



ASSET REPLACEMENT OR LIFE EXTENSION: JUSTIFYING INVESTMENT AND OPTIMAL TIMING

HOW CAN YOU TRULY OPTIMIZE

...the time to replace an aging asset?

...management of obsolescence and upgrades?

...strategies to extend the life of existing assets?

...life cycle costs, risks and performance of alternative design or procurement options?

Logical, transparent process

The **SALVO Process** is easily applied to asset replacement, life extension or other life cycle decisions. It leads you through a systematic quantification of costs, risks, performance, compliance and stakeholder impacts, including 'intangibles' and areas of uncertainty.

It is a **people-centric** process, guiding multi-disciplinary inputs so that decisions use the best available knowledge and achieve the support and 'ownership' of all affected groups.

Supporting the process, the **DST** tools provide instant 'what if?' calculation, including **leading edge modelling** of deterioration, reliability, risks, life cycle cost and performance impacts. All incorporated algorithms have been **independently validated** by Cambridge University – so you can be confident in the correct handling of your assumptions and the validity of our conclusions.

And **SALVO** also helps you to explain the optimal strategy to different stakeholders, by presenting results in graphical and value-for-money language that even the CFO/Finance Director can understand!



World-leading evaluation tools

DST Lifespan Evaluator™ is a highly flexible decision support tool used to identify the best value mix of capital investment, operating and maintenance costs, reliability/risks, asset performance and refurbishment or replacement interventions.

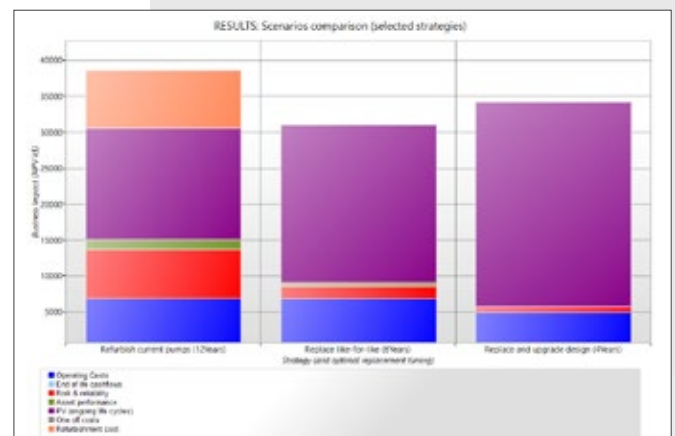
Used within the **SALVO Process**, it harnesses whatever hard data, range-estimates and uncertain assumptions are available. And it can be used to calculate and reveal:

- the optimal asset replacement timing
- the impact and value of refurbishment or enhanced maintenance to extend asset life
- the value and best timing for technology upgrades in managing obsolescence
- the value-for-money and life cycle costs of alternative renewal options (e.g. designs)
- the value and impact of 'intangibles' such as reputation or customer satisfaction

...and a host of other common asset management decisions.

Practical, rigorous, simple to use... and rapid!

Typically in just 2-3 hours, the **SALVO Process** can help you to perform a **fully quantified evaluation** of options, scenarios and data uncertainties/sensitivities to identify the optimal strategy.





Clear, systematic evaluation & justification for what to spend, and when, on aging assets.

Aging infrastructure, technology obsolescence and asset degradation represent big and growing problems for many organisations. And it is hard to identify or justify what is really worth spending and when, to address such problems.

We often face short-termism in performance goals or cost controls, suffer from incomplete information and use inconsistent or subjective decision-making methods. But now there are practical solutions to address these issues, developed through an international, multi-industry collaboration project (www.SALVOproject.org).

This consortium has created a highly successful combination of structured **process guidance**, hands-on **training** courses, an international network of expert **facilitators** and unique “what if?” decision support **tools**. This combination is known as the **SALVO Process**.

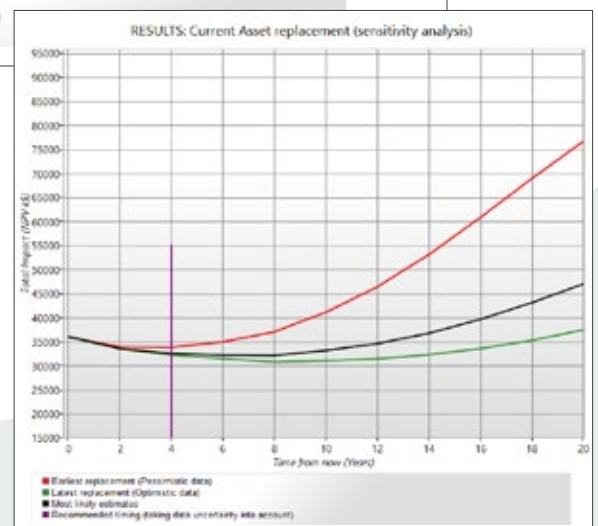
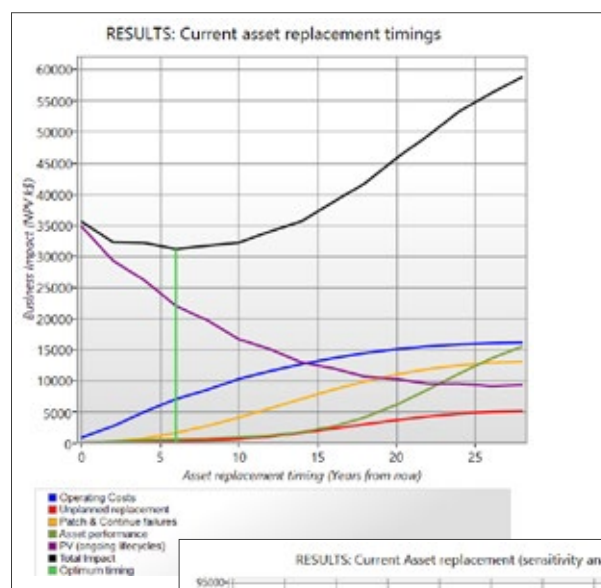
SALVO provides transparent justification for the **best value thing to do** (such as refurbish or replace an aging asset), and the **optimal time to do it**. The process bridges the gap that often exists between operational/engineering and financial/business views of a problem to identify the right solution. And it creates a clear **audit trail** to show **why** is it right, and the cost/risk consequences of **not acting** at the right time.

SALVO is used and proven in a wide range of asset types and industries, in both public and private sectors. It can be provided as an expert facilitation service as and when required, or introduced through training and support within your organisation to become part of your core strategy and decision-making processes.

“ With **SALVO** we reduced our Capex for re-instrumentation by **60%** ”

The **SALVO** process and **DST** toolkit enable you to:

- Identify and demonstrate the best time to replace a deteriorating or obsolete asset
- Make clear decisions *even if data is uncertain*
- Gain rapid agreement between conflicting interests: find the best compromise
- Show how much extra asset life can be achieved by overhaul or refurbishment
- Identify the optimal mix of Capex and Opex
- Select the best value new asset to choose, based on life cycle costs, risks and performance.





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



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



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

Expert Facilitation

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



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



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

Process Learning

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



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.



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

Strategic Partnerships

Options are available to offer SALVO tools and services under license



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

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.



- 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?

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