

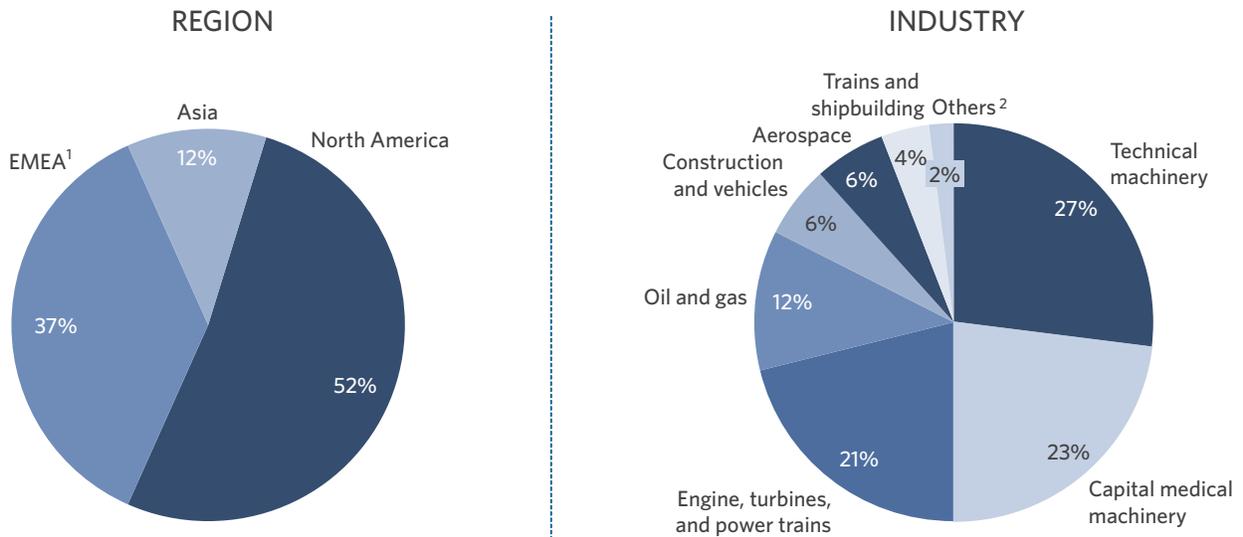
EXECUTIVE SUMMARY

# Transforming industrial equipment aftermarket services



Aftermarket service is now an important driver of revenues and profitability for industrial equipment manufacturers. The shift from traditional product-based to services-based business models requires organizations to develop innovative service programs and achieve service excellence. Intelligent operations enabled by rethinking business processes with advanced technology and analytics at their core and a feedback loop for continuous improvement can help companies navigate this change successfully (Figure 1).

**Respondents in the aftermarket services industry were primarily from North America.**



<sup>1</sup>EMEA – Europe, Middle East, Africa

<sup>2</sup> Others relevant Standard Industry Classification (SIC) codes

Source: IDC White Paper, Navigating the changing landscape of aftermarket and engineering services in the industrial equipment sector, sponsored by Genpact, September 2014

N=52 respondents

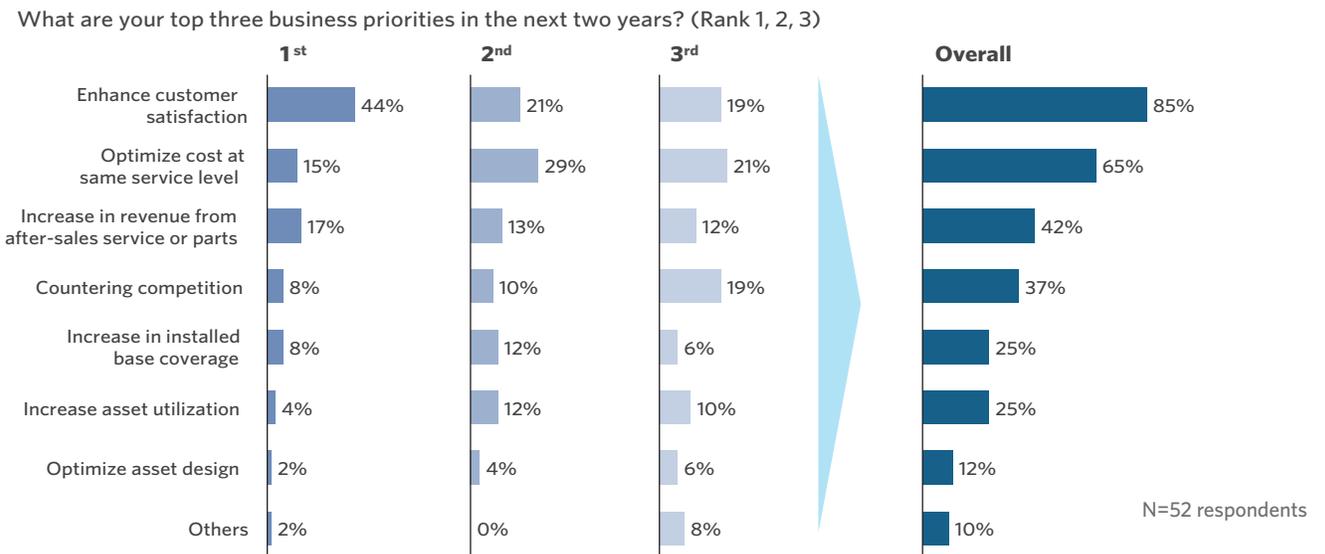
**Figure 1**

IDC Manufacturing Insights conducted a study, commissioned by Genpact, to get a deeper understanding of current and emerging priorities and challenges, along with the level of readiness and initiatives to address those priorities, within the

industrial equipment sector regarding aftermarket and engineering services. The survey respondents comprised **52 decision makers from the aftermarket services** within the industrial equipment sector across all major geographies and verticals.

**Business priorities**

**Customer satisfaction and cost efficiency are the top business priorities.**



Source: IDC White Paper, Navigating the changing landscape of aftermarket and engineering services in the industrial equipment sector, sponsored by Genpact, September 2014

The values above are a percentage of total respondents who mentioned the priority as one of their top three priorities for the next two years. Numbers may not add up due to rounding.

**Figure 2**

The **IDC Manufacturing Insights** study revealed that the top focus for companies in terms of aftermarket function over the next two years is to **enhance customer satisfaction**: 85% of respondents indicated it is one of their top three business priorities, and 44%, 21%, and 19% indicated it is the first, second, and third most important priority, respectively. The second ranked priority is to **optimize cost while maintaining the same service levels**, which was selected by 65% of respondents overall. Both focus areas require companies to look at enhancing the quality of support delivery by improving the value per dollar of the customer impact generated for costs incurred in customer service (Figure 2).

As organizations seek to offload expensive assets from their balance sheets, there has been a global shift to the adoption of an operational

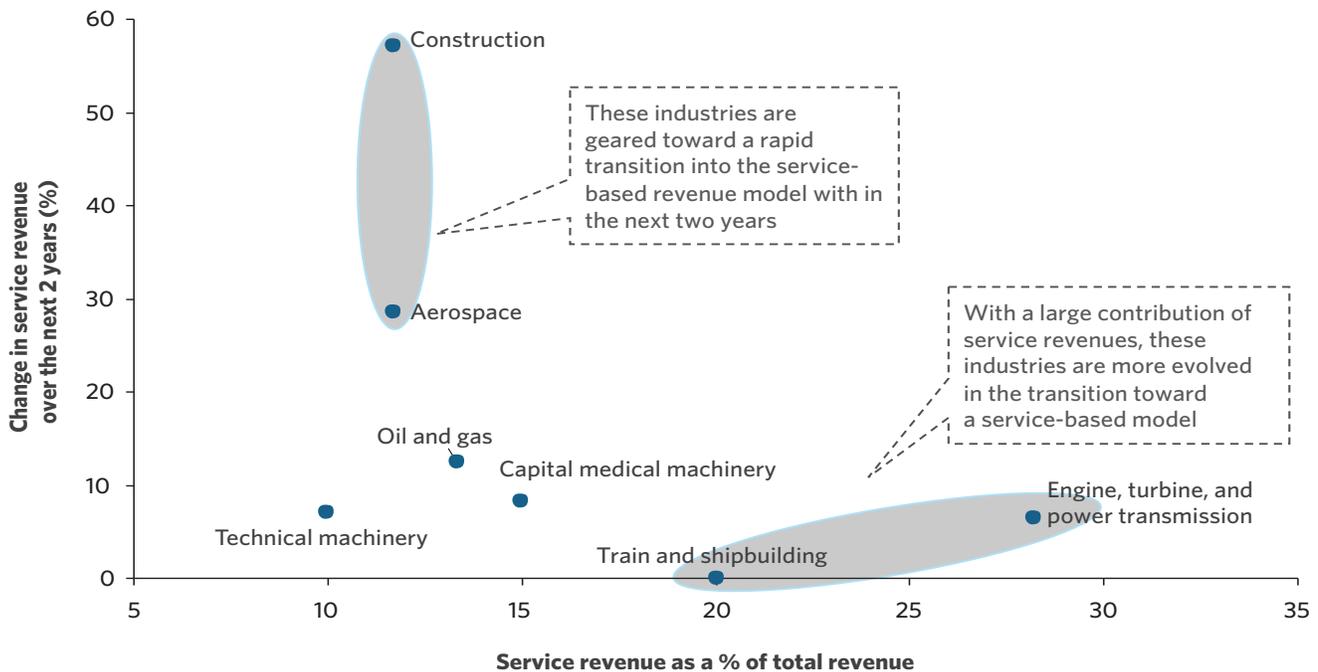
expense model, in which organizations pay for the service the asset delivers.

For companies that manufacture heavy industrial equipment, this shift represents a fundamental change in the business model, since equipment manufacturers must now have a clear view of how the product is going to perform in the field, have knowledge of usage before failure, know which parts will require replacement, and develop and maintain the product efficiently.

However, **the more complex the product task, criticality, and risk of failure, the higher the amount of investment required to develop the product and associated services**. Therefore, oil & gas and technical machinery are transitioning toward service-based business models at a slower pace **compared to construction and aerospace machinery**, which lead the pack in growth (Figure 3).

### Higher product complexity requires greater investment to enhance service revenue.

What is the expected change in the contribution of service revenues to your business from the current contribution over the next two years?



Source : Genpact Analysis, IDC survey findings, Navigating the changing landscape of aftermarket and engineering services in the industrial equipment sector, sponsored by Genpact, September 2014

Technical machinery includes semiconductor line machines and coal plant monitoring devices, and capital medical machinery includes discrete medical equipment

Figure 3

## Optimizing aftermarket services

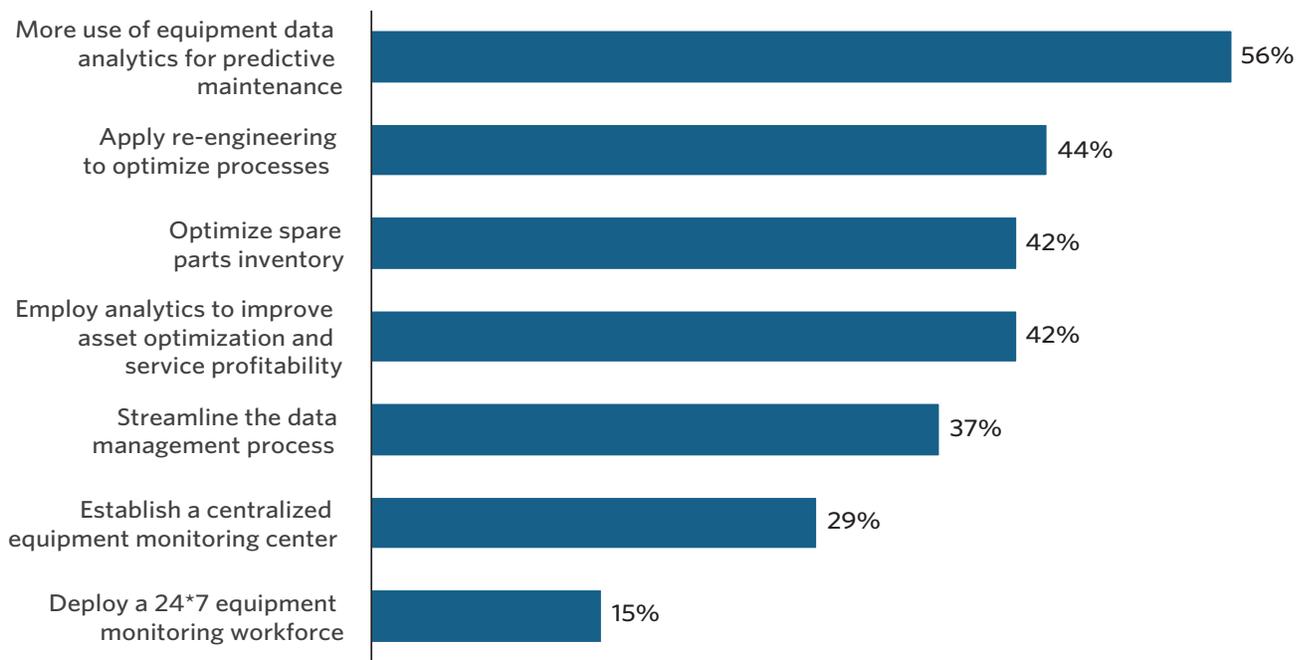
The **use of analytics for predictive maintenance (56%)** and the **optimization of processes through reengineering (44%)** are the two high-priority initiatives in implementing aftermarket services. As expected, cost-intensive activities such as **deployment of a 24/7 equipment monitoring workforce (15%)** was lower in the list of focus areas for aftermarket executives. Implementing aftermarket services requires a sequence of initiatives at different layers: in the product and with customers, field teams, IT systems, and remote data management teams and partners (Figure 4).

The approach to implementing and optimizing aftermarket services is divided into two key areas.

The first approach is the **use of analytics** to understand situations on ground and exercise options, with predictive maintenance the area of focus, with the majority of respondents looking to further evolve this area.

### Optimizing process, analytics, and technology integral to accelerate the transition to service-based models.

What are the top three initiatives you will undertake to optimize your aftersales and asset management functions in the next two years?



Respondents rated the top three initiatives. Values above are calculated as the number of responses received by the initiative as a percentage of the total number of respondents.

N=41 respondents; n=108 responses

**Source:** IDC White Paper, Navigating the changing landscape of aftermarket and engineering services in the industrial equipment sector, sponsored by Genpact, September 2014

Figure 4

The second approach is to **adopt reengineering for process optimization** with some also looking to implement command-and-control centers that would enable remote access and control of under-performing assets.

## Implementation preparedness

The results of the survey indicate the need for an integrated **approach to implementing cost-effective processes, analytics, and technology** to support the move toward improved aftermarket services. Addressing them in isolation will not yield the improvements required, since all three must be addressed together, which is a challenge for many organizations; this typically requires new expertise. Skillsets required are in shortage, and the expertise deficit is high, as the field of predictive analytics is still relatively new.

Of the total pool of respondents, close to 50% were not fully prepared regarding technology,

process, and analytics. Analytics represents the weakest link, though not significantly, in relation to the other two areas (Figure 5).

The interdependency of each system upon the other is a prime weakness, and any defect or glitch can render ineffective. This combination of process, analytics, and technology are most efficient when all three processes work in tandem, supplementing each other and complementing their weaknesses to deliver maximum impact.

### Technology challenges

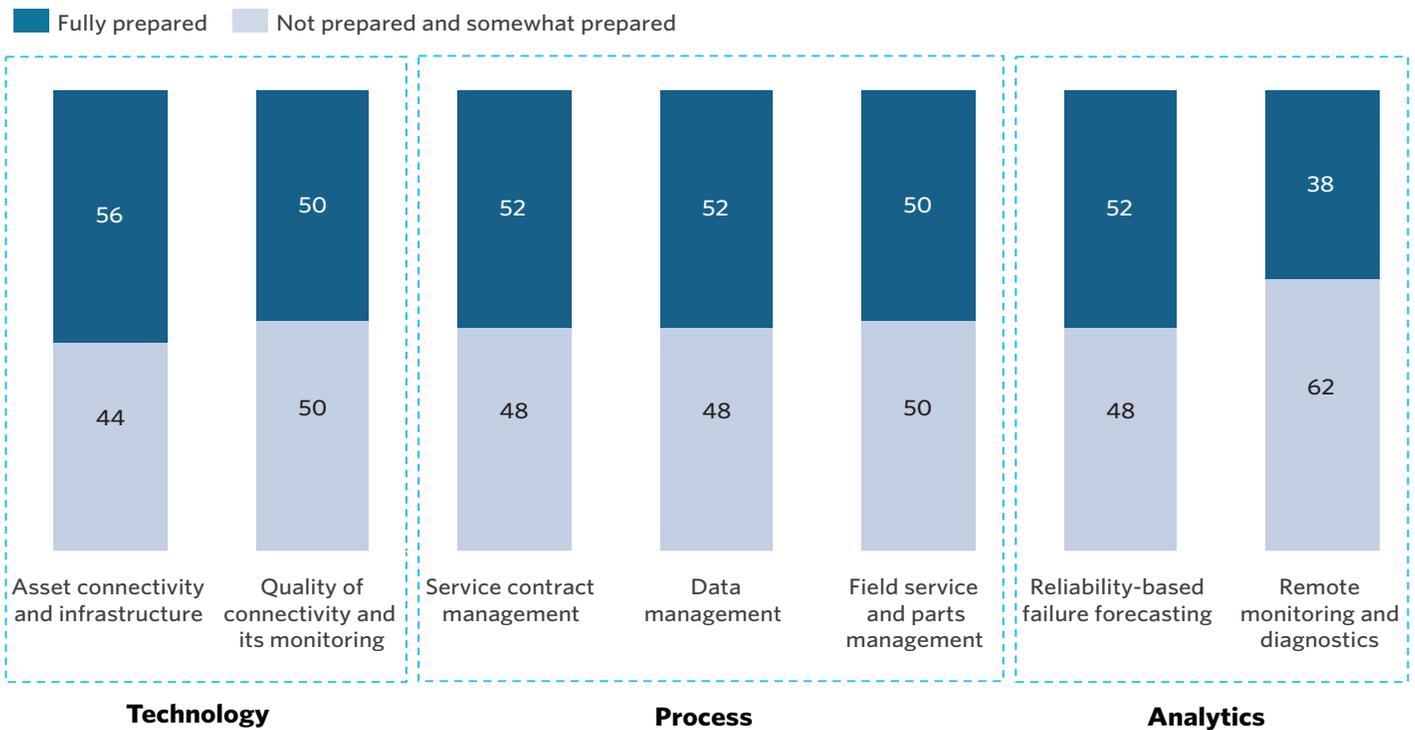
Organizations face technology challenges related to asset connectivity, remote monitoring,

diagnostics, and prognostics. Data management must be addressed simultaneously to ensure data quality (accuracy, uniform structure), analysis, and reporting in a timely manner, in order for the analysis results to be a true representation of the equipment situation.

Inventory management is often the biggest challenge, since the majority of maintenance is reactive instead of proactive, leading to no foresight of inventory to be maintained. Reliability models and predictive analytics can help reduce the portion of reactive maintenance activities, ultimately leading to efficient deployment of field teams to remote locations.

### Analytics is an area with significant scope for improvement.

What is the level of your overall preparedness for the following over the next two years?



The values above are a break down the percentage of responses for "prepared" vs. sum of "not prepared" and "somewhat prepared"

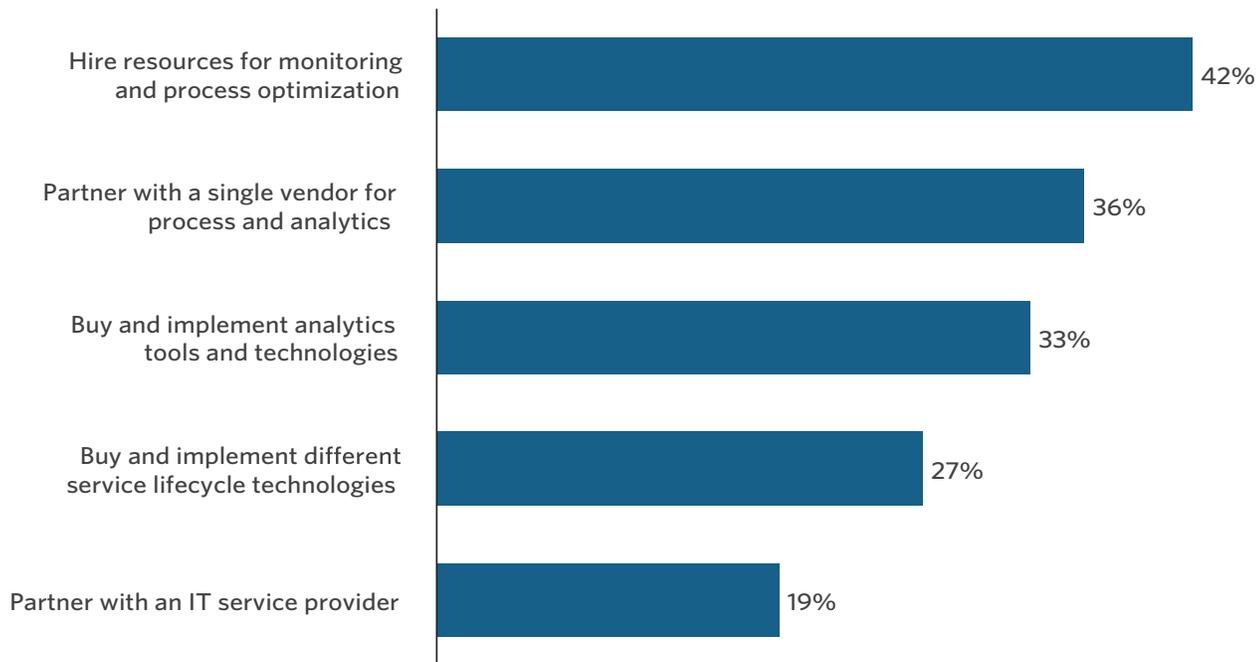
N=52 respondents

Source: IDC White Paper, Navigating the changing landscape of aftermarket and engineering services in the industrial equipment sector, sponsored by Genpact, September 2014

Figure 5

## Partnering with subject matter experts in analytics is seen as a key strategy.

What are the top three strategies you will use to help implement these initiatives during the next two years?



\*Respondents rated the top three strategies to implement the initiatives. Values above are based on the total number of responses for each strategy.

N=52 respondents

Source: IDC White Paper, Navigating the changing landscape of aftermarket and engineering services in the industrial equipment sector, sponsored by Genpact, September 2014

Figure 6

## Implementation strategies

The success of a **service-based business model** for aftermarket services requires the seamless integration and optimization of people, process, and technology. Large organizations due to their size, may face challenges in implementing new initiatives since a deficit in knowledge in future technology is a hindrance. Leveraging partners who excel in these areas could bridge the knowledge gap and facilitate seamless integration. Our survey respondents indicated the same, with **42% of total respondents looking to hire resources for process monitoring and optimization, and 36% looking to partner with single-party external vendors for process and analytics support** (Figure 6).

## Conclusion

Aftermarket services are on the verge of a major paradigm shift as companies move toward more service-based business models that are more viable in this economic environment. Data analytics is leading the transformation, since the data from critical assets provides companies more visibility and control over their operations.

The biggest challenge that aftermarket organizations face today is to be sure that data quality and subsequent analysis and reporting are scheduled and structured in a timely manner, so the results are a true representation of the equipment situation. The key outcome desired is to ensure that the majority of maintenance performed is reactive rather than proactive. This requires analytics' Data-to-Insight to be

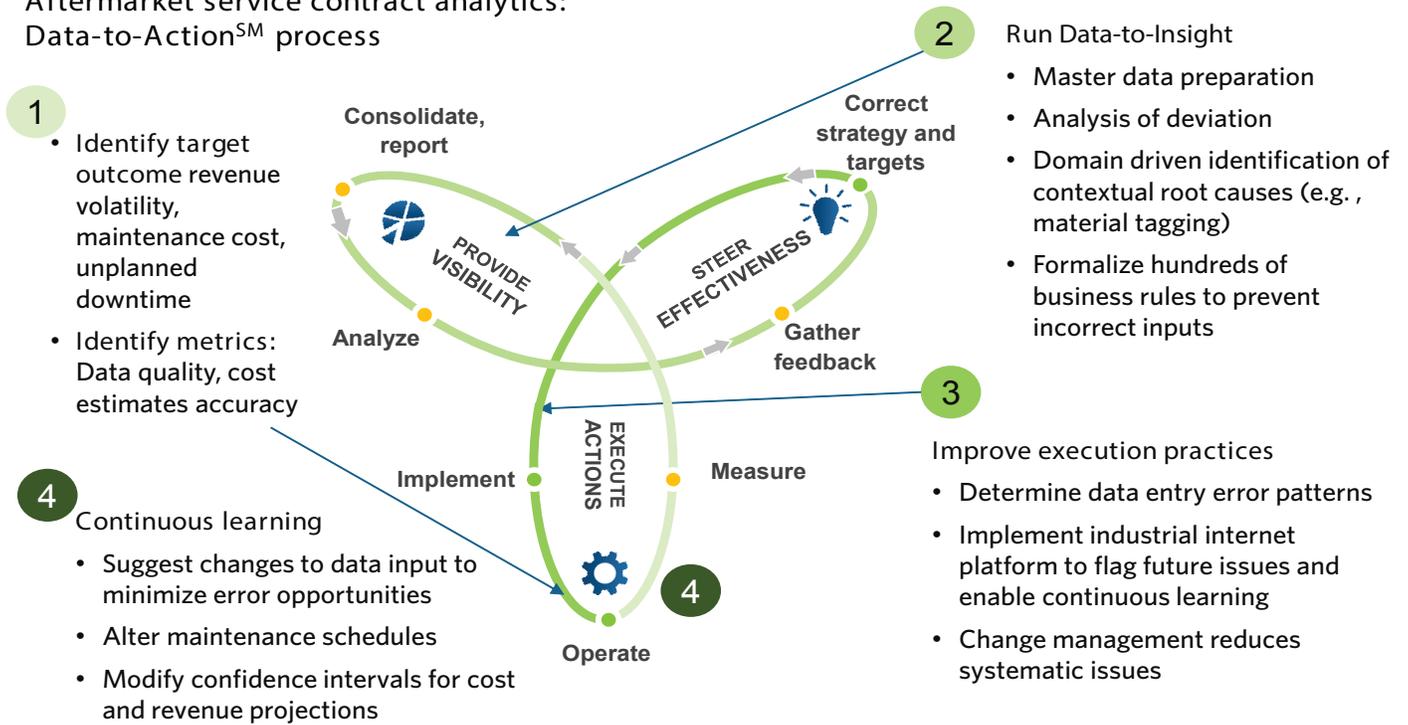
treated as a process that underpins the fabric of enterprise processes, such as field service, parts management, and so on.

Aftermarket services can enhance manufacturers' competitiveness significantly if Data-to-Insight and Insight-to-Action processes are reimagined with technology and analytics solutions at their core. The following example of aftermarket service contract analytics illustrates how intelligent operations run by integrating process expertise with effective technology and Data-to-Action Analytics<sup>SM</sup> can improve products and processes (Figure 7).

The use of domain experts to identify and capture the right metrics, and the ability of technology interventions to adequately translate the data captured into useful insight, supported by analytical models, can provide a 360-degree perspective on equipment health and performance, and can help equipment operators with the right insights to shift from costly preventive-based approaches to ones that are predictive and optimized, resulting in improved asset utilization, reduced maintenance costs, improved operations support, and enhanced asset life, ensuring that the asset remains effective and profitable throughout the asset life cycle.

### Implementing Intelligent Operations<sup>SM</sup> in aftermarket service contract analytics

Aftermarket service contract analytics:  
Data-to-Action<sup>SM</sup> process



Source: Genpact Data-to-Action Analytics<sup>SM</sup> loop, Genpact Research Institute

Figure 7

Click [here](#) to download the IDC White Paper

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## **About Genpact**

Genpact (NYSE: G) stands for “generating business impact.” We design, transform, and run intelligent business operations including those that are complex and specific to a set of chosen industries. The result is advanced operating models that support growth and manage cost, risk, and compliance across a range of functions such as finance and procurement, financial services account servicing, claims management, regulatory affairs, and industrial asset optimization. Our Smart Enterprise Processes (SEP<sup>SM</sup>) proprietary framework helps companies reimagine how they operate by integrating effective Systems of Engagement<sup>TM</sup>, core IT, and Data-to-Action Analytics<sup>SM</sup>. Our hundreds of long-term clients include more than one-fourth of the Fortune Global 500. We have grown to over 68,000 people in 25 countries with key management and a corporate office in New York City. Behind our passion for process and operational excellence is the Lean and Six Sigma heritage of a former General Electric division that has served GE businesses for more than 16 years.

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