



SEMI® INTERNATIONAL STANDARDS

Petition for Formation of Japan 3DS-IC TC Chapter

August 31, 2015

M. Tsuriya/ iNEMI
H. Shimamoto / AIST



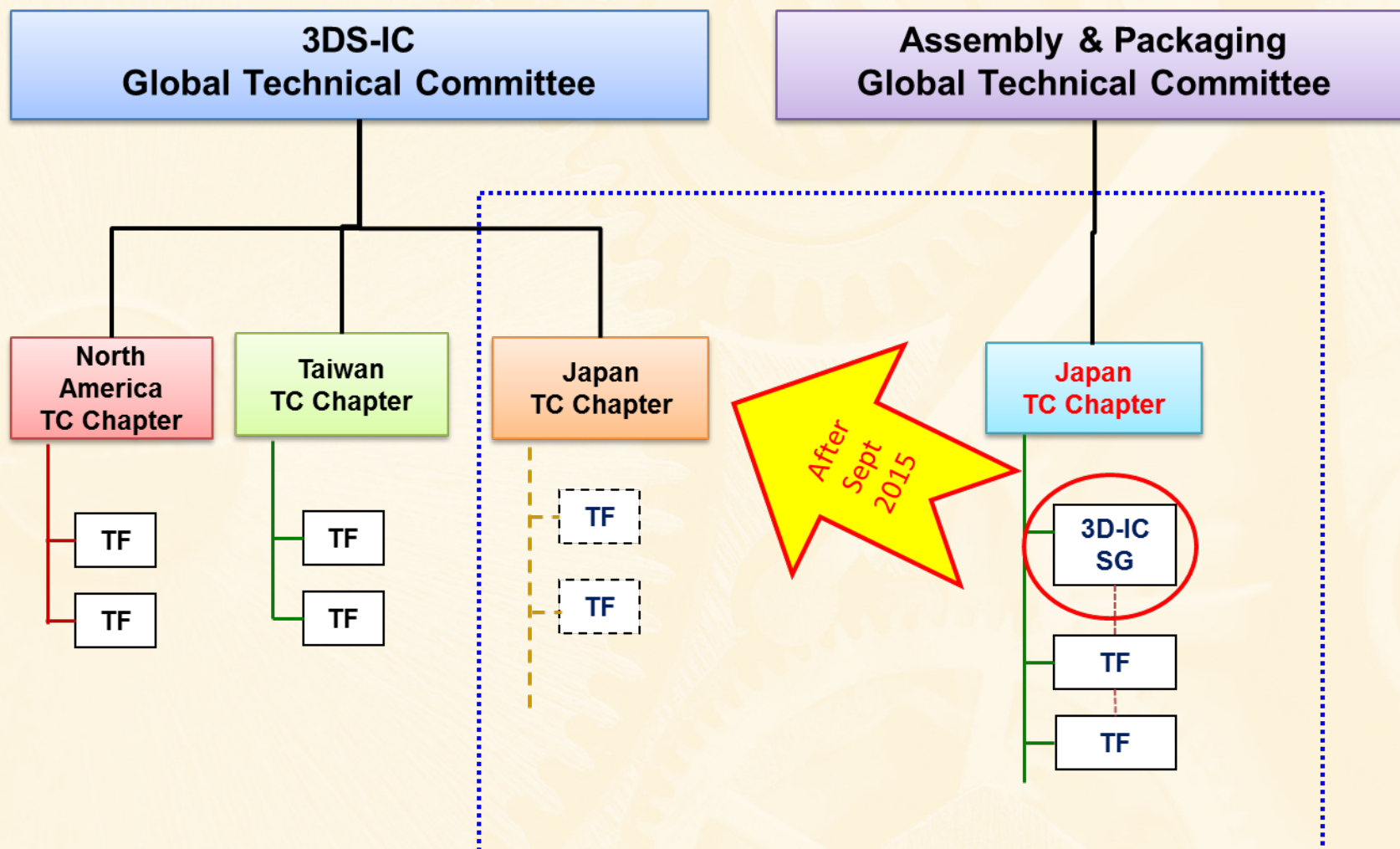
Japan 3DS-IC TC Chapter 設立の目的

h. justification why the Locale should have a TC Chapter

a. Locale of the TC Chapter to be established

- To enhance and reinforce the standard development activities as to solicit inputs from Japan members. ↓
- By soliciting proposals and inputs from Japanese members, to enhance and reinforce the 3DS-IC Standard Development Activities
- To interact with N.A. and TWN TC directly for further collaborations under the global 3DS-IC technical committee.

Current Organization regarding 3DS-IC issues



b. charter and scope
of the global technical
committee

Charter of Global 3DS-IC Committee

- 3DS-IC (Three-dimensional Stacked Integrated Circuits)
 - To explore, evaluate, discuss, and create consensus-based specifications, guidelines, and practices that, through voluntary compliance, will;
 - promote mutual understanding and improved communication between users and suppliers of 3DS-IC materials, carriers, equipment, automation systems and devices
 - enhance the manufacturing efficiency, capability and shorten 3DS-IC time-to-market
 - reduce manufacturing cost in the 3D-IC industry.

Future Plans

- Japan Chapter will focus more on our strength areas from SEMI members, which are;
 - Handling method and procedure
 - Thin Wafer/ Dies Handling
 - Packing and Shipping Media
 - Terminology and Structure
 - Si/Glass Interposer Specification/ Guide
 - Metrology for 3DS-IC used materials
 - Adhesive strength measurement
 - Microbump shear strength measurement
- Workshop/Seminar
 - Open forum to discuss the possible areas for industry collaboration efforts
 - Education, such as STEP program

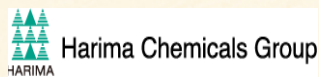
Leadership/Members

d. the proposed cochairs and other officers

e. a representative number of companies supporting the proposal, distributed among interest categories;

- Proposed co-chairs
 - Masahiro Tsuruya (iNEMI),
 - Haruo Shimamoto (AIST),
- Expected Members
 - 3D-IC Study Group members
 - See the next Slide
 - To Recruit Members
 - Material Manufacturers
 - Assembly and Test Equipment Manufacturers
 - Test Houses
 - OEM
 - Universities/ etc

Japan 3D-IC SG Participating Companies



- 3M Japan
- Achilles
- AIST
- AiT
- Amkor Technology Japan
- Asahi Glass
- ASE
- CMPUG
- DISCO
- EVGroup Japan
- Fujitsu Semiconductor
- Gold Industries
- Harima Chemicals Group
- Hitachi High-Tehnologies
- iNEMI
- Lapis Semiconductor
- Lintec
- Micron Memory Japan
- Mirial
- Mitsubishi Electric
- Nihon Entegris
- Renesas Electronics
- Renesas Semiconductor Package & Test Solutions
- SEMATECH
- Shin-Etsu Polymer
- Shinkawa
- Sumitomo Bakelite
- TAZMO
- Toray Engineering
- University of Tokyo
- Consultant (Nakamura)

Activities in Past

f. record of CFG activity, including meeting minutes;

- 3D-IC Study Group under Japan Assembly & Packaging TC Chapter from Oct. 5, 2012.
 - See more details in the next slide.
- Outcome from this Study Group
 - Thin Die Bending Strength measurement method TF (G96-1014)
 - Thin Chip Handling TF (two ballots submitted in C6)
 - Discussion of Tape Adhesive strength preparatory TF Formation (Will form under 3DS-IC TC)

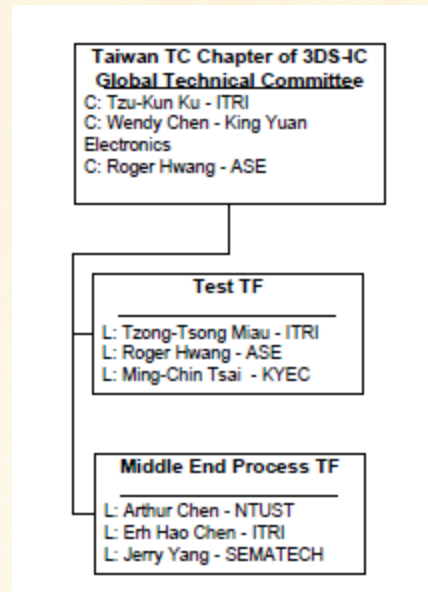
Japan 3D-IC Activities : Meeting History

- Aug. 29, 2012: Workshop with 20 attendees
- Oct. 5, 2012: Kick Off Meeting with 20 attendees
- Nov. 7, 2012: 2nd Meeting with 14 attendees
- Dec. 6, 2012: 3rd Meeting with 31 attendees
- Feb. 1, 2013: 4th Meeting with 17 attendees
- Mar. 7, 2013: 5th Meeting with 28 attendees
- Mar. 26, 2013: 6th Meeting with 21 attendees
- Apr. 26, 2013: 7th Meeting with 16 attendees
- May. 17, 2013: 8th Meeting with 18 attendees
- Jun. 27, 2013: 9th Meeting with 17 attendees
- Jul. 19, 2013: 10th Meeting with 16 attendees
- Sep. 19, 2013: 11st Meeting with 13 attendees
- Oct. 22, 2013: 12nd Meeting with 23 attendees
- Nov. 28, 2013: 13rd Meeting with 22 attendees
- Dec. 5, 2013: 14th Meeting with 22 attendees
- Dec. 19, 2013: 15th Meeting with 15 attendees
- Jan. 13, 2014: 16th Meeting with 18 attendees
- Mar. 11, 2014: 17th Meeting with 21 attendees
- May. 8, 2014: 18th Meeting with 21 attendees
- July 14, 2014: 19th Meeting with 25 attendees
- Sep. 29, 2014: 20th Meeting with 18 attendees
- Dec. 3, 2014: 21st Meeting with 14 attendees
- Jan. 21, 2015: 22nd Meeting
- Apr. 24, 2015: 23rd Meeting

Activities in other locales

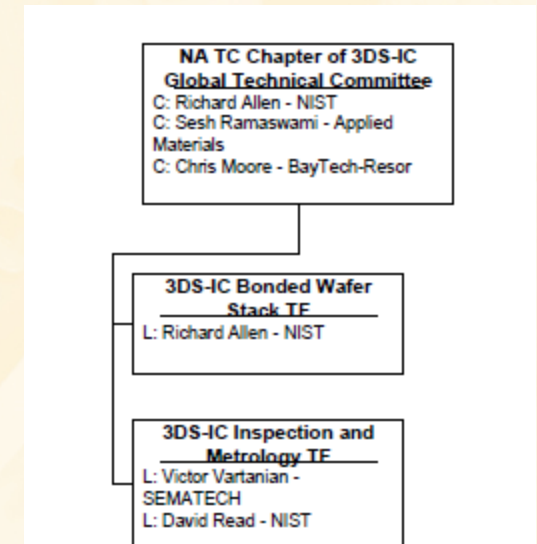
g. record of prospective members' involvement in the global technical committee, especially active participation on Document development;

• Taiwan



The Users' inputs and suggestions will be highly expected to develop the standards in Japan in the area of handling and inspection and measurement.

• 北米



Thin wafer & dies handling is critical for the operation at the FAB and Assembly sites. The expectation and requirement to the handling criteria and specification needs to be incorporate with their needs.