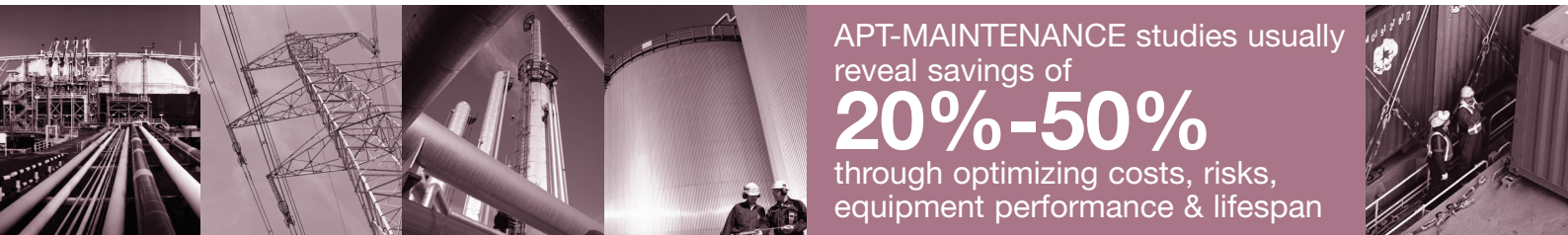


What is the optimal timing or interval for planned maintenance?

How do you quantify the business value of preventive actions?



Professional asset management involves not only *doing things right*, but more importantly, *doing the right things, at the right time*. APT-MAINTENANCE is a unique decision-support tool to evaluate what maintenance is really worthwhile and when, and demonstrate the financial business case for the optimal strategy. And it does this even if available hard data about equipment reliability, performance, costs or deterioration data is extremely uncertain (APT-MAINTENANCE employs extensive ‘what if?’ and sensitivity analysis features, showing which assumptions are critical, and what data is worth collecting in the future).

Developed by an international consortium of blue-chip organisations, backed by the UK and European governments, APT-MAINTENANCE is the world-leading tool for helping to turn maintenance into a quantified, risk-based, business discipline. It addresses the steps that RCM, TPM and RBI fail to deliver: the quantified business justification and optimized timing for appropriate maintenance tasks.

APT-MAINTENANCE

- Calculates the best preventive maintenance interval or equipment replacement timing.
- Puts numbers to the costs, benefits and risks of alternative maintenance strategies.
- Utilises sophisticated analysis to optimize equipment reliability, performance and efficiency, maintenance costs, downtime impact and achievable lifespan.
- Quantifies the impact of deviating from optimal intervention timings.
- Tests for sensitivity to weak and range-estimated data, and quantifies the impact of constraints or intangibles.

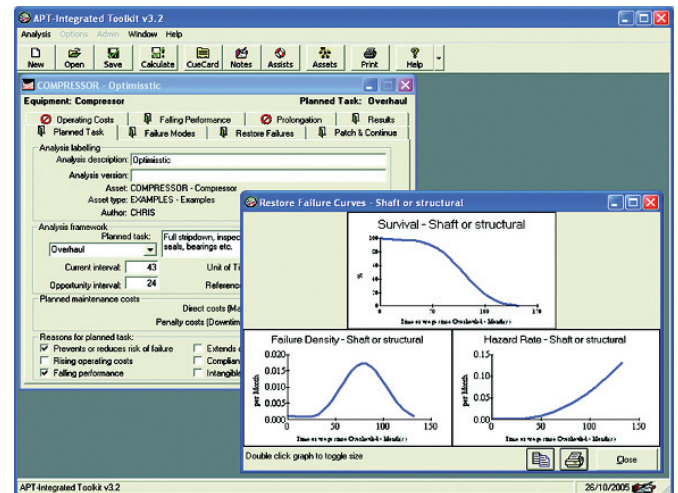
Putting a price on the intangibles

Described as the single most significant break through in maintenance strategy in 20 years, APT-MAINTENANCE provides a comprehensive means of capturing, quantifying and using engineering expertise and knowledge alongside any available hard data. It converts technical attributes (such as failure patterns, deterioration and life expectancy) into quantified financial implications, including the financial impact of uncertainty and the value of ‘intangibles’ such as reputation or compliance with regulatory requirements.

The professional decision-support tool for maintenance

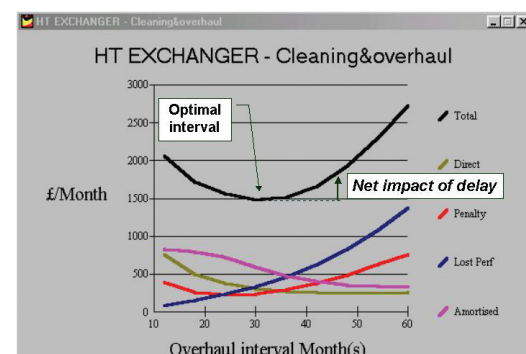
APT-MAINTENANCE models

- Planned maintenance (PM) tasks: overhauls, inspections, component or equipment replacements, servicing, alignment, cleaning etc.
- PM costs: direct and indirect, downtime impact, variable or trended (increasing with time/use).
- Reliability modelling: multiple simultaneous failure modes, patterns and their interactions.
- Failure consequences: direct and indirect costs as lump sums, variables or trends.
- Performance and efficiency patterns: deterioration profiles, spare capacity, increasing operating costs, consumables, fuel consumption.
- Life extension or shortening effects.
- Legal compliance, opportunity-based maintenance and shared downtime options.
- 'Intangibles' such as customer impression, morale and reputation.



APT-MAINTENANCE delivers

- Optimal PM timing and intervals.
- Costs (total business impact) of delay or deferment.
- Expected residual risks (MTBF) under different maintenance intervals.
- Predicted planned and unplanned expenditures and downtime (under different maintenance strategies).
- Cost of compliance (compared to cost/risk optimal strategy).
- Cost of data uncertainty (financial value of obtaining better data).
- Cost of an on-failure policy compared to (optimal) preventive strategy.



APT-MAINTENANCE is part of an integrated ASSET PERFORMANCE TOOLKIT

APT-INSPECTION

Optimum inspection, condition monitoring and testing strategies, optimal condition reaction points, alternative monitoring methods.

APT-SCHEDULE

Shutdown strategies and intervals, optimum task grouping and timing, shutdown opportunity evaluations and resource or work planning constraints.

APT-PROJECT

Cost/risk evaluation of projects, change proposals, modifications, new ideas and other 'one-off' investments.

APT-LIFESPAN

Asset replacement decisions, repair-versus-replace options, life extension refurbishments, asset acquisitions and alternative designs based on life cycle costs.

APT-STOCK

Consumables and materials purchasing strategies, min/max stock, re-order quantities, supply options, storage requirements.

APT-SPARES

Strategic and slow-moving spares strategies, optimum spares levels, 'pooling' options, alternative suppliers.