Industrial Services
Asset Productivity Improvement
Improving Equipment Uptime, Availability, and Throughput

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Asset productivity improvement (API) is a consulting service Industrial Services provides to improve the effectiveness of client assets with measurable results. Understanding and reducing the gap between the current state and best practices has enabled clients to:

- Reduce maintenance expenditures by up to 30 percent
- Improve equipment uptime, availability, and throughput
- Decrease safety and environmental incidents while achieving regulatory compliance

Lowering Cost and Decreasing Delays
After an assessment and baseline development have been initiated, a plan is developed to define the scope, resources, and cost for implementing the API program. The program addresses the following focus areas:

- Mechanical integrity procedures, practices, and systems
- Planning and scheduling – work process control
- Maintenance material management – MRO
- Reliability engineering
- Contractor management
- Health, safety, and environmental requirements
- Systematic failure elimination

Benefits Reported by Our Clients

- Results achieved within the first year included record uptime and productivity
- Up to 42 percent reduction in downtime within 2 years
- Up to 75 percent decrease in open work orders
- Up to 40 percent improvement in schedule compliance
- Up to 20 percent reduction in maintenance cost

Automotive Client
United States, Canada, Mexico, and Europe

Industrial Services established baseline costs for 56 manufacturing facilities. We documented best practices and identified potential cost-improvement opportunities and the estimated investment for each opportunity.

Benefits:

- $162 million in potential savings were identified by Fluor
- More than 300 best practices were identified and made available to other plants worldwide

Pharmaceutical Client
Indiana, Puerto Rico, Ireland, England, and France

Industrial Services developed the implementation plan and the disciplined structure for the proactive asset management program and provided subject matter experts. We also managed the formation and facilitation of the focus teams which were used in our collaborative implementation approach.

Benefits:

- 25 percent reduction in maintenance costs
- 20 percent reduction of maintenance, repair, and operations inventory
- Accelerated validation and commissioning processes
- Reduced time to market for new products

Chemicals Client
Delaware

Industrial Services provided assistance in improving this chemicals client’s equipment reliability and reducing fixed cost. We implemented Best PLANT™ and performed an analysis and program design that involved working with plant personnel. Critical success factors and tracking metrics were also defined to sustain the opportunities identified.

Benefits:

- Identification of $10 million (maintenance cumulative savings) in improvements
- Steady state maintenance cost reduction of 20 to 25 percent from baseline after 5 years
- $930,000 in value creation for client

Mining and Metals Client
Utah

Industrial Services was contracted to design a maintenance improvement program for a smelter. At the time, the mine, concentrator, refinery, and smelter faced shutdown because of poor reliability and high operating costs.

Benefits:

- Continuous improvement in asset availability
- Fixed monthly maintenance costs declined by 30 percent over 5 years
- Improved overall equipment effectiveness by 10 percent
- Increased availability of critical assets by 11 percent
Multiple-prong Approach to Improving Performance

- **Reliability team.** Verifies your equipment list and criticality and provides failure modes with a comprehensive preventive analysis.
- **Planning and scheduling team.** Evaluates work order system to make certain work is properly identified, planned, approved, scheduled, and executed.
- **MRO team.** Works to minimize inventory and improve on-time part delivery.
- **Contract management team.** Prequalifies contractors, assists in developing scopes, and identifies contractor requirements while monitoring invoicing.

**Asset Productivity Implementation Plan**

- **Initial Fluor/Client Dialogue**
- **Conduct Assessment**
  - Benchmark Terminals
  - Align Business Case with Execution Strategy
- **Form Steering Team**
- **Pre-Project Start-Up Activities**
  1) Best practices orientation
  2) Change leadership training
- **Steering Team**
  - Staffing
  - Sponsorship
  - Barrier elimination
  - Oversight
- **Client Team Lead**
  - Fluor’s SME
  - Contractor Management
  - Planning and Scheduling
  - Equipment Reliability
  - Materials Management
  - Owns the process
- **Focus Team Missions**
  - Staff for success
  - Create, plan, and schedule
  - Execute plan
  - Measure progress and success
- **Commitment to Change**
- **Opportunity Assessment**
- **Alignment on Strategy**
- **Steering Team Leadership**
- **Analyse**
  - Conceptualize
  - Personalize
  - Prioritize
  - Customise
  - Operationalize
- **Measure**
- **Finalize, Standardize, Optimize**
- **Establish Focus and Support Teams**
- **Complete Focus Team Missions**
- **Review, Celebrate, Identify New Needs**

**Asset Productivity Execution Model**

- **Cummulative Implementation Cost**
- **Cummulative Savings From Baseline**

*Asset productivity initiative is cost neutral by end of fiscal year.*
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Clients depend on the expertise of Fluor’s 41,000 employees to deliver capital projects safely, on schedule, within budget, and with the quality they expect.