

RPMGLOBAL
ADVANCING MINING

AMT4SAP



RPMGlobal overview

We are an **industry leader** in the provision of mining technology and consulting & advisory services globally.



SAP® Certified
Integration with SAP Applications

5000⁺ **INSTALLS**

5 DEVELOPMENT CENTRES

SOFTWARE ADVISORY TRAINING

50 YEARS **EXPERIENCE**
CODE:RUL

22 **GLOBAL OFFICES**

Certified SAP Integration

Suite of APIs certified to operate with SAP (S/4, ECC)

Complementary Functionality

Specific functionality designed to complement SAP Plant Maintenance

AMT is an **integrated asset management tool** founded on **Dynamic Life-Cycle Costing**

Proven Solution

Implemented at Tier 1 mining companies, and OEM/Dealer customers globally

Supports Different Asset Types

Mobile Mining, Fixed Plant, Rail, Port, Power, Auxiliary, etc

Mobility

User configurable mobile application supporting iOS and Android

Dynamic Life Cycle Costing

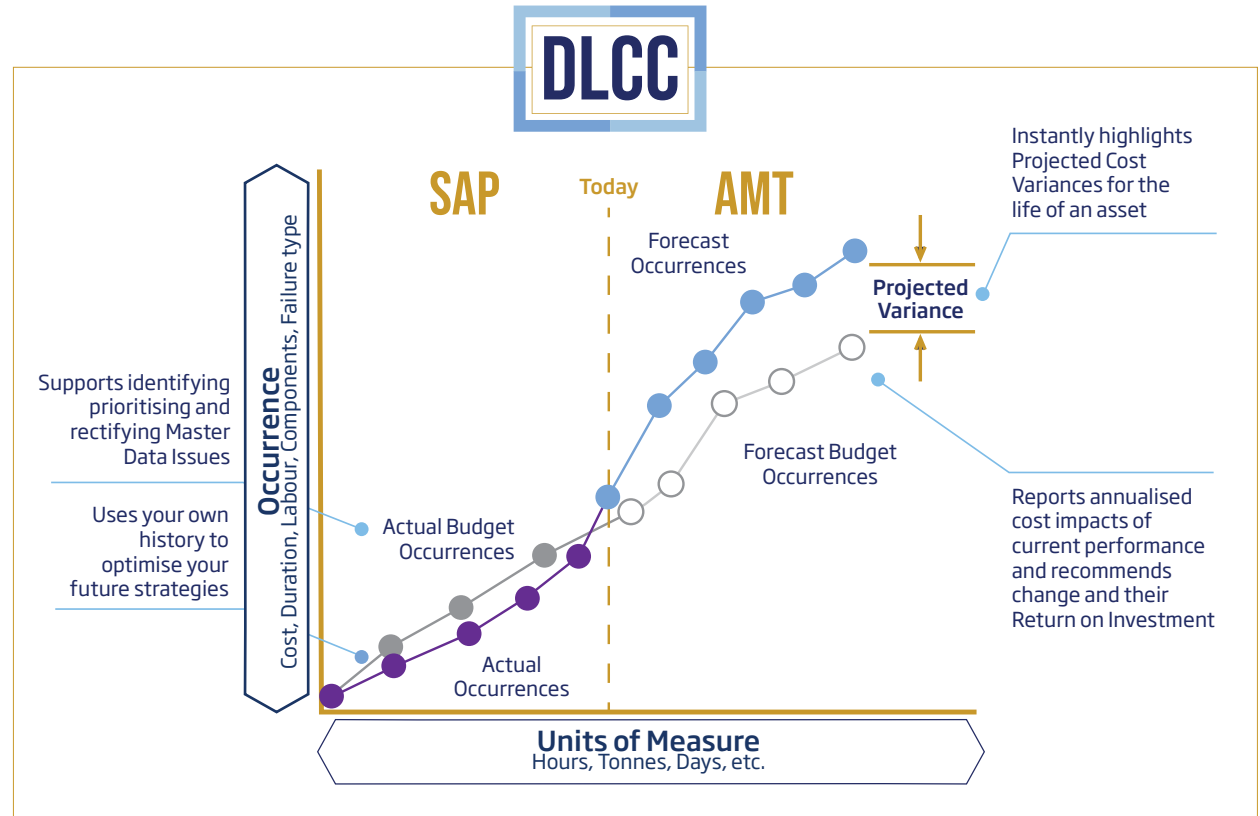
What is Dynamic Life Cycle Costing (DLCC)?

DLCC provides a real-time forecast of all maintenance events (planned and unplanned) for an asset to the end of its life.

AMT's DLCC includes not only costs but also...

- Utilisation
- Productivity
- Availability
- Materials
- Labour

Regardless of asset types.



Eliminates reactive decisions and drives proactive decision-making

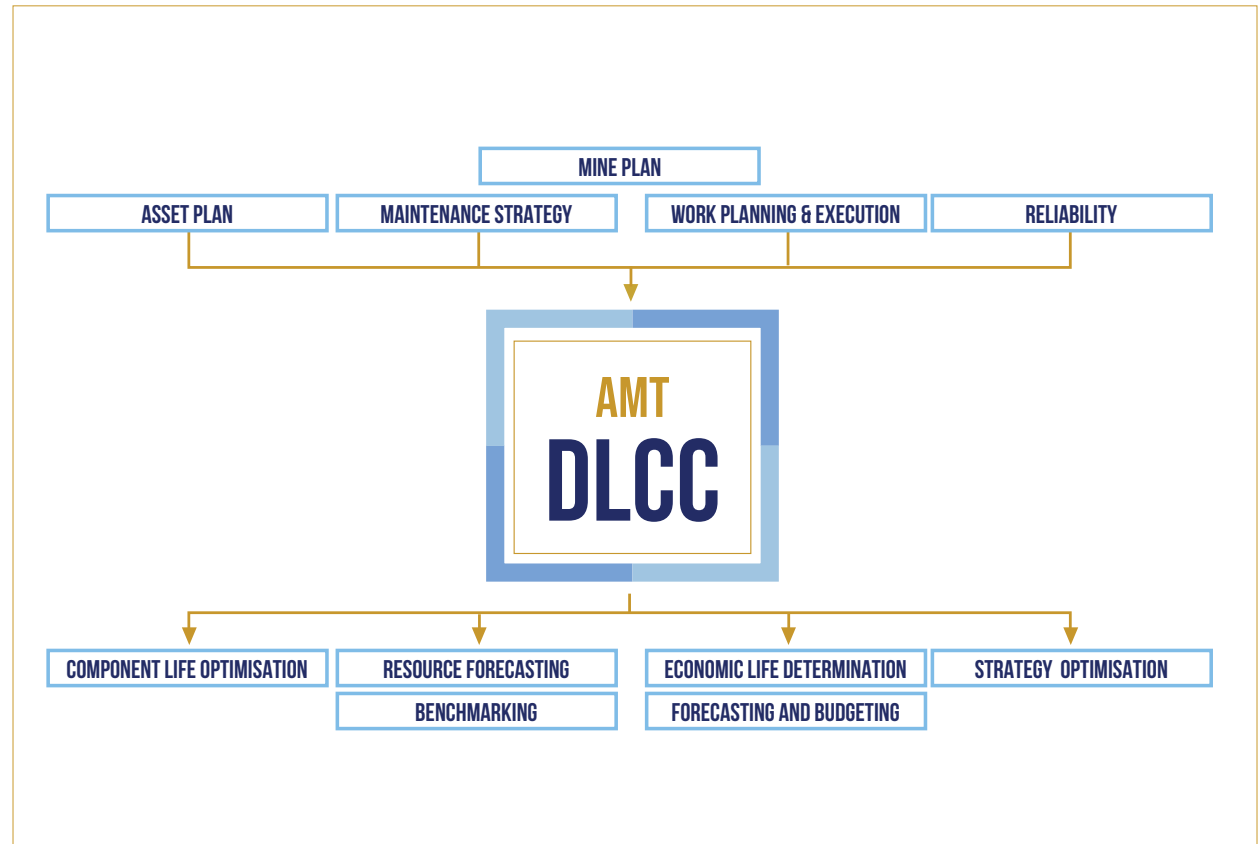
AMT4SAP Solution

Features specifically designed to complement SAP which are enabled by DLCC

- DLCC of the asset to a component level
- Component forecast and management
- Forecast all planned, unplanned and unassigned work types
- Hold multiple versions of maintenance strategies & perform scenario analysis
- Rapidly generate maintenance budgets & run what if scenarios
- Create multi-year asset/fleet purchasing, replacement and feasibility studies
- Leverages SAP Master Data and audits it in detail to drive targeted continuous improvement

AMT does not impact any routine in SAP that generates financial transactions

SAP master and transaction data flows
into AMT via certified adapters



Long term planning

AMT allows planners to review the forecast of OPEX and CAPEX maintenance activities generated by the DLCC engine, months and years into the future, and optimise their timing. The impact of any change is fed back to the user immediately with cost risk, failure risk, life cycle risk, parts, components, labour and availability forecasts all automatically updated.

Accurate planning allows you to lock in long-lead time parts and components as well as organise major shutdown works and plan resources. These forecasts can be shared with OEMs to help with manufacturing and lead time management.

Long term planning is also independent of work orders so users are able to optimise the long-term Plan before a work order is created. SAP systems are designed to generate, plan and schedule the next work order. The inability to forecast the future leaves users unaware of what impact their changes will have on the life cycle of the asset.

AMT automatically maintains an accurate forecast.

Component change out optimisation

AMT automatically maintains an accurate forecast of high-value, long lead time parts (i.e. components) regardless of whether there is a SAP maintenance plan or not. Unlike your SAP, AMT is able to generate a component forecast without a work order(s) months and years into the future

The component forecast helps on a number of fronts from understanding long lead time delivery schedules and expected expenditure on high value items to reducing working capital, emergency parts orders and downtime due to waiting parts.

Known schedules also support better communication with suppliers leading to accurate delivery times, optimised procurement decision making and contract negotiations.



Demand forecasting

Maintenance planners typically want to narrow the focus from the lifecycle down to the 6, 12 or 18 months timeframe to set the scene for the upcoming budget cycle. By understanding the upcoming demand, planners can then lock in long-lead time parts and components with manufacturers as well as organise major shutdown works and forecast resources. This process, and functionality, is referred to as long-term plan optimisation within AMT.

A planner using AMT can review the upcoming maintenance activities generated by AMT's unique DLCC engine and optimise their timing based on a variety of factors such as long-lead times for materials, resource availability, budgetary conditions and even operational changes. All of which does not require the creation of work orders.

Critical real-time information is required to make the right decision and this information is presented to the user on the one screen, allowing them to be fully informed of all variables. With AMT intelligence, the impact of any change is fed back to the user immediately and the cost, parts, components, labour and availability forecasts are updated automatically.

Strategy optimisation

AMT is used to evaluate your maintenance strategy tactics against their actual history highlighting deviations and inconsistencies. AMT's Strategy Optimisation process identifies and ranks specific SAP master data improvement opportunities, and quantifies the ROI for those changes.

AMT can also rank information on a number of drivers including cost, downtime and work efficiency impacts. This directs your reliability team to focus the prioritisation of maintenance strategy reviews.

AMT can hold multiple versions of any asset's maintenance strategy to perform scenario ("what-if") analysis without impacting the asset's current live strategy. This means you can trial and test different scenarios to evaluate the optimal maintenance strategy to see the financial impact and risk of each scenario. For example, evaluating the impact of changing from a condition based strategy to a time based strategy.

Most systems can only hold the current maintenance strategy plans and tasks for an asset. AMT on the other hand uses historical, live and forecast data of planned and unplanned maintenance, to create & analyse multiple scenarios.

AMT also allows the user to perform a sensitivity analysis of the maintenance strategy by evaluating drivers that can effect each individual asset.

Benchmarking

AMT's data structures naturally provide the required framework and also the necessary flexibility to benchmark assets. AMT provides the ability to accurately benchmark assets across sites and the whole company while still considering differences in operating environments, maintenance strategies and so on.

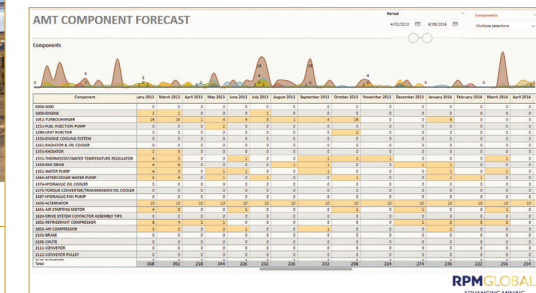
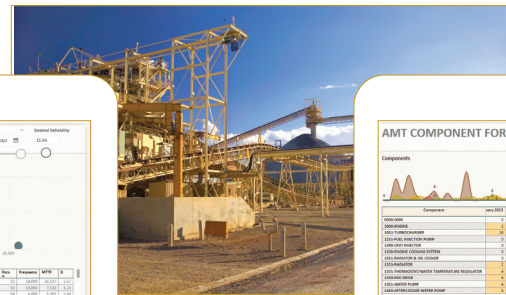
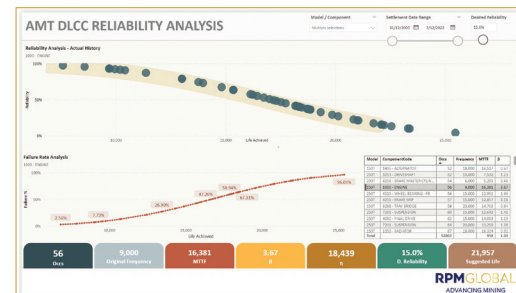
By holding a holistic view of the assets, underpinned by the DLCC methodology, AMT encompasses both the history and the future. This is a crucial difference in AMT's accurate approach to asset benchmarking. Without considering the total lifecycle view, the impact of timing differences around maintenance activities, for example, will always skew the results. External benchmarks, such as those provided by the OEM's and industry specialists, can also be loaded into AMT for comparison.

Economic life optimisation

When is the best time to retire, upgrade, scrap or sell your equipment? AMT forecasts the future condition and value of assets down to the component level, which is a critical input in determining the optimal replacement points of your assets. It uses this forecast to highlight any upcoming end of life maintenance activities that can be optimised for opportunities to save cost.

Understanding the maintenance activities and component change out schedules across all assets ensures you can make the optimum replacement decisions before an unnecessary investment in maintenance activities.

AMT will highlight any upcoming end of life maintenance activities that need to be managed from a risk mitigation viewpoint, and automatically forecasts the retirement date for usage-driven assets.



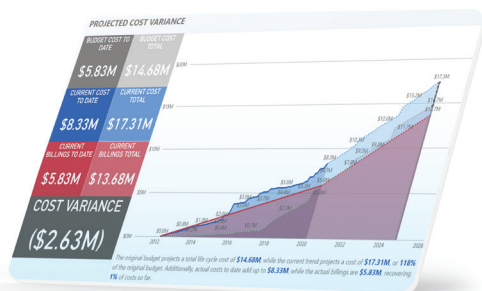
Modelling

AMT Life Cycle Cost Modelling is a sophisticated, yet simple to use life cycle modelling tool specifically developed for mining assets and other support equipment.

In a similar approach to the real assets owned by an organisation, AMT can define 'model' equipment which can represent future asset purchases or alternate asset/fleet assessments without the need for the asset to be registered in SAP.

AMT modelling provides accurate life cycle cost models from maintenance strategy assumptions for model assets. It enables many 'what-if' scenarios to be quickly created and compared to assess sensitivities and risks within the model. This allows users to quickly prepare cost and productivity models for different assets/fleets for the evaluation, potential purchase decisions and perform feasibility studies.

Modelling also enables registering future planned asset purchases into budgets.



Direct asset cost budgeting

The AMT budgeting module helps analysts focus on what is most important, analysing the budget to identify cost savings and optimisation opportunities.

AMT budgeting and forecasting functionality uses the dynamic life cycle costing output generated for the assets and their associated maintenance strategies to create zero-based 'slice in time' maintenance budgets, encompassing both planned and unplanned maintenance activities. New versions of a budget can be produced easily allowing testing of different production requirements and cost drivers. The efficiency with which AMT can create, maintain and compare multiple budget versions, offers the maintenance department control and improved productivity. No longer is the budgeting process a time-consuming, tedious task.

Out-of-the-box reports and waterfalls track actual performance/reforecast vs. budget, with detailed drill-down capability to cost overrun/saving drivers.

Health

The Health module of AMT, with its CBM functionality, identifies, predicts and manages risk concerning the condition and reliability of an asset's components. AMT's CBM is the process of interpreting condition monitoring data against reliability assumptions to optimise maintenance decisions, refine long-

term plans, and avoid breakdowns and lost production. The aim is not to duplicate other Condition Monitoring systems, but rather to provide an efficient process to interpret, review and action.

AMT's Health module goes the extra step of quantifying the impact of failure on an asset's life cycle cost so that forecasts, budgets and long-term plans account for the probability of different failure modes occurring.

Mobile

AMT Mobile builds on the key strengths of AMT by providing the right information, in front of the right person at the right time.

No rekeying of paper forms through digitising forms and processes that can be completed by technicians operating remotely whether in a connected, or disconnected, location.



Raising notifications, capturing measurements, actioning work orders, and completing inspections/safety checks/work instructions is standard functionality available in AMT Mobile, which integrates seamlessly with SAP.

It is an easy to use, auditable solution for technicians and field workers. AMT Mobile has been proven to improve efficiency, compliance and auditability by utilising structured data collection, accuracy of capture, real time entry and reporting and storage for compliance purposes.

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