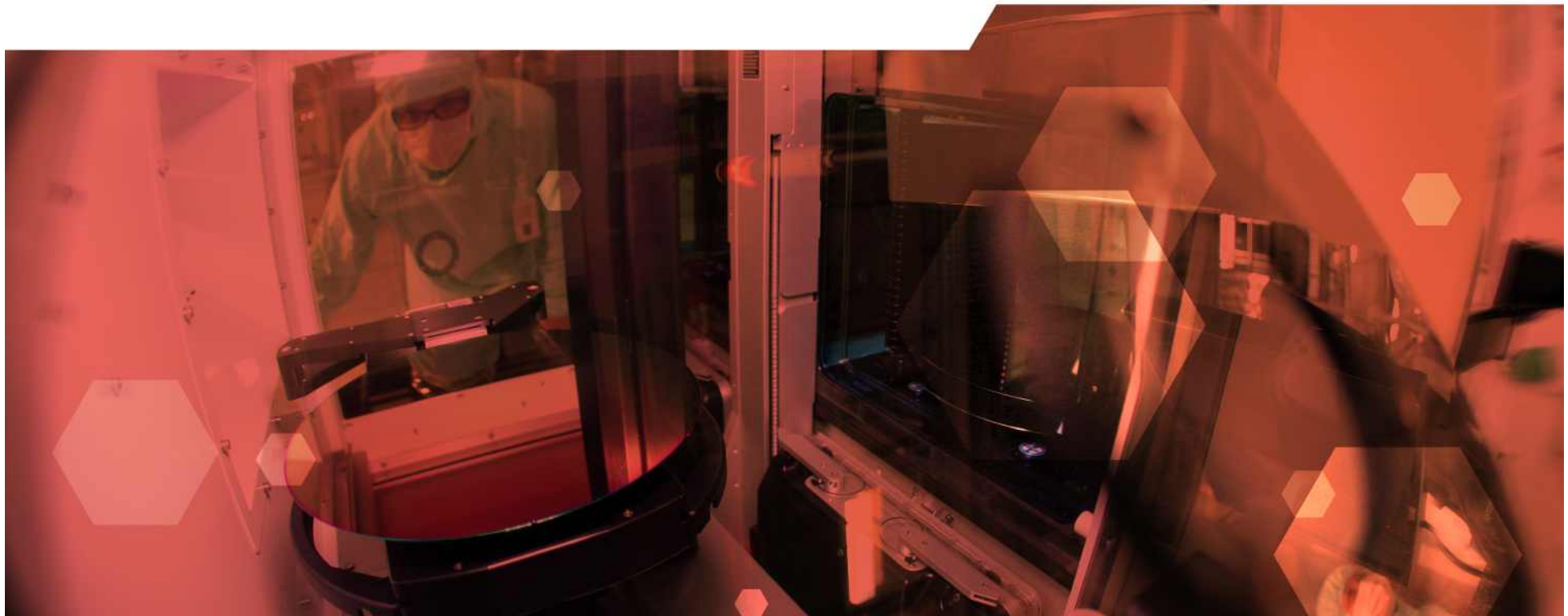# North America Information & Control Technical Committee Chapter
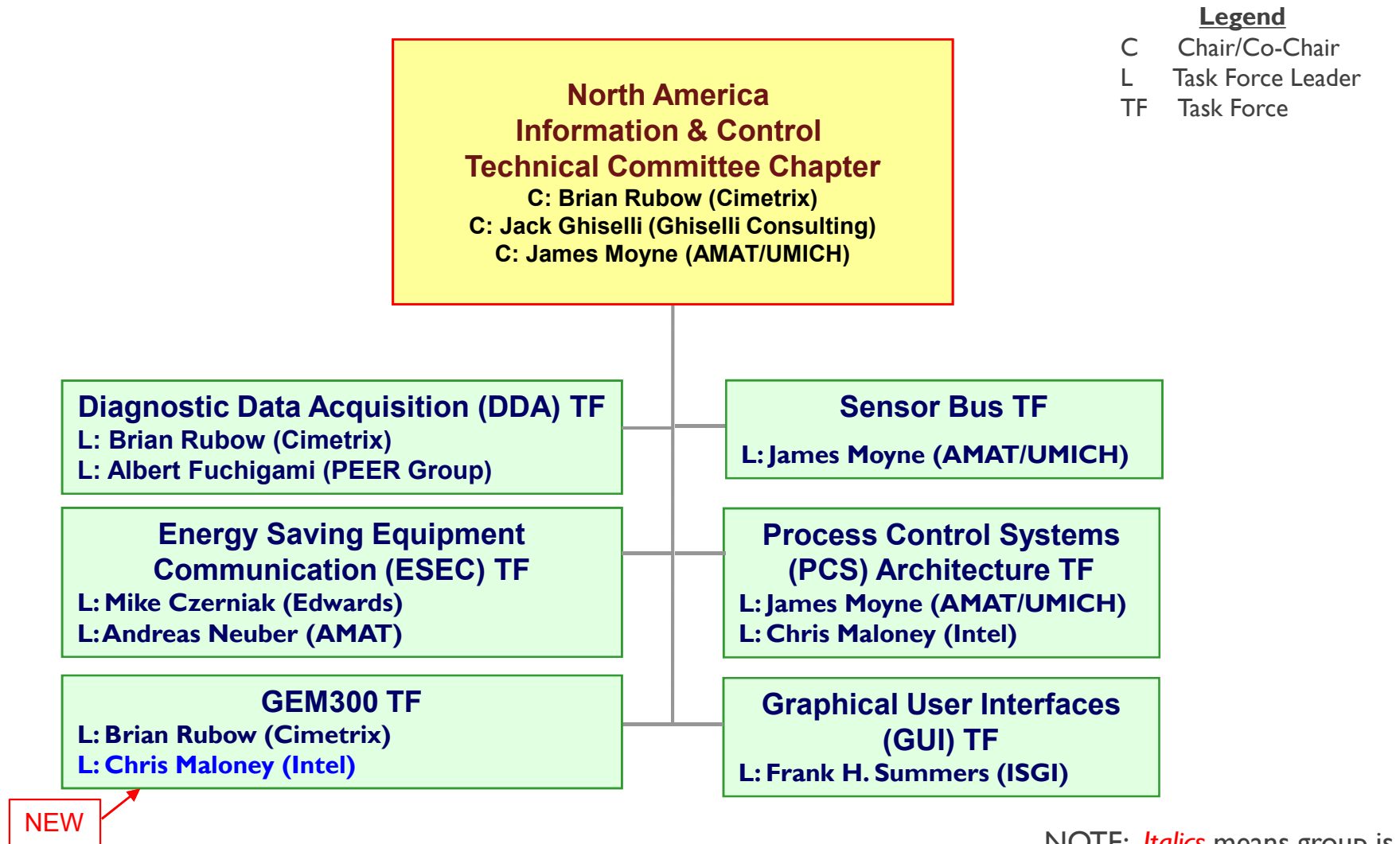
Liaison Report

November 2017 v2

Outline

- Leadership
- Organization Chart
- Meetings Information
- Ballot Results
- Upcoming Ballots
- SNARF(s) Approved by GCS in between TC Chapter Meetings
- Old Business (5 Year Review and 3 Year SNARFs)
- TF Reports
- Proposed Meeting Schedule

Leadership

- Committee Co-chairs
  - Brian Rubow (Cimetrix)
  - Jack Ghiselli (Ghiselli Consulting)
  - James Moyne (Applied Materials /University of Michigan)
- Leadership Changes
  - GEM 300 Task Force new TF leader:
    - Chris Maloney (Intel)

N.A. I&Cs TC Updated Organization Chart

Legend
C   Chair/Co-Chair
L   Task Force Leader
TF   Task Force

**North America
Information & Control
Technical Committee Chapter**
C: Brian Rubow (Cimetrix)
C: Jack Ghiselli (Ghiselli Consulting)
C: James Moyne (AMAT/UMICH)

Diagnostic Data Acquisition (DDA) TF
L: Brian Rubow (Cimetrix)
L: Albert Fuchigami (PEER Group)

Sensor Bus TF
L: James Moyne (AMAT/UMICH)

**Energy Saving Equipment
Communication (ESEC) TF**
L: Mike Czerniak (Edwards)
L: Andreas Neuber (AMAT)

**Process Control Systems
(PCS) Architecture TF**
L: James Moyne (AMAT/UMICH)
L: Chris Maloney (Intel)

GEM300 TF
L: Brian Rubow (Cimetrix)
L: Chris Maloney (Intel)

**Graphical User Interfaces
(GUI) TF**
L: Frank H. Summers (ISGI)

NEW

NOTE: *Italics* means group is currently inactive.

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Meeting Information

- Last meeting
  - November 8, 2017 @ N.A. Standards Fall 2017 Meetings
    - SEMI Headquarters, Milpitas California
- Next meeting
  - April 11, 2018 @ N.A. Standards Spring 2018 Meetings
    - SEMI Headquarters, Milpitas California

Ballot Results Cycle 7-2017

Doc.#	Document Title	Action
6005	Line Item Revision to SEMI E30-0416, *Generic Model for Communications and Control of Manufacturing Equipment (GEM)*	**Passed with editorial change**
6185A	Line Item Revision to SEMI E4-0699 (Reapproved 0612), *SEMI Equipment Communications Standard 1 Message Transfer (SECS-I)* to correct nonconforming title to: *Specification for SEMI Equipment Communications Standard 1 Message Transfer (SECS-I)*	**Passed**
6237	Reapproval of SEMI E116.1-0707 *Specification for SECS-II Protocol for Equipment Performance Tracking*	**Passed**
6238	Reapproval of SEMI E126-0708 (Reapproved 0613), *Specification for Equipment Quality Information Parameters (EQIP)*	**Passed**
6239	Reapproval of SEMI E130.1-1104 (Reapproved 0710), *Specification for SECS-II Protocol for Prober Specific Equipment Model for 300 mm Environment (PSEM300)*	**Passed**
6240	Reapproval of SEMI E54.23-0513, *Specification for Sensor/Actuator Network Communications for CC-Link IE Field Network*	**Failed**

Ballots to be issued for N.A. Spring 2018 Meetings Adjudication (and beyond)

Doc.#	Document Title	Voting Period
TBD	Line-item Revision to SEMI E125, *Specification for Equipment Self Description (EqSD)*	Cycle 2-18 or Cycle 5-18
TBD	Line-item Revision to SEMI E134, *Specification for Data Collection Management*	Cycle 2-18
TBD	Line Item Revision to SEMI E138, *XML Semiconductor Common Components*	Cycle 2-18
TBD	Line Item Revision to SEMI E132, *Specification for Equipment Client Authentication and Authorization*	Cycle 2-18
6114A	Line-item Revision to SEMI E5-0813, *SEMI Equipment Communications Standard 2 Message Content (SECS-II)* **Ballot authorized, but can be submitted only after SEMI publishes previously adjudicated version (Ballot R6089).**	Cycle 2-18
TBD	Line-item Revision to SEMI E54.23-0513, *Specification for Sensor/Actuator Network Communications for CC-Link IE Field Network*	Cycle 2-18

NOTES:
Doc. #6174 authorized for balloting in Cycle 5-17 but is postponed by the Task Force.
Doc. #6236 authorized for balloting at SEMICON West, but on hold until previously adjudicated version (Doc#5872C) of the document is published.

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

- **None**

SNARFs 3 Year Status

- **None needed extension.**

5-Year Review

Name	Due	Title	Status
SEMI E90-0312	3/1/2017	Specification for Substrate Tracking	SNARF 5966 by GEM 300 TF.
*SEMI E4-0699 (Reapproved 0612)	6/1/2017	SEMI Equipment Communications Standard 1 Message Transfer (SECS-I)	Balloted in Cycle 7-17, passed
*SEMI E37-0413	4/1/2018	High-Speed SECS Message Services (HSMS) Generic Services	Ballot in Cycle 2-18
*SEMI E37.1-0702 (Reapproved 0413)	4/1/2018	High-Speed SECS Message Services Single Selected-Session Mode (HSMS-SS)	Ballot in Cycle 2-18
SEMI E54.23-0513	5/1/2018	Specification for Sensor/Actuator Network Communications for CC-Link IE Field Network	Ballot in Cycle 2-18
SEMI E126-0708 (Reapproved 0613)	6/1/2018	Specification for Equipment Quality Information Parameters (EQIP)	Balloted in Cycle 7-17, passed
*SEMI E5-0813	8/1/2018	SEMI Equipment Communications Standard 2 Message Content (SECS-II)	Ballot submitted by Japan Chapter (#R6089)
*SEMI E40-0813	8/1/2018	Standard for Processing Management	TBD
*SEMI E40.1-0813	8/1/2018	SECS-II Support for Processing Management Standard	TBD

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

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5 Year Review – Inactive Standards

- None

Task Force Reports

Diagnostic Data Acquisition (DDA) Task Force Report [1/3]

- Leadership Change
  - None
- Ballot Adjudicated
  - None
- Ballot Plans Next Cycles
  - None
- Upcoming Activities
  - Create SNARFs to develop HTTP/2 with gRPC and Protocol Buffer to replace HTTP 1.1 in the EDA standards
    - Revision to E125, E128, E132, E134, E138
  - Provide a Report that summarizes why a replacement technology is required and how HTTP/2 with gRPC and Protocol Buffers addresses this. This will be distributed with the new SNARFs to be created.

Diagnostic Data Acquisition (DDA) Task Force Report [2/3]

- **New/Updated SNARFs proposals**
  - #6334 Line-item Revision to E125 *Specification for Equipment Self Description (EqSD)*
    - Rationale – Add clarification and enhancements to SimpleEvent and Parameters objects
  - #6335 – Line-item Revision to E134 *Specification for Data Collection Management*
    - Rationale – Enhancements based on user feedback
  - #6336 – Line-item Revision to E138 *XML Semiconductor Common Components*
    - Rationale – Add new Variable type for situation where data type is not known at equipment model creation
  - #6009 – Line Item Revision to E132 *Specification for Client Authentication and Authorization*, and E132.1 *Specification for SOAP Binding for Equipment client Authentication and Authorization*
    - Rationale for SNARF revision – Add clarification and enhancements based on user feedback
  - #6338 – Major Revision to SEMI E132 *Specification for Equipment Client Authentication and Authorization*
    - Rationale – Add clarification and move Authentication to be defined in the Subordinate Standard
    - Ballot after work on #6009 line-item revision to E132 is completed and document is published

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Diagnostic Data Acquisition (DDA) Task Force Report [3/3]

- Meeting Discussion (Technical Summary)
  - Technical Discussion on replacing HTTP/1.1 in EDA Standards.
  - Internet Technology has significantly improved since EDA first introduced. (Currently using SOAP/XML over HTTP/1.1)
  - Several issues identified with Freeze 2 would be addressed with a different technology (support for bi-direction communication channel, performance improvements)
  - Want to access improved efficiencies in transporting the data. Switching to a binary encoding rather than text encoding used today can provide significant performance improvement
  - HTTP/2 was selected as replacement technology to move forward, and gRPC with Protocol Buffers as the protocol framework on top of HTTP/2. This provides the best combination of performance and out of the box support for multiple platforms and programming languages

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- Leadership Change
    - Chris Maloney (Intel) – new Task Force co-Leader
- Ballot Adjudicated
    - Passed:
        - Doc #6237, E116.1 (superclean)
        - Doc #6238, E126 (superclean)
        - Doc #6239, E130.1 (superclean)
        - Doc #6005 E30 with editorial change
        - Doc #6185A #E4
    - Failed:
        - None
- Ballot Plans Next Cycles
    - #6114A, Line-item revision to SEMI E5 - Cycle 2 2018
    - #TBD, Revision to SEMI E37 - Cycle 2 2018
    - #TBD, Revision to SEMI E37.1 - Cycle 2 2018
- Upcoming Activities
    - Review of ballots E37, E37.1, 6114A prior to submission

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Generic Equipment Model 300 (GEM300) Task Force Report [2/2]

- Meeting Discussion (Technical Summary)
  - Reviewed ballot 6114A
    - E5 new stream, functions for transferring Recipes.
    - New messages could be adopted to transfer other binary, ASCII items
      - Wafer maps? Production Recipe? SEDD file? Custom items?
    - Some suggestions to improve specific text in the ballot
    - Prototyping requested up to about 2 GB recipes
    - With changes, ready for re-submission
  - No update on the E90 Ballot 5966
- SMART Manufacturing
  - Multiple ideas shared to target future SMART Manufacturing as it relates to GEM, GEM 300.
  - GEM Light (very small set of messages)
  - HSMS-GS (multi-hosting)
  - Levels of adoption

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Sensor Bus Task Force Report

- Leadership
  - No changes
- Ballot Adjudicated
  - Failed:
    - # 6240, Reapproval of SEMI E54.23-0513, *Specification for Sensor/Actuator Network Communications for CC-Link IE Field Network*
    - The Task Force will discontinue document development under the associated SNARF
      - ✓ SNARF # 6240 - abolished
- Upcoming Activities
  - New SNARF # 6333 for Line-item Revision to SEMI E54.23-0513, *Specification for Sensor/Actuator Network Communications for CC-Link IE Field Network*
    - Under the new SNARF, the SB TF will propose additional tables for missing SDMs as line item changes to E54.23 to make it more aligned with the current SEMI E54 suite of standards.

Process Control Systems (PCS) Task Force Report

- No meeting

- Upcoming Activities
  - Expand E133/E133.1 to support prediction capabilities such as Virtual Metrology and Predictive Maintenance

Energy Saving Equipment Communication (ESEC)
Task Force Report

- No meeting/update

Graphical User Interfaces (GUI) Task Force Report

- Leadership Change
  - None
- New SNARFs/Ballots
  - None/None
- Upcoming Activities
  - Ongoing work on Revision to SEMI E95
    - Discussed changes primarily to graphics, secondarily to text
    - Current E95 is not compliant with the latest Style Guide, editorial changes to comply will be completed prior to balloting
    - Suggestion to place Small Screen Device (SSD) GUI information in Related Information section of the document
      - SSD displays, apps & GUIs continue to morph quite rapidly
      - Only limited information can be specified
  - Inquiry will be made as to the availability of SEMATECH documents (in the Related Documents section of E95)

IRDS/IMA/APC Update

IRDS 2017 Summary

- Drivers
  - Device production
  - Smart Mfg. / I4.0 tenants
- Capabilities in the forefront
  - Big data, IoT, cloud, predictive analytics, etc.
- Key challenges
  - Security
  - Supporting predictive analytics and smart manufacturing capabilities
- Status
  - 2017 Roadmap to be finalized over by Dec. 2017
- 2017 Outputs
  - Factory Integration roadmap
  - Virtual metrology white paper

- Focus areas planned for 2018
  - Security Roadmap
  - Predictive analytics
  - Big Data
  - Supply Chain
  - 200mm addition
- **SEMI Interaction in 2018**
  - Prediction specifications (PCS TF?)
  - Security (??)
  - Smart Manufacturing Council
  - Fab Owners Association (200mm) ➔ SEMI?

Contacts:

James Moyne (AMAT): moyne@umich.edu Supika Mashiro (TE): supika.mashiro@tel.com

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Advanced Process Control (APC) Conference IMA-APC Council

- APC Conference – October 9-12, 2017
  - Presentation by James Moyne (Applied Materials, University of Michigan) / Chris Maloney (Intel)
    - Revised SEMI E133 *Specification for Automated Process Control Systems (PCS) Interface* and its Impact on APC Solution Interoperability
  - Poster session
    - SEMI Standards and Smart Manufacturing
  - APC/IMA Security survey (challenges, priorities and roadmap for solutions)
    - https://www.surveymonkey.com/r/ZXLS6LH
    - Distributed and discussed at the Advanced Process Control (APC) conference (www.apcconference.com)
  - Work with SEMI to determine a mechanism for a security TF
    - Determine (limited and initial) scope
- Contact information: James Moyne moyne@umich.edu

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Next Meeting Schedule

The next N.A. Information & Control Standards Meetings are tentatively scheduled* for April 9-11, 2018 at SEMI HQ, Milpitas, California in conjunction with the N.A. Standards Spring 2018 Meetings. Exact meeting date and details will be announced when finalized and available at http://www.semi.org/en/standards-events

Monday, April 9, 2018, SEMI HQ Milpitas, CA
- NA I&C Leadership (12:00 Noon – 1:00 PM)
- GEM300 (1:00 PM – 4:00 PM)
- PCS (4:00 PM – 5:00 PM)
- I&C GCS (5:00 PM – 5:30 PM)

Tuesday, April 10, 2018, SEMI HQ Milpitas, CA
- I&C GUI TF (8:00AM –10:00AM)
- Energy Saving Equipment Communication (10:00 AM – 12:00noon)
- DDA (12:00 PM – 4:00 PM)
- Sensor Bus (4PM – 6:00 PM)

Wednesday, April 11 2018, SEMI HQ Milpitas, CA
- I&C Committee (8:00 AM – 2:00 PM)

*All times are in Pacific Time. Times and dates are subject to change without notice.

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Thank you!

For more information or to participate in N.A. Information & Control TC activities, please contact Inna Skvortsova at SEMI
iskvortsova@semi.org