

International SEMATECH e-Diagnostics Program

3/1/01

www.sematech.org/public/resources/ediag/index.htm

Dave Bloss

david.a.bloss@intel.com

480.554.1099

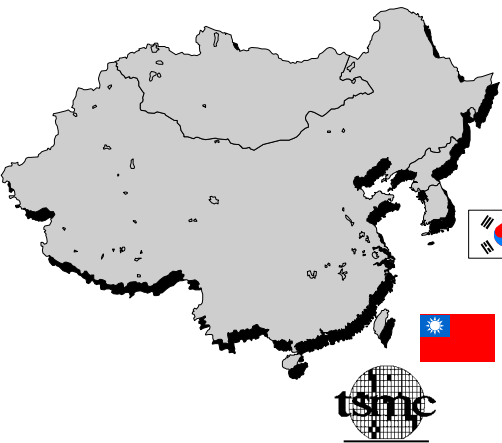
Harvey Wohlwend

harvey.wohlwend@sematech.org

512.356.7536

INTERNATIONAL
SEMATECH

International SEMATECH 13 IC Makers Cooperating



HYUNDAI

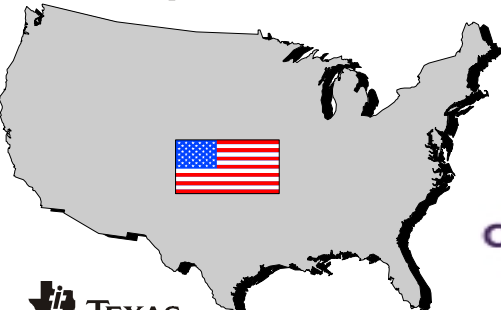


PHILIPS



intel

AMD



IBM



agere systems

TEXAS INSTRUMENTS



MOTOROLA

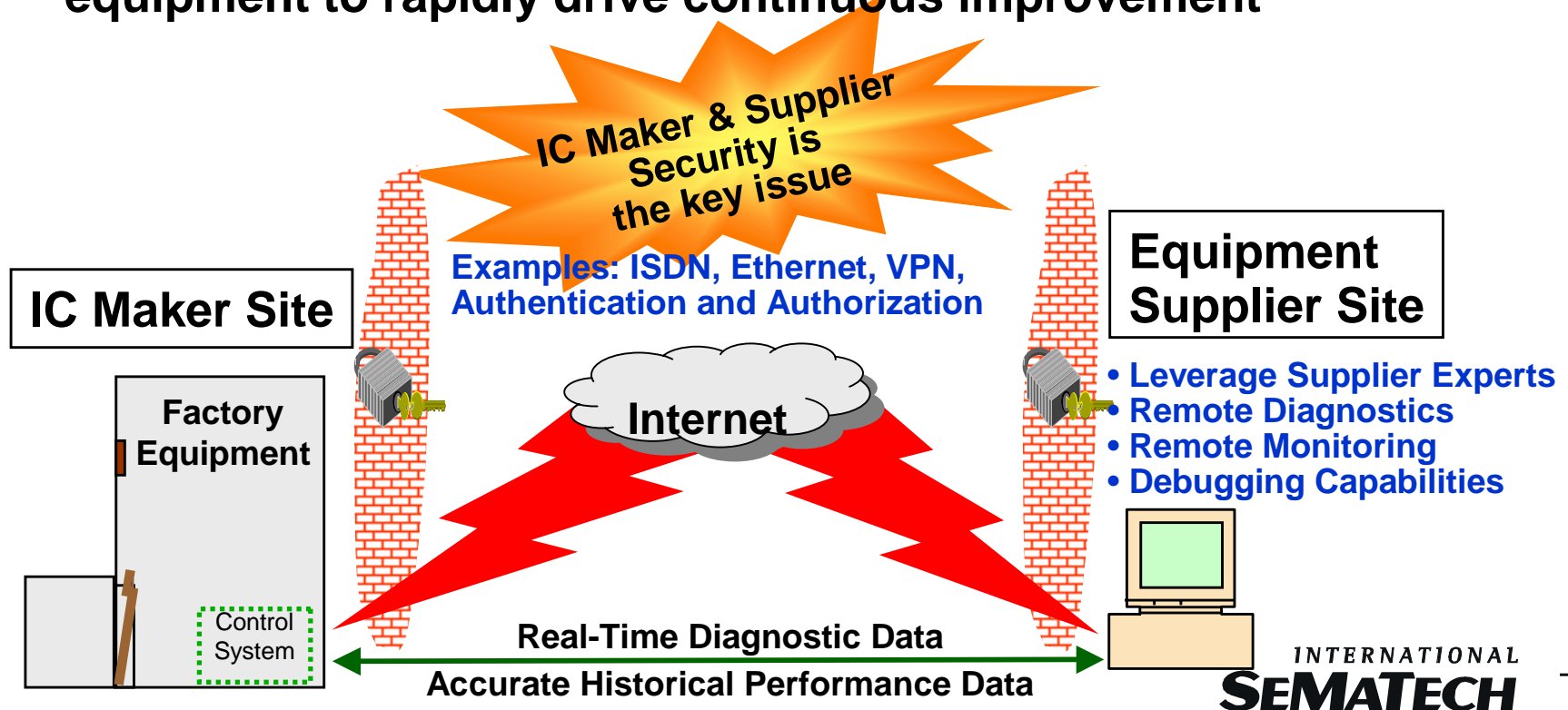
INTERNATIONAL SEMATECH

Agenda

- | | | |
|---|---------------------------------------|--------------------|
| 1 | History of project | H. Wohlwend |
| 2 | Deliverables to date | H. Wohlwend |
| 3 | Chip Manufactures requirements | D. Bloss |
| 4 | Guidelines, including Security | D. Bloss |
| 5 | Capability Model | D. Bloss |
| 6 | Connectivity update | D. Bloss |
| 7 | Prototyping update | H. Wohlwend |
| 8 | Global collaboration | H. Wohlwend |
| 9 | Next steps | H. Wohlwend |

e-Diagnostics Overview

- Remote monitoring & diagnostics allow supplier experts to rapidly fix factory equipment issues from their sites
- Time to money – Remote diagnostics enable IC makers and Equipment suppliers to reduce upfront Install and Qual durations
- Suppliers need accurate historical performance data from factory equipment to rapidly drive continuous improvement



e-Diagnostics Strategy

MISSION:

Create guidelines

share best practices

drive commercialization of open architecture

Internet-based access for suppliers to ...

monitor equipment

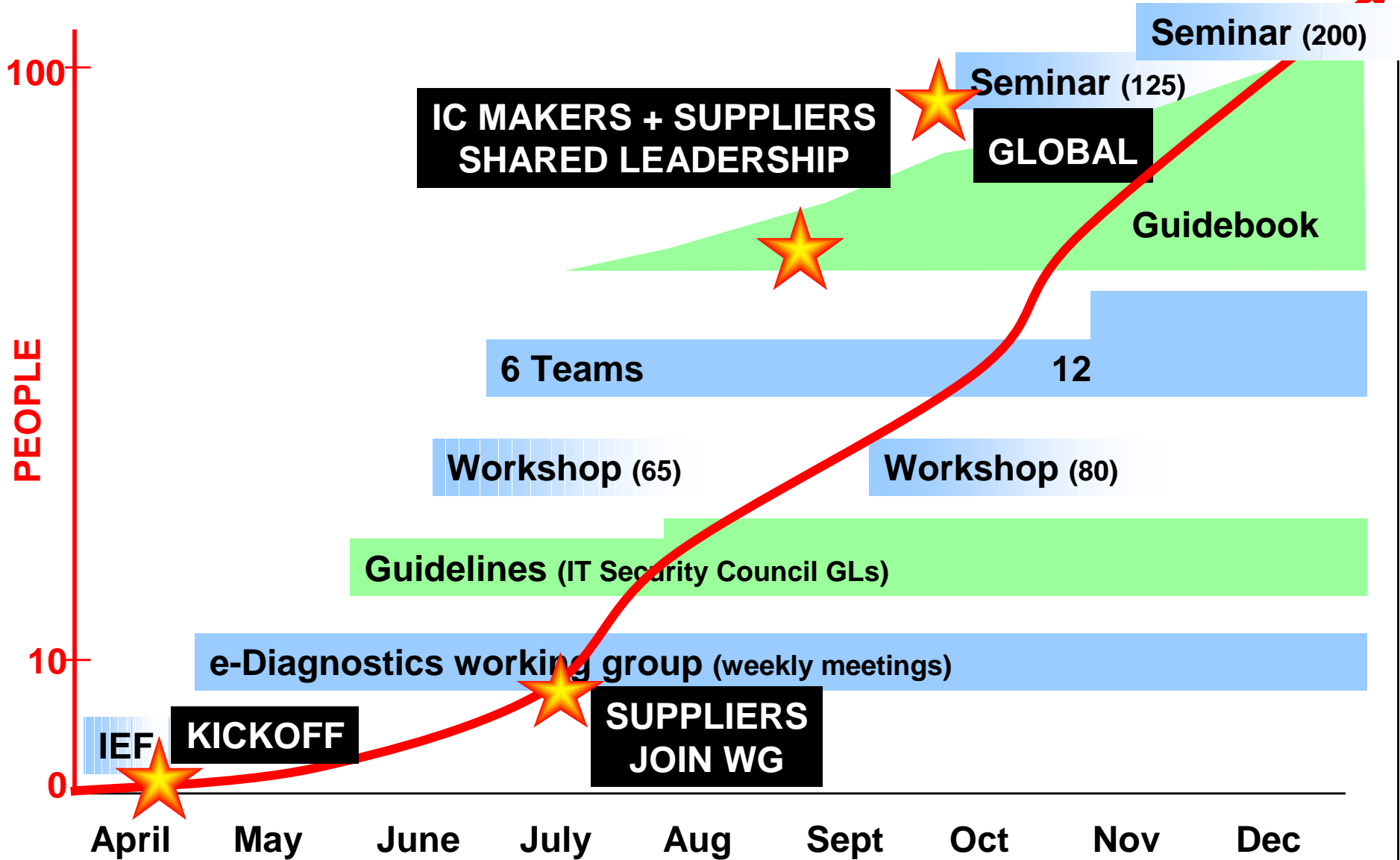
provide improved uptime

optimize Predictive Maintenance

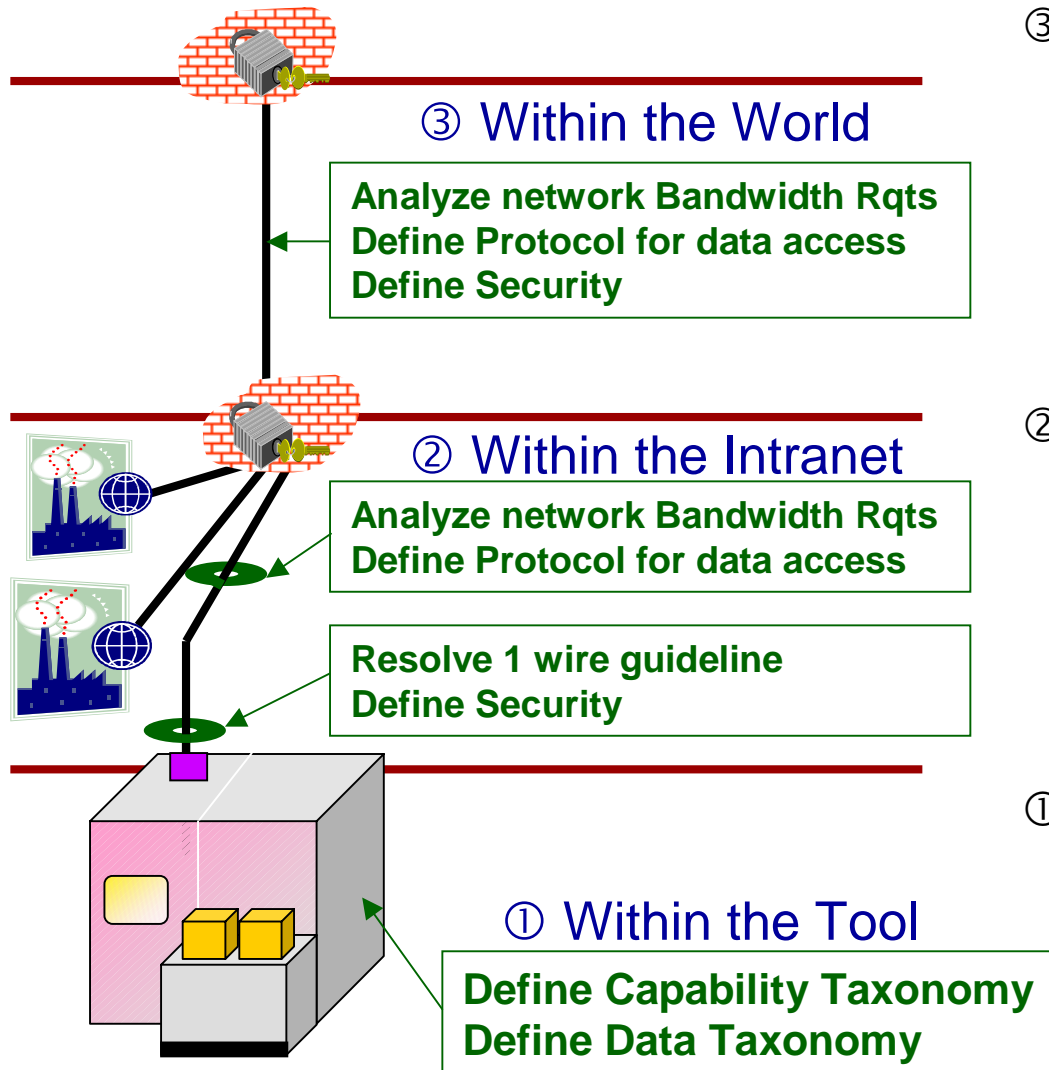
and reduce Mean-Time-To-Repair

e-Diagnostics Progress and Participation

1. History



e-Diagnostics Capability Definition



③ Predictive / Preventative Maintenance

- Automatic identification of pending failures by the process tool
- Automatic action of tool to fix the issue

② Proactive Monitoring

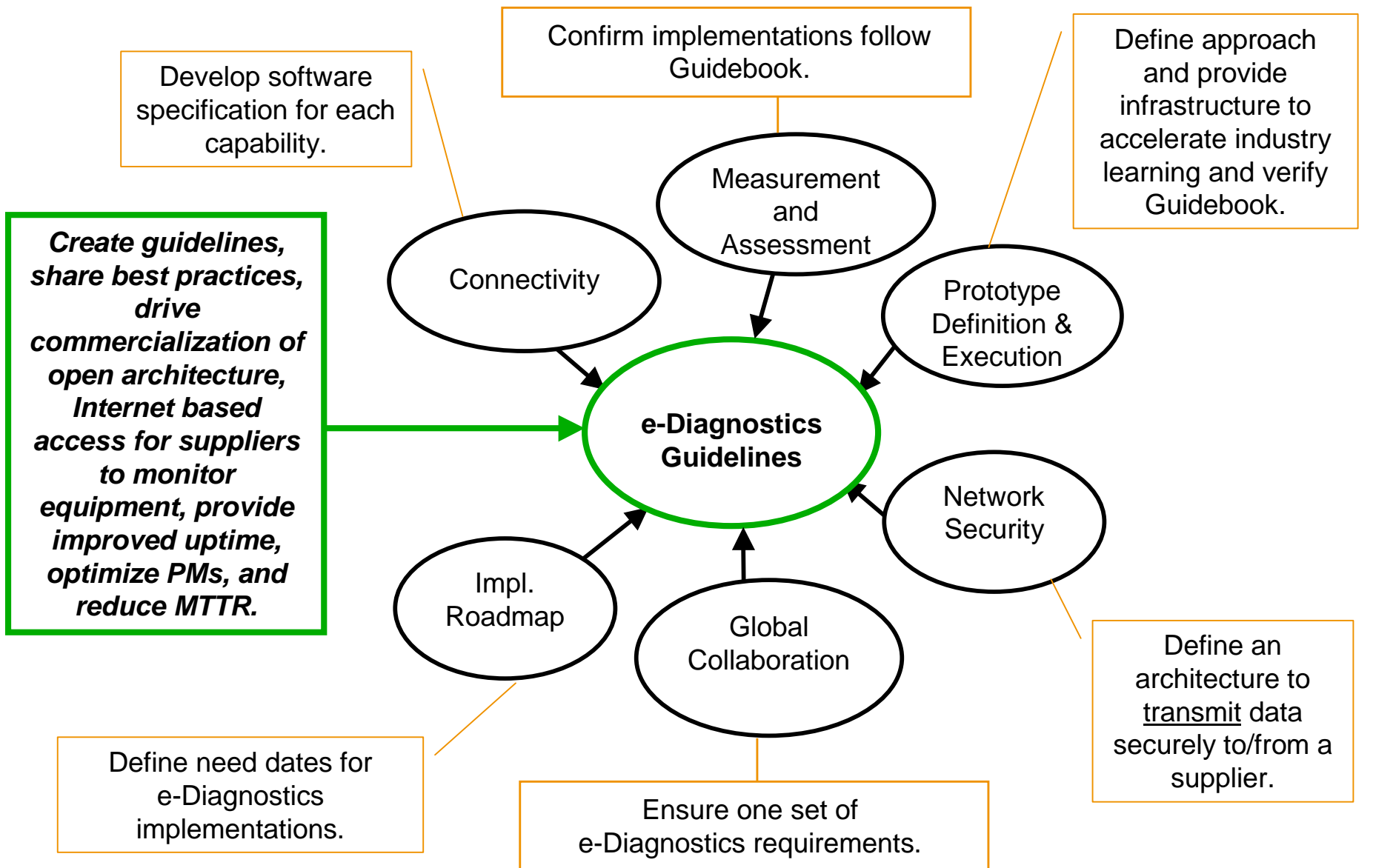
- Monitor leading indicators / summary data
- Some external system or people analyze the data and predict future tool behavior

① Reduce MTTR

- Basic remote access to tool data
- Equipment experts can review and analyze 'raw data' from anywhere in the world

How do the New Teams fit?

1. History



e-Diagnostics Working Group Teams

1. Network Bandwidth Requirements

Leader: Harvey Wohlwend - ISMT

Members: KLA-Tencor, AMAT, Intel

2. Capability Taxonomy

Leaders: Gary Viviani - Varian and Dave Bloss - Intel

Members: IBM, AMAT, Nikon, KLA-Tencor, Schlumberger, TEL, Teradyne, Avantcom, TI

3. Data Taxonomy

Leaders: Ed Kaz - AMAT, Nick Nikolic - KLA-Tencor

Members: IBM, Nikon, TEL, Axcelis, TI

4. Protocol Definition/Connectivity

Leaders: Roger Eastvold - KLA-Tencor and James Martin - Intel

Members: AMAT, Axcelis, Nikon, IBM, Teradyne, SVGL, Schlumberger, Lam, Avantcom, domain Logix, Symphony Systems, BOC Edwards, Brooks Automation, Agilent

5. Data Security

Leaders: Piero Fioravanti - Intel and TBD - IBM

Members: KLA-Tencor, AMAT, Teradyne, Schlumberger, domain Logix

6. Single Wire Resolution

Leader: Dave Bloss - Intel

Members: IBM, KLA-Tencor, AMAT, ISMT

e-Diagnostics Working Group Teams

Prototype Definition and Execution

Leader: Harvey Wohlwend - ISMT

Members: IBM, KLA-Tencor, AvantCom, Axcelis, AMD, HP, Symphony Systems, BOC Edwards, Teradyne, Electroglas, SISA, AMAT, domain Logix, Varian

Implementation Roadmap

Leaders: Bill Ramus - IBM

Members: KLA-Tencor, Avantcom, AMAT, HP, Intel, IPC, SISA, ISMT

Measurement and Assessment

Leader: Nick Nikolic - KLA-Tencor, Harvey Wohlwend - ISMT

Members: Intel, domain Logix, IBM, KLA-Tencor, Teradyne, Symphony Systems, AMD, Schlumberger, Agilent, ISMT

Network Security

Leaders: Anant Raman - Intel

Members: Schlumberger, AvantCom, GECisco, KLA-Tencor, AMAT, ISMT

Global Collaboration

Leaders: Dave Bloss - Intel

Members: KLA-Tencor, AvantCom, IBM, AMAT, ISMT

Other Participating Companies

ISMT Member Companies +

ADE, Advanced Energy, Adventa, ASML, AspenTech, ASYST Technologies, Canon, CYMER, DNS, FSI, Hitachi, Honeywell, IPC, Kokusai, K&S, Mattson, Murata, Novellus, PRI, SEMY, Thermo-Wave, TIBCO, Triant