

March 2006

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Welcome to the eighth newsletter of the *2007 iNEMI Roadmap* cycle. This and subsequent newsletters will be completely dedicated to keeping you informed about the progress of the *2007 iNEMI Roadmap*. Please pass this newsletter on to anyone within your technical network who might be interested in becoming involved in this effort.

[2007 iNEMI Roadmap European Workshop](#)

Co-sponsors: IEEE CPMT Society, Fraunhofer IZM, and IMAPS Europe

Wednesday, 5 April 2006, 9:00 to 17:00

SEMICON Europa 2006

Munich Messe / ICM Congress Hall, Room 2

Munich, Germany

REGISTRATION DEADLINE: March 28, 2006 (earlier if meeting reaches capacity)

iNEMI is holding a European Roadmap Workshop April 5 in Munich in conjunction with SEMICON Europa. The meeting is scheduled for 9:00 a.m. to 5:00 p.m. in the ICM Congress Hall, Room 2, at Munich Messe. This workshop will review work to date on key PEG and TWG chapters that cover areas thought to be of particular interest in Europe, and will elicit feedback from the European perspective.

This meeting is the first of several regional workshops that are an important part of the roadmapping process. Your participation in this important activity will provide valuable input and feedback and enhance the quality of the final roadmap.

The registration fee for the workshop is \$200 (U.S.), covers the day-long session plus participants will receive a copy of the 2007 iNEMI Roadmap (which is sold for \$250 U.S.) when it is distributed in February 2007.

Objectives

The purpose of this meeting is to:

- Inform attendees of the iNEMI roadmap process.
- Present draft roadmap chapters for two key market segments.

- Present draft roadmap chapters for seven of the nineteen technology and infrastructure areas covered.
- Obtain European input to these draft chapters.
- Ensure inclusion of European issues in the 2007 Roadmap.

Intended audience

- Representatives from industry, institutes and government interested in obtaining a preliminary view of the 2007 Roadmap.
- Electronics industry leaders willing to contribute to the 2007 iNEMI Roadmap process.

Benefits of participation

- Get a preliminary look at key chapters from the 2007 iNEMI Roadmap.
- Gain an understanding of the iNEMI roadmapping process in terms of its current capabilities and impact.
- Opportunity to interact with key European regional technology and business leaders as well as iNEMI staff.
- Participation in the 2007 Roadmap workshop will help you gain an early insight into the likely future direction of the electronics industry by helping to identify technology and business gaps.

This collaboration can influence the strategy and investments of your company as it considers future plans for technology and supply chain initiatives.

[Additional Information and Registration](#)

Recent Activity

2007 iNEMI Roadmap Kick-Off Meeting

The North American kick-off meeting for the *2007 iNEMI Roadmap* was held February 6-7 in Anaheim, California (USA) in conjunction with APEX 2006. This meeting was the formal kick-off of the 2007 iNEMI Roadmap TWG work and offered an opportunity for face-to-face interaction between TWG/PEG Chairs and participants.

The afternoon of February 6 was used for introductory and PEG presentations, and the following day was used for informative presentations, TWG organizing and breakout sessions, followed by short reports from the breakout groups. It was difficult to determine exact numbers for the attendance at the meetings, due to people coming and going, but we estimate about 60 people were in attendance for the Monday PEG presentations and about the same for the Tuesday TWG meeting. The energy level at both meetings was excellent, which bodes well for the quality of the work product. We were also given a presentation by Juan-Antonio Carballo, IBM, on the ITRS Design group's status and plans for future alignment with iNEMI emulators.

The final agenda along with all of the PEG and TWG presentations from the two day kick-off have been placed on the iNEMI FTP site and can be downloaded by TWG and PEG members.

These documents are password-protected, so please contact your Chairs for log-in and password information.

I would like to thank everyone associated with the kick-off meeting — TWG Chairs, PEG Chairs, attendees, iNEMI staff and hotel staff — for helping to make the meeting one of the most efficient and pleasant that I can recall.

February 8, we also scheduled a one-hour informational meeting for TWG Chairs. This meeting was similar to the one held at SMTAI for the PEG Chairs and we plan to offer this option during each roadmap cycle - especially for new Chairs.

PEG Update. PEGs are working toward completing their chapter drafts for use by the TWGs in getting ready for the European Workshop on April 5 and the North American Workshop on May 17.

TWG Update. Kim Hyland has retired from Solectron. We wish to thank Kim for his support of the board assembly TWG as Co-Chair. Kim was also a strong contributor to the T.C. during his tenure.

Stig Oresjo has retired from Agilent. We thank him for his years of support as a Co-Chair of the Test, Inspection and Measurement TWG. We wish him the best in his retirement.

We would like to welcome the following new TWG leaders:

- Board Assembly TWG: Dave Geiger, Flextronics, Co-Chair; Ravi Bhatkal, Cookson Electronics, Co-Chair
- Modeling, Simulation & Design Tools TWG: Yi-Shao Lai, ASE Taiwan, Co-Chair
- Organic and Printed Electronics Technology TWG: Jan Obrzut, NIST, Co-Chair; Jie Zhang, Motorola, Co-Chair

Please join in welcoming all the new roadmap leaders to the **2007 iNEMI Roadmap** team and in thanking their respective companies for their support for this important project. There will likely be a few other chair announcements to share with you in the near future.

The **2007 iNEMI Roadmap** schedule has been changed to permit roadmap workshops in North America, Europe and Shanghai, China, this Spring and Summer. The preliminary revised schedule is listed at the end of this newsletter for your information. In particular, please note that the previously scheduled North American Roadmap Workshop, held in Herndon, VA, has been moved up to May 17 from May 24. TWG Chairs and others planning to attend will need to arrange their travel plans accordingly for this important benchmark meeting.

Roadmap Overview

As a reminder, and to inform new recipients, my name is Chuck Richardson. Working with Jim Arnold (Motorola), iNEMI's Director of Roadmapping, I am responsible for staff management 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. This document is made possible by volunteers from

the electronics industry (iNEMI members and non-members) that form groups and committees to develop chapters, presently for 5 Product Emulator Groups (PEGs) and 19 technology and business/infrastructure areas. Each chapter anticipates manufacturing technology needs over a 10-year horizon. Each of the PEGs 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).

2007 iNEMI Roadmap Product Emulator Groups (PEGs):

- | | |
|------------------------|--|
| 1. Aerospace / Defense | 4. Medical |
| 2. Automotive | 5. Office / Large Business / Communication Systems |
| 3. Consumer / Portable | |

The PEGs define OEM requirements for their product sectors from both a business and technology perspective. Needs are presented in each PEG chapter, using key attribute tables and text according to templates that are furnished by the iNEMI Technical Committee. Each PEG chair will be expected to attend two to three face-to-face meetings during the 2006 calendar year, but most of the group's work is done by telephone and over the Internet.

The Technology Working Groups (TWGs) use the OEM requirements detailed in the 5 PEG chapters to prepare each of their roadmap chapters, detailing where they stand — and expect 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.

2007 iNEMI Roadmap Technology Working Groups (TWGs):

- | | |
|--|---|
| 1. Board Assembly | 10. Optoelectronics |
| 2. Connectors | 11. Organic and Printed Electronics Technology (new for 2007) |
| 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 |

Get Involved

Work is continuing to fill one remaining opening for a TWG leadership position. We are presently seeking applicants for the position of Optoelectronics TWG Chair. If you have been thinking about serving the industry as a Chapter Chair, please contact me and I will work with you to decide if this is the cycle to get involved. You are not required to be an iNEMI member

to participate in roadmap development or to chair one of the groups. In fact, the more diversified the representatives working on the roadmap, the broader the reach and the more valuable the final product is 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 fuels development of future iNEMI projects and sets priorities for industry R&D over the next 10 years. With the “globalization” of the iNEMI roadmap, the next “edition” 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 **2007 iNEMI Roadmap** team, or be added to the mailing list of this monthly newsletter, please contact Chuck Richardson at Chuck.Richardson@inemi.org.

For more detailed information about the meetings discussed above, please contact Linda Anderson-Jessup at +1 703-834-2086 or linda.jessup@inemi.org.

From the Editor: We hope that you will find this newsletter interesting and informative. If you would like to access an issue of a past roadmap newsletter or check other roadmap information, please use the iNEMI website link: <http://www.inemi.org/roadmapping/status.html>.

Please provide comments to Chuck Richardson at 1-256-880-0922 or email Chuck.Richardson@inemi.org.

2007 iNEMI Roadmap Calendar

April 5, 2006	Roadmap Workshop, Munich, Germany
May 8, 2006	Teleconference with TWG Chairs
May 17, 2006	Roadmap Workshop, Herndon, VA
May 18, 2006	TC Meeting in Herndon (Roadmap)
June 27-30, 2006	Roadmap Workshop at HDP '05, Shanghai, China
July 1, 2006	TWG Drafts Due for TC Review
August 9, 2006	TC Face-to-Face Review with TWG Chairs in Kokomo
September 2006	Council Review of Key Issues and Preliminary Summary @ SMTAI, Final Roadmap Chapters Due 9/22/06
October 31, 2006	Edit, Prepare Appendix A-D, Executive Summary
November 20, 2006	Go To “Press”
December 4, 2006	Ship to Members
February 2007	Industry Release at APEX