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KEYNOTE ADDRESS

Burn-in & Test Socket Workshop™

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Helping Customers Improve Their Performance Results

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Business-to-Business Relationships

- In consumer markets, brand loyalty may apply
- In business-to-business markets, companies buy products and services that help advance their business initiatives
  - Bottom line decisions
- Customers measure test success based on business performance

Customer Critical Performance

- Customers measure test success based on business performance

- First pass yield
- Retest rates
- Recovery rates
- MTBA
- MTBM
- MTTR
- MTBF
- OEE
- Downtime
- Cost of test
- Cost per insertion
- Acquisition costs
- Department costs

Supplier Performance

- Suppliers measure product success based on product specs

- Contact resistance
- Component life
- Temperature range
- Jam rates
- Cycle time
- Bandwidth
- Inductance
- OEE
- Downtime

Achieving Customers' Performance Requirements

- In order for test suppliers to help customer's achieve their test performance requirements, we need to:
  - Understand them
  - Come to common agreement on them
  - Work together to achieve them

Achieving Customers' Performance Requirements

- Understanding them is a challenge that must be overcome through:
  - Industry standardization -- this goes beyond sockets and contactors to the semiconductor industry in general
  - Training for customers, test suppliers, and test suppliers' field service personnel

Achieving Customers' Performance Requirements

- As an example, understanding the requirements means understanding and standardizing on the terminology
  - Retest Rates -- different customers have different ways of determining retest rates
  - Given certain test situations, not all customers will do the retest step all of the time
  - Retesting at contract test houses will increase the customer's overall cost of test

Achieving Customers' Performance Requirements

- Coming to agreement on the performance requirements and how to work with them is our biggest challenge
  - Not all customers operate under the same rules of engagement
  - Different geographic regions and different types of businesses have different requirements

Achieving Customers' Performance Requirements

- Working together to understand and achieve our mutual customers' performance requirements will revolutionize our industry and those of our colleagues
  - Change how we think, how we test, and how we measure our own products' performance
- Understand interfacing requirements and work with other suppliers to optimize performance -- load board, handler, tester, packaging, etc.

Achieving Customers' Performance Requirements

- A big part of everyone getting on the same page in regard to performance results is to understand the people within the customer organization who have the information
- Different people in the organization are measured on different results

Achieving Customers' Performance Requirements

- Technician/Engineer -- technicians and engineers know point in time information based on their individual responsibility only
  - Information Technician/Engineer can provide:
    - Jam rates
    - MTBA info
    - Cleaning procedures
    - Anecdotal information on overall system performance

Achieving Customers' Performance Requirements

- Test Engineering Manager/Test Floor Manager -- test engineering managers and test floor managers know a lot about the test floor and the stats related to the performance; however, they may not be able to equate that to business results
  - Information Test Engineers can provide:
    - First pass yield
    - Retest rates
    - Production line goals (maybe)
    - MTTR
    - Downtime stats
    - Anecdotal data

Achieving Customers' Performance Requirements

- Senior Level Management -- VP, Director, Business Unit Manager -- senior level managers know the OEE of the test floor; they are the people chartered with making sure profit margins are met
  - Getting to these people can be difficult
  - Information senior level management can provide:
    - Performance targets and results, such as Cost of Test-- including what the others have provided
    - Overall equipment effectiveness

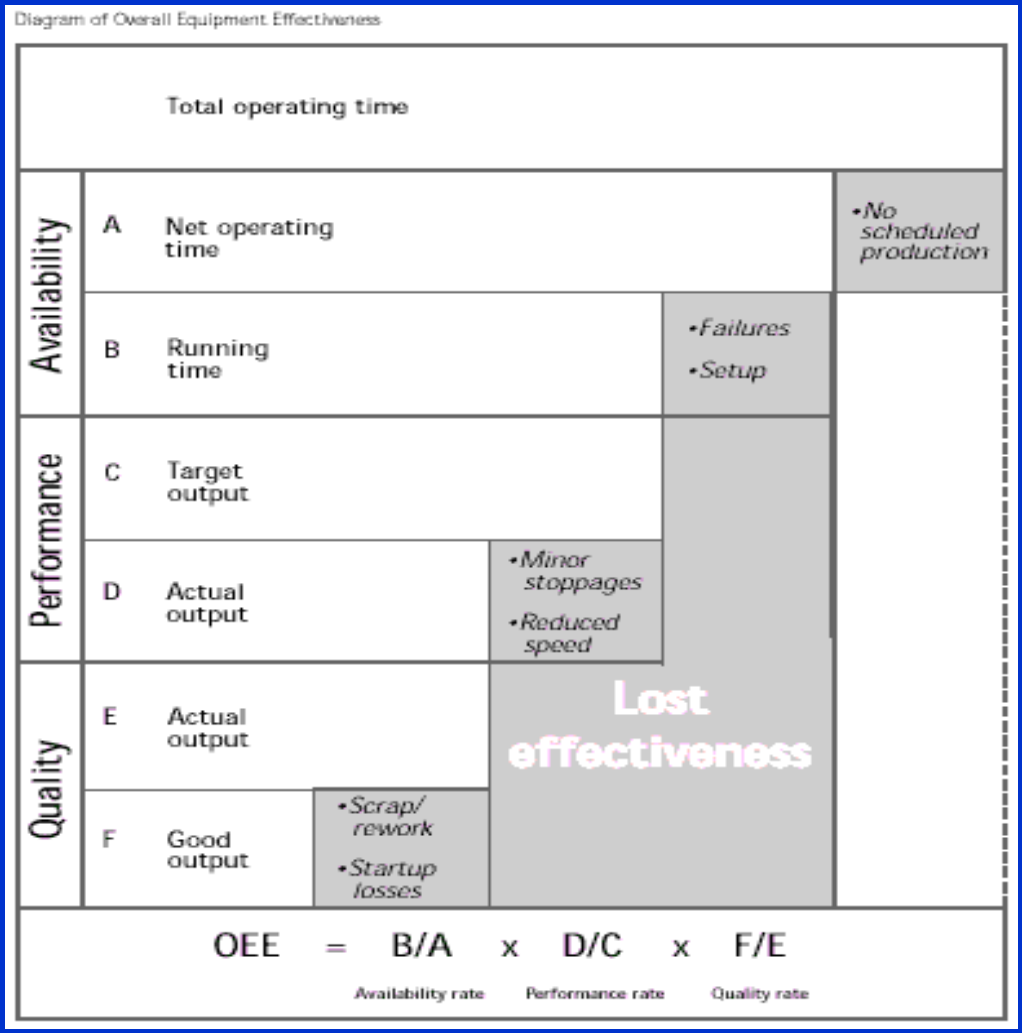
Achieving Customers' Performance Requirements

- As an industry, we must be aware of and willing to change how we do business to meet customer performance requirements
  - Standardization of test methodology
  - Standardization of specifications

Achieving Customers' Performance Requirements

- As an industry, we must be willing to extend ourselves into new arenas to understand the full impact of Overall Equipment Effectiveness
  - Build a greater shared knowledge with handler, tester, and packaging vendors
  - Standardize on interfaces
  - Understand that JEDEC isn't always a good enough standard

Achieving Customers' Performance Requirements



Johnstech International Corporation BiTS Presentation, 2004

Achieving Customers' Performance Requirements

- As an industry, we must be willing to work together, with the highest degree of integrity to achieve better performance for our customers in regard to:
  - Reduced Cost of Test
    - Cost of acquisition vs. cost of test
    - Cost per insertion
    - Departmental costs
  - Improved test performance
  - Faster time to market

Achieving Customers' Performance Requirements

- By achieving our customers' performance requirements, we strengthen their bottom line
- In turn, this strengthens our bottom line and leads to a healthier industry