MRO SECTOR

PROFIT/BUDGET-OPTIMIZING THE SERVICE PARTS/MAINTENANCE SUPPLY CHAIN

Most successful and Service Parts Distribution and Maintenance & Repair Operations (MRO) organizations have already enacted serial improvement initiatives to decrease costs while preserving delivered service. In many cases, additional cost reductions prove unsustainable due to significant expediting costs, unsustainable manual planning efforts, and/or risk (or cost) of customer dissatisfaction. To unleash the next level of improvement, robust optimization methods are required that consider a comprehensive set of parameters and costs across the organization (or organizations) utilizing techniques that cannot be emulated manually or in '2-dimensional' procedures like Excel or typical ERP rules-based procedures.

Since its inception over 40 years ago, GAINSystems has consistently focused on optimization-driven innovation through highly-manageable, exception-driven solutions and methods. Our product, GAINS™ (**G**eneral **A**daptive **IN**ventory **S**olution) is a direct result of that focus. GAINS is a leading edge planning and optimization solution that provides organizations with dynamic, budget-or-profit-optimized inventory policies and exception-based replenishment planning. The solution offers multiple optimization methods that are categorized into two general areas: profit-maximization for those selling parts for a profit and budget optimization (i.e., maximizing service given a cost constraint) for those tasked with maintaining particular machine 'fleets'. Based on such methods, organizations are able to document the following in addition to any improvements from prior initiatives:

► 20-30% decrease in inventory asset requirements

► 10-20% improvement in customer service levels and dramatic reduction in stockouts and related costs (e.g., 2nd-visit costs, lost sales margin, etc

► Parts Sales Organizations 2-4% improvement in pre-tax profits
  • 5-to-10% growth in market share due to improved service levels
  • 2-4% improvement in pre-tax profits

► Maintenance Organizations
  • Significant reductions in machine downtime at any given budget level
  • Significant reductions in indirect costs of downtime (e.g., performance contract penalties)

GAINS™
Service Parts and MRO Success

ALSTOM

A world leader in transport infrastructure, power generation and electrical grid.

► Reduction in combined inventory investment: 25%
► Reduction in carrying costs and expediting expenses: 27%
► Expedited Shipments reduced to near zero.
► Maintained a consistent 97% fill rate with near zero expediting

"… in providing repair and maintenance to electric power generation facilities, part availability is a given. GAINS made sure we always had parts on the shelf so that no system was out of service, yet still allowed us to reduce our inventory investment and operating costs by over 25%."

– Director, Repair Parts Operations
Gas Turbine Division

Bell Helicopter
A Textron Company

Global Manufacturer of Civilian and Military Helicopters

"Bell Helicopter has been recognized as having the best customer service in the industry for many years, even before we installed GAINS. Now that GAINS is installed, however, we are able to provide the best service in the industry with 19% less inventory and 30% lower handling costs."

– Manager, Support Systems Development

Highlights of GAINS™ Service Optimization Capabilities

Item Deployment and Service Level Policy Optimization
GAINS dynamically determines both where each part should be stocked & at what Service Level to ensure that maximum profit (or minimum cost) is achieved considering a comprehensive set of costs including: carrying, handling, obsolescence, transportation; as well as, lost line-or-order margin, disservice costs (e.g., 2nd visits), expediting costs, etc.). The total-cost-optimization approach obviates the need for semi-arbitrary rules regarding frequency-of-usage and others that are not directly linked to both overall fleet service and cost.

Optimized Replenishment Detail Screen
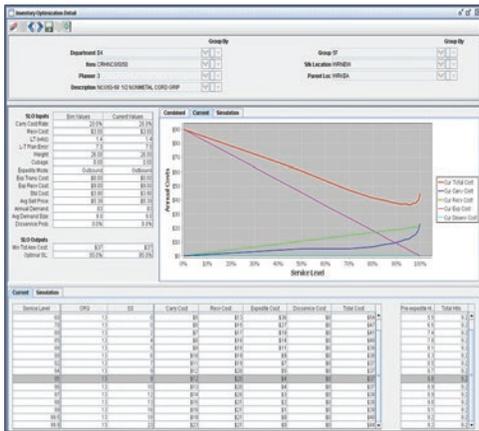
Demand and Supply Analyzed Continuously
GAINS assesses the significance of demand or supply changes on an event-driven basis. It dynamically determines which changes have a material impact on the organization's ability to achieve targeted service levels for each and every part and order. Multiple specialized models designed to manage infrequent and low demand, potentially combined with long lead times, are automatically applied. Where stockout or surplus is likely, GAINS dynamically suggests revised inventory policies and/or replenishment actions (across part conditions where applicable) to ensure customer service levels are achieved at the least total annual cost.

Optimized Replenishment Detail Screen Dynamic Inventory
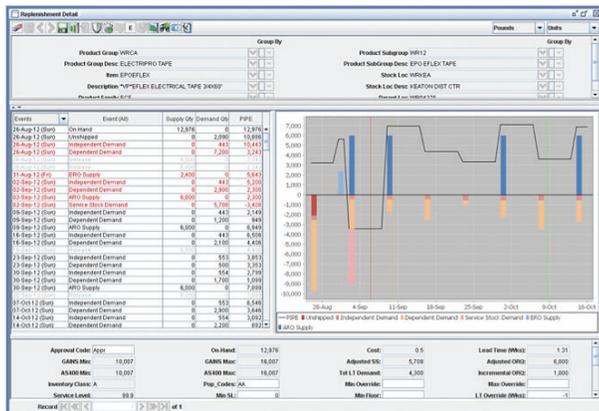
Dynamic Inventory Re-distribution and Condition-Based Supply Planning GAINS identifies demand and supply changes that are likely to adversely impact part &/or order delivery and evaluates the costs and risks of multiple supply scenarios to ensure the targeted service level is sustained at least cost. This includes such tactics as part re-distribution from another location, substituting across conditions (e.g., surplus inventory of new parts for a repaired part demand), substituting across engineering revisions where allowed (e.g., upgrading a '-2' core to execute a '-3' part repair), re-routing purchases or repairs directly to the impacted location, expedited transport, 'filling-in' availability gaps from an alternative (higher-cost, shorter-lead-time) vendor, etc.

Optimization Capabilities Only GAINS Provides

1. **Dynamic Forecast Model Selection and Modeling Hybridization** that tests each of dozens of models for plausibility and accuracy to provide an objective demand plan baseline and eliminate as much human bias as possible. The process will select from or blend different modeling approaches including history-based, fleet-level mean-time-between-failure, and probabilistic repair-bills-of-material.
2. **Dynamic Analysis of Supply and Demand Plan Variance for every SKUL** (SKU/Part by Location) across the enterprise that considers all error sources including the variability in supply and user variance from plan. Only through this comprehensive approach can precise Service Level attainment be achieved (most alternative approaches overshoot for most items and undershoot for some leading to excess costs).
3. **Cost-Optimized Inventory Policies** including Replenishment Order Sizing (non-repair) and Safety/'Service' Stock calculated by SKUL, considering total annual cost, comprehensive error, targeted service levels, and all relevant dependencies and constraints.
4. **Leading Indicator, Extrinsic Variable, and Viability Analysis** to ensure forecasts and plans are not just a "look in the rear view mirror." These can include fuel costs (commercial), operations tempo changes (fleet service / 'power-by-hour' contracts), &/or fleet size (both).
5. **Multi-Echelon/Multi-Indenture** provides the ability to optimize where & at what Service Level to stock in a repair bill-of-material as well as across a multi-level, multi-node distribution network. Considers comprehensive costs, critical paths, service level targets/agreements, and, where applicable, turn-around delivery times (TATs).
6. **Automated and optimized replenishment planning** that determines the least-cost source for each replenishment (standard source, surplus location, alternate vendor, substitute part, new-versus-used given scrap rates, etc.); risk assessment determining the short/exception list of replenishments meriting planning review (& automatically launching others).
7. **Performance Based Logistics (PBL)** management to optimize costs of fulfilling contracts with Service Level Agreements at optimal costs (including performance penalty and turn-around-time parameters). A simulation tool to model costs (and therefore pricing) of prospective PBL contracts at varying SLAs (while minimizing input data required).

**To learn more how GAINS can Profit Optimize your supply chain -
Visit our website: www.GAINSystems.com, or
Email us: ProfitOptimize@GAINSystems.com**