



Smart operations in the
manufacturing sector
Creating a connected
aftermarket

Contents

Introduction	3
Aftermarket growth trends	5
Tackling the challenges	8
Turning obstacles into opportunities	10
Unlocking value	14
End notes	15
Authors	16



Introduction

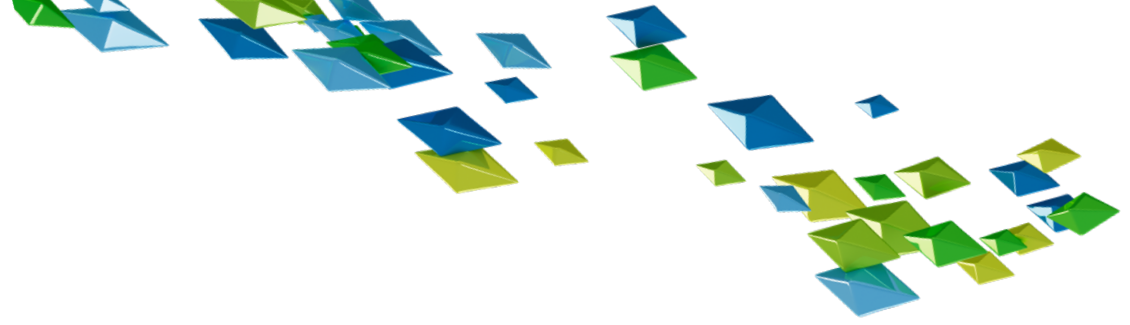
For some manufacturing companies, aftermarket can be an afterthought, but it shouldn't be.

From aerospace and automotive to industrial machinery, manufacturing is inextricably linked to the production of physical assets. Underlying this focus is a potentially dated belief that sales of new assets are the core business and consequently matter more than sales of aftermarket services—after all, if an asset isn't sold, there is no asset to sustain. This traditional approach could lead to outsized investments in production at the expense of sustainment, resulting in missed opportunities for growth within a large and thriving services market.

Increasingly, however, manufacturers are finding that long-term sustainability and profits may hinge on an equally critical area of focus: aftermarket services. Some manufacturers already generate 40-50% of their profits from services.¹ Others generate all their profit from services and only sell new equipment to fuel future aftersales services. Most tellingly, the average operating margin from aftermarket services globally is two to three times higher than the operating margin from new equipment sales.² External factors are also pushing traditional manufacturers to consider expanding aftermarket services. In the past decade,

volatility in the supply chain has prompted discussions and action around near-shoring and offshoring activities. Aftermarket services are ancillary revenue streams that directly serve the customer, wherever they are located, that do not face similar pressures. Since data and technology connectivity has rapidly matured in the past five years, scaled aftermarket services are now more viable than before.³

At the same time, a strong aftermarket can signal a commitment to long-term product reliability, helping to increase customer satisfaction.⁴ It is an acknowledgement that customer relationships extend beyond the initial sale and are continuously shaped by the ways in which customers interact with products over time. This focus on the customer experience can yield bottom-line results. Research commissioned by Deloitte Digital⁵ found that business-to-business (B2B) buyers are 34% more likely to do business with companies that prioritize the customer experience. For their part, sellers report an 18% increase in customer acquisition and 8% higher revenues when delivering exceptional experiences.



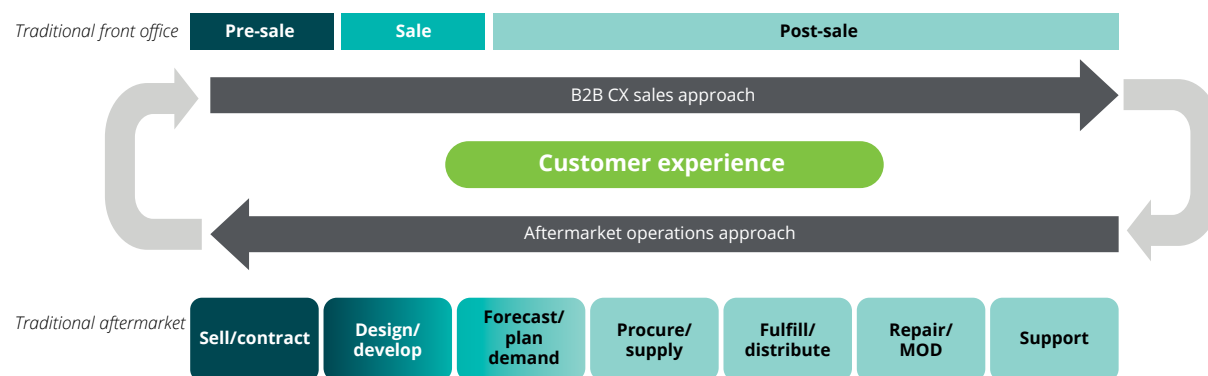
This is a fundamental shift for traditional manufacturers to consider “who is the customer” and “how will they engage with us across the lifecycle of their product” and requires better connectivity between traditional front office sales functions with engineering and production operations. It also creates a new definition of what “loyalty” means – not just buying specific products, but also an array of ancillary services across the customer lifecycle (figure1).

These factors could unlock new, ancillary revenue streams for manufacturers and are fueling an interest to grow aftermarket services, opening the door to the creation of a connected aftermarket. While smart operations in manufacturing traditionally focus on improvements within the factory, the connected

aftermarket aims to extend the value chain beyond the factory to include the full acquire-to-retire lifecycle of a fielded product. This approach transforms aftermarket service delivery by dynamically connecting vast networks of assets, people, and materials into an integrated, visible, and continuously optimized system. It aims to improve aftermarket operations and drive value by planning the **right service**, with the **right parts and technicians** positioned in the **right place**, optimized to deliver at the **right time**.

To help manufacturers unlock this value and navigate the complexities of creating a connected aftermarket, this report delves into emerging market trends and explores how to overcome common challenges to create a pathway to sustainable growth.

Figure 1: Customer experience journey



Source: Pete Robertson, managing director, Consulting, Deloitte Consulting LLP⁶



Aftermarket growth trends

Several trends underpin the rising interest in aftermarket services, each with the potential to deliver top- and bottom-line benefits for manufacturers.

Manufacturing headwinds fuel service growth aspirations

Amid economic uncertainty and inflationary pressure, the manufacturing industry continues to face headwinds. These range from cyclical fluctuations in new equipment sales and mounting pressure on pricing to supply chain disruptions that are exacerbated by increasingly long lead times and reliance on a very complex supply network, often consisting of hundreds of tier-one suppliers and potentially thousands of tier-two suppliers.⁷

Customer demands are also shifting. Rather than spending on new orders,⁸ many customers are looking to extend the life of their existing fielded assets. These aging assets require more maintenance and perhaps even modifications for modernization (e.g., upgraded parts, capabilities, asset overhaul) to extend their useful life.

Combined, these headwinds are driving many manufacturers to explore the untapped potential of the aftermarket and set ambitious growth objectives. One leading manufacturer, for instance, plans to double its service revenue within six years by leveraging the intelligence generated by its nearly one million pieces of connected equipment.⁹

Strategies like these underscore the opportunities inherent in services such as remote monitoring and diagnostics, digital analytics, and predictive maintenance. Beyond helping to enable manufacturers to generate more consistent revenue flows, these types of aftermarket services can help them realize two and a half times greater operating margins than new equipment sales.¹⁰

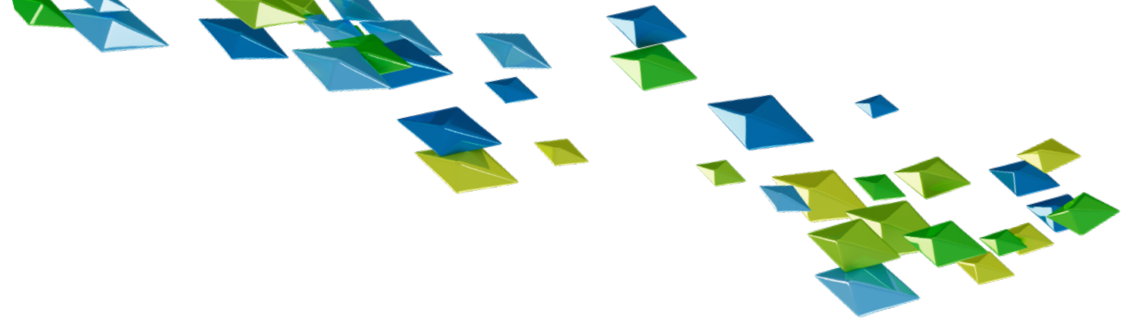
Customer experience creates differentiation

While manufacturers do not conventionally think of their customers as retail consumers, the proliferation of personalized experiences in the business-to-consumer (B2C) space is spilling over into business-to-business transactions. It may even be “table stakes” to differentiate with experience.¹¹ Tellingly, customer-focused organizations report a 49% increase in sales or revenue, a 45% increase in profitability, and a 70% increase in customer loyalty/satisfaction.¹² For their part, 88% of customers say the experience a company provides is as important as the product itself.¹³

This shift toward customer-centricity has manufacturers considering how aftermarket services can help to enhance the customer experience. While customer experience is often a focus of pre-sale activities, perhaps the most important aspect of a customer’s experience is with the product itself. By aiming to increase product uptime, accelerate maintenance, improve predictability, and reduce operating costs, a connected aftermarket approach prioritizes customer needs throughout the lifecycle. Digital tools can similarly enhance warranty support, performance monitoring, asset and lifecycle management, and energy management.¹⁴ Beyond elevating the customer experience, this could position manufacturers to create new and stable sources of revenue, build brand loyalty, and gain competitive advantage.

Digital technologies and Generative AI (GenAI) shift aftermarket realities

As manufacturers aim to meet shifting customer expectations, they are increasingly embarking on a digital journey as improvements in customer



experience frequently hinge on making a significant investment in digital technology. A recent survey from the Deloitte Research Center for Energy & Industrials found that 93% of manufacturers were experimenting with, or implementing, at least one digital customer experience use case—and on average, they were implementing four.¹⁵ At the same time, the 2023 Deloitte Digital Maturity Index found that 70% of companies that implemented digital solutions improved their customer experience.¹⁶ In the industrial products sector, this improvement has been fueled, at least in part, by an 8% increase in the use of intelligent, connected services.¹⁷

In the same vein, another survey reported that 84% of respondents in industrial manufacturing and construction are already using, or plan to use, artificial intelligence (AI) and machine learning (ML) technology.¹⁸ Responses from aftermarket companies similarly showed that “connected” assets via Internet of Things (IoT) sensors, AI/ML, and GenAI are major focus technologies for the next one to three years.

As manufacturers leverage digital connectivity and these advanced analytics technologies, they are honing their ability to deliver a depth of analytical insight that can help customers maximize the usage of their equipment in unprecedented ways. Beyond empowering them to create new digital revenue streams, these investments could help to drive a simultaneous improvement in both customer experience and asset uptime via predictive maintenance.

Remote and virtual sensing transforms predictive maintenance

Thanks to greater connectivity, more than 70% of B2B customers expect proactive customer service that anticipates their needs.¹⁹ Using data generated by digitally connected assets, manufacturers can predict failures and service needs well before immediate action is required, improving asset uptime by up to 20%.²⁰ This is expanding the opportunity for aftermarket service,

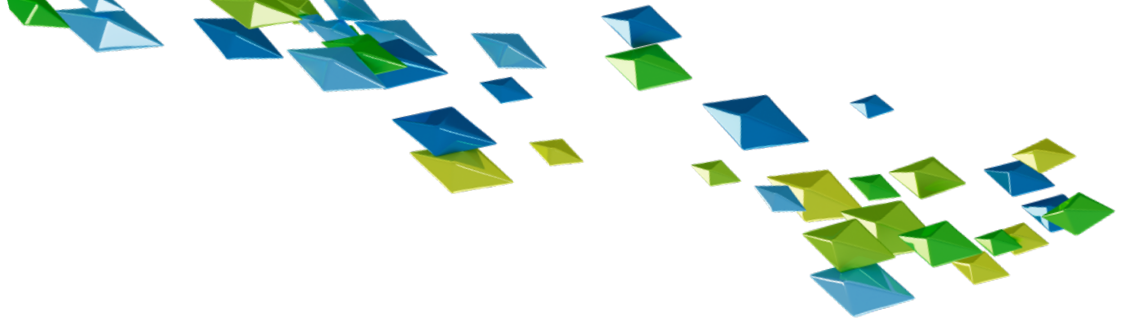
driving manufacturers to accelerate the connectedness of their assets via IoT sensors, onboard computers, and remote monitoring and diagnostics. These product enhancements provide companies unprecedented access to performance data, positioning them to proactively monitor their customers’ maintenance needs and predict the precise timing to schedule service.

With such advanced analytics and predictive applications, aftermarket providers can optimize scheduling (and bundling) of many service events to maximize uptime, minimize customer disruptions, and reduce the total lifecycle cost of ownership for their customers. Similarly, this insight allows aftermarket providers to optimize the dispatch, scheduling and routing of their own technicians, minimizing their cost to serve and help enhance service throughput. Compared to reactive maintenance, manufacturers using preventative and predictive maintenance report reducing overall maintenance costs by 5-10% and decreasing maintenance planning time by 20-50%.²¹

In addition to the wide-ranging benefits promised by digital transformation and predictive analytics, manufacturers are also implementing and experimenting with virtual aftermarket services.²² This includes using augmented reality (AR) to offer remote troubleshooting assistance and creating virtual operation manuals.²³ Virtual and AR technologies also reduce the need for on-site technicians, further improving field service efficiency. Thanks to these innovations, manufacturers are revolutionizing the way in which they approach predictive maintenance.

Aging systems poised for modernization

Most manufacturers recognize the need to upgrade the legacy systems that have supported their operations for years. After all, the business environment has changed significantly since many enterprise resource planning (ERP) platforms were first implemented. This may explain why 77% of ERP clients stated their current system was not well aligned



to their business needs.²⁴ As manufacturers seek to modernize their systems to realize the benefits of a connected aftermarket, however, they will need to consider the extent to which they truly wish to transform. By approaching this initiative as just another system upgrade, they may once again relegate the aftermarket to an afterthought.

Conversely, by embracing the opportunity for true transformation, they could revamp the way they execute aftermarket services. By building business models to help enhance customer service, enable predictive maintenance, and connect maintenance, repair, and overhaul (MRO) operations to the front office, they can create a complete connected

aftermarket digital journey. For instance, direct collaboration between the aftermarket organization and engineering can serve to inform product design based on real-time field feedback - an opportunity made ever more real as the growth of the model-based enterprise (MBE) is increasingly prioritized within engineering functions.²⁵ Equipping service technicians with AR and virtual reality tools when performing sustainment operations can reduce the need for disparate artifacts (e.g., service manuals, maintenance procedures). This does more than bolster aftermarket operations. It also positions manufacturers to design more strategically, manufacture more efficiently, and serve customers more effectively.²⁶





Tackling the challenges

While market trends are propelling many manufacturers to deliver differentiated aftermarket services, challenges remain. These typically fall into four categories:

1. “Knowing” the customer

Gaps in customer data due to a reliance on legacy systems could prevent many manufacturers from gaining a holistic view of their customers, customer segments, and typical buying behaviors. Manufacturers may have a customer name, but they don’t “know” the customer to the extent that trending customer experience demands. Additionally, once a product is sold, manufacturers often lose track of the assets that remain in the field and their associated configurations/bill-of-material (BOM). This disconnected approach limits their ability to tailor their communications and improve service delivery to both existing and potential customers.

2. Siloed data and limited system integration

Too often, data relevant to customer journeys is poor quality and scattered across disconnected systems and departments, limiting a manufacturers’ ability to track the full customer journey or assess readiness for MRO execution. Poor integration between technologies and processes leaves 55% of customers feeling like they generally engage with separate departments rather than one unified company.²⁷ It also leaves companies relying on incomplete or stale data, compromising their efforts to unlock the benefits of digital transformation.

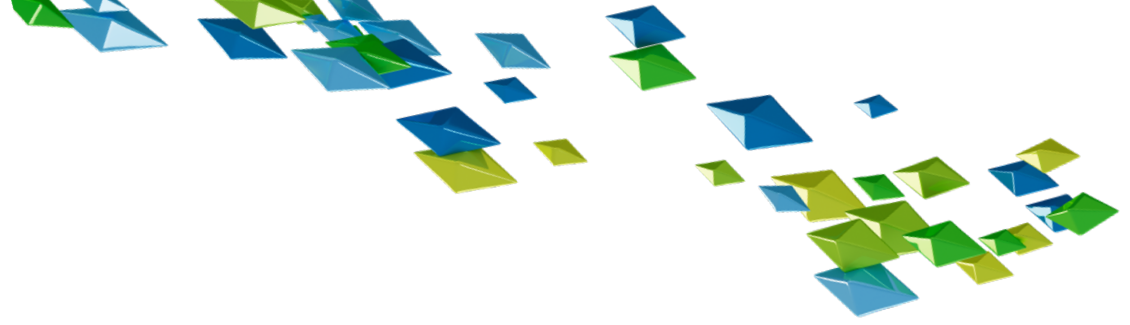
Disconnected, siloed data sources and weak data governance also make it harder to pinpoint MRO root cause concerns, identify the technical resources available to address those concerns, or even align “top floor” strategy and decisions with MRO “shop floor”

operations and needs (and vice versa). Without this data-driven visibility, manufacturers cannot coordinate responses across the extended ecosystem of original equipment manufacturers (OEMs), asset owners and operators, MRO providers, and even dealers.

This, in turn, leads to supply chain misalignment, operational inefficiencies, and an over-reliance on manual processes. Manufacturers consequently face frequent delays and planning inaccuracies, causing (often unknown) downstream impacts.

3. The aftermarket is dynamic

Unlike traditional manufacturing production, the aftermarket does not operate in a linear, consistent fashion. Uncertainty regarding when maintenance is required, what might be found during inspection or teardown, and whether the work can be completed in a timely manner often hinders traditional manufacturers. Especially those used to a well-defined production sequence that prioritizes first-time right and high schedule accuracy. This uncertainty makes it difficult to accurately estimate start and end timings for MRO completion or to help ensure the right materials are ready and most work instructions are defined. Aftermarket maintenance planning should account for the variability and risk that might occur to achieve first-time fixes. This variability causes challenges to operating environments set up to flow in predetermined sequences, prompting manual workarounds, maintenance deferrals, and lost revenue due to sub-optimal throughput.



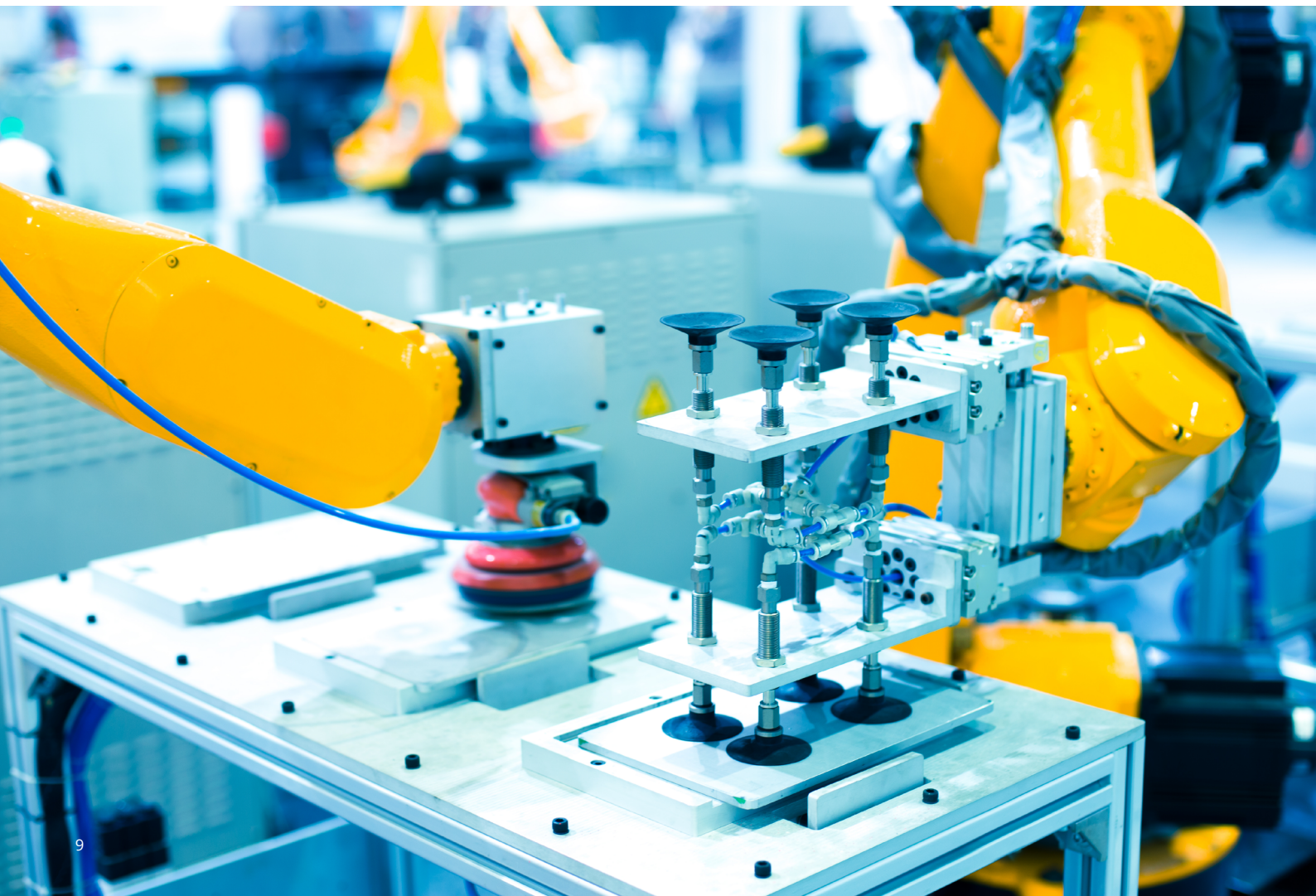
4. Talent gaps

The traditional focus on production means that manufacturers may lack experience in designing service packages or fostering a service-oriented culture. This makes it difficult to support the flexibility required by a connected aftermarket. This means the salesforce will likely have to transform to deliver messages of service value instead of product superiority and to become solution-minded instead of product-centric. As technology advances and equipment gains additional features, the repair and refurbish process is also becoming more complex, leading to shortages in skilled technicians. The aging workforce, especially in heavy industrials and aerospace and defense,²⁸ can also leave a gap in aftermarket service talent.

The path forward

Considering these challenges, many customers remain skeptical of a manufacturer's ability to deliver the level of aftermarket service they expect. If most manufacturers approach the aftermarket as an afterthought, they may struggle to meet the spiraling service expectations of a savvy and demanding customer base. However, if OEMs can truly become customer-centric with aftermarket services, they may be optimally positioned to service and support the fielded assets they engineered and manufactured to begin with. After all, who is better positioned to service fielded assets than the OEM that designed and built them?

Harnessing the power of a connected aftermarket could help manufacturers level up their game and position themselves for sustainable aftermarket success.





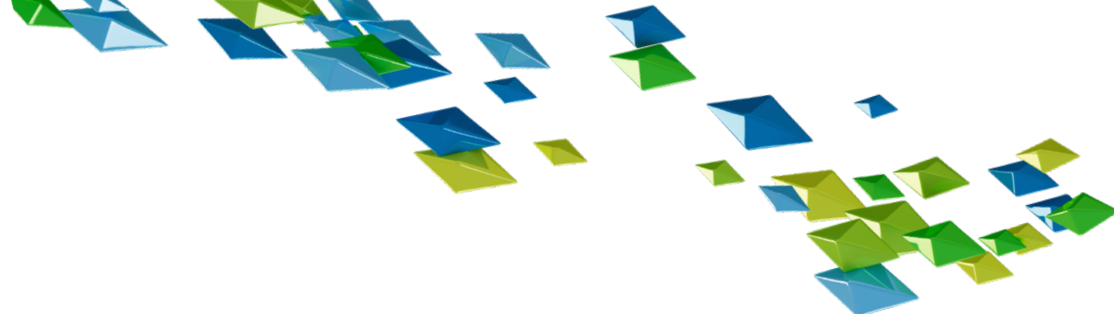
Turning obstacles into opportunities

As organizations reconceive how to deliver aftermarket services, there are three primary capacities they may need to refine to realize the full potential of a connected aftermarket. This could lay the foundation to create an aftermarket ecosystem that brings together historically disconnected systems to support enterprise-wide outcomes designed to improve aftermarket operations across an organization.

1. Fueling growth by focusing relentlessly on customer needs

With a tendency to hold a product-oriented mindset, manufacturers do not always take post-sale customer needs, expectations, and buying behaviors into account. As a result, they may struggle to define a clear strategy, develop their offering, drive customer engagement, uncover sales opportunities, or design their products with aftermarket needs in mind. With connected aftermarket solutions, however, manufacturers can:

- **Start with the customer.** A connected aftermarket closes the loop between traditional front office and aftermarket operations by challenging manufacturers to think like B2C companies in curating leads and sales opportunities. This starts by gaining a clear picture of who the customer is by analyzing their purchase history and stitching together first- and third-party data to generate signals that can predict future buying patterns. This complete view of the customer helps manufacturers improve their sales and marketing ROI, uncover new leads, and exceed customer expectations. It also delivers the insight required to optimize prices, offer relevant promotions, make targeted product recommendations, and tailor the customer experience.
- **End with the customer.** Creating a seamless connected customer experience also means recognizing that the experience doesn't end with the sale of a product. It is also shaped by that product's post-sale performance. To further strengthen customer engagement, a connected aftermarket may empower manufacturers to provide customers with visibility into the operation of their assets. Pre-sale, for example, customers could login to a portal to compare different products, access promotions designed to reduce excess stock, and calculate delivery times based on accurate shipment and inventory data. Post-sale, it might let them track order and fleet status, download technical specs or warranty information, plan for upcoming service, and even chat with company representatives (or a virtual agent) to resolve challenges. Advanced post-sale experiences might further show product fleet performance information and insights relevant to the success of customer operations, such as product location, uptime, downtime, utilization, efficiency, and remaining 'life' before service.



By focusing on the customer experience as a foundational prerequisite, a connected aftermarket approach helps position manufacturers to deliver differentiated experiences designed to help enhance customer loyalty and fuel ongoing sales. In fact,

manufacturers that focus on services in this way often have 80%+ of their installed base under service contracts.²⁹

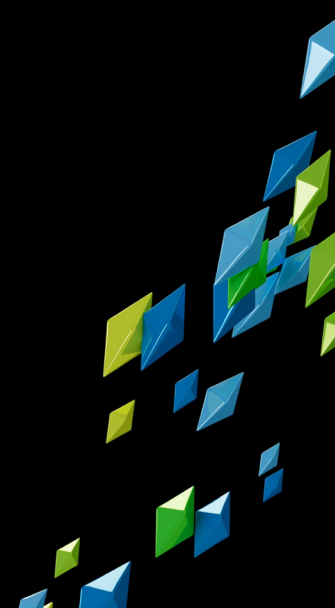
Case study: Digital transformation

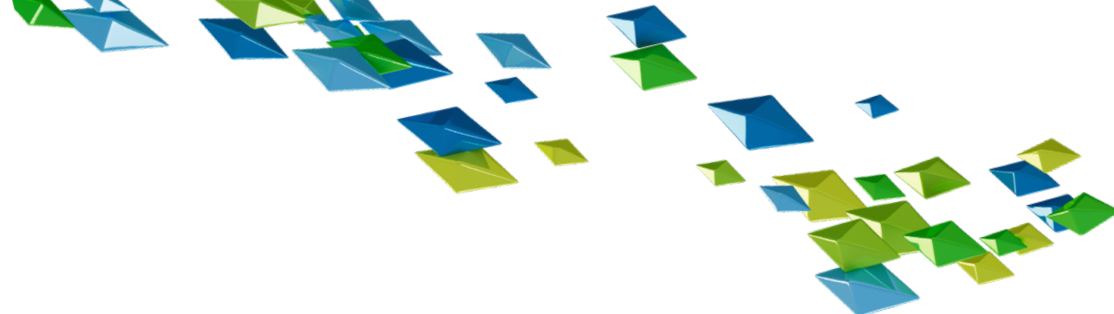
A leading equipment rental company in the construction, manufacturing, and industrial space wanted to modernize their customer service. Due to complex industry dynamics—such as supply chain disruptions, labor shortages, and extreme climate conditions—their customers were approaching their operations in new ways. To help customers optimize their productivity, the company wanted to leverage data-driven solutions to deliver more value through access to fleet management and logistics technology.

The solution

Using the connected aftermarket approach, Deloitte Digital helped design a digitally enabled solution to make equipment rental and management easy and intuitive. Over an 18-month journey, the teams reimagined the equipment rental experience, bringing into a single platform data and capabilities powered by leading-edge technologies. The new digital platform helps empower customers to capitalize on their own strengths while easily and efficiently drawing from the company's fleet management knowledge—through rich data made available in an easy-to-use, mobile-enabled format across the equipment rental cycle. Features include reserving equipment, tracking delivery, monitoring equipment performance, managing equipment operation, and having full billing visibility.

The results

- Quarterly growth of 26% in new digital accounts
 - Growth of 154% in telematics alerts
 - An increase of 100% in the use of digital service calls
- 



2. Predicting, planning, and positioning for execution

Once manufacturers intuitively understand their customer needs, they will likely need the ability to allocate resources, accommodate capacity fluctuations, coordinate their supply networks, and right-size their inventory management and distribution in response to those customer requirements. The connected aftermarket approach aims to resolve these matters in three ways:

- **Predict the need.** Thanks to technologies such as advanced sensors, analytics models, machine learning, and GenAI, manufacturers can gain greater insights from their data than ever before. Beyond enhancing spares and component repair forecasting, this is helping them to proactively detect potential part failures and predict service events, improving their ability to conduct preventative maintenance. Connected equipment coupled with predictive maintenance capabilities also enables them to pinpoint what assets to serve, when, and where, providing the dynamic feedback they require to support real-time planning.
- **Assess the capacity to serve the prediction.** Rather than approaching the aftermarket as an afterthought, a connected aftermarket allows

manufacturers to determine how much capacity to set aside for production versus aftermarket services. This involves working with stakeholders across the extended ecosystem to gain visibility into demand, supplier capacity, constraints, anomalies, shortages, and contract/program health risks. With an effective line of sight, manufacturers can make informed decisions related to executional challenges such as capital and labor planning, price setting, lead times, supply shortages, demand shifts, scheduling changes, asset utilization, and more.

- **Position resources per the capacitated plan.** To optimize network design and resolve historical supply/demand imbalances, manufacturers need the ability to set target stocking levels for spares, reposition and replenish inventory, and dynamically position and reposition resources (including technicians, tools, support equipment, parts, etc.) to proactively support predictive maintenance. The insights delivered through a connected aftermarket could provide the forecasts and signals that make this possible, equipping them to pinpoint dealer locations, manage warehousing, and coordinate with their service support network to facilitate first-time fixes—putting them on track to meet real-time customer demand.

Case study: Aftermarket operations transformation

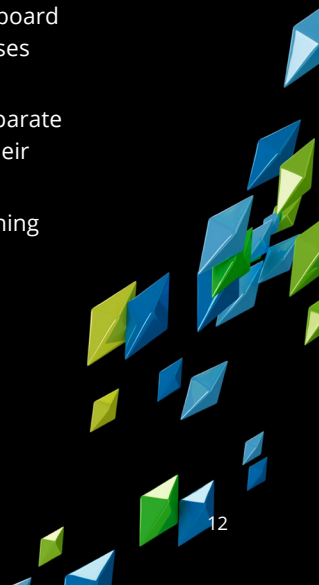
A leading aerospace OEM wanted to improve their aftermarket business to increase uptime and parts availability. With cumbersome and non-standard processes, however, they could not connect their spares and maintenance needs to their core business. At the same time, they lacked appropriate tools to see data in real-time, hampering their efforts to balance their near- and long-term planning requirements.

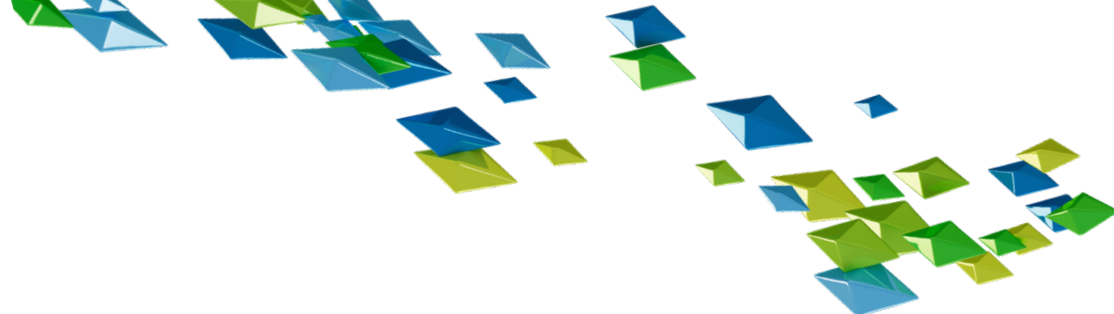
The solution

Using the connected aftermarket approach, Deloitte Consulting LLP helped them:

- Refine their process blueprinting by mapping end-to-end steps for key aftermarket processes, defining integration points between functions and roles, conducting fit-gap analysis, and supporting the implementation of required system changes.
- Gain real-time demand visibility by integrating their inventory and field systems to provide a centralized dashboard view, automatically calculating progress on their performance metrics, and embedding new analytical processes into the business.
- Enhance decision-making by automating user and system triggered repeatable process steps, connecting disparate systems to monitor their repair process, isolating performance issues by site and supplier, and accelerating their time-to-decision with data-driven options.
- Integrate their aftermarket with their core business by embedding aftermarket forecasting and demand planning processes into their production sales and operations planning data and establishing a “digital thread” to track supply shortfalls, engineering changes, and at-risk demands to resolution.

The results

- An improvement of 25% in spare parts availability
 - A reduction of 20% in customer wait time
 - 2.5 times improvement in forecast accuracy
- 



3. Executing MRO efficiently and integrating back upstream to improve accuracy

The third area of focus in building a robust aftermarket is the need to adjust forecasts and plans to reality. If predictions are not aligned to actual field conditions, as well as to real customer needs and buying behaviors, manufacturers will keep struggling to meet service outcomes and customer expectations. This cannot be resolved by tackling challenges in isolation. To cost-effectively deliver the right service, with the right parts, technicians, and tools positioned in the right place, optimized to deliver at the right time, manufacturers likely require a level of digital connectivity that many currently lack.

By leveraging advanced statistical models and AI capabilities, the connected aftermarket allows manufacturers to embed aftermarket operations and decisions into their core business operations (e.g., engineering, supply chain, production) in a “feedback loop”. This helps enable them to execute maintenance efficiently under multiple scenarios—whether assets have been returned to a repair facility or a technician has been dispatched for service in the field; or whether the asset requires a complete overhaul, routine maintenance, or just component repair. In practice, this enables them to:

- **Optimize MRO execution and dynamically adjust.**

By laying a smart factory foundation, the connected aftermarket can help manufacturers dynamically adjust workflow schedules based on the real-time availability—and projected future availability—of key resources (e.g., parts, people, tools, work centers). This

allows them to intelligently adapt their plans to reality to optimize MRO execution in both the factory and field.

- **Learn from MRO execution to adjust future plans.**

A connected aftermarket approach also leverages analytics and AI to help create a dynamic learning environment that fosters continuous improvement. By collapsing traditional silos, manufacturers gain the ability to improve product reliability, replan demand frequency and capacity, and adjust parts locations and schedules based on actual maintenance feedback, throughput, inventory consumption, and work order completion rates. By consistently evolving, learning, and improving, it allows the ‘next time’ plan to be better than the previous time.

- **Learn from MRO execution to engineer for sustainment.**

As a closed-loop system, the connected aftermarket leverages learnings from MRO execution to help manufacturers improve future product reliability and maintainability by providing insight into the components that fail most often (both planned and unplanned failures). This insight from the field could help manufacturers make data-informed decisions on which products to redesign or phase out (for example, those subject to chronic material shortages or frequent quality defects) to improve cost and serviceability. Similarly, engineering for sustainment may help them refine their designs and material specifications to streamline future maintenance requirements. This virtuous circle results in greater parts reliability, higher quality designs, and improved visibility into assets in the field—reducing maintenance costs, downtime, and time to repair.

Case study: Sustainment depot operations transformation

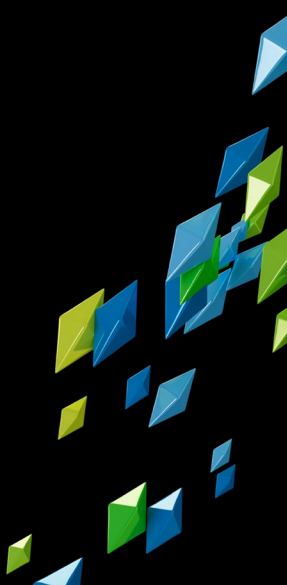
A major aerospace and defense manufacturer was contracted to perform planned modifications to a client’s used aircraft fleet. However, 50% of the required work was not identified or scoped until the aircraft arrived at the MRO facility, disrupting labor, parts, and tooling plans.

The solution

Using the connected aftermarket approach, Deloitte Consulting LLP helped them:

- Standardize their planning process based on industry leading practices to enhance efficiency.
- Integrate forecasting into their new planning process by analyzing frequent “over and above” work logged in their discrepancy reports.
- Create precedence maps displaying critical paths and resource-loaded crew plans for each scope of work.
- Develop visual management tools that simplified communication between “the top floor and the shop floor” around MRO status, dependent tasks, and constraints/needs requiring leader-level resolution.

The results

- Span compression of 30% by optimizing planned and unplanned work.
 - Throughput increase of 25%
 - Margin lift of 10-15%
- 



Unlocking value

As manufacturers tap into the potential of the connected aftermarket, they could reap the potential for outsized margins and additional revenue associated with strong aftermarket businesses. They may also realize additional operational benefits, such as enhanced throughput and schedule accuracy, improved spare part availability, greater labor efficiency, fewer maintenance events, better contract management, and reduced cost to serve. Yet, the real value is in the ability to create a cohesive ecosystem that generates trust so manufacturers can move up the curve from a transactional business to performance-based service agreements. With 88% of buyers more

likely to purchase again from organizations that deliver stellar customer service,³⁰ and 79% saying they expect consistent interactions across departments,³¹ it's incumbent on manufacturers to break down business silos, customize the customer journey, and prioritize digital-first engagement.

By taking advantage of such opportunities as turning a typical IT system upgrade into a unique opportunity to transform customer relationships and operational realities, this approach could put manufacturers on the path toward building long-term competitive advantage.



End notes

1. Deloitte Insights, "[Aftermarket services](#)," 14 May, 2020.
2. Ibid.
3. Ibid.
4. Ibid.
5. Deloitte Digital, "[Compete in B2B through customer centricity](#)," October 2023.
6. Pete Robertson (managing director, Consulting, Deloitte Consulting LLP), PowerPoint presentation, 7 October 2024.
7. Deloitte Research Center for Energy & Industrials, "[2023 aerospace and defense industry outlook](#)," 2022.
8. Lucia Mutikani, "[US manufacturing mired in weakness; construction spending falls](#)," Reuters, 3 September, 2024.
9. Deloitte Insights, "[Aftermarket services](#)," 14 May, 2020.
10. John Coykendall, Kate Hardin, and John Morehouse, "[2024 manufacturing industry outlook](#)," Deloitte Research Center for Energy & Industrials, 30 October, 2023.
11. Deloitte Research Center for Energy & Industrials, "[The future of the digital customer experience in industrial manufacturing and construction](#)," 24 September, 2024.
12. Ibid.
13. Salesforce, "[Salesforce Report: Nearly 90% Of Buyers Say Experience a Company Provides Matters as Much as Products or Services](#)," 10 May, 2022.
14. Deloitte Research Center for Energy & Industrials, "[The future of the digital customer experience in industrial manufacturing and construction](#)," 24 September, 2024.
15. Ibid.
16. Deloitte Digital, "[Digital Maturing Index Survey 2023](#)," June 2023.
17. Ibid.
18. Deloitte Research Center for Energy & Industrials, "[The future of the digital customer experience in industrial manufacturing and construction](#)," 24 September, 2024.
19. Salesforce, "[State of the Connected Customer](#)," 2023.
20. Deloitte Analytics Institute, "Predictive Maintenance," July 2017.
21. Ibid.
22. Deloitte Research Center for Energy & Industrials, "[Exploring the industrial metaverse](#)," 13 September, 2023.
23. John Coykendall, Kate Hardin, and John Morehouse, "[2024 manufacturing industry outlook](#)," Deloitte Research Center for Energy & Industrials, 30 October, 2023.
24. Deloitte UK, "[The transition to SAP S/4HANA – avoid the lift and shift](#)," 13 February, 2020.
25. Deloitte Consulting LLP, "[Navigating the transition to a model-based enterprise](#)," 2023.
26. Ibid.
27. Salesforce, "[What Are Customer Expectations, and How Have They Changed?](#)," 2024.
28. Deloitte Insights, "[Aftermarket services](#)," 14 May, 2020.
29. Ibid.
30. Salesforce, "[What Are Customer Expectations, and How Have They Changed?](#)," 2024.
31. Salesforce, "[How Are Customer Touch Points Changing?](#)," 2023.



Authors

Ajai Vasudevan

**Global Leader of Smart Operations,
Energy, Resources & Industrials**

Deloitte Consulting LLP

+1 7342334508

ajavasudevan@deloitte.com

Pete Robertson

Managing Director, Consulting

Deloitte Consulting LLP

+1 817 395 3661

perobertson@deloitte.com

Jean-Louis Rassineux

Global Industrial Products & Construction

Sector Leader

Deloitte Global

+33 1 55 61 57 00

jrassineux@deloitte.fr

Thank you for the contributions of Ben Dollar, principal, Consulting, Deloitte Consulting LLP and Clay Moran, senior manager, Consulting, Deloitte Consulting LLP to this report.

Regional Industrial Products & Construction Leaders

Asia Pacific

Hideki Nozawa

+818033672675

hnozawa@tohatsu.co.jp

North South Europe

Sami Laine

+358405615283

sami.laine@deloitte.fi

Canada

Gerald Faustino

+1 514 390 4566

gfaustino@deloitte.ca

Spain

Eduardo Sanchez Campos

+34944794612

esanchezcampos@deloitte.es

Deloitte Central Europe

Jean-Louis Rassineux

+33 1 55 61 57 00

jrassineux@deloitte.fr

United States

Steven Shepley

+1 310 467 5887

sshepley@deloitte.com



Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited (“DTTL”), its global network of member firms, and their related entities (collectively, the “Deloitte organization”). DTTL (also referred to as “Deloitte Global”) and each of its member firms and related entities are legally separate and independent entities, which cannot obligate or bind each other in respect of third parties. DTTL and each DTTL member firm and related entity is liable only for its own acts and omissions, and not those of each other. DTTL does not provide services to clients. Please see www.deloitte.com/about to learn more.

Deloitte provides industry-leading audit and assurance, tax and legal, consulting, financial advisory, and risk advisory services to nearly 90% of the Fortune Global 500® and thousands of private companies. Our people deliver measurable and lasting results that help reinforce public trust in capital markets, enable clients to transform and thrive, and lead the way toward a stronger economy, a more equitable society and a sustainable world. Building on its 175-plus year history, Deloitte spans more than 150 countries and territories. Learn how Deloitte’s approximately 457,000 people worldwide make an impact that matters at www.deloitte.com.

This communication contains general information only, and none of Deloitte Touche Tohmatsu Limited (“DTTL”), its global network of member firms or their related entities (collectively, the “Deloitte organization”) is, by means of this communication, rendering professional advice or services. Before making any decision or taking any action that may affect your finances or your business, you should consult a qualified professional adviser.

No representations, warranties or undertakings (express or implied) are given as to the accuracy or completeness of the information in this communication, and none of DTTL, its member firms, related entities, employees or agents shall be liable or responsible for any loss or damage whatsoever arising directly or indirectly in connection with any person relying on this communication. DTTL and each of its member firms, and their related entities, are legally separate and independent entities.

© 2024. For information, contact Deloitte Touche Tohmatsu Limited.