COST, RISK & PERFORMANCE OPTIMIZATION OF INSPECTIONS AND MAINTENANCE
HOW CAN YOU MAKE A ROBUST AND CONVINCING BUSINESS CASE FOR...

...preventive maintenance – even when asset deterioration and failure risks are uncertain?
...optimal intervals for inspection/maintenance?
...opportunity-based maintenance?
...condition monitoring, inspections or testing?

Practical, proven, comprehensive, understandable...

The SALVO (Strategic Asset Lifecycle Value Optimization) cost/risk/performance optimization process enables you to:

• Prove that planned maintenance is worthwhile
• Calculate the optimal maintenance, inspection and testing intervals
• Quantify the economic and risk impact of deferring or cancelling maintenance tasks
• Demonstrate the ‘cost of uncertainty’ (and financial benefit of getting better data)
• Put a price on the ‘intangibles’ of reputation, morale and customer impression
• Calculate the ‘cost of compliance’ with mandatory requirements (and financial benefit of projects to remove/reduce such constraints)
• Capture an audit trail for why maintenance or inspections are needed, and when.

What’s different about this process?

There are plenty of tools, such as Failure Modes & Effects Analysis (FMEA), Reliability Centred Maintenance (RCM) and Risk-Based Inspection (RBI), for helping to determine what sort of maintenance or condition monitoring is appropriate. But they do not really address the final, vital step of determining how much maintenance or inspection is optimal. ‘Engineering judgement’ and ‘rule-based’ methods are extremely poor at choosing the right intervals or intervention timing.

However a multi-industry consortium of leading organisations (www.SALVOproject.org) has developed a robust solution to this problem: a rigorous process, with methods for ensuring that the right questions are asked, for quantifying the costs, risks, asset life cycle consequences, for handling the intangibles and uncertainties, and for presenting the optimal strategy in clear ‘business case’ terms.

This process is supported by highly innovative decision-support software (DST) that performs instant ‘what if?’ calculations of all the reliability, life cycle cost and risk implications for different options. And it is specifically designed to work with uncertain assumptions and incomplete data.

“Identify, quantify and demonstrate why maintenance or inspections are needed, and when.”
Decision Support for Asset Management

The SALVO Process, supported by DST Asset Strategy Evaluator® software, represents the world-leading decision-making methods for optimizing asset management decisions in all life cycle stages.

EVALUATE AND OPTIMIZE THE AMOUNT OF

- Planned preventive maintenance
- Planned corrective maintenance
- Condition-based maintenance/inspection
- Failure-finding tasks/testing
- Planned run-to-failure maintenance

An integrated process

The SALVO processes and tools also fit naturally into both the development of new asset management strategies or reviews of existing activities.

This extends existing best practices for developing new asset management strategies, and for review and optimisation of existing activities. Complementary to RCM or RBI methods, they bridge the gap between the technical view and the business/financial view of assets and their maintenance requirements.

Using simple ‘storyboards’, these tools help to capture expert knowledge, quantify risks and degradation patterns (including uncertainty in any assumptions) and instantly calculate the impact of different strategies to find the optimum approach.

Scenarios can be developed in minutes, so you can explore the effect of different design modifications, asset criticalities, operating strategies, vendors, maintainers or any other option.

In all cases, the results are displayed in clear graphical and tabular forms, along with auto conclusions that identify and explain the key findings.

“Unique combination of structured thinking, cross-disciplinary collaboration guidance & instant ‘what if?’ evaluation tools.”
The SALVO Process was developed by a multi-sector consortium of leading asset management organisations to seek better value through disciplined, transparent and optimized decision-making. The resulting disciplines and tools have been field-proven and independently validated for over 40 decision types, as typically encountered in different stages of an asset’s life cycle.

The SALVO Process also fulfills ISO 55001 requirements for decision-making methods which demonstrably optimize costs, risks and performance over the whole asset life cycle.

SALVO Development Partners

SALVO PROCESSES ARE AVAILABLE WORLDWIDE UNDER LICENSE AS A COMBINATION OF:

- Decision Support Tools
  - DST software - modular evaluators with different asset management options

- Expert Facilitation
  - Consultancy and analysis services - provided by an international network of qualified experts.

- Process Learning
  - Modular training courses - available in concepts and applications of the SALVO Process

- Strategic Partnerships
  - Options are available to offer SALVO tools and services under license

- DST Maintenance Evaluator
  - Cost/benefit/risk evaluation and optimal timing/intervals for preventive maintenance, planned corrective maintenance, performance improvement and asset life extension activities.

- DST Project/Change Evaluator
  - Cost/benefit/risk evaluation and ranking of one-off projects, asset modifications and changes in procedures, competencies, standards, resourcing or risk management options.

- DST Samp
  - Assembly of activity programmes into a Strategic Asset Management Plan, with quantified cost/risk/performance impacts, Capex/Opex or resource constraints and ‘what if?’ shuffling.

- DST Inventory Optimizer
  - Evaluation and optimization of spares and materials inventory decisions, supply chain and purchasing strategies, operational standby and redundancy options.

- DST Inspection Evaluator
  - Cost/benefit/risk evaluation and optimal timing/intervals for inspections, condition assessments, monitoring and predictive maintenance tasks and functional testing activities.

- DST Lifespan Evaluator
  - Life cycle cost/risk/performance evaluation of asset purchase options, optimal timing for asset replacement, evaluation of life extension options, obsolescence and decommissioning decisions.

- DST Schedule Optimizer
  - Optimization of work bundling, shutdown strategies and opportunity alignments for projects, maintenance, inspections and other tasks, evaluation of resource and other constraints.

- Why replace equipment when an alternative strategy may be justified?
- Is the premium for compliance or the value of intangible benefits quantified?
- How do you turn an asset performance problem into a business justification for action?
- Can you prove to budget holders which spares are worth holding and in what numbers?

Buy the Book

“Asset management decision-making: The Salvo process” is summarized in a guidebook available from www.SALVOproject.org or as an e-book from Amazon or Apple iTunes.