

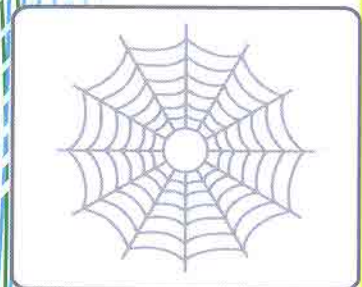
*Engineering Services*



**SPUDWEB TECHNOLOGIES PVT. LTD.**



*Engineering Software*



**SPUDWEB**



SPUDWEB Technologies Private Limited established in the year 2009, is an Engineering Services Company specializing in Mechanical Design and Process Automation. We take pride in the value addition that our services render to improve transparency, trust, efficiency and consistency of business processes.

*“It’s really hard to design products by focus groups. A lot of times, people don’t know what they want until you show it to them.” – Steve Jobs*

### About SPUMAIN

SPUMAIN cumulative maintenance solution comprehends the complete maintenance interface helping in house maintenance departments and maintenance contractors across the world.

In manufacturing plants, keeping your equipment running is vital. If one piece of equipment breaks down, it can disrupt the entire processing chain. Our Maintenance Software is specifically designed to maximize your equipment uptime, reduce breakdowns and save your company money.

Employees, contractors, requestors, and management can access SPUMAIN across multiple sites and can easily keep their maintenance records in one place. We are here to help you along each step.

1. Machine / Equipment Data Management - Asset Lifecycle Management
2. Inventory Management Module
3. Machine Calibration Feature
4. Preventive Maintenance Scheduling
5. Conditioned or Time Based Maintenance
6. Statistical Tools for Root Cause Analysis of Breakdowns
  - Why-Why Analysis
  - 6D / 8D Analysis
  - Fish Bone Analysis
  - Pareto Analysis
7. Maintenance & Production Planning
8. Regulatory Compliance & Operational Reporting
9. Financial & Cost Management
10. Comprehensive Dashboard features that provide bird's eye view of the Maintenance
11. Proactive control, Notification and Alerts
12. ROI of SPUMAIN within 4 Months
13. Advanced Statistical Tools - Risk Priority Number (RPN)
  - Integrate with Advanced Product Quality Planning (APQP),
  - Production Part Approval Process (PPAP) and
  - Failure Mode and Effect Analysis (FMEA)



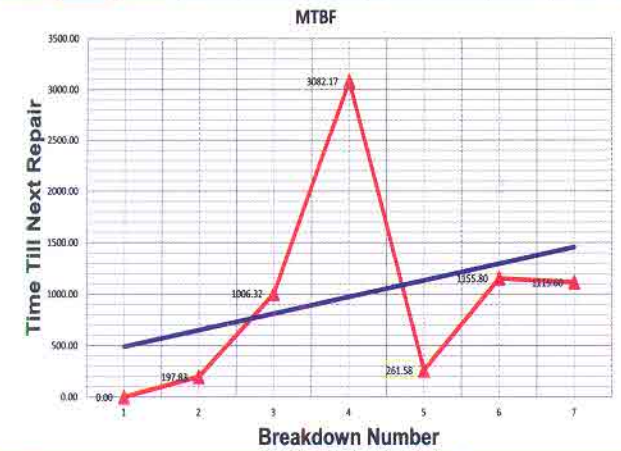
**MY MESSAGES** View All

**BREAKDOWN REPORTED**  
Breakdown has been reported in Asset No. BR0132 API-Bio reactor on 13.12.2013 by Tom

**BREAKDOWN COMPLETED**  
Breakdown has been completed for Asset No. AC0145 air compressor - Alfa laval on 11.12.2013 by Anderson

**PM SCHEDULE**  
PM has been scheduled for crude centrifuge on 13.12.2013

**STOCK ALERT**  
Air filter has reached stock threshold (15)



### Asset & Inventory Management

The Asset Module is a comprehensive Equipment Module that captures cumulative Asset Information on the discrete levels.

Maintenance Specific Spare & other Inventory Management module that interacts with stock management.

All information for an Asset can be stored here:

- Asset information (account code, supplier, warranty, purchase details, etc.).
- Work History / Outstanding Work Order
- Spare parts used on the Asset / Asset Movement / Spare Movement



## Preventive Maintenance

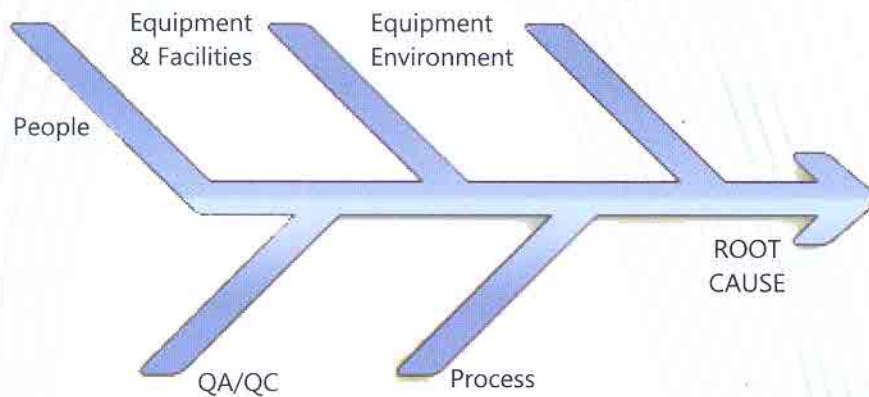
The Preventive Maintenance module allows you to create and schedule multiple Asset Maintenance orders either on a time based or usage based frequency, which would eliminate the need to enter repetitive work and routine inspections, allowing you to prevent equipment breakdowns.



This module will enable you to do the following

Schedule your Maintenance work orders and allocate corresponding resources to each work order and associate corresponding checklists and order specifications.

Maintenance Valuation and Reporting allows you to report your findings and calibrations for the maintenance carried out which shall be part of the machine history



## Breakdown Maintenance

Breakdown Maintenance module allows personnel from either Production or any other departments to send requests to the Maintenance Department for work to be done. The Maintenance Department may then raise Work Orders from these requests, allocate specific resources to perform the breakdown.

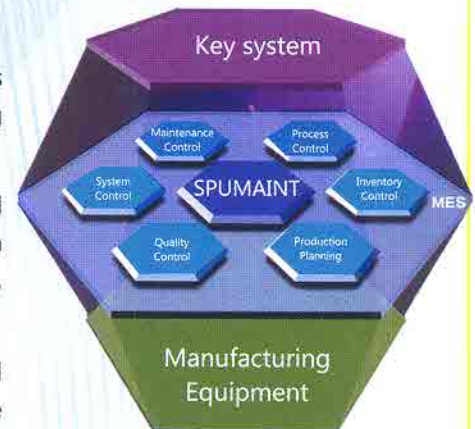
Once the breakdown has been completed, Generate valuable analysis and reports to be stored as Maintenance History  
 Generates WHY – WHY Analysis / RPN, Scatter diagram, Histogram for the specific machine breakdown scenario  
 Generates Mean Time between Failure (MTBF) and Mean Time to Recovery (MTTR) statistics

## Maintenance & Production Planning

An integrated approach to synchronize Maintenance & Process Downtimes to enhance Overall Equipment Effectiveness (OEE) and TQM in the existing Production Planning

The module creates Production Flows, Schedules Production jobs and preventive maintenance jobs with a cohesive asset operation approach thereby minimizing the downtimes & costs associated with production, backorders, Corrective maintenance and preventive maintenance.

Software with User inputs would be able to generate graphical reports and provide suggestions for new decision-making process to manage the



<table border="1"> <tr> <td>Define Equipment</td> <td>Process Name</td> <td colspan="2">TABLET C</td> </tr> <tr> <td>Process Definition</td> <td>Quantity</td> <td>200</td> <td>Kg</td> </tr> <tr> <td>Batch Planning</td> <td>Available Equipments</td> <td colspan="2">                 Rapid Mix Granulator - 400 L                  Rapid Mix Granulator - 1200 L                  Fluid Bed Dryer - 60                  Fluid Bed Dryer 150  <b>Blender 500</b> </td> </tr> <tr> <td>Actual Batch</td> <td>Used Equipments</td> <td colspan="2">                 Blender 800                  Rapid Mix Granulator - 500 L                  Rapid Mix Granulator - 1000 L                  Fluid Bed Dryer - 60                  Fluid Bed Dryer 150                  Blender 300             </td> </tr> <tr> <td>Units</td> <td colspan="3"></td> </tr> </table>								Define Equipment	Process Name	TABLET C		Process Definition	Quantity	200	Kg	Batch Planning	Available Equipments	Rapid Mix Granulator - 400 L Rapid Mix Granulator - 1200 L Fluid Bed Dryer - 60 Fluid Bed Dryer 150 <b>Blender 500</b>		Actual Batch	Used Equipments	Blender 800 Rapid Mix Granulator - 500 L Rapid Mix Granulator - 1000 L Fluid Bed Dryer - 60 Fluid Bed Dryer 150 Blender 300		Units			
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## Machine Calibration Feature

SPUMAINT Calibration Feature is a Dynamic & Scalable solution for calibrating your assets during Installation & their successive shutdowns (Preventive & Breakdown Maintenance). Customized Calibrations Can be scheduled and assigned as corresponding Work Orders to operators according to specific Industrial standards, with the aid of calibrated test equipment's associated as spares / tools by highly trained Maintenance technicians.

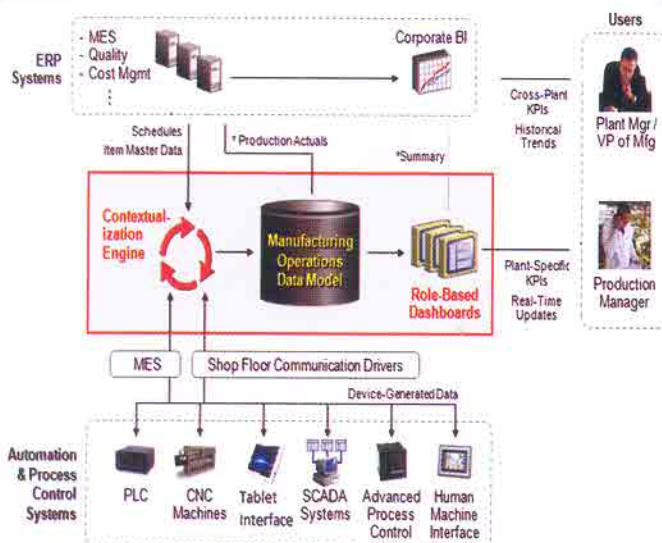
- Manage all aspects of your calibration operation with one paperless solution
- Maintain compliance with Asset Operation & Regulatory Standards
- Schedule Maintenance events
- Track assets as they move through Locations / Warehouses
- Create Calibration reports



## Real Time Data Interface

Real Time Data Interface is designed to simplify Plant Management with an intelligent approach. Real Time Data Interface is a comprehensive solution that helps in monitoring and controlling all the process equipments and the utilities in the plant and helps in understanding the plant operation & performance in terms of the Productivity, Energy value, Maintenance, Process Planning & Data Interpretation,

- Multi Plant and Multi Parameter based Data Management and Integration System
- Remote Data Submission by way of Intranet / Internet Enabled PC / Android Enabled Tablets & Smart phones
- Central Repository for Data Collected and Analysis based critical parameters
- Alerts / notifications to concerned personnel for values deviating from norms
- Notifications can be in form of Email / SMS
- Log books & Manual Data with monitoring regimes & Parameters mapped and statistically intervened
- Ability to integrate with In-house Systems based on feasibility



Employees, Contractors and Management can access Real Time Data Interface with multiple assets data across multiple Plants from a Central Repository System and can easily keep their operating parameters that also help in the maintenance of the systems from single point locations.

Comprehensive Dashboard features that provide bird's eye view of the Plant performance in terms of Maintenance & Energy corresponding to production parameters and also evaluating the SEC of the plant in the current trend methodology and Notifications by way of Email if needed can also be configured through SMS Box.



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