IPC — Overview

- History
- IPC Today
- Mission & Vision
- Organizational Structure
- Membership
- Major Program Areas
- Global Initiatives
- IPC Long Range Plan
Background and History

- Founded in 1957 as the **Institute of Printed Circuits** with six Member Companies
- Strong Foundation as Technical Organization Dedicated to Meeting Industry Needs
- Focus on Design, PCB Manufacturing and Electronics Assembly
IPC is an international industry association dedicated to furthering the competitive excellence and financial success of its nearly 3700 member companies that make, use, specify and design printed boards and assemblies, including those in:

- advanced microelectronics
- aerospace and military
- automotive
- computer
- industrial equipment
- medical equipment and devices
- telecommunications industries
As the industry’s leading source for standards, training, market research and public policy advocacy, IPC supports programs to meet the needs of an estimated $2.17 trillion global electronics industry. IPC maintains offices in:

- Bannockburn, Ill. (headquarters)
- Taos, N.M.
- Washington, D.C.
- Stockholm, Sweden
- Moscow, Russia
- Bangalore and New Delhi, India
- Qingdao, Shanghai, Shenzhen, Beijing, Chengdu and Suzhou, China
IPC is a **global industry association** dedicated to furthering the competitive excellence and financial **success of its members**, who are participants in the electronics industry.

In pursuit of these objectives, IPC will devote resources to management improvement and **technology enhancement programs**, the creation of relevant standards, protection of the environment, and pertinent **government relations**.

IPC encourages the active participation of all its members in these activities and commits to full cooperation with all related organizations.
IPC is committed to becoming the most recognized international industry association for the electronics manufacturing industry.
Aspirational Goals

STANDARDS
IPC will be the most respected organization known for its leadership and global footprint in providing standards and quality programs supporting the electronics industry.

EDUCATION
IPC will become the world’s leading electronics education and knowledge provider to the electronics industry.

ADVOCACY
IPC will be known as the industry’s most influential advocate for a regulatory and legislative business environment that enables our members to improve their global competitiveness.

SOLUTIONS
IPC will work with the electronics industry to identify and collaborate on finding solutions to industry challenges.
Volunteer Organization

- **Board of Directors**
  - **Members**
  - **EMS Management Council**
  - **SMEMA Council**
  - **OEM Critical Components Council**
  - **IPC Designers Council**

- **Councils**
  - **PCB Management Council**
  - **PCB Suppliers Management Council**
  - **Solder Products Value Council**
  - **Technical Activities Executive Committee**
 IPC Structure

Governance

- Each Council sets its own agenda, goals and member deliverables
- Board of Directors provides overall policy, vision and strategic direction for IPC
- IPC staff manages day-to-day activities of the association to implement the strategic policy
Nearly 3700 Members Companies Worldwide

- Printed Circuit Board Manufacturers: 9%
- EMS Companies: 26%
- Suppliers of Equipment Materials, Processes and Services: 24%
- OEMs: 33%
- Government, Educational and Not-For-Profit Organizations: 8%
Membership

Location

Nearly 3700 Member Companies located in 64 countries

- North America 62%
- Asia 22%
- Europe 14%
- Rest of World 2%
Membership

Dues

Membership is site-specific and provides benefits to all employees at the member site

- Annual Dues: $1200 (USD)
- Additional Sites: $1000 (USD)
- Revenues less than $5M: $700 (USD)
- Government, educational and not-for-profit organizations: $350 (USD)

You can also save by signing up for two-years.
### Business and Technology Package Memberships

Members can upgrade Classic Membership to Business and/or Technology Packages for added features and benefits. These packages include Classic Membership

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<thead>
<tr>
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<th>Tech or Bus Pkg</th>
<th>Both</th>
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Stay Current

- Get exclusive members-only updates with the IPC Members bimonthly e-newsletter, highlighting newly released standards, market research reports and video recorded presentations

- Receive IPC Global Insight, the weekly e-newsletter connecting you to knowledge and information on standards, technology and more

- Receive quarterly Market Update at a Glance for the latest global industry sales growth and economic data
Benefits of Joining IPC

Access Information

- Access timely information through our Members Only website
- Watch free video presentations about standards, technology, environmental compliance and management issues in the Online Presentation Library
- Get answers to your technical questions. Enjoy priority service from IPC technical staff
- Learn about the latest market, technology and management trends at IPC management meetings
Benefits of Joining IPC

Reduce Operating Costs

- Receive one free single-user download of each new or revised standard, within 90 days of publication
- Save up to 50% on standards and training materials
- Pay discounted pricing to exhibit in IPC annual trade shows and conferences
- Learn about the latest industry advancements, technology trends and best practices at IPC events at a reduced rate
- Participate in market research studies and receive the reports with valuable industry data at no charge
Benefits of Joining IPC

Market Your Business

- List your products and services along with your logo on the IPC website
- Be listed in and have access to our online membership directory
- Exhibit in our trade shows, including: IPC APEX EXPO, HKPCA/IPC International Printed Circuit & Electronics Assembly Fair, & IPC APEX South China Fair, as well as IPC conferences throughout the year, at special member pricing
- Promote your PCB or EMS business in IPC’s searchable Products and Services Index
Benefits of Joining IPC

Market Your Business (continued)

- Gain valuable exposure by sponsoring IPC technical and management conferences at special member rates
- Show your commitment to industry excellence by displaying the IPC Member logo in your marketing materials
- Reach out to more than 100,000 subscribers by advertising in IPC Global Insight at special member rates
No matter what your role in the electronics industry — PCB design, PCB fabricator, EMS provider, OEM, industry supplier, government agency, educational institution — IPC membership is a dynamic resource for everyone at your site.
Benefits of Joining IPC

Gain Industry Market Intelligence

- Receive discounts on all IPC market research reports: support your planning and decision making, track the growth of your market share

- Participate in IPC Industry Statistical Programs and major studies and receive timely reports on industry performance, trends, forecasts, benchmarking data, wage and salary studies, technology trends and geographic analyses
What We Do

- Training & Certification
- Management Programs
- Conference & Exhibitions
- Professional Development – Technical Education
- Market Research
- Statistical Programs
- Public Policy Advocacy
IPC Standards

- Represent the best practices for electronics industry
- Highly focused on needs of the electronics industry
- Contain information related to the entire supply chain, from materials to final electronics assemblies

www.ipc.org/standards
Standards Development

- Documents are developed by IPC committees
- Committee participation is voluntary for subject-matter experts from across the electronics supply chain

For more information regarding committee work, visit [www.ipc.org/committees](http://www.ipc.org/committees)
Standards

- There are more than 225 active standards in the IPC collection
- Standards are available in multiple languages and distributed globally
- Notification service is available on new releases

www.ipc.org/standards
## IPC Popular Standards by Market Segment

<table>
<thead>
<tr>
<th>Electronic Components</th>
<th>Printed Circuit Boards</th>
<th>Electronic Assembly</th>
<th>Design</th>
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<td><strong>Components</strong></td>
<td><strong>Materials</strong></td>
<td><strong>Fabrications</strong></td>
<td><strong>General Assembly</strong></td>
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<tr>
<td>J-STD-033</td>
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<td>IPC/WHMA-A-620</td>
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<td>IPC-7711/7721</td>
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Technical Programs

Next Generation Standards

- Low Pressure Molding Design, Selection, and Application Guidelines
- Design and Assembly Process Implementation
  - of 3D Components
  - for Flip Chip and Die Size Components
  - for Embedded Components
- Requirements for Printed Electronics Functional Materials
- Intellectual Property Protection in Assembly Manufacturing
- Handbook on Adhesive Bonding in Electronic Assembly Operations
- Automatic Optical Inspection Characterization and Verification

www.ipc.org/standards
Training & Certification

Technical Certification Programs

- Industry-developed and approved
- Two-tier “train the trainer” approach for standardized classroom training to assure understanding of criteria in standards documents
- Training leads to a verifiable certification for the instructors, quality team, management and operators
- Knowledge-based certification programs for EMS program managers and for PCB designers also available
Why Pursue Certification?
Companies who invest in IPC training and certification programs:

- Demonstrate personal and organizational commitment to excellence: important to your customers, suppliers, and team members
- Have the edge – in sales, purchasing, and employment – meet the requirements of OEMs and electronics manufacturing companies
- Gain valuable industry recognition for the company and the individual
Standards Training Programs

- **J-STD-001** – Requirements for Soldered Electrical and Electronic Assemblies
- **IPC-A-600** – Acceptability of Printed Boards
- **IPC-A-610** – Acceptability of Electronic Assemblies
- **IPC/WHMA-A-620** – Requirements and Acceptance for Cable and Wire Harness Assemblies
- **IPC-7711/7721** – Rework, Modification and Repair of Electronic Assemblies
Multimedia Training

- Media Types
  - DVD – High-resolution Digital Video Disc (Available in multiple languages)
  - OVT – Video training and testing for your learning network
  - Computer-Based Programs for ESD Instructors
  - DRM – Training and Reference Guides
  - Image Resources – Digital Clip Art on CD-Rom
  - Acceptance Wall Posters
- **FREE** TrainerNet
- Site and global licensing options.

www.ipctraining.org
Multimedia Training Topics

- ESD Control
- Hand Soldering
- Component Identification
- Lead-Free Soldering
- Operator Safety
- IPC-A-610 Workmanship Standards
- Surface Mount and Through Hole Processing
- Rework & Repair
- Wire Harness Assembly

www.ipctraining.org
**Councils**
identify member needs, develop programs and initiatives

- PCB Presidents Management Council
- PCB Suppliers Management Council
- EMS Management Council
- Surface Mount Equipment Manufacturer’s Association
- Solder Products Value Council
- OEM Management Council
- Designers Council
- Printed Electronics Management Council
- IPC Consultants Council
New Printed Electronics Council

- Standards
- Technical Programs
- Industry Advocacy
- Market Research
PERM
Pb-Free Electronics Risk Management Council

- Established to support companies manufacturing product with Pb-free electronics that require extended service life in harsh environments:
  - Military
  - Aerospace
  - Automotive
  - Medical

- Leadership and coordination of government and industry Pb-free electronics risk management activities

- Facilitate long-term strategies and tactics to deal with Pb-free issues

- Coordinate approached to maintain safety, performance, reliability, and affordability
March 15–17, 2016 | Las Vegas Convention Center

- Largest and most prestigious electronics assembly exhibition in North America
- More than 8000 participants from more than 40 countries
- Features advanced and emerging technologies in
  - printed board design
  - printed board manufacturing
  - electronics assembly
  - test

www.ipcapexexpo.org
Conferences & Exhibitions

IPC APEX EXPO®

- **FREE! More than 400 exhibitors from around the world**
  No better place to see and compare equipment, materials and services

- **Premier technical conference for our industry**
  New research and innovations from experts in electronics assembly, board fabrication and design

- **FREE! Industry poster sessions**
  The latest research and a chance to meet the authors and experts

www.ipcapexexpo.org
Professional Development Courses
Comprehensive updates on pressing industry concerns

Standards Development Committee Meetings
Working group meetings that help shape the future of our industry

FREE! New Products Corridor
See the best new products to help you innovate
Includes:

- Technical Education
- Networking
- Discounts on registration, exhibiting, and sponsorship
Professional Development

Topics

- HDI
- Printed Electronics
- Flex Circuits
- Tin Whiskers
- Reliability & Quality
- Market Data & Business Issues

- Design
- Military Electronics
- Test, Inspection & Rework
- Cleaning & Coating
  … and more

www.ipcapexexpo.org
Designers Council

- International society for individuals interested in designs
- Executive Board serving as steering committee
- Self-governing regional Chapters
- Offers technical education and networking opportunities

www.ipc.org/designers-council
Designer Certification

- Professional certificate program providing objective evaluation of core competencies in design, based upon industry standards
- Basic and Advanced sessions offered in
  - USA
  - Europe
  - China
  - India
  - Australia
- Over 4500 CID — Certified Interconnect Designers
- Over 1000 CID+ — Certified Interconnect Designers — Advanced

www.ipc.org/designers-council
FREE Resources for IPC Members

- Participation in IPC Statistical Programs
- Market Update at a Glance
  - Quarterly business report
  - Current data on global sales growth in many segments of the supply chain
  - Economic trends and leading indicators
- Online archive of past studies and reports
- World Electronic Circuit Council (WECC) Global PCB Production Report
Major Studies

- World PCB Production Report
- Analysis & Forecast of the Global EMS Industry
- Analysis & Forecast of the North American PCB Industry
- Electronics Assembly Quality Benchmarking Study
- PCB Technology Trends
- EMS Wage Rate & Salary Study
- Market and issue-specific studies as needed (e.g., On-Shoring Studies) and Study of the North American Labor Pool
Subscriptions

- North American PCB Market Report (monthly)
- North American EMS Market Report (monthly)
- North American EMS Business Performance Report (quarterly)
Industry Statistical Programs

- Participation is FREE to IPC members
  *Only participating companies receive the reports at no charge*

- Monthly surveys for North American PCB and EMS companies track sales, orders, key markets and other metrics

- Quarterly survey for North American EMS companies tracks key financial and operational business performance metrics

- Quarterly programs for worldwide assembly equipment, process consumables, solder and laminate industries track sales trends and other metrics
Industry Statistical Programs

- Many quarterly surveys and reports are available in Chinese or Japanese
- Participating companies use reports to track industry sales trends and changes in their market share
- Assured confidentiality of member data — secure online survey system
- Programs are created and changed in response to the needs of member companies
Government Relations

- Actively monitor national, state and foreign government actions that affect the electronic interconnect industry
- Represent and promote our members’ interests to legislative bodies.
Government Relations

- Environment, Health & Safety
- International Trade
- Intellectual Property
- Corporate Social Responsibility
- Taxation
- R&D Funding
- National Security/Defense Electronics Supply Chain Issues
- Future economic viability of the industry
Major Policy Focus Areas

- Conflict Minerals
- U.S. export controls
- Supply of electronics to the military
- R&D tax credits
- REACH
- North American competitiveness
- Corporate social responsibility
Public Policy Advocacy

Current EH&S Issues

- California Green Chemistry
- Chemical Data Reporting
- Definition of Solid Waste (DSW) Rule
- Halogen-Free & Brominated Flame Retardants
- Workplace Safety
Mission & Purposes

- Increase IPC presence around the world
- Better meet the needs of assembly and PCB industry
- Serve the needs of our members
- Provide programs for electronics manufacturers that increase their employees’ technical knowledge, improve the quality of their operations, and provide a variety of tools to enhance their business
- Increase the use of IPC industry standards and improve quality of the standards
IPC China

- Keeps IPC standards relevant by expanding use and acceptance for electronics manufacturing

**Offices:**
- Shanghai
- Beijing
- Shenzhen
- Chengdu
- Suzhou
- Qingdao

[www.ipc.org.cn](http://www.ipc.org.cn)
Global Initiatives

IPC China

- 21 active standards development groups
- 34 IPC standards translated into Chinese
- Publishing first IPC standard developed in China
  - Reflow Oven Profiling
- TGAsia Technical Forum bring technologists together online
- EMS Program Manager Certification Training available
- Designer Certification available
- Validation Services available

www.ipc.org.cn
Global Initiatives

**IPC China**

- 3 management councils: EMS, SPVC, SMEMA
- Supporting 3 trade shows & conferences
  - Electronica & Productronica China
  - IPC/HKCPA International Printed Circuits & Electronics Assembly Fair
  - IPCWorks® Asia
- 2 statistical programs in Chinese (laminate and solder)

[www.ipc.org.cn](http://www.ipc.org.cn)
IPC Asia

- TG Korea started with 6 committees
- Conference and professional development opportunities
Global Initiatives

IPC Europe

- **Local translations of documents and standards**
  Czech, Danish, Dutch, Finnish, German, Hungarian, Italian, Polish, Romanian, Russian, Spanish, Swedish

- **27 Licensed Distributors**
  Czech Republic, Denmark, Finland, France, Germany, Hungary, Italy, The Netherlands, Norway, Poland, Romania, Russia, Spain, Sweden, United Kingdom

- **20 Certification Training Centers**
  Denmark, France, Germany, Hungary, Ireland, Italy, The Netherlands, Poland, Romania, Spain, Sweden, United Kingdom
Global Initiatives

**IPC Europe**

- **TGNordic**: Companies in the Nordic region meeting locally to develop comments on IPC standards

- **TGGermany**: Working with FED to create opportunities for local discussion about IPC Design standards

- **TGTraining**: CITs dedicated to improving the quality of IPC standards certification programs
IPC India

Extends IPC training and knowledge-based resources and services to local electronics manufacturing facilities with local resources.
IPC India

- TG India started with 6 committees
- Established certification & training center
- Rolled out 6 certification programs
  - Designer Certification
  - IPC-A-600
  - IPC-A-610
  - J-STD-001
  - IPC-7711/21
  - IPC-A-620
- Introducing additional courses, including EMS Program Manager Certification
Aspirational Goals

What IPC desires to be and be known for
STANDARDS
IPC will be the most respected organization known for its leadership and global footprint in providing standards and quality programs supporting the high reliability electronics (HRE) industry.

- Recruit active participation in standards development from major global markets and expand the global footprint of IPC standards
- Communicate the economic value of using IPC standards
- Encourage HRE OEMs to adopt IPC standards, certification and validation programs as part of their supply chain management
- Identify and pursue new growth areas for standards development that support the changing electronics technology landscape
EDUCATION
IPC will become the world’s leading electronics education and knowledge provider to the electronics industry.

- Develop unique curricula to provide advanced technical learning and certification
- Continuously improve the technical knowledge base available to the industry
- Provide training and learning in the most cost efficient ways possible
ADVOCACY
IPC will be known as the industry’s most influential advocate for a regulatory and legislative business environment that enables our members to improve their global competitiveness.

- Engage policy makers on key issues relevant to the electronics industry on a global and regional basis
- Communicate the economic impact of IPC advocacy efforts
- Engage membership in support of key industry issues
- Provide members access to various political interactions that directly impact their businesses
SOLUTIONS
IPC will work with the electronics industry to identify and collaborate on finding solutions to industry challenges.

- Actively engage with industry leading companies to identify industry challenges
- Communicate the economic impact of resolving industry issues
- Establish “IPC Institute” and utilize as a consortium approach to resolve scientifically critical industry issues