

The SALVO Process (Extract from chapter 4)

The overall SALVO Process is a top-down targeting of the key problems and needs for attention, followed by a bottom-up evaluation, justification and coordination of what is worth doing, when, to address these issues (see SALVO Process diagram below). In particular, it addresses some of the most critical cost-, performance- and risk-based decisions in asset management; decisions such as “When should I replace this asset?”, “How much can I extend the life by a modification or refurbishment?” or “How much condition monitoring or maintenance is worthwhile?”. These decisions frequently involve very uncertain assumptions about risk, performance impact and life cycle costs. Individual decisions also need to be considered in the context of competing priorities, budget or resource constraints and opportunities to bundle of work with other activities. It is also essential to develop a clear and credible business case in language that financial investors, safety managers, regulators and technical staff can all understand and accept.

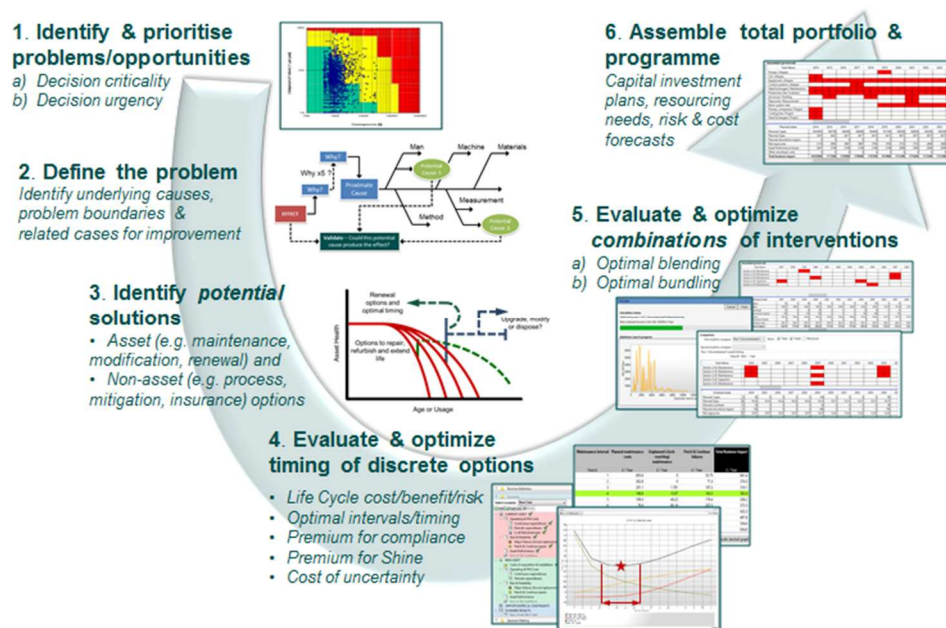


Figure title - The overall SALVO Process illustrated

The SALVO approach breaks the subject up into 6 generic steps. They cover:

1. **Identify and prioritize problems/opportunities:** Identification of asset groups subject to aging characteristics and sharing similar criticalities and urgency of attention.
2. **Define the problem/opportunity:** Root Cause Analysis, drilling down to address the underlying issue rather than just treating the symptoms
3. **Identify potential solutions** that should be considered for each case or asset grouping – encouraging lateral thinking, including ‘non-asset solutions’
4. **Evaluate and optimize timing of discrete options:** consistent cost/risk/benefit evaluation, including sensitivity analysis to uncertain assumptions and quantification of intangibles, impact of compliance etc.
5. **Evaluate and optimize combinations of interventions**
 - a. Best *blending* of activities for the same asset/asset group (e.g. optimal mixture of inspections, planned maintenance, refurbishment and renewal timing for best life cycle value)
 - b. Best *bundling* of activities for implementation and resourcing (e.g. shutdown strategy, work bundling opportunities etc.).
6. **Assemble portfolio and programme** and forecast cost, risk and performance implications.