



**Information and Control Global Technical Committee**

**North America (NA) Chapter**

**Meeting Summary and Minutes**

Spring 2017 Meeting

Tuesday April 5, 2017 8:00 – 14:30

Milpitas, CA

**TC Chapter Announcements**

Next TC Chapter Meeting

July 12, 2017 at 08:00 – 14:00

SEMICON West Meetings, San Francisco, 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, James Amano

| <i>Company</i>                     | <i>Last</i>  | <i>First</i> | <i>Company</i>           | <i>Last</i>     | <i>First</i>  |
|------------------------------------|--------------|--------------|--------------------------|-----------------|---------------|
| <i>AMAT/University of Michigan</i> | <i>Moyne</i> | <i>James</i> | <i>Veeco</i>             | <i>Lawrence</i> | <i>Elena</i>  |
| Cimetrix                           | Rubow        | Brian        | <i>PEER Group</i>        | <i>McKenzie</i> | <i>Alison</i> |
| Ghiselli Consulting                | Ghiselli     | Jack         | Hitachi Kokusai Electric | Matsuda         | Mitsuhiro     |
| Industrial Strength Graphics       | Summers      | Frank        | SEMI HQ                  | Skvortsova      | Inna          |
| PEER Group                         | Fuchigami    | Albert       | SEMI HQ                  | Amano           | James         |
| Doople                             | Hyungsu      | Kim          |                          |                 |               |
| Linkgenesis                        | Inhyeok      | Paek         |                          |                 |               |
| Edwards                            | Czerniak     | Mike         |                          |                 |               |

**Table 2 Leadership Changes**

| <i>WG/TF/SC/TC Name</i> | <i>Previous Leader</i> | <i>New Leader</i>   |
|-------------------------|------------------------|---|
| DDA TF                  | Brian Rubow (Cimetrix) | Brian Rubow (Cimetrix)<br><b>Albert Fuchigami, (PEER Group) - new</b> |

**Table 3 Committee Structure Changes**

| <i>Previous WG/TF/SC Name</i> | <i>New WG/TF/SC Name or Status Change</i> |
|-------------------------------|---|
| None                          |   |



**Table 4 Ballot Results**

| <i>Document #</i> | <i>Document Title</i>  | <i>Committee Action</i>  |
|-------------------|--|--|
| 6026A             | Line Item Revision to SEMI E109-1110, <i>Specification for Reticle and Pod Management (RPMS)</i>   | <b>Passed</b>  |
| 6066A             | Line Item Revision to SEMI E130-1104-0710R, <i>Specification for Prober Specific Equipment Model for 300 mm Environment (PSEM300)</i> and SEMI E130.1-1104-0710R, <i>Specification for SECS-II Protocol for Prober Specific Equipment Model for 300 mm Environment (PSEM300)</i> |  |
|                   | Line-item 1  | <b>Passed</b>  |
|                   | Line-item 2  | <b>Passed</b>  |
| 6068A             | Line Item Revision to SEMI E116-0707E, <i>Specification for Equipment Performance Tracking</i> and SEMI E116.1 <i>Specification for SECS-II Protocol for Equipment Performance Tracking</i>  |  |
|                   | Line-item 1  | <b>Passed</b>  |
|                   | Line-item 2  | <b>Passed</b>  |
| 5872B             | Line Item Revision to SEMI E172-1015, <i>Specification for SECS Equipment Data Dictionary (SEDD)</i>   | <b>Failed</b>  |
| 5549A             | Revision to SEMI E30-0416, <i>Generic Model for Communications and Control of Manufacturing Equipment (GEM)</i> with title change to: <i>Specification for the Generic Model for Communications and Control of Manufacturing Equipment (GEM)</i>                                 | <b>Passed</b>  |
| 5738              | Revision to SEMI E87.1-0707, <i>Specification for SECS-II Protocol for Carrier Management (CMS)</i>  | <b>Passed</b>  |
| 6064A             | Line Item Revision to SEMI E121-0305, <i>Guide for Style and Usage of XML for Semiconductor Manufacturing Applications</i>   | <b>Passed</b>  |
| 6067A             | Reapproval for SEMI E54.10-0600 (Reapproved 1111) <i>Specification for Sensor/Actuator Network Specific Device Model for an in Situ Particle Monitor Device</i>  | <b>Passed</b>  |
| 6116              | Reapproval for SEMI E54.17-0812, <i>Specification of Sensor/Actuator Network for A-LINK</i>  | <b>Failed</b><br><b>(transfer ownership to Japan I&amp;C TC)</b> |

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.

**Table 5 Activities Approved by the GCS prior to the Originating TC Chapter meeting**

| <i>#</i> | <i>Type</i> | <i>SC/TF/WG</i> | <i>Details</i>   |
|----------|-------------|-----------------|--|
| 6124     | SNARF       | GUI TF          | Revision to SEMI E95 -1101, <i>Specification for Human Interface for Semiconductor Manufacturing Equipment.</i><br><b>Approved by GCS 12/22/2016</b> |



**Table 6 Authorized Activities**

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

| #    | SC/TF/WG | Details  |
|------|----------|--|
| 6116 | SB       | Reapproval of SEMI E54.17-0812, <i>Specification of Sensor/Actuator Network for A-LINK</i><br><b>Transfer ownership of the document to Japan TC</b>                |
| 6174 | SB       | Line Item revision to SEMI E54.9, <i>Specification for Sensor/Actuator Network Communication for Modbus/TCP over TCP/IP</i><br><b>SNARF approved by TC Chapter</b> |

Note 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  |
|-------|------------|--------|--|
| 5716  | Cycle 5-17 | PCS    | Revisions to SEMI E133-1104-0710R, <i>Specification for Automated Process Control Systems Interface</i> and SEMI E133.1-1104-0710R, <i>Provisional Specification for XML Messaging for Process Control Systems (PSC)</i>                                       |
| TBD   | Cycle 5-17 | SB     | Line Item revision to SEMI E54.9, <i>Specification for Sensor/Actuator Network Communication for Modbus/TCP over TCP/IP</i>  |
| 5872C | Cycle 5-17 | GEM300 | Line Item Revision to SEMI E172-1015, <i>Specification for SECS Equipment Data Dictionary (SEDD)</i>   |
| 6114  | Cycle 5-17 | GEM300 | Line Item Revision to SEMI E5-0813, <i>SEMI Equipment Communications Standard 2 Message Content (SECS-II)</i>  |
| TBD   | Cycle 5-17 | I&C TC | Reapproval of SEMI E82-1106 (Reapproved 0612), <i>Specification for Interbay/Intrabay AMHS SEM (IBSEM)</i>   |
| TBD   | Cycle 5-17 | I&C TC | Reapproval of SEMI E88-0307 (Reapproved 0612), <i>Specification for AMHS Storage SEM (Stocker SEM)</i>   |
| TBD   | Cycle 5-17 | I&C TC | Line Item Revision to SEMI E4-0699 (Reapproved 0612), <i>SEMI Equipment Communications Standard 1 Message Transfer (SECS-I)</i> to correct nonconforming title to: <i>Specification for SEMI Equipment Communications Standard 1 Message Transfer (SECS-I)</i> |



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

| #    | TF | Title | Expiration Date |
|------|----|-------|-----------------|
| None |    |       |                 |

**Table 9 SNARF(s) Abolished**

| #    | TF    | Title  |
|------|-------|--|
| 6116 | SB TF | Reapproval of SEMI E54.17-0812, <i>Specification of Sensor/Actuator Network for A-LINK</i> |

**Table 10 Standard(s) to receive Inactive Status**

| Standard Designation | Title   |
|----------------------|---|
| SEMI E54.16-1106     | Specification for Sensor/Actuator Network Communications for Lonworks |

**Table 11 New Action Items**

| Item #     | Assigned to       | Details   |
|------------|-------------------|---|
| 2017Apr#01 | (Inna Skvortsova) | Add to the Meeting Minutes URL to the article written by Terry Asakawa on SEMI GEM 300A Standards. <b>DONE.</b> |

**Table 12 Previous Meeting Open Action Items**

| Item #       | Assigned to           | Details  |
|--------------|-----------------------|--|
| 2016 July#02 | Shannon Austin (SEMI) | Evaluate the revision control tools improvement (beyond “ ” revision bar.)<br><b>Ongoing. New SEMIViews will have new capabilities to track changes for top 10 standards (including E5, E30) 5 revisions back.</b> |

**1 Welcome, Reminders, and Introductions**

Jack Ghiselli (Ghiselli Consulting) called the meeting to order at 08:03AM. 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 Fall 2016 Standards meeting.

- Motion:** To approve minutes as written
- By / 2<sup>nd</sup>:** Frank Summers (Industrial Strength Graphics) / Brian Rubow (Cimetrix)
- Discussion:** None
- Vote:** 5 /0. Motion passed.



**Attachment 02: NA Information & Control TC Meeting Minutes (Nov 2016).pdf**

**3 SEMI Standards Staff Report**

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

*SEMI Global 2017 Calendar of Events*

- LED Taiwan (April 12-15, 2017, Taipei)
- SEMICON SEA (April 25-27, 2017, Penang, Malaysia)
- Inter SOLAR (May 31-June 2, 2017, Munich, Germany)
- SEMICON West (July 11-13, 2017, San Francisco, California)
- SEMICON Taiwan (September 13-15, 2017, Taipei, Taiwan)
- PV Taiwan (October 12-14, 2017, Taipei, Taiwan)
- SEMICON Europa (November 14-17, 2017, Munich, Germany)
- SEMICON Japan (December 13-15, 2017, Big Sight Tokyo, Japan)

*Upcoming North America Meetings 2017*

- SEMICON West 2017 Meetings (July 10-13, San Francisco, California)
- NA Standards Fall 2017 Meetings (November 6-9, 2017 (tentative), SEMI HQ, California)

*Letter Ballot Critical Dates for NA Standards Spring 2017 meetings*

- Cycle 4-17: due Apr 14 / Voting Period: Apr 25 – May 25
- Cycle 5-17: due May 12 / Voting Period: May 26 – June 26
- Cycle 6-17: due Jul 21 / Voting Period: Aug 1 – Aug 31
- Cycle 7-17: due Aug 18 / Voting Period: Sep 1 – Oct 2
- Cycle 8-17: due Oct 13 / Voting Period: Oct 27 – Nov 27
- Cycle 9-17: due Nov 16 / Voting Period: Nov 29 – Dec 29

<http://www.semi.org/en/Standards/Ballots>

• *SEMI Standards Publications*

| Cycle         | New | Revised | Reapproved | Withdrawn |
|---------------|-----|---------|------------|-----------|
| December 2016 | 0   | 2       | 0          | 0         |
| January 2017  | 1   | 4       | 4          | 0         |
| February 2017 | 1   | 9       | 2          | 0         |
| March 2017    | 0   | 16      | 11         | 0         |

Total SEMI Standards in portfolio: 972

Includes 170 Inactive Standards



- *New Standards*

| Cycle         | Designation | Title   | Committee    | Region |
|---------------|-------------|---|--------------|--------|
| January 2017  | SEMI PV76   | Test Method for Durability of Low Light Intensity Organic Photovoltaic (OPV) and Dye-Sensitized Solar Cell (DSSC) | Photovoltaic | TA     |
| February 2017 | SEMI HB8    | Test Method for Determining Orientation of a Sapphire Single Crystal  | HB-LED       | CH     |

- *Inactive Standards*

| Committee                        | Number of Inactive Standards | Committee                      | Number of Inactive Standards |
|----------------------------------|------------------------------|--------------------------------|------------------------------|
| Assembly & Packaging             | 30                           | Gases                          | 3                            |
| Automated Test Equipment         | 2                            | Information & Control          | 36                           |
| Compound Semiconductor Materials | 6                            | Liquid Chemicals               | 6                            |
| Environmental Health & Safety    | 2                            | MEMS                           | 2                            |
| Facilities                       | 8                            | Metrics                        | 6                            |
| FPD – Equipment                  | 5                            | Micropatterning                | 30                           |
| FPD – Factory Automation         | 1                            | Physical Interfaces & Carriers | 7                            |
| FPD – Materials & Components     | 5                            | Silicon Wafer                  | 4                            |
| FPD – Substrate                  | 1                            | Traceability                   | 10                           |

- *SNARF(s) Approved by GCS in between TC Chapter Meetings*

- Revision to SEMI E95 -1101, *Specification for Human Interface for Semiconductor Manufacturing Equipment.*
  - Approved by GCS 12/22/2016
  - SNARF #6124

- *SNARF 3 year status TC Chapter may grant a one-year extension*

- **SNARF #5549** (1/16/2013) - Revision to SEMI E30, *Generic Model for Communications and Control of Manufacturing Equipment (GEM)* with title change



- Extend if ballot fails Cycle 2-17 till 1/16/2018
- **SNARF #5738** (06/27/2014) - Revision to E87.1-0707, *Specification for SECS-II Protocol for Carrier Management (CMS)*
  - Extend if ballot fails Cycle 2-17 till 6/27/2018
- Nonconforming Titles
  - **SEMI E4-0699** (Reapproved 0612) — *SEMI Equipment Communications Standard 1 Message Transfer (SECS-I)*
  - **SEMI E5-0813** — *SEMI Equipment Communications Standard 2 Message Content (SECS-II)*
  - **SEMI E30-0611** — *Generic Model for Communications and Control of Manufacturing Equipment (GEM)*
  - **SEMI E37-0413** — *High-Speed SECS Message Services (HSMS) Generic Services*
  - **SEMI E37.1-0702** (Reapproved 0413) — *High-Speed SECS Message Services Single Selected-Session Mode (HSMS-SS)*
  - **SEMI E39-0703** (Reapproved 0614) — *Object Services Standard: Concepts, Behavior, and Services*
  - **SEMI E39.1-0703** (Reapproved 0614) — *SECS-II Protocol for Object Services Standard (OSS)*
  - **SEMI E139.1-0310** — *XML Schema for the RaP PDE*
  - **SEMI E139.2-1108** — *SECS-II Protocol for Recipe and Parameter Management (RaP)*
  - **SEMI E139.3-1211** — *XML/SOAP Binding for Recipe and Parameter Management*
  - **SEMI E40-0813** — *Standard for Processing Management*
  - **SEMI E40.1-0813** — *SECS-II Support for Processing Management Standard*
  - **SEMI E98-0309** — *Provisional Standard for the Object-Based Equipment Model (OBEM)*
  - **SEMI E98.1-1102** (Reapproved 0309) — *Provisional Specification for SECS-II Protocol for the Object-Based Equipment Model*

NOTE: Refer to Procedure Manual (PM) Appendix Table A4-1 and A4-2 for details on nonconforming titles

#### **Attachment 03: SEMI Standards Staff Report I&C TC Spring 2017.ppt**

### **4 Liaison Reports**

#### *4.1 Information & Control Europe TC Chapter*

James Amano (SEMI) reported for the Information & Control Europe (EU) TC Chapter. No update since Nov. 2016 EU I&C TC meeting. Of note from last report:

- Leadership
  - Committee Co-chairs
    - Alfred Honold (InReCon)
    - Frank Petzold (Trustsec)
  - Leadership Changes: None
- Meeting Information
  - Last Meeting: Oct 26, 2016 – SEMICON Europa, Grenoble, France
  - Next Meeting (tentative): November, 2017 - SEMICON Europa, Munich, Germany



- Task Force Reports
  - Process Control Task Force
    - Leader: Martin Schellenberger (FhG IISB)
  - No New Activity.
  - No New Ballots.
    - Potential topic: Predictive Model Markup Language (PMML). Currently used by other industries, but not in semiconductor

Staff Contact: Inna Skvortsova, [iskvortsova@semi.org](mailto:iskvortsova@semi.org)

**Attachment 04: Europe I&C TC Report (Nov 2016).ppt**

*4.2 Information & Control Japan TC Chapter*

Matsuda Mitsuhiro (Hitachi) reported for the Information & Control Japan TC Chapter. Of note:

- I&CC Japan TC Chapter Leadership
  - Co-chairs: Takayuki Nishimura / SCREEN Semiconductor Solutions; Mitsuhiro Matsuda / Hitachi Kokusai Electric
    - Advisor: Mitch Sakamoto / Consultant;
  - Technical Architect: Tadashi Mochizuki / Tokyo Electron
    - Hiroshi Kondo / Murata Machinery stepped down from Technical Architect
  - Technical Editor: TBA
- Current I&CC Japan TC Chapter Structure (changes)
  - Equipment Information System Security (EISS) TF
    - EISS TF discharged.
- Document Review Summary at Japan Standards Winter 2016 Meetings in conjunction with SEMICON Japan 2016

| Cycle 7-2016 |   |  |
|--------------|---|--|
| Doc #        | Description   | Japan Chapter Action                             |
| 5973         | Line Item Revision to SEMI E170-0416 “SPECIFICATION FOR SECURED FOUNDATION OF RECIPE MANAGEMENT SYSTEM (SFORMS)”<br><i>*The SNARF anticipated some revisions to SEMI E170.1-0416 in conjunction with the revisions to SEMI E170-0416, however, no revision to SEMI E170.1-0416 is needed for these line item revisions.</i> | --   |
| Line Item 1  | Revise the format of ‘Service Message Description Table’.   | <b>Passed as balloted</b>                        |
| Line Item 2  | Correct editorial errors in ‘Table 46 Compliance Statement’.  | <b>Passed as balloted<br/>Superclean</b>         |
| Line Item 3  | Add a section ‘Required Items for Each Implementation Step’ which provides a checklist of required items for each implementation step in Related Information.   | <b>Failed and work will<br/>be discontinued.</b> |





- SNARF Revision Approved at Japan Standards Winter 2016 Meetings in conjunction with SEMICON Japan 2016
  - #6091, Line Item Revision to SEMI E174-1116: SPECIFICATION FOR WAFER JOB MANAGEMENT (WJM)
    - GEM 300 TF
  - #6089, Line Item Revision to “SEMI E170.1-0416 SPECIFICATION FOR SECS-II PROTOCOL FOR SECURED FOUNDATION OF RECIPE MANAGEMENT SYSTEM”, “SEMI E170-0416, SPECIFICATION FOR SECURED FOUNDATION OF RECIPE MANAGEMENT SYSTEM (SFORMS)” and “SEMI E5-0813 SEMI EQUIPMENT COMMUNICATIONS STANDARD 2 MESSAGE CONTENT (SECS-II)” with title change.
    - GEM 300 TF
- Ballots to be reviewed at Japan Standards Spring 2017 Meetings

| Cycle 2 - 2017 |  |                          |
|----------------|--|--------------------------|
| Doc #          | Description  | TF                       |
| 6090           | Line Item Revision to SEMI E91-0600 (Reapproved 1109) “SPECIFICATION FOR PROBER SPECIFIC EQUIPMENT MODEL (PSEM)”   | Japan I&C Maintenance TF |
| 6089           | Line Item Revision to “SEMI E170.1-0416 SPECIFICATION FOR SECS-II PROTOCOL FOR SECURED FOUNDATION OF RECIPE MANAGEMENT SYSTEM”, “SEMI E170-0416, SPECIFICATION FOR SECURED FOUNDATION OF RECIPE MANAGEMENT SYSTEM (SFORMS)” and “SEMI E5-0813 SEMI EQUIPMENT COMMUNICATIONS STANDARD 2 MESSAGE CONTENT (SECS-II)” with title change. | GEM300 TF                |
| 6091           | Line Item Revision to SEMI E174-1116: SPECIFICATION FOR WAFER JOB MANAGEMENT (WJM)   | GEM300 TF                |

- Add R1-8 to Related Information 1 of SEMI E170
  - The TC Chapter authorized for publication to add the compliance table as R1-8 to Related Information 1 of SEMI E170 with subsequent approval by both the GCS and the ISC A&R SC.
  - It was subsequently approved by the I&C GCS members on January 14, 2017.
  - The proposal passed A&R in January 2017.
- Equipment Information System Security (EISS) TF Update
  - The activity started from the study group meeting for virus protection by white list at SEMICON Japan 2011.
  - The SNARF (#5422) for Guide for Equipment Information System Security was approved in 2012.
  - Ballot #5422A passed at the Japan TC Chapter meeting at SEMICON Japan 2013 and was published as SEMI E169-0414.
  - Then the task force started discussion on Role Base Access Control.
  - Further discussion on the topic was taken over to GEM300 TF summer 2016.



- The discharge of EISS TF was approved at I&C Japan TC Chapter meeting held on December 16, 2016.
- Fiducial Mark Interoperability TF
  - Last TF meeting was held on November 18, 2015
  - T7 issues
    - #5890
      - Delete all position specifications from SEMI T7 because position specifications are also described on SEMI M1 and other related Silicon Standard.
      - The ballot passed with editorial changes at the Traceability Japan TC Chapter meeting on Dec. 18, 2015 and published as T7-0516.
  - Disbandment of this TF
    - TF leaders decided to propose disbanding this TF to each technical committee
    - If this proposal is agreed by all Japan TC Chapters of Assembly & Packaging, I&C, PIC, Silicon Wafers and Traceability, then the TF will be discharged.
      - Silicon Wafers Japan TC Chapter and Assembly & Packaging Japan TC Chapter agreed in March 2017 respectively.
      - To be proposed at the next Japan TC Chapter meeting of PIC, I&C and Traceability TCs respectively.
  - Backend alignment issues with introducing fiducial mark wafer is left.
    - Would be discussed in Assembly & Packaging Japan TC Chapter after its disbandment.
- GEM 300 TF
  - #5973: Line Item Revision to SEMI E170 & SEMI E170.
    - SNARF revision was approved at I&C Japan TC Chapter meeting on June 16, 2016.
    - It is highly probable that documentation quality issues
    - Ballot was reviewed at I&C Japan TC Chapter meeting on December 16, 2016.
      - LI 1 & LI 2 passed as balloted and passed A&R in January 2017.
      - LI 3 failed and work will be discontinued.
  - #6089: New SNARF for Line Item Revision to E170, E170.1 and E5
    - According to comment from potential Standards users at GEM300A STEP, TF consider to simplify E170 subordinate standard by using dedicated SECS II message, instead of OSS generic service.
    - Assumed stream number for E170.1 is S20.
    - SNARF was approved at I&C Japan TC Chapter meeting on October 21.
    - SNARF Revision was approved at I&C Japan TC Chapter meeting on December 16.
    - Ballot submitted for Cycle 2-2017 and to be reviewed at I&C Japan TC Chapter meeting on April 21, 2017.
  - #6091: Line Item Revision to SEMI E174-1116
    - SNARF was approved at I&C Japan TC Chapter meeting on October 21, 2016.
    - SNARF Revision was approved at I&C Japan TC Chapter meeting on December 16, 2016.



- Ballot submitted for Cycle 2-2017 and to be reviewed at I&C Japan TC Chapter meeting on April 21, 2017.
- #5618
  - TF decided to give up the activity for #5618: New Standard: Specification for Preservation of Recipe Integrity (PRI), which is owned by NA TC Chapter.
- #6092: New standard “CUARAM: Centralized User Authentication & Role Authorization Management”
  - Scope was discussed with EISS TF.
  - SNARF was approved at I&C Japan TC Chapter meeting on October 21.
  - Material of explanation for concept of CUARAM is distributed to I&C TC Members in Korea and Taiwan in order to receive response from them.
- JA I&CC Maintenance TF
- Last TF meeting was held on October 21, 2016.
- #5615: SEMI E98 and SEMI E98.1 (OBEM)
  - SNARF withdrawal was approved at I&C Japan TC Chapter meeting on June 16, 2016.
- #6033: Line Item Revision to SEMI E99 and SEMI E99.1 (Carrier ID Reader/Writer)
  - LI1 & LI2: Passed as balloted at I&C Japan TC Chapter meeting on October 21 and passed A&R in December 2016. Published as SEMI E99-0317 and SEMI E99.1-0317.
- #6035: Line Item Revision to SEMI E91 (PSEM)
  - SNARF withdrawal was approved at I&C Japan TC Chapter meeting on October 21, 2016.
- #6090: Line Item Revision to SEMI E91 (PSEM)
  - SNARF was approved at I&C Japan TC Chapter meeting on October 21, 2016.
  - Ballot submitted for Cycle 2-2017 and to be reviewed at I&C Japan TC Chapter on April 21, 2017
- The activity of SEMI E107 “Specification of Electric Failure Link Data Format for Yield Management System”
  - No action to be made.
- Announcement
- GEM300A: SEMI E170 SFORM, SEMI E171 PCL and SEMI E174 WJM document group was named “GEM300A”.
- Meeting Information – Japan TC
- Last Meeting – Japan Winter 2016 Meetings in conjunction with SEMICON Japan 2016:
  - Friday, December 16, 2016 1:00PM-5:00PM
  - @ Tokyo Big Sight Conference Tower, Tokyo, Japan
- Next Meeting – Japan Spring 2017 Meetings:
  - Friday, April 21, 2017 1:30PM-5:00PM
  - @ SEMI Japan Office, Tokyo, Japan
- Schedule for I&CC Japan TC Chapter Meetings
  - Spring on April 21, 2017
  - Summer in June, 2017
  - Fall in October, 2017



- Winter on December 15, 2017 (tentative)
- in conjunction with SEMICON Japan 2017
- For more information, please contact Chie Yanagisawa at SEMI Japan ([cyanagisawa@semi.org](mailto:cyanagisawa@semi.org))

**Attachment 05: Japan I&C TC Report (Apr 2017).ppt**

**Discussion:**

Brian Rubow recommends Japan I&C TC Chapter to consider collaboration with NA I&C TC Chapter and GEM300 TF in particular for the development of GEM300A suite of Standards

**Action Item:**

(Inna Skvortsova) To add to the Meeting Minutes URL to the article written by Terry Asakawa on SEMI GEM 300A Standards.

*An Additional Standard Suite to GEM300 for Smarter Manufacturing Environment*

By Terry Asakawa, Japan GEM300 TF, Japan Chapter of Global Information and Control Technical Committee

<http://www.semi.org/en/semi-gem300a-standards>

*4.3 Information & Control Korea TC Chapter*

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

- Leadership
  - Committee Co-chairs: Chulhong Ahn/ SK Hynix; Hyungsu Kim/ Doople; Gunwoo Lee / Lam Research
- Leadership Change
  - None
- Meeting Information:
  - Last meeting: Thursday, Feb 9, 2017 at Coex, in conjunction with SEMICON Korea 2017
  - Next meeting: Friday, June 16, 2017 at SEMI Korea Office, Seoul, Korea
- Ballot Result (Cycle 9 - 2016)
  - Ballot #5832, New Standard, Specification for Generic Counter Model
    - Failed and in rework
- Ballots to be Issued for Korea Summer 2017 Meetings Adjudication
  - Ballot #5832A, New Standard, Specification for Generic Counter Model
    - Cycle 4-2017
- Task Force Reports:
  - GEM 300 Task Force
    - 5832 (Generic Counter Model)
      - Doc. 5832 was failed and sent back to the TF for rework. Doc. 5832A is authorized for cycle 4.
    - 4946 (Revision to E87)
      - SNARF will be reviewed to make sure the contents are up to date. The target ballot schedule is Cycle 6 or 7 however it depends on NA I&C TC Chapter's adjudication result on Doc. 5738 (Revision to E87.1)
    - 5833 (Maintenance Program Model)
      - The comments on concept duplication between Doc.5833 and existing standards such as E30 and E40 were received from previous ballot result. The author started to consider withdraw the activity. The final decision will be made in the next committee meeting
  - Diagnostic Data Acquisition Task Force



- Freeze 3 development status was updated to the committee. The TF leader decided to collaborate with NA DDA TF by sharing issue list. The TF will collect and summarize further feedback on Freeze 3 and share it at the NA Spring meeting.
- Advanced Back-end Factory Integration Task Force
  - The TF reviewed the urgent standardization items and decided to revise E142 first. The SNARF and the first draft will be submitted on next committee meeting.

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

#### **Attachment 06: Korea I&C TC Report (March 2017).pdf**

##### *4.4 Information & Control Taiwan TC Chapter*

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

- Leadership: Committee Co-chairs - Robert Chien /TSMC
  - No Leadership Change
- Meeting Information:
  - Previous Meeting: 15:30-16:30, January 6, 2017, SEMI office, Hsinchu, Taiwan
  - Next Meeting (TBD): September, 2017, SEMI office, Hsinchu, Taiwan
- Task Force Updates:
  - Equipment Information Integration TF Task Force
    - The Task Force currently has no activities.
  - GEM300 TF
    - The Task Force currently has no activities.
  - Backend Factory Integration TF
    - Completed the mandatory two-week global I&C TC Member review of New SNARF for “Specification of Backend Die Traceability” on April 27 and get the Doc # 6147.
  - Printed Circuit board Equipment Communication Interfaces (PCBECI) TF- **Failed**
    - PCB is currently out of the charter of Global Information & Control Committee, and the TFOF or SNARF for PCB under I&CC is invalid. We have to abandon to set up this TF in I&C TC

For more information, please contact: Dean Chang at SEMI: [dchang@semi.org](mailto:dchang@semi.org)

#### **Attachment 07: Taiwan I&C TC Report (March 2017).pdf**

### **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 #6026A*

The TC Chapter reviewed the Document #6026A, Line Item Revision to SEMI E109-1110, *Specification for Reticle and Pod Management (RPMS)*.

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 # 6026A is not a Safety Document, when all safety-related information is removed, Document is still technically sound and complete.
- By / 2<sup>nd</sup>:** Brian Rubow (Cimetrix) / Matsuda, Mitsuhiro (Hitachi Ltd)
- Discussion:** None.
- Vote:** 6-0. Motion passed.



**Motion:** Forward Document # 6026A to the ISC A&R for procedural review as balloted.  
**By / 2<sup>nd</sup>:** Brian Rubow (Cimetrix) / Albert Fuchigami (PEER Group)  
**Discussion:** None.  
**Vote:** 6-0. Motion passed.

#### **Attachment 08: 6026A\_Procedural Review**

##### *5.2 Ballot #6064A*

The TC Chapter reviewed the Document #6064A, Line Item Revision to SEMI E121-0305, *Guide for Style and Usage of XML for Semiconductor Manufacturing Applications*

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 # 6064A is not a Safety Document, when all safety-related information is removed, Document is still technically sound and complete.  
**By / 2<sup>nd</sup>:** Brian Rubow (Cimetrix) / Matsuda, Mitsuhiro (Hitachi Ltd)  
**Discussion:** None.  
**Vote:** 6-0. Motion passed.

**Motion:** Forward Document # 6064A to the ISC A&R for procedural review as balloted.  
**By / 2<sup>nd</sup>:** Brian Rubow (Cimetrix) / Albert Fuchigami (PEER Group)  
**Discussion:** None.  
**Vote:** 6-0. Motion passed.

#### **Attachment 09: 6064A\_Procedural Review**

##### *5.3 Ballot #6067A*

The TC Chapter reviewed the Document #6067A, Reapproval for SEMI E54.10-0600 (Reapproved 1111) *Specification for Sensor/Actuator Network Specific Device Model for an in Situ Particle Monitor Device*

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 # 6067A is not a Safety Document, when all safety-related information is removed, Document is still technically sound and complete.  
**By / 2<sup>nd</sup>:** Brian Rubow (Cimetrix) / Matsuda, Mitsuhiro (Hitachi Ltd)  
**Discussion:** None.  
**Vote:** 6-0. Motion passed.

**Motion:** Forward Document # 6067A to the ISC A&R for procedural review as balloted.  
**By / 2<sup>nd</sup>:** Brian Rubow (Cimetrix) / Albert Fuchigami (PEER Group)  
**Discussion:** None.  
**Vote:** 6-0. Motion passed.



## Attachment 10: 6067A\_Procedural Review

### 5.4 Ballot #6116

The TC Chapter reviewed the Document #6116 Reapproval for SEMI E54.17-0812, *Specification of Sensor/Actuator Network for A-LINK*.

I&C TC accepted the SB Task Force recommendation to find Negative#1 submitted by Mochizuki, Tadashi (TEL) to be related and technically persuasive.

The ballot **failed** and will be forwarded to Japan I&C TC for rework and resubmission.

**Motion:** To accept Sensor Bus Task Force recommendation to find reject reason # 1 from Mochizuki Tadashi (TEL), related to SEMI Draft Document 6116 and Technically Persuasive. The ballot failed.

**By / 2<sup>nd</sup>:** Jack Ghiselli (Ghiselli Consulting) / Matsuda, Mitsuhiro (Hitachi Ltd)

**Discussion:** None

**Vote:** 6-0. Motion passed.

**Motion:** To transfer ownership of the Document #6116 from NA I&C TC Chapter to the Japan I&C TC chapter for rework and balloting.

**By / 2<sup>nd</sup>:** Matsuda, Mitsuhiro (Hitachi Ltd) / Brian Rubow (Cimetrix)

**Discussion:** None

**Vote:** 6-0. Motion passed.

**Attachment:** NONE

### 5.5 Ballot #5872B

The TC Chapter reviewed the Document #5872B, Line Item Revision to SEMI E172-1015, *Specification for SECS Equipment Data Dictionary (SEDD)*

I&C TC accepted the GEM 300 Task Force recommendation to find Negative#1 submitted by Albert Fuchigami (PEER Group) to be related and technically persuasive.

The ballot **failed** and will be reworked by Task Force and resubmitted in Cycle 5 2017.

**Motion:** Rework Document #5872B and resubmit for balloting in Cycle 5 2017.

**By / 2<sup>nd</sup>:** Brian Rubow (Cimterix)/Albert Fuchigami (PEER Group)

**Discussion:** The regular expression for item SEMIStandardType does not allow subordinate standards to be listed. The task force will rework and resubmit the ballot.

**Vote:** 6-0. Motion passed.

**Attachment:** NONE

### 5.6 Ballot #5549A

The TC Chapter reviewed the Document #5549A, Revision to SEMI E30-0416, *Generic Model for Communications and Control of Manufacturing Equipment (GEM)* with title change to: *Specification for the Generic Model for Communications and Control of Manufacturing Equipment (GEM)*



The ballot **passed** TC review 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 # 5549A is not a Safety Document, when all safety-related information is removed, Document is still technically sound and complete.

**By / 2<sup>nd</sup>:** Brian Rubow (Cimetrix) / Matsuda, Mitsuhiro (Hitachi Ltd)

**Discussion:** None.

**Vote:** 6-0. Motion passed.

**Motion:** Forward Document # 5549A to the ISC A&R for procedural review with editorial changes.

**By / 2<sup>nd</sup>:** Brian Rubow (Cimetrix) / Albert Fuchigami (PEER Group)

**Discussion:** None.

**Vote:** 6-0. Motion passed.

#### **Attachment 11: 5549A\_Procedural Review**

##### *5.7 Ballot #5738*

The TC Chapter reviewed the Document #5738, Revision to SEMI E87.1-0707, *Specification for SECS-II Protocol for Carrier Management (CMS)*

The ballot **passed** TC review 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 # 5738 is not a Safety Document, when all safety-related information is removed, Document is still technically sound and complete.

**By / 2<sup>nd</sup>:** Brian Rubow (Cimetrix) / Matsuda, Mitsuhiro (Hitachi Ltd)

**Discussion:** None.

**Vote:** 6-0. Motion passed.

**Motion:** Forward Document # 5738 to the ISC A&R for procedural review with editorial changes.

**By / 2<sup>nd</sup>:** Brian Rubow (Cimetrix) / Albert Fuchigami (PEER Group)

**Discussion:** None.

**Vote:** 6-0. Motion passed.

#### **Attachment 12: 5738\_Procedural Review**

##### *5.8 Ballot #6066A*

The TC Chapter reviewed the Document #6066A, Line Item Revision to SEMI E130-1104-0710R, *Specification for Prober Specific Equipment Model for 300 mm Environment (PSEM300)* and SEMI E130.1-1104-0710R, *Specification for SECS-II Protocol for Prober Specific Equipment Model for 300 mm Environment (PSEM300)*. *Line Items:*

- Line Item 1: Remove from SEMI E130 the reference to the “Data Types” section in Standard E30 as this section no longer exists.
- Line Item 2: SEMI E130.1 Specification is balloted for reapproval with no changes.





The Line item(s) [1], [2] passed TC Chapter review as balloted and will be forwarded to the ISC A&R SC for procedural review. Ballot #6066A **passed** TC review.

**Motion:** Documents # 6066A is not a Safety Document, when all safety-related information is removed, Document is still technically sound and complete.

**By / 2<sup>nd</sup>:** Brian Rubow (Cimetrix) / Matsuda, Mitsuhiro (Hitachi Ltd)

**Discussion:** None.

**Vote:** 6-0. Motion passed.

**Motion:** Forward Document # 6066A to the ISC A&R for procedural review as balloted.

**By / 2<sup>nd</sup>:** Brian Rubow (Cimetrix) / Albert Fuchigami (PEER Group)

**Discussion:** The procedure manual neither prohibits a line item from having a re-approval, nor mandates use of an exclusive re-approval ballot. The intent of this ballot is clear. The original 6066 SNARF was for re-approval.

**Vote:** 6-0. Motion passed.

### **Attachment 13: 6066A\_Procedural Review**

#### *5.9 Ballot #6068A*

The TC Chapter reviewed the Document #6068A, Line Item Revision to SEMI E116-0707E, *Specification for Equipment Performance Tracking* and SEMI E116.1 *Specification for SECS-II Protocol for Equipment Performance Tracking*. Line Items:

- Line Item 1: Remove the text “an Appendix of” related to E30 because this section does not exist in the current version and is expected to be renamed “Related Information” in a future version; and remove the “Provisional” name from the SEMI 101 reference.
- Line Item 2: Reapprove SEMI E116.1 as published.

The Line item(s) [1], [2] passed TC Chapter review as balloted and will be forwarded to the ISC A&R SC for procedural review. Ballot #6068A **passed** TC review.

**Motion:** Documents # 6068A is not a Safety Document, when all safety-related information is removed, Document is still technically sound and complete.

**By / 2<sup>nd</sup>:** Brian Rubow (Cimetrix) / Matsuda, Mitsuhiro (Hitachi Ltd)

**Discussion:** None.

**Vote:** 6-0. Motion passed.

**Motion:** Forward Document # 6068A, Line items [1], [2] to the ISC A&R for procedural review as balloted.

**By / 2<sup>nd</sup>:** Brian Rubow (Cimetrix) / Albert Fuchigami (PEER Group)

**Discussion:** The procedure manual neither prohibits a line item from having a re-approval, nor mandates use of an exclusive re-approval ballot. The intent of this ballot is clear. The original 6068 SNARF was for re-approval.

**Vote:** 6-0. Motion passed.

### **Attachment 14: 6068A\_Procedural Review**

## 6 Subcommittee and Task Force Reports

### 6.1 DDA Task Force

Brian Rubow reported for the DDA Task Force. Of note:

- New Co-Chair
  - Albert Fuchigami from PEER Group
  - An additional co-chair might be added next meetings
- Fall Meeting Attendance:
  - 6 in person, 2 remote
- Meeting Discussion
  - EDA freeze 3 plan discussions
  - Coordination with the Korea DDA Task Force
- Ballot Adjudication
  - FAILED - None
  - PASSED - 6064A - Superclean
- New/Updated SNARF(s) - None
- Ballot Plans Next Cycles - None

**Motion:** To approve Albert Fuchigami (Peer Group) as a co-leader of DDA TF of NA I&C TC.

**By / 2nd:** Brian Rubow (Cimetrix) / Matsuda, Mitsuhiro (Hitachi Ltd)

**Discussion:** None.

**Vote:** 6-0. Motion passed.

### Attachment 15: SEMI NA-ICC-DDA-TF SPRING 2017 REPORT. PPT

### 6.2 GEM300 Task Force Report

Brian Rubow reported for the DDA Task Force. Of note:

- TF meeting aApril 4, 2017
  - 6 Attendees in person
  - 2 Attendees remote
- Ballot Activity Summary
- Ballot Adjudication
  - FAILED
    - 5872A E172 SEDD Update
  - PASSED
    - 6066A-1, 6066A-2 E130 minor edit, E130.1 reapproval
    - 6068A-1, 6068A-2 E116 minor edit, E116.1 reapproval
    - 6026A E109 minor reapproval
    - 5738 E87.1 Major Revision to remove Provisional status
      - With 2 Editorial Change
    - 5549A GEM E30 title change/conformance organization



- With 2 Editorial Changes
- New/Updated SNARF(s)
  - None
- Ballot Plans Cycle 5
  - 5872C E172 SEDD Update
  - 6114 New Simple Large Recipe

#### **Attachment 16: SEMI NA-ICC-GEM300TF Spring 2017 Reprot.PPT**

##### *6.3 ESEC Task Force Report*

Mike Czerniak reported for the ESEC Task Force. Of note:

- ESEC TF Meeting 4/4/2017 attendees: 7
- Proposed SNARF for line-by-line revision of E167
  - Initial review of draft SNARF
    - More detailed SNARF review to follow in form of 2-3 teleconferences
    - Submit to I&CC at Semicon West meeting
    - Plan to review E175 in 2018
  - Key points in provisional SNARF Draft
    - Situation: The original standard was up to now not implemented in any fab. Besides that the communication standard between tool and subfab components has been released.
    - Purpose: It has to be checked whether the terminology and logic aligns between the two standards. Besides that it has to be reviewed whether there are any obstacles for implementation.
      - Simplify the state diagram so that it aligns with SEMI E175.
      - Make forecast available by Host to production equipment on energy-saving opportunities in the near future (e.g. for the next 2 hours or definable period of time).
      - Availability forecast should be chamber-specific (optional).
      - Clean-up the standard regarding detailed requirements; remove or make optional.
      - Distinguish between equipment and chamber states.
  - Response to I&CC open action item: **(ESEC TF/Andreas N./M. Czerniak/ G. Crispieri)** Clarify definition of "mode" and "State" in relevant documents:
    - A Mode of operation in SEMI E167/175 is equivalent to a State in a Harel State Machine representation. In general, a "Mode" maps to a Harel State that in term may contain Sub States that are part of the same mode of operation. These Sub States are named independently from its parent.
    - A good example is the Sleep Mode and the Sleep Levels:
      - The SEMI S23 Sleep Mode is equivalent to the "Sleep Mode" State in SEMI E167/175. We decided to call it that way to make it easier to map the S23 mode to a Harel State chart state. This way we map the Sleep Mode into a Super State that is a parent state of several Sleep Levels.  
While you are in the parent State: "Sleep State" or "Sleep Mode" state you could be in one of the many Sleep levels at the equipment and subequipment.
    - Action Item closed.

#### **Attachment 17: SEMI Standards\_ESEC TF Report (Apr 2017)**



**Discussion:** Matsuda M. asks the ESEC Task Force leaders to share updated version of the discussed SNARF for Line-item revision to SEMI E167 with Global I&C TC members prior to SEMICON West 2017 meetings. TF leader confirmed that revised version of the SNARF will be distributed to the Global I&C members prior submission of this SNARF to the NA I&C TC for approval at SEMICON West meeting.

#### 6.4 SB Task Force Report:

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

- SB Task Force meeting 4/4, 2017
  - 4 Attendees
- No leadership changes
- Ballots adjudicated
- Ballot 6116 (reapproval)
  - Withdrawn; to be referred to Japan sister task force
- New business
  - SNARF for line-time revision to SEMI E54.9
  - Mapping of the E54.24 GENSen SDM object model into E54.9

#### Attachment 18: SB TF Report for ICC (Apr 2017)

#### 6.5 PCS Task Force Report

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

- Ballot submission
  - Revisions to SEMI E133-1104-0710R, Specification for Automated Process Control Systems Interface and SEMI E133.1-1104-0710R, Provisional Specification for XML Messaging for Process Control Systems (PSC)
    - Target Cycle 5-17

**Attachment: NONE**

#### 6.6 GUI Task Force Report

Frank Summers reported for the GUI Task Force. Of note:

- GUI TF Meeting 4/3/2017 - 5 Attendees
  - No leadership changes
- Reviewed SNARF 6124 as approved
- Reviewed and discussed in some detail the specification to be reorganized and expanded: E95-1101
- Discussed challenges related to small screen device displays and operating systems, *i.e.*, tablet and smart phone form factors
- A motion was approved to investigate, as a first step, how the information displayed in the E95 Title Panel can be represented across all form factors
- Action items:
  - Start writing a document to clarify and supplement sections of E95, which may be the basis for a future SNARF for a related Style Guide
  - Write a summary discussing small screen device GUI tools and capabilities
- New SNARF(s)
  - None
- Ballots
  - None

#### Attachment 19: GUI Task Force Report (Apr 2017)



## 7 Old Business

### 7.1 Standards due for Five-Year Review.

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

| Name  | Due for Review | Title   | Status  |
|---|----------------|---|---|
| SEMI E116-0707E; SEMI E116.1                  | 7/1/2012       | <i>Specification for Equipment Performance Tracking</i>   | Ballot submitted in Cycle 2-17                          |
| SEMI E130-1104 (Reapproved 0710); SEMI E130.1 | 7/1/2015       | <i>Specification for Prober Specific Equipment Model for 300 mm Environment (PSEM300)</i>                     | Ballot submitted in Cycle 2-17                          |
| SEMI E109-1110                                | 11/1/2015      | <i>Specification for Reticle and Pod Management (RPMS)</i>  | Ballot submitted in Cycle 2-17                          |
| SEMI E121-0305 (Reapproved 1111)              | 11/1/2016      | <i>Guide for Style and Usage of XML for Semiconductor Manufacturing Applications</i>                          | Ballot submitted in Cycle 2-17                          |
| SEMI E54.10-0600 (Reapproved 1111)            | 11/1/2016      | <i>Specification for Sensor/Actuator Network Specific Device Model for an In-Situ Particle Monitor Device</i> | Ballot submitted in Cycle 2-17                          |
| SEMI E54.16-1106 (Reapproved 1211)            | 12/1/2016      | <i>Specification for Sensor/Actuator Network Communications for LonWorks</i>                                  | Standard will receive "inactive" status                 |
| SEMI E87.1-0707                               | 3/1/2017       | <i>Provisional Specification for SECS-II Protocol for Carrier Management (CMS)</i>                            | Ballot submitted in Cycle 2-17                          |
| SEMI E90-0312                                 | 3/1/2017       | <i>Specification for Substrate Tracking</i>   | New SNARF already exists (Bonding/debonding) GEM 300 TF |
| **SEMI E4-0699 (Reapproved 0612)              | 6/18/2017      | <i>SEMI Equipment Communications Standard 1 Message Transfer (SECS-I)</i>                                     | GEM 300 to recommend line-item revision SNARF           |
| SEMI E82-1106 (Reapproved 0612)               | 6/18/2017      | <i>Specification for Interbay/Intrabay AMHS SEM (IBSEM)</i>   | Create line-item SNARF at April 2017 meeting (GEM 300)  |
| SEMI E88-0307 (Reapproved 0612)               | 6/18/2017      | <i>Specification for AMHS Storage SEM (Stocker SEM)</i>   | Create line-item SNARF at April 2017 meeting (GEM 300)  |
| SEMI E54.17-0812                              | 9/1/2017       | <i>Specification of Sensor/Actuator Network for A-LINK</i>  | Ballot submitted in Cycle 2-17                          |

\* Due for Reapproval within 6 years from publication date. Issue "Revision Ballot" beginning of the 5th year.

\*\* Subject for "Nonconforming Title" review. Please refer to the Procedure Manual Appendix 4 (page 76)

### 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

Technical Committee reviewed and approved new SNARF for Line Item Revision to SEMI E54.9, *Specification for Sensor/Actuator Network Communication Specification for Modbus/TCP over TCP/IP* prepared by SB Task Force.

**Motion:** Move to approve draft SNARF for Line Item Revision to SEMI E54.9, *Specification for Sensor/Actuator Network Communication Specification for Modbus/TCP over TCP/IP*

**By / 2<sup>nd</sup>:** Brian Rubow (Cimetrix) / Matsuda Mitsuhiro (Hitachi)

**Discussion:** None

**Vote:** 6/0. Motion passed.

### 8.3 New Ballots Authorization:

- Ballot # TBD submitted by SB TF for Line-item Revision to SEMI E54.9 is approved for Cycle 5-2017 submission.
- Ballot #5716 submitted by PCS TF for Revision to SEMI E133 and SEMI E133.1 is approved for Cycle 5-2017 submission.
- Ballot #5872C submitted by GEM 300 TF for Line-item Revision to SEMI E172 is approved for Cycle 5-2017 submission.
- Ballot #6114 submitted by GEM 300 TF for Line-item Revision for SEMI E5 is approved for Cycle 5-2017 submission.
- Ballot # TBD submitted by I&C TC for Reapproval of SEMI E82 is approved for Cycle 5-2017 submission.
- Ballot # TBD submitted by I&C TC for Reapproval of SEMI E88 is approved for Cycle 5-2017 submission.
- Ballot # TBD submitted by I&C TC for Line-item Revision to SEMI E4 to correct nonconforming title is approved for Cycle 5-2017

**Motion:** To approve letter ballots submission in Cycle 5 2017 for the following documents: E54.9; E133;E133.1; E172; E5, E82, E88, E4.

**By / 2<sup>nd</sup>:** Frank Summers (Industrial Strength Graphics) / Mike Czerniak (Edwards)

**Discussion:** None

**Vote:** 5-0. Motion passed.

### 8.4 Smart Manufacturing Advisory Council, IRDS and APC Conference Updates

James Moyne presented reports from SEMI Smart Manufacturing Council, IRDS activities update and upcoming APC 2017 Conference. Of note:

#### 8.4.1 SEMI Smart Manufacturing Advisory Council

- Application of SEMI I&C standards to “related” industries
  - Photovoltaic (PV)



- Printed Circuit Board (PCB)
- Cost-of-ownership
  - Start with Facilities and Energy Savings
  - Others: Asset utilization, Supply chain, productivity, green
- Security in semiconductor
  - Events
    - Semicon/West
    - Smart Manufacturing: Collaboration to connect the digital thread, improve yield and time-to-market across the whole electronics value chain
    - Moscone North, TechXPOT North Tuesday, July 11 2:00pm to 4:00pm

#### 8.4.2 International Roadmap for Devices and Systems (IRDS)

- [www.irds.ieee.org](http://www.irds.ieee.org)
- Next Generation of International Technology Roadmap for Semiconductors (ITRS)
  - New technology trends are drivers and challenges, but also opportunities
- IRDS Factory Integration Thrust
  - Focuses on challenges and potential solutions for tools and processes necessary to produce items at affordable cost in high volume
  - 2017 Efforts
    - Big data
      - Adding analytics roadmap (for predictive maintenance, yield analysis, etc.)
    - Security
      - Balancing IP Security with data access
      - Security survey distributed at Advanced Process Control (APC) conferences, Advanced Semiconductor Manufacturing Conference and Semicon/West
      - Asks about security priorities, challenges and solutions
  - Contact
    - James Moyne (Applied consultant): [moyne@umich.edu](mailto:moyne@umich.edu)
    - Supika Mashiro (Tokyo Electron): [supika.mashiro@tel.com](mailto:supika.mashiro@tel.com)
- Integrated Measurement Association (IMA) and Advanced Process Control (APC) Conference
  - **Advanced Process Control Conference 2017:**
    - Abstracts due July 7<sup>th</sup>
    - Variety of I&C topics including fault detection, process control, equipment productivity tracking, data collection, energy savings, sensors, communications at tool and factory-wide level, etc.
  - Will host IMA-APC Council meeting
    - Data/IP Security for the industry

For detailed information please contact James Moyne at [moyne@umich.edu](mailto:moyne@umich.edu)

#### **Attachment 20: Smart Manufacturing-IRDS-APC Report. ppt**

#### 8.5 Japan GEM 300 Task Force Input

Matsuda Mitsuhiro presented the Japan GEM300 Task Force Input:

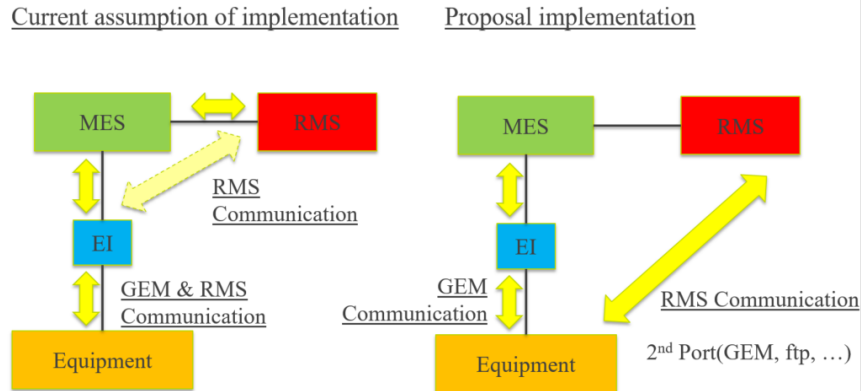
- Current Large Recipe Cases and Issues
  - Cases and issues
    - In case 'Recipe <16MB'
      - Can be dealt by S7 etc.



- In case '16MB < Recipe < 4GB'
- Binary
  - Cannot be sent as 1 item (SECS 2 Data Item Size Limitation)
  - Use of "Stream 13 Data Set Transfer" is the way per current Standard
    - We understand S13 messaging is too complex.
- Formatted
  - Can be sent up to HSMS length limitation as long as one item does not exceed 16MB
- In case '4GB < Recipe'
  - Cannot be dealt by HSMS (HSMS Limitation)
- Large Recipe Study
  - Requirement for Large Recipe from implementation point of view
    - One big message requires too big system resource load (such as communication buffer length)
    - We would like to put a limitation on the size of one message
    - JA GEM300 TF would like to put maximum SECS II message size guidance to E5 considering. Current generation of computing, 16MB may be suitable for the maximum SECS II message size
      - Need to prepare a Standard which support blocking-deblocking of items which exceeds the guidance
  - Issue of #6114 proposal
    - Very huge message size will be required. It may not be able to implement to current computer.
    - Cannot send a Recipe which size is exceed of 4GB.
  - Direction of #6114
    - Blocking and Deblocking messaging (Simplify S13 messaging)
- Recipe Server
  - Requests to E170 from Device Manufacture
    - To minimize influences to MES operations
      - Separate GEM related communications and RMS related communications
      - Proposal is Direct RMS-Equipment communication not via EI
        - Proposed Idea is the 2<sup>nd</sup> SECS/GEM Port or other application protocol (such as FTP, XML/SOAP ...)
    - JA GEM300 TF would like to get your comment about this proposal.



## Schema of RMS implementation



### Attachment 21: JA\_GEM300TF\_INPUT (Apr 2017).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 July 12, 2017 at San Francisco, 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 11:42 AM.

Respectfully submitted by:

Inna Skvortsova

Sr. Standards Coordinator

SEMI North America

Phone: 408-9436996

Email: [iskvortsova@semi.org](mailto:iskvortsova@semi.org)

Minutes tentatively approved by:

|   |            |
|---|------------|
| Brian Rubow (Cimetrix) Co-chair               | 05/13/2017 |
| Jack Ghiselli (Ghiselli Consulting); Co-chair | 05/15/2017 |
| James Moyne (AMAT/University of Michigan)     | 05/17/2017 |



**Table 13 Index of Available Attachments<sup>#1</sup>**

| <i>Title</i>   | <i>Title</i>  |
|--|---|
| Attachment 01: SEMI Standards Required Elements.ppt            | Attachment 13: 6066A_Procedural Review                      |
| Attachment 02: NA I&C TC Meeting Minutes (Nov 2016).pdf        | Attachment 14: 6068A_Procedural Review                      |
| Attachment 03: SEMI Standards Staff Report I&C Spring 2017.ppt | Attachment 15: SEMI NA-ICC-DDA-TF SPRING 2017 REPORT.ppt    |
| Attachment 04: Europe I&C TC Report (Nov 2016).pdf             | Attachment 16: SEMI NA-ICC-GEM300TF SPRING 2017 REPORT.ppt  |
| Attachment 05: Japan I&C TC Report (Apr 2017).pdf              | Attachment 17: JA_GEM300TF_INPUT (Apr 2017).ppt             |
| Attachment 06: Korea I&C TC Report (March 2017).pdf            | Attachment 18: SEMI Standards_ESEC TF Report (Apr 2017).ppt |
| Attachment 07: Taiwan I&C TC Report (March 2017).pdf           | Attachment 19: SB TF Report for ICC (Apr 2017).ppt          |
| Attachment 08: 6026A_Procedural Review                         | Attachment 20: GUI Task Force Report (Apr 2017).ppt         |
| Attachment 09: 6064A_Procedural Review                         |   |
| Attachment 10: 6067A_Procedural Review                         |   |
| Attachment 11: 5549A_Procedural Review                         |   |
| Attachment 12: 5738A_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](http://www.semi.org). For additional information or to obtain individual attachments, please contact Inna Skvortsova at the contact information above.