

Manufacturing IT Factsheet

With increasing cost of tools and fabs, the cost of ownership is assuming a very important factor in the Semiconductor industry. Satyam's solutions for Semicon equipment manufacturers help increase productivity and reduce the TCO for fabs..

Productivity Enhancement/ Scheduling Solution

Satyam's global alliances help provide advanced scheduling solutions to increase the throughput of cluster tools.

- Advanced scheduling solution based on modern stochastic optimization technique
- Searches the solution space in a fast and efficient manner
- Creates optimized scheduling solution(which is far superior to the conventional rule based /constraint based solutions)
- Incorporates unique requirements of fabs such as re-entrant flow, hot lots and tool matching.

Predictive and Preventive Maintenance Solutions

- Advanced framework to provide customized solutions
- Includes framework to extract data from tools as per EDA standards
- Delivers as per prediction algorithms
- Helps cuts costs and improves efficiency

Data Acquisition & Management Solution

Satyam's equipment Data Acquisition and Management solution is a tool which functions as a monitoring and analysis system for all the data generated by the semiconductor manufacturing equipments in a semiconductor fab.

- Support for both 200mm and 300mm (EDA and non-EDA Compliant) equipment based Fabs
- Parameterized data acquisition with provision to choose both data and the format in which it is to be reported
- Single point, web-based view of the chartable equipment entities

- Customizable for different type of fab units
- Database based data storage for history view and live charts for current views of variables
- Real time and pre-scheduled offline data collection and analysis

Data Management and Mining

- Provides complete solution for managing huge databases
- Data mining solutions for process control and business analytics
- BI Consulting
- Solution Architecting

Business Transformation Solutions

- Reducing the cost of existing operations
- Looking at Solutions to improve your business operations and improve profitability

Managed services model to reduce cost of managing non-core areas

- Savings against an estimated current expense base line
- Asset ownership models
- Commitment to SLAs and performance credits
- Business continuity
- Larger foot print to provide services across geographies

Business Transformation offerings to improve your business operations:

- Consulting services to identify areas for improvement
- Portfolio management and know-how integration to reduce TCO
- Increased manufacturing effectiveness using TOC (Theory of Constraints) solutions in association with Goldratt Consulting

Theory of Constraints Solutions for Business Transformation

Theory of Constraints (TOC) provides an entirely unique solution for improving the manufacturing effectiveness and the bottom line. Satyam, in alliance with Goldratt Consulting (pioneers of the TOC application domain globally) offers a multifaceted management philosophy which facilitates rapid bottom-line improvement for organizations using proven, breakthrough solutions.

TOC Solution stack

- Drum-Buffer-Rope (DBR) for Operation/Manufacturing
- TOC Replenishment solution for Distribution/Supply chain logistics
- Critical chain project management (CCPM) for project
- TOC Solution for sales (SFS) for Marketing & Sales

Globally, TOC solutions have demonstrated the following business results:

- Nearly 100% due date performance (On-time delivery)
- Manufacturing lead time reduces by at least 50%
- Inventory goes down by 50 %
- Substantial increase in revenues
- Plenty of hidden capacity exposed
- Inventory turns increase (more than double)
- Obsolescence drops (typically less than half)
- Drastic reduction in stock outs
- Drastic reduction in project lead times
- Faster new product launches due to reduced cycle time

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ERP and MES Integration Support

Integration of MES and ERP aligns business objectives with the operations management to reap maximum benefits from the system. Satyam's rich experience in integrating MES and ERP leads to measurable improvement in performance over existing standalone MES systems.

Fab MES Product Enhancement and Support

- Enhancement of existing MES products targeted at the Semiconductor domain: This includes front-end and back-end capabilities. Satyam also supports existing and new modules for MES products in fabs
- 24X7 production support for factory software applications

AMHS Implementation and Support

- Support for integrating Automated Material Handling Systems with existing MES implementations
- Implementation and enhancement of AMHS products

Semiconductor Solar Industry

Semiconductor manufacturing companies are increasingly focusing

on solar industry, paving the way for cheaper, better and more efficient equipment for both consumers and businesses. The industry is moving to bring the type of precision, technology and manufacturing techniques they perfected with computer chips, to solar cells, both those based on silicon and other types. Equipment makers are gearing up to start developing new tools for solar cell manufacturing. Satyam' solutions help companies to ride this change in the semiconductor industry.

ADMS in Semiconductor Solar Fab Space

- Comprehensive systems integration capabilities to shorten ramp time to volume production and ensure fab optimal performance
- Pragmatically equipment performance tracking (Predictive and Preventive measures) and control for swift problem resolution and predictability to improve utilization
- Manufacturing execution systems (MES) applicable to operate Solar fab lines
- Fab Scheduling, Dispatch and Simulation systems

- Material Inventory control Systems Integration with proven ERP specific Module
- Leverage Satyam's IES expertise to help any new fab-line redesign/value engineering /should costing the existing equipments to reduce cost
- Tool connectivity and automation solutions
- Help in locating alternate low cost sources for manufacturing sub systems/components
- Dedicated 24x7 production support for factory software applications

Analytics Solution for Semicon Solar Industry

- Yield Management and Improvement
 - Descriptive Mining, Predictive Modeling using iDecisions™ Production Intelligence and Optimization services.
- Inventory Management
 - Harness iDecisions™ Models on Inventory/Procurement/Forecasting and Optimization services.
- Spares and Warranty Management
 - Parts Planning, Spares availability and realization by exercising proven model of iDecisions™ on Procurement Intelligence/Warranty Analytics etc.

About Mahindra Satyam

Mahindra Satyam is a leading global business and information technology services company that leverages deep industry and functional expertise, leading technology practices, and an advanced, global delivery model to help clients transform their highest-value business processes and improve their business performance.

The company's professionals excel in enterprise solutions, supply chain management, client relationship management, business intelligence, business process quality, engineering and product lifecycle management, and infrastructure services, among other key capabilities.

Mahindra Satyam is part of the multi-billion Mahindra Group, a global industrial federation of companies and one of the top 10 business houses based in India. The Group's interests span automotive products, aviation, components, farm equipment, financial services, hospitality, information technology, logistics, real estate and retail.

Mahindra Satyam development and delivery centers in the US, Canada, Brazil, the UK, Hungary, Egypt, UAE, India, China, Malaysia, Singapore, and Australia serve numerous clients, including many Fortune 500 organizations.

For further information, please write to rfi@mahindrasatyam.com