



Information and Control Global Technical Committee

North America (NA) Chapter

Meeting Summary and Minutes

SEMICON West 2019 Meeting

July 10, 2019 8:00AM – 12:30PM

Moscone Center, San Francisco, CA

TC Chapter Announcements

Next TC Chapter Meeting

November 6, 2019 at 8:00AM – 2:00PM

Milpitas, CA

Table 1 Meeting Attendees

Italics indicate virtual participants

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

SEMI Staff: Inna Skvortsova

<i>Company</i>	<i>Last</i>	<i>First</i>	<i>Company</i>	<i>Last</i>	<i>First</i>
Cimetrix	Rubow	Brian	AMAT/UMICH	Moyne	James
Ghiselli Consulting	Ghiselli	Jack	SCREEN	Takayuki	Nishimura
PEER Group	Fuchigami	Albert	Omron	Infelise	Nick
Intel	Bond	Ryan	KOKUSAI ELECTRIC CORPORATION	Mitsuhiro	Matsuda
Cimetrix	Howard	Richard	Edwards	Czerniak	Michael
Arlington Laboratory	Judd	Daniel	Yokogawa Solutions	Nakagawa	Takashi
Intel	Maloney	Chris	Cimetrix	Tami	Tracey
Intel	Meinhardt	Dawn	BESI	Muller	Bruno
Hitachi High Tech	Toyoshima	Yuko	Hitachi-High Tech	Yamaki	Takuma
Walker Mgmt Training	Walker	Toysha	SEMI	Skvortsova	Inna
<i>Doople</i>	<i>Kim</i>	<i>Hyungsu</i>	SEMI TW	Chang	Dean
<i>Veeco</i>	<i>Lawrence</i>	<i>Elena</i>	SEMI KR	Shim	Natalie

Table 2 Leadership Changes

<i>WG/TF/SC/TC Name</i>	<i>Previous Leader</i>	<i>New Leader</i>
Advanced Backend Factory Integration TF [NEW]	N/A	Dave Huntley (PDF Solutions) Brian Rubow (Cimetrix) Luis Lim (Miracom)



Table 3 Committee Structure Changes

<i>Previous WG/TF/SC Name</i>	<i>New WG/TF/SC Name or Status Change</i>
N/A	Advanced Backend Factory Integration TF [NEW]

Table 4 Ballot Results

<i>Document #</i>	<i>Document Title</i>	<i>Committee Action</i>
6532	Reapproval to SEMI E148-1109 (Reapproved 0614), <i>Specification for Time Synchronization and Definition of the TS-Clock Object</i>	On hold due to new IP
6348B	Revision to E30-0418, <i>Specification for the Generic Model for Communications and Control of Manufacturing Equipment (GEM)</i>	Passed, Ratification Ballot to be issued
6236	Line-item Revision to SEMI E172-1015, <i>Specification for SECS Equipment Data Dictionary (SEDD)</i> , to address editorial changes in complementary file	Passed with editorial changes
6470	Line Item Revision to SEMI E5-MMY, <i>Specification for SEMI Equipment Communications Standard 2 Message Content (SECS-II)</i>	Passed
6344	New Standard: <i>Specification for Protocol Buffers Semiconductor Common Components</i>	Failed
6346	Revision to Add a New Subordinate Standard: <i>Specification for Protocol Buffers for Equipment Client Authentication and Authorization (ECA)</i> to SEMI E132-1015, <i>Specification for Equipment Client Authentication and Authorization</i>	Failed

#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 Activities Approved by the GCS between meetings of the TC Chapter

<i>#</i>	<i>Type</i>	<i>SC/TF/WG</i>	<i>Details</i>
6527	SNARF	DDA TF	Revision to SEMI E125-0414, <i>Specification for Equipment Self Description (EqSD)</i> Approved by GCS 05/07/2019

Table 6 Authorized Activities

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

<i>#</i>	<i>Type</i>	<i>SC/TF/WG</i>	<i>Details</i>
6527	SNARF	DDA TF	Revision to SEMI E125-0414, <i>Specification for Equipment Self Description (EqSD)</i> Approved by GCS 05/07/2019
TBD	SNARF	CDS TF	New Standard: <i>Specification for Malware Free Equipment Integration</i> New SNARF distributed for 2-week member review and approved by TC
TBD	SNARF	CDS TF	New Standard: <i>Specification for Application Whitelisting</i> New SNARF distributed for 2-week member review and approved by TC
TBD	SNARF	GEM300 TF	Revision to SEMI E30-0418: <i>Specification for The Generic Model for Communications and Control of Manufacturing Equipment (GEM)</i> New SNARF distributed for 2-week member review and will be approved by GCS (Approval deferred to GCS due to time constraints at NA SEMICON West 2019 I&CC Meeting)
TBD	SNARF	DDA TF	Revision to SEMI E132-0419: <i>Specification for Equipment Client Authentication and Authorization</i> New SNARF distributed for 2-week member review and will be approved by GCS (Approval deferred to GCS due to time constraints at NA SEMICON West 2019 I&CC Meeting)



#	Type	SC/TF/WG	Details
TBD	SNARF	SB TF	Reapproval to SEMI E54.18-0914: <i>Specification for Sensor/Actuator Network Specific Device Model for Vacuum Pump Device</i> New SNARF approved by TC
TBD	SNARF	SB TF	Reapproval to SEMI E54.22-0914: <i>Specification for Sensor/Actuator Network Specific Device Model for Vacuum Pressure Gauges</i> New SNARF approved by TC
TBD	SNARF	SB TF	Line-item Revision to SEMI E54.23, <i>Specification for Sensor/Actuator Network Communications for CC-Link IE Field Network</i> New SNARF approved by TC

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

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

Table 7 Authorized Ballots

#	When	TF	Details
R6348B	Cycle 7-2019	GEM300 TF	Revision to E30-0418, <i>Specification for the Generic Model for Communications and Control of Manufacturing Equipment (GEM)</i> Ratification Ballot
6552	Cycle 7-2019	GEM300 TF	Line Item Revision to SEMI E5-0219: <i>Specification For SEMI Equipment Communications Standard 2 Message Content (SECS-II)</i>
6346A	Cycle 7-2019	DDA TF	Revision to Add a New Subordinate Standard: <i>Specification for Protocol Buffers for Equipment Client Authentication and Authorization (ECA)</i> to SEMI E132-1015, <i>Specification for Equipment Client Authentication and Authorization</i>
6347	Cycle 7-2019	DDA TF	Revision to Add a New Subordinate Standard: <i>Specification for Protocol Buffers of Data Collection Management</i> to SEMI E134-0414, <i>Specification for Data Collection Management</i>
6344A	Cycle 7-2019	DDA TF	New Standard: <i>Specification for Protocol Buffers Semiconductor Common Components</i>
6527	Cycle 7-2019	DDA TF	Revision to SEMI E125-0414, <i>Specification for Equipment Self Description (EqSD)</i>
TBD	Cycle 7-2019	DDA TF	Revision to SEMI E132-0419: <i>Specification for Equipment Client Authentication and Authorization</i> Ballot submission authorization by GCS
6553	Cycle 7-2019	DDA TF	Revision to SEMI E134-MMY: <i>Specification for Data Collection Management</i>
6345	Cycle 7-2019	DDA TF	Revision to Add a New Subordinate Standard: <i>Specification for Protocol Buffers for Equipment Self Description (EqSD)</i> to SEMI E125-0414, <i>Specification for Equipment Self Description (EqSD)</i> Informational Ballot
TBD	Cycle 7-2019	SB TF	Reapproval to SEMI E54.18-0914: <i>Specification for Sensor/Actuator Network Specific Device Model for Vacuum Pump Device</i>
TBD	Cycle 7-2019	SB TF	Reapproval to SEMI E54.22-0914: <i>Specification for Sensor/Actuator Network Specific Device Model for Vacuum Pressure Gauges</i>
TBD	Cycle 7-2019	SB TF	Line-item Revision to SEMI E54.23, <i>Specification for Sensor/Actuator Network Communications for CC-Link IE Field Network</i>

Table 8 SNARF(s) Granted a One-Year Extension

#	TF	Title	Expiration Date
None			



Table 9 SNARF(s) Abolished

#	TF	Title
None		

Table 10 Standard(s) to receive Inactive Status

Standard Designation	Title
None	

Table 11 New Action Items

Item #	Assigned to	Details
2019-SW#01	James Moyne	Investigate for potential IP contained in the document #6532 for SEMI E148.
2019-SW#02	Dan Judd, Inna Skvortsova	Obtain 2 nd LOA from Mitsubishi Electric on CC-Link IE . DONE
2019-April#03	Inna Skvortsova	Follow up within SEMI on contacts from SUNNY to obtain permission to share & distribute SEMATEC documents within CDS TF. In progress.

Table 12 Previous Meeting Action Items

Item #	Assigned to	Details
None		

1 Welcome, Reminders, and Introductions

Jack Ghiselli (Ghiselli Consulting) called the meeting to order at 08:04AM. The meeting reminders on antitrust issues, intellectual property issues and holding meetings with international attendance were reviewed. Attendees introduced themselves.

Attachment 01: SEMI Standards Required Elements.ppt

2 Review of Previous Meeting Minutes

2.1 The TC Chapter reviewed and approved the minutes of the previous NA Spring 2019 Standards meeting.

- Motion:** To approve minutes as written
- By / 2nd:** Brian Rubow (Cimetrix) / Chris Maloney (Intel)
- Discussion:** None
- Vote:** 17/0. Motion passed.

Attachment 02: NA I&C TC Meeting Minutes (April 2019).pdf

3 SEMI Standards Staff Report

3.1 Inna Skvortsova (SEMI) gave the SEMI Staff Report. Of note:

SEMI Global 2019 Calendar of Events

- o SEMICON Taiwan (September 18-20, Taipei, Taiwan)



- SEMICON Europa (November 12-15, Munich, Germany)
- SEMICON Japan (December 11-13, Tokyo, Japan)
- SEMICON Korea (February 5-7, Seoul, Korea)

Upcoming North America Meetings

- NA Standards Fall 2019 Meetings (November 4-7, 2019, SEMI HQ, Milpitas, California)
- NA Standards Spring 2020 Meetings (March 30 – April 2, 2020, SEMI HQ, Milpitas, California)
- SEMICON West Standards Meetings (July 20-23, 2020, San Francisco, California, Moscone Center)

Letter Ballot Critical Dates for NA Standards meetings

- Cycle 6-19: due July 19 / Voting Period: July 31 – August 30
- Cycle 7-19: due August 22 / Voting Period: September 4 - October 4
- Cycle 8-19: due October 11 / Voting Period: Oct 25 – Nov 25
- Cycle 9-19: due Nov 14/ Voting Period: Nov 26 – Dec 26

<https://www.semi.org/en/collaborate/standards/ballots>

- SEMI Standards Publications

Cycle	New	Revised	Reapproved	Withdrawn
March 2019	1	5	6	0
April 2019	1	4	6	0
May 2019	0	16	5	0
June 2019	1	5	0	0

Total SEMI Standards in portfolio: 1003. Includes 268 Inactive Standards

Cycle	Designation	Title	Committee	Region
March 2019	SEMI PV90	Guide for Material Requirements of Internal Feeders Used in Monocrystal Silicon Growers	Photovoltaic	China
April 2019	SEMI A2	Specification for Surface Mount Assembler Smart Hookup (SMASH	Automation Technology	Japan



June 2019	SEMI 3D19	Test Method for Adhesive Strength of Adhesive Tray Used for Thin Chip Handling	3D Packaging and Integration	Japan
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- Connected@SEMI Community
 - Web link - <https://connect.semi.org>
 - Login using Standards account (username and password)
 - Program Member
 - Join any task forces
 - Post discussion thread
 - TF Leader/Community Admin
 - Add member
 - Upload meeting minutes
 - Communicate TF members
 - Contact your staff if a TF Site is desired
 - Details: www.semi.org/standards → Committee Info → Collaboration Community

- Forms, Regulations & Procedure Manual
 - *Regulations* (Feb 28, 2019)
 - Latest version clarifies procedures applicable for Copyrighted Items and trademarks
 - Procedure Manual (Feb 28, 2019)
 - SNARF (Feb 2019)

- What is a Trademark
 - Trademarks are brands that owners consider to be valuable intellectual property.
 - It can be a company name, an acronym, a graphical symbol, or a product name, even a software product. Products that are trademarked services are usually called service marks.
 - Anyone can claim to trademark something, not already in use by others, to identify and distinguish it from others.
 - Trademarks are identified in two ways:
 - A TM is used for claimed trademarks; SM is used for claimed service marks
 - The symbol [®] is used for trademarks registered with the US Patent Office or other national trademark offices.

- What are the Rules for Trademarks Clarified?
 - As part of SEMI policy to avoid any appearance of restraint of trade, the *Regulations* allow incorporation of trademarks in Standards Documents only under specific conditions.
 - Hence, incorporation of a trademark in a Standards Document without complying with those conditions is a violation of the *Regulations*.
 - It was brought to the attention of the ISC Regulations Subcommittee that a number of SEMI Standards Documents include trademarks or even require use of trademarked products without



indicating that they were trademarks, who owned them, or the existence of a record of TC Chapter approval of that use.

- The *Regulations* already stated where & how trademarks could be used.
- After review of the rules, the Regs SC decided that the procedures for approving the incorporation of trademarks and the way they are presented needed to be clarified. Changes were incorporated in the June 8, 2018 and the Feb. 28, 2019 versions of the *Regulations* and the *Style Manual*.
- Responsibilities of the TC Chapter
 - See *Regulations* §§ 1.5.11 & 16.4 for official requirements
 - Don't include company/organization names in official parts or Notes, except in footnotes and for SDOs in subheadings of Referenced Standards and Related Documents sections.
 - Many SDO names and acronyms are trademarked
 - SEMI Publications is assembling a list, for the *Style Manual*, of trademarked SDO names, acronyms and whether they are registered
 - Do not need to indicate that SEMI is trademarked.
 - Only include trademark for a branded item if technically justified (only it meets requirements) and approved by TC Chapter vote.
 - Currently, assessment & approval is also required for inclusion of any trademark
 - Regs SC is reviewing the requirements for the trademarked SDOs name and acronym used in subheadings mentioned above.
 - Research whether a brand for an item is trademarked by owner and if it is registered
 - Owner's website (also get official name of owner)
 - <http://www.uspto.gov>; <http://www.inta.org> (international)
 - At first convenient usage of a trademark in a Document:
 - Ensure that it is represented with the proper symbol (see *Style Manual 1-24*)
 - Also give the generic term for the product, if possible
 - Add a footnote that references the owner's name
 - Corrections to a Document that uses a not-acknowledged trademark may be made editorially, if done properly (see *Regulations* ¶ 16.4.4.1.1 and Note 48)
- Examples:
 - Example 1 for a product trademarked name
 - Not acknowledged: Kleenex
 - Not allowed: Kimberly-Clark Kleenex®
 - Allowed: Kleenex^{®1}
 - Preferred: Kleenex^{®1} brand tissue (straight quote from box)
 - ¹ Kleenex trademark is owned by Kimberly-Clark Corporation.
 - Example 2 for trademarked SDO name in subheadings of applicable sections
 - ASTM® Standards¹
 - ¹ ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, USA; Telephone: +1.610.832.9585, Fax: +1.610.832.9555, <http://www.astm.org>. ASTM trademark is owned by ASTM International.



- *SNARF(s) and TFOF Approved by GCS in between TC Chapter Meetings*
 - SNARF # 6527 for Revision to SEMI E125-0414, *Specification for Equipment Self Description (EqSD)*
 - **Approved by GCS 05/07/2019**
- *SNARF 3 year status TC Chapter may grant a one-year extension:*
 - 6124, Revision to SEMI E95: Specification for Human Interface for Semiconductor Manufacturing Equipment
 - SNARF issued 11/2016
 - Action required by 11/2019 (plan to grand extension)
 - 6174, Line-Item Revision to SEMI E54.9, Specification for Sensor/Actuator Network Communication Specification for Modbus/TCP over TCP/IP
 - SNARF issued 03/2017
 - Action required by 03/2020
- *Nonconforming Titles*
 - **None**

NOTE: Refer to Procedure Manual (PM) Appendix Table A4-1 and A4-2

- *Documents due for 5 Year Review*

Name	Due for Review	Title
*SEMI E37.1-0702 (Reapproved 0413)	4/1/2018	High-Speed SECS Message Services Single Selected-Session Mode (HSMS-SS)
SEMI E54.23-0513	5/1/2018	Specification for Sensor/Actuator Network Communications for CC-Link IE Field Network
SEMI E167-1213	12/13/2018	Specification for Equipment Energy Saving Mode Communications (EESM)
SEMI E94-0314	3/28/2019	Specification for Control Job Management
SEMI E94.1-0312	3/28/2019	Specification for SECS-II Protocol for Control Job Management (CJM)
SEMI E125-0414	4/25/2019	Specification for Equipment Self Description (EqSD)
SEMI E164-0414	4/25/2019	Specification for EDA Common Metadata
SEMI E148-1109 (Reapproved 0614)	6/27/2019	Specification for Time Synchronization and Definition of the TS-Clock Object
SEMI E54.18-0914	9/30/2019	Specification for Sensor/Actuator Network Specific Device Model for Vacuum Pump Device
SEMI E54.22-0914	9/30/2019	Specification for Sensor/Actuator Network Specific Device Model for Vacuum Pressure Gauges
SEMI E169-0615	06/15/2020	Guide for Equipment Information System Security

Attachment 03: SEMI Standards Staff Report I&C TC July 2019.ppt

4 Liaison Reports

4.1 Information & Control Europe TC Chapter

No changes since November 2018 / no report presented by EU Chapter.



4.2 Information & Control Japan TC Chapter

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

- Meeting Information
 - Last meeting:
 - Wednesday, April 17, 2019 at the SEMI Japan Spring 2019 Meetings, SEMI Japan, Tokyo, Japan
 - Next meeting:
 - Thursday, July 25, 2019 at the SEMI Japan Summer 2019 Meetings, SEMI Japan, Tokyo, Japan

- I&CC Japan TC Chapter Structure and Leadership changes:
 - None

• Ballot Results

Doc #	Document Title	TC Chapter Action
6377A	Line Item revision to SEMI E5-1217: Specification for SEMI Equipment Communications Standard 2 Message Content (SECS-II)	-
Line Item 1	Make the following revisions to SECS message definitions in SEMI E5 to be compatible with the changes being done parallelly by #R6375 and former #6375 Major Revision to SEMI E170-1217 and E170.1-1217.	Failed, Returned to TF for rework
6481	Line Item Revision to SEMI E174-0618: Specification for Wafer Job - Management (WJM)	
Line Item 1	Eliminate PEMFlag in response to the deletion of PEMFlag from E170 SFORMS	Failed, Returned to TF for rework
Line Item 2	Replace Figure 1 Wafer Job (WJ) and Wafer Job Management Job (WJM) for better understanding	Passed, as balloted
6300B	New Standard: Guide for EDA Freeze Version	Failed, Returned to TF for rework

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

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



- Activities Approved by GCS between Meetings

Doc #	Type	SC/TF/CFG	Title/Details
6548	SNARF	GEM 300 TF	Line Item Revision to SEMI E170-0419: SPECIFICATION FOR SECURED FOUNDATION OF RECIPE MANAGEMENT SYSTEM (SFORMS)
6548	Ballot	GEM 300 TF	Line Item Revision to SEMI E170-0419: SPECIFICATION FOR SECURED FOUNDATION OF RECIPE MANAGEMENT SYSTEM (SFORMS) to Cycle 6-2019
6549	SNARF	GEM 300 TF	Line Item Revision to SEMI E170-0419: SPECIFICATION FOR SECURED FOUNDATION OF RECIPE MANAGEMENT SYSTEM (SFORMS) and SEMI E170.1-0419: SPECIFICATION FOR SECS-II PROTOCOL FOR SECURED FOUNDATION OF RECIPE MANAGEMENT SYSTEM
6549	Ballot	GEM 300 TF	Line Item Revision to SEMI E170-0419: SPECIFICATION FOR SECURED FOUNDATION OF RECIPE MANAGEMENT SYSTEM (SFORMS) and SEMI E170.1-0419: SPECIFICATION FOR SECS-II PROTOCOL FOR SECURED FOUNDATION OF RECIPE MANAGEMENT SYSTEM to Cycle 6-2019

- Other Activities Outside the Letter Ballot Process

- Editorial change for “SEMI E54.21-1110 (Reapproved 0517) SPECIFICATION FOR SENSOR ACTUATOR NETWORK FOR MOTIONNET® COMMUNICATION” was approved at I&C Japan TC Chapter meeting on December 14, 2018. Passed A&R and waiting for publication.
- Editorial change for “SEMI E54.12-0614, Specification For Sensor/Actuator Network Communications For CC-Link” was approved at I&C Japan TC Chapter meeting on October 24, 2018. Passed A&R and waiting for publication
- Ratification ballot #R6375 was submitted to Cycle 7-2018. Voting was completed with no disapproval. Passed A&R and published as E170-0419.

- Authorized Activities

- None

- Authorized Ballots

Doc #	When	TF	Document Title/Details
6377B	Cycle5 - 2019	GEM 300 TF	Line Item revision to SEMI E5-1217: SEMI EQUIPMENT COMMUNICATIONS STANDARD 2 MESSAGE CONTENT (SECS-II)
6481A	Cycle5 - 2019	GEM300 TF	Line Item Revision to SEMI E174-0618: SPECIFICATION FOR WAFER JOB MANAGEMENT (WJM)
6300C	Cycle5 - 2019	DDA TF	New Standard: Guide for EDA Freeze Version

Task Force Highlights

- *GEM 300 TF*

- Last TF meeting was held April 16, 2019.
 - #6092: New standard “CUARAM: Centralized User Authentication & Role Authorization Management”
 - SNARF was approved at I&C Japan TC Chapter meeting on October 21, 2016



- E170 application Study Working Group was formed as a subgroup under GEM 300TF
 - To study and to improve E170 by applying to factory operation.
 - Leadership: Koji Kitajima (Toshiba Memory) and Osamu Oishi (IBM Japan Service)
- #6375: Revision to: ‘SEMI E170-1217: Specification for Secured Foundation of Recipe Management System (SFORMS)’, and ‘SEMI E170.1-1217: Specification for SECS-II Protocol for Secured Foundation of Recipe Management System’
 - SNARF was approved at I&C Japan TC Chapter meeting on April 26, 2018
 - Ballot was submitted for Cycle 5-2018 and passed with a technical change at I&C Japan TC Chapter meeting on July 27, 2018.
 - Ratification ballot #R6375 was issued and submitted for to Cycle 7-2018. Voting was completed with no disapproval. Voting result will be forwarded to A&R.
 - Published as E170-0419 and E170.1-0419
- #6377: Line Item revision to SEMI E5-1217: SEMI EQUIPMENT COMMUNICATIONS STANDARD 2 MESSAGE CONTENT (SECS-II)
 - Doc. 6377A was submitted for Cycle 2-2019. The ballot failed at I&C Japan TC Chapter meeting on April 17, 2019, and it was returned to TF for rework.
 - Doc. 6377B was submitted for Cycle 5-2019. Voting was completed with a reject.
- #6481: Line Item Revision to SEMI E174-0618: SPECIFICATION FOR WAFER JOB MANAGEMENT (WJM)
 - SNARF was approved at I&C Japan TC Chapter meeting on December 14, 2018
 - Doc. 6481 is submitted for Cycle 2-2019
 - The Line Item 1 failed at I&C Japan TC Chapter meeting on April 17, 2019, and it was returned to TF for rework.
 - The Line Item 2 passed at I&C Japan TC Chapter meeting on April 17, 2019.
 - Doc. 6481A was submitted for Cycle 5-2019. Voting was completed with no comments and rejects.
- #6482: Line Item Revision to SEMI E170-mmyy(#R6375): SPECIFICATION FOR SECURED FOUNDATION OF RECIPE MANAGEMENT SYSTEM (SFORMS) and SEMI E170.1-mmyy(#R6375): SPECIFICATION FOR SECS-II PROTOCOL FOR SECURED FOUNDATION OF RECIPE MANAGEMENT SYSTEM
 - SNARF was approved at I&C Japan TC Chapter meeting on December 14, 2018
- #6483: Line Item Revision to SEMI E170-mmyy(#R6375): SPECIFICATION FOR SECURED FOUNDATION OF RECIPE MANAGEMENT SYSTEM (SFORMS)
 - SNARF was approved at I&C Japan TC Chapter meeting on December 14, 2018
- #6484: Line Item Revision to SEMI E170.1-mmyy(#R6375): SPECIFICATION FOR SECS-II PROTOCOL FOR SECURED FOUNDATION OF RECIPE MANAGEMENT SYSTEM
 - SNARF was approved at I&C Japan TC Chapter meeting on December 14, 2018
- *JA I&CC Maintenance TF*
 - Last TF meeting was held on October 21, 2016.
 - No current business exists.
- *Sensor Bus TF*
 - #6374: Line Item Revisions to SEMI E54.21-1110 (Reapproved 0517) Specification For Sensor Actuator Network For MOTIONNET® Communication
 - SNARF was approved at I&C Japan TC Chapter meeting on April 26, 2018



- Ballot was submitted for Cycle 5-2018 and passed at I&C Japan TC Chapter meeting on July 27, 2018
 - Line Item 1 and 2 passed A&R in August, 2018*
 - Editorial change for “SEMI E54.21-1110 (Reapproved 0517) Specification For Sensor Actuator Network For MOTIONNET® Communication” was approved at I&C Japan TC Chapter meeting on December 24, 2018. Passed A&R and waiting for publication
 - #6376: Line Item Revisions to SEMI E54.12-0614, Specification For Sensor/Actuator Network Communications For CC-Link
 - SNARF was approved at I&C Japan TC Chapter meeting on April 26, 2018
 - Ballot was submitted for Cycle 5-2018 and passed at I&C Japan TC Chapter meeting on July 27, 2018
 - Line Item 1 and 2 passed A&R in August, 2018*
 - Editorial change for “SEMI E54.12-0614, Specification For Sensor/Actuator Network Communications For CC-Link” was approved at I&C Japan TC Chapter meeting on October 24, 2018. Passed A&R and waiting for publication
- *Doc. 6374 and 6376 should be on hold until an editorial change to include a footnote references the organization that has ownership of the trademark is implemented.
- *DDA (Diagnostic Data Acquisition) Task Force*
 - Last TF meeting was held on December 14, 2018.
 - #6300: SNARF for New Standard: Guide for EDA Freeze Version
 - Doc. 6300B is submitted for Cycle 2-2019. The ballot failed, and it was returned to TF for rework at I&C Japan TC Chapter meeting on April 17, 2019.
 - Doc. 6300C was submitted for Cycle 5-2019. Voting was completed with two comments.
 - *Fab and Equipment Information Security Task Force*
 - Last TF meeting was held on April 16, 2019.
 - Charter
 - To organize discussions in Japan to cooperate with the Fab and Equipment Information Security TF under Taiwan Chapter of Information & Control GTC
 - To be updated to cooperate with North America Fab & Equipment Computer and Device Security (CDS) Task Force
 - *Backend Factory Integration Task Force*
 - Formed at I&C Japan TC Chapter meeting on December 14, 2018
 - Charter
 - To develop the equipment automation standard suite and related standards for such backend tools as Bump, Chip Probing, Assembly, Final Test and other wafer or dice processing tools, in order to make fully automated process operation.

The word backend is not metal wiring processes onto active and passive electronics elements fabricated on a semiconductor wafer but assembly and packaging processes of semiconductor dice, including final test and inspection processes.
 - *Five-Year Review*

Designation	Standard Title	Action By	Assigned to
SEMI E98.1-1102 (Reapproved 0309)	Provisional Specification for SECS-II Protocol for the Object-Based Equipment Model	Passed Due	Sensor Bus TF
SEMI E169-0615	Guide for Equipment Information System Security	2020	-
SEMI E171-0916	Specification for Predictive Carrier Logistics (PCL)	2021	-
SEMI E99-0317	Specification for Carrier ID Reader/Writer	2022	-
SEMI E153-0310 (Reapproved 0517)	Specification for AMHS SEM (AMHS SEM)	2022	-
SEMI E174-0817	Specification for Wafer Job Management (WJM)	2022	-
SEMI E91-1217	Specification for Prober Specific Equipment Model (PSEM)	2022	-
SEMI E54.17-1018	Specification of Sensor Actuator Network for A-LINK	2023	-
SEMI E54.19-1018	Specification of Sensor/Actuator Network For MECHATROLINK	2023	-

- Announcements
 - SECS/GEM tutorial was held on June 20, 2019
 - GEM 300 tutorial was held on June 21, 2019
- For more information, please contact SEMI Japan staff:
 - Mizue Iwamura, SEMI Japan
 - miwamura@semi.org

Attachment 04: Japan I&C TC Report (July 2019).ppt

4.3 Information & Control Korea TC Chapter

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

- Meeting Information
 - Last meeting
 - January 24, 2019 at SEMICON Korea 2019, COEX, Seoul, Korea
 - Next meeting
 - TBD
- Announcements
 - None
- Leadership Change
 - None
- Ballots Results:
 - None
- Task Force Highlights:
 - *GEM 300 Task Force*
 - None.
 - *DDA TF*



- #6452, Revision to SEMI E125: Specification for Equipment Self Description (EqSD) is drafting.
 - It is failed to submit cycle 5 due to formatting issue. The ballot schedule will be rescheduled at the NA summer meeting
- *ABFI TF*
 - #6301A, Line Item Revision to E142-0211(Reapproved 1016) Specification for Substrate Mapping: Adding packaging raw materials traceability method
 - It is failed to submit cycle 5 due to formatting issue. The ballot schedule will be rescheduled at the NA summer meeting
- Open SNARF(s)
- Advanced Back-end Factory Integration TF
6301: line Item Revision to E142-0211, Specification for Substrate Mapping: Adding packaging raw materials traceability method
- Diagnostic Data Acquisition TF
6452: Line Item Revision to SEMI E125-0414, Specification for Equipment Self Description (EqSD)
- Gem 300 TF
5832: New Standard, Specification for Equipment Generic Counter Model (EGCM)
Per author's request, the activity is currently on hold

For more information, please contact: *Natalie Shim at SEMI (eshim@semi.org)*

Attachment 05: Korea I&C TC Liaison Report (July 2019).pdf

4.4 Information & Control Taiwan TC Chapter

Dean Chang (SEMI) reported on behalf of the Information & Control Taiwan TC Chapter. Of note:

- Leadership Change:
 - None
- Meeting Information:
 - Last Meeting
 - March 29, 2019 at the SEMI Standards Taiwan Spring 2019 Meetings
 - SEMI Taiwan Office, Zhubei City, Hsinchu County, Taiwan
 - Next meeting
 - September 27, 2019 at the SEMI Standards Taiwan Autumn 2019 Meetings
 - SEMI Taiwan Office, Zhubei City, Hsinchu County, Taiwan
- Ballot Results
 - NONE
- Authorized Activities / Other Activities
 - Equipment Information Integration TF:
 - SNARF #6506 for “New Standards: Specification for Computing System Security of Fab Equipment”
- Task Force Updates:



- *Equipment Information Integration TF*
 - No New Activity.
- *GEM300 TF*
 - No New Activity.
- *Backend Factory Integration TF*
 - Last TF meeting was held on March 28, 2018
 - Doc 6147: New Standard, Specification of Backend Die Traceability
 - On hold as follow author's request
- *Fab & Equipment Information Security TF*
- Held monthly TF meeting to discuss the draft of Doc 6506: "New Standards: Specification for Computing System Security of Fab Equipment". The detail meeting schedule is list in the backup slide
- Task Force coordinated among SEMI Americas, Japan and Taiwan to discuss the draft of Doc 6506 and held monthly con-call meeting to discuss this topic.
 - The first con-call meeting was held on June 19.

For more information, please contact: Dean Chang and Tiffany Huang at SEMI: dchang@semi.org ; thuang@semi.org
Attachment 06: Taiwan I&C Liaison Report (March 2019).pdf

5 IRDS Factory Integration (FI) Chapter

James Moyne (AMAT) provided the update for the IRDS FI Chapter and Integrated Measurement Association (IMA) APC Conference report;

For additional information, please contact James Moyne at: moyne@umich.edu

- Advanced Process Control 2019: www.apconference.com
 - Abstract submission deadline: July 26, 2019
 - Abstract acceptance notification sent on: August 30, 2019
 - PowerPoint presentations and posters due: October 4, 2019
 - Contact James Moyne, Moyne@umich.edu, with any questions
 - **The APC Conference** will be built around topics such as, but not limited to: Run-to-run, wafer-to-wafer, model-based, and real-time process control

Attachment 07: ICC-IRDS-IMA APC Report.pdf

6 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.

Ballot #6236

The TC Chapter reviewed the Document #6236 for Line-item Revision to SEMI E172-1015, *Specification for SECS Equipment Data Dictionary (SEDD)*, Line-item 1 - to address editorial changes in complementary file, **passed with**



editorial changes and will be submitted to the ISC A&R for procedural review. Details can be found in the attached Procedural Review file.

Motion: Documents # 6236 is not a Safety Document, when all safety-related information is removed, Document is still technically sound and complete.

By / 2nd: Chris Maloney (INTEL) / James Moyne (AMAT/UMICH)

Discussion: None.

Vote: 14-0. Motion passed.

Motion: Forward Document # 6236 to the ISC A&R for procedural review as balloted.

By / 2nd: Chris Maloney (INTEL) / James Moyne (AMAT/UMICH)

Discussion: None.

Vote: 14-0. Motion passed.

Attachment 08: 6236_Procedural Review

Ballot #6470

The TC Chapter reviewed the Document #6470 for Line Item Revision to SEMI E5-MMY, *Specification for SEMI Equipment Communications Standard 2 Message Content (SECS-II)*.

The ballot **passed** TC review as balloted and will be submitted to the ISC A&R for procedural review. Details can be found in the attached Procedural Review file.

Motion: Documents # 6470 is not a Safety Document, when all safety-related information is removed, Document is still technically sound and complete.

By / 2nd: Chris Maloney (INTEL) / James Moyne (AMAT/UMICH)

Discussion: None.

Vote: 15-0. Motion passed.

Motion: Forward Document # 6470 to the ISC A&R for procedural review with editorial change.

By / 2nd: Chris Maloney (INTEL) / James Moyne (AMAT/UMICH)

Discussion: None.

Vote: 15-0. Motion passed.

Attachment 09: 6470_Procedural Review

Ballot #6348B

The TC Chapter reviewed the Document #6348B for Revision to E30-0418, *Specification for the Generic Model for Communications and Control of Manufacturing Equipment (GEM)*

This Document passed TC Chapter review with technical changes and with or without editorial changes and will be forwarded to the ISC A&R SC for procedural review. A

Ratification Ballot will be issued to verify the technical changes.

Motion: Documents # 6348B is not a Safety Document, when all safety-related information is removed, Document is still technically sound and complete.

By / 2nd: Chris Maloney (INTEL) / James Moyne (AMAT/UMICH)

Discussion: None.

Vote: 14-0. Motion passed.



Motion: Forward Document # 6236 to the ISC A&R for procedural review.
By / 2nd: Chris Maloney (INTEL) / James Moyne (AMAT/UMICH)
Discussion: None.
Vote: 14-0. Motion passed.

Discussion during IP Check:

Albert Fuchigami (PEER) stated, as discussed at I&C TC Meeting in Spring 2019, his understanding is the ASML has no patent/copyright/trademark issues to track in SEMI E30.

NOTE: Per request from the NA I&C co-Chairs, the following discussion is documented in the Meeting Minutes as took place during ballot 6348B adjudication:

- Task Force leader moved that the I&C TC accept the GEM 300 TF recommendation to approve the following change of SEMI Draft Document 6348B to address reject reasons #2-1 #2-2 and #2-3 from Toyoshima, Yuko (HitachiLtd), #4-2 Teichmann, Eberhard (PEER), #5-1 Hoffmann, Christian (PEER) and #6-1 #6-2 #6-3 #6-5 #6-6 Matsuda, Mitsuhiro (KKR)
 - Technical change #1 for 6348B as below:
 - Before
 - 5.1.24 user — a human or humans who represent the factory and enforce the factory operation model and . A user is considered to be responsible for many setup and configuration activities that cause the equipment to best conform to factory operations practices.
 - 5.2 Variable Definitions
 - See SEMI E5 for full definitions.
 - 5.3 data variable (DVVAL) — a variable where the value is only valid upon occurrence of one or more associated collection events.
 - 5.4 status variable (SV) — a variable where the value is always valid.
 - 5.5 equipment constant (ECV) — a variable where the value is always set by the host or operator.
 - 5.6 Variable Data (V) — A data item containing a status variable (SV), data variable (DVVAL), or equipment constant (ECV) value.
 - 5.7 Variable Data ID (VID) — A unique identifier of a variable data item. The set of VIDs is the union of all SVIDs, ECIDs, and IDs for DVVALs.
 - After
 - 5.1.24 user — a human or humans who represent the factory and enforce the factory operation model and . A user is considered to be responsible for many setup and configuration activities that cause the equipment to best conform to factory operations practices.
 - 5.1.25 Variable Data (V) — A data item containing a status variable (SV), data variable (DVVAL), or equipment constant (ECV) value.
 - 5.1.26 Variable Data ID (VID) — A unique identifier of a variable data item. The set of VIDs is the union of all SVIDs, ECIDs, and IDs for DVVALs.
 - Notes
 - Delete the controversial definitions
 - Move non-controversial definitions into section 5.1 Definitions section. 5.1.24 is unchanged; inserted alphabetically and renumbered.
 - The section is not necessary since, as one voter points out, the classes are defined in SEMI E5.
 - *DVVAL is defined in E5, section 9.7. Usage of DVVAL is consistent with E5.*

Negative vote is casted by Matsuda Mitsuhiro (Kokusai Electric) for this Technical Change #1. When asked by NA I&C TC members during ballot adjudication why, the response is : “ Because did not study SEMI E30 enough to agree with the proposal”



- Task Force leader moved that the I&C TC accept the GEM 300 TF recommendation to approve the following change of SEMI Draft Document 6348B to address comments from Fuchigami, Albert (PEER)
 - Technical change #2 for 6348B as below:
 - Before (in section 7.7.5.5.2)
 - [THEN]
 - Process Program Load Inquire S7,F1²¹ -->
 - After
 - [THEN]
 - Process Program Load Inquire S7,F1 -->
 - Notes
 - Remove the footnote superscript.

Negative/reject vote is casted by Matsuda Mitsuhiro (Kokusai Electric) for this Technical Change #2. When asked by NA I&C TC members during ballot adjudication why, the response is: “ Because not sure, did not have enough time to understand if proposed changes address all of the negative. Specifically does not know of any reject that is not addressed, but because did not have time to research it, the safer approach is to Reject.”

Attachment 10: 6348B_Procedural Review

Ballot #6532

The TC Chapter reviewed the Document #6532 for Reapproval to SEMI E148-1109 (Reapproved 0614), *Specification for Time Synchronization and Definition of the TS-Clock Object*. During IP check, one of the members stated that this ballot may have IP related items. The TC Chapter action was to place this document on hold due the need to investigate for potential IP/copyrighted/trademark items.

Action Item: (James Moyne) Investigate for potential IP contained in the document #6532 for SEMI E148.

Ballot #6344

The TC Chapter reviewed the Document #6344 *New Standard: Specification for Protocol Buffers Semiconductor Common Components*

I&C TC accepted the DDA Task Force recommendation to find reject reason #1-1 from Mochizuki, Tadashi (TEL) related to SEMI Draft Document 6344 and Technically Persuasive.

The ballot **failed** and will be reworked by the Task Force and resubmitted. The ballot will be reworked so that Figure 3 Describing Parameter Types allows for zero TypeHint elements.

Motion: To find Reject #1-1 submitted by Mochizuki, Tadashi (TEL) for SEMI Draft Document 6344 to be related and technically persuasive. The Task Force will rework and resubmit the document.

By / 2nd: Albert Fuchigami (PEER) / Mochizuki Tadashi (TEL)

Discussion: None

Vote: 17-0. Motion passed.

Ballot #6346

The TC Chapter reviewed the Document #6346 *Revision to Add a New Subordinate Standard: Specification for Protocol Buffers for Equipment Client Authentication and Authorization (ECA) to SEMI E132-1015, Specification for Equipment Client Authentication and Authorization*



I&C TC accepted the DDA Task Force recommendation to find reject reason #1-1 from Albert Fuchigami (PEER Group) to be related to SEMI Draft Document 6346 and Technically Persuasive.

The ballot **failed** and will be reworked by the Task Force and resubmitted. The ballot will be reworked.

Motion: To find Reject #1-1 submitted by Albert Fuchigami (PEER Group) for SEMI Draft Document 6346 to be related and technically persuasive. The Task Force will rework and resubmit the document.

By / 2nd: Albert Fuchigami (PEER) / Brian Rubow (Cimetrix)

Discussion: None

Vote: 17-0. Motion passed.

7 Subcommittee and Task Force Reports

7.1 DDA Task Force

Albert Fuchigami (PEER Group) reported for the DDA Task Force. Of note:

- Leadership Change - None
- Ballots Adjudication - None
- New/Revised SNARFs
 - Major Revision – E132
 - *(Approval deferred to GCS due to time constraints at NA SEMICON West 2019 I&CC Meeting)*
- SNARFs to abolish
 - SNARF 6338 – Revision to E132 (superseded by new Revision SNARF)
 - *(Deferred to November 2019 I&CC Meeting due to time constraints at NA SEMICON West 2019 I&CC Meeting)*
- Ballot Adjudication:
 - Failed Ballots
 - #6344 - NEW STANDARD: SPECIFICATION FOR PROTOCOL BUFFERS COMMON COMPONENTS
 - #6346 - Revision to Add a New Subordinate Standard: Specification for Protocol Buffers for Equipment Client Authentication and Authorization (ECA) to SEMI E132-0419: Specification for Equipment Client Authentication and Authorization
- Ballot Plans 2019
 - #6344A – New Standard - Specification for Protocol Buffer Semiconductor Common Components (Cycle 7)
 - #6346A - New Subordinate Standard for E132 (Cycle 7)
 - #6347B - New Subordinate Standard for E134 (Cycle 7)
 - #6527 - E125 (Cycle 7)
 - #TBD – E134 (Cycle 7)
 - #TBD – E132 (Cycle 7) *(To be authorized by GCS after SNARF approved)*
- New Informational Ballots
 - #6345 - New Subordinate Standard for E125



- Meeting Results (Technical Summary)
 - Investigation from Ballot Rejects
 - Mismatch between patented technology notice in ballots and what was described in SNARF. Requires more investigation on how it should be resolved.
 - Need to investigate process to ballot updates to primary standard and add a new subordinate standard
 - Integrating HTTP/2 into EDA Standards
 - Defined terms for Freeze 3 so we are using the same frames of references: EDA Client Session, EDA Consumer Session, EDA Server, EDA Client Application, EDA Consumer Application, Admin Agent
 - Clarified endpoint connection scenarios to support:
 - EDA Client Session and EDA Consumer sessions use the same gRPC connection
 - EDA Client Session with a passive EDA Consumer session (EDA server initiates gRPC connection).
 - Clarified SessionPing scenarios to support:
 - EDA Server pings EDA Consumer (final failure results in closing session)
 - Consumer ping EDA Server (for notification/diagnostic)
 - Client ping EDA Server (for notification/diagnostic)
 - If both secure and insecure connections are supported, EstablishSession will specify what type of communication should be used for NewData messages (on a per-session basis)
 - Session S1 data is over secure communications
 - Session S2 data is over insecure communications
 - Informational Ballot for E134.CC is currently open
 - Continuing to look for feedback from TF / TC members on content.
- Trademark Inclusion in EDA Ballots
 - Regulations state trademarks included in ballots should be notified to GTC via NA I&CC. (Section 16 – Patent, Copyright and Trademark References in SEMI Documents)

16.4 *Process for Copyrighted Items and Third-Party Trademarks*

16.4.1 *Responsibility to Disclose Relevant Copyrighted Items and Third-Party Trademarks*

16.4.1.1 Any Program Member involved in the development of a Document has the continuous responsibility to inform the GTC of the existence of any Copyrighted Items or third-party trademarks incorporated in the Document, except for trademarked organizations' names in footnotes that are provided to show the origins or owners of referenced Documents, trademarks, etc.

16.4.1.2 If a Copyrighted Item or third-party trademark incorporated in the Document is reported to the GTC, the Originating TC Chapter shall examine the Document and the Copyrighted Item or the trademark.

EXCEPTION: In cases where review is assigned to another TC Chapter (see ¶ 5.7.7.3 Exception), the assessment shall be done by that Responsible TC Chapter for any Copyrighted Item or third-party trademark disclosed in that Letter Ballot response.

16.4.1.3 If the TC Chapter finds that a Copyrighted Item or a third-party trademark has been incorporated in the Document, it shall decide if the incorporation is justified on technical grounds. The conclusions reached in these examinations shall be reported to a meeting of that TC Chapter and recorded in the minutes of this meeting.

NOTE 45: In the case of incorporation of a Copyrighted Item, an entire Copyrighted Item or part of it might be reproduced, or sometimes notation that is protected as Copyrighted Item might be used, when a Standard or Safety Guideline is written.

NOTE 46: Except in footnotes, including names of specific companies or organizations in the official part or content of a Standard or Safety Guideline is not allowed under any circumstances (except as permitted in § 1.5.11).



- **Motion for Trademark inclusion in ballots incorporating HTTP/2 with gRPC and Protocol Buffers is appropriate**

Motion: Move that the I&CC accept the DDA Task Force recommendation that including following trademarks in ballots related to EDA standards incorporating HTTP/2 with gRPC and Protocol Buffers is technically justified.
gRPC®, UML®, NIST®, The Linux Foundation®, IETF®, Cloud Native Computing Foundation®, CNCF®, ISO®
Note - the last 6 trademarks are organization names.
These trademarks are related to using the gRPC/Protocol Buffers technology
Currently active ballots are #6344, #6345, #6346, #6347
No intent to include copyrighted material for gRPC/ProtocolBuffers in the SEMI Standards under development

By / 2nd: Albert Fuchigami (PEER) / Matsuda Mitsuhiro (Kokusai Electric)

Discussion: None

Vote: 16-0. Motion passed.

- Freeze 3 ballots status is documented in the attached DDA TF report.

Attachment 11: DDA TF Report SEMICON West 2019.PPT

7.2 GEM300 Task Force

- Leadership Change - None
- Ballots Adjudicated:

6236, Line-item Revision to SEMI E172-1015: *Specification for SECS Equipment Data Dictionary (SEDD)* (**Passed**)

6470, Line Item Revision to SEMI E5-0219: *Specification for SEMI Equipment Communications Standard 2 Message Content (SECS-II)* (**Passed**)

6348B, Revision to SEMI E30-0418: *Specification for the Generic Model for Communications and Control of Manufacturing Equipment (GEM)* (**Ratification Ballot to be issued**)

6532, Reapproval to SEMI E148-1109 (Reapproved 0614): *Specification for Time Synchronization and Definition of the TS-Clock Object* (**On Hold due to new IP**)

- New SNARFs

TBD, Revision to SEMI E30-0418: *Specification for the Generic Model for Communications and Control of Manufacturing Equipment (GEM)*

- Ballot Plans for Cycle 7-2019

6470, Line Item Revision to SEMI E5-0219: *Specification for SEMI Equipment Communications Standard 2 Message Content (SECS-II)*

6348B, Revision to SEMI E30-0418: *Specification for the Generic Model for Communications and Control of Manufacturing Equipment (GEM)*

Attachment 12: GEM300 TF Report SEMICON West 2019.PPT

7.3 Sensor Bus Task Force

- TF Leadership & changes (if any):

None;



Looking for a new TF leader

- New SNARFs

Line item revision to E54.23 to add references to Time Sensitive Network services (TSN).

Rationale: E54.23 is being used in the industry however updates are needed to the standard to make it more aligned with source standards since it was last revised.

- Ballot Adjudication:

None

- New Ballots for Cycle 7-2019

TBD, Line-item Revision to SEMI E54.23, *Specification for Sensor/Actuator Network Communications for CC-Link IE Field Network*

#TBD, Reapproval to SEMI E54.18-0914: *Specification for Sensor/Actuator Network Specific Device Model for Vacuum Pump Device*

#TBD, Reapproval to SEMI E54.22-0914: *Specification for Sensor/Actuator Network Specific Device Model for Vacuum Pressure Gauges*

- Other

Safety and IP Checks on E54.23 9 (line item SNARF is proposed)

Get 2nd LOA from Mitsubishi Electric on CC-Link IE TSN

Attachment 13: SB TF Report SEMICON West 2019.PPT

7.4 Fab and Equipment CDS Task Force

- TF Leadership changes

None

- New SNARFs

#TBD, New Standard: *Specification for Malware Free Equipment Integration*

#TBD, New Standard: *Specification for Application Whitelisting*

- Ballot Adjudication & Plans:

None

- Technical Summary

Cybersecurity standards development efforts:

Presented a recommendation for structuring cybersecurity standards as a suite of standards like GEM300

Presented examples of referencing and requiring related standards

Reviewed feedback for the both proposed SNARFs

Updated special circumstances to address the major feedback concerns

SEMI Taiwan

Draft of requirements TW task force has created will be distributed and feedback discussed in the upcoming leadership meeting

Attachment 14: CDS TF Report SEMICON West 2019.PPT

7.5 ESEC Task Force Report

- TF Leadership changes

None

- New SNARFs



Plan to issue SNARF for revision or reapproval to SEMI E167

- Ballot Adjudication & Plans:

None

- Technical Summary

Energy savings are getting increasing focus in today's world and especially in the semiconductor with its many challenges, e.g. increasing number of process steps/complexity as well as the introduction EUV lithography

Next step to a deeper energy saving called *sleep mode*, which is characterized as a mode which require a wake-up time. A first draft standard written two years ago, but there is slow / no implementation.

During the SEMI standard meeting target to understand „Readiness“ and „Obstacles“

Attachment 15: ESEC TF Report SEMICON West 2019.PPT

7.6 PSC Task Force Report

- New SNARFs proposals

None

- Revised SNARFs proposals

None

- SNARFs to abolish

None

- TFOF Update

PCS TF plans to update its TFOF to better align with smart manufacturing and Industry 4.0 terminology and directions

This will happen AFTER the IRDS (International Roadmap for Devices and Systems) reorganizes the Factory Integration chapter around Smart Manufacturing (expected by December 2019)

- Ballots Adjudication

None

- Technical Summary

Discussion of IRDS Smart Manufacturing reorganization effort and impact on direction of the PCS Task Force

Plan to address items such as an updated TFOF, and new SNARFs based on the output of the Smart Manufacturing effort within the Factory Integration focus team of the IRDS

Attachment 16: PCS TF Report SEMICON West 2019.PPT

7.7 GUI Task Force Report

No TF meeting / report at Standards Spring 2019 Meetings

8 Old Business

8.1 Standards due for Five-Year Review.

Inna Skvortsova addressed the TC Chapter on this topic. Of note:



Name	Due for Review	Title	Status
*SEMI E37.1-0702 (Reapproved 0413)	4/1/2018	High-Speed SECS Message Services Single Selected-Session Mode (HSMS-SS)	Balloted in Cycle 2-19 and passed.
SEMI E54.23-0513	5/1/2018	Specification for Sensor/Actuator Network Communications for CC-Link IE Field Network	Balloted in Cycle 5-19 and passed
SEMI E167-1213	12/13/2018	Specification for Equipment Energy Saving Mode Communications (EESM)	Assigned to ESEC TF
SEMI E94-0314	3/28/2019	Specification for Control Job Management	Balloted in Cycle 2-19 and passed
SEMI E94.1-0312	3/28/2019	Specification for SECS-II Protocol for Control Job Management (CJM)	Balloted in Cycle 2-19 and passed
SEMI E125-0414	4/25/2019	Specification for Equipment Self Description (EqSD)	Ballot planned in Cycle 2-19 but postponed
SEMI E164-0414	4/25/2019	Specification for EDA Common Metadata	Assigned to DDA TF
SEMI E148-1109 (Reapproved 0614)	6/27/2019	Specification for Time Synchronization and Definition of the TS-Clock Object	Balloted in Cycle 5-19
SEMI E54.18-0914	9/30/2019	Specification for Sensor/Actuator Network Specific Device Model for Vacuum Pump Device	Assigned to SB TF, reapproval by Staff
SEMI E54.22-0914	9/30/2019	Specification for Sensor/Actuator Network Specific Device Model for Vacuum Pressure Gauges	Assigned to SB TF, reapproval by Staff
SEMI E169-0615	06/15/2020	Guide for Equipment Information System Security	Japan I&C TC Chapter

7.2 SNARFs Approaching 3-Year Review

The TC Chapter reviewed SNARFs approaching 3-year project period.

- No SNARFs received extended period.

9 New Business

9.1 New TFOFs Approval

- Motion:** Authorize new Advanced Backend Factory Integration Task Force under the leadership of Dave Huntley (PDF Solutions) Briand Rubow (Cimetrix) and Lim Luis (Miracom)
- By / 2nd:** Brian Rubow (Cimtertix)/Nick Infelise (Omron)
- Discussion:** Matsuda Mitsuhiro asked if the TF plans to create a new SNARF; Nishimura Takayuki noted that originally presented draft TFOF must be updated be within the scope of I&C TC – correction to the draft TFOF has been made .
- Vote:** 19/0. Motion passed.

Advanced Backend Factory Integration (ABFI) Task Force:

TF Charter:



To explore, evaluate, discuss, and formulate consensus based specifications that, through voluntary compliance, will enhance assembly and test for semiconductor manufacturing.

TF Scope:

Its scope is limited to exploring and developing standards that pertain to the interface of manufacturing tools to each other, to control computers, or to human operators, for the purpose of transferring commands and data used during assembly and test processes such as Bump, Wafer Test, Package Assembly, Final Test and Final System Assembly. In particular the following topics will be addressed:

1. GEM 300 & HSMS Support
2. E142 enhancements for traceability of multi-project wafers, multi-dice operation and raw packaging materials
3. Dice stacking capability and equipment automation specification
4. Discovery and management of data acquisition configuration
5. Discovery of the structure and organization of the equipment and its subsystems and components

This activity will include liaison with other SDOs involved in downstream electronics manufacturing.

9.2 New SNARFs Approval

I&C Technical Committee reviewed and approved new SNARF for the following documents:

- SNARF for New Standard: *Specification for Malware Free Equipment Integration*
- SNARFs New Standard: *Specification for Application Whitelisting*
- SNARF for Reapproval to SEMI E54.18-0914: *Specification for Sensor/Actuator Network Specific Device Model for Vacuum Pump Device*
- SNARF for Reapproval to SEMI E54.22-0914: *Specification for Sensor/Actuator Network Specific Device Model for Vacuum Pressure Gauges*
- SNARF for Line-item Revision to SEMI E54.23, *Specification for Sensor/Actuator Network Communications for CC-Link IE Field Network*

Motion: Move to approve SNARF for New Standard *Specification for Malware Free Equipment Integration* and SNARF for New Standard: *Specification for Application Whitelisting*

By / 2nd: Richard Howard (Cimtertx)/Ryan Bond (Intel)

Discussion: Dan Judd (Arlington Laboratories) asked to clarify the definition of *Whitelisting* as intended by the CDS Task Force. The definition provided by Ryan Bond (Intel).

Vote: 16/0. Motion passed.

Motion: Move to approve SNARF Reapproval to SEMI E54.22, Reapproval to SEMI E54.18 and Line-item Revision to SEMI E54.23, *Specification for Sensor/Actuator Network Communications for CC-Link IE Field Network*

By / 2nd: James Moyne (AMAT/UMICH)/Dan Judd (Arlington Laboratories)

Discussion: None

Vote: 18/0. Motion passed.

Action Item: (Dan Judd) to obtain 2nd LOA from Mitsubishi Electric on CC-Link IE

9.3 New Ballots Authorization:

- Ballot #R6348B submitted by GEM300 TF for Revision to E30-0418, *Specification for the Generic Model for Communications and Control of Manufacturing Equipment (GEM)*



- Ballot #6344A submitted by DDA TF for New Standard: *Specification for Protocol Buffers Semiconductor Common Components*
- Ballot #6346A submitted by DDA TF for Revision to Add a New Subordinate Standard: *Specification for Protocol Buffers for Equipment Client Authentication and Authorization (ECA) to SEMI E132-1015, Specification for Equipment Client Authentication and Authorization*
- *Ballot #6552 - Line Item Revision to SEMI E5-0219: Specification For SEMI Equipment Communications Standard 2 Message Content (SECS-II)*
- *Ballot #6347 - Revision to Add a New Subordinate Standard: Specification for Protocol Buffers of Data Collection Management to SEMI E134-0414, Specification for Data Collection Management*
- *Ballot #6527 - Revision to SEMI E125-0414, Specification for Equipment Self Description (EqSD)*
- *Ballot # 6553 - Revision to SEMI E134-MMY: Specification for Data Collection Management*
- *Ballot # TBD - Reapproval to SEMI E54.18-0914: Specification for Sensor/Actuator Network Specific Device Model for Vacuum Pump Device*
- *Ballot # TBD - Reapproval to SEMI E54.22-0914: Specification for Sensor/Actuator Network Specific Device Model for Vacuum Pressure Gauges*
- *Ballot # TBD Line-item Revision to SEMI E54.23, Specification for Sensor/Actuator Network Communications for CC-Link IE Field Network*
- Ballot #6345 Revision to Add a New Subordinate Standard: *Specification for Protocol Buffers for Equipment Self Description (EqSD) to SEMI E125-0414, Specification for Equipment Self Description (EqSD)*
 - **Informational Ballot**

Motion: To approve letter ballots submission for Cycle 7-2019 for the following documents:
- #R6348B, E6344A, #6346A, #6552, #6347, #6527, #6553, #6345, and ballots for SEMI 54.18, 54.22, 54.23 (Doc #'s TBD);

By / 2nd: Jack Ghiselli (Ghiselli Consulting) Chris Maloney (Intel)

Discussion: None.

Vote: 18-0. Motion passed.

Motion: To approve informational ballot submission for #6345

By / 2nd: Jack Ghiselli (Ghiselli Consulting) / Albert Fuchigami (PEER Group)

Discussion: None.

Vote: 18-0. Motion passed.

10 Action Items Review

10.1 Previous Meeting(s) Action Items

Inna Skvortsova (SEMI) reviewed open action items. These can be found in the Previous Meeting(s) Action Items table at the beginning of these minutes.

10.2 New Action Items

Inna Skvortsova (SEMI) reviewed the new action items. These can be found in the New Action Items table at the beginning of these minutes.



11 Next Meeting and Adjournment

The next meeting is scheduled for November 6, 2019 at SEMI HQ, Milpitas,, CA.
See <http://www.semi.org/en/events> for the current list of meeting schedules.

Having no further business, a motion was made to adjourn. Adjournment was at 13:01 PM.

Respectfully submitted by:

Inna Skvortsova

Sr. Standards Coordinator

SEMI North America

Phone: 408-9436996

Email: iskvortsova@semi.org

Minutes tentatively approved by:

Brian Rubow (Cimetrix) Co-chair	
Jack Ghiselli (Ghiselli Consulting) Co-chair	
James Moyne (AMAT/University of Michigan) Co-chair	

Table 13 Index of Available Attachments^{#1}

<i>Title</i>	<i>Title</i>
Attachment 01: SEMI Standards Required Elements.ppt	Attachment 10: 6348B_Procedural Review
Attachment 02: NA I&C TC Meeting Minutes (April 2019)	Attachment 11: DDA TF Report (SW 2019).ppt
Attachment 03: NA I&C TC Staff Report (July 2019)	Attachment 12: GEM 300 TF Report (SW 2019) ppt
Attachment 04: Japan Liaison Report (July 2019).pdf	Attachment 13: SB TF Report (SW 2019).ppt
Attachment 05: Korea Liaison Report (July 2019).pdf	Attachment 14: Fab & Equip CDS TF Report (July 2019)
Attachment 06: Taiwan Liaison Report (March 2019).pdf	Attachment 15: ESEC TF Report (SW 2019).ppt
Attachment 07: IRDS -IMA APC SM Council Reports	Attachment 16: PCS TF Report (SW 2019).ppt
Attachment 08: 6236_Procedural Review	
Attachment 09: 6470_Procedural Review	

^{#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 Inna Skvortsova at the contact information above.