



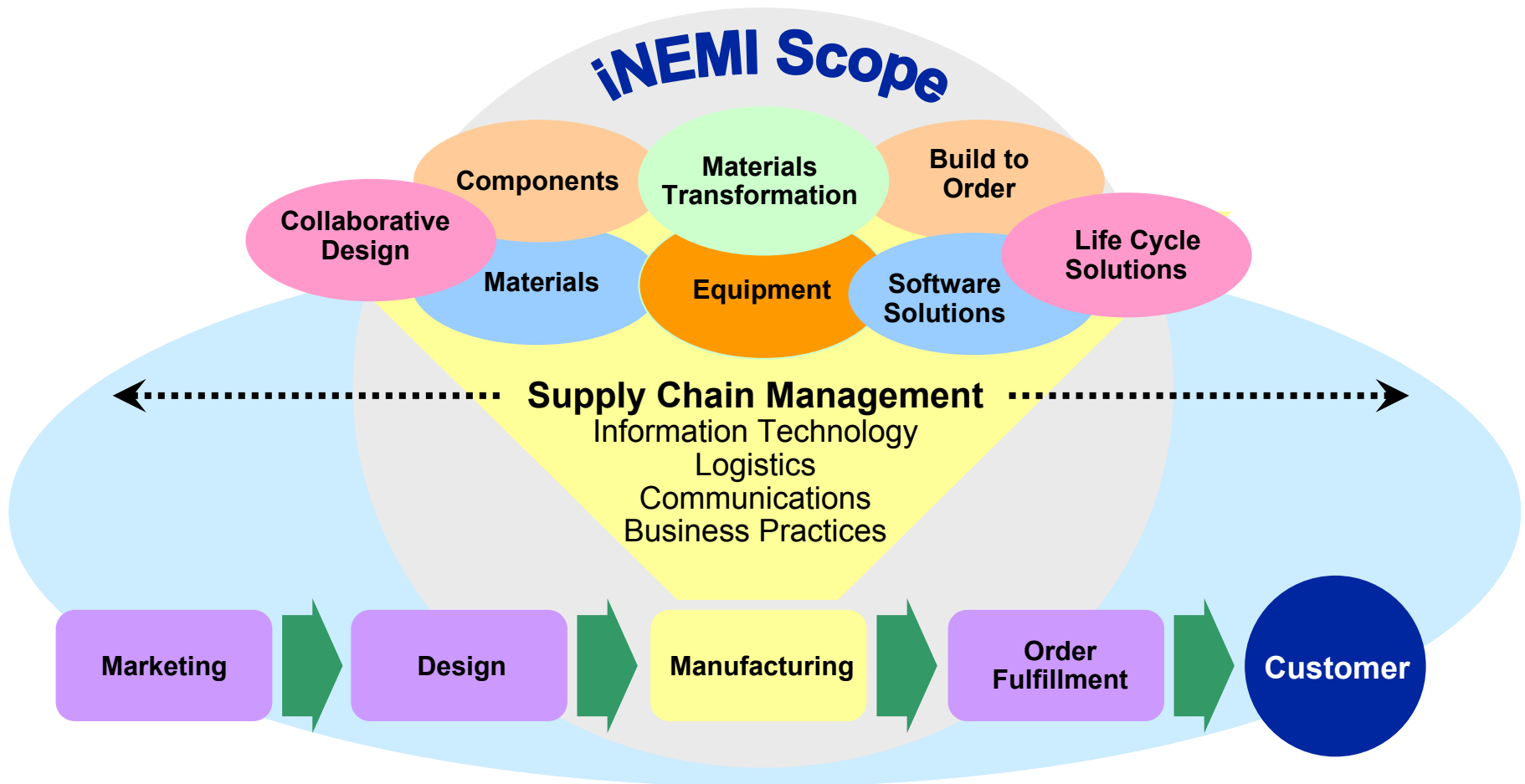
International Electronics Manufacturing Initiative

**Industry
Collaboration**

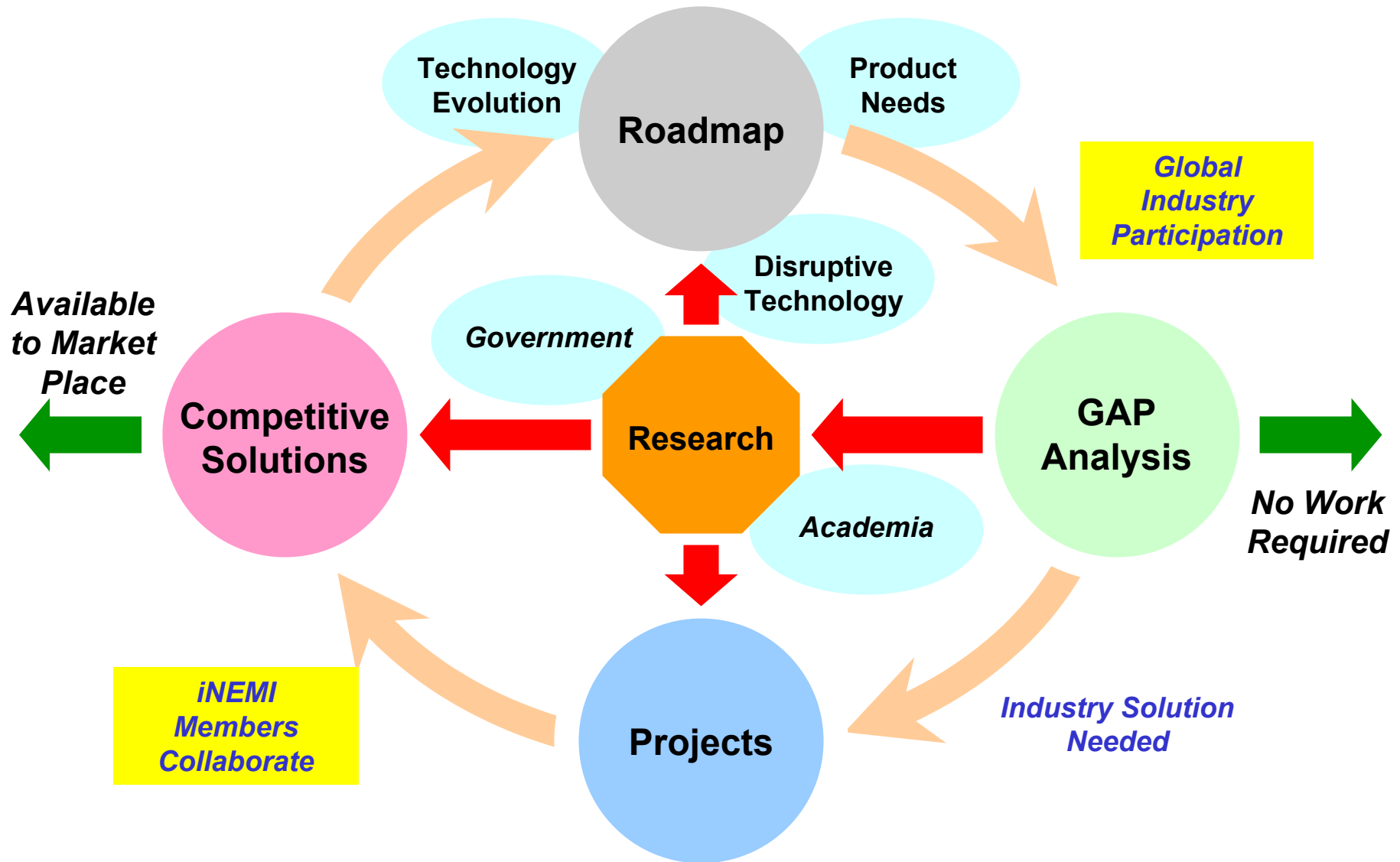


Medical Electronics

*Assure Leadership of the Global Electronics Manufacturing Supply Chain
for the benefit of members and the industry*



- **Organization:**
 - 501 (c) (6) not-for-profit, R&D Consortia
 - Collaboration framed by organization by-laws, intellectual property policy, and project agreements.
- **Anti-trust Considerations:**
 - All members registered with Justice Dept. under National Cooperative Research and Production Act
 - Anti-trust guidelines used to bound collaboration between competing firms.
- **Capabilities/services:**
 - Support to help organize & manage projects
 - Teleconference & WebEx
 - Project specific Information (web/ftp sites)
 - Monthly Member Newsletter
 - Project meetings at appropriate industry venues
 - Project report publication
 - Relationships with other Organizations
 - Roadmapping
 - Standards
 - Joint projects



“Connect with and Strengthen Your Supply Chain”

- **iNEMI offers the opportunity to collaborate with the entire supply chain in an efficient manner**
 - To understand and accelerate strategic directions
 - To define future needs and opportunities
 - To jointly create industry standard solutions.
- **Today’s increasingly distributed supply chain makes this more important than ever.**
- **iNEMI is a member driven organization that adapts to industry changes quickly and provides timely leadership.**
- **iNEMI provides important deliverables:**
 - Technology roadmaps
 - Research priorities
 - Forums on key industry issues
 - Deployment projects.

*Leverage the combined power of companies
to provide industry leadership*

- **iNEMI roadmaps the global needs of the electronics industry**
 - Evolution of existing technologies
 - Predictions on emerging/innovative technologies
- **iNEMI identifies gaps (both business & technical) in the electronics infrastructure**
- **iNEMI identifies and prioritizes research needs.**
- **iNEMI stimulates worldwide standards to speed the introduction of new technology & business practices.**

Leverage the combined power of member companies to provide industry leadership

- **iNEMI stimulates research/innovation to fill gaps**
- **iNEMI sponsors workshops and forums on emerging technology and issues**
- **iNEMI works with other organizations to ensure that government policy recommendations are aligned with our mission.**
- **iNEMI establishes implementation projects to eliminate gaps**
 - **Develop processes**
 - **Evaluate alternative technologies**
 - **Identify equipment needs**
 - **Determine component requirements**
 - **Develop standards proposals**
 - **Communicate results to members**





Consultants, Government, Organizations & Universities



ASSOCIATION CONNECTING
ELECTRONICS INDUSTRIES®



Développement
économique
et régional



Directors

- ◇ **Dr. Nasser Grayeli, VP of Assy Technology & Mfg., Intel – Chairman**
- ◇ **Dr. Marc Benowitz, Director Reliability & Eng. Infrastructure, Lucent**
- ◇ **Monroe Huang, Mgr. Mfg. Technology Dev. , Delphi Electronics & Safety**
- ◇ **Dan Shea, CTO, Celestica, Inc.**
- ◇ **Dr. Katharine Frase, VP Technology, IBM Microelectronics**
- ◇ **Dr. Sundar Kamath, CTO Assembly Technology, Sanmina-SCI**
- ◇ **Eugene McCabe, Senior VP Operations, Sun Microsystems**
- ◇ **Minoru Okamoto, VP CCC Electronics, Tyco Electronics**
- ◇ **Jeroen Schmits, President, Universal Instruments**
- ◇ **Michael Toben, Director Pkg. & Finishing Technology, Rohm & Haas**
- ◇ **Dr. Iwona Turlik, Corp. VP Physical Realization Research Ctr., Motorola**
- ◇ **Mauro Walker (retired from Motorola), Chairman Emeritus**

Ex officio Members

- ◇ **Dr. William Anderson, Director, EEE Laboratory, NIST**
- ◇ **Fred Kuhlman, Co-Chair iNEMI Technical Committee, Delphi**
- ◇ **Jim McElroy, CEO, iNEMI**
- ◇ **Dr. Robert Pfahl, VP of Operations, iNEMI**

The “sweet spot” of iNEMI Projects:

- **Addresses knowledge gap of industry**
 - Common problem
 - Best solved by working together
 - Often a pre-cursor to standards development
- **Brings together segment of supply chain to provide industry-wide response**
 - OEMs
 - EMS providers
 - Materials, Equipment, Software, and/or Component Suppliers
- **Direct alignment with member companies’ commercial interests.**

- **Medical Electronics has been identified as an important area for growth for iNEMI:**
 - **Medical Product Emulator Group actively roadmapping the needs for this sector**
 - **Identified as one of the four major thrust areas from iNEMI Innovation Leadership Forum**
 - **Major growth area driven by aging world population.**
- **We have a flexible process that can focus on the needs of industry segments (e.g.):**
 - **High Reliability Task group for RoHS/WEEE**
 - **Optoelectronics**
- **We have members with strong interests in Medical:**
 - **OEMs (Analogic, Boston Scientific, Medtronic, MSEI)**
 - **EMS providers (Plexus, Sanmina-SCI)**
 - **Components (Intel, Texas Instruments, Tyco)**

- **This is a new area of collaboration for iNEMI.**
- **We are bringing together firms who may not have experience in working together on closing industry gaps.**
- **Very different culture than we find in other segments due to unique environment:**
 - **Life dependent performance**
 - **FDA oversight**
 - **Fear of litigation**
- **As in other segments, building trust must precede effective cooperation across supply chain.**
- **Critical mass depends on getting leading OEMs to participate.**

- **Medtronic**
 - Member of iNEMI
 - Early driver of Medical Components Project
 - Internal realignment of resources
 - Currently working with standards group to re-engage.
- **St. Jude Medical**
 - Membership information provided
 - Luke-warm reception to joining
- **MedEI**
 - Discussions underway with principals
 - Bob Pfahl will visit Austrian site this week.
- **Cochlear, Ltd**
 - Membership information provided
 - Awaiting response.
- **GE**
 - Jim McElroy visited GE research
 - Interest in participating; working to get mgmt. support.
- **Philips Medical**
 - Jim McElroy visited Andover, MA facility
 - Interest in participating; working to get mgmt. support.

- **In order to get full anti-trust and IP protection, firms must join iNEMI.**
- **On most iNEMI projects all participants must be members.**
- **On this project, since the initial focus is on standards, we will use modified requirements:**
 - **OEMs are required to join iNEMI**
 - **Suppliers can participate as non-members with some limits on benefits:**
 - **No registration with Dept. of Justice (NCRA)**
 - **Full access to results of their product performance**
 - **Limited access to complete project results.**

- **Collaboration with their key customers (at multiple levels)**
- **Collaboration with their key suppliers**
- **Leverage their resources**
 - **Reduce investment**
 - **Increase accomplishments**
 - **Accelerate introduction of technology**
- **Help influence and create industry-standard solutions that lead to competitive products.**
- **Understand direction of industry & competition**
- **Understand & exploit new business opportunities**
- **Help influence innovation and funded research**
- **Improve probability of “right solution at right time”**
- **Improve return on investment.**

Cost Effective Supply Chain Technology Deployment

Methodology:

- **Roadmap identifies gaps**
- **Technical plan identifies gaps that iNEMI should close**
- **Projects close the gaps**

Membership:

- **OEMs**
- **EMS Firms**
- **Solution Providers**

Organization and Leadership:

- **Member led with small staff**
- **Board of Directors**
- **Technical Committee**

Results:

- **Roadmaps**
- **Projects**

www.inemi.org

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