Advancing Technology for Humanity: IEEE 2017 Update
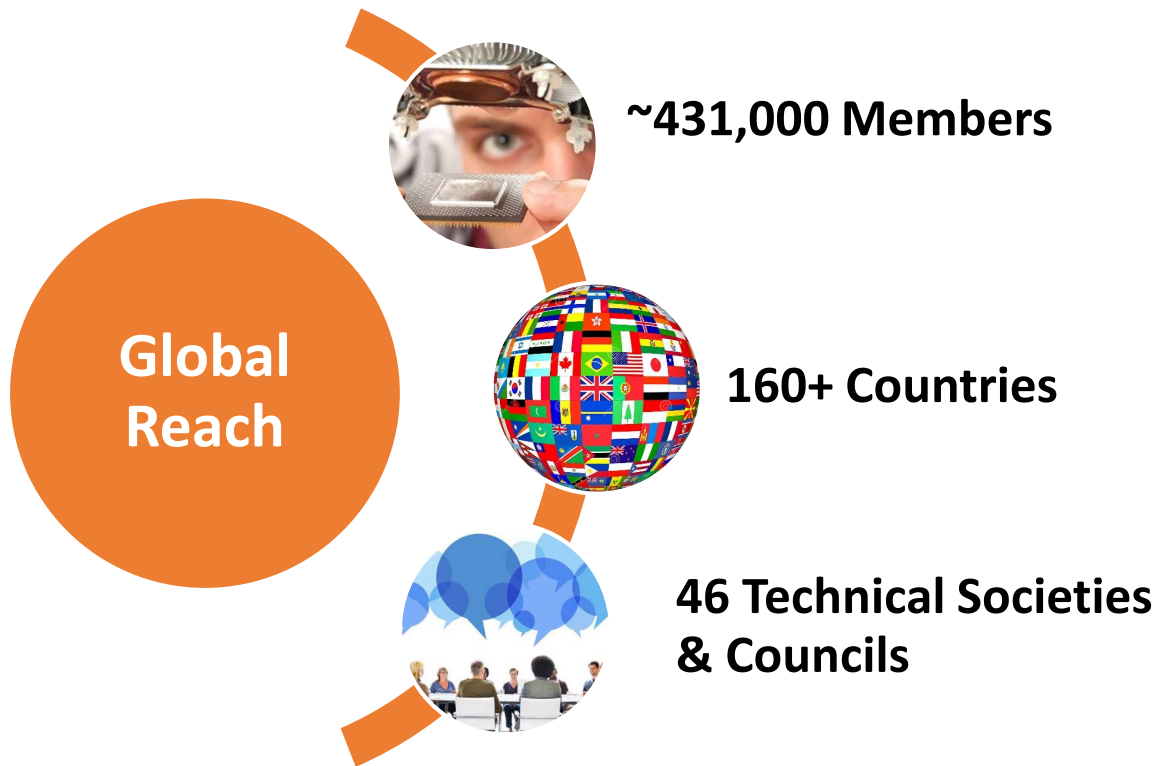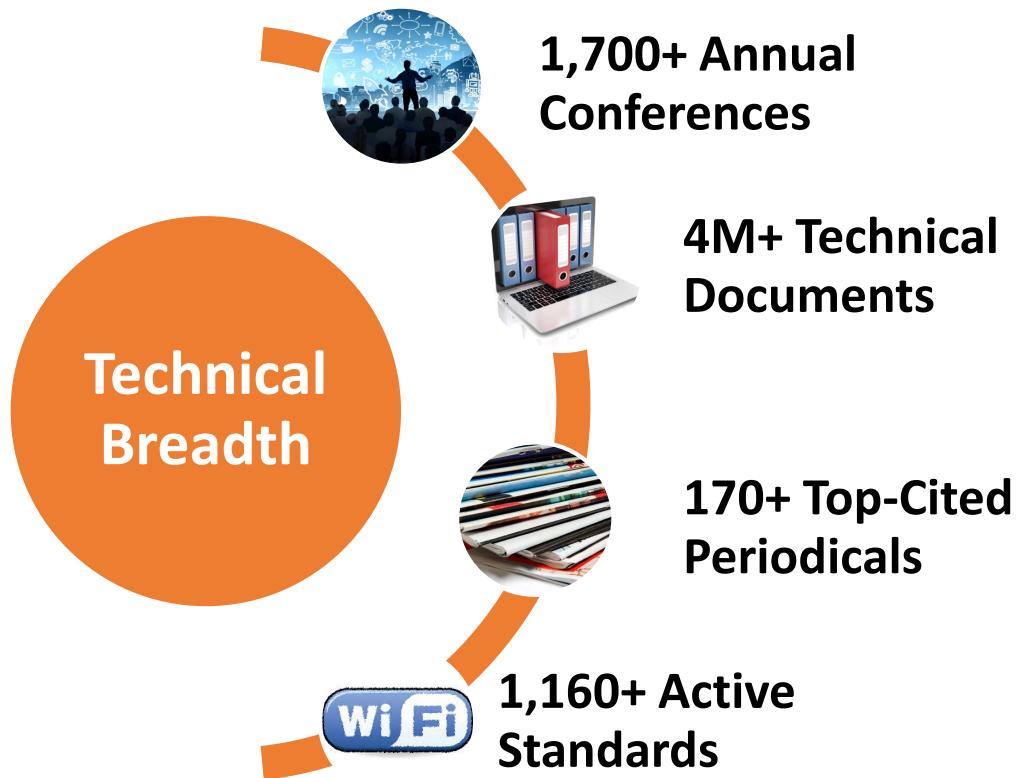
Jim Jefferies, 2017 IEEE President-elect

Region 3

Charlotte, North Carolina

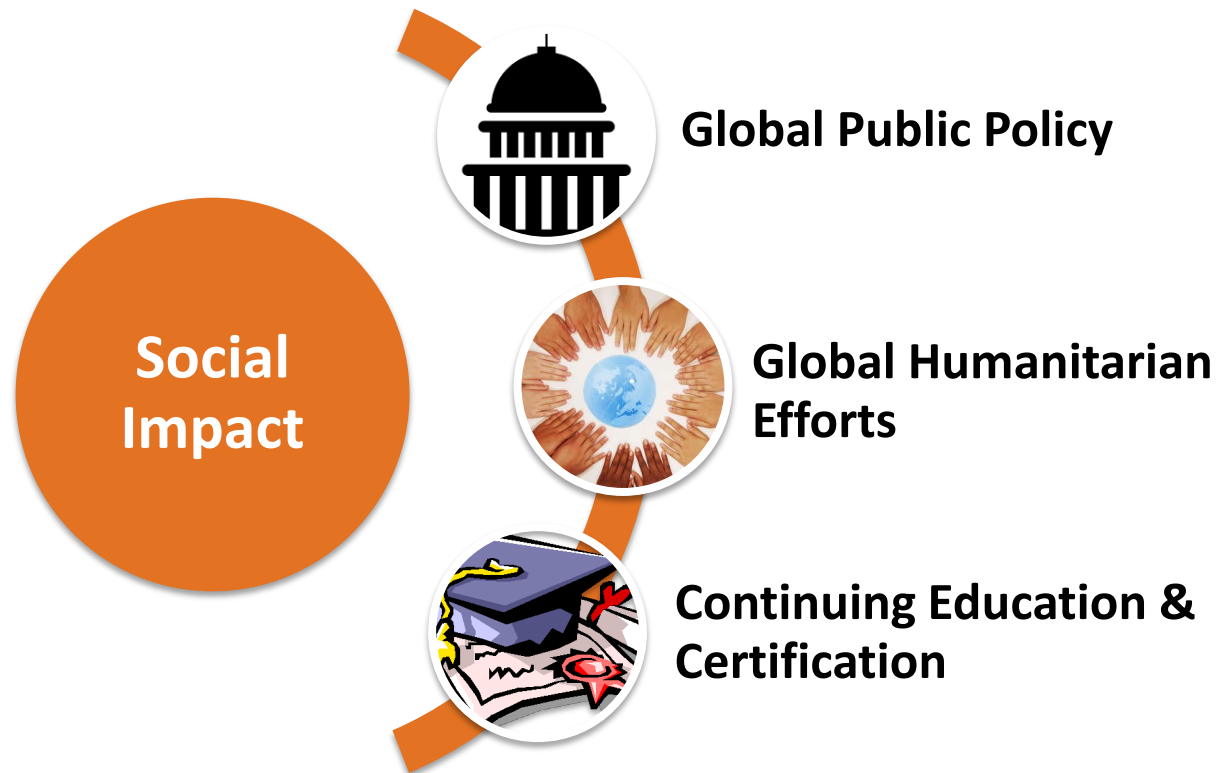# The Fuel of IEEE

Who we are

▸ Forward-thinking technology professionals coming together …

… to discover the next technological innovation,

to develop international standards,

to form communities,

to share research and educate,

in the spirit of collaboration

◆IEEE

IEEE at a Glance

Global Reach

~431,000 Members

160+ Countries

46 Technical Societies & Councils

IEEE at a Glance

Technical Breadth

1,700+ Annual Conferences

4M+ Technical Documents

170+ Top-Cited Periodicals

1,160+ Active Standards

IEEE at a Glance

Social Impact

Global Public Policy

Global Humanitarian Efforts

Continuing Education & Certification

Global Solutions to Global Challenges

Worldwide offices

Expanding Global Outreach

New technology connections

▸ IEEE collaborations around the world inspire innovation for those who develop and deliver technology solutions

New Markets

Local Programs

Product Innovation

Global means doing what is needed **locally**, everywhere.

◆IEEE

Future Directions Committee

IEEE's innovation engine

▸ IEEE focuses on what's next—enabling innovation and the creation of new technologies

Big Data	Cybersecurity
Green ICT	Internet of Things
Smart Cities	Rebooting Computing
Smart Materials	Software Defined Networks

Future Directions Initiatives

Maturity Level

www.ieee.org/futuredirections

The IEEE Approach

The global catalyst, center-point, and facilitator of technology

Global Convener on Public Policy

*International collaboration across the ethics landscape*

▸ IEEE Global Public Policy Committee

▸ IEEE TechEthics™

▸ The IEEE Global Initiative for Ethical Considerations in Artificial Intelligence and Autonomous Systems

▸ The Society on Social Implications of Technology (SSIT)

IEEE Internet Initiative (3I)

Meeting stakeholder needs

▸ Provide a collaborative platform in the areas of Internet governance, cybersecurity, and privacy
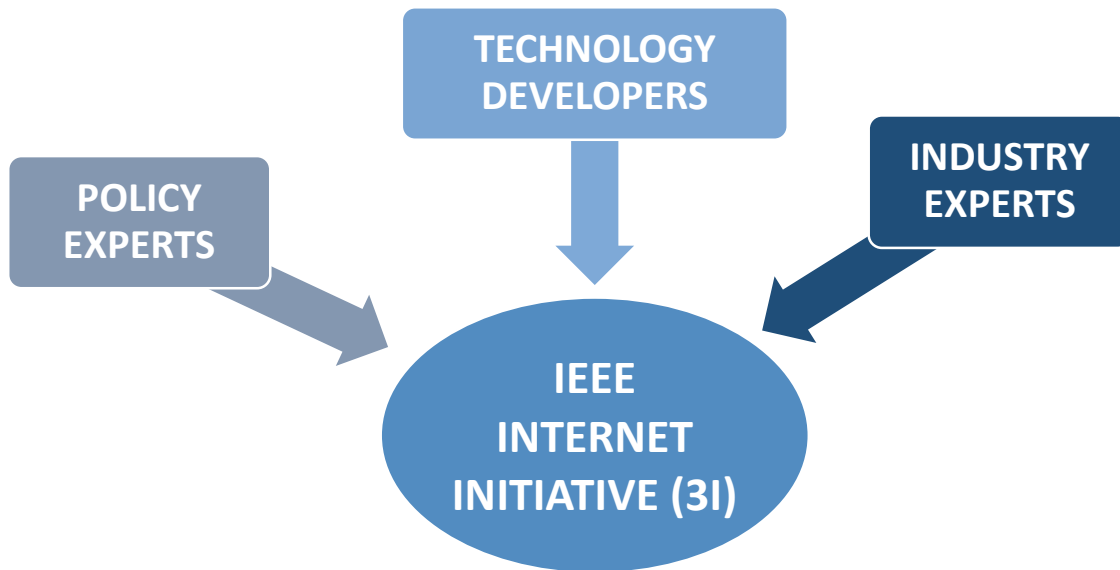
IEEE Internet Initiative (3I)

2017 Working Groups

▸ Internet policy engagements and contributions (Policy Track)
  - Develop position statements and policy communications
  - Identify highest priority issues and develop associated action plans

▸ Advancing internet inclusion (Inclusion Track)
  - Enabling meaningful, practical, and effective internet usage for all
  - Planning for April Internet Inclusion event underway

▸ Strategic technology enablement (Technology Enablement Track)
  - Harness IEEE expertise in addressing issues in internet governance, cybersecurity, privacy, and inclusion
  - Tech Policy asset development, targeting three new papers for 2017

IEEE GlobalSpec Engineering360 Platform

Largest online destination for engineers and technical professionals

- ▸ Business-oriented, content-rich marketing platforms that drives traffic and audience engagement
- ▸ Provides advertisers with a multi-media platform to access and engage directly with the engineering community
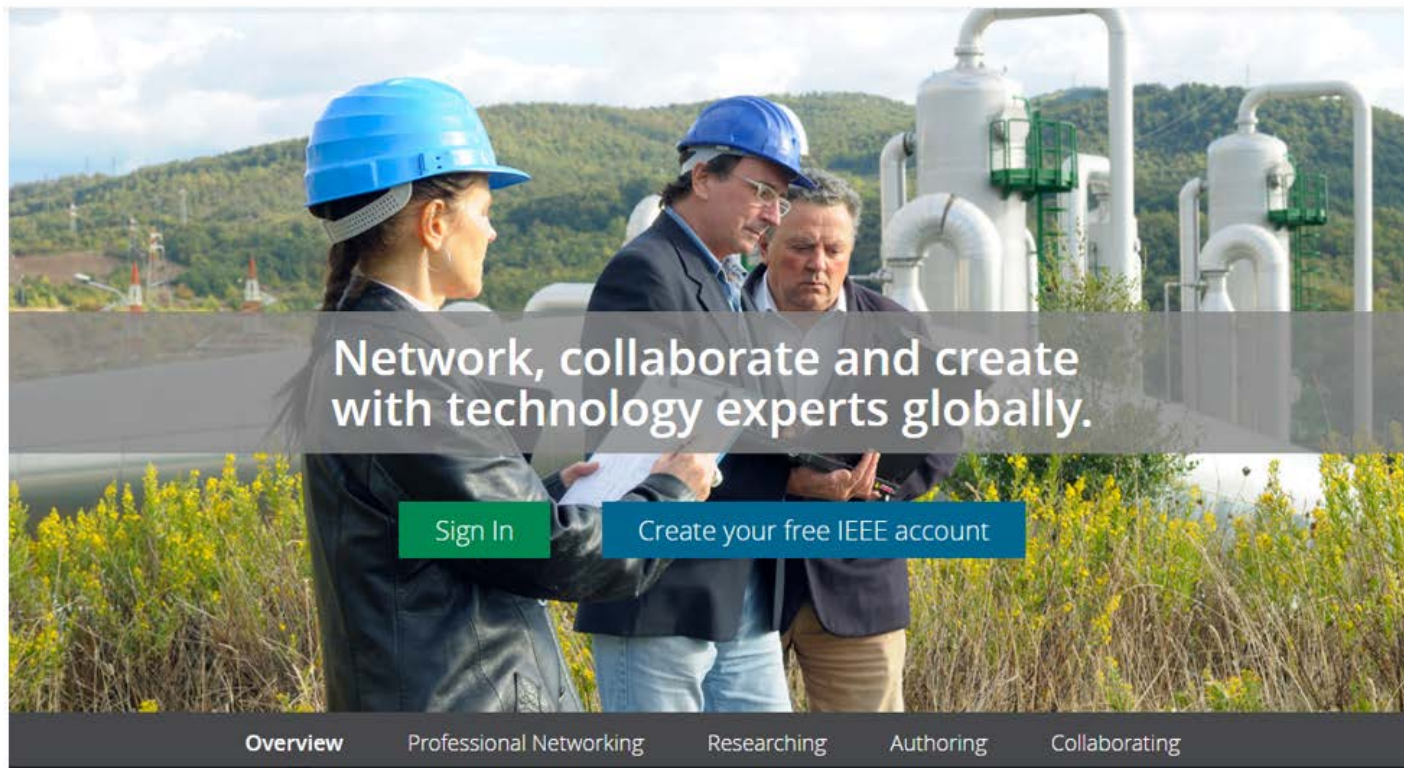
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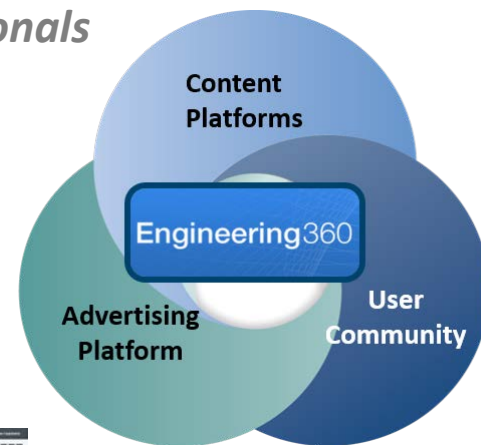
InnovationQ Plus

Patent discovery and analysis

▸ Indexes IEEE full text publications with one of the largest global patent literature databases in the industry

- 3M+ documents from IEEE journals, conferences, and standards

- Global database of 70M+ patents and applications

- IP.com's proprietary Prior Art Database

- Invention disclosures of licensable technology from universities

- Other non-patent literature including Pub Med and IETF

http://innovationqplus.ieee.org/

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https://ieee-collabratec.ieee.org

Training for Industry Professionals

New 2017 IEEE programs

▸ Over 400 IEEE Continuing Education online courses help industry professionals stay up to date on the latest technologies
▸ Available Now:
  - Hacking Your Company: Ethical Solutions to Defeat Cyber Attacks
  - Cyber Security for Today's Environment
▸ Coming Soon:
  - The IEEE Guide to the Internet of Things (April)
  - NESC Standards Courses (April)
  - The IEEE Wake-Up Radio Road Map (Fall)
  - Artificial Intelligence and Ethics in Design (Fall)
  - Autonomous Vehicles (Fall)
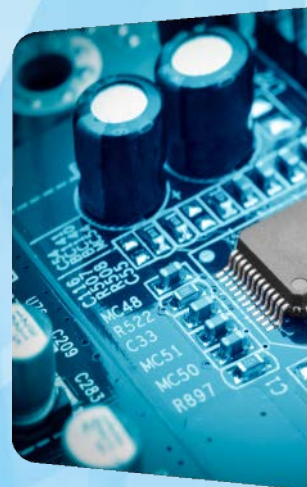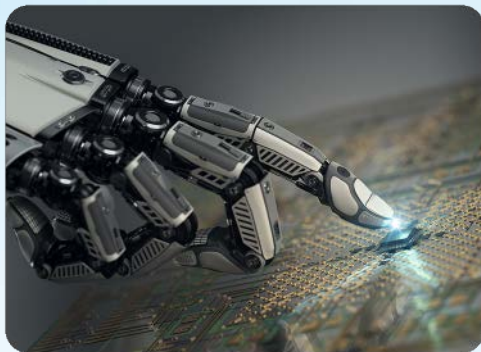
Creating the Next Generation of IEEE

Outcome of Post-Syntegration Strategy Session

What should IEEE look like in 2025 to appeal to and serve young professionals and other underserved communities globally, and what should IEEE do to get there?

Session Objectives

- ▸ Determine what a membership society like IEEE should look like in the future

- ▸ Find new ways to appeal to and better serve young professionals (including women and diverse global populations)

- ▸ Create long- and short-term plans to undertake the required transformation

- ▸ Engage leaders from across IEEE to co-create the plan and gain their buy-in and alignment

What Emerged…

In 2025 and beyond, IEEE is positioned to appeal to and effectively serve young professionals and other underserved communities globally.

[1] Engage, Enable, and Empower Diverse Global Communities	[2] Serve IEEE's Communities of the Future	[3] Support the Development of Young Professionals
Strategies		
A. Build the right infrastructure to enhance engagement and communications with top notch user experience B. Tailor the membership model to meet the needs of diverse communities C. Futureproof our engagement model	A. Recognize the importance and promise of the African Continent B. Create a global entrepreneurship and innovation ecosystem	A. Create a volunteer ecosystem to provide opportunities for Young Professionals B. Serve industry at the intersection of the supply and demand for talent

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IEEE

Appendix

Engage, Enable, and Empower Diverse Global Communities

Recommendations

▸ **Build the right infrastructure to enhance engagement and communications with top notch user experience**
- Build the right infrastructure to enhance engagement and communications with the best user experience--a portal driven by analytics
  • Use customers' data to drive communications and segmentation of customer type (categories) and include recognition of contributions

▸ **Tailor the membership model to meet the needs of diverse communities**
- Launch a corporate membership for IEEE
  • Pilot in 2017 with between 2 and 3 corporations; consider in package offering industry distinguished lecturers, trend papers, education, innovation workshops, management, etc.

▸ **Futureproof our engagement model**
- Consider appointment of a Young Professional as a non-voting member of the BoD
- Foster collaboration on Strategic Agenda with underserved communities

IEEE

Serve IEEE's Communities of the Future

Recommendations

▶ **Recognize the importance and promise of the African Continent**
- Propose a non-voting member of the IEEE Board representing Africa
- IEEE Ad Hoc Committee on Activities in Africa to become a standing committee
- Consider 2020 BoD meeting and Sections Congress to be held in South Africa
- Develop an effective multi-format communication strategy for Africa

▶ **Create a global entrepreneurship and innovation ecosystem**
- Create a series of local entrepreneurial activities in 3-5 low GDP countries with a reasonably strong IEEE presence
- Develop an ecosystem to support entrepreneurial activity where we can house and leverage all diverse assets we have in IEEE

Support the Development of Young Professionals

Recommendations

▸ **Create a volunteer ecosystem to provide opportunities for Young Professionals**
  - Develop VO4YP (Volunteer Opportunities for Young Professionals) Program

▸ **Serve industry at the intersection of the supply and demand for talent**
  - Develop Service Navigator
    • Develop Service Navigator as a handheld app connected back into IEEE Talent Marketplace and contributing to Xplore for Practitioners
  - IEEE Talent Marketplace
    • Develop back end for Service Navigator and connected to Xplore for Practitioners; delivers information to corporate and personalized services for members
  - IEEE Xplore for Practitioners
    • Store for data for practitioners, such as code, VMS development information, etc.