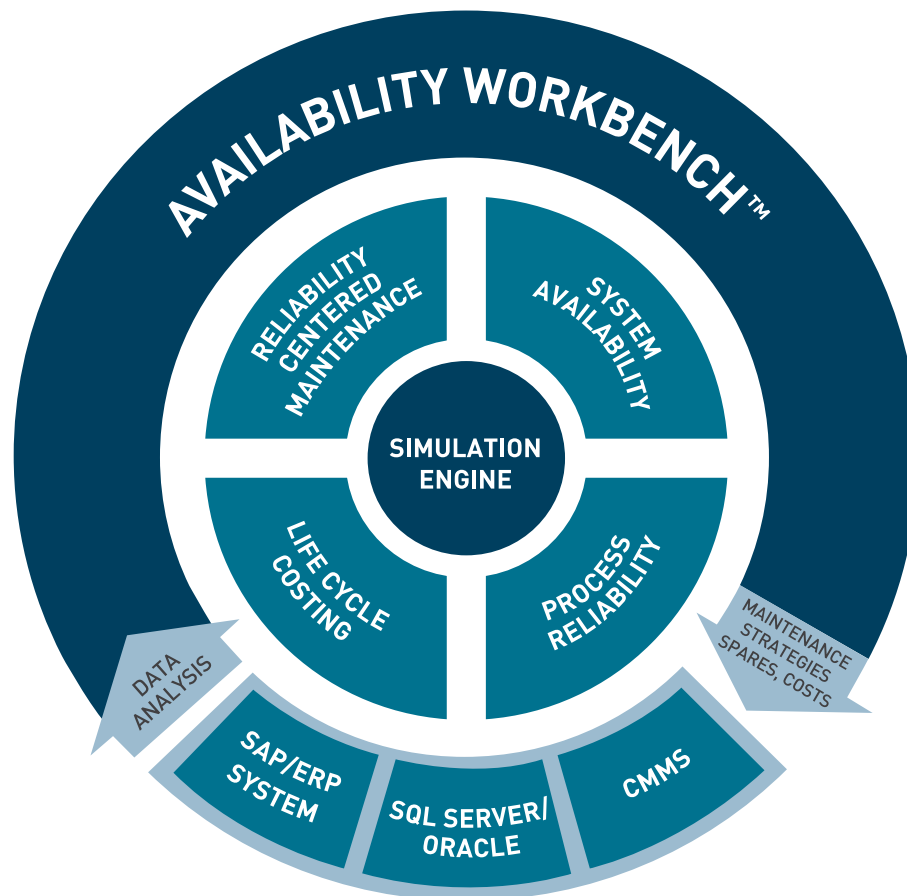# AVAILABILITY WORKBENCH™

www.armsreliability.com

AVAILABILITY WORKBENCH™

Availability Workbench™ is a powerful, integrated software package that combines RCM with Availability simulation, LifeCycle Costing, Data Analysis and integrates with corporate ERP systems, databases and CMMS software through an analytics portal.

ARMS Reliability have worked in conjunction with Isograph, the software developers, to keep these products at the forefront of essential reliability decision making tools.

ARMS Reliability have implemented Availability Workbench™ on many major projects in the resource sector, power generation and capital intensive industries since 1997.

Availability Workbench™ performs all the Reliability Analysis neccessary to meet everyday needs, as well as perform RAMS on each phase of a large project.

POWERFUL SIMULATION SOFTWARE FOR PROACTIVE ASSET MANAGEMENT

Availability Workbench™ has six modules for:

RELIABILITY CENTERED MAINTENANCE:
Developing and maintaining a Reliability Centered Maintenance (RCM) program to optimize your reliability and maintenance strategy

AVAILABILITY SIMULATION:
Performing full system availability predictions taking into account complex dependencies on spares and other resources

LIFE CYCLE COST ANALYSIS:
Performing a Life Cycle Cost Analysis to calculate the expected costs of your system during its lifetime

WEIBULL ANALYSIS:
Analysing historical failure data to model the failure characteristics of equipment

PROCESS RELIABILITY:
For understanding production losses

ERP INTERFACE:
Integrating the reliability decision making tools with the CMMS to enable easy data transfer

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Qualify and Justify Decisions
By simulating scenarios over a lifetime, you can have confidence in the maintenance decisions you make

Meet Safety and Environmental Goals
Allows you to manage your maintenance strategy to prevent undesirable events

Enterprise Ready
Scalable software solutions making deployment easy for 10 to 10,000 users

Use Real Data
Availability Workbench™ seamlessly integrates with SAP, Maximo and other CMMS platforms, allowing for existing plant data to be used

Meet Operational Goals
Establish, validate or measure operational targets and identify bottlenecks and their impact. Understand process losses and impact on process reliability

A Living Program
Updating models with the most recent of new data from your CMMS allows for your model to evolve

Minimise Costs
Enables you to see where your maintenance budget is being spent and hone in on biggest cost contributors

Improve Productivity
Intuitive drag and drop interface built on familiar Microsoft framework

Save Time and Money
Software allows for rapid creation of similar piece of plant and equipment

AVAILABILITY WORKBENCH™ MODULES

RCMCost™

RCMCost™ is the maintenance simulation module of Availability Workbench™ that allows maintenance tasks to be evaluated over a lifetime. Allowing for ageing over a lifetime, the package calculates the cost of failure modes by comparing the benefit against alternative strategies.
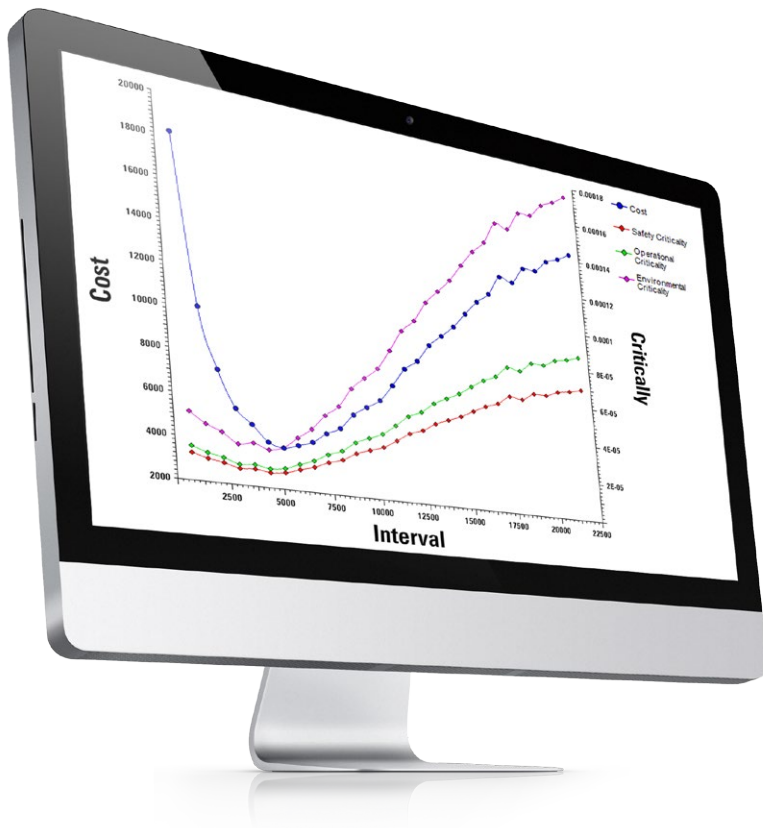
RCMCOST™ ENABLES YOU TO:

- Optimise your maintenance strategy by determining the optimum maintenance task and frequency that gives the lowest total cost or risk

- Predict resources and create budget forecasts

- FMEA & FMECA - Generate and print a list of Functions, Failures, Failure Modes and Effects for each maintainable item hierarchy

- Analyse failure data

KEY BENEFITS

- Use real data from your CMMS to model alternative scenarios and compare costs over a defined lifetime

- Capture and preserve engineering knowledge and provide a quantitative means of updating strategies from work order history

- Creates a living strategy that can be updated when new maintenance history is available or design changes take place
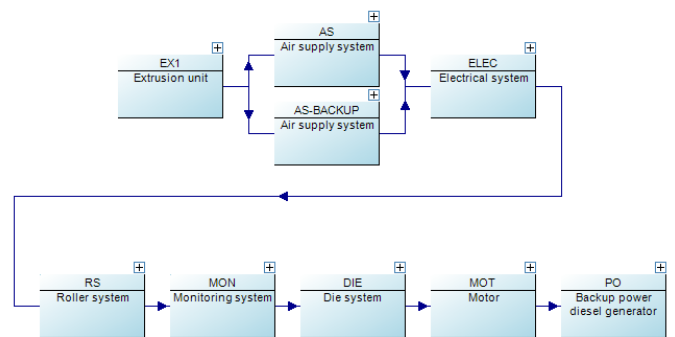
AvSim™

The AvSim™ module of Availability Workbench™ is a sophisticated Monte Carlo simulation package for analysing plant availability and reliability using Reliability Block Diagrams (RBD). The simulator enables AvSim™ to model complex redundancies, common failures, ageing and component dependencies which cannot be modelled using standard analytical techniques.

AVSIM™ ENABLES YOU TO MODEL:

- Buffer sizing and location
- Process unit redundancy and sizing
- Process technology
- Major utility needs
- Equipment redundancy
- Standby arrangements
- First pass spares analysis for major equipment
- Predicted costs

KEY BENEFITS

- Evaluate the maintenance strategy on plant availability and production capacity
- Identify bottlenecks
- Assess the impact of plant modifications, additions & disposal
- Optimise the holding levels of critical spares

Life Cycle Cost (LCC)

The LCC module of the Availability Workbench™ allows users to define life cycle costs other than those predicted by the RCMCost™ and AvSim™ modules. These costs may be integrated with predicted costs in the LCC cost breakdown structure to provide a time-dependent analysis of a system's whole life cycle cost process.

Process Reliability

The Process Reliability module enables you to analyse daily production data to determine where those losses are coming from. It is easy to see the production capacity of a plant and the source of losses as either systemic or special causes (reliability losses).

ERP Interface

The Enterprise Reliability Portal (ERP) links SAP, Maximo or Ellipse to Availability Workbench™ and allows for data to be transferred between the two programs. This provides Maintenance and Reliability Engineers with a real-time decision making tool, utilising maintenance history to optimise maintenance strategies through the use of advanced and mature reliability simulation tools.

THIS MODULE ALLOWS YOU TO:

- Upload maintenance plans
- Analyse plant performance
- Handle master data

Weibull Analysis

The Weibull Analysis module, allows historical failure data from the CMMS to be analysed and used to model the failure characteristics of equipment. This includes the generation of the eta, beta, and gamma parameters of the Weibull distribution using an auto matching feature fitting the line of best fit through a data set.

2-parameter
Weibull
Median rank

η: 1.239E+04
β: 2.168
γ: 0

ρ: 0.9762
ϵ: 0.0464
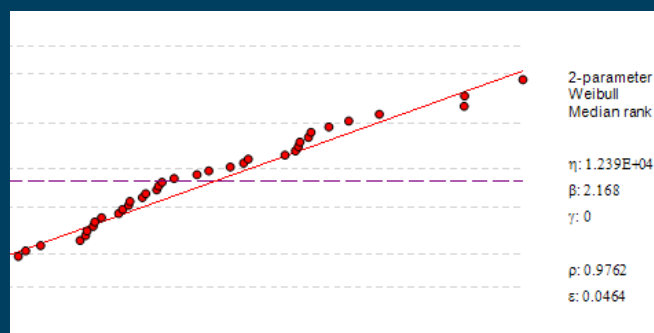
USERS OF AVAILABILITY WORKBENCH™

WHAT OUR CLIENTS SAY

Without ARMS and Availability Workbench™, our asset management program would have failed years ago and never made an impact on how we manage our assets.

Rodney Pickett,
Asset Manager, Avista

I have used the ARMS services in other companies and have always found them to be responsible and professional and providing a service that was always attentive to provide excellent results.

Larry DeBry,
SVP Reliability Engineering, AngloGold Ashanti

ARMS
RELIABILITY

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