STRATEGIC INSIGHT PAPER

The Service Strategy Illusion:

Why Most Industrial OEMs Are Miscalculating Their Aftermarket Potential

And Why Data Driven Intelligence, Not Installed Base Assumptions, Will Define the Winners

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1. The Problem Nobody Talks About

Across oil and gas, power generation, rail, commercial vehicles, and mining, major industrial OEMs are making the same strategic error. They are building service strategies on assumptions that look reasonable in a boardroom but collapse in the field.

The assumption is simple: we sold the equipment, therefore we will service it. The installed base is known. The replacement cycle is predictable. The customer has no real alternative. The service revenue will follow.

This assumption is increasingly wrong. And it is wrong in ways that most OEM leadership teams do not measure, do not track, and therefore do not see until it is too late.

The hard numbers: McKinsey research across 30 industries shows that aftermarket services deliver an average EBIT margin of 25%, compared to 10% for new equipment. For every additional percentage point by which services grow over product sales, enterprise value increases by approximately 50% (McKinsey, 2022). Aftermarket services deliver 2.5x higher profit margins than new equipment sales (Bain/BCG/McKinsey consolidated research, Entytle 2025). Service focused companies achieve double the total shareholder returns.

Yet most industrial OEMs capture only a fraction of the available aftermarket value from their own installed base. The rest leaks to third party providers, independent service organisations, or simply goes unserved.

Why? Because the planning models are built on assumptions, not intelligence.

2. The Five Assumptions That Kill Service Strategies

2.1 “We Know Our Installed Base”

Reality: Most OEMs have incomplete, outdated, or fragmented records of what is actually deployed, where, and in what condition. Equipment changes hands. Dealers do not report back. Configurations evolve. A McKinsey study found that many OEMs struggle to set the right price for infrequently sold SKUs because they lack visibility into which units are still active and what parts they require. Entytle (2025) reports that without unified visibility into deployed assets, when they were commissioned, and what configuration they are running, OEMs cannot proactively engage customers. They are stuck waiting for breakdowns or phone calls.

2.2 “Our Capture Rate Is Healthy”

Reality: OEM channels retained only 53% of the spare parts logistics market in 2024 (Mordor Intelligence, 2025). The independent aftermarket is growing at 9.1% CAGR. Price differentials between OEM and third party parts can reach 30%. Once warranties lapse, equipment owners actively seek cheaper alternatives. In the IT sector, Forrester (2024) found that only 20% of CIOs use OEMs exclusively for maintenance. The other 80% already use a mix of OEM and third party providers. There is no reason to believe heavy industry is meaningfully different.

2.3 “The Replacement Cycle Is Predictable”

Reality: Equipment owners are extending asset life well beyond OEM assumptions. Third party maintenance providers report that the average functional lifespan of industrial equipment is often double or more what OEMs specify: 18 to 33 years for some categories versus OEM specified 5 to 10 year lifecycles (Worldwide Supply, 2025). When OEMs declare End of Life (EOL) or End of Service (EOS), they typically stop selling support contracts and providing spare parts. Third party providers fill the gap. This means OEMs are losing the most profitable years of the equipment lifecycle, the years when parts margins are highest and customer dependency is greatest.

2.4 “Our Service Revenue Forecast Is Based on Solid Data”

Reality: Most OEM service revenue forecasts are built on top down installed base multiplication: number of units × assumed service frequency × assumed capture rate × assumed revenue per event. Each of these variables carries significant uncertainty. When compounded across a global fleet, the cumulative error can be 30 to 50% or more. One CFO quoted by Entytle (PackExpo 2025) said his board expects aftermarket to grow from 30% to 50% of total revenue within three years, with a mandate to double service attach rates and reduce parts leakage by 25% in 18 months. That is an aspiration, not a plan, unless it is backed by actual data on what is deployed, what is being serviced, and by whom.

> **A real service strategy is built on dynamic reality: what is actually happening in the field, at the customer site, in the competitive landscape, right now. It is not a CFO mandate reverse engineered from a gap between the annual target and the equipment order book. When the board says “grow service revenue from 30% to 50% of total revenue,” that is a financial ambition. It becomes a strategy only when it is grounded in validated installed base data, actual end user behaviour, competitive win/loss intelligence, and a realistic probability to capture. Without that foundation, it is arithmetic dressed as strategy. And the market does not care about your arithmetic.**

2.5 “The Customer Needs Us”

Reality: the end user has their own service policy, and it rarely matches the OEM's assumptions.

This is the most underestimated variable in any OEM service strategy. The equipment owner (the end user) operates under their own maintenance philosophy, budget constraints, procurement policies, and operational priorities. These are not aligned with the OEM's service model by default. They must be understood, mapped, and factored into every forecast.

How End User Service Policies Undermine OEM Assumptions

- Budget driven maintenance: many end users in mining, oil and gas, and transportation operate under strict annual maintenance budgets. When budgets tighten, OEM service contracts are the first to be renegotiated or cancelled, replaced by in house maintenance or cheaper third party providers.
- In house capability building: large operators (national railways, mining conglomerates, national oil companies) systematically build internal maintenance capabilities to reduce dependency on OEMs. Over time, they develop workshops, train technicians, and source generic or third party parts.
- Procurement centralisation: corporate procurement departments aggregate service contracts across sites and negotiate aggressively, often splitting OEM scope to cherry pick high value items and outsource the rest.
- Regulatory and compliance driven maintenance: in some sectors (aviation, rail, nuclear), maintenance must follow regulatory protocols that may or may not align with OEM recommended schedules. OEMs that build forecasts on their own recommended intervals, rather than actual regulatory or operator practice, systematically overestimate volume.
- Asset sweating: in cost pressured environments (MEA oil and gas, emerging market mining, developing country rail), operators run equipment well beyond OEM recommended service intervals. The equipment does not fail as fast as the OEM predicts. The service demand does not materialise on schedule.
- Technology leapfrogging: end users in some sectors skip OEM upgrade paths entirely, jumping to new technology (electric drives replacing mechanical transmissions, digital controls replacing analogue) from a different vendor, making the OEM's installed base service forecast irrelevant.

Critical insight: The end user's service policy is not an externality. It is the single most important variable in determining whether an OEM's service forecast is realistic or fictional. Any OEM that builds a service strategy without deeply understanding how their customers actually maintain, operate, and make procurement decisions about their equipment is engaging in Happy Planning.

3. The Evidence: What the Numbers Actually Say

Data Point	Value	Source
Aftermarket EBIT margin vs. new equipment	25% vs. 10% (2.5x higher)	McKinsey (30 industries)
Enterprise value increase per 1% service growth over product	~50% increase	McKinsey (2022)
OEM spare parts market share (2024)	53% (declining)	Mordor Intelligence
Independent aftermarket CAGR	9.1%	Mordor Intelligence
Price differential: OEM vs. third party parts	Up to 30% cheaper for third party	Mordor Intelligence / MEMA
CIOs using OEM exclusively for maintenance	Only 20%	Forrester (2024)
CIOs using OEM + third party mix	80%	Forrester (2024)
Donaldson aftermarket as % of Mobile Solutions revenue	75–80%	Donaldson SEC filing
Kadant aftermarket as % of Q1 2025 revenue	65%	Kadant SEC filing
Siemens Energy: mods & upgrades as % of service backlog	37%	ADI Analytics / Siemens Energy (2025)
Caterpillar online parts customers: incremental purchase increase	+24%	ADI Analytics (2025)
Global machinery production contraction (2024)	-2.1%	Interact Analysis
Fortune 500 annual cost of unplanned downtime	USD 1.4 trillion (~11% of revenue)	Siemens True Cost of Downtime 2024
Average downtime cost per hour (manufacturing)	USD 6,730+	Siemens / MaintainX (2025)
Equipment lifespan: OEM specified vs. actual	5–10 years vs. 18–33 years	Worldwide Supply

Sources: McKinsey (2017, 2022), Mordor Intelligence (2025), Forrester (2024), Entytle (2025), ADI Analytics (2025), Siemens (2024), Interact Analysis (2024), Donaldson/Kadant SEC filings, Worldwide Supply (2025)

4. Sector by Sector: Where OEM Service Strategies Are Breaking Down

4.1 Oil & Gas

National oil companies (NOCs) in the Middle East and Africa have been systematically building internal maintenance capabilities for decades. Large operators like Saudi Aramco, ADNOC, and QatarEnergy operate their own workshops and train their own technicians. OEM service contracts are increasingly limited to complex overhauls and proprietary digital systems. The days of full scope long term service agreements (LTSAs) as the default model are fading in favour of selective, scope limited contracts where the operator retains control.

Service strategy error: Assuming the installed base of turbines, compressors, or pumps automatically generates a predictable service revenue stream. The operator's procurement team is specifically tasked with reducing OEM dependency.

4.2 Power Generation

GE Vernova reported Q1 2025 service orders up 16% organically, with total backlog growing USD 4.4 billion sequentially (GE Vernova SEC filing, April 2025). Siemens Energy reports that "mods and upgrades" now represent 37% of its total service backlog, a shift from traditional spare parts to transformational offerings. The power sector is one of the few where OEMs maintain strong service positions, driven by the complexity of gas turbines and the criticality of uptime. However, even here, independent service providers are gaining ground on older, simpler equipment.

4.3 Rail

National railways and metro operators increasingly demand technology transfer and local maintenance capability as part of rolling stock procurement contracts. In emerging markets (India, Saudi Arabia, Egypt), new metro and rail systems are being procured with explicit requirements for local workshops, spare parts localisation, and operator training. The OEM's long term service revenue from these projects is structurally lower than what would be assumed from the installed base alone, because the contract itself limits the OEM's ongoing role.

4.4 Commercial Vehicles

Rush Enterprises (one of the largest US truck dealership networks) reported that aftermarket products and services accounted for 63.7% of total gross profit in Q3 2025, with parts, service, and collision centre revenues of USD 642.7 million (Rush SEC filing, Q3 2025). Commercial vehicle aftermarket is highly competitive, with independent workshops, third party parts suppliers, and fleet operators' own maintenance shops competing directly with OEM dealer networks. The electrification transition further complicates OEM service strategies: electric trucks have up to 40% lower maintenance costs, fundamentally shrinking the addressable aftermarket per vehicle.

4.5 Mining

Mining operators are among the most aggressive in building internal maintenance capability. Caterpillar has responded by making its dealer network and digital ecosystem (Cat Connect, Cat Inspect) central to its service strategy, achieving a 2.5x increase in aftermarket entitlement since the early 2000s (Industrility, 2025). Online parts customers purchase 24% more incrementally (ADI

Analytics, 2025). However, this success is the exception, not the rule. Most OEMs in mining have not replicated Caterpillar's dealer driven, digitally enabled model.

5. The End User Reality: The Variable OEMs Ignore

Every OEM service strategy is ultimately a bet on what the end user will do. Will they renew the service contract? Will they buy OEM parts or third party? Will they use the OEM for maintenance or do it in house? Will they follow OEM recommended service intervals or extend them?

The consistent pattern observed across decades of B2B engagements in MEA mobility, energy, and industrial equipment markets is clear: OEMs systematically overestimate their service revenue because they do not account for the end user's constraints and incentives.

The End User's Decision Framework

End User Constraint	Impact on OEM Service Revenue	How Often OEMs Account for This
Annual maintenance budget cap	Limits total spend regardless of OEM recommendation	Rarely
In house workshop capability	Reduces dependency on OEM field service	Sometimes
Third party parts availability	Erodes OEM parts revenue, especially post warranty	Often underestimated
Procurement centralisation	Forces price negotiation, scope splitting	Acknowledged but not modelled
Regulatory maintenance schedule	May differ from OEM recommended intervals	Rarely checked
Asset sweating / life extension	Reduces frequency and volume of service events	Almost never modelled
Technology migration decision	Can make entire installed base service irrelevant	Not in forecast models
Local content / technology transfer requirements	Limits OEM long term service role contractually	Acknowledged in bids, forgotten in forecasts

The implication is clear: any OEM service forecast that does not incorporate actual end user maintenance behaviour, budget constraints, procurement policies, and competitive alternatives is, by definition, a work of fiction. It is Happy Planning. And Happy Planning is the killer of any business plan.

6. AI Predictive Maintenance: The Force That Will Reshape Everything

If the current challenge is OEMs miscalculating their service potential based on static assumptions, the emerging challenge, and opportunity, is that the entire maintenance paradigm is shifting from scheduled and reactive to predictive and condition based. AI driven predictive maintenance will fundamentally change who captures service value, how much value there is to capture, and what the relationship between OEM and end user looks like.

6.1 The Market Reality

- The global predictive maintenance market is valued at USD 13.65 billion in 2025 and is projected to reach USD 97.37 billion by 2034 at a CAGR of 24.3% (Fortune Business Insights, 2025)
- AI driven predictive maintenance specifically: USD 870 million in 2025, projected to USD 2.88 billion by 2035 at 12.7% CAGR (FMI, 2025)
- AI predictive maintenance SaaS platforms: USD 2.6 billion in 2025, projected to USD 21.5 billion by 2036 at 21.0% CAGR (FMI, 2026)
- Manufacturing holds 42% of the predictive maintenance SaaS market (FMI, 2026)
- 65% of maintenance teams plan to use AI by end of 2026 (MaintainX, 2025)
- Only 32% have fully or partially implemented AI in maintenance operations (MaintainX, 2025)
- Predictive maintenance adoption actually decreased slightly from 30% (2024) to 27% (2025), suggesting a reset between experimentation and operational deployment (MaintainX, 2025)

6.2 The Proven Impact

- Maintenance cost reduction: up to 25% (Deloitte Analytics Institute)
- Uptime improvement: 10 to 20% (Deloitte)
- Equipment breakdown reduction: up to 70%
- Overall Equipment Effectiveness (OEE) improvement: 5 to 15%
- Machine service life extension: 30% on average through early fault detection
- Fortune 500 companies estimated to save 2.1 million hours of downtime and USD 233 billion in maintenance costs annually with full adoption (Siemens True Cost of Downtime 2024)
- ROI of 10:1 within two years of implementation (Deloitte)
- Digital twin implementations: ROI within 18 to 36 months, generating USD 1.2 to 3.5 million in annual savings per facility

6.3 Why This Changes the OEM Service Equation

For OEMs, AI predictive maintenance is simultaneously a massive opportunity and an existential threat.

The Opportunity

- OEMs that own the data layer (telemetry from connected equipment) can offer predictive maintenance as a premium service, locking customers into long term, high margin digital service agreements

- Caterpillar's Cat Connect ecosystem demonstrates this: digitally engaged customers purchase 24% more parts incrementally
- Rolls Royce's "Power by the Hour" model transformed the business from selling engines to selling uptime, enabled by predictive analytics
- Siemens Energy's shift to 37% mods and upgrades in service backlog reflects a move from reactive parts to proactive, data driven transformation services

The Threat

- If OEMs do not own the predictive maintenance platform, someone else will. Hardware agnostic AI platforms (C3.ai, Augury, Uptake, PTC, Rockwell Automation) are positioning to become the intelligence layer between the equipment and the operator, disintermediating the OEM
- End users are increasingly choosing vendor agnostic platforms that consolidate telemetry from multiple OEMs into a single dashboard, rather than using each OEM's proprietary system
- FMI (2026) notes that procurement teams evaluating AI predictive maintenance SaaS recognise that the algorithm is rarely the bottleneck; the actual challenge is organisational trust. OEMs that cannot earn trust with their data will lose the service relationship entirely
- Electric and autonomous vehicles generate fewer service events, but far more data. The OEM that controls the data layer controls the relationship. The one that doesn't becomes a hardware foundry (Market Minds Advisory, 2025)

6.4 The Coming Demand: When Predictive Maintenance Becomes Table Stakes

Today, predictive maintenance is a competitive advantage. Within five years, it will be a minimum requirement. The signals are clear:

- Insurance underwriters are beginning to offer premium reductions for assets under predictive maintenance monitoring
- Regulatory bodies in aviation, nuclear, and rail are moving toward condition based maintenance requirements
- ESG reporting frameworks (CSRD, ISSB) are creating pressure to demonstrate operational efficiency and emissions reduction, both enabled by predictive maintenance data
- Large procurement organisations (NOCs, mining conglomerates, national railways) are beginning to include predictive maintenance capability as a tender requirement for new equipment

The OEM that cannot offer an integrated, AI driven predictive maintenance platform as part of its service proposition by 2028 will be at a structural disadvantage in every major tender in oil and gas, power, rail, mining, and commercial vehicles.

7. A Data Driven Service Strategy Framework

The alternative to Happy Planning is Intelligence Driven Service Strategy. This requires replacing assumptions with data at every level of the service forecast and execution model.

Dimension	Happy Planning (Traditional)	Intelligence Driven (Data Driven)
Installed base visibility	ERP records + dealer estimates	Connected asset telemetry, live fleet data, validated configuration data
Service demand forecast	Units × assumed interval × assumed capture rate	Actual operating hours, condition data, end user maintenance behaviour, competitive positioning
End user behaviour	Assumed loyalty; assumed OEM dependency	Mapped: budget cycles, in house capability, third party usage, procurement policy, regulatory schedule
Capture rate	Static assumption (e.g. 60–70%)	Dynamic: tracked by customer, by asset, by region, by age of equipment, by competitive intensity
Pricing model	Cost plus with annual escalation	AI driven elasticity analytics, competitive intelligence, channel differentiated pricing
Parts leakage	Acknowledged but not measured	Tracked to SKU level; root cause analysed (price, availability, trust, awareness)
Competitive intelligence	Anecdotal; qualitative	Systematic: third party pricing data, market share tracking, tender win/loss analysis
Predictive maintenance	Optional digital add-on	Core platform: data layer, customer lock in, premium service tier, competitive moat
Service revenue forecast	Top down multiplication	Bottom up: validated installed base × actual behaviour × competitive probability × data driven pricing

8. Key Findings & Call to Action

1. Most industrial OEMs are systematically overestimating their aftermarket revenue potential. The installed base is not a guaranteed revenue stream. OEM spare parts market share has declined to 53% globally, with the independent aftermarket growing at 9.1% CAGR. Equipment owners are extending asset lifecycles to 18 to 33 years, well beyond OEM assumptions, and building in house maintenance capability.

2. The end user’s service policy is the most overlooked variable in OEM service forecasts. Budget constraints, procurement centralisation, in house capability, regulatory schedules, asset sweating, and technology migration decisions all erode OEM service volumes in ways that are not captured by traditional installed base multiplication models.

3. Happy Planning is the killer of any business plan. OEM service strategies built on static assumptions about capture rates, service intervals, and customer loyalty will underperform. The OEMs that win will be those that replace assumptions with intelligence: live installed base data, actual end user behaviour, competitive positioning, and AI driven demand forecasting.

4. AI predictive maintenance is the next battlefield. The predictive maintenance market is growing at 24% CAGR toward USD 97 billion by 2034. OEMs that own the data layer and offer integrated predictive maintenance will lock in customers and command premium margins. Those that don't will become hardware suppliers while platform companies capture the recurring revenue.

5. The window to act is closing. Within three to five years, predictive maintenance capability will be a minimum tender requirement in major industrial sectors. Insurance underwriters, regulatory bodies, and large procurement organisations are already moving toward condition based monitoring as a baseline expectation. The OEMs investing in connected equipment, data infrastructure, and AI driven service platforms today will define the competitive landscape of 2030. Those still debating whether to invest will find themselves responding to tenders they cannot win.

6. The winners will be data companies that happen to make equipment. Caterpillar's 2.5x aftermarket entitlement increase, Rolls Royce's Power by the Hour, and Siemens Energy's 37% mods and upgrades backlog are not accidental. They are the result of deliberate, data driven service strategies that treat the installed base as a living asset, not a static spreadsheet.

9. Sources

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Methodology: All data sourced from published research, SEC filings, verified industry publications, and direct B2B experience across MEA mobility, energy, and industrial equipment markets. No AI generated statistics.

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