



# IEEE Executive Director's Report

*Region 8 Meeting*

*2 April 2022*

*Warsaw, Poland*

*Stephen Welby, IEEE Executive Director & COO*

[ieee.org](http://ieee.org)



# Inspiring a Global Community of Innovation

*Where forward-thinking technology professionals collaborate*

- ▶ Discover what's next in technological innovation
- ▶ Create international standards
- ▶ Build technical communities
- ▶ Shape and share research

## Our Mission

The core purpose of IEEE is to foster technological innovation and excellence for the benefit of humanity

## Our Vision

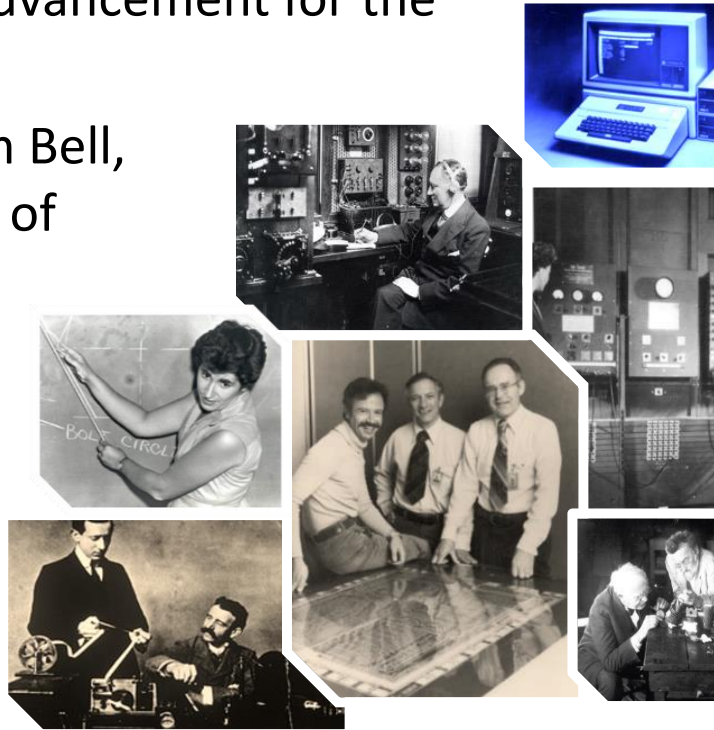
IEEE will be essential to the global technical community and to technical professionals everywhere, and be universally recognized for the contributions of technology and of technical professionals in improving global conditions





# IEEE Legacy

*IEEE's story of innovation begins with a spark of collaborative spirit*

- ▶ The public's need for increased technological innovation brought our founders together in the spirit of cooperation
  - ▶ Since 1884, IEEE has been fostering technical advancement for the benefit of humanity
    - In 1884, Thomas Edison, Alexander Graham Bell, and others founded the American Institute of Electrical Engineers (AIEE)
    - In 1912, the Institute of Radio Engineers (IRE) formed with a focus on the new industries of wireless technologies and electronics
    - Nearly 60 years ago, on 1 January 1963, AIEE and IRE merged to become the Institute of Electrical and Electronic Engineers or IEEE
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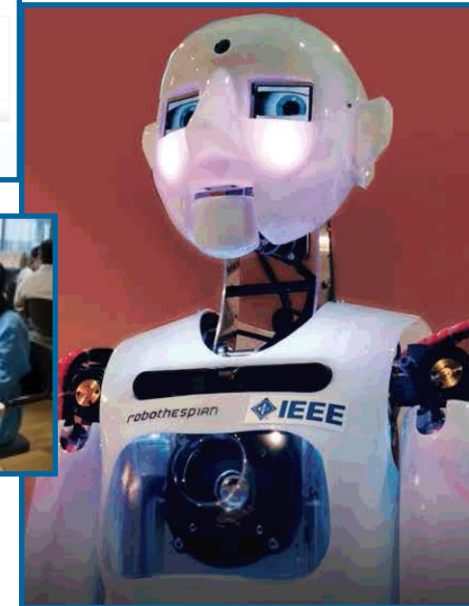
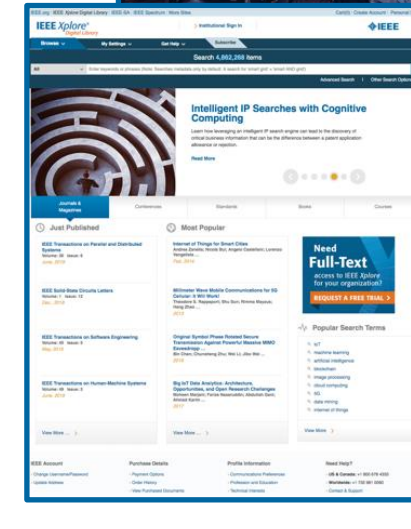


# IEEE at a Glance

- ▶ **39** technical Societies and **seven** technical Councils representing the wide range of IEEE technical interests
- ▶ **5 million+** documents in the IEEE Xplore® digital library, with **15 million+** downloads each month
- ▶ **1,076** active standards and **900+** standards under development
- ▶ Publishes approximately **200** transactions, journals, and magazines
- ▶ Sponsors **1,900+** conferences in **96** countries each year
- ▶ Global public policy and professional ethics

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*All figures as of December 2021*



# IEEE Membership

- ▶ Total Membership: 302,145 members
  - Change from February 2021: 3.2% increase
    - Higher Grade Membership (without GS): 218,011 members
      - Change from February 2021: 1.5% decrease
    - Undergraduate Student Membership: 51,876 members
      - Change from February 2021: 29.8% increase
    - Graduate Student Memberships: 32,258 members
      - Change from February 2021: 2.4% increase

# IEEE Membership

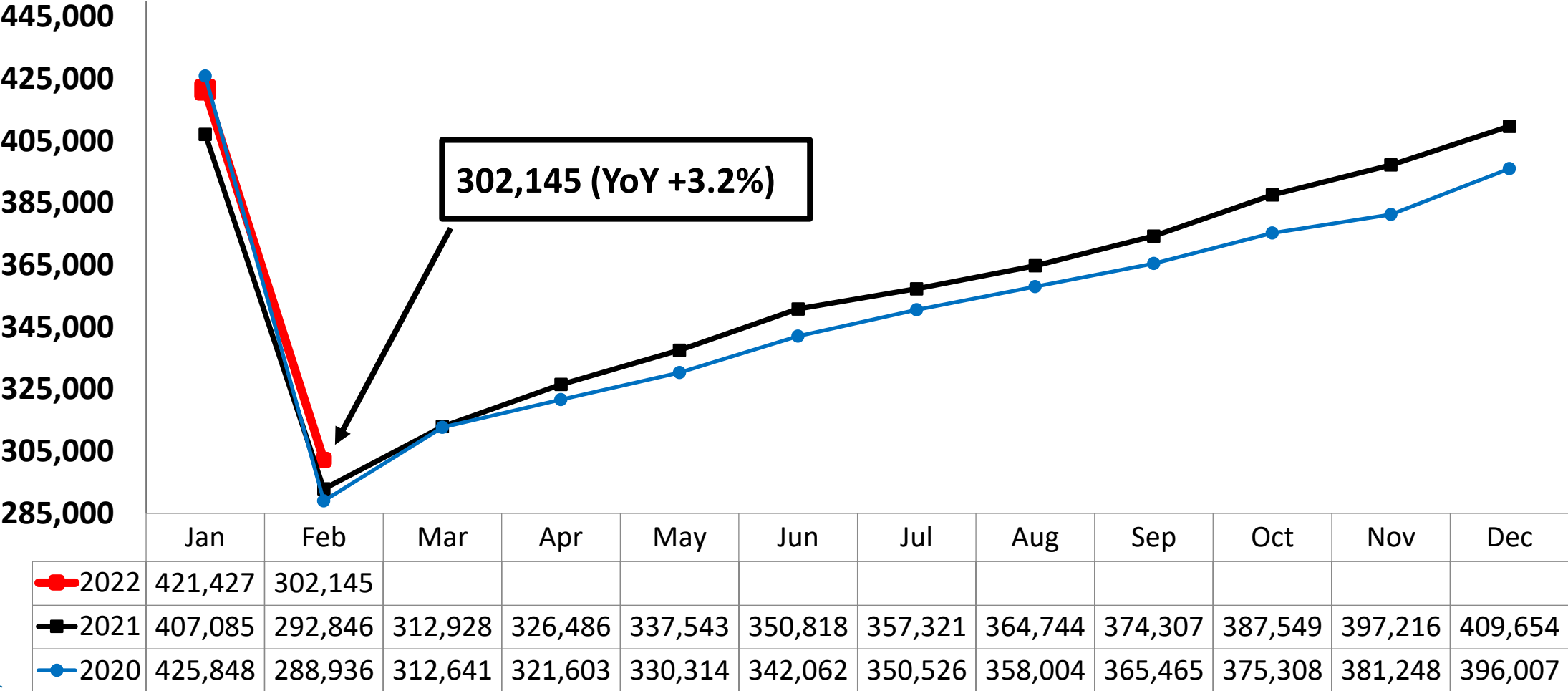
Total Society Membership excluding affiliates: 257,859

- Change from February 2021: 0.8% increase
  - 21 societies increased by more than 1%
  - 14 societies decreased by more than 1%
  - 4 societies saw increases or decreases of +/- 1%

IEEE-Standards Association Membership: 6,969

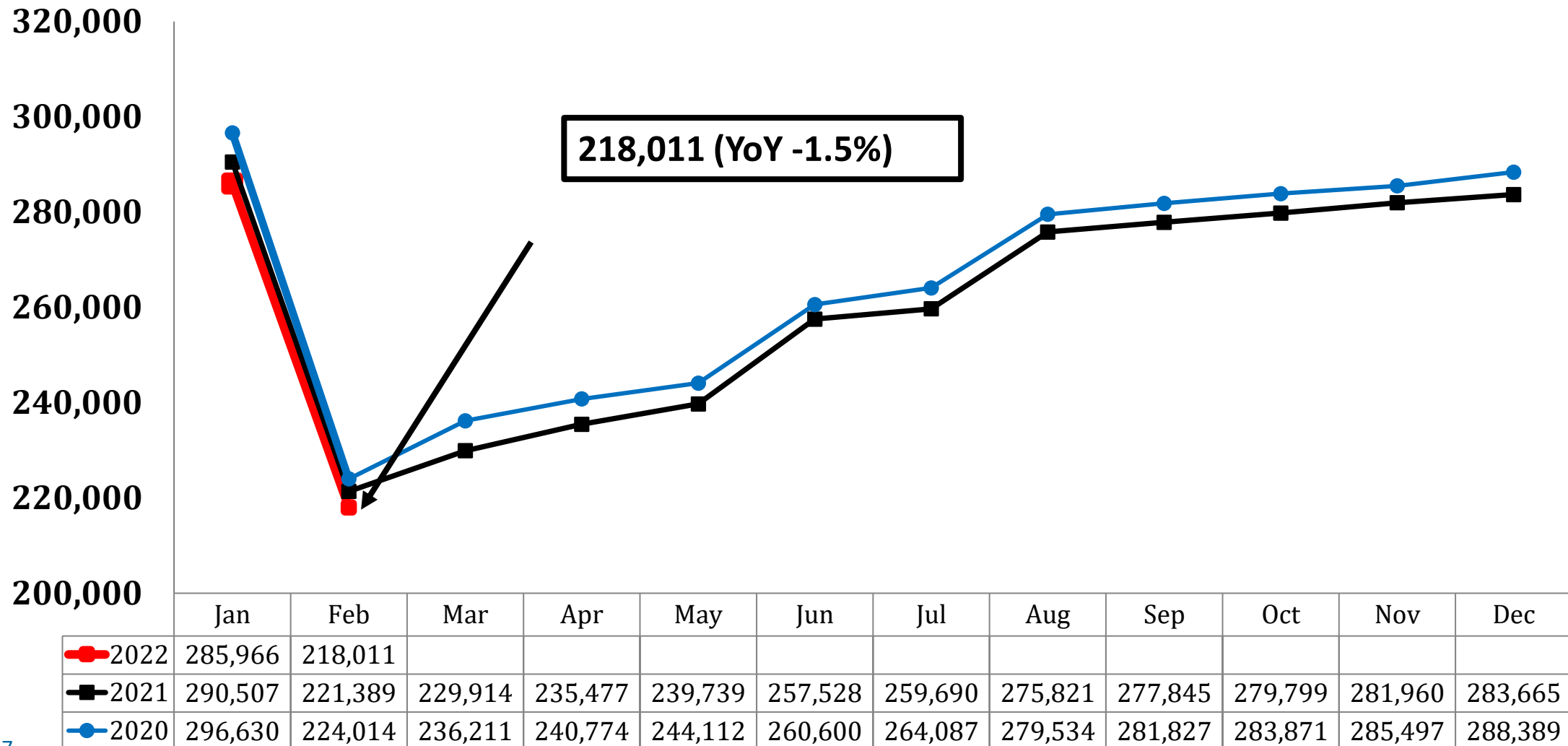
- Change from February 2021: 1.1% increase

# Total IEEE Membership



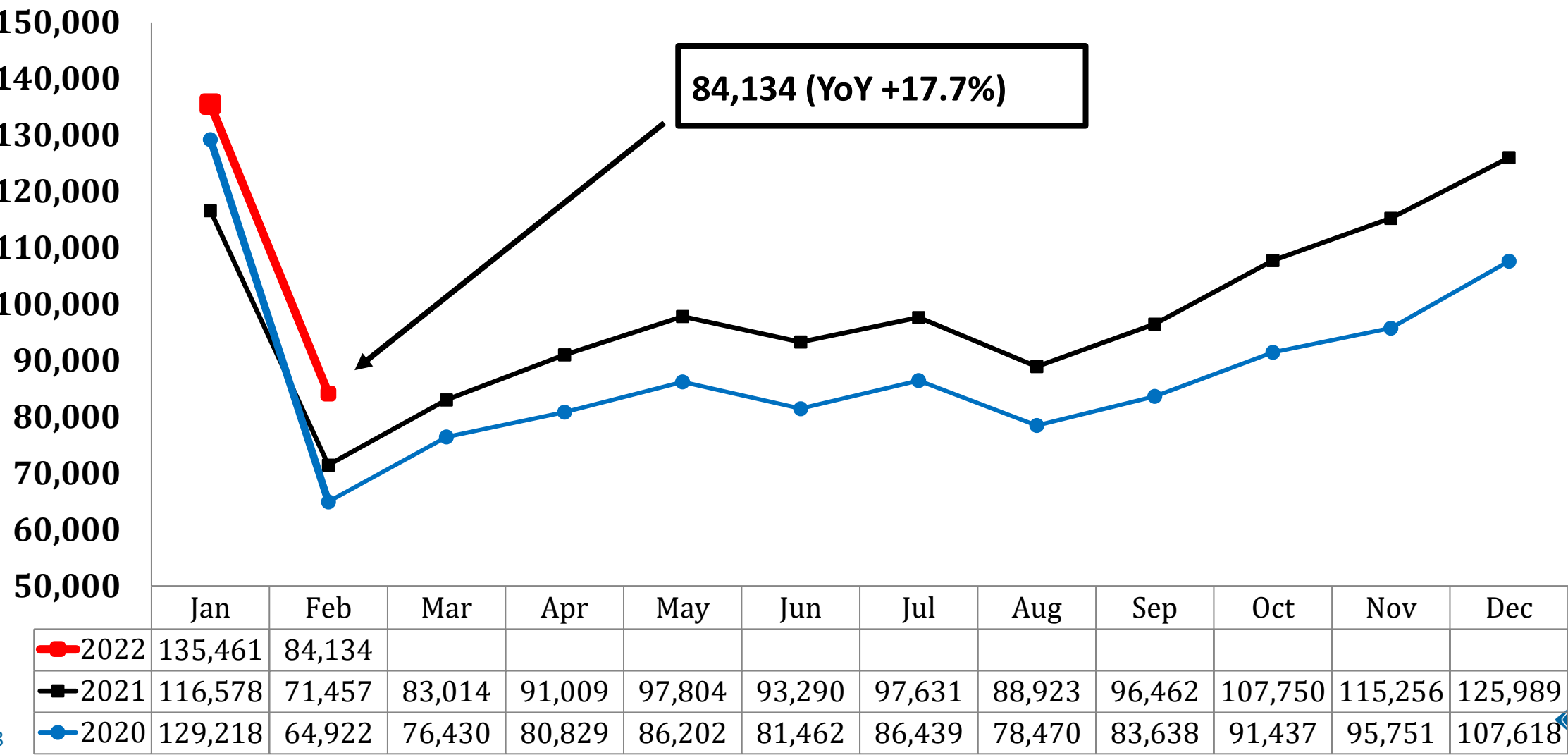


# Total IEEE Higher Grade Membership

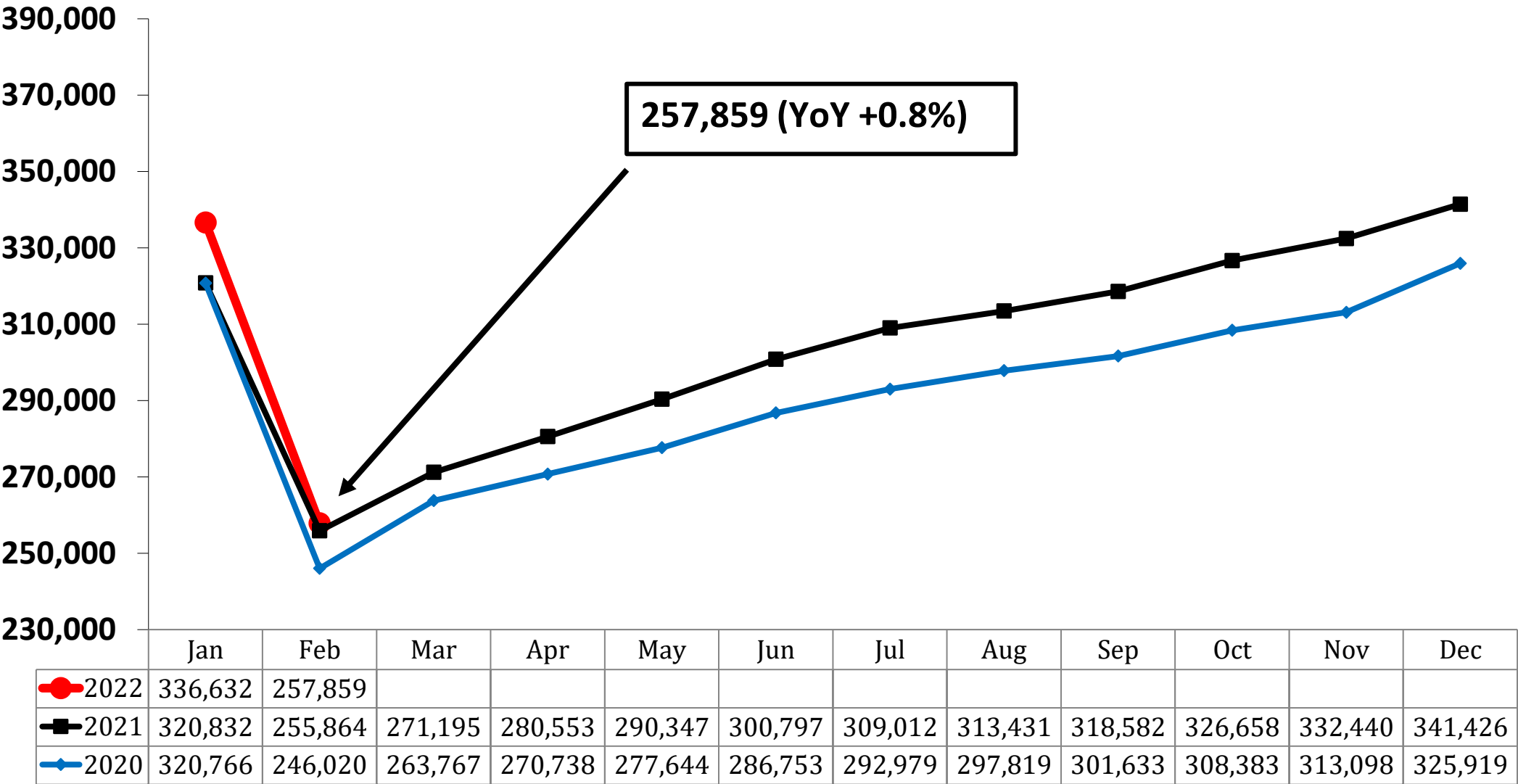




# Total IEEE Student Membership



# Total IEEE Society Membership



# IEEE Global Operation Status - We Remain Agile

*Global offices have all adopted periods of work-from-home to protect staff;  
returning to offices based on advice of local authorities*

**New York Headquarters &  
Piscataway, New Jersey  
Operations Center:**  
Opened 17 August 2020

**Tokyo, Japan Office:**  
Open for operations since  
10 October 2021

**Vienna, Austria Office:**  
Opened for operations since  
7 March 2022

**Beijing, China Office:**  
Open for operations since  
24 February 2020

**Los Alamitos, California Office:**  
Opened 15 June 2021

**Washington, DC Office:**  
Opened 15 June 2021

**Bangalore, India Office:**  
Opened for operations  
since February 2022

**Singapore Office:**  
Opened at 50% capacity on  
17 January 2022

*\*US offices returned to hybrid in-office  
work status on 7 March 2022*

# Phishing Email Attacks are a Threat to IEEE

## Attackers impersonate executives to make urgent requests for wire transfers or invoice payment

- ❑ Attackers research their victims and send targeted emails using titles and familiar names that are readily available online
- ❑ They use spoofed emails, look-like email addresses and domain names, or at times through compromised business email (BEC)
- ❑ First email could be just to establish a connection but then all of them have an **urgent** request for a payment, money transfer or gift cards
- ❑ These requests will appear as if coming from a member of the organization or from a vendor or partner

## How to protect yourself and IEEE

- ❑ Be very suspicious of any urgent request for information or for money, and always verify
- ❑ Use a secondary channel to validate any request (e.g., calling the impersonated individual) and never use any information from the email
- ❑ Exercise caution when the request is not following the normal IEEE process or if the request appears unconventional such as requests to buy gift cards.
- ❑ Look for red flags such as spoofed email (hover your mouse over the contact's name), slightly modified domain name or new banking information. Don't click on links from suspicious emails
- ❑ Forward all suspicious emails to [security@ieee.org](mailto:security@ieee.org)



# 2022 IEEE Ad Hoc Committees

*Foster continuity across IEEE's strategic direction*

- ▶ IEEE as Your Professional Home (Chair Barry Tilton)
- ▶ The Future of Engagement (Co-chairs David Koehler and John Vig)
- ▶ Data-Based Business Strategy (Chair Rakesh Kumar)
- ▶ IEEE in 2050 (Chair Roger Fujii)
- ▶ To Coordinate IEEE's Response to Climate Change (Chair Saifur Rahman)
- ▶ IEEE Humanitarian Efforts (Chair Susan K. (Kathy) Land)
- ▶ Top-Level Medals and Award (Chair Richard Cox)
- ▶ Fellows Processes (Chair Jose' M. F. Moura)
- ▶ Guiding the IEEE Constitutional Amendment (Chair James Look)
- ▶ IEEE President-elect Campaign Pilot Program (Chair David Green)



# IEEE Conferences Remained Strong in 2021

*Opportunities for global participants to convene, share, and innovate*



## 570K+

### Participants in 2021

- Global reach of more than 570K participants
  - 21% conferences with in-person component
  - 98% conferences with virtual component

# Publications in 2021

## *Integrity, sustainability, and efficiency*

- ▶ Launched the **Author Portal** – a cornerstone of our strategy focused on the author and researcher.
- ▶ Continued success of **Gold Open Access** program:
  - 21 of 23 titles on track for a Journal Impact Factor in mid-2023
  - 2021 revenues from Gold OA titles (accelerated & non-accelerated) grew by 20% over 2020
- ▶ Launch of **redesigned IEEE Spectrum** print and online editions:
  - Visitors, engaged minutes, and registrations all up significantly (100%+)
  - Commercial advertising revenue up 10% over prior year
- ▶ Cleared backlog of ethics cases, created new Director of Publishing Ethics & Conduct staff position, and expanded the Periodical Conduct Committee to ensure the highest standards in **research integrity**.
- ▶ **Automated processes** for Periodical Review & Assessment Committee (PRAC) and launched the Editor-in-Chief dashboard for continuous monitoring of journal health
- ▶ **Decreased production costs** for periodicals by 5% over 2020.



# IEEE Standards Association Engagements

*Growth in global presence and engagement*

- ▶ IEEE SA Government Engagement Program on Standards (GEPS) has grown its participation globally with the total number at 47 representatives from 31 countries, including 26 countries in Region 8:
  - Europe: 6
  - Middle East: 5
  - Africa: 15
- ▶ Expanding IEEE SA Corporate Membership
  - Reached historic milestone of 400 members in 24 countries (from ~200 a few years ago)



# IEEE Standards Association Engagements

- ▶ Progress in Europe at the national and regional level
  - Increasing European engagement in IEEE SA and IEEE presence in Europe
  - Goal: direct recognition/adoption of IEEE standards by European legislators and regulators
    - IEEE 2089™, IEEE Standard for an Age-Appropriate Digital Services Framework, led to the development of a CEN/CENELEC Pre-Standardization Program on Children's Data Governance
    - IEEE 7000™, IEEE Standard Model Process for Addressing Ethical Concerns during System Design, is under review for ISO/JTC1 adoption
      - This is expected to be the first of several such standards in the socio-technical domain to be considered for adoption.
  - Significant progress made at national level, particularly in Austria, BENELUX, France, Germany, and UK.



# IEEE Education Week™

- ▶ Live and virtual events
- ▶ Educational resources, courses, websites, scholarships
- ▶ Special offers on education for IEEE members
- ▶ Earn points and an Education Week badge for participating all week
- ▶ All IEEE groups are invited to share their educational content on the website
- ▶ 60+ already participating!

**4-8 April 2022**



The banner features the IEEE Education Week logo at the top left, with the dates '4-8 APRIL 2022' in a green bar below it. To the right is a circular image of three people looking at a device. The main text reads 'Celebrate Education from IEEE' in large green letters, followed by 'Explore pre-university, university, and continuing education resources' in smaller black text. At the bottom left is a circular image of a group of people. At the bottom right is an orange 'LEARN MORE' button. The website 'educationweek.ieee.org' and the IEEE logo are at the very bottom.

**IEEE Education Week™**  
4-8 APRIL 2022

**Celebrate Education from IEEE**

Explore pre-university, university, and continuing education resources

**LEARN MORE**

[educationweek.ieee.org](https://educationweek.ieee.org) **IEEE**

**educationweek.ieee.org**

*Interested in participating or learning more? Contact Jennifer Fong: [j.fong@ieee.org](mailto:j.fong@ieee.org)*



# IEEE Pre-University STEM Outreach

*2021 was a year of leveraging IEEE's global resources to impact as many students as possible*

2021 STEM Outreach Summary		
	Total	Region 9
STEM Events	340	58
Students Impacted	18,629	1761
Teachers Trained	1,967	261
Parents Engaged	2,889	335
Volunteers	3,550	410
Global Reach	All Regions-35 Countries	8 Countries

- ▶ Volunteer STEM Portal launched January 2021
  - 77,000 views, 44 programs in library
- ▶ IEEE STEM Summit
  - 1-6 November 2021
  - 331 Attendees from 65 Countries
  - 6 Sessions and 12 Speakers
- ▶ STEM Outreach Grants
  - 18 awarded
  - Five in Region 9



[www.tryengineering.org](http://www.tryengineering.org)

# Additional STEM Outreach Activities

## ► STEM Ambassador Program: Driving STEM Outreach

- STEM Ambassadors are local champions who facilitate outreach, provide a linkage between IEEE's local units and STEM resources
- 2022 Applications coming in April

### Currently:

**46** STEM Ambassadors representing **seven** Regions, **32** Sections, and **26** countries

## ► TryEngineering.org Language Translations

- **Google Translate Button:** 108 languages are currently available
- **Lesson Translation:** Launched January 2021 and Ongoing - Lessons now in HTML so they can be translated and printed
- **Improving Translations Pilot:** Using G-Translate, words and phrases that did not translate accurately can be edited. Volunteers are needed to improve translation accuracy. For more information contact Dawna Schultz at [d.j.schultz@ieee.org](mailto:d.j.schultz@ieee.org).





# IEEE Academies

*Available on the IEEE Learning Network (ILN)*

- ▶ IEEE Academy on IoT offers two learning paths with technical focus on:
  - Communication Standards [available now on ILN](#)
  - Computing Platforms [available now on ILN](#)
- ▶ IEEE Academy on Smart Grid (Distribution Automation & Microgrid) and IEEE Academy on Artificial Intelligence are also being developed
- ▶ For more on the IEEE Academies, visit <https://www.ieee.org/education/academy-index.html>

**IEEE Academy™**  
*Internet of Things*

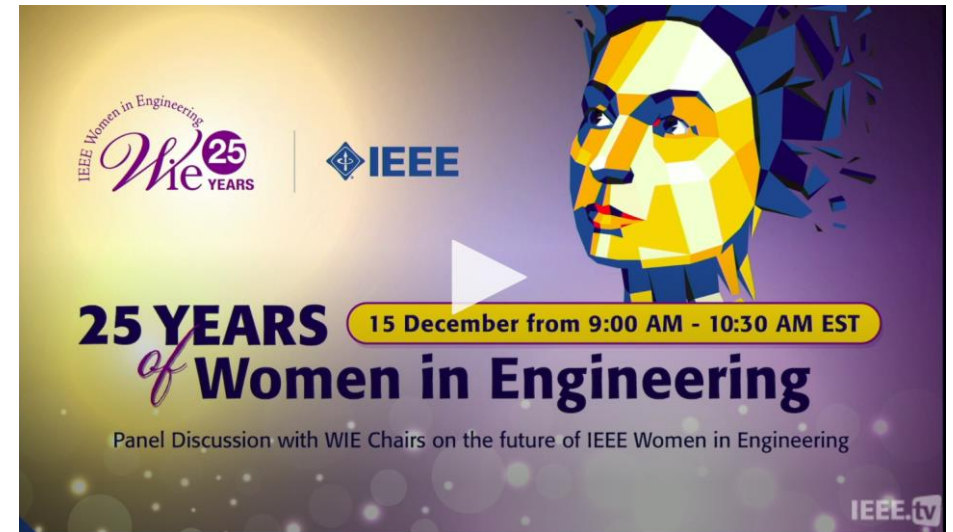
**IEEE Academy™**  
*Smart Grid*

**IEEE Academy™**  
*Artificial Intelligence*

# IEEE Women in Engineering (WIE) Celebrates 25 Years!

*Various activities planned for the yearlong celebration*

- ▶ 25 Years of Women in Engineering panel discussion with current and past chairs on the future of IEEE WIE
- ▶ Extraordinary Women, Extraordinary Science Seminar Series
- ▶ “Women-to-Women Tech Ideas Dedicated to Women” Competition
- ▶ 12-hour live event with WIE Affinity Group Chairs around the globe



[Watch on IEEE.tv](https://www.ieee.tv)

<https://wie.ieee.org/wie-25th-anniversary>

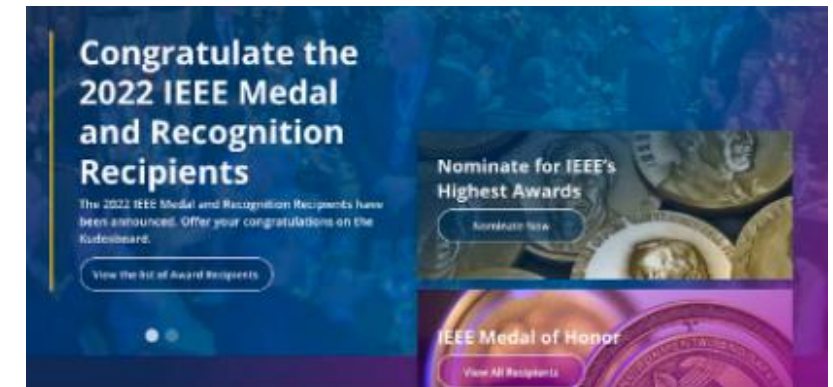


# 2022 IEEE VIC Summit and Honors Ceremony

*Save the Date: 6 May 2022, Marriott Marquis San Diego Marina*



Dr. Asad M. Madni  
IEEE Medal of Honor



- ▶ The IEEE Foundation will be hosting a VIP Luncheon at the Marriott on 6 May
- ▶ VICS/HC Pre-Event at the Qualcomm Campus in San Diego on Thursday, 5 May 2022

## ▶ Current VICS Topics Include:

- Cloud Computing
- Aerospace Technologies
- Digital Twins/Smart Cities
- Encryption/Security
- Machine Learning/Human to Robot Interaction
- Metaverse

22 <https://corporate-awards.ieee.org/event/2022-vic-summit-honors-ceremony-gala/>





# IEEE History Center Oral History Program

*Peer-to-peer interviewing program*

- ▶ The IEEE History Center is continuing to expand the peer-to-peer oral history interviewing program, with a focus on IEEE Life Fellows
- ▶ Collecting spoken memories and personal commentaries of historical significance through recorded interviews
- ▶ Volunteers and their Organizational Units are encouraged to contact the History Center to participate

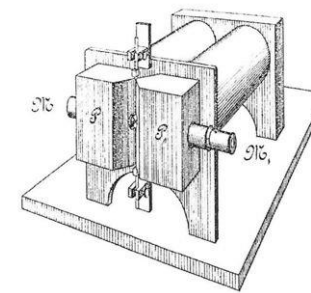
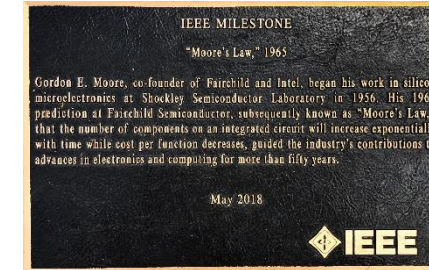
IEEE Foundation  
**Donor  
Supported  
Program**



# IEEE Milestones in Region 8

## *Celebrating our historical legacy*

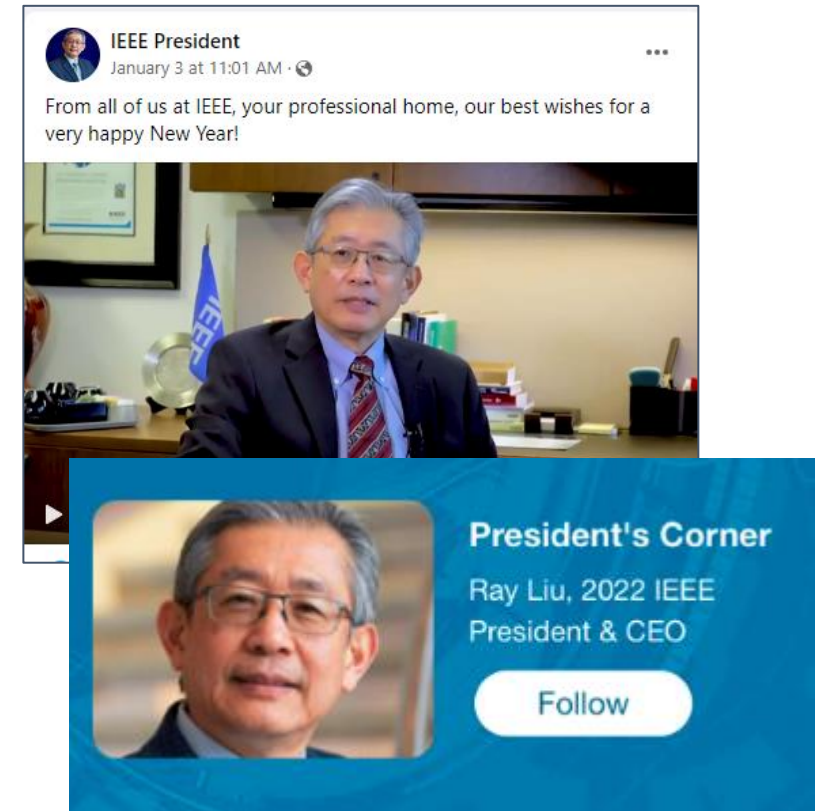
- ▶ Importance of engineering history
  - Enhances the image of engineers and elevates the prestige of the profession
  - Increase public understanding of the achievements of electrical, electronics, and computer engineers
  - Pride in local accomplishments and global contributions
- ▶ 53 milestones in Region 8
- ▶ Planned Ceremonies for 2022:
  - 8 April: String Galvanometer to Record a Human Electrocardiogram, 1901-1905 (Benelux Section)
  - 16-17 June: Active Shielding of Superconducting Magnets for MRI, 1984-1989 (UKI Section)
  - 20-21 June: Manchester University "Baby" Computer and its Derivatives, 1948-1951 and Atlas Computer and the Invention of Virtual Memory 1957-1962 (UKI Section)
  - TBD: Budapest Metro, 1896 (Hungary Section)





# 2022 IEEE President & CEO Social Media Platforms

- ▶ @IEEEPresident profile on Facebook, Instagram, LinkedIn, Twitter, and the President's Corner on IEEE App
- ▶ Follow Ray Liu, 2022 IEEE President and CEO, and get updates and information from across IEEE, your professional home
  - <https://www.facebook.com/ieeepresident>
  - <https://www.instagram.com/ieeepresident/>
  - <https://www.linkedin.com/showcase/ieeepresident>
  - <https://twitter.com/ieeepresident>



# Risks and Opportunities

- ▶ There are a number of factors creating risks/opportunities for IEEE over the next 18 months, including:
  1. Residual Impacts of COVID-19 Pandemic
  2. Impact of Inflation on IEEE Revenues and Expenses
  3. Potential for new Open Access Mandates
  4. Changes to the Meetings, Conferences, and Events landscape
  5. Impacts on IEEE Staffing (Losses, Challenges In Hiring, Pressure from Return to Office, Hybrid Remote Work)
  6. Volunteer and Member Fatigue with Remote Activities



# IEEE

*Advancing Technology  
for Humanity*