

# 2024 IEEE Region 10 Meeting @ Kuala Lumpur



## IEEE BLOCKCHAIN TECHNICAL COMMUNITY



IEEE  
BLOCKCHAIN™

*by*  
**Gora DATTA, Fellow HL7, VS, SMIEEE, SMACM**

*Visiting Scholar, University of California, Berkeley*

*(founding) Industry Director, Smart Pandemic Management @ UC Berkeley*

*(founding) Vice Chair IEEE Blockchain TC*

*(founding) Chair IEEE Blockchain TC: Healthcare & AI*

*(founding) Chair IEEE-SA P3228 Recurring Transactions in DLT Workgroup*

*(founding) Co-Chair HL7 Mobile Health*

*(founding) Convenor ISO/TC215 WG#10: Traditional Medicine*

*(founding) Chairman & CEO CAL2CAL Corp*

# HEALTH INFORMATICS STANDARDS SME

## HL7

- Fellow HL7
- Member HL7 TSC: Technical Steering Committee
- HL7 International Ambassador
- (Founding) Co-Chair HL7 Mobile Health Workgroup
- (Founding) Member HL7 Education Advisory Council
- (Founding member) HL7 FHIR Foundation
- HL7 2009 Volunteer of the Year Award Recipient



**Gora DATTA**

## ISO/TC215 (Health Informatics)

- (founding) Convenor WG#10 Traditional Medicine
- USA Delegate to ISO/TC215 (Health Informatics)
- Member AHG2 “Application of AI technologies in health informatics”
- Member WG#2: “Public Health Emergency Preparedness & Response”

## IEEE: Senior Member

- Vice Chair & Board Member IEEE Blockchain TC
  - Chair Conferences & Events
  - Chair Blockchain Healthcare & AI
  - Chair Blockchain TechBriefs
- Chair IEEE Southern California Council
- Chair IEEE OC Cybersecurity SIG
- Chair IEEE OC Engineering in Medicine & Biology Society (EMBS) Chapter
- Chair IEEE OC Computer Society Chapter
- Member IEEE Standards Association
  - Chair P3228 Recurring Transactions in DLT WG

## HIMSS & IHE

- HIMSS Speaker: 2023, 2021, 2014
- IHE 2020 Connectathon Speaker
- HIMSS Interoperability Ambassador: 24, 23, 22, 21
- HIMSS Reviewer: ‘24, ‘23, ‘22, ‘21, ‘20\*, ‘19

# Why Blockchain?

*Blockchain and related distributed ledger technologies (DLTs) are impacting a wide range of domains and industries*

*Horizontal Areas: Automation, Identity, Data Privacy, Supply Chain & Logistics etc.*

*Vertical Topics: Capital Markets, Trade Finance, Energytech, Agritech, Healthtech, Govtech, Aviation/Aerospace, IoT, Telecom etc.*

# Blockchain: Example Use Cases



# Relevance of Blockchain to IEEE OUs

## IEEE Technical Societies (39)

**IEEE Aerospace and Electronic Systems Society**

IEEE Antennas and Propagation Society

**IEEE Broadcast Technology Society**

IEEE Circuits and Systems Society

**IEEE Communications Society**

IEEE Components, Packaging, and Manufacturing Technology Society

**IEEE Computational Intelligence Society**

**IEEE Computer Society**

**IEEE Consumer Technology Society**

**IEEE Control Systems Society**

IEEE Dielectrics and Electrical Insulation Society

**IEEE Education Society**

IEEE Electron Devices Society

IEEE Electromagnetic Compatibility Society

**IEEE Engineering in Medicine and Biology Society**

**IEEE Geoscience and Remote Sensing Society**

IEEE Industrial Electronics Society

**IEEE Industry Applications Society**

**IEEE Information Theory Society**

IEEE Instrumentation and Measurement Society

**IEEE Intelligent Transportation Systems Society**

IEEE Magnetics Society

IEEE Microwave Theory and Techniques Society

IEEE Nuclear and Plasma Sciences Society

IEEE Oceanic Engineering Society

IEEE Photonics Society

IEEE Power Electronics Society

**IEEE Power & Energy Society**

IEEE Product Safety Engineering Society

IEEE Professional Communication Society

**IEEE Reliability Society**

**IEEE Robotics and Automation Society**

IEEE Signal Processing Society

**IEEE Society on Social Implications of Technology**

IEEE Solid-State Circuits Society

**IEEE Systems, Man, and Cybernetics Society**

**IEEE Technology and Engineering Management Society**

IEEE Ultrasonics, Ferroelectrics, and Frequency Control Society

**IEEE Vehicular Technology Society**

## IEEE Technical Councils (7)

**IEEE Biometrics Council**

IEEE Council on Electronic Design Automation

IEEE Nanotechnology Council

**IEEE Council on RFID**

**IEEE Sensors Council**

IEEE Council on Superconductivity

**IEEE Systems Council**

**IEEE Standards Association**



IEEE Potentials, November/December 2022, Blockchain Technology



IEEE Internet of Things Magazine, June 2020, Blockchain-Enabled IIoT



IT Professional, July/August 2019, Innovations Using Blockchain



The Institute, December 2018 The Promise of Blockchain



EU Parliament Magazine, November 2018 A New Digital Revolution



IEEE Security & Privacy, July/August 2018 Blockchain Security and Privacy



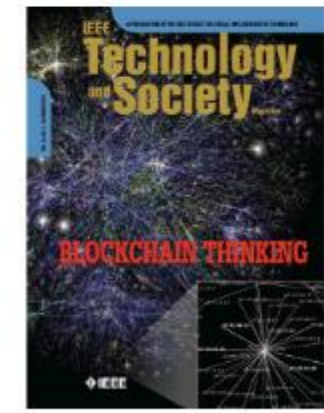
IEEE Consumer Electronics Magazine, July 2018 Buying Into the Blockchain



IEEE Spectrum, October 2017 Blockchain World



Computer, September 2017 Blockchain Technology in Finance



IEEE Technology and Society Magazine, December 2015 Blockchain Thinking

# IEEE Blockchain Technical Community

<https://blockchain.ieee.org/>



The screenshot shows the homepage of the IEEE Blockchain Technical Community website. At the top left is the 'IEEE BLOCKCHAIN' logo. A search bar with the text 'Search IEEE Blockchain' and a 'Search' button is located below the logo. To the right of the search bar are social media icons for GitHub, Facebook, X, and LinkedIn, followed by a blue button that says 'Join the IEEE Blockchain Technical Community'. A navigation menu below the search bar includes links for Home, About, What's New, Communities, Events, Education, Podcasts, Publications, Technical Briefs, Standards, and Verticals. The main banner features the text 'IEEE BLOCKCHAIN TECH BRIEFS' in large white letters, with a call to action 'Check out the latest issue now' in a white box. An illustration of a hand holding a tablet displaying a tech brief is on the right. Below the banner are four columns: 'What's New' with a blue abstract image, 'Feature Article' with a teal box containing 'IEEE BLOCKCHAIN TECH BRIEFS' and a 'VIEW LATEST ISSUE' button, 'Technology Spotlight' with a 3D cube graphic, and 'Useful Links' with a list of links and an 'IEEE Collaboratec Sign in now' button.

# IEEE Blockchain Technical Community

Jan 2018-Dec 2022: IEEE Blockchain Initiative (under the Future Directions Committee)

Jan 2023-Present: IEEE Blockchain Technical Community (Sponsored by 10 participating OUs)



## Activity Partners



IEEE Member and Geographic Activities (MGA)

IEEE Educational Activities





**IEEE Blockchain Technical Community (BCTC) objective: serve as a collaboration hub to facilitate and lead educational, technical, and standards development across the multi-disciplinary communities interested in blockchain, distributed ledgers, and related technologies.**

## IEEE BCTC Steering Committee

### Governing Board Representative(s)

IEEE Power & Energy Society (PES)	Farrokh Rahimi, PhD and Ron Melton, PhD
IEEE Reliability Society (RS)	Angelos Stavrou, PhD and Hunter Albright, PhD
IEEE Standards Association (SA)	Ramesh Ramadoss, PhD and Gora Datta
IEEE Communications Society (ComSoc)	Yi Qian, PhD
IEEE Industry Applications Society (IAS)	Wei-Jen Lee, PhD
IEEE Industrial Electronics Society (IES)	Daswin de Silva, PhD
IEEE Technology & Engineering Management Society (TEMS)	Raymond Choo, PhD
IEEE Vehicular Technology Society (VTS)	Haojin Zhu, PhD
IEEE Power Electronics Society (PELS)	Prasad Enjeti, PhD
IEEE Solid-State Circuits Society (SSCS)	Sanu Mathew, PhD

### Liaison Representative(s)

IEEE Computer Society (CS)	Chunming Rong, PhD
IEEE Electronics Packaging Society (EPS)	Kitty Pearsall, PhD
IEEE RFID Council (cRFID)	John Greaves
IEEE Society on Social Implications of Technology (SSIT)	Prasanta Ghosh, PhD
IEEE Systems, Man, and Cybernetics Society (SMC)	William Buchanan, PhD

### Executive Committee

Chair:	Ramesh Ramadoss, PhD
Vice-Chair:	Gora Datta
Secretary:	Christine Fahey
Treasurer:	David E. González

# IEEE BCTC Steering Committee (cont).

## Functional Committees

Community Development	Chair: Christine Fahey Erwu Liu, PhD Marc Lijour Nicolae Goga, PhD Sristhi Assudani
Conferences/Events	Chair: Gora Datta
Education	Chair: Hunter Albright, PhD Quinn DuPont, PhD Imran Bashir
Publications	Chair: Raymond Choo, PhD Yi Qian, PhD Gora Datta Justin Shi, PhD
Standards	Chair: Ramesh Ramadoss, PhD Kyeong Hee Oh Savita Farooqui
Industry Engagement Committee	Chair: Hari Iyer Vice-Chair: Marc Lijour

## Technical Committees

Blockchain & Energy	Chair: Ümit Cali, PhD Chris Gorog Farrokh Rahimi, PhD Hunter Albright, PhD Paul Heitman Prasad Enjeti, PhD
Blockchain & Healthcare/AI Tech	Chair: Gora Datta Nicolae Goga, PhD
Blockchain & Privacy/Security	Chair: Chris Gorog Louise Axon, PhD Ümit Cali, PhD
Blockchain & FinTech	Chair: R. L. Shankar, PhD William Buchanan, PhD
Blockchain & Sustainable Future	Chair: Daswin De Silva, PhD
Web3/Metaverse/DeSci	Chair: Remy Lyon



# IEEE BCTC ACTIVITIES....A PEEK

# IEEE Blockchain Local Groups

**Goal:** The blockchain local groups form a global network of professionals (IEEE members and non-members) interested in networking, learning, sharing, and advancing technology.

## REGION 1-6

### USA

IEEE Austin Blockchain Group\*  
IEEE Boston Blockchain Group  
IEEE Cleveland Blockchain Group  
IEEE Dallas Blockchain Group  
IEEE Denver Blockchain Group  
IEEE Florida West Coast Section Blockchain Group\*  
IEEE Houston Blockchain Group\*  
IEEE Coastal Los Angeles Blockchain Group  
IEEE Memphis Blockchain Group  
IEEE New York Blockchain Group  
IEEE Orlando Blockchain Group  
IEEE San Diego Blockchain Group  
IEEE Seattle Blockchain Group  
IEEE Silicon Valley Blockchain Group\*

## REGION 7

### Canada

IEEE Kitchener-Waterloo Blockchain Group\*  
IEEE Toronto Blockchain Group\*

## REGION 9

### Latin America and Caribbean

IEEE North-Central Brazil Blockchain Group  
IEEE Colombia Blockchain Group\*  
IEEE Colombian Caribbean Blockchain Group\*  
IEEE Puerto Rico & Caribbean Blockchain Group  
IEEE Western Puerto Rico Blockchain Group

## REGION 8

**Coordinator:** IEEE Romania Blockchain Group\*

### Europe

IEEE Benelux Blockchain Group  
IEEE Estonia Blockchain Group  
IEEE Finland Blockchain Group\*  
IEEE France Blockchain Group  
IEEE Italy Blockchain Group  
IEEE Latvia Blockchain Group  
IEEE Luxembourg Blockchain Group  
IEEE Portugal Blockchain Group  
IEEE Romania Blockchain Group\*  
IEEE Spain Blockchain Group\*  
IEEE Switzerland Decentralised Systems Working Group  
IEEE Ukraine Blockchain Group  
IEEE UK & Ireland Blockchain Group

### Middle East

IEEE Egypt Blockchain Group  
IEEE Iraq Blockchain Group  
IEEE Israel Blockchain Group  
IEEE Kuwait Blockchain Group  
IEEE Oman Blockchain Group\*  
IEEE Qatar Blockchain Group  
IEEE Turkey Blockchain Group  
IEEE UAE Blockchain Group

### Africa

IEEE Ghana Blockchain Group  
IEEE Morocco Blockchain Group  
IEEE Nigeria Blockchain Group  
IEEE Tunisia Blockchain Group\*

## REGION 10

### Asia-Pacific

IEEE Bangalore Blockchain Group\*  
IEEE Beijing Blockchain Group  
IEEE Bombay Blockchain Group  
IEEE Chennai Blockchain Group\*  
IEEE Delhi Blockchain Group\*  
IEEE Hangzhou Blockchain Group  
IEEE Hong Kong Blockchain Group\*  
IEEE Indonesia Blockchain Group  
IEEE Tokyo Blockchain Group  
IEEE Macau/Guangzhou Blockchain Group  
IEEE Malaysia Blockchain Group  
IEEE Pune Blockchain Group\*  
IEEE Raipur Blockchain Group\*  
IEEE Shanghai Blockchain Group\*  
IEEE Shenzhen Blockchain Group  
IEEE Singapore Blockchain Group  
IEEE South Korea Blockchain Group  
IEEE Taipei Blockchain Group\*  
IEEE Thailand Blockchain Group\*  
IEEE Victorian Blockchain Group

*\*Formally approved by their parent Section.*

**\*Onboarded 22 Blockchain Local Groups on vTools!  
We are continuing to onboard other groups on vTools.**

Search



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## IEEE Blockchain Technical Briefs - 2023

A collection of short technical articles

### Welcome to IEEE Blockchain Technical Briefs 2023 Edition!

Message from Dr. Justin Y. Shi, 2023 Editor in Chief

Blockchain technology is an exciting technology with many controversies. It is commonly accepted that it has the potential to transform existing technologies to a higher ground. Realizing this potential, however, would require overcoming some significant hurdles. The Editorial Board wishes to bring four such challenges for this year's publication.

Please send potential IEEE Tech Brief articles to: [justinshi@ieee.org](mailto:justinshi@ieee.org)

### A Peek into the Blockchain Technology Developments

By Justin Y. Shi, PhD, Associate Professor of CIS Department, College of Science and Technology, Temple University, USA

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IEEE Blockchain Technical Briefs  
Editorial Board

Gora Datta, FHL7, SMIEEE, SMACM,  
Managing Editor

2023 Editorial Team

Justin Y. Shi, PhD, Editor-in-Chief

Boleslaw K. Szymanski, PhD

R.L. Shankar, PhD

Imran Bashir

## Standards

IEEE recognizes the vital role standards will play in the development and adoption of blockchain technologies. [IEEE Standards Association \(IEEE SA\)](#), a globally recognized standards-setting body within IEEE, has been actively pursuing blockchain standardization efforts through various activities in multiple industry sectors. The IEEE Blockchain Technical Community will collaborate with IEEE SA to further develop and progress blockchain related standards.

### Industry Connections

- [IC17-002-01: Digital Inclusion through Trust and Agency \(DITA\)](#)
- [IC17-012-01: Supply Chain & Trials Standardized Technology and Implementation \(PDF, 626 KB\)](#)
- [IC17-017-01: Blockchain Asset Exchange \(PDF, 386 KB\)](#)
- [IC20-005: Global Initiative on Blockchain-based Omnidirectional Pandemic Surveillance](#)
- [IC20-022: Disaster Recovery for Blockchain Nodes and Enterprise Workloads](#)

### Published Standards

- [2140.1-2020 - IEEE Standard for General Requirements for Cryptocurrency Exchanges](#)
- [2140.2-2021 - IEEE Standard for Security Management for Customer Cryptographic Assets on Cryptocurrency Exchanges](#)
- [2140.4-2023 - IEEE Standard for Distributed/Decentralized Exchange Framework Using Distributed Ledger Technology \(DLT\)](#)
- [2140.5-2020 - IEEE Standard for a Custodian Framework of Cryptocurrency](#)
- [2142.1-2021 - IEEE Recommended Practice for E-Invoice Business Using Blockchain Technology](#)
- [2143.1-2020 - IEEE Standard for General Process of Cryptocurrency Payment](#)
- [2144.1-2020 - IEEE Standard for Framework of Blockchain-based Internet of Things \(IoT\) Data Management](#)
- [2146.1-2022 - IEEE Approved Draft Standard for Entity-Based Risk Mutual Assistance Model through Blockchain Technology](#)
- [2418.2-2020 - IEEE Standard Data Format for Blockchain Systems](#)
- [2418.7-2021 - IEEE Standard for the Use of Blockchain in Supply Chain Finance](#)
- [2418.10-2022 - IEEE Standard for Blockchain based Digital Asset Management](#)
- [3205-2023 - IEEE Standard for Blockchain Interoperability Data Authentication and Communication Protocol](#)
- [3801-2022 - IEEE Standard for Blockchain-based Electronic Contracts](#)

[Standards](#)[Products & Programs](#)[Focuses](#)[Get Involved](#)[Resources](#)[MAC ADDRESS](#)

P3228

# Standard for the Recurring Transactions Using Distributed Ledger Technologies (DLTs)

[Active PAR](#)[Home](#) > [Projects](#) > Standard for the Recurring Transactions Using Distributed Ledger Technologies (DLTs)

This standard provides a common framework for recurring transactions using blockchain and distributed ledger technologies (DLTs). The framework addresses digital agreement creation, recurring transactions processing, and transaction settlement. The standard applies to permissioned and permissionless DLT networks.

<b>Sponsor Committee</b>	C/BDL - Blockchain and Distributed Ledgers
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<b>Status</b>	Active PAR
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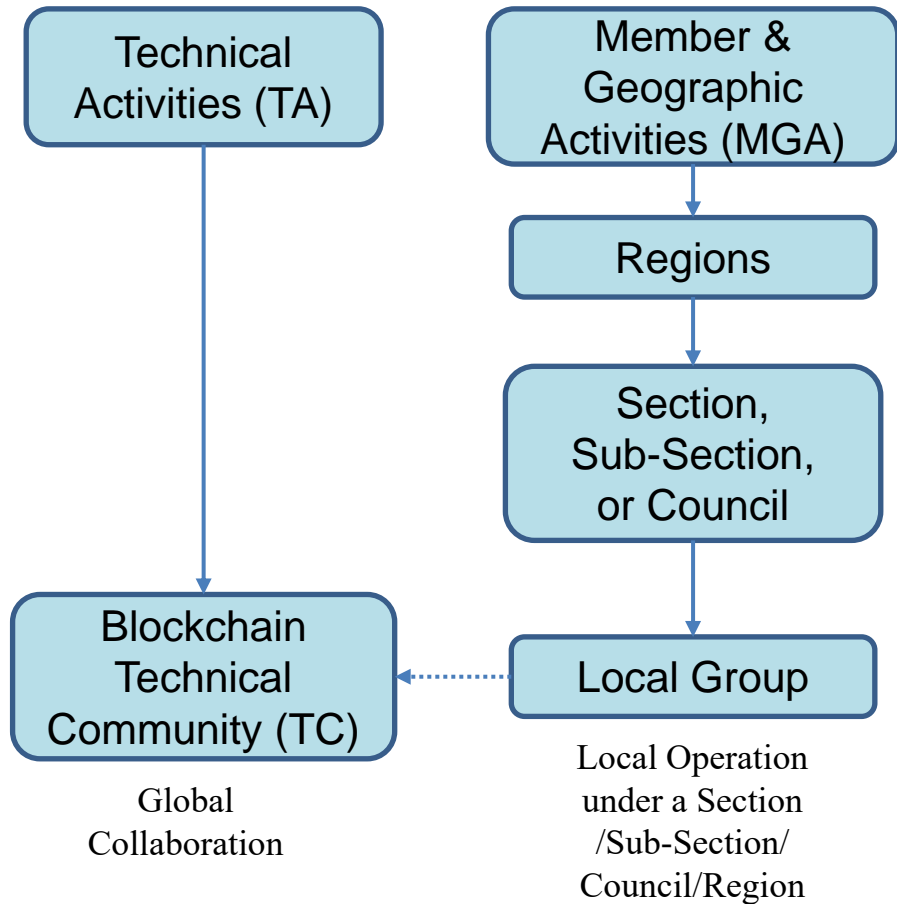
# IEEE LOCAL GROUPS



# Local Group: Background

- ❑ The concept of “Local Groups (LGs)” was approved at the November 2020 MGA board meeting. Please note that “Local Group” is somewhat similar to a Chapter, but it is not a Chapter!
- ❑ Local Groups (LGs) are intended to be agile and can be formed with a minimum of two IEEE members with the approval of the Section/Sub-Section/Region/Council (Geographic) and can be dissolved by the parent organization if an LG is **inactive**.
- ❑ The Section ExCom appoints the Local Group (LG) Leader(s), the Leader(s) must be IEEE members. The LG Leader is encouraged to collaborate closely with the local Organization Unit (OU).
- ❑ Members and non-member participants can engage/participate in LG activities. For example, members and non-member participants can participate in the LGs by joining the appropriate mailing list, Collabratec Workspace etc.
- ❑ LG Volunteer Leaders will have access to vTools such as Events and eNotice. They must report activities using L-31s.

# Local Group: Formation



## Formation

**Step 1)** Find two IEEE members interested in starting a local group in your MGA Organization Unit (Section, Sub-Section, Council, or Region).

**Step 2)** Complete the request form on vTools (*See next slide for instructions*)  
[https://vtools.vtools.ieee.org/tego\\_/local\\_groups/request\\_group](https://vtools.vtools.ieee.org/tego_/local_groups/request_group)

**Step 3)** The application for forming the Local Group must be approved by your MGA Organization Unit.

# Local Group: Request Form Submission

[https://vtools.vtools.ieee.org/tego/\\_local\\_groups/request\\_group](https://vtools.vtools.ieee.org/tego/_local_groups/request_group)

## Local Group Request Form

### Proposed Local Group Name \*

Enter the local group's name (e.g., IEEE "Section or City" Blockchain Group)

### Mission \*

Enter the local group's mission (e.g., The mission of the proposed blockchain local group is to bring together professionals interested in networking, collaborating, learning, sharing, and advancing technology)

### Time Horizon \*

Select time horizon (e.g., More than two years)

### Main Activities \*

Enter the local group's planned main activities (e.g., The local group plans to organize meetup-events, lectures, seminars, workshops and other activities (in person or virtual))

### Keywords \*

Enter the local group's descriptive keywords (e.g., Blockchain, Decentralized Systems, Distributed Ledger Technology)

# Local Group: Request Form Submission

**Requestor** ? \*

Enter the member number or email of the requestor

**Interim Leader** ? \*

Enter the member number or email of the Local Group's interim leader

Need two IEEE members  
interested in starting the  
Local Group!

**Contact Email** ? \*

Enter a contact email for this request

**Additional Member** ? \*

Enter the member number or email of the additional member

# Local Group: Request Form Submission

**Region**  \*

Select region for this request (Choose your Region) 

**Section**  \*

Select section for this request (Choose your Section) 

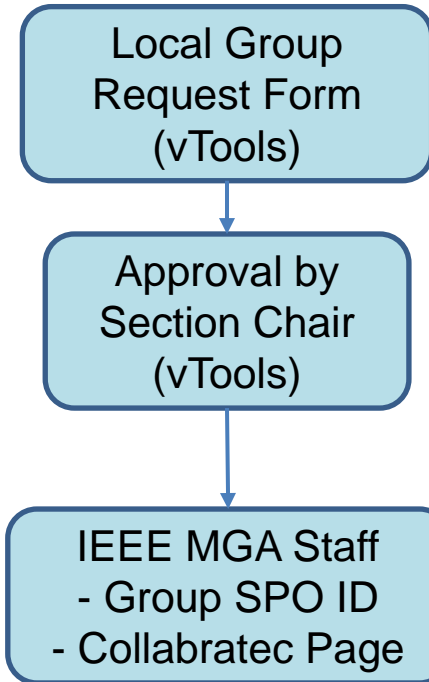
**Geographic Area** 

Enter the local group's geographic area (Please ignore this part)

**Other Associated IEEE entities** 

Enter other Associated IEEE Entities (Please ignore this part)

# Local Group: Approval Process



## Approval Process

- The Chair of the Section, Sub-Section, Council, or Region must approve the Local Group Request on vTools.
- IEE MGA Staff will create the Group SPO ID and Collabratec page.

# Local Group: Operation

- A) A Local Group shall be required to maintain a participation of not fewer than two (2) IEEE members.
- B) A Local Group shall hold not less than two (2) meetings per year; meetup-events, lectures, seminars, workshops and other activities (in person or virtual).
- C) The volunteer leaders of the Local Group must complete the IEEE GDPR training (<https://site.ieee.org/gdpr/training/>)
- D) For group communication, you may use one or more of the following options:
  - Collabratec Space:** MGA Staff will create a Collabratec space for your Local Group at <https://ieee-collabratec.ieee.org/> (Collabratec Overview: <https://youtu.be/6-doeoroms>)
  - Mailing List:** The volunteer leaders can request an IEEE ListServ mailing list by completing the form at the link below <https://listserv.ieee.org/request/add-listserv.html>.
- E) Request your home MGA Organization Unit (Section/Council/Region) to create a landing page for the Local Group on their main website. Maintain your Local Group Webpage and post all event information there.
- F) Report all your events on vTools: <https://vtools.vtools.ieee.org/> by filing L-31 form(s).
  - vTools Tutorials:** <https://kb.ieee.org/vtools/>
- G) Please review the guidelines on the use of the IEEE Blockchain Logo for your local events (See next slide).

# Local Group: Logo Guidelines

## LOCAL GROUPS



When adding your Location Identifier as shown, (examples: Dallas-Fort Worth, Los Angeles) use the font Formata or Calibri in gray (Pantone Cool Gray 9) or equivalent match.

## IEEE SOCIETY, COUNCIL, OR AFFINITY GROUPS



When adding your affiliated IEEE Society, Council, or Affinity Group Identifier, use the font Formata, or Calibri, in teal Pantone 320 or equivalent match.

## GEOGRAPHIC COMMUNITY GROUPS



When adding your Region, Section, or other IEEE Geographic Community Identifier, (examples: IEEE Region 6, IEEE– UK and Ireland Section) use the font Formata or Calibri in white inside the wedge bar.

## INCORRECT USAGE



Do NOT add Local Group Identifier to the logo in any spot except as shown at left.



Do NOT shift, move, or alter any of the logo elements. Use the IEEE Blockchain logo Group Identifier as shown as left.



Do NOT alter the color of any of the logo elements. Use the IEEE Blockchain logo Group Identifier colors as shown as left.

For further information: <https://drive.google.com/file/d/11cOyNFh68N0RQ1Bd58qt5XEPMgYfeZX6/view?usp=sharing>



# IN CLOSING...

- IEEE BCTC: a vibrant and growing global community
- ...of IEEE members and non-members
- Different opportunities
  - ✓ Technical collaboration
  - ✓ Educational
  - ✓ Tech Briefs
  - ✓ Conferences
  - ✓ Become a part of IEEE Blockchain Technical Community > shape the technology of the 22<sup>nd</sup> century!
  - ✓ LINKEDIN: IEEE BLOCKCHAIN

# THANK YOU!

**GORA DATTA, FHL7, VS, SMIEEE, SMACM**

ENGINEERING FACULTY @ UNIVERSITY OF CALIFORNIA BERKELEY

[GORA.DATTA@BERKELEY.EDU](mailto:GORA.DATTA@BERKELEY.EDU)

[GORADATTA@IEEE.ORG](mailto:GORADATTA@IEEE.ORG)