

# Reliability, Availability & Maintainability (RAM)

Reliability, Availability and Maintainability (RAM) are three critical system features that have considerable influence on the sustainment or total Life Cycle Costs (LCC) of an asset. The ultimate aim of a RAM study is to manage assets which run the system with minimal cost and maximum efficiency.

Also, the RAM features can impact the capability to perform the intended task and affect the overall success of the mission. The widely accepted description of Reliability is the probability of zero failures over a defined time interval, whereas Availability is described as the percentage of time a system is considered ready to use when assigned for a task. Maintainability is a measure of the serenity and quickness with which a piece of equipment or system can be restored to operational status following a failure.

At Velosi, our expert systems engineers (SEs) fully understand the intention and role of Reliability, Availability, and Maintainability (RAM) in the acquisition process, where it happens in systems development and the overall benefits of applying it.

## Benefits of RAM

- Refines the downtime management method.
- Recognizes any performance shortfalls.
- Increases efficiency.
- Builds successful maintenance plans.

## RAM Deliverables

- Identification of Potential Bottlenecks
- Estimating the On-Stream Availability of the Unit
- Prediction of the Impact of Equipment Redundancy & Sparing
- Development and Mitigation Strategies for Expected Failure Modes
- Option to Perform a Preliminary Equipment Criticality Analysis
- RAM Study & Fault Tree Analysis

