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Welcome to the 2009 Roadmap Cycle

Welcome to the first newsletter of the 2009 iNEMI Roadmap cycle. This and subsequent newsletters will be completely dedicated to keeping you informed about the progress of the 2009 iNEMI Roadmap. Please pass this newsletter on to anyone within your technical network who might be interested in becoming involved in this effort.

You may have noticed a new logo at the top of the newsletter. This addition is used to differentiate it from other iNEMI newsletters and incorporates iNEMI's new look.

As a reminder, and to inform new recipients, my name is Chuck Richardson (iNEMI's Director of Roadmapping) and I am responsible for staff support of the roadmap effort. Since I don't know how familiar you are with the roadmap, I would like to give you a quick overview of its make-up. The roadmap is developed by volunteers from the industry (iNEMI members and non-members) that form groups to develop chapters for six Product Emulator Groups (PEGs) and 19 Technology Working Groups (TWGs), which cover technology and business/infrastructure areas.

2009 iNEMI Roadmap Product Emulator Groups (PEGs):	
1. Aerospace/Defense	5. Netcom (Network, Datacom & Telecom)
2. Automotive	6. Office/Large Business Systems
3. Consumer/Portable	
4. Medical	

The PEGs define OEM requirements for their respective product sectors, anticipating product technology and business-related needs over a 10-year horizon. These needs are presented in each PEG chapter, using key attribute spreadsheets and text according to templates that are furnished by the iNEMI Technical Committee. Each PEG has a Chair or Co-chairs and as many group members as needed for a broad-based view of that emulator's scope (usually 2-5 individuals). PEG Chairs are expected to attend two to three face-to-face meetings during the 2007/2008 calendar year, but most of the group's work is done by telephone and over the web.

The TWGs use the OEM requirements detailed in the six PEG chapters to prepare each of their roadmap chapters, detailing where their respective technology stands today — and expects to progress

over the next 10 years — with respect to the stated needs. Other than the TWG Chairs, who are expected to attend a minimum of three meetings, no travel is required to participate in a TWG, and this activity requires only as many hours as you want to dedicate to it, depending upon how involved you wish to be.

2009 iNEMI Roadmap Technology Working Groups (TWGs):

1. Board Assembly	10. Optoelectronics
2. Connectors	11. Organic & Printed Electronics
3. Energy Storage and Conversion Systems	12. Packaging
4. Environmentally Conscious Electronics	13. Passive Components
5. Final Assembly	14. PLIM (Product Lifecycle Information Management)
6. Interconnect Substrates - Ceramic	15. RF Components & Subsystems
7. Interconnect Substrates - Organic	16. Semiconductor Technology
8. Mass Data Storage	17. Sensors
9. Modeling, Simulation & Design Tools	18. Test, Inspection & Measurement
	19. Thermal Management

Recent Activity

Much of the recent activity has been associated with completion of the 2007 iNEMI Roadmap cycle with the publication of the 2007 iNEMI Technical Plan and Research Priorities documents. These documents capture the gaps identified in the roadmap and after analyzing the nature of the gaps and categorizing them as tactical and/or strategic, the iNEMI staff, Technology Integration Group (TIG) chairs and Technical Committee (TC) put together a five-year plan for internal iNEMI projects to address the top gaps. The 2007 Technical Plan is now available to members on the iNEMI website.

The iNEMI Research Committee (a subcommittee of the Technical Committee) uses the strategic gaps defined in the roadmap and the iNEMI Technical Plan to develop a research document that is provided to industry, government and academia to help focus research resources on the identified gaps. If you would like to review the Research Priorities document, just click on the following public link:

http://thor.inemi.org/webdownload/RI/iNEMI_2007_Research_Priorities.pdf

This time has also been used to generate the new 2009 Roadmap schedule for TC approval, arrange the PEG kick-off meetings in October, and prepare for the 2009 Roadmap cycle. The approved schedule for this roadmap cycle is provided at the end of the newsletter for your information and easy printing. In response to the debriefing sessions following the last cycle, we kept the schedule close to the 2007 version to reduce the impact of vacations (scheduled for the summer months) on the TWGs’ schedules for completion. In order to do that, we had to move the PEG schedule ahead as well. You will also notice that we have tried to schedule some roadmap meetings in connection with other popular industry venues and meetings that may allow participants to justify their travel plans around both.

Roadmap Coordination Meetings

I participated in a meeting with the IPC Roadmap and JNAC (JISSO North America Council) July 5-6 to ensure coordination between the two roadmaps and JISSO activities.

A series of iNEMI/ITRS (International Technology Roadmap for Semiconductors) roadmap collaboration meetings were held July 15-18 at Semicon West to align the two roadmaps for the 2008/2009 cycles. I represented iNEMI in the Assembly and Packaging ITWG working meetings of the ITRS. As an added benefit of the meetings, Bill Bottoms (NanoNexus) and Bill Chen (ASE) have agreed to chair the iNEMI Packaging TWG and Yishao Lai (ASE) has volunteered to chair the Modeling, Simulation & Design Tools TWG for the 2009 cycle. During a recent trip to China, Bob Pfahl (iNEMI Vice President of Operations) recruited a representative from Huawei to co-chair the Netcom PEG. We welcome them to the 2009 iNEMI Roadmap team.

Upcoming Events

Emulator Working Meeting (September 25). As a result of the suggestions received from several PEG and TWG Chairs for a working meeting to begin updating emulator spreadsheets leading into the 2009 iNEMI Roadmap emulator kick-off with the Technical Committee on October 12, iNEMI has scheduled working meetings on September 25 in conjunction with IPC Midwest in Schaumburg, Illinois. These meetings will be held from 9:00 a.m. CDT to 4:00 p.m. CDT in the Renaissance Hotel & Convention Center, Room Schaumburg D. This will be a chance for PEG and TWG Chairs to discuss emulator spreadsheet updates. **This meeting is optional for both PEG and TWG Committees, so please let others in your chapter groups know of the invitation and let me know by September 7 if you wish to take advantage of this meeting space.** It will also be important to make hotel reservations as soon as possible at the following link: www.IPCMidwestShow.org. I have been informed by the IPC Midwest managers that it would be best for iNEMI meeting attendees who don't plan to attend any other IPC conference sessions (or the show) to register for the show (no charge involved) so that there will be less confusion on the part of show personnel. You can register using the same link listed above for hotel reservations. We will also offer the option to call in remotely for those who cannot make the trip. The call information will be provided in the September newsletter.

PEG Kick-Off (October 12). The Product Emulator Group kick-off meeting with the iNEMI Technical Committee will be held October 12, 8:00 a.m. to 1:00 p.m. EDT at the Gaylord Hotel in Orlando, Florida in the Gainesville 1&2 rooms. This meeting is being held in conjunction with SMTAI, so **please make your hotel reservations as soon as possible and register for SMTAI at the following links:** <http://www.smta.org/smtai/accommodations.cfm> and http://www.smta.org/smtai/registration_content.cfm. **There is no charge to register for SMTAI, but you need to register for access to the iNEMI meeting rooms.** We have tried to schedule iNEMI meetings so that you can also attend most of the SMTAI conference sessions. There will be a dinner on the evening of October 11 in the Gaylord Hotel's Sunset Sams at 6:30 p.m. for iNEMI TC members and PEG/TWG Chairs attending the Friday meeting. **If you plan to attend, please fill out the registration form that is available at the following link:** http://thor.inemi.org/webdownload/calendar/SMTAI_2007/SMTAI07_registration.pdf

Roadmap Process Information Meeting. I will also be holding a roadmap process informational meeting on Tuesday, October 9, 4:00-5:00 p.m. EDT in the Osceola 1. This meeting will answer any questions posed by any new or existing PEG or TWG Chairs who would like to attend. Anyone interested in finding out more about serving on a PEG/TWG as a Chair or a participant is also invited to attend.

The preliminary agenda for the Technical Committee/PEG/TWG emulator review is as follows:

Friday, October 12

Time (EDT)	Topic	Discussion Leader
8:00 am	Introduction and Review of Agenda	Bob Pfahl
8:10 am	2006 PEG Review Introduction	Chuck Richardson
8:20 am	Automotive PEG Review Discussion	Spall / Kuhlman
8:55 am	Office/Large Business PEG Review Discussion	Dale Becker / Aghazadeh
9:30 am	Break	
9:40 am	Aerospace/Defense PEG Review Discussion	Murphy / Ballard
10:15 am	Network, Datacom, Telecom PEG Review	TBD / Guth
10:50 am	Medical PEG Review Discussion	Primavera / Barthel
11:25 am	Consumer PEG Review Discussion	Noe/ Cipielewski
12:00 Noon	Lunch / ITRS/iNEMI Coordination	Juan-Antonio Carballo

The main item of business at the meeting will be to review the status of the PEG input for the 2009 Roadmap cycle. The format is to have a 20-minute presentation by the PEG Chair followed by a 15-minute discussion led by a TC discussion leader. The assigned TC discussion leader should review the PEG's material and presentation prior to the meeting. I will be providing presentation templates for use by the PEG Chairs and TC members so that the presentations can be consistent. There will likely be a call-in number for presenters who are not able to attend in person. Juan-Antonio Carballo will again be invited to attend to discuss the status of the ITRS/iNEMI Roadmap coordination from his Design ITWG perspective.

Get Involved

Work is continuing to fill a few remaining openings for both PEG and TWG leadership positions. We are presently requesting applicants for the positions of Netcom PEG Chair and Aerospace/Defense PEG Co-chair. We also need TWG Chairs for: RF Components & Subsystems, Environmentally Conscious Electronics, Energy Storage & Conversion Systems, Sensors, and Optoelectronics. If you have been thinking about serving the industry in a position of TWG Chair, please contact me and I will work with you to decide if this is the cycle to get involved. It is not a requirement to be an iNEMI member to participate in roadmap development. In fact, the more diversified the representatives working on the roadmap, the broader the reach and the more valuable to the industry. With the wide range of technology categories, it should be easy to find one that stirs your interest and calls you to participate.

The iNEMI Roadmap has become recognized as an important tool for defining the "state of the art" in the electronics industry as well as identifying emerging and disruptive technologies. It also includes keys to developing future iNEMI projects and setting industry R&D priorities over the next 10 years.

With the "globalization" of the iNEMI Roadmap, each "edition" of the roadmap should become even more important as a tool for identifying technology gaps and possible solutions for an increasingly global industry. If you would like to be involved with the 2009 iNEMI Roadmap team, or be added to the mailing list of this monthly newsletter, please contact Chuck Richardson at

Chuck.Richardson@inemi.org.

2009 Proposed Roadmap Schedule

2007

- 3Q2007 Recruit product sector champions and teams, and refine data charts
Begin publication of 2009 Roadmap Newsletter
Distribute 2007 PEG chapters
- 4Q07 Product sector champions develop emulators
- September 6 Teleconference with PEG Chairs
- September 25 TWG/PEG Chairs meet to discuss key attributes (at IPC Midwest; Schaumburg, IL)
- October 12 Roadmap PEG kick-off with PEG/TWG/TC (at SMTAI; Orlando, FL)
- November 14 Roadmap kick-off in Europe (at Productronica; Munich, Germany)
- December 17 Teleconference with TC on PEG Emulator review

2008

- January 4 Email Word version of 2007 TWG chapters and Executive Summary to each TWG Chair
- January 11 Organizing teleconference with TWG Chairs (offer TWG meeting rooms at TWG kick-off)
- February 20-21 PEG workshop/TWG kick-off (hosted by HP in Santa Clara, CA)
- Product sector tables completed – PEG chapter drafts written
 - Cross-cut issues are initially addressed
- April 3 TC/PEG face-to-face chapter review meeting at APEX
- May 7 Telecon with TWG Chairs
- May 14 Open roadmap presentation in Herndon, VA
- May 15 TWG/PEG cross-cut meeting, Herndon, VA
- June TBD Roadmap workshops in Asia and Europe
- July 1 TWG drafts due for TC review
- August 6 TC face-to-face review with TWG Chairs at Agilent (Washington State)
- September 22 Final roadmap chapters due**
- October TBD iNEMI Council of Members review of key issues and preliminary (at SMTAI)
- October 31 Edit, prepare Appendices A-D, Executive Summary
- November 20 “Go to press”
- December 5 Ship to members

2009

- 1Q2009 Make copies available to industry
- 2Q2009 Industry presentation at APEX