

StrategyDriven™

effective executives, efficient employees



Maintenance Inventory Optimization

Work Management – Supply Chain Interface Barriers

StrategyDriven Advisory Services

A VETERAN OWNED SMALL BUSINESS





In Perspective

Economic demands place increasing pressure on executives and managers to reduce costs while maintaining high levels of operational safety and reliability. For Work Management and Supply Chain leaders, areas of potential savings lie with:

- optimizing inventory levels while reducing associated carrying costs,
- minimizing or eliminating expediting costs, and
- eliminating losses incurred as parts become obsolete in the warehouse

... while providing the highest level of parts availability.

While every company's circumstances are unique, StrategyDriven Advisors observe significant avoidable expenses incurred because of work management – supply chain program misalignments, including:

- inventory reductions of 10 – 25 percent
- near elimination of expediting costs
- significant reductions in warehouse spoilage and obsolescence

This document presents the sixteen most commonly occurring work management – supply chain program barriers StrategyDriven Advisors have identified when helping clients optimize their inventories. We believe these barriers represent an excellent starting point to evaluate the sufficiency of your company's maintenance inventories. Should you need assistance in determining whether or not your maintenance inventory is optimized, StrategyDriven's Advisors stand ready to assist you. Please contact me at (678) 313-0150 or NathanIves@StrategyDriven.com.

Thank you for taking the time to download **Maintenance Inventory Optimization, Work Management – Supply Chain Interface Barriers**. We look forward to supporting your success.

All the Best,



Case Study

StrategyDriven Advisors identified significant optimization opportunities associated with a nuclear power station's \$150 million inventory. Within eighteen months of implementing our recommendations, the station realized the following gains:

- Inventory reduction of \$18 million (inventory previously grew at a rate of \$10 million annually)
- Expediting cost reduction of \$900,000 annually (expediting costs were \$1 million in the preceding year)
- Parts availability improved to 93 percent (availability was previously 90 percent)



Nathan Ives MBA, PMP, SRO

Principal, StrategyDriven Advisory Services

Nathan Ives possesses over 20 years of Energy Industry and consulting experience specializing in strategic planning, work and supply chain management, managerial decision-making, operational risk management, organizational alignment, and operator performance. He advises executives and senior managers at numerous Fortune 500, midsize, and small companies on improving fleet and individual facility performance. Nathan authored the nuclear industry's risk management, high-risk decision management, and operations performance guidelines and evaluation methods.

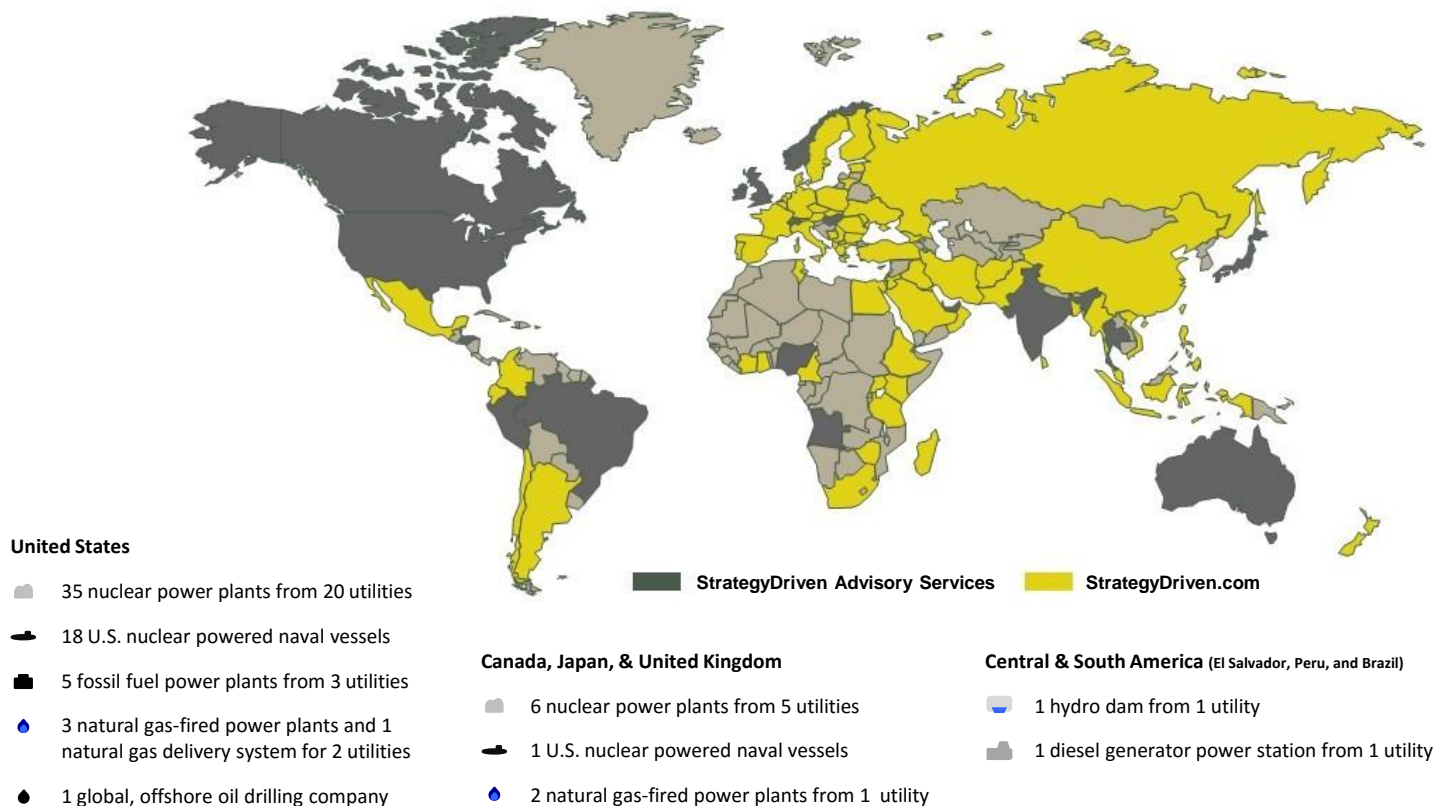
Complex issues challenge the safe, reliable, and efficient operation of asset intensive companies.

The safe, reliable, and efficient operation of a facility's equipment is a responsibility shared by all employees. Aging infrastructure, retiring workers, growing regulations, rising capital costs, and increasing budget pressures combine to challenge asset intensive company executives and managers now more than ever before.

To meet these challenges, asset intensive company leaders must find cost effective ways to replace aging components and obsolete equipment, transfer knowledge and a respect for the hazards associated with the operation of complex equipment to a new generation of workers, release currently unavailable capital, and optimize operations and maintenance programs.

Global Experience

StrategyDriven advisors serve asset intensive companies globally: *



* Clients served over the course of our advisor's careers and not necessarily through StrategyDriven.

StrategyDriven Service Offerings

StrategyDriven accelerates your achievement of improved operational safety, reliability, and efficiency through the application of our deep hands-on operational experience and leveraging of our asset management tools and methods in:

Organizational Safety Culture

We can assist in the assessment of your organization's safety culture and the improvement or development of your safety culture guidelines; focused on desired leadership behaviors, management decisions, and corporate safety program guidelines. Additionally, our experts help increase organizational effectiveness through promotion of cultural understanding, influencing organizational behaviors, and change management.

Corporate Compliance and Ethics

We support the development, training, and implementation of corporate compliance infrastructures that are compliant with statutory frameworks and organizational values and ethics.

Corporate Risk Analysis, Management, and Mitigation

We help reduce corporate risk exposure through independent assessment of your enterprise risk programs and assist you in the development and implementation of a high risk operational decision plan.

Internal Assessment

We perform independent, objective, and detailed reviews of key organization functions; assessing performance against regulatory requirements and industry performance standards, guidelines, and best practices.

Cyber Security Inspection, Assessment and Enforcement

We provide independent cyber security program assessments for critical digital assets and networks that include an evaluation of physical and application-based controls.

Enterprise Performance Measurement

We can work with you to assess and improve your performance measurement system; yielding metrics and reports that are operationally relevant, organizationally consistent, and economically implemented.

Decision Making and Management

We can assist you with the development and implementation of a high risk operational decision management program or assess and recommend improvements to your existing program.

Online and Outage Work Management Optimization

We can work with you to assess and improve your end-to-end work management program; yielding an operationally focused process driving improved alignment and supporting high equipment reliability.

Construction / Large Project Management

We support project performance improvement through the conduct of cost and schedule assessments and project risk management and controls evaluations; providing management with the information needed to effectively manage risks, budgets, and schedules.

Equipment / System Life Cycle Maintenance Management

We can help your organization assess the cost efficiency of your equipment life-cycle maintenance programs.

Domestic and International Benchmarking

We assist clients in the comparative analysis of their operational performance to that of domestic and international peers.

Succession and Workforce Planning

We help clients enhance their talent programs through pipeline and capability projection, training and development program assessment, and improvement plan design and implementation assistance.

Work Management – Supply Chain Interface Improvement Opportunities

Existing industry guidelines and evaluation groups commonly ignore the highly integrated relationship between the work management and supply chain programs. Consequently, the constraints and limitations each program has on the other is frequently overlooked resulting in transaction disruptions and redundancies that elevate costs.

In our experience, organizational, process, and technological barriers between the work management and supply chain processes disrupt the flow of information that would otherwise facilitate timely error-free transactions.

Organizational Challenges

- Differing lines of authority, objectives, and goals between the work management and supply chain organizations
- Inappropriately assigned process execution and data maintenance roles and responsibilities
- Supply Chain organization's restricted role and participation in the work management process
- Physical separation between Work Management and Supply Chain personnel
- Culture of always ordering more than what is needed

Process Challenges

- Work management and supply chain processes independently developed / maintained and not fully integrated
- Inefficient work management and supply chain process execution, delayed parts ordering, and high schedule churn
- Unnecessarily high work order prioritization and quick turnaround parts ordering
- Work planned exceeds resource availability
- Artificially inflated and errors in component stocking logic variables
- Lead times not routinely updated

Technology Challenges

- Incomplete and/or inaccurate system data associated with parts, bills of materials, and preventive maintenance job plans
- Work Management personnel do not have ready access to component lead times
- Work Management personnel are not alerted to changes in lead times
- Algorithms not used to adjust lead times based on actuals
- Enterprise Resource Planning (ERP) system misalignments with optimal process configuration



StrategyDriven Observed WM-SC Interface Improvement Opportunities

Based on work performed with a broad number of asset intensive companies, StrategyDriven advisors have previously identified the following work management – supply chain interface issues:

- **Parts ordering occurred within the parts' lead time** – resulting in unnecessarily high inventories and expediting costs. At some stations, this issue was further exacerbated by parts ordering after work order package walk-downs. (Nuclear and non-nuclear)
- **Component lead times were observed to change frequently without being updated within the supporting supply chain application** – contributing to the late ordering and expediting of parts. At some stations, this was further exacerbated by a lack of work planner notification. (Nuclear and non-nuclear)
- **Enterprise Resource Planning system algorithms were not used to calculate and update component lead times based on those actual lead times incurred** – contributing to the use of out-of-date lead times and the subsequent need to expedite parts. (Nuclear and non-nuclear)
- **Supply Chain personnel are not actively involved / do not actively participate in the T-week planning process** – diminishing the collaboration between the work management and supply chain organizations and resulting in parts acquisition delays. (Nuclear and non-nuclear)
- **Inflated stocking logic parameters** – increasing on-hand item stock beyond that which is necessary based on use rates, lead times, and safety stock requirements. (Nuclear and non-nuclear)

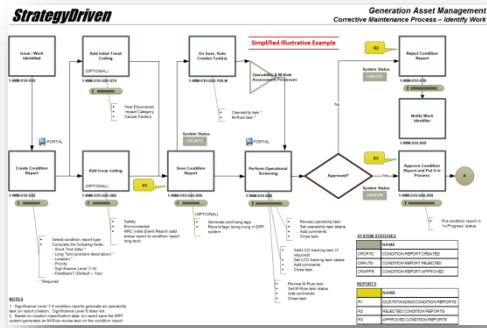
Potential Cost Savings

- Inventory reductions of 10 – 25 percent
- Near elimination of expediting costs
- Significant reductions in warehouse spoilage and obsolescence



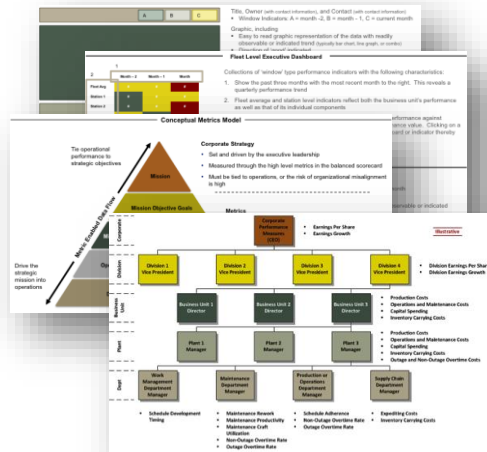
StrategyDriven's Asset Management Tools and Accelerators

Developed by StrategyDriven's highly-experienced asset management professionals and validated against industry regulations, standards, guidelines, and best practices, these tools and accelerators enable the rapid, high-quality implementation of our clients' projects.



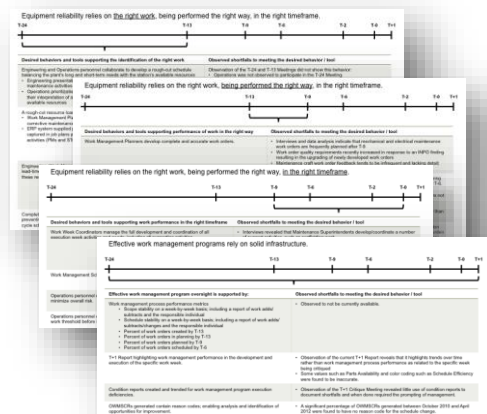
Asset Management Process Framework

StrategyDriven's Asset Management Process Framework model aligns with Energy Industry regulatory requirements, operating standards, and guidelines. Additionally, we incorporated industry best practices gained through first-hand experience working with dozens of asset intensive companies over the past several decades.



Performance Measures Catalog

StrategyDriven's catalog of asset management performance measures includes hundreds of metrics based on Energy Industry guidelines and best practices. Our systems are presented in a traditional vertically aligned, organizationally cascaded and standard operational performance model sets and are complimented by best practice dashboard and metric style sheets.



Asset Management Best Practices Catalog

StrategyDriven's inventory of hundreds of asset management program best practices supports a qualitative phase-by-phase assessment of online and outage work management, engineering work management, operations, maintenance, and supply chain management process performance – making improvements in process execution readily identifiable and easily implemented.

StrategyDriven Analytics

StrategyDriven's advanced data analytics tools and approaches transform industry and organizational data into meaningful information upon which leaders base their mission critical performance improvement decisions.

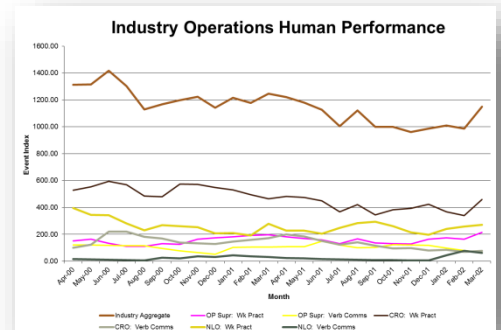


Automated Condition Report Based Performance Analytics

This unique tool translates the causal codes from approved condition reports into standardized models and metrics which quantify job site conditions to highlight specific performance shortfalls. Other model and metric sets reveal facility performance against equipment reliability and organizational effectiveness models.

Automated Industry Event Data Charts

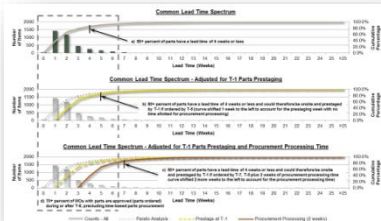
This unique tool translates the causal and significance codes from industry reported event reports into standardized metrics which quantify facility level performance against industry averages. These Event Data Charts provide leaders with their facility's quartile benchmark rankings across numerous functional performance areas.



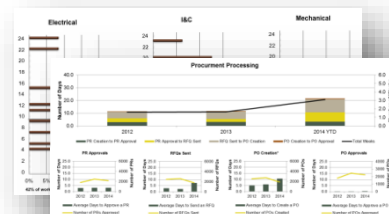
Advanced Process Performance Analytics

StrategyDriven's quantitative diagnostic toolsets focus on process compliance, targets common asset management challenges, and identifies time-dependent execution constraints.

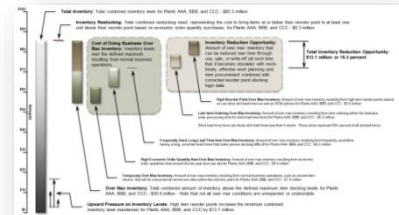
Item Lead Time Constraints Determination



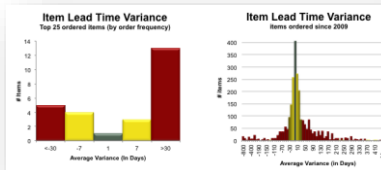
WM & SC Time-dependent Process Execution Assessment



Inventory Level and Sufficiency Analysis



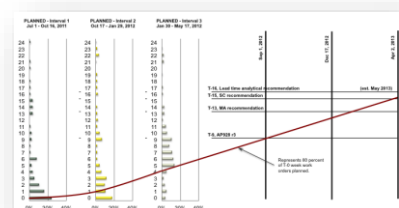
Item Lead Time Accuracy Analysis



Plant Labor Resources Scheduling Analysis



Time-to-Achieve Performance Analysis



StrategyDriven.com

StrategyDriven's strategic planning and tactical execution insights focus on driving increased organizational alignment and accountability. The net result is a **StrategyDriven Organization** in which executives and managers are more effective and employees more efficient; leading to improved bottom line performance.

Complimenting our advisory services is a wide array of best practice business planning and execution tools, how-to articles, example-rich podcasts, and customizable ready-to-use program management templates – all accessible on the **StrategyDriven.com** website. This thoughtware provides an in-depth look into critical business performance areas; placing specific focus on organizational accountability and the alignment of standards, programs, and behaviors to the optimal achievement of mission goals.



Evaluation & Control Program Forum – Evaluation and control program components play a key role in an organization's learning and growth efforts. They not only identify improvement opportunities, they also identify internal and external best practices that can be used to better existing processes. This continuous growth mechanism is critical to an organization seeking to maintain and advance its position in the marketplace.

Business Performance Assessment Program Forum – Business performance assessments are powerful tools deriving their heightened value from the synthesis of information from multiple sources; creating a rich, integrated picture of organizational performance as compared to established standards and marketplace benchmarks. This integrated picture of performance also benefits from the progressive infusion of knowledge and experience applied to the initial interpretation of data used to develop the assessment's source information.



Management Observation Program Forum – Lasting individual and organization performance improvement occurs through ongoing reinforcement of desired individual and group behaviors, modification of counterproductive behaviors, and elimination of organizational barriers to performance excellence. A well designed and executed management observation program serves as an effective performance improvement and reinforcement tool to achieve these long-term performance changes.

Organizational Performance Measures Forum – Performance measures serve to align an organization's efforts to the achievement of its mission. As part of a company's evaluation and control program, they quantifiably monitor important characteristics of the company's products and services and the performance of the individuals and processes creating them.



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