



ADVANCING TECHNOLOGY

San Francisco, Calif.

IEEE is dedicated to fostering technological innovation that advances the engineering profession—and humanity—worldwide. IEEE and its members inspire a global community through IEEE's publications, conferences, technology standards, and professional and educational activities.

IEEE Collabratec™ Connects Engineering Professionals

In 2015, IEEE launched IEEE Collabratec, a suite of online tools that enables technology professionals around the world to network, collaborate, create, and discover—all within a centralized hub. This online community connects technology professionals across the globe by location, technical interests, and career pursuits with a click of a button—anytime, anywhere.

IEEE Collabratec offers distinct benefits for every audience within the IEEE ecosystem:

- **For IEEE members**, IEEE Collabratec makes it easy to establish a professional identity and showcase key accomplishments. Members can identify individuals based on mutual interests and actively participate in knowledgeable communities. They can also tap into their community's expertise by asking questions and providing comments.



IEEE Collabratec lets users network, collaborate, and create with technology experts around the world.

- **For authors and researchers**, IEEE Collabratec is a premier destination to connect and collaborate with colleagues around the world. They can tap into a global network to help generate ideas for articles and find co-authors—in real time. IEEE Collabratec also saves time in the content discovery process by organizing, storing, and classifying content in a personalized online library.
- **For IEEE volunteers**, IEEE Collabratec is an ideal tool for building and managing volunteer networks. Volunteers can easily connect with other IEEE volunteers who share technical interests, geographic locations, or volunteer roles.



Pierluigi Mancarella, chair of the IEEE Energy Working Group, at the IEEE Summit in Brussels

IEEE Gives Voice to European Engineering Community

IEEE, through its European Public Policy Initiative, expanded the dialogue between the European engineering community and the European Union (EU). The initiative enables technologists to more easily share their concerns with the EU while allowing member countries to obtain critical input in matters of importance to IEEE. As part of these efforts, IEEE hosted a summit entitled “Toward Secure Green Energy” in Brussels that brought influential policymakers together with prominent engineers and scientists to discuss critical issues in technology policy for Europe. The summit featured a keynote from Karl Falkenberg, adviser to European Commission President Jean-Claude Juncker.

Internet Initiative Bolsters Internet Governance Tactics

The IEEE Internet Initiative connected engineers, scientists, and industry leaders globally with policy experts to help improve the understanding of technology and its impact on Internet governance, cybersecurity, and privacy issues. As part of this effort, IEEE played a key role in the second World Internet Conference (WIC), also known as the Wuzhen Summit, with more than 2,000 state leaders, government officials, industry leaders, and experts participating in the three-day gala event. On behalf of IEEE, 2015 IEEE President Howard E. Michel and IEEE Standards Association President Bruce Kraemer spoke at the event. Their talks called on technologists, policy makers, and all stakeholders around the world to preserve and enhance the value of the Internet and its future.



Among the year's other highlights:

- IEEE hosted a roundtable with EU policy experts centered on the interplay of Internet governance and the Internet of Things.
- In April, IEEE engaged with specific institutions in India to forge new relationships in the Internet governance, cybersecurity, and privacy space.
- IEEE participated in the European Union's Managing Alternatives for Privacy, Property, and Internet Governance (MAPPING) project.
- IEEE hosted privacy and security-related panels at South by Southwest (SXSW) 2015, and led a roundtable discussion on Application Programming Interfaces regulation at the 2015 RSA Conference.
- IEEE led a cybersecurity and privacy workshop at the 2015 World Summit on the Information Society (WSIS) Forum, taking part in the Internet Society's panel on collaborative Internet security, and conducting a data protection session at the Pan-European dialogue on Internet governance (EuroDIG).



Todd Richmond, USC Institute for Creative Technologies, B.C. "Heavy" Biermann, The Heavy Projects, and Jay Iorio, Innovation Director, IEEE-SA, speak during the Mixed Reality Discussion at SXSW 2015.

SXSW Puts IEEE in the Spotlight

Every year, the South by Southwest (SXSW) Festival in Austin, Texas, offers IEEE the opportunity to reach young technology entrepreneurs and thought leaders by pushing the boundaries of engineering technology. In 2015, IEEE enjoyed packed sessions at the IEEE Future of Identity Series at SXSW. From panels to parties with technology innovators, IEEE led the conversation on cutting-edge topics, such as body computing, brain hacking, and perceptions of personal identity and privacy in a world that is increasingly interconnected.

Featured speakers at the IEEE Future of Identity Series event included:

Dr. Hugh Herr, director of Biomechatronics Research at MIT Media Lab, led a session entitled "Extreme Bionics: The End of Disability."

Mat Honan, a senior writer at *Wired* and Parry Aftab, lawyer and Internet safety expert, outlined a new vision and framework for "Privacy by Design" that incorporates privacy standards as an integral part and practice of technology development.

Dr. Leslie Saxon, chief of Cardiovascular Medicine at USC Keck School of Medicine, explored the implications and social acceptance of using personal genomic and biometric data as virtual keys that unlock various aspects of our lives—from home security to healthcare.



E. James Prendergast, IEEE Executive Director and COO, at IEEE's Future of Identity party at the South by Southwest Festival



In 2015, the IEEE Standards Association worked to expand its global presence with leading organizations, and conducted outreach to communicate the benefits of its updated patent policy. Konstantinos Karachalios, managing director IEEE Standards Association, met with various stakeholders.

Updated Patent Policy Encourages Innovation

IEEE strives to develop standards that can achieve universal availability and gain widespread adoption in the market. With this goal in mind, in March IEEE updated its patent policy to foster a clearer policy encouraging greater innovation for the benefit of humanity. The update provides participants greater assurance that they can fairly license patents that can potentially be essential to the implementation of IEEE standards. These advancements received global in-depth attention by governments, standards development organizations, corporations, and the media.

A comprehensive global outreach plan was created and implemented to help effectively communicate the updated policy and the benefit it offers. Meetings were

successfully conducted with government organizations from the European Union, China, Korea, and Japan. In addition, IEEE organized, co-sponsored, or participated in an array of key intellectual property and standards-related conferences and seminars in Europe, the U.S., and China.

Congressional Briefing Enhances Cybersecurity Knowledge

IEEE-USA joined Rep. Sheila Jackson Lee of Texas and Carnegie Mellon University (CMU) in hosting a congressional briefing on cybersecurity. The event was held in June on Capitol Hill and provided congressional staff with an opportunity to learn about actions that can be taken today to dramatically improve security in this area. Experts participating included IEEE members

Jeremy Epstein, program director of computer and network systems at the National Science Foundation, and Rob Seacord, CMU's secure coding team lead and past chairman of the IEEE P1201.3 Working Group.

IEEE Future Directions Initiative Connects to Latest Innovations

In 2015, IEEE Future Directions advanced and grew seven initiatives: Big Data, Cybersecurity, Green ICT, Internet of Things (IoT), Rebooting Computing, Smart Cities, and Software Defined Networks. The committee also launched three new initiatives: IEEE Brain Initiative, IEEE Digital Senses, and IEEE Smart Materials. Among the year's highlights, IEEE Future Directions conducted its first Smart Cities Massive Open Online Course, with more than 7,600 registered participants from 150 countries.

Additionally, IEEE's IoT Initiative continued to gain momentum, with the IEEE World Forum on Internet of Things attracting 400 participants and more than 130 technical papers. Dr. Vinton G. Cerf, vice president and chief internet evangelist for Google, served as keynote speaker for the event. The IoT initiative also saw its social presence and community grow significantly, with more than 3,500 new members, a 500% increase in Twitter followers, and a triple-digit increase in LinkedIn® members. In terms of overall online engagement, the IEEE Future Directions web portal enjoyed more than one million page views in 2015, while Twitter impressions grew to 145 million.



Aristoteles Sandoval Diaz, governor of Jalisco State (left), and Enrique Alfaro, mayor of Guadalajara Municipality, (right) at the 2015 IEEE Smart Cities International Conference held in Guadalajara, Mexico