



# A CLOSER LOOK AT



Patrick Crawford

Manager, design standards and related industry programs, IPC

# Why IPC Design?

IPC recognizes that the foundation of the electronics industry is board design, and we want to celebrate and empower board design engineers.

IPC strives to build upon the successes of the IPC Designers Council. The world of electronics engineering is rapidly evolving, and IPC wants to be poised to respond to these changes.

We want to enhance the traditional chapter model with a virtual collaborative content model.





## The Mission of IPC Design

**IPC Design** will be the preeminent international network of printed board professionals. It will organize the expertise of industry leaders and the resources of IPC to provide relevant, adaptive, and ongoing professional and technical education to its members. It will endeavor to advance the art and science of printed board design engineering.



# The Key Goals of IPC Design

**Advancement of Printed Board Design** is imperative for the continuous improvement of the electronics industry. IPC Design affiliates, their meetings, and their activities will be venues for sharing leading-edge industry knowledge.

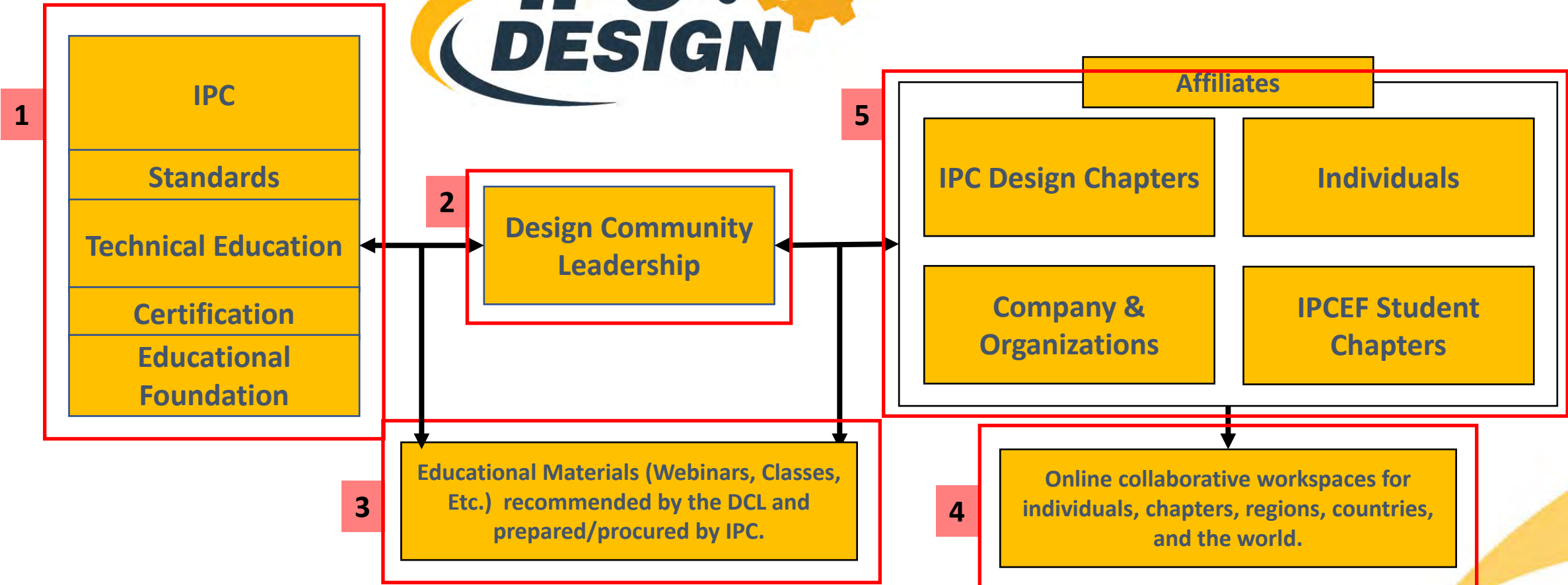
**Technical Networking** is imperative for career advancement in the electronics industry. IPC Design will organize **affiliates – IPC Design Chapters, Individual Design Professionals, Company and Organizational Groups, and partnerships with Student Chapters** - to connect and empower printed board professionals.

**Continuous Learning** is fundamental for an individual to improve their competency and marketability. IPC Design will coordinate with affiliates to provide them with technical and professional education.

**Engage with academia** to advocate the printed circuit board industry.



# A High-Level Program Overview





# Content Model

Educational Materials (Webinars, Classes, Etc.) recommended by the DCL and prepared/procured by IPC.

## The 3C's of IPC Design

### *The IPC 3C's*

***Content***

***Competition***

***Career***

**Content** is vital for achieving IPC Design's key goal of providing **continuous learning** for its affiliates.

**Competition** is one of the most engaging methods to promote **technical networking**. It can also promote **engagement with academia** via student competitions and mentorship.

The advancement of a printed board designer engineer's **career** is in lockstep with the **advancement of printed board design** – **When designers succeed, the industry succeeds.**

## The Collaborative Content Model

***Content:*** Any media regarding printed board design engineering or relevant related technologies, that can be accessed by IPC Design affiliates virtually.



# The Collaborative Content Model



## MODEL

**1** Affiliate or Affiliate Group Produces Content.

**2** Affiliate or Affiliate Group prepares content and uploads to cloud platform.

**3** Other affiliates or affiliate groups download and view the content and localize if necessary.

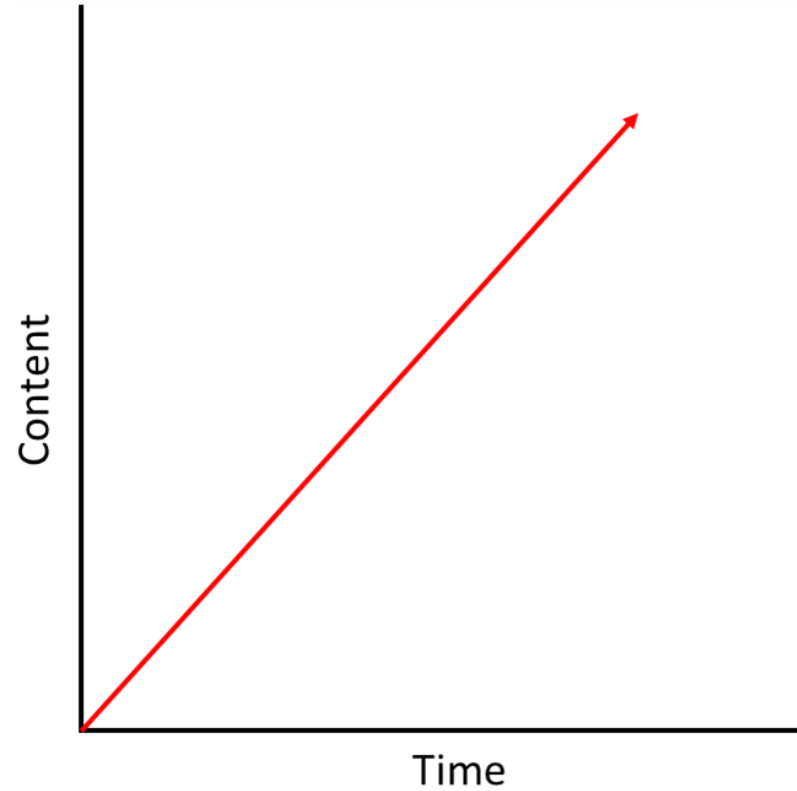
## EXAMPLE

**1** The Greater Chicago IPC Design Chapter hosts a webinar about designing boards for use in harsh environments.

**2** The Greater Chicago Chapter uploads the webinar to IPCWorks.

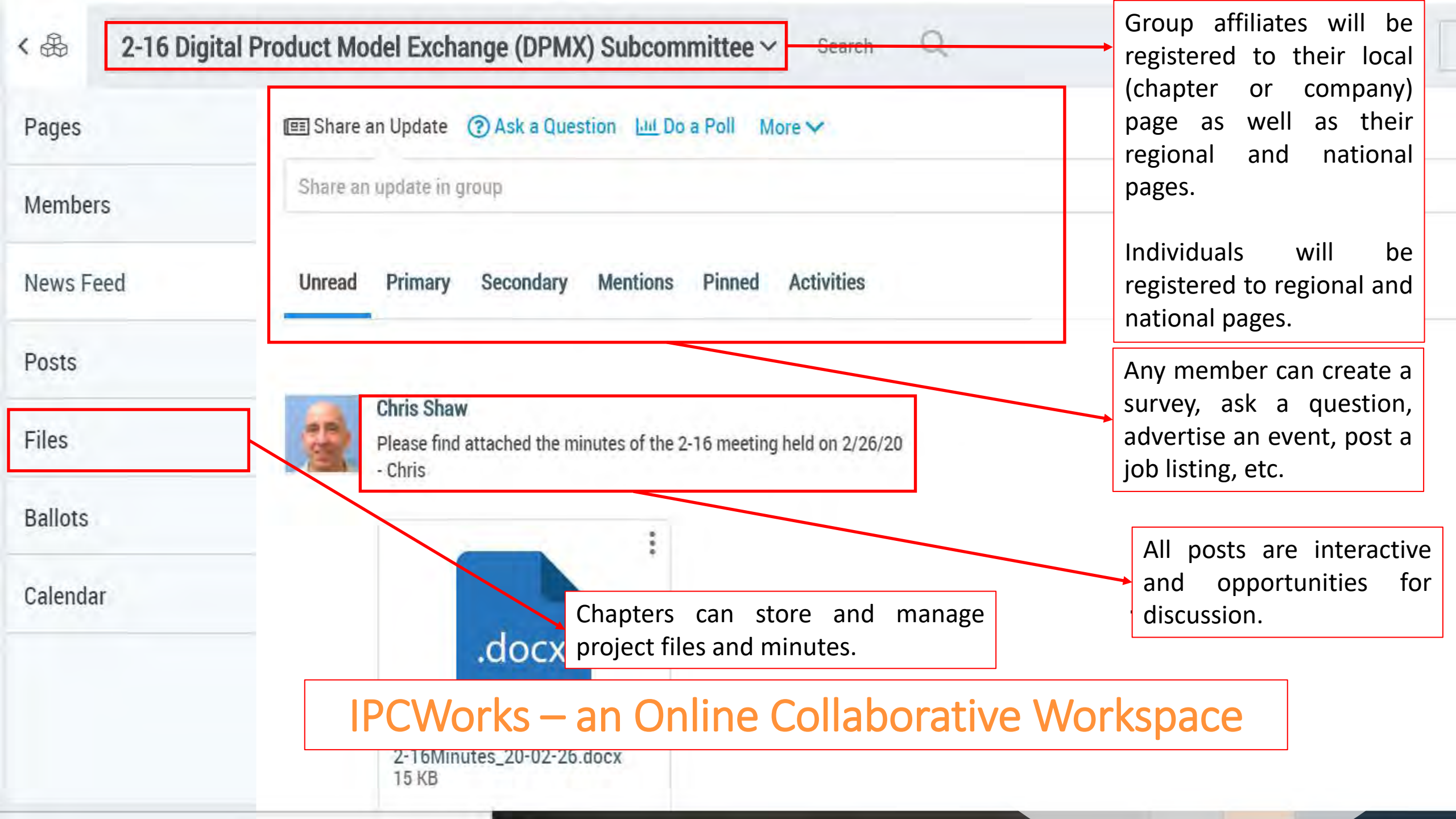
**3** The Beijing Chapter downloads and views the webinar at their next chapter meeting

# The Collaborative Content Model





# Collaborative Cloud



2-16 Digital Product Model Exchange (DPMX) Subcommittee

Search

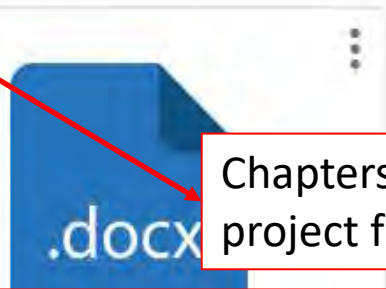
Share an Update Ask a Question Do a Poll More

Share an update in group

Unread Primary Secondary Mentions Pinned Activities



Chris Shaw  
Please find attached the minutes of the 2-16 meeting held on 2/26/20  
- Chris



Chapters can store and manage project files and minutes.

Group affiliates will be registered to their local (chapter or company) page as well as their regional and national pages.  
Individuals will be registered to regional and national pages.

Any member can create a survey, ask a question, advertise an event, post a job listing, etc.

All posts are interactive and opportunities for discussion.

IPCWorks – an Online Collaborative Workspace

2-16Minutes\_20-02-26.docx  
15 KB

E-31B Materials Declaration Task Group

Search

Group Tools

Pages

Quick Find

Show: All Members (168)

Follow All Members






Invite Members

Members

All Members

Joined on

Last Active on

	Adam Wheeler	2019/03/01 14:46 CST	2020/02/12 19:15 CST
	Admin User	2018/09/21 07:33 CDT	2020/03/02 14:42 CST
	Aidan Turnbull	2019/03/01 14:46 CST	2020/02/28 12:06 CST
	Aimee Siegler	2019/03/01 14:46 CST	2020/02/28 12:06 CST
	Alisha Peterson	2019/03/14 12:00 CDT	2020/02/25 15:02 CST

News Feed

Posts

Files

Ballots

Calendar

Trackers

# IPCWorks – Roster Management

# IPC Design – International Design Competition

*We are hard at work in preparing an international board design competition that will challenge printed board design engineering professionals, and aspiring students alike.*

*More Info to Come – Stay Tuned!*





# IPC Design Affiliations

A Global Perspective

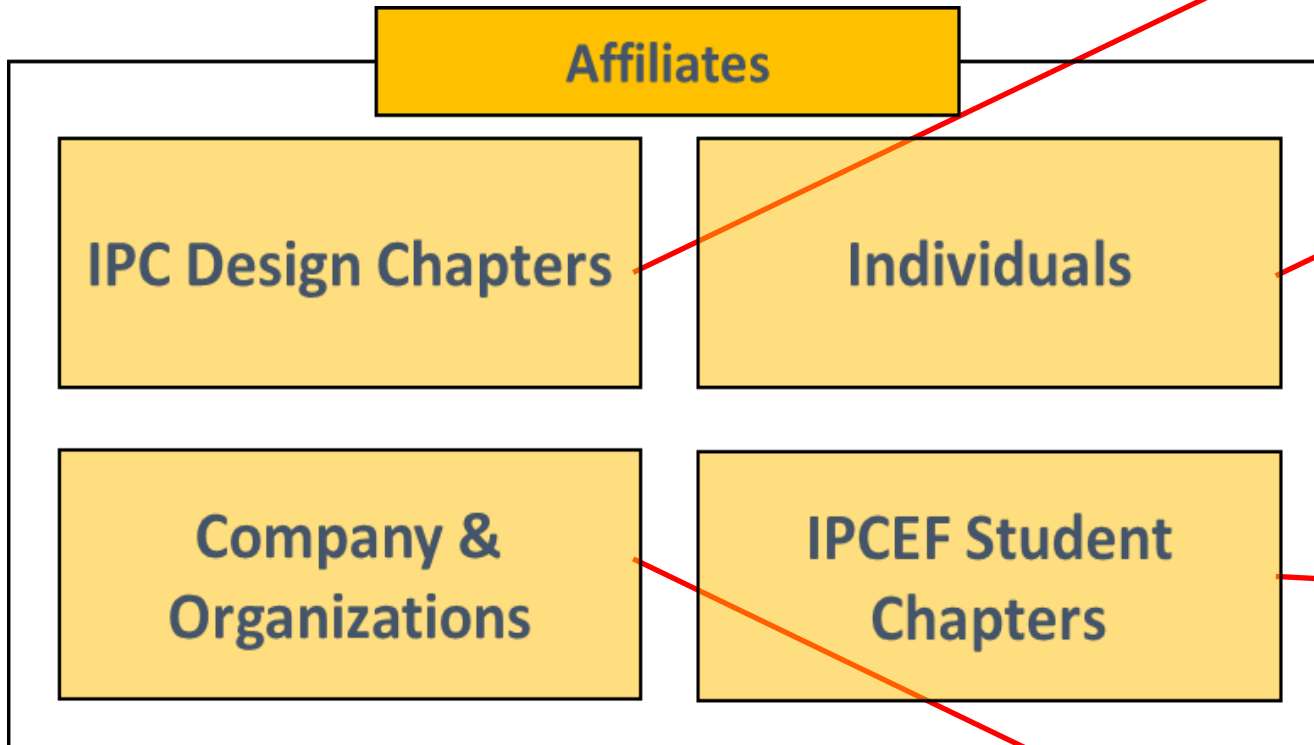


IPC Design aims to be a global program that benefits any design engineer, regardless of their country of origin.

Printed boards are designed, fabricated, tested, and assembled all over the world.

The following affiliations are available internationally.

# IPC Design Affiliations - Overview



Chapter Members can meet in person, utilize and create cloud content, or both; meeting virtually is encouraged.

Individual design engineers who can utilize or create cloud content or attend in-person events per their availability.

IPC Education Foundation student chapters are automatically eligible for enrollment in IPC Design and can utilize or create cloud content and attend Design Chapter meetings per their location and availability.

Companies or organizations with a group of interested employees/members can enroll together.

# IPC Design Chapters

IPC Design Chapters are comprised of members of the printed board design engineering professional community, are managers of design engineers, or are otherwise interested in, or aspiring to, a career in printed board design engineering.



# IPC Design Chapters

IPC Design Chapters should have 5 or more members.

IPC Design Chapters are led by a local leadership team. The team includes (at least) a president and a vice-president who oversee chapter functions.

Chapters are encouraged to have face-to-face meetings **at least twice a year** but are otherwise encouraged to arrange their meeting schedules to suite their membership.

**There will be no IPC dues for IPC Design Chapters.**

However, chapters can charge for their chapter activities.



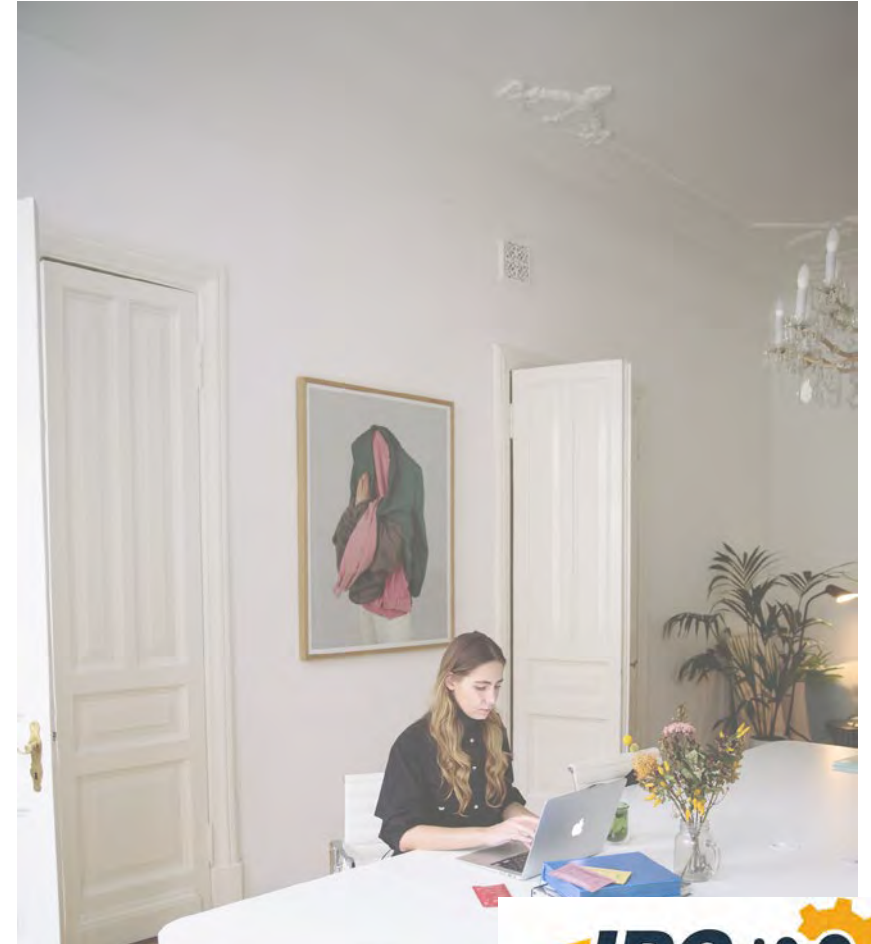
# Individual Affiliates

Anyone board design engineering professional can affiliate with IPC Design as an **individual**.

All individual affiliates have the same access to content as IPC Design Chapters and are also encouraged to submit content to IPC Design.

There are any number of reasons why an individual may choose to affiliate independently. Whatever the case, all are welcome.

As a reminder... Individual Affiliation is free!



# IPC Education Foundation Student Chapters

The IPC Education foundation has Student Chapters located at 28 colleges and universities throughout the United States and continues to expand.

Student Chapters currently enjoy electrical-engineering related educational content that is curated or produced by the Foundation, and experiences that are provided by sponsor companies.



# IPC Education Foundation Student Chapters

With an aging population of board design engineers, it is imperative to bring new talent to the industry.

Engagement with academia is an IPC Design key goal. Professional affiliates are encouraged to create relationships with Student Chapters.

Student Chapters can affiliate with IPC Design to enjoy all the collaborative content related to printed board design engineering.

*Do you, or does your college, university, or company want to become involved with the IPC Educational Foundation?*

**Visit [ipcef.org](http://ipcef.org) to learn more!**



# International Student Chapters

**Any STEM-based collegiate group with an emphasis on electrical engineering and design around the world can affiliate with IPC Design.**

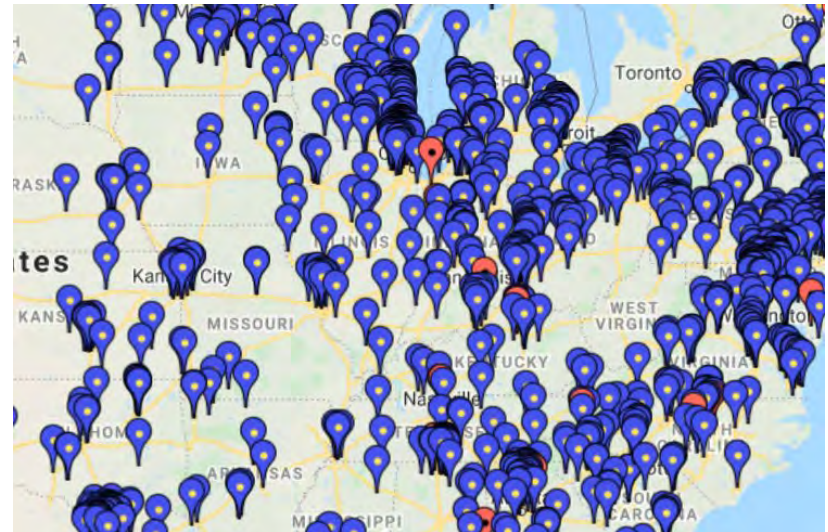


# Company and Organizational Affiliate Groups

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Companies and organizations (Non-profits or not-for-profits dedicated to electrical engineering or electronics manufacturing) can affiliate with IPC Design, and they operate much like IPC Design Chapters.

However, they are responsible for their own organizational structure.





# Design Community Leadership

# Introducing the Design Community Leadership

The Design Community Leadership (DCL) listens to the needs of the design engineering community and acts as technical advisors to IPC.

The DCL is modeled after the IPC Technical Activities Executive Committee (TAEC) Global. It is comprised of 2 members from the major global regions – Americas, Asia Pacific, and Europe.

There is one (1) chairperson from any of the regions, and the region will rotate if possible.



# Introducing the Design Community Leadership

DCL Member

Region

*Do you want to help shape IPC Design?  
Please contact [Design@IPC.org](mailto:Design@IPC.org)!*



# Karen McConnell

Karen McConnell is a Senior Staff CAD CAM Engineer in the Engineering Environment Development & Support (EEDS) department at Northrop Grumman Missions Systems in Linthicum, Maryland. Her primary responsibility is providing support to the Electrical and PCB design communities across the sector with a focus on special projects to support common practices in printed board assembly design and manufacturing.

Karen is an active member of IPC since the mid-1990s and received the IPC President's Award in 2013. Karen is the current Chair of the Technical Activities Executive (TAEC) Committee, TAEC Global Committee, and co-chair for the 1-14 Design for Excellence (DFX) Subcommittee. In addition, she contributes to the following committees: the 2-30 Terms and Definitions Committee, 2-40 Electronic Documentation, 5-21F Ball Grid Array Task Group, and the D-70 E-Textiles Committee.



# Thomas Romont

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Thomas Romont has a Master of Science in Chemistry and started his career as R&D and Quality Manager in PERSTORP Chemitec, where he led the formulation and control of thermoset compounds.

In 2002, Thomas founded WorldWide Electronic Circuits (WWEC) in Nantes (France) to act as European representative for PCB manufacturers such as UNIMICRON. Today he is still Managing Director of WWEC which has the UK PCB group GRAPHIC PLC as a main partner.

Since 2010, Thomas also provides manufacturing and design expertise to French and European companies, through IFTEC institute. In the industry, he gives lectures and is managing trainings and CID/CID+ certifications. He is also in charge of design support missions. In the meantime, he represents IFTEC in IPC committees such as IPC-222x and IPC601x and was previously a member of the Executive Board of IPC Designer Council.

In 2018, with IFTEC, he founded the French IPC Designer Council Chapter.



# Kris Moyer

Kris received a BS in computer engineering from California State University – Sacramento.

Kris started his career in high precision/low voltage transducer sensors and instrumentation for load and torque measurement.

He then worked in industrial controls, specifically elevator control systems, working with 3-phase motor drives, high voltage power, safety systems, and logic and control.

Kris then moved to aerospace - missile systems, satellite propulsion systems, rocket propulsion systems for manned and unmanned missions, planetary exploration systems (e.g., the mars rover space crane) and human habitation for space.

He has taught PCB design courses both through California State University – Sacramento and through IPC to give back and prepare the next generation of PCB designers.

Kris has been an active IPC committee member as well as chair / co-chair on several committees helping to ensure the standards stay current and relevant to the technology and capability of the state of the industry.



# Savita Ganjigatti

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Ms. Savita Ganjigatti holds a Masters Degree in Digital Communication and Networking. She has more than 30 years of industrial experience in electronics PWB design/analysis and turnkey design to manufacturing solutions.

She is currently serving as Vice President at Sienna ECAD Technologies, a subsidiary of Sienna Corporation. She is a Technical Advisory Committee member of IPC India and has conducted 5 PCB design contests 2012 onwards.

She is also engaged with leading academic institutes for implementation of “PCB Design Engineering” as an elective subject for the Electronics & Communication branch of Engineering.



# Kevin Kusiak

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Kevin has been in the printed wiring board (PWB) industry nearly 15 years. Early in his career, his duties consisted of capturing schematics, laying out and routing boards, running pre- and post-route signal integrity, etc. He then bridged the gap between design and manufacturing, becoming familiar with design for manufacturing (DFM) rule sets by working with fabrication vendors to understand manufacturing capabilities.

His current scope of work consists of ensuring low cycle time and high product yield. On the front-end of design, Kevin works with the mechanical and electrical design team to configure stack-ups, routing instructions, final finishes, etc. On the back-end of design, he works with the PWB vendors on DFM issues, material and process studies, and failure analysis if applicable.

Kevin now serves as the PWB design and fabrication subject matter expert (SME) for Lockheed Martin Space representing his organization across industry.



# Review

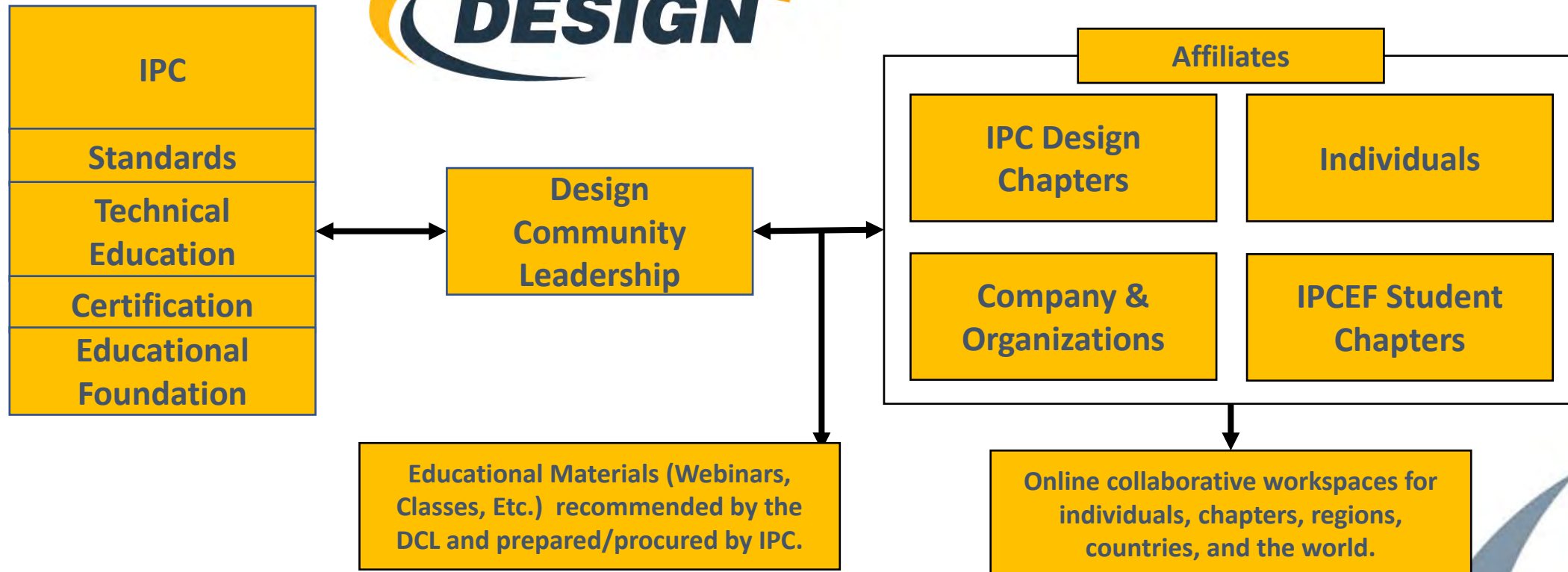
## Advancement of Printed Board Design

Technical Networking

Continuous Learning

Engagement with academia

### KEY GOALS:



## Who to Contact

Join an IPC Design Chapter: [ipc.org/DC-Enrollment](http://ipc.org/DC-Enrollment)

Start an IPC Design Chapter – email [Design@IPC.org](mailto:Design@IPC.org)

Affiliate as an Individual – visit [ipc.org/DC-Enrollment](http://ipc.org/DC-Enrollment)

Affiliate as a Student Chapter – email [Design@IPC.org](mailto:Design@IPC.org)

Affiliate as a Company or Organization – email [Design@ipc.org](mailto:Design@ipc.org)





IPC

*Build Electronics Better*



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