



Physical Interface & Carriers Japan TC Chapter

Meeting Summary and Minutes

Japan Standards Summer 2017 Meetings

Wednesday, July 26, 2017, 14:00 – 17:00

SEMI Japan, Tokyo, Japan

TC Chapter Announcements

Next TC Chapter Meeting

Wednesday, December 13, 2017 (TBD)

International Conference Tower, Tokyo Big Sight, Tokyo, Japan

Table 1 Meeting Attendees

Italics indicate virtual participants

Co-Chairs: Tsuyoshi Nagashima (Miraial), Kenji Yamagata (DAIFUKU), Noriyoshi Toyoda (Hirata Corporation)

SEMI Staff: Chie Yanagisawa (SEMI Japan)

<i>Company</i>	<i>Last</i>	<i>First</i>	<i>Company</i>	<i>Last</i>	<i>First</i>
DAIFUKU	Yamagata	Kenji	Nihon Entegris	Fukunaga	Tsukasa
Hirata Corporation	Toyoda	Noriyoshi	Shin-Etsu Polymer	Shida	Hiroyuki
Hitachi High Technologies	Onishi	Tsuyoshi	Sinfonia Technologies	Otani	Mikio
Hitachi Kokusai Electric	Matsuda	Mitsuhiro	SUMCO	Nakai	Tetsuya
<i>Intel</i>	<i>Komorowski</i>	<i>Jason</i>	TDK	Kanashiro	Kiyoshi
JEOL	Asayama	Kyoichiro	TDK	Okabe	Tsutomu
JEOL	Ohta	Shigemasa	Tokyo Electron	Mashiro	Supika
JEOL	Yamazaki	Kazuya	Yamamoto Planning	Yamamoto	Makoto
Kumai Consulting	Kumai	Sadao			
Mirial	Nagashima	Tsuyoshi	SEMI Japan	Yanagisawa	Chie

Table 2 Leadership Changes

<i>WG/TF/SC/TC Name</i>	<i>Previous Leader</i>	<i>New Leader</i>
Japan Electron Microscopy Workflow liaison TF	Not applicable *The formation of this TF is newly approved.	Kyoichiro Asayama / JEOL Tsuyoshi Onishi / Hitachi High-Technologies

Table 3 Committee Structure Changes

<i>Previous WG/TF/SC Name</i>	<i>New WG/TF/SC Name or Status Change</i>
Not applicable	Japan Electron Microscopy Workflow liaison Task Force

Table 4 Ballot Results

<i>Document #</i>	<i>Document Title</i>	<i>Committee Action</i>
None		

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

#	Type	SC/TF/WG	Details
None			

Table 6 Authorized Activities

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

#	SC/TF/WG	Details
None		

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

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

Table 7 Authorized Ballots

#	When	TF	Details
None			

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

#	TF	Title	Expiration Date
None			

Table 9 SNARF(s) Abolished

#	TF	Title
None		

Table 10 Standard(s) to receive Inactive Status

Standard Designation	Title
None	

Table 11 New Action Items

Item #	Assigned to	Details
20170726-1	SEMI Japan staff	To make announcement the TFOF for Japan Electron Microscopy Workflow liaison Task Force is approved and ask for participation from the related companies.
20170726-2	SEMI Japan staff	To make announcement to the TF leaders of Electron Microscopy Workflow Task Force under the PI&C North America TC Chapter that Japan Electron Microscopy Workflow liaison Task Force is formed under the PI&C Japan TC Chapter and ask for providing information of North America TF activity.

Table 12 Previous Meeting Action Items

Item #	Assigned to	Details
None		



1 Welcome, Reminders, and Introductions

Kenji Yamagata (DAIFUKU) called the meeting to order at 14:00. The meeting reminders on antitrust issues, intellectual property issues and holding meetings with international attendance were reviewed. Attendees introduced themselves.

Attachment: 01_Required_Elements_Reg_20150327_E+J

2 Review of Previous Meeting Minutes

The TC Chapter reviewed the minutes of the previous meeting.

Motion: Approve the previous meeting minutes as written
By / 2nd: Hiroyuki Shida (Shin-Etsu Polymer) / Tsutomu Okabe (TDK)
Discussion: None
Vote: 8 in favor and 0 opposed. **Motion passed.**

3 Liaison Reports

3.1 *Physical Interface & Carriers Europe TC Chapter*

There is no update.

3.2 *Physical Interface & Carriers North America TC Chapter*

Kenji Yamagata (DAIFUKU) reported for the Physical Interface & Carriers North America TC Chapter as attached. Of note:

- New Activity
 - The survey results of the TEM Grid Standardization was presented at the NA TC Chapter meeting on July 12, 2017 at SEMICON West 2017
 - TFOF of Electron Microscopy Workflow TF was presented to the Committee and was approved during the PI&C NA TC Chapter meeting on July 12, 2017 at SEMICON West 2017
 - Summary for TEM Grid Standardization Survey to be introduced at the old business section of this meeting.
- Global PIC Maintenance TF
 - Did not meet
 - Will review Standards coming up for Five-year review at Fall meetings
- NA 450 mm ATDP TF (Inactive)
 - No current activity in the NA Region
 - Most of the work has been done in JA 450 mm ATDP TF under the Japan Assembly & Packaging committee
 - The initiating region for Standards developed by the ATDP must be clearly confirmed before NA 450 mm ATDP TF can decide to move forward with disbandment.
 - Japan ATDP TF agreed with NA's proposal to disband NA 450 mm ATDP TF
 - The NA PIC TC Chapter is also requesting that Japan ATDP TF agree to disband in their region as well.
- International Reticle SMIF Pod and Load Port Task Force

- Activities under this task force are finished.
- Disbandment of the International Reticle SMIF Pod and Load Port TF was approved at the NA Spring TC Chapter meeting on April 5, 2017.
- Request to EU PI&C TC Chapter to agree on disbanding as well
- International 450 mm Physical Interfaces and Carriers Task Force
 - Activities under this task force are finished.
 - Disbandment of the International 450 mm Physical Interfaces and Carriers TF was approved at the NA Spring TC Chapter meeting on April 5, 2017.
 - Request to JA PIC TC Chapters to agree on disbanding
 - Disbandment of the Japan International 450 mm Physical Interfaces and Carriers TF was approved at the Japan TC Chapter meeting on April 19, 2017

Attachment: 02_NA PIC Liaison Report April2017

3.3 SEMI Staff Report

Chie Yanagisawa (SEMI Japan) gave the SEMI Staff Report as attached. Of note:

- SEMI Global 2017 Calendar of Events
- Global Standards Meeting Schedule
- 2017 Critical Dates for SEMI Standards Ballots
- A&R Ballot Review
- SEMI Standards Publications
- ISC (International Standards Committee) Report
 - The proposal to transform the 3DS-IC and Assembly & Packaging Committees into a single, unified global technical committee (3D Packaging and Integration Global Technical Committee) was approved at the International Standards Committee meeting held on July 13, 2017 during SEMICON West.
 - Proposal Details:
 - To transform the 3DS-IC GTC and the Assembly & Packaging GTC into a unified GTC
 - To name the transformed GTCs as "3D Packaging and Integration" GTC
 - Each TC chapter of the unified GTC will inherit the co-chairs of the existing TC chapters
 - Charter:
 - To explore, evaluate, discuss, and create consensus-based specifications, guidelines, test methods, and practices that, through voluntary compliance, will:
 - include the materials, piece parts, and interconnection schemes, and unique packaging assemblies that provide for the communication link between the semiconductor chip and the next level of integration, either single- or multi-chip configurations. It relates to the technologies for heterogeneous and other multi-chip packaging such as Fan-out/Fan-in Wafer Level Packaging, Panel Level Packaging, Three-Dimensional Stacking IC, device embedded packaging, flexible electronics technology
 - promote mutual understanding and improved communication between users and suppliers, equipment, automation systems, devices, and services
 - enhance the manufacturing efficiency, capability and shorten time-to-market and reduce manufacturing cost

- Scope:
 - The 3D Packaging and Integration Committee develops standards for semiconductor devices, including processed wafers, chips, or multi-chip configurations to the next level of integration, either in single- or multi-chip configurations
 - materials needed for 3D applications, including prime silicon and glass wafers, temporary and permanent bonding material, specifications needed for processed wafers and/or chips to enter an integration step, etc.
 - the materials related to the elements of, interconnection schemes, and unique packaging assemblies that provide for the communication link between device and packaging
 - the technologies for heterogeneous and other multi-chip packaging such as Fan-out/Fan-in Wafer Level Packaging, Panel Level Packaging, Three-Dimensional Stacking IC, device embedded packaging, and flexible electronics technology
 - metrologies to support these 3D integration and packaging technologies
- JRSC Topic
- NARSC Awards

Attachment: 03_SEMI Staff Report 20170721_0.2

4 Ballot Review

None

5 Subcommittee and Task Force Reports

5.1 Global PIC Standards Maintenance TF

There is no update.

5.2 International 450 mm PIC TF

*The TF under the PI&C Japan TC Chapter was discharged at the previous meeting held on April 19, 2017.

For reference, Chie Yanagisawa (SEMI Japan) reported that #5974 developed by this TF is published as AUX033-0617 in June 2017.

5.3 (Japan Chapter of Silicon Wafer TC) JA Shipping Box TF

Tsuyoshi Nagashima (Mirial) reported that there is no update for the JA Shipping Box Task Force.

5.4 (Japan Chapter of Silicon Wafer TC / NA Chapter of PI&C TC) Int'l 450mm Shipping Box TF

Tsuyoshi Nagashima (Mirial) reported that there is no update for the JA Shipping Box Task Force.

6 Old Business

6.1 TEM Grid Standardization Survey

Chie Yanagisawa (SEMI Japan) reported for TEM Grid Standardization Survey as attached. Of note:

- Summary



- A fair response was obtained with all major IC manufacturers responding to the survey (n = 64)
- 90% of current sample handling is done manually and 75% of respondents would like to have it automated.
- > 80% of respondents are in favor of having standard grids for:
 - Further automation (80%), TEM workflow efficiency (75%)
 - Compatibility between tools used in workflow (70%)
- < 30% of respondents see drawbacks related to costs/compatibility
 - Weigh cost benefit of additional standards
 - i.e. Keep standardized grid costs < 1% value of a grid with lamella
- > 80% of respondents are in favor of a SEMI standardization effort and 60% of respondents are willing to actively contribute to this effort

Chie Yanagisawa also introduced the TFOF for Electron Microscopy Workflow TF which was approved at the previous PI&C NA TC Chapter meeting on July 12 at SEMICON West 2017. The detailed information is on the following website:

<http://downloads.semi.org/web/wstdsbal.nsf/b8865fa87d9e7b57882579fb005c3cd7/3f323699fdc6bdc2882581640046d83!OpenDocument>

Attachment: 04_TEM grid survey results_11JulyReview rev1

7 New Business

7.1 Forming the Japan Electron Microscopy Workflow liaison TF

After the report for the formation of Electron Microscopy Workflow TF, the TC Chapter discussed what to do in Japan region. Then, the proposal was made as follows.

Motion: Approve forming the Japan Electron Microscopy Workflow liaison TF under PI&C Japan TC Chapter with the leadership of Kyoichiro Asayama (JEOL) and Tsuyoshi Onishi (Hitachi High-Technologies)

By / 2nd: Mitsuhiro Matsuda (Hitachi Kokusai Electric) / Tetsuya Nakai (SUMCO)

Discussion: None

Vote: 10 in favor and 0 opposed. **Motion passed.**

The detailed information is on the following website:

<http://downloads.semi.org/web/wstdsbal.nsf/b8865fa87d9e7b57882579fb005c3cd7/c7ccb201b11e86118825816a00202e69!OpenDocument>

Supika Mashiro (Tokyo Electron) recommended that this approval of this new task force in Japan region should be announced to the leaders of Electron Microscopy Workflow TF in NA region and the activity should be liaised each other.

Action Item: SEMI Japan staff to make announcement the TFOF for Japan Electron Microscopy Workflow liaison Task Force is approved and ask for participation from the related companies.

Action Item: SEMI Japan staff to make announcement to the TF leaders of Electron Microscopy Workflow Task Force under the PI&C North America TC Chapter that Japan Electron Microscopy Workflow liaison Task Force is formed under the PI&C Japan TC Chapter and ask for providing information of North America TF activity.



8 Next Meeting and Adjournment

The next meeting is tentatively scheduled for Wednesday, December 13, 2017 at International Conference Tower, Tokyo Big Sight, Tokyo, Japan. 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 17:00.

Respectfully submitted by:

Chie Yanagisawa

Manager

SEMI Japan

Phone: +81.3.3222.5863

Email: cyanagisawa@semi.org

Minutes tentatively approved by:

Tsuyoshi Nagashima (Miraial), Co-chair	MMDD, 2017
Kenji Yamagata (Daifuku), Co-chair	September 10, 2017
Noriyoshi Toyoda (Hirata Corporation), Co-chair	September 7, 2017

Table 13 Index of Available Attachments^{#1}

<i>Title</i>	<i>Title</i>
01_Required Elements_Reg_20150327_E+J	03_SEMI Staff Report 20170721_0.2
02_NA PIC Liaison Report April2017	04_TEM grid survey results_11JulyReview rev1

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