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Business Models

Equipment as a Service in Machine Tool Manufacturing: Unlocking Greater Value for All

Shaun West, Philipp Humbeck, and Maximilian Rolle

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Helping managers reconceive Equipment as a Service (EaaS) as a strategic transformation rather than a pricing model.

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In industrial manufacturing, ownership has traditionally been linked to control. However, as volatility increases and digital capabilities advance, this assumption is being questioned. Equipment as a Service (EaaS) offers manufacturers an alternative: paying for performance rather than owning machines. This article examines how one company, TRUMPF, adopted EaaS—what changes took place within the business, how customers responded, and what others can learn from its shift.

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The Industrial Shift

Across the manufacturing industry, the reasoning for owning capital equipment is undergoing a major change. Faced with increasing demands for flexibility, cost efficiency, and sustainability, manufacturers are questioning whether ownership still provides a competitive advantage. Equipment as a Service (or EaaS) offers an alternative: instead of buying machinery, customers pay based on uptime, usage, or output, while the original equipment manufacturer (OEM) maintains ownership and operational responsibility[1]. This model turns large capital investments into predictable operating costs, freeing up cash and enhancing agility. However, EaaS is more than just a financing change—it transforms the manufacturer–customer relationship. Instead of ending at the sale, the relationship becomes a performance partnership[2]. Manufacturers vow to ensure outcomes, not just deliver equipment. Trust is embedded, and success is mutually shared: the better the machine performs, the more value both sides gain.

Digital technologies enable this transition. Features of Industry 4.0—such as predictive analytics, sensor integration, and remote monitoring—allow OEMs to ensure uptime and act proactively [3]. TRUMPF, a global leader in machine tools and laser systems, demonstrates how this model functions. Through its Pay-per-Part program, customers pay based on the parts produced, rather than owning the equipment, while TRUMPF remains responsible for machine availability and maintenance. For TRUMPF, EaaS has generated recurring revenue, provided deeper insights into asset utilization, and fostered closer customer relationships.

Reshaping the Financial Model

EaaS disrupts the financial structure of traditional manufacturing. Instead of depending on one-time capital sales, OEMs need to shift to recurring, performance-based revenue. This requires a rethink of financial planning, risk sharing, and control[4]. TRUMPF

responded with a hybrid model—keeping machine ownership for smaller installations while partnering with financial institutions on larger, capital-intensive projects. Many SMEs still prefer direct agreements with TRUMPF, trusting its engineering reliability over third-party financing.

Internally, this shift required new financial tools. Pricing was based not on list prices but on usage, lifecycle costs, and variable margins. TRUMPF adopted Total Cost of Ownership (TCO), lifecycle cost analysis, and flexible payback models to ensure financial viability. Forecasting became more complex, considering utilization, service needs, downtime risk, and contract variability. Finance, data, and operations teams had to work together. Despite this complexity, the model provided benefits: reduced volatility, recurring income, and real-time customer insights. Owning the asset allowed TRUMPF to offer predictive services, effectively upsell, and promote ongoing improvement. Importantly, no single financing structure suits all—flexibility by asset type and customer maturity is crucial. Financial agility became a strategic advantage[5], not just a back-office task. Table 1 shows that EaaS changes core financial assumptions around value, ownership, and predictability.

Factor	Traditional Equipment Sale	Equipment as a Service (EaaS)
Revenue Recognition	One-time upfront	Recurring over time
Risk Allocation	Buyer	Shared (OEM retains risk)
Capital Requirement	Customer	OEM or finance partner
Predictability	Volatile	Stable, forecastable

Table 1: EaaS Financial Considerations vs Traditional Sales

TRUMPF's operational metrics tell a compelling story:

- **Productivity up by 45%:** Improved programming, faster troubleshooting, and machines running with optimum parameters.
- **Cost per part down 25%:** Lifecycle pricing drove efficiency—saving on materials and maximizing machine productivity.
- **Recurring revenue model:** TRUMPF gained a more stable, predictable cash flow from long-term EaaS relationships.

> *"Initially, we thought it was about a more attractive financing model. It turned out that the new services help firms improve their productivity."*
> *– TRUMPF CTO*

We quickly learned that EaaS requires an entirely different financial mindset. Shifting from CapEx to OpEx transferred risk back to us, and we had to develop the tools to handle that—TCO, forecasting, real-time performance data. It wasn't just about pricing differently—it was about managing the business in a new way. Without that financial discipline, we couldn't scale.

Crossing the Trust Threshold: Overcoming Customer Reluctance

Even the most sophisticated EaaS model faces customer resistance. Transitioning from ownership to access—especially in mission-critical environments—requires more than a persuasive pitch; it calls for a change in mindset. In TRUMPF's pilots, customer concerns were specific: less control, unclear pricing, unfamiliar payment terms, and doubts about accountability. These concerns made sense. For decades, ownership signified reliability. Handing over operational responsibility to an OEM—and paying based on results—felt like losing control[6]. Some worried about service delays, others about hidden fees or untested technology. Ultimately, the problem wasn't just the machines—it was trust.

TRUMPF addressed this by embedding transparency[7] into every stage of the customer journey. Lifecycle pricing was clearly explained. Service agreements were tailored to meet actual production requirements. Remote diagnostics were demonstrated live. Most importantly, customer feedback influenced contracts, turning negotiation into a collaborative process. Buyers didn't just want better terms; they needed confidence that the company would deliver, communicate openly, and take responsibility if things went wrong. Trust became a key part of the offer—not an afterthought. That shift was essential.

Trust-Building Elements Identified by TRUMPF

TRUMPF identified and addressed key friction points to overcome skepticism and embed trust[8] throughout the customer experience:

- **Control concerns:** Customers expressed unease about remote monitoring and OEM ownership.
- **Pricing opacity:** Usage-based models created confusion without strong onboarding and cost visibility.
- **Relational shift:** Building trust required transparency, responsiveness, and co-creation—not just SLAs.
- **Insight:** Trust was learned through behavior (design, communication, and shared outcomes), not contracts alone.

> *"Our customers were not buying access—they were buying confidence. Moreover, confidence only comes from trustworthiness and reliability, not contracts."*
> *– TRUMPF Product Manager.*

Piloting EaaS with a select group of early adopters allowed TRUMPF to refine its model and messaging. These partnerships became proving grounds, where technical value met operational reality, and helped create credible internal advocates who could reassure hesitant clients.

> *"EaaS gives us clarity on the true margin cost of manufacturing, which helps us price more confidently for our customers. We no longer worry about owning the machine. We focus on what matters: the capabilities it delivers."*
> *– Customer Perspective*

Internally, EaaS also required cultural realignment. Sales teams needed to transition from pitching machines to selling outcomes[9]. Service teams received training in proactive engagement. New KPIs were introduced to track success beyond delivery: uptime guarantees, usage efficiency, and customer satisfaction. Supporting infrastructure—including smart SLAs, escalation protocols, and usage dashboards—helped reinforce a sense of control for the client, even when ownership remained with TRUMPF.

The lesson is clear: successful EaaS adoption hinges on more than performance; it depends on building trust, educating the market, and designing experiences that make the new model feel viable and superior. Customers didn't just need a better payment model—they needed to believe we'd show up, keep things running, and be transparent when things didn't go to plan. Trust became part of the offer, not a nice-to-have. We built it through clarity, responsiveness, and co-creation—not just contracts. That shift was critical.

Internal Resistance: Culture and Change Management

While external trust is essential, internal resistance can be just as disruptive. TRUMPF's transformation required rethinking performance expectations, incentives, and mindsets. Sales teams accustomed to quota-based rewards had to focus on outcomes, not just features. Service shifted from reactive maintenance to proactive uptime delivery. Product development moved from cost reduction to long-term reliability. To support this shift, TRUMPF introduced a change readiness checklist (Table 2) to highlight common issues and gaps.

> *"We had to stop thinking like machine vendors and start thinking like service partners. It was a change in mindset. Moreover, we are only at the beginning."*
> *– TRUMPF R&D Manager.*

To realign the organization internally, TRUMPF executed several parallel initiatives that addressed role clarity, accountability, and performance incentives[10]:

- **Sales and service realignment:** Sales teams were retrained to shift from machine-selling to performance-based (solution) selling.
- **KPI overhaul:** Metrics changed from unit sales to uptime, usage efficiency, and customer satisfaction.
- **Cultural resistance:** There was initial pushback from legacy roles. Realignment took time and was described as *"painful but necessary."*
- **Organizational insight:** Moving to EaaS required redesigning the offering and the organization behind it. As one executive put it, *"It takes time."*

Readiness Area	Status at Trumpf
Outcome-based sales training	Completed
Lifecycle pricing models established	In place
Cross-functional coordination routines	Active
Customer feedback in SLA design	Integrated
Digital dashboards implemented	In place

Table 2: EaaS Change Readiness Checklist

Internally, we underestimated the difficulty of the change. Salespeople were used to closing deals—not managing ongoing results. Engineers had to design for service, not just specs. Ultimately, roles, metrics, and culture had to align around a single goal: delivering value over time[11].

Tensions Behind the Transition

Although TRUMPF ultimately succeeded in implementing EaaS, the journey revealed deep structural tensions between the model's demands and the company's existing framework. These differences reveal hidden frictions[12] that can quietly undermine transformation if left unchecked.

Many of the toughest challenges were not technical—they were organizational. A company built on engineering excellence and capital sales had to unlearn decades of product-focused thinking. Teams that once delivered machines now needed to deliver outcomes. Language, metrics, customer interactions, and internal authority structures all faced pressure. TRUMPF had to recognize these tensions, even when clear solutions were absent (Table 3).

What was required	What was in place
Start-up mindset	OEM structure
Cultural reinvention	Legacy processes
Service ownership	Product-centric logic
New customer building	Installed base reliance

Table 3: Misalignments Between EaaS Demands and Legacy Structure

> *"What made the firm successful in the past hindered the implementation of the new EaaS."*
> *– TRUMPF R&D Manager.*

These were not just superficial gaps but deeply embedded habits and incentives. Product development had historically focused on reducing unit costs and increasing speed rather than on lifecycle performance. Sales teams were rewarded for closing deals, not for maintaining relationships.

Fixing the problem took more than KPIs—it required resetting the narrative, cross-functional collaboration, and a long-term commitment. TRUMPF redefined contradictions as design challenges. We were running a new model on top of an old one. That tension appeared everywhere—from project scope to revenue recognition[13]. Calling it out was uncomfortable—but essential.

EaaS as a Sustainability Catalyst and Digital Engine

EaaS is more than just a financial or operational innovation—it is a strategic enabler of sustainability. By linking revenue to performance and retaining ownership of equipment, OEMs like TRUMPF are directly motivated to design for longevity, optimize usage, and minimize material waste. The business model reverses the idea of planned obsolescence: instead of selling more machines, the manufacturer makes more money by keeping existing machines running efficiently and longer. This incentivizes improvements in reliability, serviceability, and energy efficiency. It also shifts the OEM's role from a supplier to a partner in long-term operational performance and environmental stewardship[14].

TRUMPF's EaaS-enabled machines feature real-time monitoring, predictive maintenance, and usage analytics. These capabilities help extend equipment lifespan, reduce unplanned downtime, and cut overall energy use[15]. TRUMPF gains valuable usage data that supports predictive service, product improvements, and boosts sustainability reporting. The company has started embedding environmental metrics—such as energy intensity per part and carbon reduction estimates—into customer dashboards and service agreements,

helping clients track Scope 3 emissions and meet ESG targets. By maintaining ownership, TRUMPF can also refurbish or redeploy machines at the end-of-life, reducing environmental impact and creating circular revenue opportunities[16].

> *"No digital backbone, no EaaS. We had to think like a platform company."*
> *– TRUMPF Digital Lead.*

That digital infrastructure makes sustainability measurable. Tying revenue to machine performance gave TRUMPF every reason to reduce waste and improve efficiency. Once the digital foundation was in place, the firm could optimize in ways that were previously impossible.

Making EaaS Work: Key Lessons from the Case

TRUMPF's shift to EaaS was neither smooth nor straightforward. It required experimentation, iterations, and major internal adjustments. Structural misalignments, cultural resistance, and strategic oversight compelled the company to reevaluate how value is generated—not just for customers but also internally. Not all pilots were successful. Early contracts underestimated data accuracy, resulting in inaccurate forecasts and revenue shortfalls. Some incentives were misaligned—rewards for uptime even when output lagged. Flat-fee pricing models often alienated customers whose operations did not align with the assumptions built into the contracts.

Software tweaks and tighter legal terms weren't enough. TRUMPF had to go further: integrating finance into early-stage design, testing tiered pricing based on usage patterns, and using shared dashboards to boost transparency. The key insight was this: don't lead with technology—lead with value. Technology is a tool, not a replacement for business logic that benefits both sides[17]. These lessons extend beyond TRUMPF. They apply to all manufacturers exploring outcome-based models (Table 4).

Theme	Issue
Financial Structuring and Partnerships	—EaaS shifts CapEx to OpEx, requiring lease-based financing, risk-sharing contracts, and strong financial partnerships. —Customer concerns over predictability must be addressed early.
Operational and Organisational Transformation	—Workforce retraining, predictive maintenance, and data-driven KPIs are non-negotiable. —Understanding lifecycle costs is key to delivering profitably.
Business Model Innovation	—Subscription, usage-based, and hybrid models have trade-offs. —Profitability demands strategic pricing and proactive revenue forecasting.
Strategic Implications for Industry	—EaaS signals a larger shift toward outcome-based ecosystems. —Success will depend on technology integration, regulatory fit, and shared accountability.

Table 4: Key Lessons from TRUMPF's EaaS Journey

> *"EaaS is not product innovation—it is a strategic redesign of how value, risk, and performance are structured across the business."*
> *– TRUMPF Product Strategy Lead.*

From this learning curve, TRUMPF identified four key imperatives for making EaaS work. First, the financial model needed to change—from one-time capital sales to recurring revenue, supported by lease-backed partnerships and a long-term focus on cash flow. Second, operational change was crucial: lifecycle cost analysis, predictive maintenance, and cross-functional coordination became essential. Third, innovation had to go beyond products to include pricing, engagement, and service design. EaaS ultimately symbolized a broader shift toward outcome-based ecosystems. But identifying these pillars wasn't enough. TRUMPF recognized that successful scaling required full organizational alignment around a new definition of value.

Three foundational truths emerged as the company adapted:

- **Service is not the same as subscription.** Swapping ownership for access does not create value unless service logic is fully embedded. A subscription is a deferred purchase that does not include uptime guarantees, proactive maintenance, or outcome commitments.

- **Outcomes are not the same as access.** Customers care less about machine availability and more about consistent, predictable performance. EaaS only works when it guarantees the customer's needs: output, not ownership.
- **Trust is not built through contracts—it is built through behavior.** EaaS demands a high level of interdependence between OEMs and customers. That dependency only works when transparency, responsiveness, and accountability are consistently demonstrated.

When these principles were ignored, friction emerged. Early versions of TRUMPF's model that sold access without meeting performance expectations damaged trust. This highlighted a key insight: EaaS does not work as a product—it's primarily a relationship. To deliver on its performance promise, TRUMPF needed to transform itself on multiple levels. Culturally, the mindset had to shift from simply delivering machines to enabling outcomes. Sales teams were retrained to prioritize long-term value over short-term deals. Service evolved from reactive support to predictive interventions. Product teams started designing for durability and easy maintenance, not just production efficiency.

Technologically, a digital backbone became essential. Real-time monitoring, machine analytics, and usage dashboards shifted from optional to foundational—making EaaS measurable, accountable, and scalable. Without trustworthy data, the performance promise couldn't be proven or improved. Strategically, TRUMPF had to immerse itself in its customers' worlds. It became a partner within their operations, requiring new skills: empathy, responsiveness, and the ability to co-create service experiences that reflect complex realities. Crucially, the OEM now bore responsibility for outcomes. Selling EaaS wasn't enough—it had to be consistently delivered every day.

This shift involved real risk. Cultural and operational failures could damage customer trust, even if the technology worked perfectly. Inconsistent service undermined the trust the model relied on. A product-centric mindset weakened ownership. When execution fell short, customers noticed—and sometimes left. The key lesson: EaaS is not just a pricing plan; it's a performance commitment. It succeeds only when internal alignment, external delivery, and shared results stay aligned. There's no single lever. What matters most is that structure, culture, and customer relationships all move together. When they do, the model functions. When they don't, everything suffers.

> *"EaaS turns the OEM from a vendor to a performance partner—and that is an entirely different business model."*
> *– TRUMPF Executive.*

Conclusion: Leading the Shift from Machines to Outcomes

TRUMPF's journey with EaaS demonstrates that this model is more than just a new revenue source—it's a rethinking of how value is generated and created in industrial markets. EaaS transitions the OEM's role from merely selling machines to being a performance partner, aligning the provider's success with customer results. It challenges traditional ideas of ownership, risk, and responsibility, emphasizing trust, outcomes, and long-term collaboration. This change requires not only digital infrastructure and financial adjustments but also a cultural reset that integrates service principles into industrial operations.

Success wasn't guaranteed—and much of it came from failure. Pilots revealed misaligned incentives, flawed contracts, and internal resistance that could have derailed the effort without careful reflection and redesign. What ultimately made the difference wasn't strategy alone, but disciplined execution across finance, operations, product design, customer engagement, and leadership. The resulting model delivered real gains in customer productivity, cost savings, and revenue resilience. Most importantly, it repositioned TRUMPF as a trusted partner embedded in customer success.

For industrial leaders facing volatility, capital pressure, and ESG demands, EaaS offers more than efficiency—it's an opportunity to lead. The journey is tough, but the benefits include stronger relationships, adaptable revenue models, and a more resilient position in an outcomes-focused economy. Companies that adopt the model early—and completely—won't just survive disruption; they'll shape what happens next[18].

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Shaun West Follow

Prof. Shaun West is Professor of Product-Service System Innovation at the Lucerne University of Applied Sciences and Arts. With extensive industry experience at Sulzer, GE, and National Power, his research focuses on servitization, smart services, and sustainable industrial transformation through digital platforms and outcome-based service business models.

Philipp Humbeck Follow

Dr. Philipp Humbeck is Program Lead at TRUMPF Machine Tools, specializing in Equipment as a Service (EaaS) and digital business models. With a doctorate in mechanical engineering from the University of Stuttgart, his work integrates servitization, platform strategies, and innovation management across industrial product-service systems and smart manufacturing ecosystems.

Maximilian Rolle Follow

Maximilian Rolle leads Digital Business Model Innovation at TRUMPF, focusing on Equipment as a Service (EaaS) and industrial servitization. With over six years of experience at TRUMPF in strategic roles, his work focuses on developing outcome-based digital models that transform value creation in advanced manufacturing environments.