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In this Issue:

Introduction to 2009 iNEMI Roadmap Cycle

North American 2009 Roadmap Kick-Off Venue Changed

Status of Roadmap Leadership Opportunities

2009 Roadmap Schedule

Welcome to the 2009 Roadmap Cycle

Welcome to the seventh 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 make-up. The roadmap is developed by volunteers from the industry (iNEMI members and non-members) that form groups to develop chapters for five Product Emulator Groups (PEGs) and 20 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 decisions deleting the Aerospace/Defense PEG and adding a new TWG to address Solid State Illumination this cycle.

Work has been proceeding within iNEMI on an Item Level Tag roadmap document initiative with thoughts of making it either a standalone chapter of the 2009 iNEMI Roadmap or encompassing it as a part of another existing chapter – such as the Printed Electronics TWG or RF Components & Subsystems TWG. I will let you know of any new changes in future newsletters.

2009 iNEMI Roadmap Product Emulator Groups (PEGs):	
1. Automotive	3. Medical
2. Consumer/Portable	4. Netcom (Network, Datacom & Telecom)
	5. 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 five 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	11. Organic & Printed Electronics
2. Connectors	12. Packaging
3. Energy Storage and Conversion Systems	13. Passive Components
4. Environmentally Conscious Electronics	14. PLIM (Product Lifecycle Information Management)
5. Final Assembly	15. RF Components & Subsystems
6. Interconnect Substrates - Ceramic	16. Semiconductor Technology
7. Interconnect Substrates - Organic	17. Sensors
8. Mass Data Storage	18. Solid State Illumination
9. Modeling, Simulation & Design Tools	19. Test, Inspection & Measurement
10. Optoelectronics	20. Thermal Management

Recent Activity

TWG Chapter 2007 Chapter Distribution (January 4, 2008). Prior to January 4, 2008 I distributed the “Word” versions of the 2007 TWG Chapters as a guideline for use by the TWG Chairs for development of the 2009 chapters. For those new chapters I provided a similar chapter to use as a guide for formatting and layout. If you are a TWG Chair and didn't receive a copy, please contact me.

iNEMI Technical Committee Restructuring. The iNEMI Technical Committee has decided to form subcommittees for the purpose of achieving better focus and efficiency of T.C. member time and expertise. There is now a sub-committee to oversee PEG roadmap activity and to offer feedback. There are other subcommittees being formed to specifically address R&D issues, TIG mentoring and TWG oversight.

PEG Chapter T.C. Review Telecon (January 9, 2008). The new PEG subcommittee of the iNEMI Technical Committee reviewed the PEG chapter progress and offered feedback to the PEG Chairs during a telecon from 3:00 p.m. to 4:00 p.m. EST on January 9, 2008. This telecon was rescheduled from December 17 due to conflicting business and holiday issues that limited participation. This was the last formal opportunity for the PEGs to receive T.C. PEG Committee feedback in order to refine the chapter outlines and emulator spreadsheets before the kick-off presentations on February 20/21.

TWG / PEG Chapter Chair Telecon (January 11, 2008). On January 11, 2008, I hosted a conference call with the TWGs and PEGs to discuss the arrangements at the North American

kick-off meeting and to answer any questions that might arise concerning the meeting arrangements or format.

iNEMI China Office Grand Opening (January 16, 2008). For anyone unaware, iNEMI has opened a China office in Shanghai - managed by Dr. Haley Fu. Haley is expecting to create excitement in China concerning roadmap participation. A new iNEMI member (Huawei) has already supplied participants for most all the TWGs to assist in addressing the Netcom issues faced by the TWGs for 2009. TWG Chairs will have to be creative in order to take full advantage of the expertise resident in China due to the time difference. Haley can be contacted at haley.fu@inemi.org. The formal grand opening ceremony was held on January 16, 2008.

Upcoming Events

The 2009 iNEMI Roadmap/North American Kick-Off Meeting Venue/Agenda Changed! The [2009 iNEMI Roadmap North American kick-off meeting](#) will now be hosted by Agilent Technologies in their Santa Clara, CA facility on February 20 and 21, 2008. Please make your plans to attend as this is the first organizing and strategy meeting for the TWGs and the first opportunity for the attendees to hear directly from the PEGs as to what their chapters and emulator spreadsheets offer as new and different from 2007. A preliminary agenda follows:

Revised Preliminary Agenda

2009 iNEMI Roadmap North American TWG Kickoff Meeting
Agilent Technologies, Building 5
5301 Stevens Creek Blvd
Santa Clara, CA

Aristotle Room

Wednesday, February 20, 2008

Time	Subject	Presenter
1:30 p.m.	Welcome/Agenda Overview	Chuck Richardson, iNEMI
1:45 p.m.	Agilent Welcome/Lab Overview	Darlene Solomon, Agilent Technologies
2:15 – 5:30 p.m.	Product Emulator Group Presentations	
2:15 p.m.	ITRS Design Driver Issues	Juan-Antonio Carballo, ITRS
2:45 p.m.	Portable/Consumer Products	Susan Noe, 3M
3:15 p.m.	Office/Large Business Systems	David Lober, Intel/ David Copeland, Sun
3:45 – 4:00	Break	
4:00 p.m.	Automotive	Jim Spall, Delphi
4:30 p.m.	Medical	Anthony Primavera, Boston Scientific
5:00 p.m.	Netcom Products	John Duffy, Cisco
5:30 p.m.	Summary	Chuck Richardson, Bob Pfahl, iNEMI

Thursday, February 21, 2008
Aristotle Room

7:30 a.m.	Continental Breakfast	
8:00 a.m.	Introduction to Breakout Sessions	Chuck Richardson, iNEMI
8:15 a.m.	Breakout Sessions (Follow TWG signs to breakout sessions)	
11:45 a.m.	Summary	Chuck Richardson, Bob Pfahl
12:00 – 1:00 p.m.	Lunch	
1:15 p.m.	Introduction to Reports	Chuck Richardson, iNEMI
1:35 – 5:10 p.m.	Technical Working Group Reports:	
	Business Processes / Technologies:	
1:35 p.m.	Product Lifecycle Information Management	Eric Simmon, NIST
	Design Technologies:	
1:45 p.m.	Environmentally Conscious Electronics	Frank Rossman, Jabil
1:55 p.m.	Modeling, Simulation & Design Tools	Yishao Lai, ASE
2:05 p.m.	Thermal Management	Ravi Prasher, Intel
	Manufacturing Technologies:	
2:15 p.m.	Board Assembly	Aaron Unterborn, Flextronics
2:25 p.m.	Test, Inspection & Measurement	Mike Reagin, Delphi
2:35 p.m.	Final Assembly	TBD
2:45 - 3:00 p.m.	Break	
	Component Subsystem Technologies:	
3:00 p.m.	Passive Components	Phillip Lessner, Kemet
3:10 p.m.	RF Components & Subsystems	Ken Harvey, Teradyne
3:20 p.m.	Packaging	Bill Bottoms, NanoNexus
3:30 p.m.	Semiconductor Technology	Alan Allan, Intel
3:40 p.m.	Organic Substrates	Jack Fisher, IPC
3:50 p.m.	Mass Data Storage	Roger Hoyt, Consultant
4:00 p.m.	Connectors	John MacWilliams, Bishop
4:10 p.m.	Energy Storage Systems	TBD
4:20 p.m.	Optoelectronics	Dick Otte, Promex
4:30 p.m.	Sensors	TBD
4:40 p.m.	Organic and Printed Electronics	Dan Gamota, Motorola
4:50 p.m.	Ceramic Substrates	Howard Imhof, Metalor
5:00 p.m.	Solid State Illumination	Marc Chason, Consultant
5:10 p.m.	Summary/Close	Chuck Richardson, Bob Pfahl, iNEMI

Please make your travel plans for this event. For more information and to register, go to:

http://www.inemi.org/cms/calendar/2009_RM_NA_Feb_08.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 several PEG Co-chairs. We also need TWG Chairs for: Energy Storage & Conversion Systems and Sensors. I would like to welcome the new PEG Chairs for the Office/Large Business Systems – David Lober, Intel and David

Copeland, Sun Microsystems; the new Medical PEG Co-chair – Bill Burdick, GE Research; and the new Thermal Management TWG Chair – Ravi Prasher, Intel. iNEMI welcomes all the new Chairs to the 2009 Roadmap team and I look forward to meeting all of you at Agilent Technologies.

iNEMI would like to thank Carl Fisher, 3M, for his excellent leadership of the Thermal Management TWG for the last two cycles. His leadership has raised the bar for this and other TWG chapters.

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 (Green font denotes recent change)

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)

2008

January 4	Email Word version of 2007 TWG chapters and Executive Summary to each TWG Chair
January 9	Teleconference with TC on PEG Emulator review (Rescheduled from December 17, 2007)
January 11	Organizing teleconference with TWG Chairs

February 20-21	PEG workshop/TWG kick-off (hosted by Agilent Technologies in Santa Clara, CA)
	<ul style="list-style-type: none"> • Product sector spreadsheets completed – preliminary PEG chapter outlines written • Cross-cut issues are initially addressed
April 4	TC/PEG/TWG 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 TBD	European Roadmap Workshop at a location to be determined
July TBD	Asian Roadmap Workshop in Shanghai, China
July 1	TWG drafts due for TC review
August 6-7	TC face-to-face review with TWG Chairs at TBD
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