IBM IndustryView for Semiconductor Standard (SiView)

Optimize production management of your global semiconductor manufacturing lines
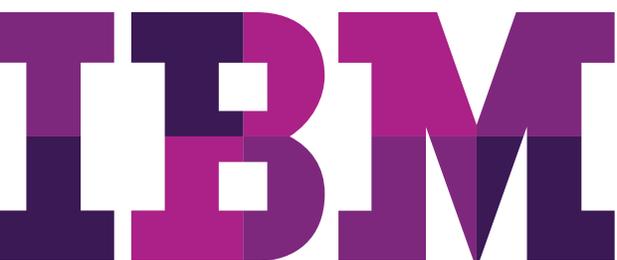
Highlights:

- Manages delivery schedule, costs, and quality in a unified system

- Merges quality and process information and integrates with equipment automation to realize the goal of on-demand fab

- Leverages a highly-reliable and high-availability server architecture that is globally integrated with a Specification Manager to support large-scale and multiple fabs

Semiconductor companies face a growing set of challenges to manage opportunities, from identification through production. The global manufacturing ecosystem is increasingly complex. Volume growth coupled with downward pressure on margins and average selling prices (ASPs) are straining manufacturers' ability to develop and manage their product portfolio. The inability to respond to sudden demand changes or production problems increases the overall manufacturing costs. It is also difficult to plan and schedule across complex manufacturing lines located worldwide.

SiView Standard can transform your manufacturing execution systems (MESs) and processes by helping you get your semiconductor line up, running and stabilized early, and improving supply chain management through a unified system. Our solution can provide a competitive edge by implementing fully automated, single wafer control, and building a line to handle multiple lots in a carrier. SiView Standard can improve your strategic sourcing, collaboration and enterprise resource planning to support manufacturing processes. It integrates with your current enterprise systems to facilitate tighter supply chain and manufacturing linkages, so you can leverage economies of scale and respond quicker to market changes. The asset can also enable initial fab bring-up in record time.

Managing delivery, times, costs, and quality in a unified system

When everything is connected using a single, integrated system, work can be performed effectively and efficiently. By tying manufacturing information to the supply chain, our asset can help improve productivity and return on investment, as well as reduce cycle time. And unifying process and quality data helps with lot tracking and quality improvement. Our team of experts provides services to help get your production line started early using these system integration tools and third-party vendor applications. All this leads to a more agile enterprise that can quickly ramp up and better respond to the semiconductor industry's continually changing landscape. By increasing visibility, we can help you adapt to and meet supply and demand conditions, thereby helping improve profitability, cut costs and support yield improvement.

Merging quality and process information and integrating with equipment automation

With our asset, you can globally integrate manufacturing processes throughout your value chain. By integrating and interconnecting these manufacturing lines, you can better understand process and operational needs and increase visibility into the sales pipeline, as well as recognize or anticipate trends. You can integrate this information and build a fully automated line, using automated operation scenarios that are based on industry standards, such as SEMI Equipment Communications Standard (SECS)/Generic Equipment Model (GEM). And you can monitor your fully automated line in real time. You can actively manage different operations, expertise and capabilities to open up your organizations—and focus outwardly to connect more tightly with partners, suppliers and customers.

Leveraging a highly-reliable and high-availability server architecture

The highly-reliable and high-availability server architecture mitigates and reduces the effect of any system problems on your production line. SiView Standard functions track production trial lots, manage multi-lots, and provide single wafer control, to support Quick Turn-Around Time (QTAT) operations. In addition, SiView Standard continually evolves and improves based on customer requirements and technology progression. It includes a system monitoring service for 24-hour operation. Your project team and the SiView development team cooperate to support and maintain the system, helping ensure that your system is available 24 hours a day, 7 days a week.

Why IBM?

We have the global presence, experience, scale and capabilities to optimize your semiconductor manufacturing fab. We offer a unique combination of assets that can enable a rapid start-up of your line, integrating equipment and applications you need. We help manufacturing industries around the world become more productive, efficient and responsive—and tackle problems they once thought were unsolvable—through systems, processes, services and infrastructures that are more instrumented, networked and intelligent.