TC Chapter Announcements

Next TC Chapter Meeting

November 7, 2018 at 8:00 – 12:00 (noon)

Milpitas, CA

Table 1 Meeting Attendees

*Italicics* indicate virtual participants

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

**SEMI Staff:** Inna Skvortsova

<table>
<thead>
<tr>
<th>Company</th>
<th>Last</th>
<th>First</th>
<th>Company</th>
<th>Last</th>
<th>First</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cimetrix</td>
<td>Rubow</td>
<td>Brian</td>
<td>AMAT/University of Michigan</td>
<td>Moyne</td>
<td>James</td>
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<tr>
<td>Ghiselli Consulting</td>
<td>Ghiselli</td>
<td>Jack</td>
<td>Veeco</td>
<td>Lawrence</td>
<td>Elena</td>
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<td>Fuchigami</td>
<td>Albert</td>
<td>KOKUSAI ELECTRIC CORPORATION</td>
<td>Mitsuhirō</td>
<td>Matsuda</td>
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<td>Omron</td>
<td>Infelise</td>
<td>Nick</td>
<td>IBM</td>
<td>Oishi</td>
<td>Osamu</td>
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<td>PEER Group</td>
<td>Hoffmann</td>
<td>Christian</td>
<td>Industrial Strength Graphics</td>
<td>Summers</td>
<td>Frank</td>
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<td>Intel</td>
<td>Maloney</td>
<td>Chris</td>
<td>Hitachi High-Tech</td>
<td>Toyoshima</td>
<td>Yuko</td>
</tr>
<tr>
<td>SCREEN</td>
<td>Nishimura</td>
<td>Takayuki</td>
<td>Edwards</td>
<td>Czerniak</td>
<td>Michael</td>
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<tr>
<td>TEL</td>
<td>Im</td>
<td>Byoung Min</td>
<td>AMAT</td>
<td>Andica</td>
<td>Neha</td>
</tr>
<tr>
<td>Arlington Laboratory</td>
<td>Judd</td>
<td>Daniel</td>
<td>SEMI</td>
<td>Skvortsova</td>
<td>Inna</td>
</tr>
<tr>
<td>Doople</td>
<td>Kim</td>
<td>Hyungsu</td>
<td></td>
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</table>

Table 2 Leadership Changes

<table>
<thead>
<tr>
<th>WG/TF/SC/TC Name</th>
<th>Previous Leader</th>
<th>New Leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
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Table 3 Committee Structure Changes

<table>
<thead>
<tr>
<th>Previous WG/TF/SC Name</th>
<th>New WG/TF/SC Name or Status Change</th>
</tr>
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<tbody>
<tr>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Document #</td>
<td>Document Title</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>6378</td>
<td>Line-item Revision to SEMI E133, Specification for Automated Process Control Systems Interface and E133.1 Specification for XML messaging for Process Control Systems (PCS)</td>
</tr>
<tr>
<td>6333</td>
<td>Line-item Revision to SEMI E54.23-0513, Specification for Sensor/Actuator Network Communications for CC-Link IE Field Network</td>
</tr>
<tr>
<td>6333 Line Item 1</td>
<td>Line-item Revision to SEMI E54.23-0513, Specification for Sensor/Actuator Network Communications for CC-Link IE Field Network</td>
</tr>
<tr>
<td>6333 Line Item 2</td>
<td>Line-item Revision to SEMI E54.23-0513, Specification for Sensor/Actuator Network Communications for CC-Link IE Field Network</td>
</tr>
<tr>
<td>6333 Line Item 3</td>
<td>Line-item Revision to SEMI E54.23-0513, Specification for Sensor/Actuator Network Communications for CC-Link IE Field Network</td>
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<tr>
<td>6335</td>
<td>Line-Item Revision to SEMI E134, Specification for Data Collection Management</td>
</tr>
<tr>
<td>6335 Line Item 1</td>
<td>Line-Item Revision to SEMI E134, Specification for Data Collection Management</td>
</tr>
<tr>
<td>6335 Line Item 2</td>
<td>Line-Item Revision to SEMI E134, Specification for Data Collection Management</td>
</tr>
<tr>
<td>6335 Line Item 3</td>
<td>Line-Item Revision to SEMI E134, Specification for Data Collection Management</td>
</tr>
<tr>
<td>6336A</td>
<td>Line-Item Revision to SEMI E138, Specification for XML Semiconductor Common Components</td>
</tr>
<tr>
<td>6337A</td>
<td>Line Item Revision to SEMI E132, Specification for Client Authentication and Authorization</td>
</tr>
<tr>
<td>6348</td>
<td>Revision to SEMI E30, Specification for the Generic Model For Communications and Control of Manufacturing Equipment (GEM)</td>
</tr>
<tr>
<td>6386</td>
<td>Reapproval to SEMI E90-0312, Specification for Substrate Tracking</td>
</tr>
<tr>
<td>6381</td>
<td>Line-item Revision to SEMI E40-0813, Standard for Processing Management, to correct nonconforming title.</td>
</tr>
<tr>
<td>6382</td>
<td>Line-item Revision to SEMI E40.1-0813, SECS-II Support for Processing Management Standard, to correct nonconforming title.</td>
</tr>
<tr>
<td>6379</td>
<td>Line-item Revision to SEMI E39-0703, Object Services Standard: Concepts, Behavior, And Services, to correct nonconforming title.</td>
</tr>
<tr>
<td>6380</td>
<td>Line-item Revision to SEMI E39.1-0703, SECS-II Protocol for Object Services Standard (OSS), to correct nonconforming title.</td>
</tr>
<tr>
<td>6349A</td>
<td>Revision to E37.1, High-Speed SECS Message Services Single Selected-Session Mode (HSMS-SS OR HSMS-SSS)</td>
</tr>
<tr>
<td>6114B</td>
<td>Line-item Revision to SEMI E5-0813, SEMI Equipment Communications Standard 2 Message Content (SECS-II)</td>
</tr>
</tbody>
</table>

#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

<table>
<thead>
<tr>
<th>#</th>
<th>Type</th>
<th>SC/TF/WG</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>None</td>
<td>None</td>
<td>None</td>
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</table>

Table 6 Authorized Activities

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

<table>
<thead>
<tr>
<th>#</th>
<th>Type</th>
<th>SC/TF/WG</th>
<th>Details</th>
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<tbody>
<tr>
<td>TBD</td>
<td>SNARF</td>
<td>DDA TF</td>
<td>Revision to SEMI E125-0414, Specification for Equipment Self Description (EqSD)</td>
</tr>
<tr>
<td>TBD</td>
<td>SNARF</td>
<td>DDA TF</td>
<td>New SNARF to distribute for 2-week review and GCS approval and ballot authorization for Cycle 7-18</td>
</tr>
<tr>
<td>TBD</td>
<td>SNARF</td>
<td>DDA TF</td>
<td>Line Item Revision to SEMI E134-0414, Specification for Data Collection Management</td>
</tr>
<tr>
<td>TBD</td>
<td>SNARF</td>
<td>DDA TF</td>
<td>New SNARF approved by TC</td>
</tr>
<tr>
<td>TBD</td>
<td>SNARF</td>
<td>DDA TF</td>
<td>Reapproval to SEMI E120-0414, Specification for the Common Equipment Model (CEM)</td>
</tr>
<tr>
<td>TBD</td>
<td>SNARF</td>
<td>DDA TF</td>
<td>New SNARF approved by TC</td>
</tr>
<tr>
<td>TBD</td>
<td>SNARF</td>
<td>DDA TF</td>
<td>Reapproval to SEMI E128-0414, Specification for XML Message Structures</td>
</tr>
<tr>
<td>TBD</td>
<td>SNARF</td>
<td>DDA TF</td>
<td>New SNARF approved by TC</td>
</tr>
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</table>

#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

<table>
<thead>
<tr>
<th>#</th>
<th>When</th>
<th>TF</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>6335A</td>
<td>Cycle 7-2018</td>
<td>DDA TF</td>
<td>Line Item Revision to SEMI E134, Specification for Data Collection Management Line items 2 and 3</td>
</tr>
<tr>
<td>TBD</td>
<td>Cycle 7-2018</td>
<td>DDA TF</td>
<td>Line Item Revision to SEMI E134, Specification for Data Collection Management</td>
</tr>
<tr>
<td>6336B</td>
<td>Cycle 7-2018</td>
<td>DDA TF</td>
<td>Line-Item Revision to SEMI E138, Specification for XML Semiconductor Common Components</td>
</tr>
<tr>
<td>6337B</td>
<td>Cycle 7-2018</td>
<td>DDA TF</td>
<td>Line Item Revision to SEMI E132, Specification for Client Authentication and Authorization</td>
</tr>
<tr>
<td>6348A</td>
<td>Cycle 7-2018</td>
<td>GEM 300 TF</td>
<td>Revision to SEMI E30, Specification for the Generic Model For Communications and Control of Manufacturing Equipment (GEM)</td>
</tr>
<tr>
<td>6349B</td>
<td>Cycle 7-2018</td>
<td>GEM 300 TF</td>
<td>Revision to E37.1, High-Speed SECS Message Services Single Selected-Session Mode (HSMS-SS OR HSMS-3SS)</td>
</tr>
<tr>
<td>6114C</td>
<td>Cycle 7-2018</td>
<td>GEM 300 TF</td>
<td>Line-item Revision to SEMI E5-0813, SEMI Equipment Communications Standard 2 Message Content (SECS-II)</td>
</tr>
<tr>
<td>TBD</td>
<td>Cycle 7-2018</td>
<td>DDA TF</td>
<td>Reapproval to SEMI E120-0414, Specification for the Common Equipment Model (CEM)</td>
</tr>
<tr>
<td>TBD</td>
<td>Cycle 7-2018</td>
<td>DDA TF</td>
<td>Reapproval to SEMI E128-0414, Specification for XML Message Structures</td>
</tr>
<tr>
<td>TBD</td>
<td>Cycle 7-2018</td>
<td>DDA TF</td>
<td>Reapproval to SEMI E145-0414, Classification for Measurement Unit Symbols in XML</td>
</tr>
</tbody>
</table>
1 Welcome, Reminders, and Introductions
Brian Rubow (Cimetrix) called the meeting to order at 08:05AM. 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 2018 Standards meeting.

Motion: To approve minutes as written
By / 2nd: Jack Ghiselli (Ghiselli Consulting) / Frank Summers (ISGI)
Discussion: None
Vote: 5/0. Motion passed.

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

<table>
<thead>
<tr>
<th>#</th>
<th>TF</th>
<th>Title</th>
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<tbody>
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Table 9 SNARF(s) Abolished

<table>
<thead>
<tr>
<th>#</th>
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<tbody>
<tr>
<td>6334</td>
<td>DDA TF</td>
<td>Line-item Revision to SEMI E125-0414, <em>Specification for Equipment Self Description (EqSD)</em></td>
</tr>
<tr>
<td>5966</td>
<td>GEM300 TF</td>
<td>Line Item Revision to SEMI E90-0312, <em>Specification For Substrate Tracking</em> and SEMI E90.1 Specification For SECS-II Protocol Substrate Tracking</td>
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Table 10 Standard(s) to receive Inactive Status

<table>
<thead>
<tr>
<th>Standard Designation</th>
<th>Title</th>
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<tbody>
<tr>
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Table 11 New Action Items

<table>
<thead>
<tr>
<th>Item #</th>
<th>Assigned to</th>
<th>Details</th>
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<tbody>
<tr>
<td>2018July#01</td>
<td>Inna S.</td>
<td>Delay publishing Doc. #6335-L1 till all line-items pass I&amp;C TC</td>
</tr>
<tr>
<td>2018 July#02</td>
<td>Albert F.</td>
<td>To review current SEMI Standards Regulations section 16 and evaluate EDA proposal on HTTP/gRPC implementation for IP/copyright/trademark compliance.</td>
</tr>
<tr>
<td>2018 July 03</td>
<td>Inna S.</td>
<td>Issue reapproval ballots for SEMI E120, E128, E145 in Cycle 7-18</td>
</tr>
<tr>
<td></td>
<td>Inna S.</td>
<td>Distribute SNARF for Revision to SEMI E125 for 2-week member review followed by GCS approval and ballot authorization for Cycle 7-18</td>
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Table 12 Previous Meeting Action Items

<table>
<thead>
<tr>
<th>Item #</th>
<th>Assigned to</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>NONE</td>
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</tbody>
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3 SEMI Standards Staff Report

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

**SEMI Global 2018 Calendar of Events**
- SEMICON West (July 10-12, 2018, San Francisco, California)
- SEMICON Taiwan (September 5-7, 2018, Taipei, Taiwan)
- SEMICON Europa (November 13-16, 2018, Munich, Germany)
- SEMICON Japan (December 12-14, 2017, Tokyo, Japan)

**Upcoming North America Meetings**
- NA Standards Fall 2018 Meetings (November 5-8, 2018, SEMI HQ, Milpitas, California)
- NA Standards Spring 2019 Meetings (April 1-4, 2019, SEMI HQ, Milpitas, California)
- SEMICON West 2019 Meetings (July 8-11, 2019, San Francisco, California)

**Letter Ballot Critical Dates for NA Standards meetings**
- Cycle 6-18: due July 20 / Voting Period: Aug 1 – Aug 31
- Cycle 7-18: due Aug 22 / Voting Period: Sep 5 – Oct 5


- **SEMI Standards Publications**

<table>
<thead>
<tr>
<th>Cycle</th>
<th>New</th>
<th>Revised</th>
<th>Reapproved</th>
<th>Withdrawn</th>
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<tr>
<td>April 2018</td>
<td>0</td>
<td>9</td>
<td>2</td>
<td>0</td>
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<td>May 2018</td>
<td>0</td>
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<td>5</td>
<td>0</td>
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<tr>
<td>June 2018</td>
<td>2</td>
<td>14</td>
<td>11</td>
<td>0</td>
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</table>

Total SEMI Standards in portfolio: 987. Includes 236 Inactive Standards

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Designation</th>
<th>Title</th>
<th>Committee</th>
<th>Region</th>
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<tbody>
<tr>
<td>June 2018</td>
<td>SEMI C96</td>
<td>Test Method for Determining Density of Chemical Mechanical Polish (CMP) Slurries</td>
<td>Liquid Chemicals</td>
<td>NA</td>
</tr>
</tbody>
</table>
• New Forms, Regulations & Procedure Manual
  o New version of Regulations (June 8, 2018)
  o New version of Procedure Manual (June 8, 2018)
  o New TFOF & SNARF
  o New Ballot Review Templates
  o www.semi.org/standards
  o Bottom left, under Resources!
  o Regulations & Procedure Manual Changes
    • Improvements on Rules for Handling of Patented Technology (Regulations § 16.1-16.3)
      ○ Patented Technology that might be material to the Standard is disclosed at the end stage of document development
        ○ Disclosed after the ballot is issued
        ○ Assessment for potential materiality and technical justifiability for inclusion shall be postponed to the next scheduled meeting.
      ● A TF sometimes decides to use patented technology after it has started the document development project.
        ○ To require subsequent update of SNARF regarding use of Patented Technology and subsequent LOI process to ensure that TC Chapter agrees to the course of action recommended by the TF.
    • Improvements on Rules for Handling of Copyright and Trademark (Regulations § 16.4)
      ○ Improvement on handling copyright process
      ○ New process for handling trademarks
    • Additional Official Virtual TC Chapter Meeting Related Rules (Regulations ¶ 7.4.2 and § 9.5)
      ○ Loss of necessary infrastructure at the meeting location described in the Background Statement of the Letter Ballot
        ○ The necessary infrastructure (e.g., electrical power, internet connection, required software applications)
      ● Procedure for Transition of Virtual Meeting (PM 4.3.6)
        ○ GTC Decision for Whether or Not to Adopt the Official Virtual TC Chapter Meeting
    • Clarification on the Use of Editorial Changes a Standard or Safety Guideline (Regs § 8.9.5)
      ○ Two types, made independently from a Letter Ballot.
      ○ Both requires TC approval and subsequent A&R approval.
• Type 1:
  o minor changes (i.e., corrections of obvious misspelling, formatting changes to comply with the Style Manual; corrections of capitalization, the use of italics, incorrect spacing);
• Type 2:
  o those that introduce no change in technical content (e.g., changes to nontechnical information; insubstantial changes to existing Supplementary Materials; changes that reduce ambiguity; changes to eliminate an obvious technical content inconsistency; or adding/deleting/changing Notes or footnotes).

  ▪ Clarification on SNARF Revision vs. New SNARF (PM 2.2.6)

  • The SNARF should be revised if the Draft Document deviates technically from the scope described in the SNARF or changes in the ‘Intellectual Property Considerations’ section
  • New SNARF is required
    o expected result of activity changes from Line Item revision(s) to a major revision, or
    o scope change beyond modification of existing scope items (i.e., deleting existing or adding new scope items),
    o change of ballot type (e.g., reapproval to revision or vice versa), or
    o introduction of new Line Item(s)

• SNARF(s) and TFOF Approved by GCS in between TC Chapter Meetings
  o None
• SNARF 3 year status TC Chapter may grant a one-year extension:
  o None
• SNARFs to abolish at I&C TC meeting:
Due to the scope change, the following SNARF(s) to be abolished:
  o SNARF # 5966, Line Item Revision to E90, Specification for Substrate Tracking, and E90.1, Specification for SECS-II Protocol Substrate Tracking.
  o SNARF # 6334, Line-Item Revision to SEMI E125: Specification for Equipment Self Description (EqSD)

  Motion: To abolish SNARF #5966 due to the SNARF scope change (from line-item to reapproval).
  By / 2nd: Brian Rubow (Cimetrix) / Frank Summers (ISGI)
  Discussion: None.
  Vote: 14-0. Motion passed.
Motion: To abolish SNARF #6334 due to the SNARF scope change (from line-item to major revision).

By / 2nd: Albert Fuchigami (PEER) / Nick Infelise (Omron)

Discussion: None.

Vote: 17-0. Motion passed.

- **Nonconforming Titles**
  - SEMI E37.1-0702 (Reapproved 0413) — High-Speed SECS Message Services Single Selected-Session Mode (HSMS-SS) <ballot issued Cycle 5-18>
  - SEMI E39.1-0703 (Reapproved 0614) — SECS-II Protocol for Object Services Standard (OSS) <ballot issued Cycle 5-18>
  - SEMI E40-0813 — Standard for Processing Management <ballot issued Cycle 5-18>
  - SEMI E40.1-0813 — SECS-II Support for Processing Management Standard <ballot issued Cycle 5-18>

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

- **Documents due for 5 Year Review**

<table>
<thead>
<tr>
<th>Name</th>
<th>Due for Review</th>
<th>Title</th>
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<tbody>
<tr>
<td>SEMI E90-0312</td>
<td>3/1/2017</td>
<td>Specification for Substrate Tracking</td>
</tr>
<tr>
<td>*SEMI E37.1-0702</td>
<td>4/1/2018</td>
<td>High-Speed SECS Message Services Single Selected-Session Mode (HSMS-SS)</td>
</tr>
<tr>
<td>SEMI E54.23-0513</td>
<td>5/1/2018</td>
<td>Specification for Sensor/Actuator Network Communications for CC-Link IE Field Network</td>
</tr>
<tr>
<td>*SEMI E40-0813</td>
<td>8/1/2018</td>
<td>Standard for Processing Management</td>
</tr>
<tr>
<td>*SEMI E40.1-0813</td>
<td>8/1/2018</td>
<td>SECS-II Support for Processing Management Standard</td>
</tr>
<tr>
<td>SEMI E167-1213</td>
<td>12/13/2018</td>
<td>Specification for Equipment Energy Saving Mode Communications (EESM)</td>
</tr>
<tr>
<td>SEMI E125-0414</td>
<td>4/25/2019</td>
<td>Specification for Equipment Self Description (EqSD)</td>
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4 Liaison Reports

4.1 Information & Control Europe TC Chapter
No changes since November 2017 / no report presented by EU Chapter.

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

- Meeting Information
  - Last meeting:
    - Thursday, April 26, 2018 at the SEMI Standards Japan Spring 2018 meetings
    - SEMI Japan, Tokyo, Japan
  - Next meeting:
    - Friday, July 27, 2018 at the SEMI Standards Japan Summer 2018 meetings
    - SEMI Japan, Tokyo, Japan

- Announcements: SEMI Tutorials:
  - SECS/GEM tutorial on June 26, 2018
  - GEM300 tutorial on June 27, 2018

- I&CC Japan TC Chapter Leadership
  - Co-chairs: Takayuki Nishimura / SCREEN Semiconductor Solutions; Mitsuhiro Matsuda / KOKUSAI ELECTRIC CORPORATION
    - Advisor: Mitsune Sakamoto / ZAMA Consulting;
    - Technical Architect: Tadashi Mochizuki / Tokyo Electron
    - Technical Editor: TBA

- Current I&CC Japan TC Chapter Structure (changes)
- **Ballot Results**

<table>
<thead>
<tr>
<th>Doc #</th>
<th>Document Title</th>
<th>TC Chapter Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>6300</td>
<td>New Standard: Guide for EDA Freeze Version</td>
<td><strong>Failed, Returned to TF</strong> for rework</td>
</tr>
<tr>
<td>6319</td>
<td>Line Item Revision to E87-1017: Specification for Carrier Management (CMS)</td>
<td>-</td>
</tr>
<tr>
<td>Line Item 1</td>
<td>Add ‘SEMI E171 Specification for Predictive Carrier Logistics (PCL)’ to the ‘Related Documents’ section.</td>
<td><strong>Passed, as balloted</strong></td>
</tr>
<tr>
<td>6330</td>
<td>Line Item Revisions to E54.17-0812 Specification of Sensor Actuator Network for A-Link</td>
<td>-</td>
</tr>
<tr>
<td>Line Item 1</td>
<td>Adding reference and mapping about E54.22 ‘Specification for Sensor/Actuator Network Specific Device Model for Vacuum Pressure Gauge’ to proper sections of E54.17</td>
<td><strong>Passed, as balloted</strong></td>
</tr>
<tr>
<td>Line Item 2</td>
<td>Adding reference and mapping about E54.24 ‘Specification for Sensor/Actuator Network Specific Device Model of Generic Equipment Network Sensor’ to proper sections of E54.17</td>
<td><strong>Passed, as balloted</strong></td>
</tr>
<tr>
<td>6331</td>
<td>Line Item Revisions to E54.19-0308 (Reapproved 0614) Specification of Sensor Actuator Network for MECHATROLINK</td>
<td>-</td>
</tr>
<tr>
<td>Line Item 1</td>
<td>Adding reference and mapping about E54.22 ‘Specification for Sensor/Actuator Network Specific Device Model for Vacuum Pressure Gauge’ to proper sections of E54.19</td>
<td><strong>Passed, as balloted</strong></td>
</tr>
<tr>
<td>Line Item 2</td>
<td>Adding reference and mapping about E54.24 ‘Specification for Sensor/Actuator Network Specific Device Model of Generic Equipment Network Sensor’ to proper sections of E54.19</td>
<td><strong>Passed, as balloted</strong></td>
</tr>
</tbody>
</table>

- **Activities Approved via GCS between Meetings**

<table>
<thead>
<tr>
<th>Doc #</th>
<th>Type</th>
<th>SC/TF/CFG</th>
<th>Title/Details</th>
</tr>
</thead>
</table>
| 6330  | SNARF| Sensor Bus TF | Line Item Revisions to E54.17 Specification of Sensor Actuator Network for A-Link  
- Approved and authorized for ballot in voting Cycle 2-2018 by GCS on 01/10/2017 |
| 6331  | SNARF| Sensor Bus TF | Line Item Revisions to E54.19 Specification of Sensor Actuator Network for MECHATROLINK  
- Approved and authorized for ballot in voting Cycle 2-2018 by GCS on 01/10/2018 |

- **Authorized Activities**
**Authorized Ballots**

<table>
<thead>
<tr>
<th>Doc #</th>
<th>Type</th>
<th>SC/TF/CFG</th>
<th>Document Title/Details</th>
</tr>
</thead>
</table>
| 6374  | SNARF| Sensor Bus TF | Line-Item Revision to SEMI E54.21: Specification for Sensor Actuator Network for Motionnet Communication  
|       |      |           | – Authorized new SNARF |
|       |      |           | – Authorized new SNARF  
|       |      |           | – TC Member Review took place between 04/11/2018 and 04/25/2017 before approval at the TC Chapter Meeting |
| 6376  | SNARF| Sensor Bus TF | Line-Item Revision to SEMI E54.12: Specification for Sensor/Actuator Network Communications for CC-Link  
|       |      |           | – Authorized new SNARF |
| 6377  | SNARF| GEM300 TF | Line-Item Revision to SEMI E5-1217: SEMI Equipment Communications Standard 2 Message Content (SECS-II)  
|       |      |           | – Authorized new SNARF |

**Abolished SNARF(s)**

<table>
<thead>
<tr>
<th>Doc #</th>
<th>TF</th>
<th>Title/Details</th>
</tr>
</thead>
</table>
| 6324  | GEM300 TF | Line Item Revision to SEMI E170-mmyy: Specification for Secured Foundation of Recipe Management System (SFORMS) to Change the Model Design  
|       |      | – New SNARF was issued to reflect change in scope as 6375 |
| 6325  | GEM300 TF | Line Item Revision to SEMI E170-mmyy: Specification for Secured Foundation of Recipe Management System (SFORMS) to Describe the Relation of Structure of Multiple Recipes  
|       |      | – New SNARF was issued to reflect change in scope as 6375 |
|       |      | – New SNARF was issued to reflect change in scope as 6375 and 6377 |
Task Force Highlights

- **GEM 300 TF**
  - Last TF meeting was held on April 26, 2018.
  - E170 application Study Working Group was formed as a subgroup under GEM 300TF with leadership of Koji Kitajima (Toshiba Memory) and Masahide Hirouchi (IBM Japan).
    - Masahide Hirouchi (IBM Japan) was stepped downed and Osamu Oishi (IBM Japan) is assigned as a CoLeader.
  - #6202: Revision to SEMI E174-0817: Specification for Wafer Job Management (WJM)
    - SNARF was approved at I&C Japan TC Chapter meeting on Sep 21, 2017.
    - Ballot submitted for Cycle 8-2017 and passed at I&C Japan TC Chapter meeting on Dec 15, 2017
    - Passed A&R in January, 2018
    - Scope was discussed with EISS TF
    - SNARF was approved at I&C Japan TC Chapter meeting on October 21, 2016
    - Material of explanation for concept of CUARAM is distributed to global I&C TC Members in order to receive response from them.
  - #6287: Line Item Revision to E87-0312: Specification for Carrier Management (CMS)
    - SNARF was approved at I&C Japan TC Chapter meeting on Sep 21, 2017.
    - Ballot submitted for Cycle 8-2017, and Line Item 2 passed at I&C Japan TC Chapter meeting on December 15, 2017. Line Item 1 failed and SNARF was abolished
    - Line Item 2 passed A&R in January, 2018
  - #6319: Line Item Revision to E87-1017: Specification for Carrier Management (CMS)
    - SNARF was approved at I&C Japan TC Chapter meeting on December 15, 2017
    - Ballot was submitted for Cycle 2-2018 and passed at I&C Japan TC Chapter meeting on April 26, 2018
  - #6324: Line Item Revision to Line Item Revision to SEMI E170-mmyy: Specification for Secured Foundation of Recipe Management System (SFORMS) to Change the Model Design
    - SNARF was approved at I&C Japan TC Chapter meeting on December 15, 2017
    - SNARF was abolished, and New SNARF was issued to reflect change in scope as 6375 at I&C Japan TC Chapter meeting on April 26, 2018
  - #6325: Line Item Revision to SEMI E170-mmyy: Specification for Secured Foundation of Recipe Management System (SFORMS) to Describe the Relation of Structure of Multiple Recipes
    - SNARF was approved at I&C Japan TC Chapter meeting on December 15, 2017
    - SNARF was abolished, and New SNARF was issued to reflect change in scope as 6375 at I&C Japan TC Chapter meeting on April 26, 2018
    - SNARF was approved at I&C Japan TC Chapter meeting on December 15, 2017
SNARF was abolished, and New SNARF was issued to reflect change in scope as 6375 and 6377 at I&C Japan TC Chapter meeting on April 26, 2018

  - SNARF was approved at I&C Japan TC Chapter meeting on April 26, 2018
  - Doc. #6375 is submitted to Cycle 5-2018

- #6377: Line Item revision to SEMI E5-1217: SEMI EQUIPMENT COMMUNICATIONS STANDARD 2 MESSAGE CONTENT (SECS-II)
  - SNARF was approved at I&C Japan TC Chapter meeting on April 26, 2018

**JA I&CC Maintenance TF**

- Last TF meeting was held on October 21, 2016.
- No current business exists.

**Sensor Bus TF**

- Last TF meeting was held on April 17, 2018.
- #6330: SNARF for Line Item Revisions to E54.17 Specification of Sensor Actuator Network for A-Link
  - SNARF was approved at GCS on January 10, 2018.
  - Ballot was submitted for Cycle 2-2018 and passed at I&C Japan TC Chapter meeting on April 26, 2018
- #6331: SNARF for Line Item Revisions to E54.19 Specification of Sensor Actuator Network for MECHATROLINK
  - SNARF was approved at GCS on January 10, 2018.
  - Ballot was submitted for Cycle 2-2018 and passed at I&C Japan TC Chapter meeting on April 26, 2018
- #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
  - Doc. #6374 is submitted to Cycle 5-2018
- #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
  - Doc. #6376 is submitted to Cycle 5-2018

**DDA (Diagnostic Data Acquisition) Task Force**

- Last TF meeting was held on April 25, 2018.
- #6300: SNARF for New Standard: Guide for EDA Freeze Version
▪ SNARF was approved at GCS on October 24, 2018.
▪ Ballot was submitted for Cycle 2-2018
▪ Ballot was failed at I&C Japan TC Chapter meeting on April 26, 2018 and #6300A is to be issued.

• Five-Year Review

<table>
<thead>
<tr>
<th>Designation</th>
<th>Standard Title</th>
<th>Action By</th>
<th>Assigned to</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEMI E169-0615</td>
<td>Guide for Equipment Information System Security</td>
<td>2020</td>
<td>-</td>
</tr>
<tr>
<td>SEMI E171-0916</td>
<td>Specification for Predictive Carrier Logistics (PCL)</td>
<td>2021</td>
<td>-</td>
</tr>
<tr>
<td>SEMI E99-0317</td>
<td>Specification for Carrier ID Reader/Writer</td>
<td>2023</td>
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<tr>
<td>SEMI E153-0310</td>
<td>Specification for AMHS SEM (AMHS SEM)</td>
<td>2023</td>
<td>-</td>
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<tr>
<td>(Reapproved 0517)</td>
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<td></td>
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<tr>
<td>SEMI E174-0817</td>
<td>Specification for Wafer Job Management (WJM)</td>
<td>2023</td>
<td>-</td>
</tr>
<tr>
<td>SEMI E91-1217</td>
<td>Specification for Prober Specific Equipment Model (PSEM)</td>
<td>2023</td>
<td>-</td>
</tr>
</tbody>
</table>

• For more information, please contact SEMI Japan staff:
  o Mizue Iwamura, SEMI Japan
  o miwamura@semi.org

Attachment 04: Japan I&C TC Report (June 2018).ppt

4.3 Information & Control Korea TC Chapter

Hyungsu Kim (Doople) reported for the Information & Control Korea TC Chapter. Of note:

• Meeting Information
  o Last meeting
    ▪ Friday, June 8, 2018 at the SEMI Standards Korea Summer 2018 meetings
    ▪ AICT, Suwon-si
  o Next meeting
    ▪ Friday, October 19, 2018 at the SEMI Standards Korea Fall 2018 meetings
    ▪ SEMI Korea office, Seoul

• Announcements
  o 4946D Minority Report Issue
    ▪ Details are in TF highlights
  o SEMI Standards Tutorial (Draft)
    ▪ Topic: Software Standards
    ▪ Date: Thursday, Oct 25

• Leadership Change
  o None

• Authorized Ballots:
Open SNARFs:

<table>
<thead>
<tr>
<th>#</th>
<th>TF</th>
<th>Title</th>
<th>Expiration Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>4946</td>
<td>GEM 300 TF</td>
<td>Line Item Revision to E87 and E87.1, Adding Carrier Ready to Unload Prediction</td>
<td>2020-06-16</td>
</tr>
<tr>
<td>5832</td>
<td>GEM 300 TF</td>
<td>New Standard, Specification for Equipment Generic Counter Model</td>
<td>2020-10-20</td>
</tr>
<tr>
<td>6301</td>
<td>ABFI TF</td>
<td>Line Item Revision to E142, Adding packaging raw materials traceability method</td>
<td>2020-10-20</td>
</tr>
</tbody>
</table>

No discussion on below topics
- Ballot Results
- Activities Approved via GCS between Meetings
- Authorized Activities
- Other Activities Outside the Letter Ballot Process
- Abolished SNARF(s)
- Standards to receive Inactive Status
- Five-Year Review

Task Force Highlights:
- **GEM 300 Task Force**
  - #4946, Line Item Revision to E87 and E87.1, Adding Carrier Ready to Unload Prediction:
    - The original format to revise/update specific section is kept as it is.
    - Instead, the clear expression to indicate the line item is “optional” is added in various text.
  - #5832, New Standard, Specification for Equipment Generic Counter Model
    - None
- **DDA TF**
  - TF leaders are participating EDA Freeze 3 revision activities as below.
    - #6334, Line-Item Revision to SEMI E125: Specification for Equipment Self Description (EqSD)
    - #6335, Line-Item Revision to SEMI E134: Specification for Data Collection Management
- **ABFI TF**
  - #6301, Line Item Revision to E142-0211(Reapproved 1016) Specification for Substrate Mapping: Adding packaging raw materials traceability method
  - Discussion on 6301B is on-going.

Other Activities:
4946D Minority Report
- 4946D (Line Item Revision to E87 and E87.1) received minority report
  - Date: March 6, 2018
  - Submitter: Mitch Sakamoto
- *Note: The Minutes including adjudication record was published on March 6, 2018
- GCS Voting request was made.
  - Motion: The minority report on 4946D is NOT technically persuasive
  - Period: Mar 7 – 21, 2018 (2 Weeks)
  - Voting: Accept 3/ Not Accept 3/ Abstain 1/ No Response 2
  - Result: The motion to the GCS failed to get simple majority.
- Korea TC Chapter’s finally decided to fail 4946D
  - Review Date: June 8, 2018 at Korea TC Chapter meeting
  - TC Chapter accepted some negatives cited in MR and overturned its previous decision.
  - Mitch Sakamoto and ByoungMin Im agreed to collaborate drafting 4946E.
  - 4946E authorized cycle 6, 2018

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

Attachment 05: Korea I&C TC Liaison Report (July 2018).pdf

4.4 Information & Control Taiwan TC Chapter

Inna Skvortsova (SEMI) reported on behalf of the Information & Control Taiwan TC Chapter. Of note:
- Leadership: Committee Co-chairs - Robert Chien / TSMC
  - No Leadership Change
- Meeting Information:
  - Last meeting: March 23, 2018 at the Taiwan Spring 2018 Meetings
    - SEMI office, Hsinchu, Taiwan
  - Next meeting: September, 2018 at the Taiwan Fall 2018 Meetings
    - SEMI office, Hsinchu, Taiwan
- Ballot Results
  - NONE
- Task Force Updates:
  - Equipment Information Integration TF
    - No New Activity.
    - Next Meeting (Tentative)
      - 2018 Q3, in conjunction with eMDC at Hsinchu
  - GEM300 TF
    - No New Activity.
    - Next Meeting (Tentative)
      - 2018 Q3, in conjunction with eMDC at Hsinchu
  - Backend Factory Integration TF
    - Continue draft Doc6147
    - Study for Backend new technologies and SEMI standard revision / definition of advanced Backend automation tool including 3D IC tools and generic Backend tools.
5 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.

5.1 Ballot #6378

The TC Chapter reviewed the Document #6378, Line-item Revision to SEMI E133, Specification for Automated Process Control Systems Interface and E133.1 Specification for XML messaging for Process Control Systems (PCS). I&C TC accepted the PCS Task Force recommendation to find Reject #1 Negative #1 submitted by Takashi Nakagawa (Yokogawa) to be related but not technically persuasive.

The ballot Passed and will be forwarded to ISC A&R as balloted

Motion: To find Reject #1 Negative #1 submitted by Takashi Nakagawa (Yokogawa) to be related but not technically persuasive
By / 2nd: James Moyne (AMAT, UMICH) / Jack Ghiselli (Ghiselli Consulting)
Discussion: Was the SNARF clear? Yes, the SNARF is clear; The feedback provided by reject submitter will be incorporated under new business for SEMI E133;
Vote: 13-0. Motion passed.

Motion: Document # 6378 is not a Safety Document, when all safety-related information is removed, Document is still technically sound and complete.
By / 2nd: Jack Ghiselli (Ghiselli Consulting) / Frank Summers (ISGI)
Discussion: None.
Vote: 16-0. Motion passed.

Motion: Forward Document # 6378 to the ISC A&R for procedural review as balloted.
By / 2nd: James Moyne (AMAT/University of Michigan) / Jack Ghiselli (Ghiselli Consulting)
Discussion: None.
Vote: 13 -0. Motion passed.

Attachment 07: 6378_Procedural Review

5.2 Ballot #6335

The TC Chapter reviewed the Document #6335, Line-Item Revision to SEMI E134, Specification for Data Collection Management. Ballot includes three (3) line-items:
The Line-item 1 – “Change the name and unit of the DCP attribute ‘intervalInMinutes’” – passed TC review and will be forwarded to ISC A&R for procedural review. Details can be found in the attached Procedural Review file.

The Line-item 2 – “Add a new client interface to query the currently set alarms” – failed TC review and will be resubmitted in Cycle 7-2018.

The Line-item 3 – “Add DCP activation and deactivation notification to consumer interface” – failed TC review and will be resubmitted in Cycle 7-2018.

I&C TC accepted the DDA Task Force recommendation to find Reject #2 Negative # 1 submitted by Nakagawa, Takashi (Yokogawa) for ballot #6335 Line-item 2 to be related and technically persuasive. Details can be found in the attached Procedural Review file.

Motion: To find Reject # 2-1 submitted by Nakagawa, Takashi (Yokogawa), for SEMI Draft Document 6335 Line-item #2 to be related and technically persuasive. The Task Force will rework and resubmit the document in Cycle 7-2018

By / 2nd: Albert Fuchigami (PEER Group) / Frank Summers (ISGI)

Discussion: None

Vote: 15-0. Motion passed.

I&C TC accepted the DDA Task Force recommendation to find Reject #1 Negative # 1 submitted by Tadashi Mochizuki (TEL) for Line-item 3 to be related and technically persuasive. Details can be found in the attached Procedural Review file.

Motion: To find Reject #1 Negative # 1 submitted by Tadashi Mochizuki (TEL) for ballot #6335 Line-item 3 to be related and technically persuasive. The Task Force will rework and resubmit the document in Cycle 7-2018

By / 2nd: Albert Fuchigami (PEER Group) / Nick Infelise (Omron)

Discussion: None

Vote: 15-0. Motion passed.

Motion: Documents # 6335 is not a Safety Document, when all safety-related information is removed, Document is still technically sound and complete.

By / 2nd: Jack Ghiselli (Ghiselli Consulting) / Frank Summers (ISGI)

Discussion: None.

Vote: 16-0. Motion passed.

Motion: Forward Document # 6335 Line-items #1 to the ISC A&R for procedural review as balloted.

By / 2nd: James Moyne (AMAT/University of Michigan) / Jack Ghiselli (Ghiselli Consulting)

Discussion: None.

Vote: 13-0. Motion passed.

Attachment 08: 6335_Procedural Review

5.3 Ballot #6336A

The TC Chapter reviewed the Document #6336A, Line-Item Revision to SEMI E138, Specification for XML Semiconductor Common Components
I&C TC accepted the DDA Task Force recommendation to find Reject #1-1 submitted by Sakamoto, Mitsune (ZAMA) to be related and technically persuasive.

The ballot failed and will be resubmitted in Cycle 7-2018.

Motion: To find Reject #1-1 from Sakamoto, Mitsune (ZAMA) for SEMI Draft Document 6336A to be related and technically persuasive. The Task Force will rework and resubmit the document in Cycle 7-2018

By / 2nd: Albert Fuchigami (PEER) / Frank Summers (ISGI)

Discussion: None

Vote: 15-0. Motion passed.

Attachment: NONE

5.4 Ballot #6337A

The TC Chapter reviewed the Document #6337A, Line Item Revision to SEMI E132, Specification for Client Authentication and Authorization.

I&C TC accepted the DDA Task Force recommendation to find Reject #1-1 submitted by Nishimura, Takayuki (SCREEN) to be related and technically persuasive.

The ballot failed and will be resubmitted in Cycle 7-2018.

Motion: To find Reject #1-1 submitted by Nishimura, Takayuki (SCREEN) for SEMI Draft Document 6337A to be related and technically persuasive. The Task Force will rework and resubmit the document in Cycle 7-2018

By / 2nd: Albert Fuchigami (PEER) / Frank Summers (ISGI)

Discussion: None

Vote: 15-0. Motion passed.

Attachment: NONE

5.5 Ballot #6348

The TC Chapter reviewed the Document #6348 Revision to SEMI E30, Specification for the Generic Model For Communications and Control of Manufacturing Equipment (GEM).

I&C TC accepted the GEM300 Task Force recommendation to Reject #2-1 submitted by Mochizuki, Tadashi (TEL) to be related and technically persuasive.

The ballot failed and will be resubmitted in Cycle 7-2018.

Motion: To find Reject #2-1 submitted by Mochizuki, Tadashi (TEL) for SEMI Draft Document 6348 to be related and technically persuasive. The Task Force will rework and resubmit the document in Cycle 7-2018

By / 2nd: Brian Rubow (Cimetrix) / Christian Hoffmann (PEER)

Discussion: None

Vote: 16-0. Motion passed.

Attachment: NONE
5.6 Ballot #6349A

The TC Chapter reviewed the Document #6349A Revision to E37.1, *High-Speed SECS Message Services Single Selected-Session Mode (HSMS-SS OR HSMS-SSS)*

I&C TC accepted the GEM300 Task Force recommendation to find Reject #1-1 submitted by Matsuda, Mitsuhiro (KOKUSAI ELECTRIC CORPORATION) related and technically persuasive.

The ballot failed and will be resubmitted in Cycle 7-2018.

**Motion:**
To find Reject #1-1 submitted by Matsuda, Mitsuhiro (KOKUSAI ELECTRIC CORPORATION) for SEMI Draft Document 6349A to be related and technically persuasive. The Task Force will rework and resubmit the document in Cycle 7-2018

**By / 2nd:** Brian Rubow (Cimetrix) / Nick Infelise (Omron)

**Discussion:** None

**Vote:** 16-0. Motion passed.

**Attachment:** NONE

5.7 Ballot #6114B

The TC Chapter reviewed the Document #6114B Line-item Revision to SEMI E5-0813, *SEMI Equipment Communications Standard 2 Message Content (SECS-II)*

I&C TC accepted the GEM300 Task Force recommendation to Reject #1-1 submitted by Matsuda, Mitsuhiro (KOKUSAI ELECTRIC CORPORATION) to be related and technically persuasive.

The ballot failed and will be resubmitted in Cycle 7-2018.

**Motion:**
To find Reject #1-1 submitted by Matsuda, Mitsuhiro (KOKUSAI ELECTRIC CORPORATION) for SEMI Draft Document 6114B to be related and technically persuasive. The Task Force will rework and resubmit the document in Cycle 7-2018

**By / 2nd:** Brian Rubow (Cimetrix) / Nick Infelise (Omron)

**Discussion:** None

**Vote:** 15-0. Motion passed.

**Attachment:** NONE

5.8 Ballot #6386

The TC Chapter reviewed the Document #6386 Reapproval to SEMI E90-0312, *Specification for Substrate Tracking*

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 # 6386 is not a Safety Document, when all safety-related information is removed, Document is still technically sound and complete.

**By / 2nd:** Jack Ghiselli (Ghiselli Consulting) / Frank Summers (ISGI)

**Discussion:** None.

**Vote:** 16-0. Motion passed.
Motion: Forward Document # 6386 to the ISC A&R for procedural review as balloted.
By / 2nd: Chris Maloney (Intel) / Frank Summers (ISGI)
Discussion: None.
Vote: 16-0. Motion passed.

Attachment 09: 6386_Procedural Review

5.9 Ballot #6381

The TC Chapter reviewed the Document #6381 Line-item Revision to SEMI E40-0813, Standard for Processing Management, to correct nonconforming title.

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 # 6381 is not a Safety Document, when all safety-related information is removed, Document is still technically sound and complete.
By / 2nd: Jack Ghiselli (Ghiselli Consulting) / Frank Summers (ISGI)
Discussion: None.
Vote: 16-0. Motion passed.

Motion: Forward Document # 6381 to the ISC A&R for procedural review as balloted.
By / 2nd: Chris Maloney (Intel) / Frank Summers (ISGI)
Discussion: None.
Vote: 16-0. Motion passed.

Attachment 10: 6381_Procedural Review

5.10 Ballot #6382

The TC Chapter reviewed the Document #6382 Line-item Revision to SEMI E40.1-0813, SECS-II Support for Processing Management Standard, to correct nonconforming title.

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 # 6382 is not a Safety Document, when all safety-related information is removed, Document is still technically sound and complete.
By / 2nd: Jack Ghiselli (Ghiselli Consulting) / Frank Summers (ISGI)
Discussion: None.
Vote: 16-0. Motion passed.

Motion: Forward Document # 6382 to the ISC A&R for procedural review as balloted.
By / 2nd: Chris Maloney (Intel) / Frank Summers (ISGI)
Discussion: None.
Vote: 16-0. Motion passed.
Attachment 11: 6382_Procedural Review

5.11 Ballot #6379

The TC Chapter reviewed the Document #6379 Line-item Revision to SEMI E39-0703, Object Services Standard: Concepts, Behavior, And Services, to correct nonconforming title.

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 # 6379 is not a Safety Document, when all safety-related information is removed, Document is still technically sound and complete.
By / 2nd: Jack Ghiselli (Ghiselli Consulting) / Frank Summers (ISGI)
Discussion: None.
Vote: 16-0. Motion passed.

Motion: Forward Document # 6379 to the ISC A&R for procedural review as balloted.
By / 2nd: Chris Maloney (Intel) / Frank Summers (ISGI)
Discussion: None.
Vote: 16-0. Motion passed.

Attachment 12: 6379_Procedural Review

5.12 Ballot #6380

The TC Chapter reviewed the Document #6380 Line-item Revision to SEMI E39.1-0703, SECS-II Protocol for Object Services Standard (OSS), to correct nonconforming title.

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 # 6380 is not a Safety Document, when all safety-related information is removed, Document is still technically sound and complete.
By / 2nd: Jack Ghiselli (Ghiselli Consulting) / Frank Summers (ISGI)
Discussion: None.
Vote: 16-0. Motion passed.

Motion: Forward Document # 6380 to the ISC A&R for procedural review as balloted.
By / 2nd: Chris Maloney (Intel) / Frank Summers (ISGI)
Discussion: None.
Vote: 16-0. Motion passed.

Attachment 13: 6380_Procedural Review
5.13 Ballot #6333

The TC Chapter reviewed the Document #6333 Line-item Revision to SEMI E54.23-0513, Specification for Sensor/Actuator Network Communications for CC-Link IE Field Network. This ballot contains 3 line items.

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 #6333 is not a Safety Document, when all safety-related information is removed, Document is still technically sound and complete.

By / 2nd: Jack Ghiselli (Ghiselli Consulting) / Frank Summers (ISGI)

Discussion: None.

Vote: 16-0. Motion passed.

Motion: Forward Document #6333 to the ISC A&R for procedural review as balloted.

By / 2nd: Chris Maloney (Intel) / Frank Summers (ISGI)

Discussion: None.

Vote: 16-0. Motion passed.

Attachment 14: 6333_Procedural Review

6 Subcommittee and Task Force Reports

6.1 DDA Task Force

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

- Leadership Change
  - None
- Ballot Adjudicated
  - Passed:
    - 6335 E134 – Line Item #1
  - Failed:
    - 6335 E134 – Line Item #2 & #3; 6336A E138 Line Item #1; 6337A E132 Line Item #1
- New SNARFs
  - Revision to SEMI E125, Specification for Equipment Self Description (EqSD)
  - Line Item Revision to SEMI E134, Specification For Data Collection Management
- Upcoming Activities
  - Rework and resubmit failed ballots in Cycle 7-18
    - 6335A Line-Item Revision to SEMI E134, Specification for Data Collection Management
      - Line Item #2 and Line Item #3
    - 6336B Line-Item Revision to E138, Specification for XML Semiconductor Common Components
    - 6337B Line-Item Revision to E132, Specification for Client Authentication and Authorization
Submit new ballots
   • Doc #TBD – Revision to E125
   • Doc #TBD – Line Item Revision to E134
   • 6300 - New Standard (EDA Freeze Version)

Technical summary of open activities
   • Integrating HTTP/2 into EDA Standards
     ▪ Overview session of gRPC/protocol buffer technology
     ▪ Reviewed Trace Data prototyping numbers (using message structure more representative of EDA Trace Data).
     ▪ gRPC/protobuf messages still more performant than current HTTP/1.1 with SOAP/XML messages. Continue pursuing this as the replacement technology
     ▪ Reported back on gRPC and Protocol Buffer legal implications – OK for use with proper attribution
   • Cached Data Sample Proposal
     ▪ Look at defining special trace for reporting data collected at high frequency (send array of data for specific simple data types) and define new metadata on parameters to indicate if it can support this.
     ▪ Pursue with new SNARFs for E125 and E134
   • Freeze 3 Status Review.

Action Item (Inna S.) Delay publishing Doc. #6335-L1 till all line-items pass I&C TC

Action Item (Albert F.) To review current SEMI Standards Regulations section 16 and evaluate EDA proposal on HTTP/gRPC implementation for IP/copyright/trademark compliance.

Motion: Approve new SNARF for Line-item Revision to SEMI E134-0414, Specification for Data Collection Management.
By / 2nd: Albert Fuchigami (PEER) / James Moyne (UMICH, AMAT)
Discussion: none
Vote: 17-0. Motion passed.

Attachment 15: DDA-TF Report April 2018.PPT

6.2 GEM300 Task Force

Brian Rubow reported for the GEM300 Task Force. Of note:
   • Meeting Discussion (Technical Summary)
     ▪ Reviewed ballot 6114A
       ▪ Some changes related to the ITEMVERSION (a timestamp)
       ▪ Some clarification on ITEM PART usage
       ▪ Some clarification on allowing multiple PROCESS PROGRAMS with the same ID, different VERSIONS
     ▪ Ballot 6349A
       ▪ E173 should be a related, not referenced document.
       ▪ Clarification on invalid Session ID in an HSMS message header.
   • Ballot 6348
     ▪ Overwhelming majority wishes to clarify DV/DVVAL/DVID/DVNAME and other similar acronym confusion. Intention to later update E5 as well.
     ▪ Unable to discuss some of the details due to time constraints.

Attachment 16: GEM300TF Report July 2018.PPT

6.3 ESEC Task Force Report
Mike Czerniak (Edwards Vacuum) reported for the ESEC TF. Of note:

- Leadership
  - No changes
- Ballot Adjudicated
  - None
- New SNARFs
  - None
- Upcoming Activities
  - Draft SNARF proposal for revision to SEMI E167 and SEMI E175 presented at TF meeting
    - Proposal is rejected because of unclear problem statement
    - More work is needed before SNARF submission / Different alternatives were discussed
- Telephone conferences will be scheduled for August and September

### Attachment 17: ESEC TF Report July 2018.PPT

### 6.4 PSC Task Force Report

James Moyne reported for the PCS Task Force. Of note:

- Leadership
  - No changes
- Ballot Adjudicated
  - Passed:
- New SNARF
  - None
- New Ballots
  - None
- Upcoming Activities
  - PCS TF plans to update its TFOF to better align with smart manufacturing and Industry 4.0 terminology and directions
    - Topics: Process Control; Fault Detection; Analytics for prediction; Smart Manufacturing
    - For additional information, please contact James Moyne moyne@umich.edu

### Attachment 18: PSC TF Report July 2018.PPT

### 6.5 Sensor Bus (SB) Task Force Report

James Moyne reported for the SB Task Force. Of note:

- Leadership
  - No changes
  - Task Force is looking for co-Leader
- Ballot Adjudicated
  - Passed:
    - # 6333, Line Item Revision to SEMI E54.23, Specification for Sensor/Actuator Network communications for CC-Link IE Field Network
- New SNARFs
6.6 GUI Task Force Report
Frank Summers reported for the GUI Task Force. Of note

- Leadership
  - No changes

- Ballot Adjudicated
  - None

- New SNARFs / Ballots
  - None

- Technical Summary
  - Ongoing work on Revision to SEMI E95 Specification for Human Interface for Semiconductor Manufacturing Equipment
    - Received excellent input for ongoing regarding modified graphics and regarding modified text:
      - Changes will be emailed for comment/approval
  - Target for ballot submission by November I&C TC meeting

7 Old Business
7.1 Standards due for Five-Year Review.
Inna Skvortsova addressed the TC Chapter on this topic. Of note:

<table>
<thead>
<tr>
<th>Name</th>
<th>Due for Review</th>
<th>Title</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEMI E90-0312</td>
<td>3/1/2017</td>
<td>Specification for Substrate Tracking</td>
<td>Ballot issued</td>
</tr>
<tr>
<td>*SEMI E37.1-0702 (Reapproved 0413)</td>
<td>4/1/2018</td>
<td>High-Speed SECS Message Services Single Selected-Session Mode (HSMS-SS)</td>
<td>Ballot issued</td>
</tr>
<tr>
<td>SEMI E54.23-0513</td>
<td>5/1/2018</td>
<td>Specification for Sensor/Actuator Network Communications for CC-Link IE Field Network</td>
<td>Ballot issued</td>
</tr>
<tr>
<td>*SEMI E40-0813</td>
<td>8/1/2018</td>
<td>Standard for Processing Management</td>
<td>Ballot issued</td>
</tr>
<tr>
<td>*SEMI E40.1-0813</td>
<td>8/1/2018</td>
<td>SECS-II Support for Processing Management Standard</td>
<td>Ballot issued</td>
</tr>
<tr>
<td>SEMI E167-1213</td>
<td>12/13/2018</td>
<td>Specification for Equipment Energy Saving Mode Communications (EESM)</td>
<td>Assigned to ESEC TF</td>
</tr>
<tr>
<td>SEMI E94-0314</td>
<td>3/28/2019</td>
<td>Specification for Control Job Management</td>
<td>Assigned to GEM 300 TF</td>
</tr>
<tr>
<td>SEMI E120-0414</td>
<td>4/25/2019</td>
<td>Specification for the Common Equipment Model (CEM)</td>
<td>Reapproval ballot to be issued</td>
</tr>
</tbody>
</table>
7.2 SNARFs Approaching 3-Year Review

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

- No SNARFs received extended period.

8 New Business

8.1 New TFOFs Approval

- None

8.2 New SNARFs Approval

In addition to SNARF(s) approved as part of respective Task Force reports, the Technical Committee reviewed and approved new SNARF for the following documents:

- SNARF for Reapproval to SEMI E120-0414, Specification for the Common Equipment Model (CEM)
- SNARF for Reapproval to SEMI E128-0414, Specification for XML Message Structures
- SNARF for Reapproval to SEMI E145-0414, Classification for Measurement Unit Symbols in XML

Motion: Move to approve SNARF for SEMI E120; E128; E145
By / 2nd: Albert Fuchigami (PEER) / Brian Rubow (Cimtertix)
Discussion: None.
Vote: 17/0. Motion passed.

8.3 New Ballots Authorization:

- Ballot #6335A submitted by DDATF for Line Item Revision to SEMI E134, Specification for Data Collection Management
- Ballot # TBD submitted by DDA Task Force for Reapproval to SEMI E90-0312, Specification for Substrate Tracking
- Ballot #6336B submitted by DDA TF for Line-Item Revision to SEMI E138, Specification for XML Semiconductor Common Components
- Ballot # 6337B submitted by DDA TF for Line Item Revision to SEMI E132, Specification for Client Authentication and Authorization
- Ballot # 6348A submitted by GEM300 TF for Revision to SEMI E30, Specification for the Generic Model For Communications and Control of Manufacturing Equipment (GEM).
• Ballot # 6349B submitted by GEM 300 TF for Revision to E37.1, *High-Speed SECS Message Services Single Selected-Session Mode (HSMS-SS OR HSMS-SSS)*.

• Ballot # 6114C submitted by GEM 300 TF for Line-item Revision to SEMI E5-0813, *SEMI Equipment Communications Standard 2 Message Content (SECS-II)*.

• Ballot # TBD submitted by DDA TF Task Force for Reapproval to SEMI E120-0414, *Specification for the Common Equipment Model (CEM)*.


• Ballot # TBD submitted by DDA TF Task Force for Reapproval to SEMI E145-0414, *Classification for Measurement Unit Symbols in XML*.

**Motion:** To approve letter ballots submission for Cycle 7-2018 for the following documents:
#6335A LI-2&3; #6336A LI-1; #6337B LI-1; #6348A; #6349B; #6114C; As well as Line-item revision to E134; and reapproval to E120, E128, E145 (Doc #’s TBD)

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

**Discussion:** None.

**Vote:** 14-0. Motion passed.

8.4 *Effective Ballot Voting Procedure*

NA TC Chapter co-Chair, Brian Rubow (Cimetrix) delivered presentation calling for I&C GTC members for collaboration and adoption of effective ballot voting procedure. Of note:

• Qualities of a *Productive* Task Force Member
  o Reviews ballots drafts
  o Provides constructive feedback to the author(s) before the ballot is submitted to SEMI
  o Votes on time
  o Does not need a SEMI reminder at the last minute
  o Follows SEMI effective meeting guidelines
  o Contributes in task force discussions

• Qualities of an *Ineffective* Task Force Member
  o Skips ballot draft review
  o Votes late or skips voting cycles
  o Has to be reminded to vote several times by SEMI
  o Fails to contribute in any task force discussions
  o **Consistently rejects ballots with negatives that should have been raised during ballot draft review**

• Summary
  o There are a few select voters who both:
    • Regularly fail to provide any feedback on ballot drafts
    • Regularly reject ballots
  o This is not how the process is supposed to work
    • The majority of rejects submitted during ballot voting are very easy to resolve
  o Such delayed feedback has the following consequences
    • Frustration to all task force members, committee members and ballot author(s)
    • Regularly delays ballot development by a minimum of 4 months and sometimes years.
    • Discourages participation in the standards development process.
• New members get frustrated. We WANT participation & new members with fresh ideas to be involved.
  o Final Message:
    • SEMI standards development is built on the work of volunteers.
    • Please don’t waste our time or the time of SEMI staff
    • Please make an honest effort to provide feedback on ballot drafts!

Attachment 21: SEMI NA-ICC Voting Procedure.PPT

8.5 Smart Manufacturing / IRDS/ APC Update
James Moyne provided brief update on the following activities related to I&C TC:

8.5.1 Smart Manufacturing Standards related presentations and sessions at SEMICON West 7/11/2018:
  • Smart Manufacturing Meet the Experts Pavilion:
    o Applying Smart Manufacturing Methods and Architectures to Subfab Operations in Semiconductor Manufacturing (Andreas Neuber | AMAT)
    o A SEMI Standards Roadmap for the Digital Twin in Microelectronics Smart Manufacturing (James Moyne | AMAT; Chris Maloney | Intel; Inna Skvortosva | SEMI)
    o Making Smart Manufacturing Work: The Stakeholder-driven Requirements Development Process (Alan Weber | Cimetrix)
    o A Roadmap for the Future of Smart Manufacturing (James Moyne | AMAT)
  Details available online: http://semiconwest.org

8.5.2 IRDS Update
  • International Roadmap for Devices and Systems (IRDS)
    o www.irds.ieee.org
    o Next Generation of International Technology Roadmap for Semiconductors (ITRS)
  • IRDS Factory Integration Thrust
    o Focuses on challenges and potential solutions for tools and processes necessary to produce items at affordable cost in high volume
    o IRDS Factory Integration Defined SM Challenges 2018-2024:
      ▪ Factory operations:
        • More customized production without loss of productivity
        • Improved horizontal and vertical integration
        • Defining cloud and edge devices
        • Improved optimization including with supply chain
      ▪ Big data
        • Big data infrastructures and the transition process
        • Microelectronics specific issues, e.g., data collection environment (SECS/GEM, Interface A, …)


- **Prediction and Analytics**
  - Incorporating predictive analytics with prediction-friendly systems
  - Incorporating big data friendly analytics such as crawlers and deep learning
  - Advanced analytics with reliance on SME “knowledge network”

- **Digital Twin**
  - Digital twin vision defined
  - Migration from existing digital solution set in industry

- **Supply chain integration**
  - Supply chain optimization
  - Digital thread, block-chain, etc.
  - Across-multiple-industry standards

- **Security**
  - Especially for data sharing and IP partitioning
  - Across industries issue, but with microelectronics specific elements

  - For additional information, please contact James Moyne (AMAT): moyne@umich.edu or Supika Mashiro (TEL): supika.mashiro@tel.com

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8.5.3 *Integrated measurement Association (IMA) Advanced Process Control (APC) Conference*

- Advance Process Control Conference – Oct 8-11, Austin TX  www.apcconference.com
  - Topics:
    - Process control; FD;
    - Analytics for prediction, etc.
    - Smart Manufacturing
  - Abstracts due July 20, 2018
  - APC Council Meeting “Data driven versus physically-enhanced modeling for APC”
    - Oct 11, 2018
  - Contact James Moyne: moyne@umich.edu

Attachment 22: New Business-IRDS-SM-APC Update.PPT

9 **Action Items Review**

9.1 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.

9.2 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.
10 Next Meeting and Adjournment

The next meeting is scheduled for November 7, 2018 at SEMI HQ, Milpitas, CA. See [http://www.semi.org/en/events](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 11:00 AM.

Respectfully submitted by:

Inna Skvortsova  
Sr. Standards Coordinator  
SEMI North America  
Phone: 408-9436996  
Email: iskvortsova@semi.org

Minutes tentatively approved by:

<table>
<thead>
<tr>
<th>Brian Rubow (Cimetrix) Co-chair</th>
<th></th>
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<tbody>
<tr>
<td>Jack Ghiselli (Ghiselli Consulting) Co-chair</td>
<td></td>
</tr>
<tr>
<td>James Moyne (AMAT/University of Michigan) Co-chair</td>
<td></td>
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</tbody>
</table>

Table 13 Index of Available Attachments*

<table>
<thead>
<tr>
<th>Title</th>
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</tr>
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<tbody>
<tr>
<td>Attachment 01: SEMI Standards Required Elements.ppt</td>
<td>Attachment 13: 6380_Procedural Review</td>
</tr>
<tr>
<td>Attachment 02: NA I&amp;C TC Meeting Minutes (Spring 2018)</td>
<td>Attachment 14: 6333_Procedural Review</td>
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<tr>
<td>Attachment 11: 6382_Procedural Review</td>
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<tr>
<td>Attachment 12: 6379_Procedural Review</td>
<td></td>
</tr>
</tbody>
</table>

* 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.