

## PRODUCT DESCRIPTION

# Advanced Total Life-Cycle Assessment Software Tool (ATLAST™)

### Introduction

**ATLAST™** is a technology developed to assist weapon systems managers with the task of evaluating, quantifying and reducing life cycle supportability costs without adversely impacting fleet readiness and availability. It is used to predict performance metrics within operations, maintenance and supply for a single asset or series/fleet of assets. This model application provides an integrated systems approach to modeling the dependencies between an asset's ability to achieve desired operating hours and the ability of the repair and supply capabilities to respond to the demands resulting from those operations.



### ATLAST's Features include:

- Software application based on SPAR™ simulation technology
- Database structure provides for plug-ins and simulation of numerous systems and platforms
- Provides “what-if” simulation scenario management for analysis of life cycle sustainment forecasts
- Operations and maintenance model pre-designed into the system
- Forecasting by equipment groups, part numbers or serial numbers
- Maintenance modeling - phased inductions, scheduled or preventive, causal or opportunistic
- Life cycle impact assessments associated with aging - by assembly, location, and repair interval
- Indenture structures/hierarchy integrity
- Initialized “State” of system and components prior to simulation and Life Cycle metric prediction
- Implicit life limit vs. causal removal event management
- Operations variations by location
- Part interchangeability/substitutability rule manipulation
- Repair capacity evaluation
- Cycle time evaluation (repair/transportation/order lead time)
- Up to 3-level maintenance concept
- Time-dependent forecasting



## Major benefits

System managers who use ATLAST™ can expect great benefits thanks to its integrated systems modeling approach. ATLAST™ will help you to reduce life cycle risks, forecast readiness, forecast operations and maintenance performance for systems at selected operating locations, and verify performance of life cycle prior to implementing revised sustainment initiatives. With ATLAST™ you can quantify life cycle costs and impacts due to management decisions regarding equipment configuration changes, remaining-life rules modifications, alternate sparing strategies, adjusted flying hour programs, modified repair concepts, and age/reliability factors. All this, while discovering opportunities to reduce costs and improve overall asset performance.

## Applications for use include:

- Maintenance concept modifications (How we maintain)
- Deployment strategy assessments (How we operate)
- Reliability modification impacts (How we build/configure)
- Supply chain alternatives (How we supply/stock/pre-position)

## Predicted output metrics include:

- Readiness
  - Time-dependent Mean Time Between Removals
  - Availability
  - Achieved operating hours
  - Cumulative age of part populations
- Supply
  - Percent of time awaiting parts
  - Average time awaiting parts
  - Spares levels
  - Spares unavailability
- Maintenance
  - Removals (Time, Location and Quantity)
  - Workload to depot
  - Condemnations at depot
  - Tasks performed
  - Percent of time awaiting maintenance
  - Average time awaiting maintenance
- Cost
  - Life Cycle Supportability Costs
  - Costs per operating hour

## SPAR / ATLAST

SPAR™ is Clockwork's modeling and simulation technology for predicting future system behavior in order to reduce asset ownership cost and increase performance. SPAR™ models are based on statistics and rules that define, at a detailed level, how elements of a system and its support infrastructure behave dynamically through time. By modeling the details of element behavior and the relationships between elements such as reliability, maintenance procedures, and the supply chain, the performance of large, complicated systems can be predicted accurately. ATLAST™ is a custom application built on top of the SPAR simulation engine. Much of the work involved in creating an aviation maintenance simulation model has been designed into ATLAST™. Users must only concern themselves with changing inputs under analysis, running life cycle simulations, and evaluating life cycle impacts.

**ATLAST is quick to access, easy to use, and provides a powerful systems engineering approach to life cycle forecasting!**

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