined KPI. For each year, NOPAT equals statutory operating profit multiplied by one minus the effective tax rate, where the effective rate equals income-tax expense divided by pretax income. Effective tax rates were 18.87%, 12.91%, 11.89%, 19.07%, and 19.05% from FY2021 to FY2025. Average invested capital is the average of FMP’s beginning- and end-of-year invested capital. FY2023 includes the Powder Metal Matter charge and is not representative of normalized Pratt economics.

The live FMP cash-flow endpoint reports FY2023 capex of $3.166 billion, while the controlling 2025 10-K comparative table reports $2.415 billion. The official amount is used, producing FY2023 FCF of $7.883 billion OCF less $2.415 billion capex, or $5.468 billion. The provider discrepancy remains explicit rather than blended away.

3. Segment historicals

The sealed issuer-defined segment profit basis is exactly **Operating profit**. It is not relabeled adjusted EBIT, EBITDA, or statutory consolidated operating income.

Collins Aerospace

Collins Aerospace	FY2021	FY2022	FY2023	FY2024	FY2025	Source
Revenue ($B)	21.152	23.052	26.253	28.284	30.196	SEC 2023 and 2025 10-K segment tables
YoY revenue growth	-	9.0%	13.9%	7.7%	6.8%	Calculated
Operating profit ($B)	2.380	2.816	3.825	4.135	4.923	SEC 2023 and 2025 10-K
Operating profit margin	11.25%	12.22%	14.57%	14.62%	16.30%	Calculated

Pratt & Whitney

Pratt & Whitney	FY2021	FY2022	FY2023	FY2024	FY2025	Source
Revenue ($B)	18.150	20.530	18.296	28.066	32.916	SEC 2023 and 2025 10-K segment tables
YoY revenue growth	-	13.1%	(10.9%)	53.4%	17.3%	Calculated
Operating profit ($B)	0.454	1.075	(1.455)	2.015	2.596	SEC 2023 and 2025 10-K
Operating profit margin	2.50%	5.24%	(7.95%)	7.18%	7.89%	Calculated

FY2023 Pratt sales and profit include the Powder Metal Matter effect. The sharp FY2024 growth therefore reflects both underlying growth and comparison against the FY2023 charge-related revenue reduction; downstream models must not extrapolate the 53.4% reported increase.

Raytheon

Raytheon	FY2021	FY2022	FY2023	FY2024	FY2025	Source
Revenue ($B)	26.611	25.176	26.350	26.713	28.043	SEC 2023 and 2025 10-K segment tables
YoY revenue growth	-	(5.4%)	4.7%	1.4%	5.0%	Calculated
Operating profit ($B)	3.399	2.448	2.379	2.594	3.227	SEC 2023 and 2025 10-K
Operating profit margin	12.77%	9.72%	9.03%	9.71%	11.51%	Calculated

The current Raytheon series is recast under the July 2023 realignment. FMP’s legacy RIS wording is a vendor taxonomy artifact; using it as a separate segment would double count or misclassify Raytheon.

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

The exact common segment profit basis in the sealed packet is **Operating profit**. Values, signs, classifications, and source IDs below reproduce the QFR-sealed `statutory_bridge.json`; no line was reclassified, netted, or plugged.

FY2025 bridge

Bridge line	Classification	Value ($M)	Source ID	Running subtotal ($M)
Collins Aerospace	segment profit	4,923	SEC_2025_10K	4,923
Pratt & Whitney	segment profit	2,596	SEC_2025_10K	7,519
Raytheon	segment profit	3,227	SEC_2025_10K	10,746
Sum of reportable segment profit	segment profit	10,746	SEC_2025_10K	10,746
Eliminations and other	corporate_unallocated	54	SEC_2025_10K	10,800

Bridge line	Classification	Value ($M)	Source ID	Running subtotal ($M)
Corporate expenses and other unallocated items	corporate_unallocated	(248)	SEC_2025_10K	10,552
Consolidated segment profit metric	subtotal	10,552	SEC_2025_10K	10,552
FAS/CAS operating adjustment	operating	753	SEC_2025_10K	11,305
Acquisition accounting adjustments	operating	(2,005)	SEC_2025_10K	9,300
Statutory operating income	statutory subtotal	9,300	SEC_2025_10K	9,300
Non-service pension income	other_non_operating	1,182	SEC_2025_10K	10,482
Interest expense, net	interest	(1,749)	SEC_2025_10K	8,733
Pretax income	statutory subtotal	8,733	SEC_2025_10K	8,733
Income tax expense	tax	(1,664)	SEC_2025_10K	7,069
Noncontrolling interest in subsidiaries' earnings	noncontrolling_interests	(337)	SEC_2025_10K	6,732
Net income	statutory subtotal	6,732	SEC_2025_10K	6,732

TTM ended 2026-06-30 bridge

Bridge line	Classification	Value ($M)	Source ID	Running subtotal ($M)
Collins Aerospace	segment profit	5,275	TTM_ARITH	5,275
Pratt & Whitney	segment profit	2,972	TTM_ARITH	8,247
Raytheon	segment profit	3,627	TTM_ARITH	11,874
Sum of reportable segment profit	segment profit	11,874	TTM_ARITH	11,874
Eliminations and other	corporate_unallocated	154	TTM_ARITH	12,028
Corporate expenses and other unallocated items	corporate_unallocated	(275)	TTM_ARITH	11,753
Consolidated segment profit metric	subtotal	11,753	TTM_ARITH	11,753
FAS/CAS operating adjustment	operating	725	TTM_ARITH	12,478
Acquisition accounting adjustments	operating	(1,993)	TTM_ARITH	10,485
Statutory operating income	statutory subtotal	10,485	TTM_ARITH	10,485
Non-service pension income	other_non_operating	1,168	TTM_ARITH	11,653
Interest expense, net	interest	(1,656)	TTM_ARITH	9,997
Pretax income	statutory subtotal	9,997	TTM_ARITH	9,997
Income tax expense	tax	(1,872)	TTM_ARITH	8,125
Noncontrolling interest in subsidiaries' earnings	noncontrolling_interests	(387)	TTM_ARITH	7,738
Net income	statutory subtotal	7,738	TTM_ARITH	7,738

Forecast-driver schedule

Historical bridge line	FY2025 ($M)	TTM ($M)	Forecast treatment	Driver and source	Bear / base / bull rule
Eliminations and other	54	154	Percentage of gross segment sales, cross-checked to intersegment revenue	SEC segment note	Use recent absolute and ratio range; bear assumes less favorable profit contribution
Corporate expenses and other unallocated items	(248)	(275)	Independently forecast corporate expense	SEC segment note and company guidance	Bear higher cost ratio; base recent run rate; bull modest operating leverage
FAS/CAS operating adjustment	753	725	Independent pension and CAS schedule	SEC bridge and pension disclosure	Use disclosed outlook when available; bear lower benefit, bull higher benefit
Acquisition accounting adjustments	(2,005)	(1,993)	Intangible-amortization roll-forward	SEC acquisition accounting reconciliation	Base scheduled runoff; bear assumes slower runoff or new M&A; bull no new M&A

Historical bridge line	FY2025 ($M)	TTM ($M)	Forecast treatment	Driver and source	Bear / base / bull rule
Non-service pension income	1,182	1,168	Independent pension schedule below operating income	SEC statements	Bear lower asset return / higher discount pressure; base disclosed trend; bull favorable pension income
Interest expense, net	(1,749)	(1,656)	Debt balance and effective-rate schedule	SEC debt note and cash flow	Bear slower deleveraging and higher rates; base scheduled maturities; bull faster deleveraging
Income tax expense	(1,664)	(1,872)	Effective tax-rate schedule on pretax income	SEC tax note	Bear higher rate; base recent normalized rate; bull modestly lower rate
Noncontrolling interest in subsidiaries' earnings	(337)	(387)	Percentage of relevant post-tax subsidiary earnings	SEC statements	Scale with Pratt partnership economics; do not merge into tax

Every residual in the sealed FY2025 and TTM packet is $0 million and the validator result is `STATUTORY_BRIDGE_VALID`.

STATUTORY_BRIDGE_STATUS: VERIFIED - CLEARED FOR FORECASTING

4. Product and sub-segment historicals

RTX does not publish recurring dollar revenue by named aircraft platform, engine model, missile program, or Collins product family. It does disclose external revenue by products versus services and by customer type at segment level. Those are the finest clean recurring dollar disclosures and are used without back-solving undisclosed product revenue.

External products and services revenue

Segment	Revenue type	What it represents	Dollar disclosure?	FY2021 / FY2022 / FY2023 / FY2024 / FY2025 revenue ($B)	Source
Collins Aerospace	Products	External product and equipment sales	Yes	15.648 / 16.917 / 19.034 / 20.272 / 21.467	2023 and 2025 10-K Note 20
Collins Aerospace	Services	External aftermarket and service revenue	Yes	3.965 / 4.413 / 5.260 / 5.657 / 6.118	2023 and 2025 10-K Note 20
Pratt & Whitney	Products	External engine and product sales	Yes	11.189 / 12.411 / 8.579 / 16.316 / 18.467	2023 and 2025 10-K Note 20
Pratt & Whitney	Services	External MRO, spare parts and service revenue	Yes	6.961 / 8.116 / 9.717 / 11.748 / 14.449	2023 and 2025 10-K Note 20
Raytheon	Products	External defense product revenue	Yes	22.264 / 21.276 / 21.847 / 22.872 / 24.063	2023 and 2025 10-K Note 20
Raytheon	Services	External service revenue	Yes	4.188 / 3.767 / 4.373 / 3.698 / 3.829	2023 and 2025 10-K Note 20

The product/service rows are consolidated external revenue and exclude intersegment sales. Collins external revenue was $27.585 billion in FY2025 versus business-segment sales of $30.196 billion because $2.611 billion was intersegment. Raytheon had $0.151 billion of FY2025 intersegment sales. Pratt had no material FY2025 intersegment difference.

Customer-type dollar disclosure, FY2025

Customer type ($B)	Collins	Pratt & Whitney	Raytheon	Other	RTX total	Source
U.S. government, excluding FMS	7.061	6.778	19.237	0.203	33.279	2025 10-K Note 20
Foreign military sales through U.S. government	0.436	1.786	4.480	0.000	6.702	2025 10-K Note 20
Foreign government direct commercial	1.230	0.792	4.099	0.002	6.123	2025 10-K Note 20
Commercial aerospace and other commercial	18.858	23.560	0.076	0.005	42.499	2025 10-K Note 20

The consolidated customer-type history reaches five years on the recast basis. Airbus was the largest contributor to commercial aerospace and other commercial sales; before discounts and incentives, Airbus represented approximately 12%, 14%, 17%, 14%, and 14% of total net sales from FY2021 through FY2025.

Consolidated customer type ($B)	FY2021	FY2022	FY2023	FY2024	FY2025	Source
U.S. government, excluding FMS	31.177	30.317	31.628	32.246	33.279	2023 and 2025 10-K
Foreign military sales through U.S. government	5.546	5.042	4.974	5.765	6.702	2023 and 2025 10-K
Foreign government direct commercial	4.993	4.327	4.249	5.317	6.123	2023 and 2025 10-K
Commercial aerospace and other commercial	22.672	27.388	28.069	37.410	42.499	2023 and 2025 10-K

Raytheon's contract mix is a material program-accounting exposure because fixed-price work carries execution and EAC risk. The five-year disclosed series is:

Raytheon external revenue by contract type ($B)	FY2021	FY2022	FY2023	FY2024	FY2025	Source
Fixed-price	14.270	12.910	13.164	14.515	16.647	2023 and 2025 10-K Note 20
Cost-type	12.182	12.133	13.056	12.055	11.245	2023 and 2025 10-K Note 20

Products disclosed only as growth rates or operating points

Segment	Product / channel	Disclosure method	Q3 FY2025 / Q4 FY2025 / Q1 FY2026 / Q2 FY2026 YoY	Source
Collins	Commercial OE	Growth only	16% / 9% / 15% / 26%	Four official results releases
Collins	Commercial aftermarket	Growth only	13% / 13% / 7% / 10%	Four official results releases
Collins	Defense	Growth only	6% / 2% / 9% / 7%	Four official results releases
Pratt & Whitney	Commercial OE	Growth only	5% / 28% / (1%) / (8%)	Four official results releases
Pratt & Whitney	Commercial aftermarket	Growth only	23% / 21% / 19% / 25%	Four official results releases
Pratt & Whitney	Military	Growth only	15% / 30% / 7% / 23%	Four official results releases
Raytheon	Named programs	Volume drivers only	AMRAAM, Patriot/GEM-T, Standard Missile, naval and air/space defense cited; no recurring program dollars	Four official results releases

No product dollars were back-solved. Pratt’s Q2 FY2026 commercial OE decline reflected mix despite increased large-commercial-engine deliveries, while aftermarket grew on volume and military benefited from F135 volume and contract timing. Raytheon’s Q2 segment growth was driven by higher volume across land and air defense, naval, and air and space defense systems.

5. Most recent quarterly trend

RTX FY ends December 31. Most recently completed fiscal quarter at time of writing: FY2026 Q2, covering 2026-04-01 through 2026-06-30, reported on 2026-07-23 via [RTX Q2 FY2026 results](https://www.rtx.com/news/news-center/2026/07/23/rtx-reports-q2-2026-results).

Collins Aerospace

Quarter	Revenue ($B)	YoY	Operating profit margin	Source and release date
Q3 FY2025	7.621	8%	16.5%	RTX Q3 results, 2025-10-21
Q4 FY2025	7.736	3%	18.1%	RTX FY2025 results, 2026-01-27
Q1 FY2026	7.602	5%	17.2%	RTX Q1 results, 2026-04-21
Q2 FY2026	8.210	8%	15.9%	RTX Q2 results, 2026-07-23

Pratt & Whitney

Quarter	Revenue ($B)	YoY	Operating profit margin	Source and release date
Q3 FY2025	8.423	16%	8.9%	RTX Q3 results, 2025-10-21
Q4 FY2025	9.496	25%	8.1%	RTX FY2025 results, 2026-01-27
Q1 FY2026	8.173	11%	8.7%	RTX Q1 results, 2026-04-21
Q2 FY2026	8.889	16%	8.3%	RTX Q2 results, 2026-07-23

Raytheon

Quarter	Revenue ($B)	YoY	Operating profit margin	Source and release date
Q3 FY2025	7.045	10%	12.2%	RTX Q3 results, 2025-10-21
Q4 FY2025	7.657	7%	11.6%	RTX FY2025 results, 2026-01-27
Q1 FY2026	6.945	10%	12.1%	RTX Q1 results, 2026-04-21
Q2 FY2026	8.269	18%	12.6%	RTX Q2 results, 2026-07-23

Q2 FY2026 was the load-bearing recency check: Pratt & Whitney, the largest FY2025 segment, reported sales growth of 16%, and that number appears in the live-fetched official release. The four-quarter FMP transcript records have dates 2025-10-21, 2026-01-27, 2026-04-21, and 2026-07-23, each matching the expected call date.

6. Management commentary on forward growth

Quotes below are short verbatim excerpts from the live-fetched FMP transcripts. Chris Calio was Chairman and CEO; Neil Mitchill was CFO. Each entry states the fiscal period and actual call date.

Collins Aerospace

Period and call date	Speaker	Verbatim quote	Topic	Modeling interpretation
Q3 FY2025, 2025-10-21	Chris Calio, CEO	“over $100 billion of out-of-warranty content at Collins”	Installed base	Supports durable aftermarket demand, not a one-quarter spike
Q3 FY2025, 2025-10-21	Neil Mitchill, CFO	“commercial OE side, we expect sales to grow around 10%”	OE outlook	Near-term production ramp was expected to remain strong
Q4 FY2025, 2026-01-27	Chris Calio, CEO	“about $105 billion of out-of-warranty aircraft content at Collins”	Aftermarket base	Installed content expanded and underpins service growth
Q4 FY2025, 2026-01-27	Chris Calio, CEO	“Collins will increase CapEx this year”	Capacity	Growth requires reinvestment and may limit near-term FCF conversion
Q1 FY2026, 2026-04-21	Chris Calio, CEO	“underlying demand for our OE products and aftermarket services remains durable”	Demand	Use a sustained demand case, tempered by OEM/supply constraints
Q1 FY2026, 2026-04-21	Chris Calio, CEO	“Collins launched a capacity expansion effort”	Air-traffic systems	Adds defense and government growth capacity beyond commercial aerospace
Q2 FY2026, 2026-07-23	Neil Mitchill, CFO	“commercial OE sales to grow mid- to high single digits”	2026 outlook	Company-wide OE outlook was raised on Collins production ramp
Q2 FY2026, 2026-07-23	Neil Mitchill, CFO	“commercial aftermarket... grow low double digits across the company”	2026 outlook	Aftermarket strength supports volume but should not be modeled indefinitely at Q2 rates

Pratt & Whitney

Period and call date	Speaker	Verbatim quote	Topic	Modeling interpretation
Q3 FY2025, 2025-10-21	Chris Calio, CEO	“GTF fleet management plan... remains on track”	Powder-metal remediation	Base case can use disclosed plan timing but must retain downside sensitivity

Period and call date	Speaker	Verbatim quote	Topic	Modeling interpretation
Q3 FY2025, 2025-10-21	Chris Calio, CEO	“deliver about 30% MRO output growth for the year”	Shop visits	Capacity and material flow were translating into higher MRO output
Q4 FY2025, 2026-01-27	Chris Calio, CEO	“begun production cut in of the Advantage engine”	Product transition	Advantage entry supports future OE and aftermarket economics
Q4 FY2025, 2026-01-27	Chris Calio, CEO	“Pratt will continue to invest in capacity across multiple sites”	Capacity	Margin expansion depends on successful industrial execution
Q1 FY2026, 2026-04-21	Chris Calio, CEO	“mid to high single-digit delivery growth for the year”	GTF deliveries	Provides a bounded 2026 OE volume anchor
Q1 FY2026, 2026-04-21	Chris Calio, CEO	“a backlog of about 8,000 engines”	GTF backlog	Long production runway also creates execution and working-capital demands
Q2 FY2026, 2026-07-23	Chris Calio, CEO	“Advantage will double the time on wing performance”	Durability	If achieved, improves customer economics and installed-base quality
Q2 FY2026, 2026-07-23	Chris Calio, CEO	“financial and technical outlook remains on track”	Fleet plan	No official deterioration at Q2, but compensation and AOG risks persist

Raytheon

Period and call date	Speaker	Verbatim quote	Topic	Modeling interpretation
Q3 FY2025, 2025-10-21	Chris Calio, CEO	“on track to invest $300 million in capacity expansion”	Capacity	Backlog conversion requires funded production expansion
Q3 FY2025, 2025-10-21	Chris Calio, CEO	“output more than doubling year-to-date through Q3”	AMRAAM execution	Production improvement can unlock backlog, subject to suppliers
Q4 FY2025, 2026-01-27	Chris Calio, CEO	“international backlog mix is now 47%”	Customer mix	International exposure is a structural growth and policy variable
Q4 FY2025, 2026-01-27	Chris Calio, CEO	“output increase by 20% across a number of our critical programs”	Munitions	FY2025 productivity gains support higher delivery assumptions
Q1 FY2026, 2026-04-21	Chris Calio, CEO	“total deliveries up over 40% year-over-year”	Munitions output	Q1 demonstrated accelerating throughput, not just bookings
Q1 FY2026, 2026-04-21	Chris Calio, CEO	“completed $115 million expansion of our Redstone Missile integration facility”	Capacity	Physical capacity is entering service to support naval programs
Q2 FY2026, 2026-07-23	Chris Calio, CEO	“more than doubled year-over-year output across our critical munitions”	Execution	H1 throughput supports strong near-term Raytheon sales growth
Q2 FY2026, 2026-07-23	Chris Calio, CEO	“Raytheon booked nearly $20 billion of awards”	Bookings	Q2 book-to-bill materially exceeded one and expanded visibility

The most load-bearing quoted statement was live-verified in the Q2 FY2026 transcript dated 2026-07-23: “At Raytheon, we've more than doubled year-over-year output across our critical munitions through the first half of the year.” The date is the exact expected call date, not a stale prior-year transcript.

7. Capital allocation history

Year	Capex ($B)	Capex / revenue	R&D ($B)	R&D / revenue	Buybacks ($B)	Dividends ($B)	Cash acquisitions, net ($B)	Source
FY2021	2.322	3.61%	2.732	4.24%	2.327	2.957	0.791	Live FMP statements
FY2022	2.775	4.14%	2.711	4.04%	2.803	3.128	0.028	Live FMP statements
FY2023	2.415	3.50%	2.805	4.07%	12.870	3.239	0.006	SEC capex override; other rows FMP/SEC

Year	Capex ($B)	Capex / revenue	R&D ($B)	R&D / revenue	Buybacks ($B)	Dividends ($B)	Cash acquisitions, net ($B)	Source
FY2024	2.625	3.25%	2.934	3.63%	0.444	3.217	0.000	Live FMP and 2025 10-K
FY2025	2.627	2.96%	2.807	3.17%	0.050	3.574	0.000	Live FMP and 2025 10-K

FY2023 buybacks include the accelerated share repurchase and explain much of the fall in diluted shares from 1,435.4 million in FY2023 to 1,343.6 million in FY2024. H1 FY2026 had no buybacks and $1.898 billion of dividends. Q2 FY2026 segment capex was $219 million at Collins, $193 million at Pratt, and $194 million at Raytheon, plus $63 million corporate/eliminations, totaling $669 million. H1 capex totaled $1.215 billion.

8. Balance sheet snapshot at FY2025

Item	$B	Source
Cash and equivalents	7.435	2025 10-K; live FMP balance sheet
Short-term investments	0.000	Live FMP balance sheet
Gross borrowings excluding leases	37.904	2025 10-K
Noncurrent operating lease liability	1.602	2025 10-K
Net debt including noncurrent lease	32.071	37.904 + 1.602 - 7.435
Statutory EBITDA proxy	13.678	9.300 operating profit + 4.378 D&A
Net debt including lease / EBITDA	2.34x	Calculated
Goodwill	53.343	Live FMP balance sheet; 2025 10-K
Intangible assets	31.845	Live FMP balance sheet; 2025 10-K
Goodwill plus intangibles	85.188	Calculated
Total common equity	65.245	Live FMP balance sheet
Tangible book value	(19.943)	Equity less goodwill and intangibles

At 2026-06-30, cash increased to $8.305 billion, matched borrowings excluding leases declined to $37.383 billion, and the noncurrent operating lease liability was $1.473 billion. TTM net debt including the lease was $30.551 billion, or 2.05x TTM statutory EBITDA proxy of $14.885 billion.

9. Recent corporate actions

- **2026-07-23:** RTX announced an agreement to sell Raytheon’s Blue Canyon Technologies business for $620 million. Source: Q2 FY2026 results release.
- **2026-07-23:** RTX raised FY2026 adjusted sales to $95.0-$96.0 billion, organic growth to 8%-9%, adjusted EPS to $7.10-$7.25, and FCF to $8.50-$8.75 billion. Source: Q2 FY2026 results release.
- **2026-04-21:** RTX raised FY2026 adjusted sales to $92.5-$93.5 billion and adjusted EPS to $6.70-$6.90 while maintaining the then-current FCF range. Source: Q1 FY2026 results release.
- **2026-01-27:** RTX initiated FY2026 outlook for adjusted sales of $92.0-$93.0 billion, organic sales growth of 5%-6%, adjusted EPS of $6.60-$6.80, and FCF of $8.25-$8.75 billion. Source: FY2025 results release.
- **2025-10-21:** RTX reported completion of the Collins Simmonds Precision Products divestiture and $2.9 billion of debt paydown in Q3. Source: Q3 FY2025 results release and transcript.
- **H1 FY2026:** RTX repurchased no common stock and paid $1.898 billion of dividends, prioritizing debt reduction and operating investment. Source: Q2 FY2026 10-Q.

10. Open data gaps and evidence classification

Gap	Classification	Sources and searches performed	Treatment
Revenue by named Collins product family, aircraft platform or aftermarket channel	True non-disclosure	2025 10-K, Q2 2026 10-Q and four releases searched for product, platform, OE, aftermarket and channel revenue	Use external products/services dollars and disclosed growth rates; no back-solve
Revenue by GTF, F135, Pratt Canada or other engine model	True non-disclosure	2025 10-K, Q2 2026 10-Q and four calls searched for engine, GTF, F135 and sales	Use segment dollars, product/service split and growth/volume commentary
Revenue or profit by Patriot, AMRAAM, Standard Missile or other Raytheon program	True non-disclosure	2025 10-K, Q2 2026 10-Q and releases searched by program name	Use Raytheon segment economics and program-level bookings/output commentary
Annual unit deliveries by individual engine model	True non-disclosure	2025 10-K, four transcripts, archived Q4 FY2021-FY2024 decks and Q2 FY2026 deck searched for deliveries and shipments	Use the complete five-year shipment series by military, large-commercial and Pratt Canada category; do not fabricate model-level splits
Annual GTF inspection completions, shop visits and absolute AOG counts	True non-disclosure	2025 10-K, Q2 2026 10-Q, Q2 deck and transcript searched for inspections, shop visits, AOG and fleet plan	Use disclosed AOG direction, MRO-output growth, turnaround-time improvement and cash impact; scenario-test undisclosed absolute counts
FY2021-FY2022 segment R&D	True non-disclosure in the recast segment tables	2023 and 2025 10-K segment tables searched for Research and Development	Use FY2023-FY2025 and H1 FY2026 segment R&D plus the complete five-year segment capex series; do not back-cast R&D
Program-level EAC adjustments for all contracts	True non-disclosure	2025 10-K and Q2 2026 10-Q searched for EAC and fixed-price development	Use disclosed aggregate EAC data and explicit margin downside cases
FMP FY2025 quarterly segmentation	Provider defect with official replacement	Live FMP annual and quarter endpoints plus official Q1/H1/9M/FY SEC sequence	Official completion-first quarterly replacement controls; discrepancy preserved
FY2023 capex	Provider discrepancy with official override	Live FMP cash flow versus 2025 10-K comparative	Official $2.415 billion controls; FMP $3.166 billion remains disclosed

No open gap exists in the segment-profit-to-statutory-operating-income bridge. Both sealed periods reconcile with zero residual, and no analyst-created balancing item is used.

Self-verification record

Load-bearing check	Live evidence	Result
Latest-quarter growth for largest FY2025 segment	Q2 FY2026 official release shows Pratt sales of $8.889B, up 16%	PASS
Management quote and transcript date	FMP FY2026 Q2 transcript contains the Raytheon output quote and is dated 2026-07-23	PASS
Latest full-year revenue	Live FMP annual income statement reports FY2025 revenue of $88.603B; official 10-K reports $88.603B	PASS, 0.0% gap

The package therefore uses live D-stage FMP pulls, archived official evidence, the QFR-sealed statutory bridge, and the verified completion-first segmentation replacement without reading the local warehouse cache.