



VMetric®

Is your organisation chronically short of the spare parts it needs to keep critical systems in operation while your warehouse bulges with stocks that never move? This all-too-common problem invariably stems from inadequate analysis of requirements, resulting from a lack of appropriate analytical tools. The solution seldom lies in costly, full-blown supply chain management solutions that take a long time to implement and have only a marginal effect at best.

Investment in spare parts should be expected to perform to the same standards as other Commercial use is less well advanced but investments. The business case for acquisition growing, notably in aviation where airlines are that the proposed range and distribution of service levels with inventory reductions 40% to parts minimises the cost of achieving an op- 50%. erationally justified level of system performance.

Both the military and companies engaged in flexibility. The VMetric® optimising engine was aero-space and defense business have long developed by Dr. Craig Sherbrooke, creator of recognised the importance of using analytical the VARIMETRIC system used by the US Air models of sufficient power to determine opti- Force. mal spare parts solutions for weapon systems. Other government bodies use such models too.



or adjustment of a parts inventory should show finding they can maintain their accustomed

The VMetric® family of spare parts optimisation models leads the world in capability and







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Which spare and where?

Model

The model can also run to a budget, a desired fill rate, an The procedure takes into account; operational plans or on-time departure rate, a lost production target, an average schedules, expected part demand patterns, lead times, buydelay time target, the slope of the availability versus cost ing and selling prices, existing stocks, minimum and maxicurve, a shortage cost target, or some combination of these mum stock constraints, assessed shortage costs, effects on and other measures of effectiveness. Advanced options in- the availability of higher assemblies, criticality to system opclude powerful demand analysis routines and built-in simula- eration, opportunities for lateral supply, and whether cannition features to enable testing of stock solutions in realistic balisation of particular parts is permissible. scenarios.

VMetric® addresses a wide variety of sparing challenges. The standard initial provisioning problem, starting with no stock, a performance goal and a limited budget is the most obvious. But you can also study periodic "top up" additions to existing stock, as well as geographic redistribution of exing the appropriate run-time options.

VMetric® is available as a stand-alone tool, as a component of the TFD Logistician's Work Station, and as the strategic planning element of the TFD Supply Chain Optimisation system.

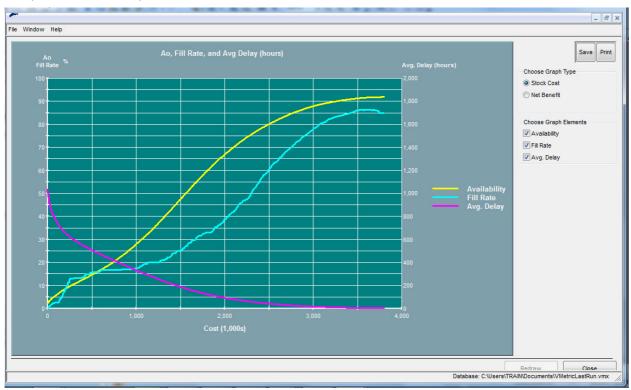
The VMetric Method

VMetric[®] uses a multi-step marginal analysis procedure, each iteration resulting in selection of the part and location change files, corporate databases or spreadsheets. that yields, in light of earlier selections, the greatest reduction in expected backorders per rand.

The output of marginal analysis is a set of cost-effectiveness curves of the kind described above. Since each point is the end of an optimal sequence of part selections, a stock solution considered too costly can be adjusted, without sacrificing optimality, simply by backtracking along any one of the curves until further reduction in effectiveness becomes unisting or augmented stock. This can be modeled in different acceptable. Along with recommended stock levels the model ways without changing the input data sets, simply by select- reports Economic Order Quantity (EOQ) values such as order quantities, reorder points and a variety of other parameters commonly used in inventory management.

Connectivity

Through the TFD Database VMetric® can share data with the MAAP® Total Ownership Cost model and EDCAS®, the world standard for level of repair and front-end analysis. TFD can also provide interface tools for extraction of data from many sources - such as MIL-STD 1388-2B data ex-



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