Software Solutions for Asset Intensive Organisations

Asset Lifecycle MANAGEMENT PTY LTD

Strategic Asset Management

Future Sustainability

Organisations that are responsible for managing major infrastructure asset portfolios are facing significant challenges in managing the assets to ensure their future sustainability.

Recently, this has been recognized by the introduction of legislative requirements and state based Asset Management Programs, to support infrastructure managers, such as Local Government Authorities, to forecast and plan for their future asset management funding needs.

Strategic Asset Management (SAM) allows organizations to address both these issues by systematically and optimally manage physical assets and their associated performance, risks and expenditure over the assets lifecycle to achieve specified organizational and community service levels.

Decision Support Tool

Asset Lifecycle Management's SAM product is a predictive modeling and decision support tool that allows an organization to:

- Collect Strategic Asset Data including component condition assessments.
- Link Strategic Assets to existing Maintainable and Fixed Asset Registers.
- Model deterioration of components of infrastructure assets.
- Specify interventions that can be applied to renew or rehabilitate specific asset components.
- Perform Optimised Decision Modelling to generate Asset Management Plans that deliver specified service levels within given funding scenarios.
- Communicate the outcomes of scenario analysis by generating auditable data for inclusion in short and long term asset management plans.

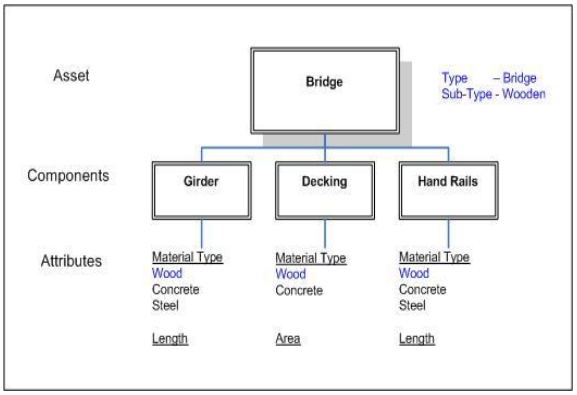
SAM Outcomes

Utilising SAM, an organization can:

- Implement a robust planning process with systems support to ensure that assets are managed according to organizational, financial, community and service level goals.
- Take account of the long term and cumulative effect of strategic asset policy decisions.
- Comply with regulatory requirements for long term strategic asset planning.
- Mitigate risk of failure to adequately manage infrastructure assets.

Strategic Asset Register

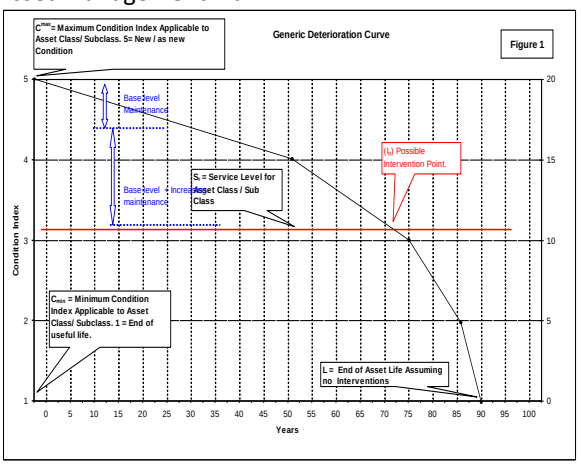
At the core of SAM is the Strategic Asset Register which maintains Asset, Component and Attribute data.



Deterioration & Interventions

Deterioration curves predict failure by modeling the performance of infrastructure assets from construction or acquisition to end of life. Environmental and usage factors can be applied to modify deterioration attributes of physical assets.

Interventions are treatment options that are modeled and optimized to generate the most cost effective Asset Management Plan.



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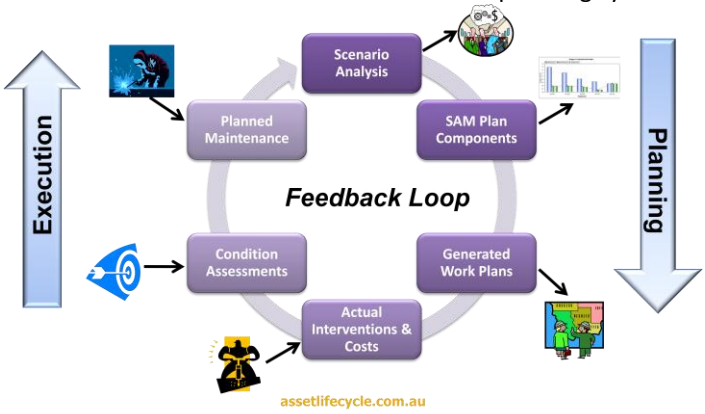
Strategic Asset Management

SAM Planning / Execution Cycle

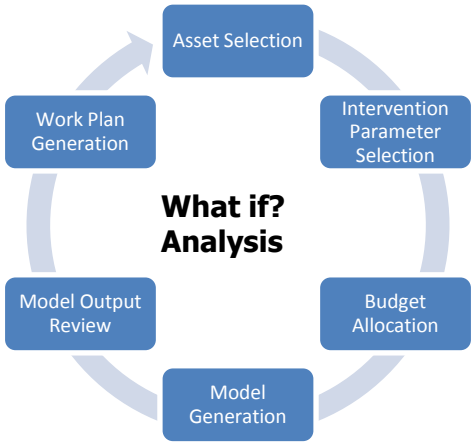
Within an organizations strategic planning cycle, SAM can be used to:

- Perform Scenario Analysis to determine the optimum plan.
- Generate components and reports for inclusion in the organizational Strategic Asset Management plan.
- Generate a Work Plan for the coming time period.
- Record actual Interventions, Costs and impacts on Asset Condition Rating in the SAM model.
- Perform planned maintenance activities as usual.
- Be able to re-run the model for the next planning cycle.



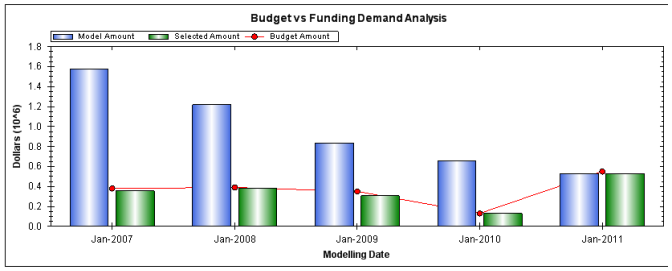
Optimised Decision Modelling

The ODM process provides decision support capabilities for scenario analysis, taking into account asset deterioration, applicable interventions and budgetary constraints.



Funding Demand Analysis

Model output can be viewed as a data grid or in a graphical format.



Asset Management Plan

An asset management plan can be generated from the Model Output. As intervention work is completed the asset condition is updated to reflect the impact of works undertaken.

Strategic Asset Management Plan Components

In addition to the Work Plan, a series of reports are provided that can be used as the basis for an organizations Strategic Asset Management Plan. Together these reports indicate:

- The impact of different levels of funding on predicted service levels.
- Whole of asset lifecycle costing including operational, maintenance and disposal costs.
- The extra funding required to reach target service levels and the cumulative effect over time.
- Asset consumption showing the useful asset life remaining.

Capital Renewal Program – Model Output
- Interventions can be grouped for a logical works program

Sustainability Index - KPI
- Are enough funds being spent to replace assets compared to the rate of asset consumption?

Service Index Profile
- How much of a given asset class is in each condition state

Funding Needs Analysis
- Determining the impact of different levels of funding

Whole of Life Costs
- The annualised cost of ownership and total cost of ownership over the defined life
- Modelled Amounts + Operational / Maintenance Costs + Disposal Costs

Funding Gap Analysis
- Amount of extra funding required to achieve target service levels
- Shows the gap per annum illustrating the cumulative effect over time period

Asset Consumption
- Shows useful life remaining based on the service index
- Shows where, on average, across a whole asset class you are in the lifecycle

Asset Accounting

SAM provides the framework to calculate replacement cost, fair value, and change in useful remaining life. These values are suitable for compiling statutory reports and for importing to an external Fixed Assets system:

- ***Replacement Costs*** can be calculated using user-defined rates either on rates tables or formulae based on asset attributes. For example, a rate table for water pumps is based on power, whereas a reservoir will use a rate formula based on capacity and material type.
- ***Fair Value*** can be determined as either the entered market value, or the calculated Depreciated Replacement Cost (DRC). The DRC is the cost to replace the asset today less the value of the asset already consumed.
- ***Useful Remaining Life*** may be determined by external factors unrelated to the physical life of the asset. In some

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cases, the useful life may be less than the economic life, significantly impacting future capital expenditure.

- ***Special Schedule 7 Report*** as required by the NSW Dept of Local Government (DLG) can be generated by SAM. The report includes values for condition, the cost to bring public works to a satisfactory condition and the amount required to be spent on existing infrastructure. The report is presented summarized by category for submission to the DLG.

Strategic Asset Management Planning

With the functionality provided by SAM, an organization can identify and address the following issues in its Strategic Asset Management Plan:

- Are current funding levels sufficient to meet asset needs for the next 5, 10, 20, 50+ years?
- With existing available funding, what are the most critical asset interventions that can be done?
- How do variations in funding or cash flows impact asset service levels into the future?
- How can I effectively communicate this information to policy decision makers in an easily understandable format?
- How can I justify a defensible position for my organisations needs based budgets?
- How can an organization show that it has mitigated risk and ensured future sustainability?

For further information or a demonstration of the capabilities of the Strategic Asset Management product, call us on the numbers below.