

EEC

EEC Standards Approach

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Background

- **ISMT and Selete/JEITA Device Makers have been collaborating on guidelines for Equipment Engineering Capabilities (EEC)**
 - **These guidelines represent IC maker consensus on high level requirements and capabilities**
- **Device makers are now working with suppliers to analyze and clarify these requirements in order to transition from requirements definition to standards development and implementation**
 - **Hence the ISMT EEC USAD (User System Analysis Doc) WG**
 - **This is a globalization of the same process used for e-Diagnostics**
 - **IC Makers defined the original set of guidelines**
 - **IC Makers and Suppliers defined the e-Diagnostics Guidebook**
- **The IEE TF is the entry point to the SEMI Standards process**
 - **USAD to set direction for standards activities**
 - **IEE TF to coordinate activity and ensure technical compatibility**
 - **New task forces to be spawned for specific standards**

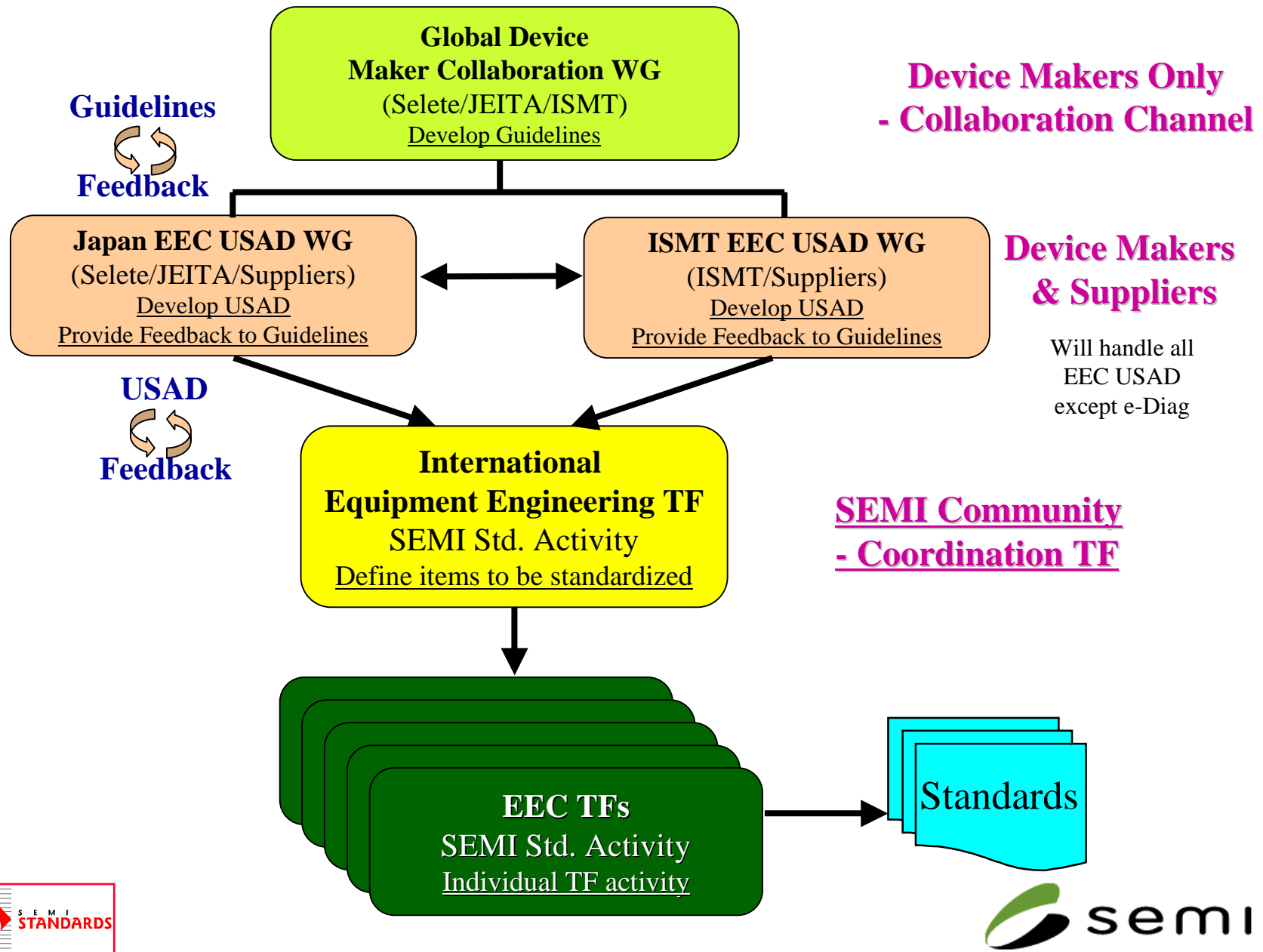
**Global Device
Maker Collaboration WG**
(Selete/JEITA/ISMT)
Develop Guidelines

EEC USAD WG
(Device Makers/Suppliers)
Develop USAD
Provide Feedback to GLs

**International Equipment
Engineering TF**
SEMI Std. Activity
Define items to be standardized



Relationships of EE Work Groups



EEC USAD WG Charter and Scope

Charter

- Develop the necessary analysis and documentation to successfully transition from the Global EEC guidelines to standards / implementation

Scope

- Give feedback to the Global EEC Guidelines
- Develop User System Analysis documentation to give direction/priority to standards bodies
- Analyze and adopt existing standards where appropriate
- Sponsor prototyping efforts where appropriate

Strategies

- Define a phased approach based on joint priorities
 - Develop a fast-track schedule similar to e-Diagnostics
- Charter sub-teams to develop detailed proposals
- Use the WG to review detailed proposals and status
- Partner with SEMI to synchronize standards milestones

EEC USAD WG
(Device Makers/Suppliers)
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USAD Sub-Teams

- **Japan USAD**

- **Business SWG - Business related issues study**
- **Infrastructure SWG - EES interface and connectivity**
- **Application SWG - EES application study**

- **U.S. USAD**

- **Data Taxonomy – Outlining the data to be provided by the EEDI (data port)**

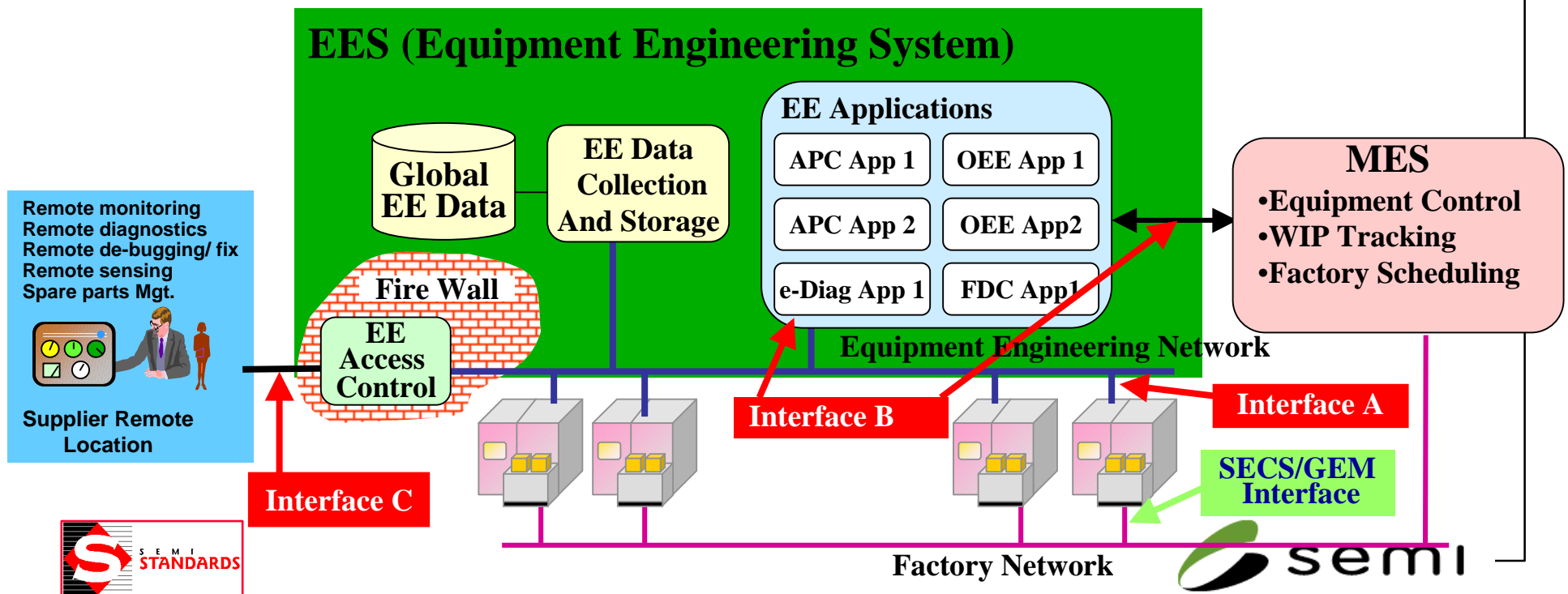
EEC USAD WG
(Device Makers/Suppliers)
Develop USAD
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USAD Deliverables

- Give feedback to the Phase 1 Global EEC Guidelines based on detailed analysis
- Analyze the data, protocol, and security system requirements for support of the Equipment Engineering Data Interface (Interface A)
- Analyze the data, protocol, and security system requirements for open EEC Application Interfaces (Interface B)
- Analyze the data and protocol system requirements for external access to EEC implementations (Interface C)

EEC USAD WG
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Develop USAD
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IEE Charter

- This task force will maintain the architectural integrity of models and modifications to models produced by task forces responsible for developing Equipment Engineering System (EES)-related standards.
- This task force will develop and maintain the roadmap for the development of standards describing the implementation of Equipment Engineering System (EES) capabilities.
- This task force will actively work to continually communicate the scope, organization, and results of EES-related work to the SEMI community.

International Equipment
Engineering TF
SEMI Std. Activity
Define items to be standardized



IEE Scope

- Identification of required areas for standardization of EEC capabilities and guidelines
- Definition of the timeline for development of EEC standards
- Resolution of overlap in scope and output produced by the EEC related TF's.
- Coordination of a consistent architectural approach among EEC related task forces
 - Usage analysis for EEC application
 - Content description (Data Dictionary/Object Model/XML schema, etc.)
 - Infrastructure analysis
- Maintenance and version control (but not development) of common architectural artifacts
 - EES UML models, use cases, XML schema, taxonomies, etc.

International Equipment
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IEE Deliverables

IEE will not necessarily create standards directly, but it will create the following:

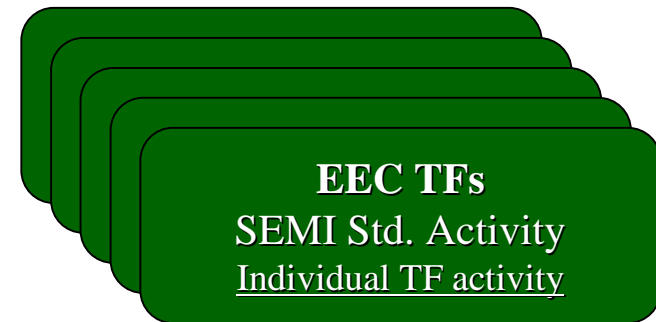
- **EEC standards roadmap**
- **Task Force coordination reports to the SEMI I&CC**
- **White Papers to relate overall EEC direction to standards details**
- **Common architectural artifacts for use by SEMI TF's**
 - **UML object models (reference models)**
 - **Data Models**
 - **XML Schemas**

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Related Standards Task Forces

- **Most SEMI Task Forces Have Influence on EEC Standardization**
 - **Diagnostics Data Acquisition (DDA)**
 - **Recipe and Adjustable Parameters (RaP)**
 - **Object-Based Equipment Model (OBEM)**
 - **Process Control Systems (PCS)**
 - **XML**
 - **SensorBus**
 - **Equipment Control Systems**
 - **Integrated Metrology**
 - **Equipment Integration**
 - **Equipment Performance Tracking (EPT)**



Standards Challenges



- **Managing Scope**
- **Relationship to EEC Collaboration & USAD WG's**
 - Possible Overlap w/USAD WG's and Other TF's
- **Making True Coordination Happen Among The TF's**
 - After creation, TF's have a life of their own
 - No formal “power” relationship exists between SEMI TF's
- **Working With Pre-Existing TF's Performing Related Work**
 - No formal mechanism for influencing output of these groups
 - Pre-existing TF's may have scope outside EE concerns and may not be willing to coordinate as well as we'd like
- **Version control of architectural elements**
 - SEMI does not acknowledge things which are not represented in a PDF as a “document”
 - Task forces may be producing schemas, UML models, and SDL's, which should be consistent across all standards
 - Some artifacts will need to be public, and are not useful in PDF

