



**YOUR  
ASSETS  
OUR  
EXPERTISE**



## **Reliability Centered Maintenance**

**For Improving your Asset Performance  
& minimising Operational Costs**



# ENHANCE YOUR ASSET PERFORMANCE AND OPERATIONAL PROFIT MARGIN THROUGH RELIABILITY MANAGEMENT & IoT TECHNOLOGY

Arrelic end-to-end Reliability Management allows you to Identify and rectify equipment problems before they happen, Reduce maintenance costs and unplanned downtime.

## Business Challenges

### Inadequate Asset Control

Industries lack the ability to interpret assets data and by not having proper predictive methods to know in advance when the equipment failure is going to happen. This led to unplanned downtime and reduction in Overall Equipment Effectiveness.

### Low Productivity and inefficiencies

Conventional use of time-based approach to maintenance, does not take into consideration the way assets are being utilized, their current condition, and real-world operating conditions.

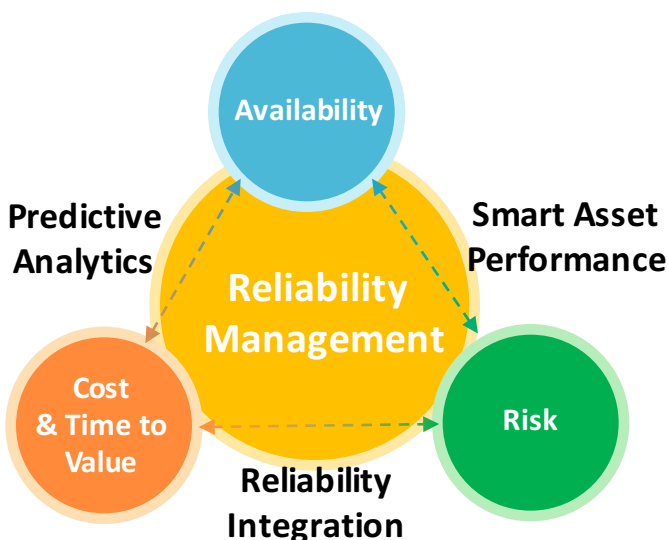
### Downtime and high costs

Failure to curb unplanned downtime and control over value chain processes and activities leads to high costs, inefficiencies and poor compliance. These severely impacts the profit and hampers the industrial growth.

### External Environment

The increased competition, pressure to grow revenue and profit, tighter regulations, availability of raw materials, change in demand and technologies and flat global economy has significantly changed the way the industries are operated.

**So how can you ensure optimal performance at lower sustainable costs while making your operation safer and more reliable?**



Arrelic's unique risk based smart asset performance, predictive analytics and reliability management balance performance and cost by considering design, operational procedures, and maintenance plans of all assets. Reliability Management manages collaborative workflows between experts and operational teams while balancing cost, availability, and risk.

**An effective Reliability Management can improve Operating Profit Margin by 15 to 35%**

\*Based on ideal condition. Solely depends on many internal and external factors.

# Reliability Centered Maintenance (RCM)

- Which assets are critical and can cause significant downtime?
- What failure modes and effects are likely?
- What is the optimum maintenance strategy?
- What is the most effective grouping and frequency of tasks?
- What tasks are to be performed on each job?

Maintenance strategy development and optimisation through Critical Asset Ranking, RCM Approach and cost benefit analysis ensures you the best maintenance plan.

RCM is used to develop scheduled maintenance plans in an efficient and cost-effective manner that will provide an acceptable level of operability and risk. It focuses on processes and systems to reduce the overall cost to maintain and operate assets. Arrelic Consulting assists industries in integrating assets and increasing return on investment by enhanced asset performance and reliability.

## EXISTING PLANT

- Approach zero unplanned downtime
- Minimise operational and maintenance costs
- Reduce risks to your people

- Step to ISO 55000
- Improve asset performance

- Prioritise Plant resources, processes & expansions, Forecast Budget, critical costs.

RELIABLE OPERATIONS

PROACTIVE ASSET MANAGEMENT

COMPLETE COST ANALYSIS

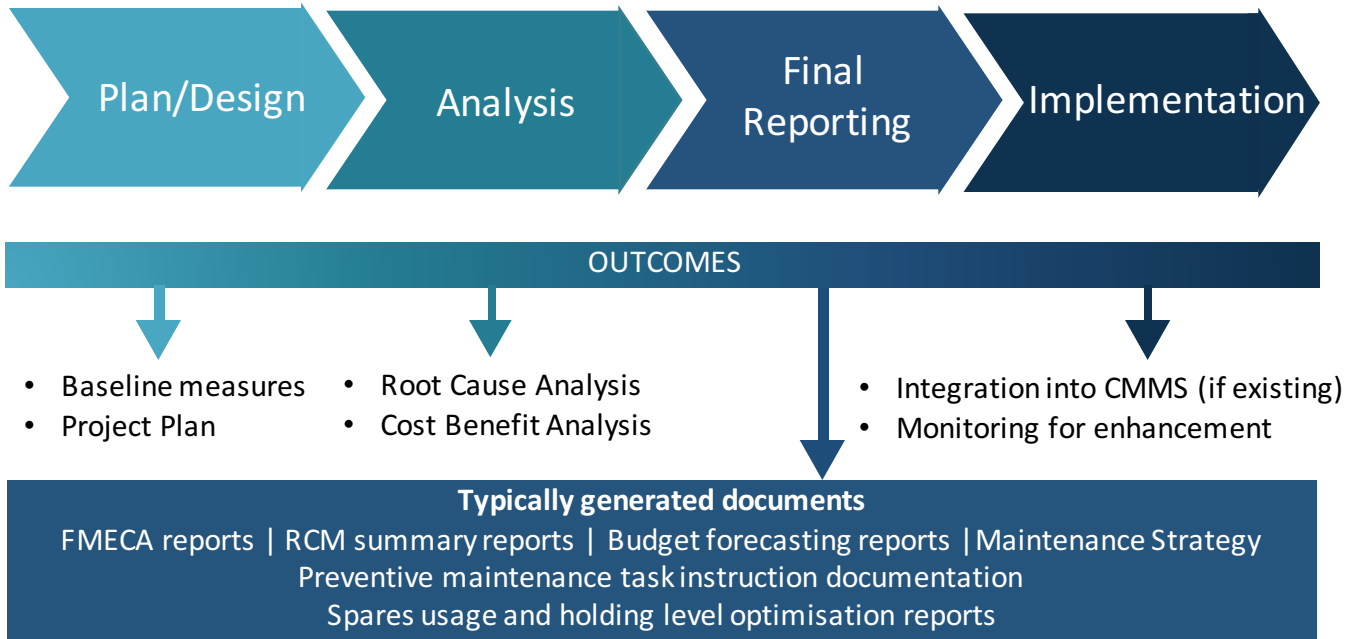
## NEW PROJECT

Enhance Design Capability

Incorporate Asset & Reliability Management Processes

Predict resources, analyse equipment & raw material procurement decisions

## Four Phases of RCM



### Maintenance Strategy Assessment

Not all assets require detailed maintenance assessment. Maintenance strategy assessment allows you to identify and optimise maintenance practices for different assets.

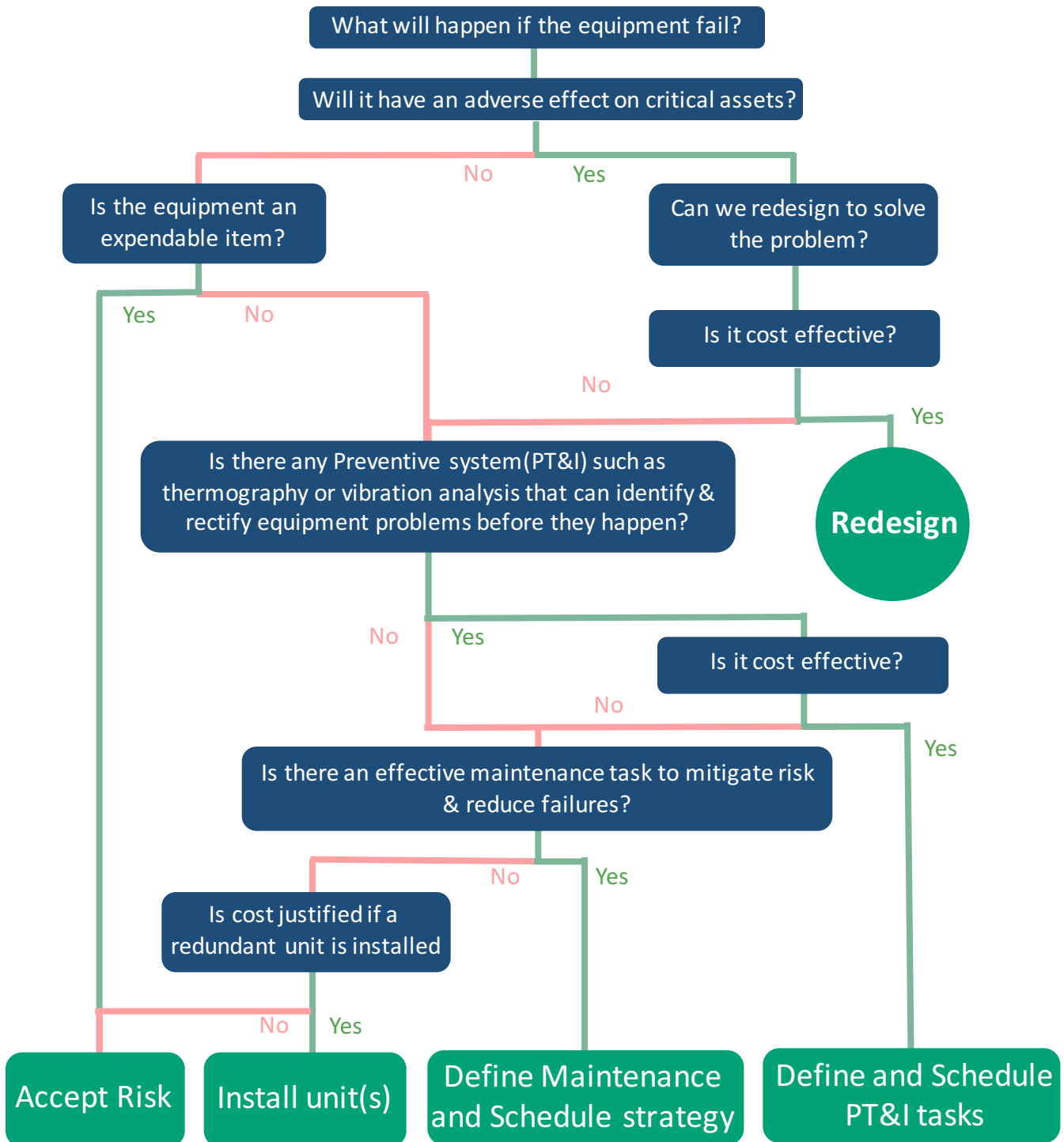
### Maintenance Master Data

Reliable master data structure support an organisation ongoing reliability improvement efforts through the ability to leverage learnings on common assets across different locations.

**We have the ability to support the rapid creation and deployment of cost-effective maintenance strategies that balances availability and risk through our expertise in Reliability.**

# DEVELOP COST-EFFECTIVE MAINTENANCE STRATEGY

## Understanding RCM



Simple Logic Tree



## Cost-Benefit analysis

A systematic detailed cost benefit analysis provides a basis for comparing different equipments or projects by evaluating contribution of cost of various factors involved in the value chain processes over the period of time. This helps in identifying and optimising the cost-effective maintenance strategy.

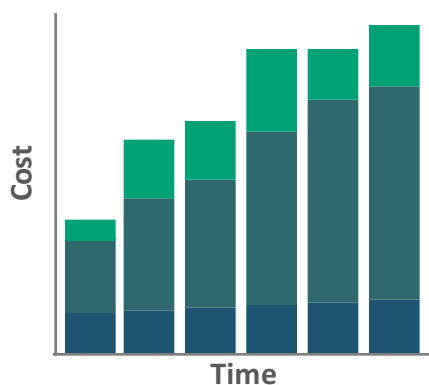
The contribution of cost of various factors helps in better understanding, analysing and categorising the losses in process capacity. Once categorised, maintenance tasks and actions can be prioritised to add significant value to the industry.

Arrelic reliability Subject matter experts(SMEs) and consultants prioritise areas for improvement, analyse such as Weibull distribution analysis and develop optimum cost effective maintenance strategy.

**How to improve asset utilisation over value chain?**

**How to eliminate loss events and reduce exposure to potential loss events?**

**How to reduce system losses and reduce high cost of maintenance?**



Operational

Spares

Labour

**Cost Profile**

## Maintenance Inspection & Strategy

(Site Project Example)

Failure Mode Id	Description	Resp. Crew	Dur	Type	Stat ?
19322841.5.A.1	Check for corrosion under insulation, physical damage and warping in frame	M 2	0.5	Inspection	False
19322841.5.A.2	Inspect surface discontinuities on all joints, welds using Magnetic particle inspection.	C1	0.5	Inspection	False
19322841.5.A.3	Check structural bolts for looseness or missing bolts	M 2	0.5	Inspection	False
19322841.5.A.4	Check walkways for corrosion, physical damage and loose fixings	M 2	0.5	Inspection	False
19322841.5.A.5	Inspect welds for corrosion, visual cracks and lack of anti-corrosion coating	M2	0.5	Inspection	False
19322841.5.A.6	Check looseness in cable wires and trays	E 1	0.5	Inspection	False
19322841.5.A.7	Check fixing flange for damage, deformation and corrosion	M 3	0.5	Inspection	False
19322841.5.A.8	Check base plate for damage, deformation, corrosion and warping	M 3	0.5	Inspection	False
19322841.5.A.9	Inspect spring feet for corrosion, visual cracks, broken spring and deformation	M 3	0.5	Inspection	False



# ARRELIC RELIABILITY PROVIDE GLOBAL SERVICES ACROSS 38 LOCATIONS IN INDIA AND MIDDLE EAST COUNTRIES

## Industries

Airline |Automobiles |Cement |Chemical |Defence |FMCG |Marine  
Glass Manufacturing |Metal |Mining |Oil & Gas |Pharmaceuticals  
Power |Pulp & Paper | Facilities Management

## Expertise

Asset Performance Management |Reliability Management  
Industry IoT & Big Data Analytics| Predictive Maintenance  
Consulting Services |Training & Development

**Together, We can ensure optimal Asset Performance and Operational Excellence for your Industry.**



**Pick our brains before Making your next move**

We would be happy to schedule a no obligation 30 minute consultation to discuss any performance improvement. For any query, please contact us.