Integrated asset optimization solutions to improve asset uptime and reduce revenue leakage

Original equipment manufacturers (OEMs) and operators across a wide range of capital-intensive industries can reimagine industrial asset optimization programs through advanced operating models that holistically harness technology, analytics, and process design for tangible business outcomes, such as service cost reduction, revenue enhancement, and improvement in asset uptime.
OEMs and operators face financial and operational challenges in the absence of an effective industrial asset optimization program

Industrial assets represent a significant capital expenditure for OEMs and operators across a wide range of capital intensive industries such as oil and gas, construction machinery and vehicles, medical equipment, aerospace machinery, engine/turbine/power transmission machinery, technical machinery, and train and ship-building.

Even a single hour of unscheduled asset downtime can potentially cost millions in lost opportunity to end-customers and lead to the damaged reputation of the OEMs and operators (Figure 1).

Insufficient machine to machine (M2M) connectivity, remote monitoring, and analytics can hamper timely insights and prevent proactive maintenance of mission-critical assets which is, an important cause of unscheduled asset downtime, and leads to unplanned service costs, revenue leakage, and regulatory non-compliance.

Genpact’s industrial asset optimization solutions integrate assets and data sources on a common analytics platform to derive actionable insights through remote monitoring, diagnostics, and prognostics to enhance service revenues, drive field service management, reduce asset downtime, and manage risk.

An industrial asset optimization solution that enables increased asset reliability, at lower cost

Our Smart Enterprise Processes (SEP℠) proprietary framework helps companies reimagine industrial asset optimization (IAO) programs through advanced operating models that holistically harness process design, effective Systems of Engagement™, and Data-to-Action Analytics℠.

Genpact’s unique approach to IAO enables enterprises to identify and measure the metrics (e.g. revenue volatility, maintenance costs) and outcomes (e.g. data quality, cost estimates) that matter and reimagine underlying processes to enhance visibility into operations by identifying root causes, preparing master data, and formalizing business processes supported by analytics and technology (Figure 2). The result is Intelligent Operations℠ that improves effectiveness by enabling industrial internet platforms and better change management. It activates continuous improvement through optimized preventive maintenance schedules, improved data capture processes, and precise cost and revenue projections.

<table>
<thead>
<tr>
<th>OEMs</th>
<th>Operators</th>
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<tr>
<td>Difficult service monetization as companies transition from product to service models</td>
<td>Unscheduled asset downtime results in overall productivity and revenue loss</td>
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<td>Lower assets uptime impacts customer satisfaction and market share</td>
<td>SLA violations and absence of operational insights result in higher agreed and paid costs</td>
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<td>OEMs unable to create differentiation without strong value and performance engineering</td>
<td>Limited analytics of assets data results in sub-optimal preventive maintenance, spare parts inventory and higher operational disruption</td>
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<td>Higher service costs due to inadequate part availability, and sub-optimal field force scheduling</td>
<td>Equipment operation data is regarded “sensitive” by end-customer/operators and requires adequate data security measures</td>
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<td>Increasing regulatory oversight (environmental and operational) is a challenge when underlying asset data not readily available</td>
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Figure 1: OEM and Operator challenges due to inefficient asset optimization programs
Methodology

Our 4Cs (Connect, Collect, Compute, Control) approach provides continuous learning that is integral to driving actionable insights and directed at achieving targeted business outcomes (Figure 3).

- **Connect**: Disparate systems across multiple locations and the value chain come together on a single optimized platform on which the machines can talk to each other
- **Collect**: Various data points and metrics are captured in real time and, dynamically at scale, for insights
- **Compute**: Analytics and technology are applied to the collected data to derive insights that can be implemented for critical improvements
- **Control**: The entire process is monitored over time to ensure the insights gained are available in an actionable form

Portfolio

1. **Asset service optimization**

   Our asset service optimization solution helps clients improve revenue and profitability in aftermarket service operations. It includes the following:
   - **Pre-contract analytics** to analyze the current specifications of support, contracts, and performance metrics
   - **Contract setup and execution** to ensure the processes are in place to support the contractual arrangement
   - **Contract appraisal analytics** to evaluate the data for quality, integrity, and relevancy
   - **Contract portfolio risk analytics** to develop the analytical model to optimize the contract risk profile through performance

2. **Asset risk analytics**

   Through our asset risk analytics and optimization solutions, we leverage analytics to evaluate risk profiles, improve profitability, and create sustainable competitive advantage through cost-effective, scalable, and comprehensive solutions to identify high customer risk, using globally located resources with extensive domain and technical expertise. Our service offerings include the following:
3. Asset performance optimization

We leverage operational data and advanced analytics to manage the total lifecycle, from component to asset to fleet to enterprise, and enable improved performance from existing assets through process improvement and reengineering.

Genpact’s asset performance optimization solution is deployed in a four-phased approach:

1. Assessment
2. Prognostics proof of concept
3. Pilot and enterprise scale-up
4. Continuous execution improvement

### Significant operational and financial impact

- **Revenue leakage**: Enhanced service offerings and contract revenues through proactive part replacement, better installed base coverage, higher contract renewals, and win rates can enhance revenues by as much as 15%
- **Cost reduction**: Improved field operations, customer care, and parts and warranty management driven by field service optimization, contact center centralization, parts inventory management, and returns optimization can lower costs by as much as 10%
- **Risk mitigation**: Reduction in planned and unplanned downtime through better
remote monitoring, reliability-based failure forecasting, and field force optimization can enhance asset uptime by as much as 8%

**Uniquely positioned to deliver an integrated solution with deep domain knowledge, actionable analytics, and focused technology**

Our vast experience spans blue-chip industrial equipment clients across the aviation, power generation, oil and gas, and mining industries. We have more than 6,000 analytics specialists, including 500-plus with engineering background.

Our end-to-end approach combines process, analytics, and technology to drive outcomes, and our technology partners ecosystem unites leading M2M, big data, prognostics, and contract management partners to help bring niche capabilities to achieve the best solution, and business outcomes.

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### A global aviation company

**Challenge**

Excessive costs due to some overhaul shops charging much more than others.

**Solution**

Conducted a detailed analysis of the cost of shop visits to understand materials, repair, labor, and other costs. Identified major cost drivers at various overhaul sites and conducted a cost-benefit analysis to find improvement opportunities.

**Impact**

A $15 million bottom-line impact from improved material and repair sourcing.

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### A US wind energy provider

**Challenge**

Rising costs from a fleet of several thousand assets coming off warranty in the same year.

**Solution**

Helped the client become data-driven by using structured and unstructured data and implemented dynamic adjustments and actionable prognostics.

**Impact**

An extension in generation capacity from 15 to 20 years and a net economic benefit of over 30%.

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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™) proprietary framework helps companies reimagine how they operate by integrating effective Systems of Engagement™, core IT, and Data-to-Action Analytics™. Our hundreds of long-term clients include more than one-fourth of the Fortune Global 500. We have grown to over 70,000 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.

For more information, contact, industrial.manufacturing@genpact.com and visit www.genpact.com/home/solutions/industrial-solutions/industrial-asset-optimization

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