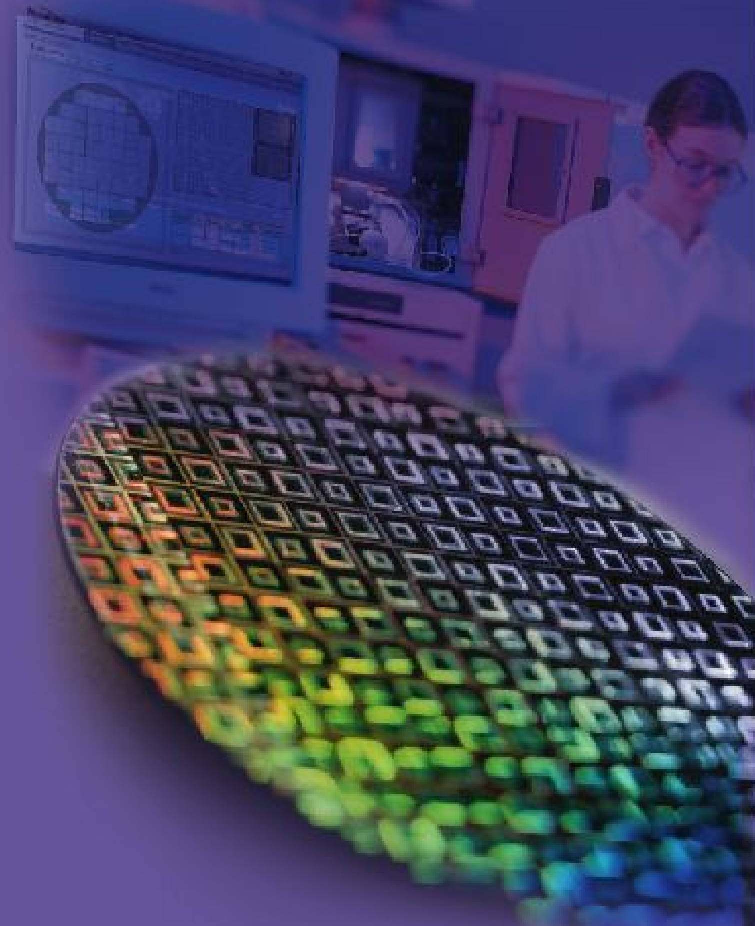
Like to visualize uprising yield enhancement
and accurate yield prediction?
DMSplus provides the most efficient Yield Analysis
and Defect Management Solution
for semiconductor/FPD industry

DMS Plus

Defect Management System



Defect Management System

Yield enhancement has emerged as an area of increasing importance in both Semiconductor and FPD manufacture.
Many companies are putting tremendous money and effort for yield improvement of their manufacturing floor.

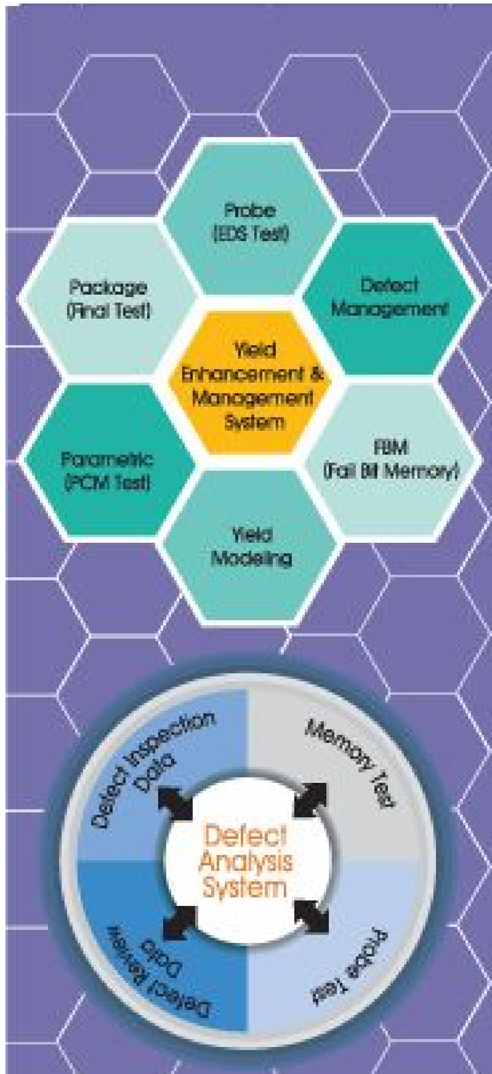
As the manufacturing technology becomes more complex and sophisticated, yield rate tends to decrease.

Semiconductor and FPD industries use a great number of costly complex equipments to inspect and review wafer and glass. Proficient analytical and/or inspection tools are essential to collect and analyze data effectively from the equipments for yield enhancement.

DMSplus (Defect Management System) saves defect inspection data, defect classification data and image data from defect inspection and review equipment to sever and DB. It monitors defec t in real time and alarms when it detects out of spec or abnormal issues. With the collected data, DMSplus finds defect root cause in various aspects and gives accurate feedback. DMSplus ide ntifies manufacturing problems at astonishing rate.

Optimum YMS (Yield Management System) base system; DMSplus provides total solution of yield analysis for yield prediction and yield modeling.

- Process stabilization and yield prediction
- Early detection and detailed analysis of defect and process issues
- Reduce problem identification and resolution time, reducing die loss
- Increase engineering productivity through standardization
- Flexible equipment scalability
- Automated yield monitoring and notification
- Achieve high quality at less cost



Why DMSplus?

- Systematically manage killer defect which affects yield
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- Calculate random defect yield loss
- Calculate systematic yield loss and able yield modeling
- Able yield prediction

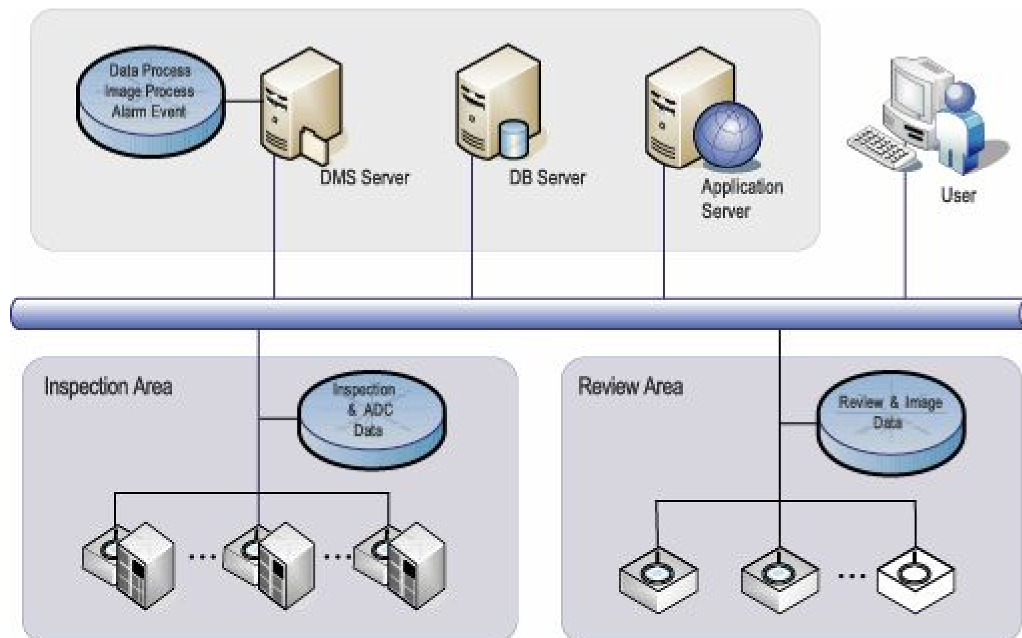
Key Advantage of DMSplus

DMSplus offers convenient operation environment with leading IT technology.
DMSplus is the total yield analysis solution for yield analysis with auto data collection and
yield analysis application base on extensive yield analysis experience and knowledge.

- Automatic Defect Map Design & Drawing : Defect map drawing by auto recipe info recognition
- Real Size Defect Map Drawing : Reduced gap from actual defect size by 1/1000 ㎛
- Defect Size Scope Handling : Freely control defect size drawing to distinguish tiny defect
- Unlimited Zoom-In/Out : Freely control defect size drawing to distinguish tiny defect
- Standardization Data Interface : Standardize defect inspection and review data result then save them in DB
- Various Data Collection Method : Diverse interface protocol support such as FTP (Get, Receive) and NFS
- Custom Review File Generation : Generate review source file for user to select and use only filtered defect data
- Defect Map Drawing by GPU Acceleration : Withdraw bottleneck with graphic handling

- Dynamic Data Selection : User defines analysis and display condition on UI
- Custom Analysis Desk : Analysis tool to examine defect map selected by user
- Easy Maintenance : Process monitoring, data loss monitoring and equipment utilization monitoring
- Defect Pattern Control: scan, analyze, classify, review defect histograms by type/size, killer probability, calculate limited yield

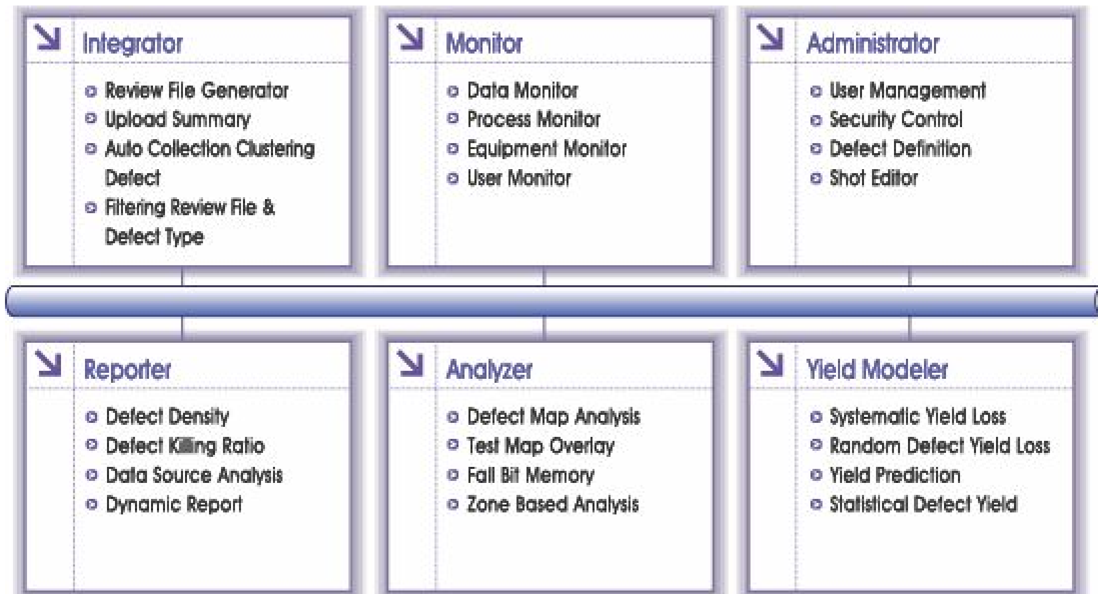
DMSplus Architecture



DMSplus Element

Administrator	Monitor	Integrator	Reporter	Analyzer	Yield Modeler
Shot Editor	Data Loss Monitoring	Data Process	Data Source Analysis	Defect Map Analysis	Systematic Yield Loss
Defect Class Definition	Process Monitoring	Image Data Process	Defect Density	Shot Map Analysis	Random Defect Yield Loss
Coloring by Size & Type	Equipment Monitoring	Statistic Data Process	Defect Killing Ratio	Repeat Defect Analysis	Statistical Defect Yield
Equipment Setup	User Monitoring	MES Data Gathering	Dynamic Report	View Defect Image	Defect Control Level Table
Custom Environment		Custom KLARF Generate	Trend Report	Multi Layer Overlay	Yield Prediction
Custom Management		Manual Data Gathering	User Report	Multi Defect Map Overlay	
Menu Grade Setting		FQA Data Linker	Cross Analysis	Defect Distribution	
				Test Map Overlay	
				Fail Bit Map Analysis	
				Zone Based Defect Map	

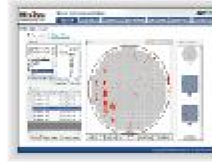
DMSplus Module



Core Functionality of DMSplus

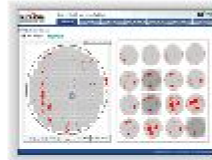
Defect Map Analysis

- Coloring by Defect Type / Size
- Defect Density Map
- Defect Image Gallery
- Drag Defect Position



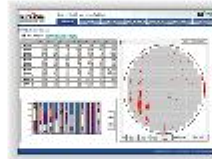
Map Overlay

- Multi Defect Map Overlay
- Multi Layer Defect Map Overlay
- Probe Test Map Overlay



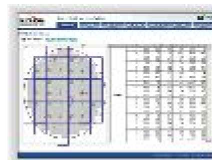
DSA(Defect Sourcce Analysis)

- Time Based Defect Source Analysis
- DSA by Type & Size
- Carry Over & Adder Defect Analysis



Repeat Defect Analysis

- Shot Based Repeating Defect
- Design Based Repeating Defect
- Specification Repeating Defect
- Glass/Wafer Based Repeating Defect



FBM(Fail Bit Memory) Overlay

- Automatic Collection Matching Point
- Drill Down Bit Map Analysis
- Glass / Wafer, Shot, Die & Cell

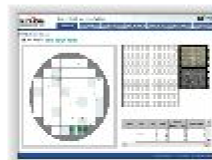
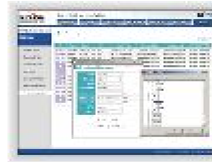


Chart & Dynamic Report

- Various Chart Display
- Box Plot Display
- Customization Batch / Dynamic Report
- Main Process Equipment Report
- Defect Killing Ratio / Defect Density Report
- Equipment Utilization Report

Data & Eauipment Interface

- Interface with Multiple Processing
- Result Data Common Formatting
- Customization of Review Source
- Image Processing



Yield Modeling

- Statistical Defect Yield
- Defect Control Level Table
- Systematic Yield Loss
- Random Defect Yield Loss
- Yield Prediction

Installation Effect

- Standardize and systemically manage data that occur during defect monitoring process
- Provide early process stabilization by concise analysis steps and high quality reports
- Support correlated analysis to related data (Process, EDS test, memory test, equipment)
- Able to react promptly to abnormal issue by real time defect data monitoring
- Easy Equipment Interface with no need of any component or interface tool
- Offer effective defect management and provide yield enhancement plan
- Able to calculate systematic yield loss and random defect yield loss
- Accurately understand equipment utilization
- Simplify root cause discovery and analysis
- Able yield prediction and yield modeling

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