Real-time Equipment Fault Detection and Classification Improves Engineering Productivity and Yield

For semiconductor and flat panel display manufacturers, a key to increasing engineering productivity and wafer yield is to maximize the performance of their equipment by better monitoring and controlling changes in equipment performance to guard against faults that impact productivity and yield. To achieve this goal, BISTel deploys its equipment Fault Detection and Classification system (eFDC) together with its Statistical Process Control (eSPC) solution to quickly enable engineers to monitor equipment data then identify and diagnose faults in real-time, classifying them for future reference.

Real-time eFDC Maximizes Equipment Performance, Reduce Scrap

Faults occurring in equipment are mostly found during post-process inspections and in some cases, the source of the fault cannot be found at all. With BISTel eFDC, faults are detected in real-time, which helps to reduce scrap wafers and increase yield. Real-time, fault-tolerdetecting problems is important, creating effective data BISTel eSPC solution, the organized data is used as the reference data for fast problem solving. When similar problems occur, eFDC works with eSPC to focus on the post-mortem analysis and classification of problems. eSPC is important since analyzed and classified data serve as a reference to future problems and their solutions.

Intelligent Manufacturing

BISTel's intelligent manufacturing solutions are shaping the factory of the future, improving costs, operational efficiencies, and quality across factories by connecting the manufacturing ecosystem to better detect, analyze, predict, and adapt real-time to changing manufacturing conditions. BISTel solutions collect, manage, and analyze data, monitor the health of machines and equipment, optimize process flows, and identify root cause failures to mitigate risk in manufacturing. The release of BISTel's intelligent manufacturing solution includes advanced machine learning, industry leading analytics, predictive, and continuous improvement applications that accelerate the road to smart manufacturing.

- Real-time fault detection
- Powerful data collection
- Maximizes equipment productivity
- Reduces materials scraps
- Increases quality
- Reduces overall costs

Fault Detection and Classification Built on

- Supports single variable and multivariate analysis methods
- Fault detection in real-time and in batch process mode
- Automatically adjusts to changing equipment conditions, i.e. slow drift effects