

2214 Rock Hill Road, Suite 110 • Herndon, VA 20170-4214
Tel: +1 703-834-0330 • Fax: +1 703-834-2735
www.inemi.org • info@inemi.org

iNEMI Eco-Impact Evaluator for Information, Communication and Technology (ICT) Products - Meeting Minutes 09 December 2008

Actions

- **Setup agenda for next call on 06 January 2009**
- **Jim Arnold to distribute iNEMI Statement of Work (SOW) template to team**
- **Participants to review minutes and provide input for additions, corrections, or modifications**
- **Next Meeting: Tuesday, 06 January 2009 10:30am EST (9:30am CST; 7:30am PST)**

09 December Participants

Susan Landry (Albemarle)
Tom Okrasinski (Alcatel-Lucent)
Brian Larin (BASF)
Todd Myers (Cisco)
Lise Laurin (EarthShift)
Tim Higgs (Intel)
Leo Heiland (Intel)
Paul Brands (PE International)
Peter Canepa (PE International)
Constantin Herrmann (PE International)
Larry Marvet (Motorola)
Curtis Robb (Volex)

Dave Godlewski (iNEMI)
Jim Arnold (iNEMI)

People Expressing Interest - Not on Call

Dr. Michael Roth (BASF)
Guenter Kehr (BASF)
Ricardo Cuetos (BASF)
Scott O'Connell (Dell)
D'Lane Wisner (D'Lane Wisner)
Erin Gately (HP)
Davis Yang (Huawei)
Anders Andrae (Huawei)
Inez Hua (Purdue)
Carol Handwerker (Purdue)
Fu Zhao (Purdue)
**Thomas Seager (Rochester Institute of
Technology)**

* If you have additions and deletions for the distribution list or if you were on the call and are not listed as a Participant, please forward the information to Jim Arnold (jim.arnold@rissastudios.com). Jim will take the appropriate action to add or remove names.

NOTE: Please send a note to Jim Arnold (jim.arnold@rissastudios.com) with any changes to the distribution list or modifications to these meeting minutes.

Meeting Agenda - 09 December:

- Review Purpose of Calls with brief overview for new participants – Jim Arnold (iNEMI) – see **General and Administrative Issues** at the end of this note for additional information
 - Review Purpose of Call – Jim Arnold (iNEMI)
 - Formalizing the Project – Jim Arnold (iNEMI)
 - iNEMI Pre-competitive Research and Development
- Initial Proposal – Tom Okrasinski (Alcatel-Lucent) and Todd Myers (Cisco)
- Questions, Issues, and General Discussion – All Participants

Initial Proposal

Tom Okrasinski (Alcatel-Lucent) and Todd Myers (Cisco) presented an initial proposal on possible elements of an iNEMI Eco-Impact Evaluator for Information, Communication and Technology Products Project. The presentation material will be sent to the general distribution for those who were not able to download the material from the iNEMI web site. The presentation material was intended to provide a baseline for the discussions. Anyone who has comments, questions, or issues they would like addressed, are encouraged to send a short note to Jim Arnold (jim.arnold@rissastudios.com) for review and redistribution to the participants. Any information provided will be sent to the general distribution and, if necessary, time during the conference calls will be scheduled for discussion.

Next Steps

- Next meeting: Tuesday, January 6th at 10:30 am. A preliminary agenda will be sent out the week of 14 December. A reminder for the next call will also be sent approximately 1 week prior to the meeting.
- Jim Arnold to setup agenda for next call
 - Preliminary Meeting Agenda - 06 January 2009:
 - Overview of iNEMI Project development process
 - Brief overview of initial proposal for new participants
 - Discussion on input from participants
 - Begin discussion on development of Statement of Work (SOW)
 - Questions, issues, and general discussion
- Information and requests for input will be sent to distribution list as it becomes available prior to the meeting in January.
- Follow on meetings will initially be planned every two weeks.
- Weekly meetings will begin the middle to end February until the SOW is completed. The expectation is to have the SOW completed mid to late March for iNEMI Technical Committee review and approval. This timeframe may be shortened depending on team's progress in developing the tasks to be covered in this project.
- A summary of the discussion captured during the conference call is provided below.

Summary of Discussion, Suggestions and Recommendations – 09 December

- Jim Arnold - discussed boilerplate (SOW development - 6 to 8 wks; project length - typ. 9-12 months, longer if testing is included; team definition of viable tasks; scope must be achievable; end result can be taken internally by companies and used for their specific needs)

NOTE: Please send a note to Jim Arnold (jim.arnold@rissastudios.com) with any changes to the distribution list or modifications to these meeting minutes.

- Tom /Todd reviewed background slides
- Lisa Laurin (EarthShift). - is this an international effort --> Jim - yes; Lisa - we should considerecoinvent data sets in our initiative (although there is a fee for its use)
- Constantine H. - ecoinvent is an individual activity-based data set and needs a peer evaluation cycle, which may not be suited for this initiative
- Lisa L. - ecoinvent does get peer review
- Jim - we should not decide yet what is good or bad. Let's just suggest ideas and we can discuss them further later. The team should consider collecting information on the existing LCI databases and evaluate their attributes
- Leo Heiland – proposal is on the right track; however it is important to simplify and keep sight of the goal to reduce complexity
- Constantine - SOW needs clear goals --> Tom O. - agreed and the SOW will need to define these precisely, especially in doing LCA type work
- Paul - we may want to consider "product" versus "company" sustainability considerations in our initiative. The latter helps top management w/ decisions on products, e.g. a look ahead in 10 - 15 years to see what the eco-impacts are)
- Jim - defined further initiative aspects: reports to team /iNEMI; further steps / tasks, initiatives, let's not ask for ultimate perfection in our end results. It is important to ID the dependencies
- Closing - Jim - when would be a good time to meet again? Group agreed on Tuesday, January 6th at 10:30 am EST (possibly shift this time earlier or later depending on who is on the participant list and their time zone). Jim will begin to pull together thoughts and send out as a package to participants. Additional ideas, food-for-thought items will be sent out over the holiday period, as needed.
- Anyone wishing their comments or questions to be anonymous can send them to Jim Arnold who will distribute them accordingly.

Contributions from Participants

- Lise Laurin (EarthShift)
 - One part of the life cycle that warrants extra consideration is the use-phase heat generation and requirement for room cooling. Air conditioning is a significant burden for ICT equipment, but also an area where there can be significant savings in both energy use and CO₂ emissions. It is important that it be modeled properly, so that systems can then be built intelligently.
 - I've passed the information on the kick-off meeting to some professors who have been working in this area to see if we can get them interested in participating. I've given them your direct contact information, so I hope you will be hearing from them. If we don't get them, I can at least get links to their papers for the committee and relay questions as needed.
- Constantin Herrmann (PE International)
 - It looks ... very interesting and proactive project with absolutely practical base. That's the way going forward in building facts on environmental information. As far as I can read in the given information that's the way PE recommends to its customers to use tools, flexible enough, representatively filled with assessment models and easy to handle and to understand.

NOTE: Please send a note to Jim Arnold (jim.arnold@rissastudios.com) with any changes to the distribution list or modifications to these meeting minutes.

Notes from Previous Meetings

- No previous meetings

Review of Past, Present, and Proposed Projects (P4)

- Team should provide input on any information they have available on past, present, or future projects that attempt to reduce the complexity of LCA studies for information, communication, and technology products.

NOTE: Please send a note to Jim Arnold (jim.arnold@rissastudios.com) with any changes to the distribution list or modifications to these meeting minutes.

General and Administrative Guidelines

Purpose of Calls

The purpose of conference calls is to define the elements (tasks) of a Project Plan. Below is a list of specific items to be addressed during these calls:

- Identify gaps in the technology that the project will address
- Establish a clearly defined set of goals for the project
- Clearly define schedule with interim milestones
- Identify resources needed to complete tasks
- Establish consensus on possible approaches to complete the project
- Develop widely applicable generic system and technology solutions
- Develop general processes and methodologies that can be used by iNEMI members for company-specific solutions

The intent is **not** to repeat past or present studies and/or projects; but to investigate the possibilities of developing a series of related tasks (a project or series of projects) that will add to the existing knowledge base. iNEMI is a member based organization and projects are normally restricted to iNEMI members only; however, to get a broader perspective from the industry, the Project formation process is open to anyone interested participating. Participation in the Project formation process will provide a forum in which participants can help establish the agenda for the electronics industry. The ultimate goal of the Project formation discussions is to develop a formalized Statement of Work (SOW) and Project Statement (PS) for the Project (the iNEMI SOW and PS templates will be used to assist in the development of the SOW and PS).

Formalizing the Project

- It is important to create a set of goals and clearly define what will be done. These goals and tasks will be included in the project plan.
- iNEMI recognizes the need to have a clearly defined set of tasks in the form of a formalized Project Plan, and has developed a set of guidelines and templates to assist teams through the development of a Statement of Work (SOW) and Project Statement (PS) for every project proposed.
- The Project formation team will be responsible for making recommendations as to whether the project should be broken into multiple phases. If so, each phase will require a separate SOW and PS. Evaluation of progress during each phase will determine the viability of the next phase. Examples of possible phases include:
 - Phase 1 – Literature search and review of previous work and current projects
 - Phase 2 – Preliminary work to further define the technology and procedures
 - Phase 3 – Evaluation of a limited set of technical issues defined in phase 2

NOTE: Please send a note to Jim Arnold (jim.arnold@rissastudios.com) with any changes to the distribution list or modifications to these meeting minutes.

- The iNEMI Staff will work with the team to establish the SOW and with the Project Leader(s) (to be identified) to get iNEMI Technical Committee (TC) approval.
- After the TC has approved the SOW and PS, the Project will be advertised and participation will be open to all iNEMI members. The initial signup period is typically 30 days, at which point the project signup is closed.
- Once a project is closed any requests to participate in the project will require approval from the Project's founding members.
- Progress of these Project formation discussions will be provided to the iNEMI Technical Committee.
- Note that we will eventually be running a multi-company project. For the project to fall under the "iNEMI umbrella" for working in a pre-competitive environment, we need a Statement of Work (SOW) and a signed Project Statement (PS) from each participating company.
- The iNEMI support staff will make arrangements to provide an overview of the project management process for any participants who have questions or would like additional information.

Sharing files

- Any information participants would like to share with the group can be forwarded to the appropriate iNEMI staff member for distribution to the rest of the participants.

Feedback

- Participants are encouraged to provide feedback to assist in iNEMI's efforts to improve the Project formation process.

International Electronics Manufacturing Initiative (iNEMI)

Protection from anti-trust action is a benefit of iNEMI membership, since iNEMI registers its members with the Department of Justice and the Commerce Department.

Pre-Competitive Research and Development (excerpts from iNEMI's "Antitrust Policy & Guidelines")

- The International Electronics Manufacturing Initiative, Inc. (iNEMI) is an industry-led consortium that performs pre-competitive research and development projects to improve the global electronics manufacturing infrastructure.
- iNEMI's primary objective is to facilitate research and development in connection with materials, components, manufacturing-related technologies and equipment for the manufacture of electronic information products.
- The essential principle that should guide the policies and activities of iNEMI to avoid antitrust violations is that not only must no illegal agreements be either reached or carried out through the association, but also iNEMI must avoid conduct that might give the appearance of an illegal agreement.
- Members can participate fully in iNEMI activities and projects with minimal possibility of antitrust problems by following a few ***simple do's and don'ts***:
 1. DO schedule and attend meetings only when there are proper items of substance to be discussed that justify your attendance.
 2. DO review the meeting notice or agenda in advance of every meeting. It should be specific, without broad topics, such as "marketing practices," that might look suspicious from an antitrust standpoint.

NOTE: Please send a note to Jim Arnold (jim.arnold@rissastudios.com) with any changes to the distribution list or modifications to these meeting minutes.

3. DO adhere strictly to the stated agenda. In general, subjects not included on the agenda should not be considered at the meeting.
4. DO ensure that no matter of doubtful legality is brought up for discussion. This, of course, is counsel's responsibility; but in his or her absence, iNEMI staff representative or any member present who becomes aware of legal implications of a discussion should attempt to halt the discussion.
5. DO make sure that minutes of all meetings are kept and that they accurately report what actions were taken.
6. DO use iNEMI as a vehicle for promoting research and the industry as a whole.
7. DO send copies of all iNEMI-related correspondence to the iNEMI Secretariat and advise the Secretariat of any inaccuracies in proposed statements to be made by iNEMI.
8. DO ensure that iNEMI counsel is in attendance at all meetings of the Initiative where legally sensitive subjects might be discussed.
9. DO check with iNEMI staff, who will likely contact counsel, if there is doubt about the legality of any iNEMI policy or program.
10. DO cooperate with iNEMI counsel in all matters, particularly when counsel has ruled adversely about a particular activity.
11. DON'T allow or participate in secret or "rump" meetings. At best, these meetings raise questions as to the propriety of what is discussed. They could seriously jeopardize legitimate iNEMI activities and create a risk that those activities will be investigated.
12. DON'T allow or participate in any discussions which discourage research or research projects by persons outside of iNEMI.
13. DON'T, without specific authorization, make public or private communications about policies or positions of iNEMI.

NOTE: Please send a note to Jim Arnold (jim.arnold@rissastudios.com) with any changes to the distribution list or modifications to these meeting minutes.