GRA SYSTEMS

GAINS

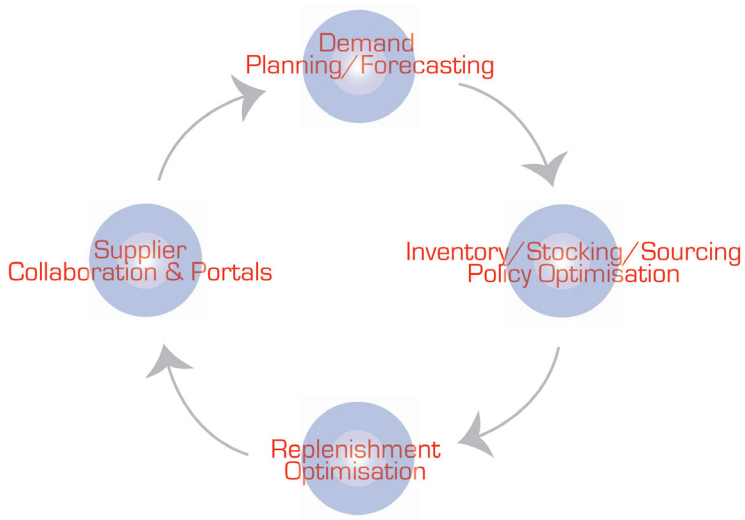
Features & Functions

Demand Planning & Forecasting

GAINS provides accurate, plausible and optimised demand plans through sophisticated, but automatic, multi-modeling that includes:

Pattern-recognition models (more than 30) designed to automatically recognise observed demand patterns and predict a baseline future demand that matches those patterns including:

- ✓ seasonal
- ✓ trending
- ✓ end-of-life
- ✓ sporadic/low-volume/'lumpy'
- ✓ fleet-size/effort-based modeling (eg MTBF, number of landings/ cycles, etc)
- ✓ hybrids of the above that automatically determine likely shifts in historical demand patterns and auto adjust the baseline forecast; these leading indicators can include (exact indicators are user-defined):
- ✓ point-of-sale data
- ✓ machine/fleet usage
- ✓ macroeconomic indicators such as changes in: housing starts, interest rates, vehicle purchases, etc
- ✓ commodity price changes, etc for superceding (direct replacement), similar (mostly-similar attributes), related (some similar attribute), and entirely-new product launches
- ✓ cross-department and cross-enterprise collaboration for facilitating inclusion of 'extrinsic' or market knowledge into the forecast (that cannot effectively be captured via leading indicators)
- ✓ ability to manage work-flow across multiple groups in the organisation (eg, marketing, sales, finance, operations)
- ✓ ability to share demand (or replenishment) plans with suppliers and customers for notification, validation, and refinement



The GAINS Solution Set

Supplier Collaboration & Portals

GAINS provides the ability to automate flow planning and execution of data to and from suppliers to coordinate priorities and manage value-added changes in plan:

- ✓ purchase order manager that facilitates web-based communication of initial orders as well as subsequent changes (expedite/de-expedite requests) in a prioritised and value-driven fashion
- ✓ supplier planning portal that provides configurable and secure requirements forecasts to ensure supplier readiness and improved delivery performance (to drive lower costs for both parties)
- ✓ supplier scorecard that provides detailed and objective performance measures in both absolute and relative (ie ranking) terms including estimating cost impacts of performance issues

Inventory, Stocking & Sourcing Policy Optimisation

GAINS determines where and how much to stock of each item at every location (and level in the bill-of-materials) by considering a comprehensive set of factors with sophisticated, automated, proprietary algorithms:

Multi-echelon/indenture stocking policy optimisation algorithms that determine whether or not to stock an item and at what service level to stock each item given:

- ✓ impact on total costs and/or profit
- ✓ interdependencies among locations (at the same or different levels in the network)
- ✓ interdependencies within a bill-of-material (BOM) such as where-used density, critical-path-likelihood, cumulative lead-time, etc to devise postponement' strategies
- ✓ customer expectations

Inventory policy optimisation that considers a comprehensive set of sources of planning error to identify the optimal ordering sizes and buffer stock including consistently achieved targeted service levels:

- ✓ demand plan/forecast error
- ✓ lead-time variation
- ✓ yield/quantity-delivered performance
- ✓ optimal ordering cycles (considering ordering constraints as well as price-breaks)

Service level optimisation that automatically determines service levels uniquely for each item to achieve an aggregate target while minimising or maximising a business objective; for example:

- ✓ determining the mix of service levels by-item to deliver total service of 98% with minimum inventory investment
- ✓ determining the mix of service levels by-item to deliver maximum service while maintaining a specific inventory investment, inventory turnover, or purchasing budget

Sourcing optimisation that determines the supplier(s) that provide the lowest-total-cost supply considering:

- ✓ ordering minimums and volume-discounts (line and cross-item/order level) vis-à-vis demand
- ✓ in-bound logistics costs
- ✓ lead time and lead-time performance
- ✓ procurement costs, etc

Routing (ie network-flow) optimisation that considers which supplier provides lowest-total-cost supply and, in multi-site environments, how to plan to flow product through the network that considers:

- ✓ the inventory savings of hub-&-spoke (via buffer-stock pooling)
- ✓ the re-handling and transportation cost savings of direct-from-supplier shipping
- ✓ the hybrid advantages of 'cross-dock' logistics

Replenishment Optimisation

GAINS provides automated replenishment suggestions to create or change supply orders. This ensures that inventory returns to optimal levels given the pre-determined GAINS demand plan and inventory policy targets by performing the following functions (where applicable):

New order creation, prioritisation, and auto-approval that considers lead-time requirements, likelihood of stockout, optimised order quantities, and auto-approval risks-versus-benefits

Transfer order prioritisation and creation that considers parent-child relationships and, in instances of shortage, allocates as needed to minimise risk-of-stockout

Optimised re-distribution that considers carrying costs of excess as well as on order to preclude new supply orders when unnecessary

Optimised component allocation that, in instances of component shortages, allocates components to multiple later-stage items to minimise finished goods stockouts across the entire network (ie allocation optimised across multiple echelons)

Cross-dock optimisation that dynamically re-determines target locations for in-bound supplies to the hub location

Rotables planning optimisation that considers unique repair parts planning needs such as:

- ✓ core/carcass reverse logistics
- ✓ variable repair times
- ✓ capacity constraints
- ✓ repair yields and requirements to 'refresh' the rotable pool with new purchases
- ✓ potential 'zero-sum' rotable pool constraints/parameters

Automated and optimised order pooling that builds multi-item, potentially multi-location, orders that minimise the cost related to meeting supplier constraints (eg, minimum value, full-container, etc)

Optimised expediting and de-expediting that considers the costs/benefits of actions to focus attention of high-impact actions often obscured by low-value-added 'noise'

'Rough-cut' production capacity optimisation that optimally smoothes orders in light of pre-build when needed (eg, in seasonal environments) and allocates projected needs optimally during shortages

Cycled production management that optimises inventory policy and ordering in light of fixed ordering cycles (eg, batched production runs)

REAL PEOPLE • REAL WORLD • REAL RESULTS

GRA: 4 Erin Street Richmond VIC 3121 • **p:** [03] 9421 4611 • **f:** [03] 9429 9846 • www.gra.net.au • info@gra.net.au

Experts in Demand, Inventory & Supply Chain Optimisation