

# e-Diagnostics/EEC Workshop Closing Remarks

[www.sematech.org/public/resources/ediag/index.htm](http://www.sematech.org/public/resources/ediag/index.htm)

Karl Gartland / Bob Wiggins / John Pace /  
Glenn Stefanski / Harvey Wohlwend

kgartlan@us.ibm.com, (802)769-2529

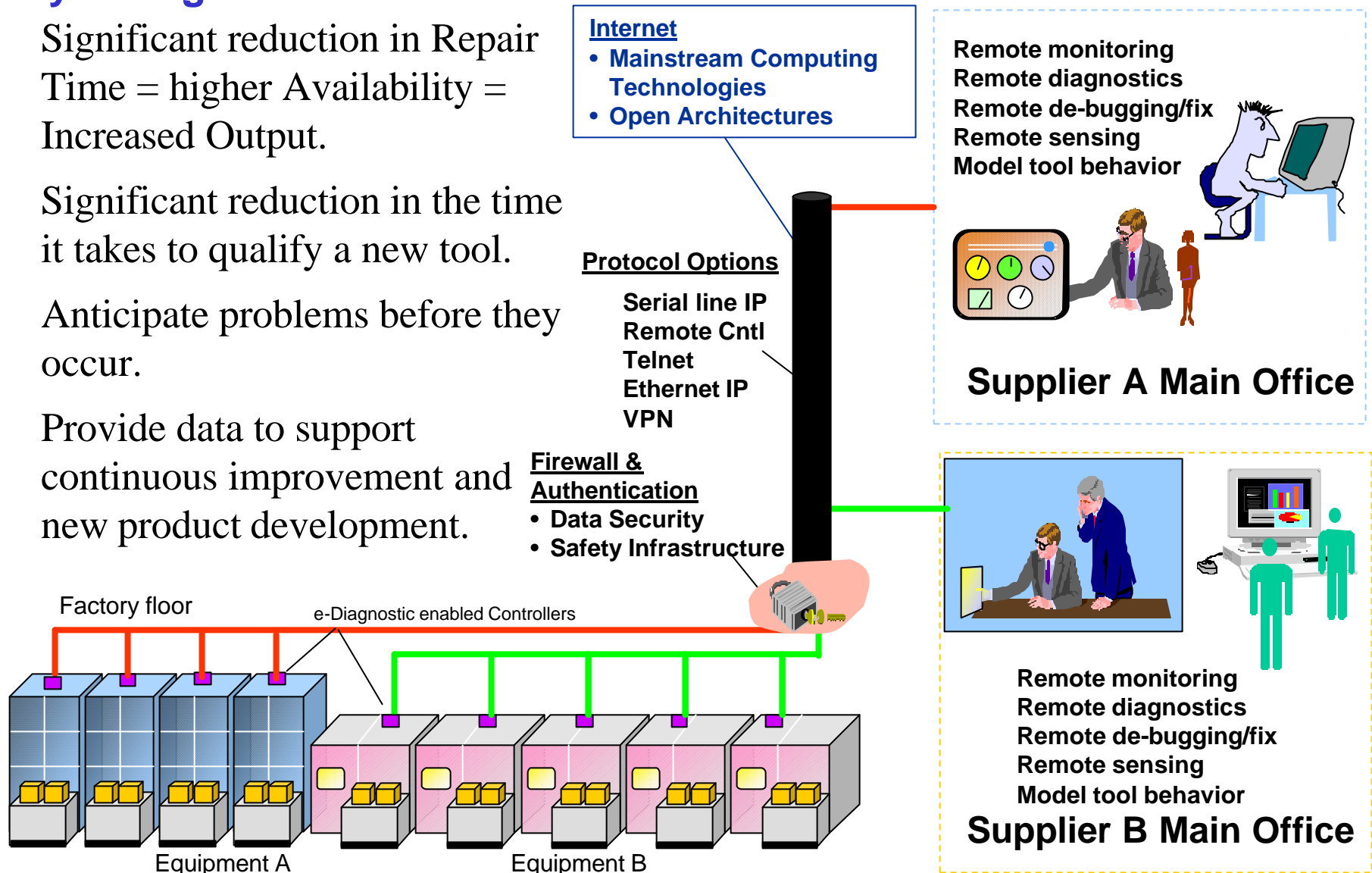
**19 October 2001**

INTERNATIONAL  
**SEMATECH**

# e-Diagnostics Vision

## Why e-Diagnostics?

- Significant reduction in Repair Time = higher Availability = Increased Output.
- Significant reduction in the time it takes to qualify a new tool.
- Anticipate problems before they occur.
- Provide data to support continuous improvement and new product development.



# e-Diagnostics Summary

- 300mm Standards implementation cannot be compromised by this effort!!
- e-Diagnostics is an outstanding ISMT example of IC makers and suppliers working together on a win-win initiative
  - e-Diagnostic guidelines and capability definitions developed in H2'00
  - For the industry to reap the benefits, we must adhere to the Guidelines
  - e-Diagnostics solutions should follow these Guidelines
- ISMT and SELETE/JEITA are collaborating on an Equipment Engineering Capabilities (EEC) concept
  - Produced a set of global system guidelines for the e-Diagnostic capability
  - e-Diagnostic solutions should follow these guidelines
  - Future collaboration will expand the guidelines into e-Manufacturing

EEC Adds to  
CURRENT PRACTICES

Karl Gartland/John Pace/Glenn  
Stefanski/Bob Wiggins

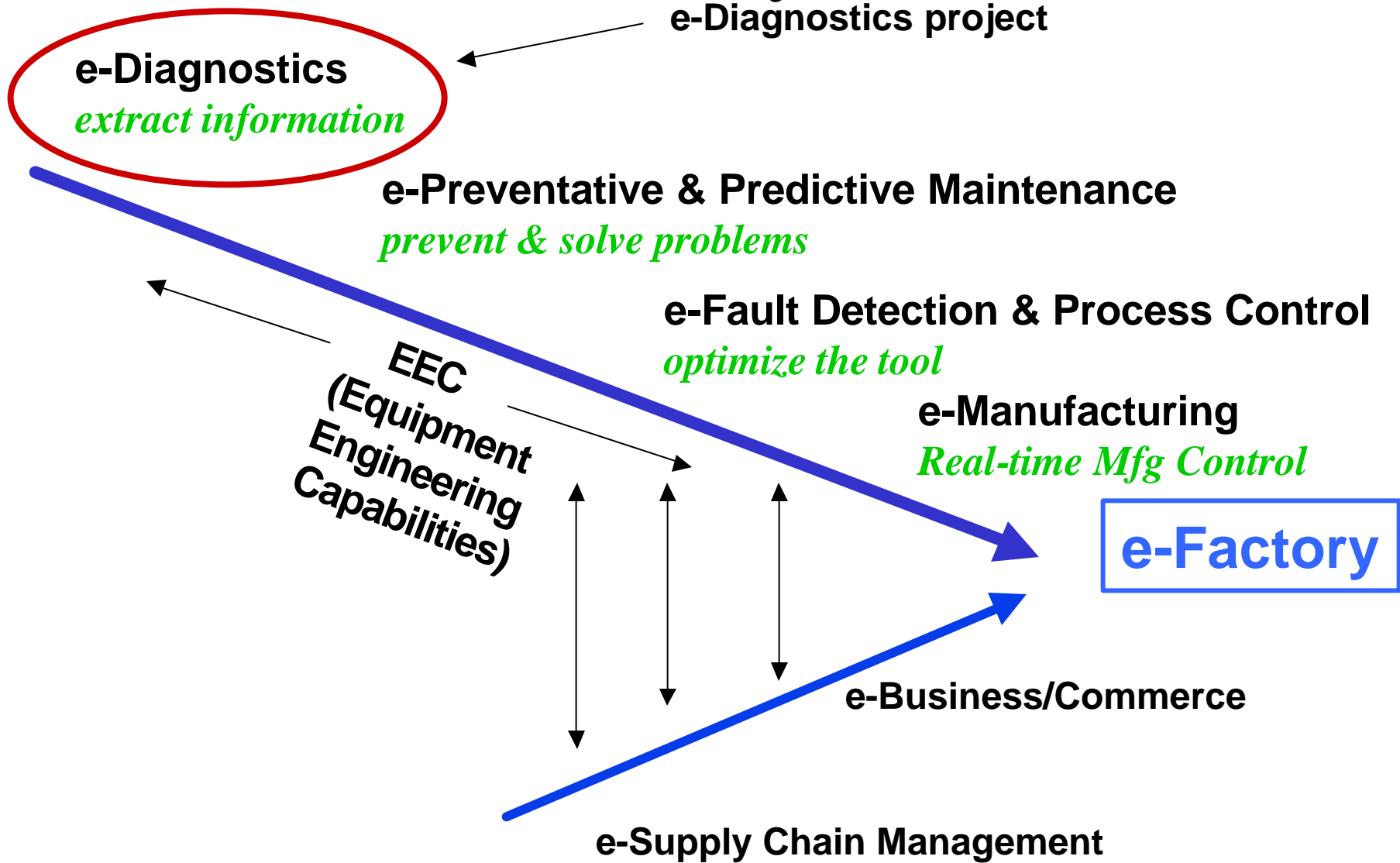
# EEC is the next step:

- Std 300 mm functionality should come first
  - E87 both equipment and host based verification
  - E40/E94/E90 are required
    - New batch tracking standard for batch tools
- Suppliers need to concentrate on software quality
  - Bug free, reliable software is essential for 300 mm success
    - Right data at the right time
- Concentrate on getting the data out of the tool
  - Equipment Control
  - e-Diagnostic Information accessibility
- Place control where it belongs
  - Some control function belong on equipment
    - e.g., Temperature control
  - Some control function belong at host level
    - Equipment doesn't know process history, IC product functionality requirements e.g., Temperature setting

# Interfaces are Key

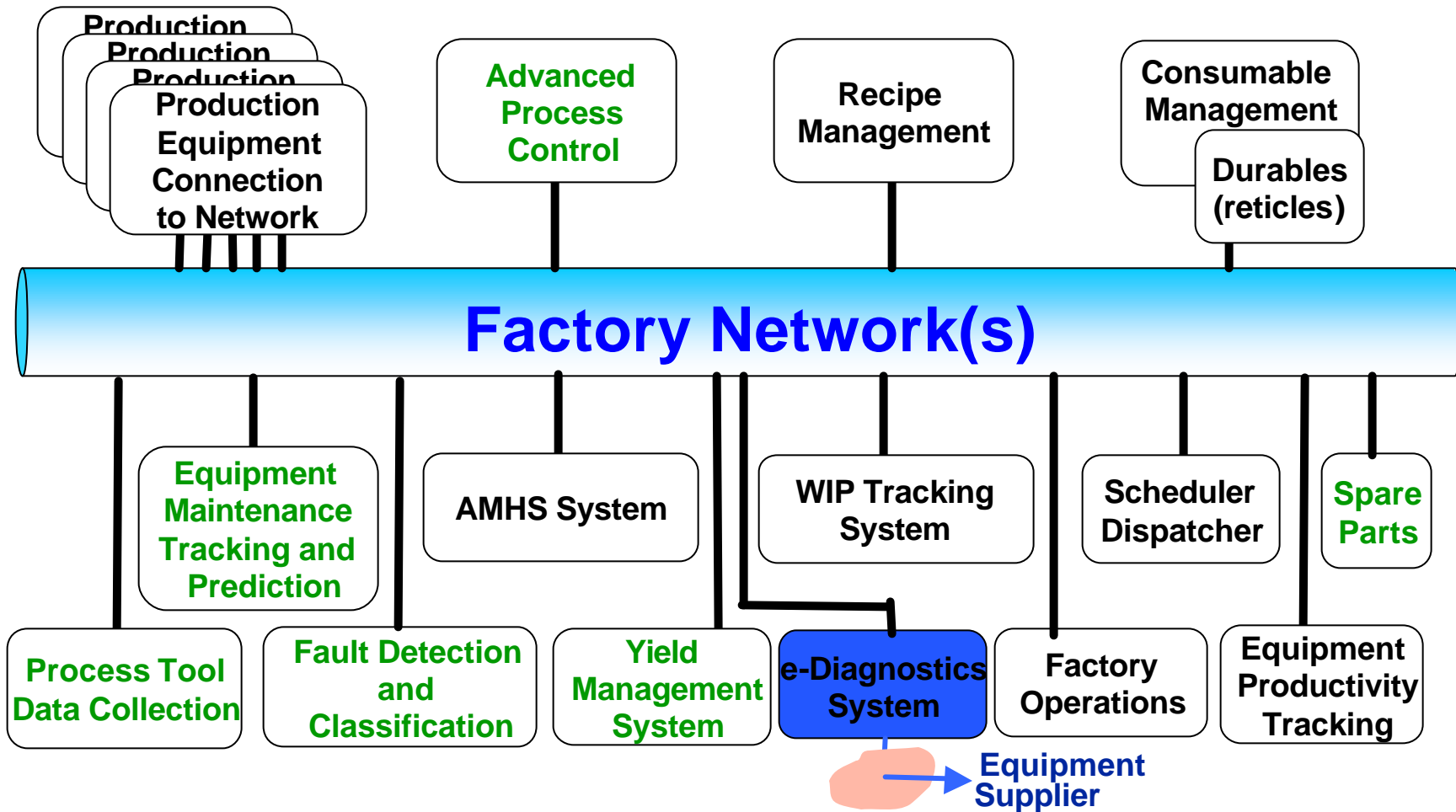
- The prime need for a successful EEC is standard interfaces
  - Equipment interface is number one
    - IEE/DDA/EECDTT task forces will define the interface from/to equipment to factory network
    - Get involved [on all fronts](#)
  - Interfaces to Off tool EEC applications
    - Use of 3<sup>rd</sup> party supplier apps is strongly encouraged by IC makers
    - Use existing CIM framework/APC framework where possible
      - Build off existing standards where possible
        - » Starting from scratch will take longer
        - » Don't repeat history, improve existing standards if possible
    - If new standards required, align with existing standards
    - Interfaces cannot be based on proprietary systems
  - Interfaces Outside of the factory
    - Use of standard IT technology is required, NOT semiconductor specific

# Path to e-Factory - ISMT



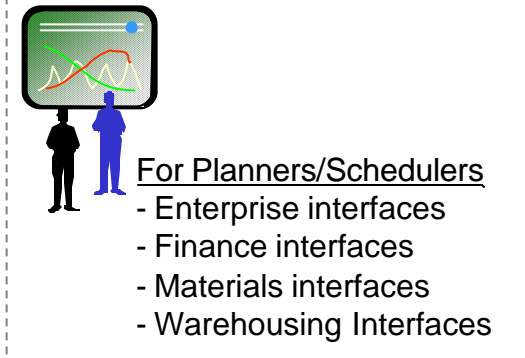
# OEE Improvement through Global Factory Information System Guidelines

EEC components many exist in today's factories

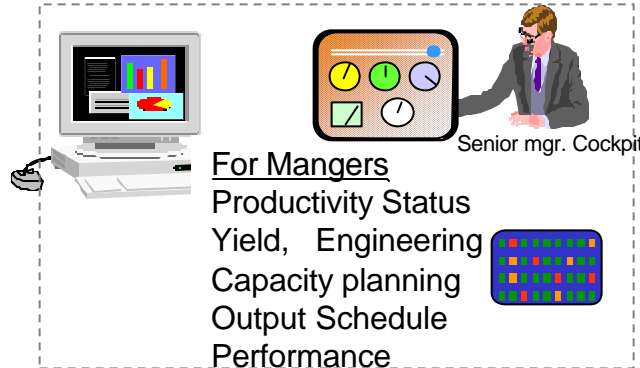


# An e-Manufacturing Vision

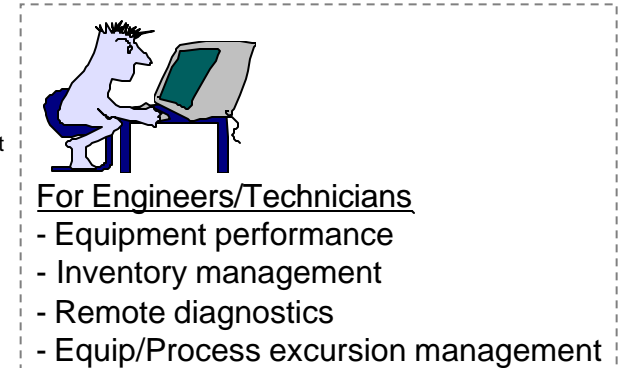
## Linkages to/from Enterprise systems & suppliers



## Summary Data & Analysis



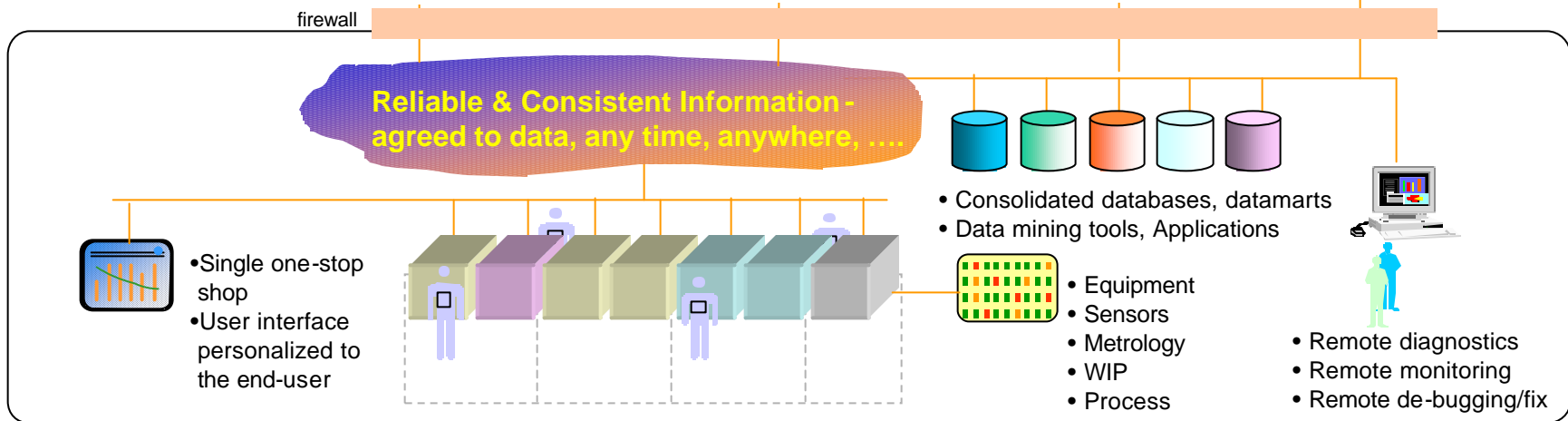
## Drill-down data



**Tools enabling linkages to/from enterprise systems, suppliers, and the network**

**Tools to monitor commitments of output, cost, agility, and on-time delivery of products ...**

**Tools to manage factory assets effectively ...**



# Conclusion

- e-Diagnostics and EEC are part of an overall factory system
  - *NOT* standalone functions
    - Must operate smoothly and effortlessly with factory system (MES)
- Comes after basic function
- Data integrity is most important
- Now is the time to be involved