Information & Control NA TC Chapter

Meeting Summary and Minutes

NA Fall Meetings
Wednesday, November 8, 2023
9:00-12:00 PM, 1:00-4:00 PM Pacific

TC Chapter Announcements

Next TC Chapter Meeting

Wednesday, March 27, 2024

9:00-12:00 PM, 1:00-4:00 PM Pacific

SEMI HQ

Table 1 Meeting Attendees

Italics indicate virtual participants

Co-Chairs: James Moyne (Applied Materials / University of Michigan), Brian Rubow (Cimetrix), Jack Ghiselli (Ghiselli Consulting)

SEMI Staff: Michelle Sun

Company	*Last*	*First*	*Company*	*Last*	*First*
Agileo Automation	*Golra*	*Fahad*	Intel Corp.	*Bond*	*Ryan*
Applied Materials, Inc	*Moyne*	*James*	Intel Corporation	*Maloney*	*Chris*
Arlington Laboratory	*Judd*	*Daniel*	KLA Corporation	*Durairaj*	*Arunaramani*
Cimetrix by PDF/SOLUTIONS	*Howard*	*Richard*	PEER Group Inc.	*Fuchigami*	*Albert*
Cimetrix Incorporated	*Tracey*	*Tami*	Samsung	*Park*	*Jae Yong*
Cimetrix Incorporated	*Rubow*	*Brian*	SCREEN Semiconductor Solution Co., Ltd.	Nishimura	Takayuki
Ghiselli Consulting	Ghiselli	Jack	SEMI	*Nguyen*	*Thai*
Hitachi High-Tech Corporation	*Yamaki*	*Takuma*	SEMI	Sun	Michelle

Table 2 Leadership Changes

WG/TF/SC/TC Name	*Previous Leader*	*New Leader*
ABFI Task Force	Luis Lim (Miracom)	Peter Meusburger (Besi)
ABFI Task Force	Luis Lim (Miracom)	Jason Cicero (Micron)

Table 3 Committee Structure Changes

Previous WG/TF/SC Name	*New WG/TF/SC Name or Status Change*
None	

Table 4 Ballot Results

Document #	*Document Title*	*Committee Action*
6743B	Revision to SEMI E95-1101, Specification for Human Interface for Semiconductor Manufacturing Equipment	**Failed**
6836	Line Item Revision to SEMI E87-0921, Specification for Carrier Management (CMS) and SEMI E87.1-0921, Specification for SECS-II Protocol for Carrier Management (CMS) and SEMI E90-0921, Specification for Substrate Tracking and E90.1-0312 (Reapproved 0921), Specification for SECS-II Protocol Substrate Tracking	
LI-1	Add name-value pair attributes to SEMI E90 substrate and SEMI E87 carrier objects for additional information.	**Failed**
6846	Reapproval of SEMI E54.1-0316, Specification for Sensor/Actuator Network Common Device Model	**Passed**
6847	Reapproval of SEMI E54.2-0316, Guide for Writing Sensor/Actuator Network (SAN) Letter Ballots	**Passed**
6849	Reapproval of SEMI E54.24-1116, Specification for Sensor/Actuator Network Specific Device Model of a Generic Equipment Networked Sensor (GENsen)	**Passed**
6926	New Standard: Specification for Equipment Operator Access Management and Monitoring	**Failed**
6948	Line Item Revisions to SEMI E142-0921 - Specification for Substrate Mapping, SEMI E142.1-0921 - Specification for XML Schema for Substrate Mapping, Line Item Revision to SEMI E142.2-0921 - Specification for SECS II Protocol For Substrate Mapping, Line Item Revision to SEMI E142.3-0921 - Specification for Web Services Protocol for Substrate Mapping, Line Item Revision to SEMI E142.4-0921 - Specification for Secs II Protocol For Substrate Mapping Using Item Transfer	
LI-1	Add TnR, Panel, PCB to SubstrateTypeEnum in schema	**Passed**
LI-2	Correct capitalization for all substrate types	**Passed**
LI-3	Add a DeviceData map example to Related Information 1 Map Examples	**Passed**
LI-4	Add diagrams to help clarify E142 usage for all substrate types to related information	**Passed with editorial changes**
7063	Reapproval of SEMI E39-1218, Specification for Object Services: Concepts, Behavior, and Services	**Passed**
7066A	Line Item Revision to SEMI E87-0921, Specification for Carrier Management (CMS) and SEMI E87.1-0921, Specification for SECS-II Protocol for Carrier Management (CMS)	
LI-1	Rework Carrier Ready to Unload Prediction (CaRTUP) functionality into Carrier Complete Prediction (CCP) functionality and address gaps	**Passed**
7114	Line Item Revision to SEMI E5-0323, Specification for the Generic Model for Communications and Control of Manufacturing Equipment (GEM) and SEMI E30-0423, Specification for the Generic Model for Communications and Control of Manufacturing Equipment (GEM)	
LI-1	Well-Known Names for E5, E30	**Passed with editorial changes**
LI-2	E30, E5 Errata	**Passed**
7115	Line Item Revision to SEMI E40-1218, Specification for Processing Management and SEMI E40.1-1218, Specification for SECS-II Protocol for Processing Management	
LI-1	Well-Known Names for E40	**Passed with editorial changes**

Table 4 Ballot Results

Document #	*Document Title*	*Committee Action*
7116	Line Item Revision to SEMI E87-0921, Specification for Carrier Management (CMS) and SEMI E87.1-0921, Specification for SECS-II Protocol for Carrier Management (CMS)	
LI-1	Well-Known Names for E87	**Passed with editorial changes**
LI-2	E87 Errata	**Passed**
LI-3	E87, E87.1 Technical Improvements and Clarifications	**Passed, Ratification Ballot to be Issued**
7117	Line Item Revision to SEMI E90-0921, Specification for Substrate Tracking and SEMI E90.1-0312 (Reapproved 0921), Specification for SECS-II Protocol Substrate Tracking	
LI-1	Well-Known Names for E90	**Passed, Ratification Ballot to be Issued**
LI-2	DV Clarification for E90	**Passed**
7118	Line Item Revision to SEMI E94-0314 (Reapproved 0819), Specification for Control Job Management and SEMI E94.1-0312 (Reapproved 0819), Specification for SECS-II Protocol for Control Job Management (CJM)	
LI-1	Well-Known Names for E94	**Passed with editorial changes**
7119	Line Item Revision to SEMI E116-0623, Specification for Equipment Performance Tracking and SEMI E116.1-0623, Specification for SECS-II Protocol for Equipment Performance Tracking (EPT)	
LI-1	Well-Known Names for E116	**Passed with editorial changes**
7120	Line Item Revision to SEMI E157-0611, Specification for Module Process Tracking	
LI-1	Well-Known Names for E157	**Passed with editorial changes**
7121	Reapproval of SEMI E39.1-1218, Specification for SECS-II Protocol for Object Services (OSS)	**Passed**
7123	Reapproval of SEMI E54.10-0600 (Reapproved 1017), Specification for Sensor/Actuator Network Specific Device Model for an In Situ Particle Monitor Device	**Passed**
7125	Reapproval of SEMI E133.1-0318 - Specification for XML Messaging for Process Control System (PCS)	**Passed**
7126	Reapproval of SEMI E145-0414 (Reapproved 0519), Classification for Measurement Unit Symbols in XML	**Passed**
7127	Reapproval of SEMI E128-0414 (Reapproved 0519), Specification for XML Message Structures	**Passed**
7128	Reapproval of SEMI E138-0217, Specification for XML Semiconductor Common Components	**Passed**

#1 **Passed** ballots and line items will be submitted to the ISC Audit & Review Subcommittee for procedural review.

#2 **Failed** ballots and line items were returned to the originating task forces for re-work and re-balloting or abandoning.

Table 5 Ratification Ballot Results

Document #	*Document Title*	*ISC A&R Action*
R6924A	New Standard: Specification for Equipment Management of Consumables and Durables (EMCD)	**Passed**

Document #	*Document Title*	*ISC A&R Action*
R6925A	New Subordinate Standard: Specification for SECS-II Protocol for Equipment Management of Consumables and Durables (EMCD)	**Passed**

Table 6 Activities Approved by the GCS between meetings of the TC Chapter

#	*Type*	*SC/TF/WG*	*Details*
7063	Ballot Authorization	GEM300 TF	Reapproval of SEMI E39-1218, Specification for Object Services: Concepts, Behavior, and Services

Table 7 Authorized Activities

Listing of all revised or new SNARF(s) approved by the Originating TC Chapter.

#	*Type*	*SC/TF/WG*	*Details*
7174	SNARF	DDA TF	Line Item Revision to SEMI E128-0414 (Reapproved 0519), Specification for XML Message Structures
7175	SNARF	DDA TF	Line Item Revision to SEMI E132-0923 Specification for Equipment Client Authentication and Authorization and SEMI E132.2-0923 Specification for Protocol Buffers for Equipment Client Authentication and Authorization (ECA)
7176	SNARF	DDA TF	Line Item Revision to SEMI E134-0923 Specification for Data Collection Management and SEMI E134.2-0923 Specification for Protocol Buffers of Data Collection Management
7177	SNARF	Sensor Bus TF	Line Item Revision to SEMI E54.20-0316 Specification for Sensor/Actuator Network Communications for EtherCAT
7178	SNARF	DDA TF	Revision to SEMI E164-0414 (0721), Specification for EDA Common Metadata
7179	SNARF	DDA TF	Revision to Add a New Subordinate Standard: Specification for EDA Common Metadata for Generic Model for Communication and Control of Manufacturing Equipment (GEM) to SEMI E164-0414 (0721), Specification for EDA Common Metadata
7180	SNARF	DDA TF	Revision to Add a New Subordinate Standard: Specification for EDA Common Metadata for Processing Management to SEMI E164-0414 (0721), Specification for EDA Common Metadata
7181	SNARF	DDA TF	Revision to Add a New Subordinate Standard: Specification for EDA Common Metadata for Carrier Management (CMS) to SEMI E164-0414 (0721), Specification for EDA Common Metadata
7182	SNARF	DDA TF	Revision to Add a New Subordinate Standard: Specification for EDA Common Metadata for Substrate Tracking to SEMI E164-0414 (0721), Specification for EDA Common Metadata
7183	SNARF	DDA TF	Revision to Add a New Subordinate Standard: Specification for EDA Common Metadata for Control Job Management to SEMI E164-0414 (0721), Specification for EDA Common Metadata
7184	SNARF	DDA TF	Revision to Add a New Subordinate Standard: Specification for EDA Common Metadata for Equipment Performance Tracker to SEMI E164-0414 (0721), Specification for EDA Common Metadata
7185	SNARF	DDA TF	Revision to Add a New Subordinate Standard: Specification for EDA Common Metadata for Time Synchronization and Definition of the TS-Clock Object to SEMI E164-0414 (0721), Specification for EDA Common Metadata
7186	SNARF	DDA TF	Revision to Add a New Subordinate Standard: Specification for EDA Common Metadata for Module Process Tracking to SEMI E164-0414 (0721), Specification for EDA Common Metadata
7188	SNARF	Sensor Bus TF	Withdrawal of SEMI E54.15-1107 Sensor/Actuator Network Communication Specification for SafetyBUS p

Table 7 Authorized Activities

Listing of all revised or new SNARF(s) approved by the Originating TC Chapter.

#	*Type*	*SC/TF/WG*	*Details*
7189	SNARF	Sensor Bus TF	Withdrawal of SEMI E54.16-1106 (Reapproved 1211) Specification for Sensor/Actuator Network Communications for Lonworks
7190	SNARF	Sensor Bus TF	Line Item Revision to SEMI E54.19 - Specification for Sensor/Actuator Network for MECHATROLINK

#1 SNARFs and TFOFs are available for review on the SEMI Web site at:

http://downloads.semi.org/web/wstdsbal.nsf/TFOFSNARF

Table 8 Authorized Ballots

#	*When*	*TF*	*Details*
R7116	Cycle 9-2023	GEM300 TF	Line Item Revision to SEMI E87-0921, Specification for Carrier Management (CMS) and SEMI E87.1-0921, Specification for SECS-II Protocol for Carrier Management (CMS)
R7117	Cycle 9-2023	GEM300 TF	Line Item Revision to SEMI E90-0921, Specification for Substrate Tracking and SEMI E90.1-0312 (Reapproved 0921), Specification for SECS-II Protocol Substrate Tracking
6743C	Cycle 2-2024	GUI TF	Revision to SEMI E95-1101, Specification for Human Interface for Semiconductor Manufacturing Equipment
6926A	Cycle 2-2024	CDS TF	New Standard: Specification for Equipment Operator Access Management and Monitoring
6836A	Cycle 2-2024	GEM300 TF	Line Item Revision to SEMI E87-0921, Specification for Carrier Management (CMS) and SEMI E87.1-0921, Specification for SECS-II Protocol for Carrier Management (CMS) and SEMI E90-0921, Specification for Substrate Tracking and E90.1-0312 (Reapproved 0921), Specification for SECS-II Protocol Substrate Tracking
7067	Cycle 2-2024	PCS TF	Line Item Revision to SEMI E133-1218, Specification for Automated Process Control Systems Interface and SEMI E133.1-0318, Specification for XML Messaging for Process Control System (PCS)
7174	Cycle 2-2024	DDA TF	Line Item Revision to SEMI E128-0414 (Reapproved 0519), Specification for XML Message Structures
7175	Cycle 2-2024	DDA TF	Line Item Revision to SEMI E132-0923 Specification for Equipment Client Authentication and Authorization and SEMI E132.2-0923 Specification for Protocol Buffers for Equipment Client Authentication and Authorization (ECA)
7176	Cycle 2-2024	DDA TF	Line Item Revision to SEMI E134-0923 Specification for Data Collection Management and SEMI E134.2-0923 Specification for Protocol Buffers of Data Collection Management
7177	Cycle 2-2024	Sensor Bus TF	Line Item Revision to SEMI E54.20-0316 Specification for Sensor/Actuator Network Communications for EtherCAT
7178	Cycle 2-2024	DDA TF	Revision to SEMI E164-0414 (0721), Specification for EDA Common Metadata
7179	Cycle 2-2024	DDA TF	Revision to Add a New Subordinate Standard: Specification for EDA Common Metadata for Generic Model for Communication and Control of Manufacturing Equipment (GEM) to SEMI E164-0414 (0721), Specification for EDA Common Metadata
7180	Cycle 2-2024	DDA TF	Revision to Add a New Subordinate Standard: Specification for EDA Common Metadata for Processing Management to SEMI E164-0414 (0721), Specification for EDA Common Metadata
7181	Cycle 2-2024	DDA TF	Revision to Add a New Subordinate Standard: Specification for EDA Common Metadata for Carrier Management (CMS) to SEMI E164-0414 (0721), Specification for EDA Common Metadata

Table 8 Authorized Ballots

#	When	TF	Details
7182	Cycle 2-2024	DDA TF	Revision to Add a New Subordinate Standard: Specification for EDA Common Metadata for Substrate Tracking to SEMI E164-0414 (0721), Specification for EDA Common Metadata
7183	Cycle 2-2024	DDA TF	Revision to Add a New Subordinate Standard: Specification for EDA Common Metadata for Control Job Management to SEMI E164-0414 (0721), Specification for EDA Common Metadata
7184	Cycle 2-2024	DDA TF	Revision to Add a New Subordinate Standard: Specification for EDA Common Metadata for Equipment Performance Tracker to SEMI E164-0414 (0721), Specification for EDA Common Metadata
7185	Cycle 2-2024	DDA TF	Revision to Add a New Subordinate Standard: Specification for EDA Common Metadata for Time Synchronization and Definition of the TS-Clock Object to SEMI E164-0414 (0721), Specification for EDA Common Metadata
7186	Cycle 2-2024	DDA TF	Revision to Add a New Subordinate Standard: Specification for EDA Common Metadata for Module Process Tracking to SEMI E164-0414 (0721), Specification for EDA Common Metadata
7188	Cycle 2-2024	Sensor Bus TF	Withdrawal of SEMI E54.15-1107 Sensor/Actuator Network Communication Specification for SafetyBUS p
7189	Cycle 2-2024	Sensor Bus TF	Withdrawal of SEMI E54.16-1106 (Reapproved 1211) Specification for Sensor/Actuator Network Communications for Lonworks
7190	Cycle 2-2024	Sensor Bus TF	Line Item Revision to SEMI E54.19 - Specification for Sensor/Actuator Network for MECHATROLINK

Table 9 SNARF(s) Granted a One-Year Extension

#	TF	Title	Expiration Date
6743	GUI TF	Revision to SEMI E95-1101, Specification for Human Interface for Semiconductor Manufacturing Equipment	11/8/2024

Table 10 SNARF(s) Abolished

#	TF	Title
6565	CDS TF	New Standard: Specification for Application Accesslisting
6949	Sensor Bus TF	Line Item Revisions to SEMI E54, SEMI E54.1, SEMI E54.10, SEMI E54.11, SEMI E54.12, SEMI E54.13, SEMI E54.14, SEMI E54.15, SEMI E54.16, SEMI E54.17, SEMI E54.18, SEMI E54.19, SEMI E54.2, SEMI E54.20, SEMI E54.21, SEMI E54.22, SEMI E54.23, SEMI E54.24, SEMI E54.3, SEMI E54.4, SEMI E54.7, SEMI E54.8, SEMI E54.9

Table 11 Standard(s) to receive Inactive Status

Standard Designation	Title
None	

Table 12 New Action Items

Item #	Assigned to	Details
1	Thai Nguyen (SEMI)	In SVM, move IP Check to the bottom center of the screen. Add timer.
2	Thai Nguyen (SEMI)	In the new balloting system, change "Comments" to Comments and/or Negatives" under voting page for Rejects - **DONE**

Table 12 New Action Items

Item #	*Assigned to*	*Details*
3	Michelle Sun (SEMI)	In the Meeting Minutes, include a note that NA I&C supports JP effort to revise SEMI E30

Table 13 Previous Meeting Action Items

Item #	*Assigned to*	*Details*
1	Thai Nguyen (SEMI)	In SVM, there are duplicate voters when they add themselves, and you cannot remove someone you've added manually - **OPEN**
2	Thai Nguyen (SEMI)	In SVM, move timer the screen so it doesn’t jump during voting - **OPEN**

1 Welcome, Reminders, and Introductions

Jack Ghiselli (Ghiselli Consulting) called the meeting to order at 9:00. The meeting reminders on antitrust issues, intellectual property issues and holding meetings with international attendance were reviewed. Attendees introduced themselves.

Attachment: Required Meeting Elements Nov 2022

2 Review of Previous Meeting Minutes

The TC Chapter reviewed the minutes of the previous meeting.

Motion:	Approve the minutes as written
By / 2nd:	By: James Moyne / Applied Materials, Inc. Second: Brian Rubow / Cimetrix Incorporated
Discussion:	None
Vote:	15-Y 0-N. Motion passed.

Attachment: NA-IC-TC-Chapter-Minutes-July2023

3 Liaison Reports

3.1 *Information & Control China TC Chapter*

Michelle Sun (SEMI) reported for the Information & Control China TC Chapter. Of note:

- Meeting Schedule
    - Last Meeting: August 8, 2023
    - Next Meeting: TBD
- Leadership Changes
    - Jia Lu (Tongfu Microelectronics) stepped down as ABFI co-leader
- Ballot Results
    - Ballot 7018, Line Item Revisions to SEMI E87-0921, Specification for Carrier Management (CMS) and E87.1-0921, Specification for SECS-II Protocol for CIn section 10.7.3.4.3, added BypassScanSlotMap to be one condition of Slot Map Verification OKarrier Management (CMS)
        - Line Item 1 – Passed, Ratification Ballot to be issued in Cycle 2-2023
        - Line Items 2, 3, 4, 5, 6 - Passed

Attachment: China I&C Committee Chapter Liaison Report -v2

3.2 *Information & Control Japan TC Chapter*

Takayuki Nishimura (SCREEN) reported for the Information & Control Japan TC Chapter. Of note:

- Meeting Schedule
    - Last Meeting: September 13, 2023
    - Next Meeting: December 15, 2023
- Task Force Updates
    - Draft Document 7005 Line Item Revision to SEMI E91-1217: Specification for Prober Specific Equipment Model (PSEM)
        - Under development
    - Document 6770 (Line-Item revision to E169-0615), Document 6861 (Line-Item revision to E99-0307), and Document 6862 (Line-Item revision to E99.1-0307)
        - Published

During the discussion, it was agreed that NA I&C supports JP I&C efforts to revise SEMI E30.

Attachment: JA_I&C_Liaison_20231012_v1.2

3.3 *Information & Control Korea TC Chapter*

Michelle Sun (SEMI) reported for the Information & Control Korea TC Chapter. Of note:

- Meeting Schedule
    - Last Meeting: September 22, 2023
    - Next Meeting: February 2, 2024
- SEMI Software Standards Tutorials
    - Meeting Date: 11/3 @ Suwon, Gyeonggi-do, Korea
    - Courses
        - SECS/GEM
        - EDA

Attachment: Liaison report_InC_KR__Nov2023

3.4 *Information & Control Taiwan TC Chapter*

Michelle Sun (SEMI) reported for the Information & Control Taiwan TC Chapter. Of note:

- Meeting Schedule
    - Last Meeting: August 18, 2023
    - Next Meeting: April 12, 2024
- Ballot Results
    - 6938, New Standard: Guide for Equipment Edge Data Governance (EEDG) [Failed]
- Authorized Ballots
    - Cycle 2-2024
        - 6938A, New Standard: Guide for Equipment Edge Data Governance (EEDG) [Failed]

Attachment: I&C Taiwan Liasion report_Sept_2023

3.5 *SEMI Staff Report*

Michelle Sun (SEMI) gave the SEMI Staff Report. Of note:

2024 Calendar of Events

- SEMICON Korea: Jan 31-Feb 2, 2024
- SEMICON China: March 20-22, 2024

- SEMICON SEA: May 28-30, 2024
- SEMICON West: July 9-11, 2024

Upcoming NA Meetings

- NA Standards Spring Meetings
  - March 25-28, 2024
  - SEMI HQ, Milpitas
- SEMICON West
  - July 8-11, 2024
  - Moscone Center, San Francisco

Critical Dates for SEMI Standards Ballots – 2023 & 2024

2023	**Ballot Submission Deadline**	**Voting Opens**	**Voting Closes**
Cycle 1	January 3	January 17	February 16
Cycle 2	February 1	February 14	March 15
Cycle 3	March 6	March 20	April 19
Cycle 4	April 24	May 8	June 7
Cycle 5	May 7	May 21	June 20

SEMI Standards Publications

- Total SEMI Standards in portfolio: 1,085
- Includes 335 Inactive Standards

New Standards

Cycle	**Designation**	**Title**	**Committee**	**Region**
August 2023	SEMI P49 (Preliminary)	Specification for Experimental Curvilinear Multigon Extension to SEMI P39	Micropatterning	NA
August 2023	SEMI PV101	Guide for Scrap Judgement of Photovoltaic Modules in Building	Photovoltaic	CH
August 2023	SEMI D84	Test Method for Warm-Up Properties of Display Picture Quality	FPD – Metrology	JA
September 2023	SEMI F121	Guide for Evaluating Metrology for Particle Precursors in Ultrapure Water	Liquid Chemicals	NA
September 2023	SEMI C105	Guide for Trace Iron Analysis in High Purity 2- Propanol (IPA)	Process Chemicals	NA

September 2023	SEMI M93	Test Method for Quantifying Basal Plane Dislocation Density in 4H-SiC by X-Ray Diffraction Topography/Imaging	Compound Semiconductor Materials	EU

SVM – Addressing Critical Issues

- User Data Quality
    - Problem – User Data in SVM shows incorrect information
    - Cause – The SVM Login process has a separate User Database than the existing Online Ballot System and requires ongoing synchronization. Also affects https://connect.semi.org
- Progress
    - Completed internal testing
    - Documentation and Training in development
- Open Community Preview of the New Online Ballot System during Cycle 9, 2023
- Committee Members to become familiar with new interface and provide feedback
- Open New Online Ballot System for Live Ballot voting for Cycle 1, 2024

SNARF 3-Year Status

- 6563, Reapproval for SEMI E54.18-0914: Specification for Sensor/Actuator Network Specific Device Model for Vacuum Pump Device
- 6564, Reapproval for SEMI E54.22-0914: Specification for Sensor/Actuator Network Specific Device Model for Vacuum Preassure Gauges
- 6565, New Standard: Specification for Application Accesslisting
- 6722, Reapproval of SEMI E54.11 - Specification for Sensor/Actuator Network Specific Device Model for Endpoint Devices
- 6724, Reapproval of SEMI E54.3 - Specification for Sensor/Actuator Network Specific Device Model for Mass Flow Device
- 6743, Revision to SEMI E95-1101, Specification for Human Interface for Semiconductor Manufacturing Equipment

Attachment: IC Staff Report Nov 2023 v3

4 Ballot Review

NOTE 1: TC Chapter adjudication on ballots reviewed is detailed in the Audits & Review (A&R) Subcommittee Forms for procedural review. The A&R forms are available as attachments to these minutes. The attachment number for each balloted document is provided under each ballot review section below.

4.1 Document #6743B, Revision to SEMI E95-1101, Specification for Human Interface for Semiconductor Manufacturing Equipment

Negative Text:	Use of passive mode is not allowed for expressing a requirement in the Specification sub-type of Standard. Reason/Justification: Style Manual Table 4 #4-5 (Supika Mashiro / TEL)
Motion:	Negative is related and persuasive.
By / 2nd:	By: Tami Tracey / Cimetrix Incorporated Second: Jack Ghiselli / Ghiselli Consulting
Discussion:	None
Vote:	14-Y 0-N. Motion passed.

Motion:	This Document failed TC Chapter review and will be returned to the TF for rework.
By / 2nd:	By: Tami Tracey / Cimetrix Incorporated Second: Jack Ghiselli / Ghiselli Consulting
Discussion:	None
Vote:	12-Y 0-N. Motion passed.

4.2 Document #6836, Line Item Revision to SEMI E87-0921, Specification for Carrier Management (CMS) and SEMI E87.1-0921, Specification for SECS-II Protocol for Carrier Management (CMS) and SEMI E90-0921, Specification for Substrate Tracking and E90.1-0312 (Reapproved 0921), Specification for SECS-II Protocol Substrate Tracking

4.2.1 Line Item #1: Add name-value pair attributes to SEMI E90 substrate and SEMI E87 carrier objects for additional information

Negative Text:	AdditionalInfoValue should not be restricted to ASCII. Any format should be supported. (Peter Meusburger / BESI)
Motion:	Negative is related and persuasive.
By / 2nd:	By: Brian Rubow / Cimetrix Incorporated Second: Chris Maloney / Intel Corporation
Discussion:	None
Vote:	11-Y 0-N. Motion passed.

Motion:	Line item(s) [1] failed TC Chapter review and will be returned to the TF for rework
By / 2nd:	By: Brian Rubow / Cimetrix Incorporated Second: Chris Maloney / Intel Corporation
Discussion:	None
Vote:	11-Y 0-N. Motion passed.

4.3 Document #6926, New Standard: Specification for Equipment Operator Access Management and Monitoring

Negative Text:	The Requirement Identifiers([Esss.ss-RQ-nnnnn-nn]) is not specified. It should be filled in even during the Ballot stage (Toyama Takayuki / TEL)
Motion:	Negative is related and persuasive.
By / 2nd:	By: Ryan Bond / Intel Corp. Second: Jack Ghiselli / Ghiselli Consulting
Discussion:	None
Vote:	12-Y 0-N. Motion passed.

Motion: This Document failed TC Chapter review and will be returned to the TF for rework.
By / 2nd: By: Ryan Bond / Intel Corp.
Second: Jack Ghiselli / Ghiselli Consulting
Discussion: None
Vote: 14-Y 0-N. Motion passed.

For the other documents which passed review, please refer to their respective A&R Forms.

5 Subcommittee and Task Force Reports

5.1 *CDS Task Force*

Ryan Bond (Intel) reported for the CDS Task Force. Of note:

Ballot 6926 – Equipment Operator Access Management and Monitoring

- Discussed feedback from voters
- Update will be posted to connect@SEMI site

Motion: Abolish Document #6565, New Standard: Specification for Application Accesslisting
By / 2nd: By: Ryan Bond / Intel Corp.
Second: Richard Howard / Cimetrix by PDF/SOLUTIONS
Discussion: None
Vote: 10-Y 0-N. Motion passed.

Attachment: CDS TF Report 20230118

5.2 *DDA Task Force*

Albert Fuchigami (PEER Group) reported for the DDA Task Force. This report contained information on ---- .

- New SNARFs proposals (12)
  - Line Item Revisions to SEMI E132 and E132.2
  - Line Item Revisions to SEMI E134 and E134.2
  - Line Item Revision to SEMI E128
- Revision to SEMI E164
- Revision to add new SEMI E164 Subordinate Standards
  - EDA Common Metadata for SEMI E30
  - EDA Common Metadata for SEMI E40
  - EDA Common Metadata for SEMI E87
  - EDA Common Metadata for SEMI E90
  - EDA Common Metadata for SEMI E94
  - EDA Common Metadata for SEMI E116
  - EDA Common Metadata for SEMI E148
  - EDA Common Metadata for SEMI E157
- EDA Software Vendor Tests
  - Test Session #2 (Spring 2024) - Focus on interoperability with updated SEMI E132 functionality and SEMI E125.
  - Test Session #3 (SEMICON West 2024) – Focus on interoperability with SEMI E134 functionality
  - Developing test framework and .proto files that address known issues to use for the Test Sessions.
  - RSVP participation interest to Brian Rubow and Albert Fuchigami.
- Backlog of authorized DDA ballots have been published (Aug 2023 and Sept 2023)

  - Starting new LI Rev ballots to address issues that TF members have found so far in published standards. (including errors in .proto files)
- Reviewed prototyping work to convert existing SEMI E164's SOAP/XML Complementary Files to JSON/C format. Successful - no technology issues preventing using JSON/C format for new SEMI E164 complementary files.

Freeze 3 Ballot Status

Standard (Ballot)	**Ballot Status**	**Lead**
E178 (63E00)	Published – 01/10/2020	Mitch Sakamoto (ZAMA)
E121 Reapproval (6932)	Published – 04/23	Michelle Sun (SEMI)
E179 (6947)	Published – 06/23	Albert Fuchigami (PEER)
E125, E125.2 (7001)	Published – 0923	Albert Fuchigami (PEER) / Brian Rubow (Cimetrix)
E132, E132.2 (R7002)	Published – 0923	Albert Fuchigami (PEER) / Brian Rubow (Cimetrix)
E134, E134.2 (7003)	Published – 0923	Albert Fuchigami (PEER) / Brian Rubow (Cimetrix)
E120.2 (7017)	Published – 0823 (Triggered SEMI E120-0823)	Albert Fuchigami (PEER)
E145 Reapproval (7126)	In Adjudication	Michelle Sun (SEMI)
E128 Reapproval (7127)	In Adjudication	Michelle Sun (SEMI)
E128 Reapproval (7128)	In Adjudication	Michelle Sun (SEMI)
E164 (6930)	In Development	Alan Weber (Cimetrix)
E164 (TBD)	To be proposed	Alan Weber / Brian Rubow (Cimetrix) / Albert Fuchigami (PEER)
New SEMI E164 Subordinate Stds (TBD)	To be proposed	Alan Weber / Brian Rubow (Cimetrix) / Albert Fuchigami (PEER)
E132, E132.2 (TBD)	To be proposed	Albert Fuchigami (PEER) / Brian Rubow (Cimetrix)
E134, E134.2 (TBD)	To be proposed	Albert Fuchigami (PEER) / Brian Rubow (Cimetrix)
E128 (TBD)	To be proposed	Albert Fuchigami (PEER)

Attachment: DDA TF Report - Nov 2023_Rev 1.1

5.3 *EDP Task Force*

Jae Yong Park (Samsung) reported for the EDP Task Force. Of note:

Meeting Results (Technical Summary)

- Etch Component Working Group fleshed out OES (Optical Emission Spectroscopy) Data categorization and getting consensus for Level 1 categories.
- Working on common definitions of shareable data and non-shareable data between EDP and Equipment Edge Data Governance (EEDG) Task Force in Taiwan.
- Presented on the EDP Task Force Initiative at APC-SM Conference (October 2023). Lots of interest in the EDP topic.

Attachment: EDP TF Report draft- Nov 23_Rev 1.1

5.4 *GUI Task Force*

Tami Tracey (Cimetrix) reported for the GUI Task Force. Of note:

Results of voting on 6743B

- Discussion of Negatives and Comments
- 1 of 1 Negatives discussed
- 2 of 2 Comments discussed
- One comment included a copy of the draft 6743B with 8 embedded comments. The 8 specific comments in this document were discussed individually

Motion:	I move that the I&CC accept the GUI Task Force recommendation to grant a one-year extension to SNARF # 6743 – Revision to SEMI E95-1101, Specification for Human Interface for Semiconductor Manufacturing Equipment
By / 2nd:	By: Tami Tracey / Cimetrix Incorporated Second: Brian Rubow / Cimetrix Incorporated
Discussion:	None
Vote:	10-Y 0-N. Motion passed.

Attachment: GUI TF Report - 2023-11-07

5.5 *PCS Task Force*

James Moyne (AMAT/University of Michigan) reported for the PCS Task Force. Of note:

New Ballots

- 7067: E133-removal of restricted bias terms – to be balloted in Cycle 2

New Business

- ABFI TF
  - Metrology for fault analysis; may fit into E133.
  - E133 might be a good structure (common input / output structure) for the data organization/collection and how the data is used
  - We need to talk about JSON vs. E133.1 XML, etc.
  - Definitions and requirements of the individual data types needs a home; this might be a separate standard or maybe under EDP
  - EDP TF might be a home as to what data is required and optional in collection
  - Perhaps a “dot standard”?
  - Next steps: Meet next Monday at 1pm EST, 10am, PST, 11am MST
- Longer term TF plans
  - Leverage output of NIST Roadmap for AI in high-mix project output
  - Possible NSF Center for Digital Twins in Manufacturing; SEMI defined as one of the technology transfer avenues
  - Contact James for information on either of these items (moyne@umich.edu)

Attachment: PCS-TF-report20231107a

5.6 *ABFI Task Force*

Brian Rubow (Cimetrix) reported for the ABFI Task Force. Of note:

Ballots

- Adjudicated 6948, discussing at length the best way to handle the comment feedback.
- Ballot R6924A passed: New Consumables and Durables specification

- Ballot R6925A passed: New subordinate Consumable and Durables specification

New Business

- Discussed new standard alternatives presented by Christian Hollerith (Infineon)
    - New standard with a JSON schema for integrated workflow
    - Formed a focus group made up of Christian Hollerith (Infineon), Chris Maloney (Intel), Dave Huntley (PDF Solutions) to meet offline to discuss the SNARF name, purpose, scope plus overlap with E133, E142, KLARF.

Attachment: SEMI NA-ICC-ABFI-TF Report Fall 2023

5.7 *GEM300 Task Force*

Brian Rubow (Cimetrix) reported for the ABFI Task Force. Of note:

- Ballot Adjudication
- Passed in the Task Force
    - 7121 superclean
    - 7066A superclean
    - 7114 LI #1 with 5 editorial changes
    - 7114 LI #2 superclean
    - 7115 with editorial change
    - 7116 LI #1 with 1 editorial change
    - 7116 LI #2 superclean
    - 7116 LI #3
    - 7117 LI #2 superclean
    - 7118 with 1 editorial change
    - 7119 with 1 editorial change
    - 7120 with 1 editorial change
- Ratification Ballot in the Task Force
    - 7116 LI #3 with editorial change
    - 7117 LI #1 with editorial change
- Failed in the Task Force
    - 6836
- Lots of adjudication, discussions but ran out of time (10 ballots!!)
    - Needed 2 more hours
    - Unable to complete adjudication
    - Unable to review Japan initiated E30 SNARF
    - Unable to discuss CDS request to add SVID requirements
    - Unable to discuss ballot 6836A

Attachment: SEMI NA-ICC-GEM300-TF Report Fall 2023

5.8 *ESEC Task Force*

- SNARF to revise E167/E167.1 ready for approval
    - Investigate adding a process module concept (update state diagram)
    - Investigate updating the purpose and scope of E167

- Replaces SNARF 6923 which included E175

- SNARF for E175 line item changes will follow to maintain alignment of terms

Attachment: SEMI_ESEC_071123 - Rev 1.1

5.9 *Sensor Bus Task Force*

Ballots Passed

- 6846 – Reapproval of SEMI E54.1-0316, Specification for Sensor/Actuator Network Common Device Model.
- 6847 – Reapproval of SEMI E54.2-0316, Guide for Writing Sensor/Actuator Network.
- 6849 – Reapproval of SEMI E54.24-1116, Specification for Sensor/Actuator Network Specific Device Model of a Generic Equipment Networked Sensor (GENSen).
- 7123 – Reapproval of SEMI E54.10-0600 (Reapproved 1017), Specification for Sensor/Actuator Network Specific Device Model for An in Situ Particle Monitor Device.

New SNARFs

- Line Item Revision to E54.20 – SAN CS for EtherCat (0316)
  - Revise for RBT;
  - Add models E54.22 & E54.24.
- Withdrawal of E54.15 – SAN CS for SafetyBUS p (1107)
  - Incomplete, Never Implemented (0 device models);
  - Not compliant with modern E54.
- Withdrawal of E54.16 – SAN CS for LonWorks (1106)
  - Incomplete, Never Implemented (0 device models);
  - Not compliant with modern E54.

Revised SNARFs

- SNARF 6949
  - SNARF 6949 – Line Item Revisions to all SEMI E54 subordinate standards
  - Remove rationale/scope items that are inconsistent with SEMI E54.1 and E54.2

Motion:	Abolish SNARF Document #6949
By / 2nd:	By: Daniel Judd / Arlington Laboratory Second: Jack Ghiselli / Ghiselli Consulting
Discussion:	None
Vote:	9-Y 0-N. Motion passed.

Attachment: SEMI-NA-IC-TC_SB-TF-Report_231108 - Rev 1.2

6 New Business

6.1 *Co-Chair Nomination*

The NA I&C TC Co-chairs nominated Albert Fuchigami (PEER Group) as a new co-chair for his numerous contributions to the GEM300, ABFI, CDS, EDP, EEDG, and GUI Task Forces.

Motion:	Nominate Albert Fuchigami (PEER Group) as NA I&C Co-chair
By / 2nd:	By: Chris Maloney / Intel Corporation Second: Daniel Judd / Arlington Laboratory
Discussion:	None

Vote: 10-Y 0-N. Motion passed.

7 Next Meeting and Adjournment

The next meeting is scheduled for Wednesday, March 27, 2024, at SEMI HQ in Milpitas. See http://www.semi.org/standards-events for the current list of events.

Monday, March 24, 2024

- 9:00-10:00 – NA I&C Leadership Meeting
- 10:00-12:00 – ABFI Task Force
- 13:00-15:30 – DDA Task Force
- 15:30-17:30 – EDP Task Force

Tuesday, March 25, 2024

- 8:00-10:00 – GUI Task Force
- 10:00-11:00 – ESEC Task Force
- 11:00-12:00 – PCS Task Force
- 13:00-14:30 – GEM300 Task Force
- 14:30-16:00 – Sensor Bus Task Force
- 16:00-17:30 – CDS Task Force

Wednesday, March 27, 2024

- 9:00-12:00, 13:00-16:00 – I&C NA TC Chapter Meeting

Thursday, March 28, 2024

- 9:00-17:00 – DDA Software Vendor Test

Adjournment: 4:00.

Respectfully submitted by:

Michelle Sun
Coordinator
SEMI North America
Phone: 408.943.7982
Email: msun@semi.org

Minutes tentatively approved by:

Jack Ghiselli (Ghiselli Consulting), Co-chair	2/22/2024
James Moyne (AMAT/University of Michigan), Co-chair	2/22/2024

Table 14 Index of Available Attachments[#1]

Title	*Title*
Required Meeting Elements Nov 2022	CDS TF Report 20230118
NA-IC-TC-Chapter-Minutes-July2023	DDA TF Report - Nov 2023_Rev 1.1
China I&C Committee Chapter Liaison Report -v2	EDP TF Report draft- Nov 23_Rev 1.1
JA_I&C_Liaison_20231012_v1.2	GUI TF Report - 2023-11-07
Liaison report_InC_KR__Nov2023	PCS-TF-report20231107a
I&C Taiwan Liaison report_Sept_2023	SEMI NA-ICC-ABFI-TF Report Fall 2023
IC Staff Report Nov 2023 v3	SEMI NA-ICC-GEM300-TF Report Fall 2023
SEMI_ESEC_071123 - Rev 1.1	SEMI-NA-IC-TC_SB-TF-Report_231108 - Rev 1.2
6846	6847
6849	6948
7063	7066A
7114	7115
7116	7117
7118	7119
7120	7121
7123	7125
7126	7127
7128	

#1 Due to file size and delivery issues, attachments must be downloaded separately. A .zip file containing all attachments for these minutes is available at www.semi.org. For additional information or to obtain individual attachments, please contact [SEMI Staff Name] at the contact information above.