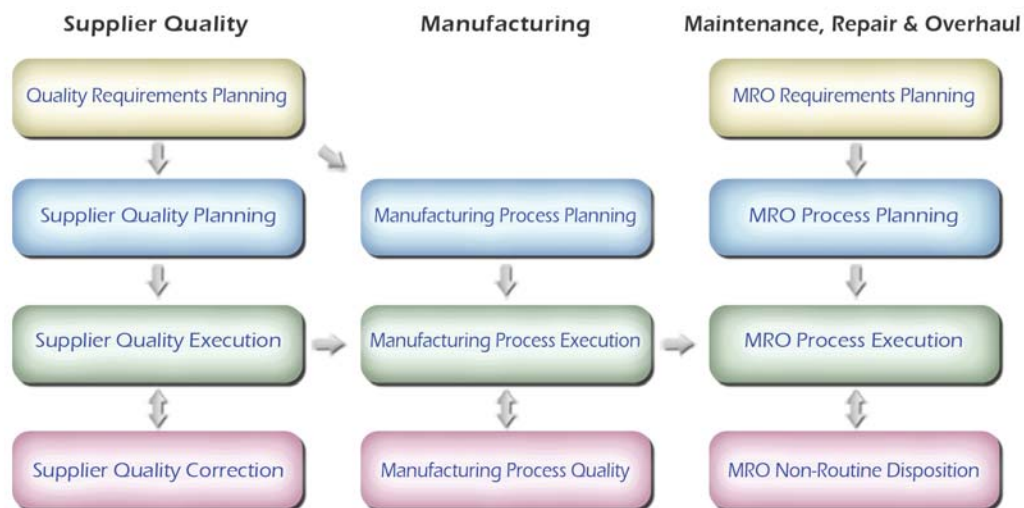


What is Solumina®?

Solumina is an Operations Process Management software suite that manages work and quality processes for the manufacturing and MRO (Maintenance, Repair, and Overhaul) of highly engineered products. Solumina functional modules include Process Planning (CAPP), shop Floor Execution (MES, MRO), and Quality Assurance (QA, CAPA) in one integrated system.

Solumina is uniquely designed to manage the product lifecycle, beginning with product and process specifications, continuing with the manufacture of component parts, the assembly of product, and the aftermarket service of each product unit until retirement. Solumina's product lifecycle support includes process management and quality procedures for the entire partner and supplier network. For more information on Solumina's operation process management, see the whitepaper, "[True Product Lifecycle Management Begins When Design Ends.](#)"

Operations Process Management for the entire Product Lifecycle



Solumina is designed to meet the complex and stringent process requirements of industries like Aerospace, Defense, Nuclear Products, and Medical Devices, which are regulated by the FAA, DOD, DOE, and FDA, respectively. Solumina provides complete quality management and a complete Device History Record (DHR) that starts with component inspection at the supplier, and continues through manufacturing, inspection, and aftermarket service.

Solumina complements and easily integrates with systems for Product Engineering (e.g., CAD and PLM), and systems for procurement, inventory, scheduling and financial control (e.g., ERP). iBASEt is dedicated to the development and promotion of OAGi and ISA95 standards. Solumina standard XML interfaces for the discrete industries are developed following OAGIS standards.

Target Industries

Solumina provides management of operations procedures for Manufacturing, and Maintenance, Repair and Overhaul (MRO) in complex discrete industries such as the following:

- Aerospace
 - Aircraft and Components
 - Space Exploration
 - Satellites and Missiles
 - Engines and Components
- Nuclear Products
 - DOE Sites
 - Naval Reactors
 - Commercial Reactors
 - Weapon Systems
- Industrial Equipment
 - Industrial Vehicles
 - Heavy machinery
 - Robotics
- Defense
 - Submarines and Ships
 - Land Vehicles and Systems
 - Weapon Systems
- Medical Devices
 - Life-Sustaining Devices
 - Diagnostic Devices
 - Surgical Equipment

End Users

Solumina streamlines procedures and enhances collaboration between the following departments and users:

- Operations Management, Production Control, Mechanics, Technicians, Inspectors
- Manufacturing Engineers, Process Engineers, Process Planners
- Quality Engineering, Quality Assurance, Supplier Quality Management
- Tooling Engineering, Tooling Manufacturing, Tooling Calibration

Typical Problems Addressed

- Operations are slow to react to engineering changes (ECOs), process changes, or production quality issues.
- The Shop floor is supported by dozens of poorly integrated point solutions. CAPP, MES, Tooling, and Quality/SPC tools have been implemented separately and are not well integrated.
- Procedures on the shop floor rely heavily on paper records and manual processes.

- Regulatory compliance is not 100%.
- Current quality management processes are reactive instead of proactive.
- The majority of scrap and rework are repeat occurrences.
- The Management of supplier quality and of design changes to purchased parts is very cumbersome.
- The cost of third-party and source inspection management is very high.
- Cycle times are too long and variable, and the client has poor visibility of delays and constraints.
- Many errors occur during collection of as-built and as-serviced data.
- Lessons Learned are not captured in work instructions.
- ERP can't handle shop-floor needs.
- Customers require improved visibility and online approval processes.

For more information on how Solumina can help address these and other issues, please see the iBASEt Shop Floor Solutions Guide.

Solutions

As an integrated Operations Process Management solution, Solumina replaces dozens of paper-based and home-grown systems with a single paperless system that defines operation activities for the following areas:

- Supplier quality management and certification
- Receiving and source inspection
- Tooling manufacturing, inventory, calibration and maintenance
- Fabrication (metal, composite, electronics, etc.)
- Assembly and testing
- Customer modifications and installations
- Maintenance, Repair, and Overhaul (MRO) of systems or components

After planning operation activities, Solumina dispatches, displays, and tracks all associated work and completions at supplier sites, in-house facilities, and customer sites using either proprietary thin-client software or a web browser. Solumina manages all execution and quality-related events, including the following:

- Operation/step completions
- Labor time clocking (or time and attendance with add-on product)
- Electronic signatures (with workflow and hierarchical capability)
- Data collections from manual input or machine transmission
- Display of 2D or 3D solid models with animation
- Display of images, specifications, and videos
- Creation, review and disposition of discrepancies/nonconformances
- Creation, review and completion of corrective actions and improvements including Kaizen initiatives
- Lien management, production holds, and line stoppages

- Real-time SPC (Statistical Process Control) and performance reporting using tabular reports or drillable graphics
- Real-time supplier checklists, first article inspections (AS-9102), and characteristic inspections prior to allowing goods to be shipped
- Supplier performance tracking
- Dynamic supplier inspection requirements based on performance rules
- Off-line instructions and data collection for disconnected work areas with job checkout and full re-synch upon reconnect

For a complete list of iBASEt software solutions, please refer to the [Product](#) section on the iBASEt website.

Benefits

Solumina eliminates waste in the information flow throughout operations and the supply chain by eliminating procedures that are based on routing paper documents, and by streamlining collaboration between Engineering, Quality and Operations departments.

Solumina creates a complete, integrated, and traceable product history that includes specifications, component manufacturing data, assembly data, and service data for each product unit or lot.

Typical benefits include the following:

- Reduction in indirect labor
- Increase in operator effective time at tools
- Reduction in scrap and rework
- Collapsing of engineering and process change time
- Elimination of paper documents and paper distribution-related costs
- Faster new-employee ramp-up times
- Reduction of receiving inspection inventory
- Reduction of supplier quality management costs

For more information on the benefits of Solumina, please see the iBASEt 3-minute Introductory Video.