Closing Remarks

Global collaboration for new platform of fabrication

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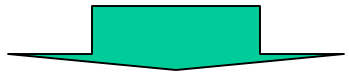
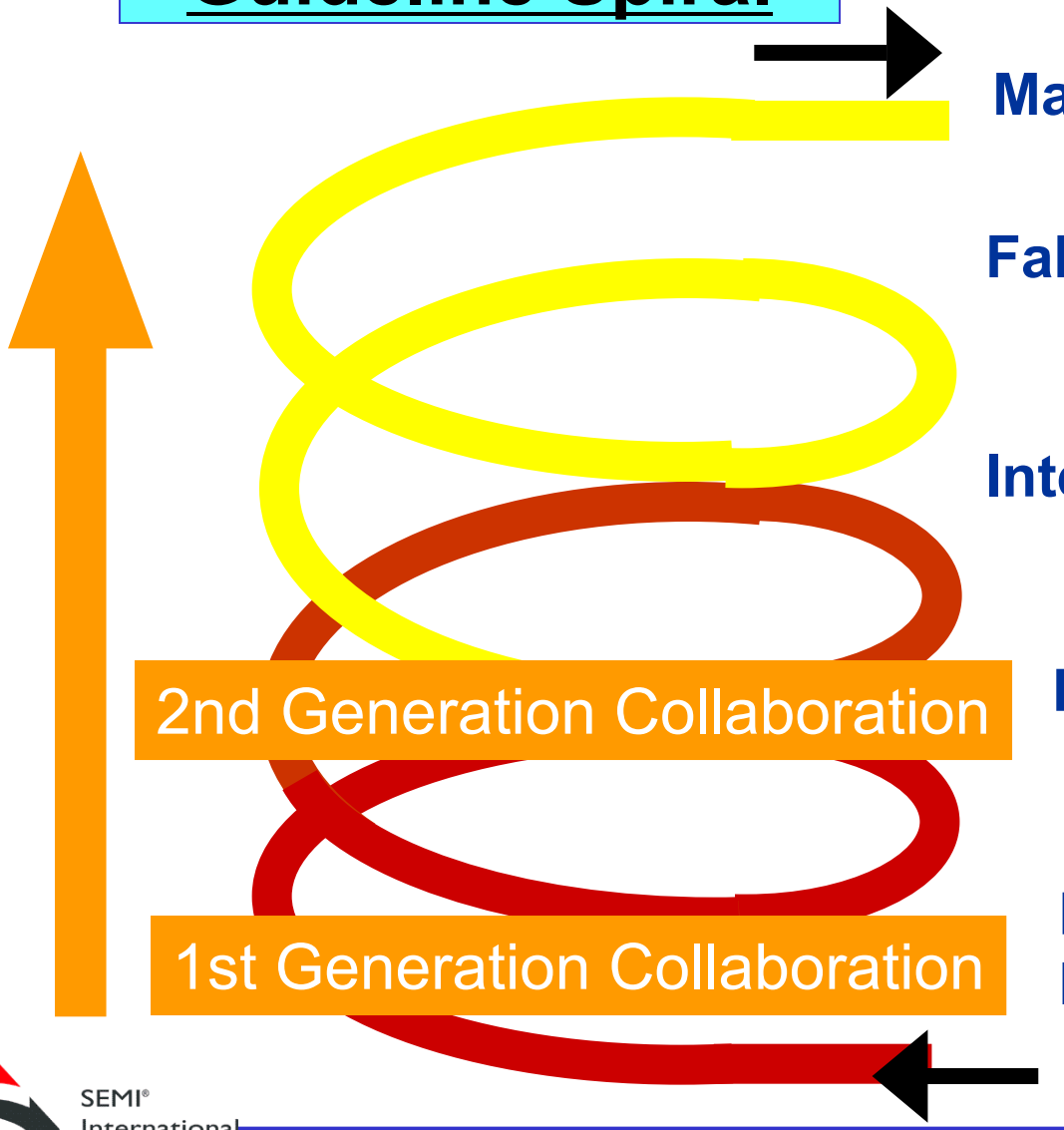
Global collaboration for new platform of fabrication

- First Generation
  - Full factory automation
    - Cost reduction of on-line development
    - Speed-up of on-line establishment in fab set up
- Second Generation
  - Equipment management
    - EES /e-Diagnostics



😐Need to ***Revolutionize*** Approach for Industry Standards

Guideline Spiral



Mature Level

Fab Operation

Integration of Factory System

Equipment Management

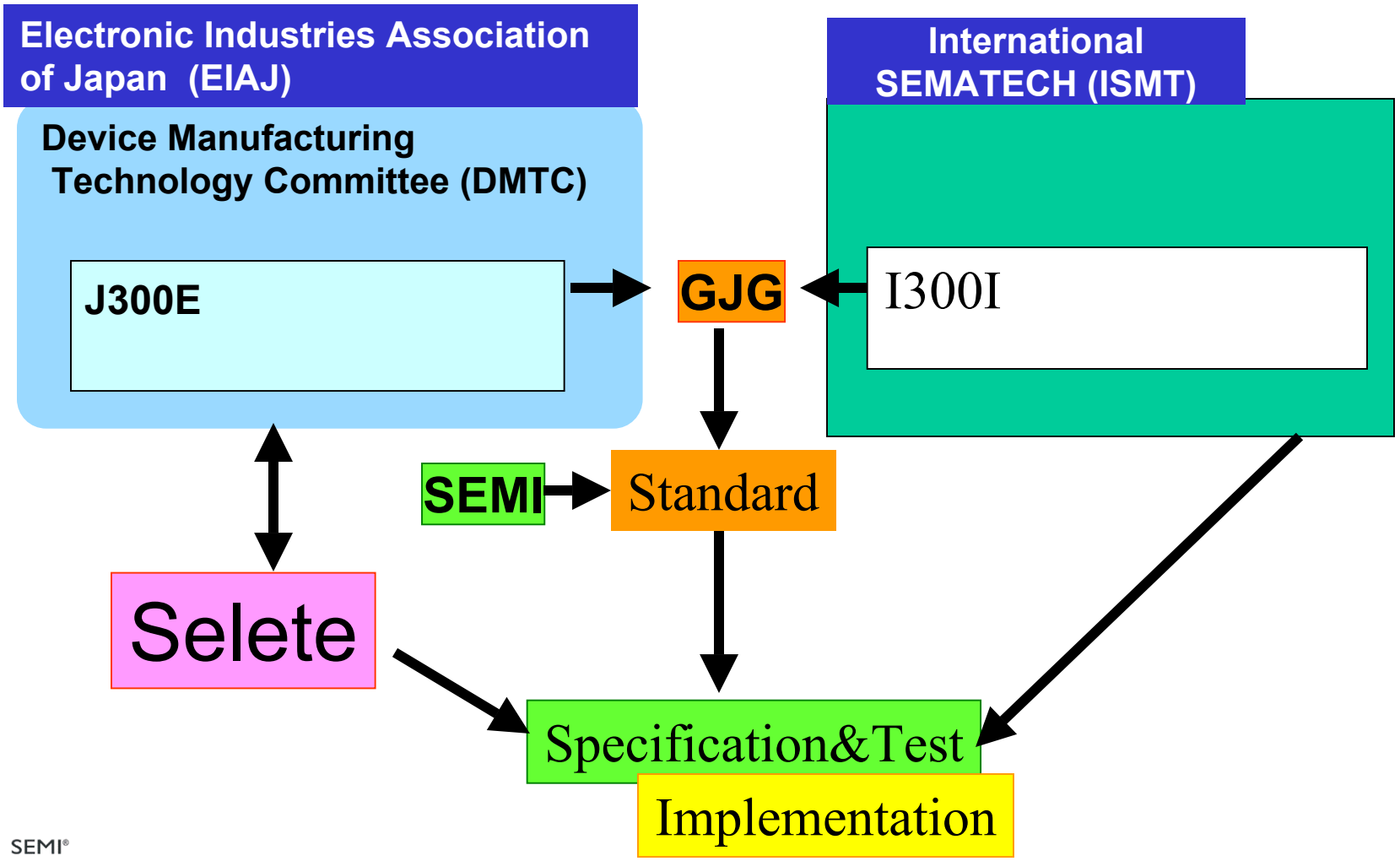
Hardware Interface
Equipment Control

Initial Stage

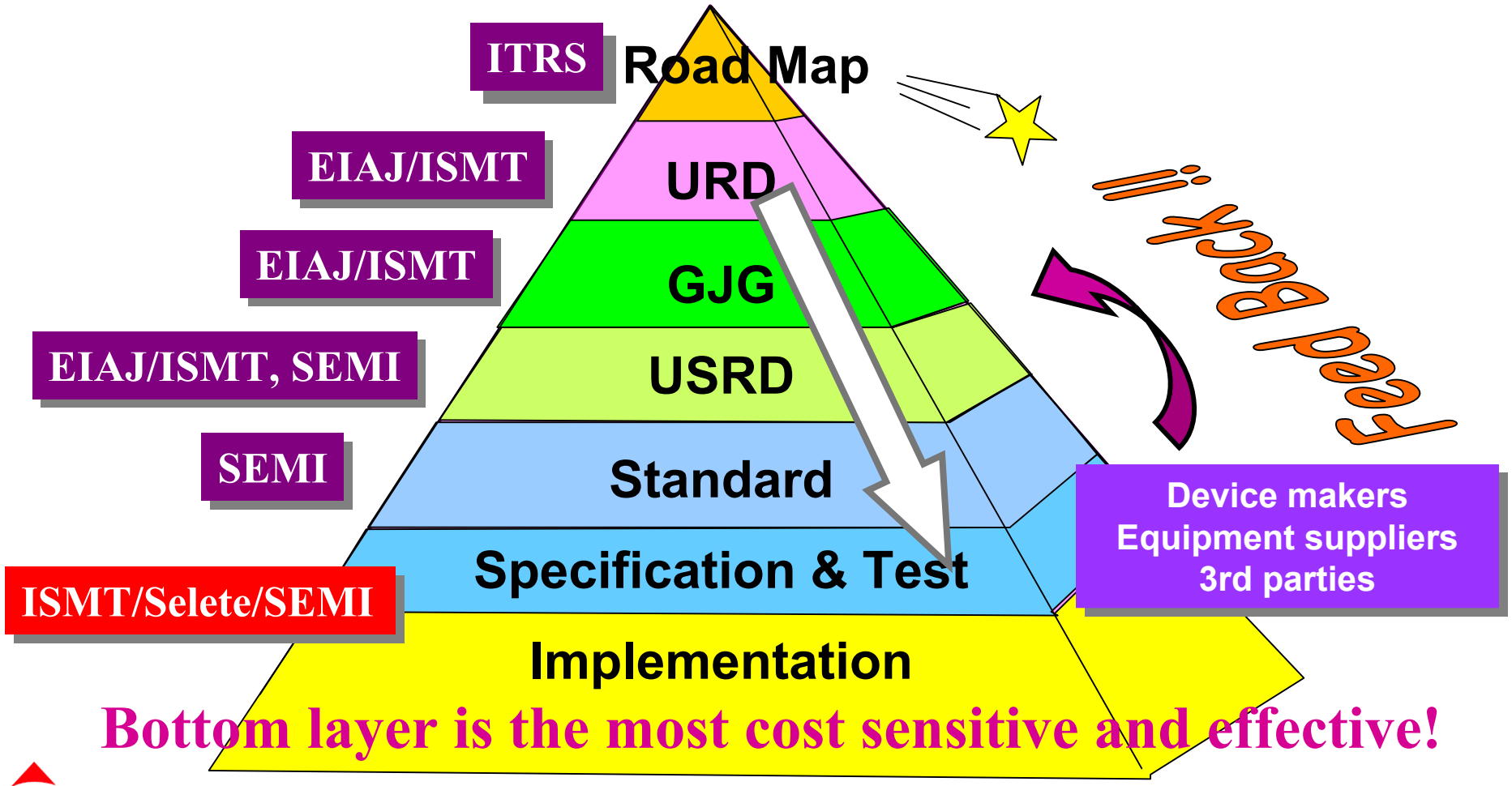
1st Generation Collaboration

- Automation platform
  - –From 1997 to 2000
  - –Standardization for
    - Equipment and AMHS
    - Equipment and Host, etc.

Partnership with Global Organizations



Automation Standardization Way



Bottom layer is the most cost sensitive and effective!

2nd Generation Collaboration

- Equipment Engineering Platform
  - From 2000 to 2002
  - Standardization for Equipment Engineering System (EES)
    - Equipment interface of EE data

e-Manufacturing Positions

e-Business

e-Manufacturing

product and pre-product's e- commerce

chip buyers support

spare parts logistics

reticle data, etc

Equipment Engineering

Equipment Performance Tracking, Real time control (APC)

M-to-M Difference Management, Maintenance Scheduling, etc

e-Diagnostics

Diagnostics data collection

Remote access and analysis of diagnostic data

Expecting Future Plan

- 2001 ~ 2002 : Introduction Phase
  - Guideline, Standardization, Prototype Test(α type)
- 2003 ~ 2004 : Growth Phase
  - Prototype Test (β type), Gather contents (business type), Build platform in Fabrication
- 2005 ~ 2006 : Expansion Phase
  - Equipment, Process, Mask, Design, Test, Analysis, Spare Parts, Durables
  - New business pattern

Summary

- **Need industry consensus for e-Manufacturing**
  - Equipment engineering system shall have open structure so as to maximize tool performance
  - Equipment engineering architecture shall be independent of current CIM system architecture
- **Collaboration among device makers, equipment makers, and software suppliers is a must**
  - Detailed equipment data is necessary through Interface A
  - The next step is detailed data analysis on each equipment by EES applications
- **Need to develop a new standardization process**
  - Prototype system development and standardization process is spiral

Summary

Next Steps

- Continue to develop a consensus for e-Manufacturing
- Discuss openly business and technical issues/barriers
- Continue standards development
- Develop standards that are testable and certifiable
- Expand and accelerate early standard validation testing
- Commercial availability of Interface A is needed ASAP

Summary

Key Messages

- e-Mfg builds upon 300mm standards – these must be completed by the semiconductor community
- OEMs are deploying e-Diagnostics & EEC solutions (100s of tools) - reporting significant benefit
- Interface A (data off the equipment) is the current focus: standardized, open, and with accurate data
- Prototypes needed: Interface A and e-Diagnostics
- Chipmakers and suppliers must cooperate early to assure mutual success