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Welcome to the 2009 Roadmap Cycle

Welcome to the third 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.

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 makeup. 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. The number of PEG and TWG Chapters are subject to change as evidenced by recent discussions to add a new TWG to address Solid State Illumination this cycle. I will let you know how these discussions progress in future newsletters.

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

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
	13. Passive Components
4. Environmentally Conscious Electronics	14. PLIM (Product Lifecycle Information Management)
5. Final Assembly	
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

Emulator Working Meeting (September 25). Suggestions were 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. iNEMI held such a meeting on September 25 in conjunction with IPC Midwest in Schaumburg, Illinois. This was a chance for PEG and TWG Chairs to discuss emulator spreadsheet updates. This meeting was optional for both PEG and TWG Committees and a first time occurrence, so the turnout of 4 PEG Chairs and 6 TWG Chairs (either in person or by phone) demonstrated the interest that the attendees have in strengthening the 2009 emulator spreadsheets. A strawman spreadsheet was developed from the input at the meeting and has been distributed to the attendees for comments. The major issues coming from the meeting had to do with adding more descriptive information to the parameter columns – to make them easier for the PEG/TWG Chairs to interpret. Once additional comments have been received and requested format changes are made to the spreadsheet, it will be finalized and presented by the PEG Chairs for use at the TWG kick-off meeting on February 20 at HP.

As announced last month, I presented a paper that discussed the 2007 Roadmap, including roadmap highlights and how that information is used to address industry gaps, at an SMTAI Technical Conference "Special Event," which was free for all attendees. The well attended presentation was entitled "2007 Roadmap – Process, Trends and Results".

PEG Kick-Off (October 12). The Product Emulator Group kick-off meeting with the iNEMI Technical Committee was held October 12 at the Gaylord Hotel in Orlando, Florida. There was a dinner on the evening of October 11 in the Gaylord Hotel's Sunset Sams for iNEMI TC members and PEG/TWG Chairs attending the Friday meeting.

The final agenda for the Technical Committee/PEG/TWG emulator review was 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	Jim Spall, Delphi

8:55 am	Office/Large Business PEG Review Discussion	Jim McElroy, iNEMI
9:30 am	Break	
9:40 am	Aerospace/Defense PEG Review Discussion	Chuck Richardson, iNEMI
10:15 am	Network, Datacom, Telecom PEG Review	John Duffy, Cisco
10:50 am	Medical PEG Review Discussion	Anthony Primavera, Boston Scientific
11:25 am	Consumer PEG Review Discussion	Susan Noe, 3M
12:00 noon	Lunch / ITRS/iNEMI Coordination	Juan-Antonio Carballo, ITRS

The main item of business at the meeting was to review the expected changes to the PEG emulators for the 2009 Roadmap cycle. The format was a 20-minute presentation by the PEG Chair followed by a 15-minute discussion by the TC. There was a call-in number for presenters who were not able to attend in person and the presentations were emailed to the attendees prior to the meeting. Juan-Antonio Carballo was again invited to attend to discuss the status of the (International Technology Roadmap for Semiconductors) ITRS/iNEMI Roadmap coordination from his Design ITWG (International Technology Working Group) perspective. Click here for the presentations for this meeting.

During the afternoon T.C. business meeting, the T.C. also reviewed the summary report of a final T.C. gap review and disposition effort that allowed for a last look at every gap identified in the 2007 iNEMI Roadmap to reach a consensus disposition for each. Options for disposition included an iNEMI project under an existing or new TIG, outsourcing to another organization or no action this cycle. Since there were over 300 gaps identified, this was quite a task and it completes the gap analysis and disposition for the 2007 cycle. This added level of vetting, along with the development of the iNEMI Technical Plan and R&D Priorities documents, will assure that no gap is overlooked, allowing iNEMI and other industry organizations to focus their resources on addressing all the key gaps and needs that were identified. Several gaps were identified as candidates for outsourcing to the SMTA and/or IMAPS.

Upcoming Events

The 2009 iNEMI Roadmap/European Kick-Off Meeting will be held at Productronica in Conference Room A21 on Wednesday, November 14, 2007. The meeting is co-sponsored by IEEE's CPMT Society, Fraunhofer IZM, and IMAPS Europe. For more information, go to http://www.inemi.org/cms/calendar/2009_RM_European_Kickoff_Nov_07.html

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 Office / Large Business PEG Chairs and Aerospace/Defense PEG Co-chair. We also need TWG Chairs for: Energy Storage & Conversion Systems and Sensors. Several volunteers have recently come forward and I am happy to announce that Frank Rossman (Jabil) has agreed to chair the Environmentally Conscious Electronics TWG, Rob Suurmann (Celestica) has agreed to chair the Optoelectronics TWG, William Ring (WSR) has volunteered to serve as Optoelectronics Co-chair and Ken Harvey (Teradyne) has also volunteered to chair the RF Components & Subsystems TWG for this cycle. iNEMI welcomes all the new Chairs to the 2009 Roadmap team.

We are sorry to say goodbye to Tim McBride (Sensata) as Chair of the Sensors TWG. Tim has decided to retire as chair and allow someone else the opportunity to expand and improve upon the

excellent chapter that he put together for the 2007 cycle. iNEMI thanks him for his service to the industry and wishes him continued success.

If you have been thinking about serving the industry in a position of PEG or 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. One example of this fact is the recent declaration by the EU (European Union) that in order for an entity to get funding from them they would have to show a need for the project as identified in either the iNEMI roadmap on Organic & Printed Electronics or the VDMA (OE-A) (Organic Electronics Association) roadmap. 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 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 13	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	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 spreadsheets completed – preliminary PEG chapter outlines written
- Cross-cut issues are initially addressed

April 3	TC/PEG face-to-face chapter review meeting at APEX, Las Vegas, NV
May 7	Telecon with TWG Chairs, preliminary PEG Chapters due to staff

May 14	Open roadmap presentation in Herndon, VA
May 15	TC/TWG/PEG cross-cut meeting, Herndon, VA
June 12	European Roadmap Workshop at IMAPS UK MicroTech 2008, Windsor England
June TBD	Asian Roadmap Workshop in China
July 1	TWG drafts due for TC review
August 6-7	TC face-to-face review with TWG Chairs at Agilent (Liberty Lake, Washington)
September 21	**Final roadmap chapters due**
September 24	iNEMI Council of Members review of key issues, IPC Midwest, Schaumburg
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