



# RAISING THE WORLD'S STANDARDS

Empowering the development of standards and solutions that can help make technology better, safer and more sustainable for the benefit of industry, society and humanity.

**GLOBAL.  
EMPOWERING.  
NEUTRAL. OPEN.**



### Digital literacy standards for a new normal

Digital transformation has triggered change in nearly all aspects of daily life. Given the pace of this change, digital literacy and digital skills have become a critical part of education and training for all people. The IEEE Internet Initiative and Digital Intelligence Industry Connections program helped pave the way to the world's first global standard related to digital literacy, digital skills, and digital readiness.

[Learn more](#)

## Raise the world's standards

IEEE Standards Association (IEEE SA) is a leading consensus building organization within the IEEE. We nurture and advance global technologies by facilitating standards development and standards-related collaboration. More than 175 countries are represented in IEEE SA working groups, memberships, and volunteer communities including thought leaders from technical, academic, and industry-specific backgrounds as well as government bodies and nonprofit organizations. We empower contributors like you to develop and bring to market technology standards and related products and services that help create and expand markets to benefit society, consumers, companies, and governments.

Our volunteers work across the entire standardization ecosystem – from incubation to adoption and beyond. IEEE SA also engages with global, regional, and national organizations to help raise visibility and facilitate the adoption of IEEE standards and solutions.

IEEE SA contributors reflect a global perspective that puts humanity at the center of technological advancements, helping to protect consumers and vulnerable populations and driving sustainable solutions.

### IEEE SA at a glance

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**175+** countries

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**2,100+** standards and projects

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**34,000+** participants

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**500+** projects on IEEE SA Open

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**50+** Government Engagement Program on Standards participants

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# Work with IEEE SA to change the world

IEEE SA ignites collaboration that crosses borders, disciplines, and markets. We are a global community that is open to all – technologists, policymakers, inventors, business leaders and professionals, academics, conveners, environmentalists, and more.

IEEE SA creates spaces that engage people with diverse backgrounds who look to solve challenges and explore opportunities with emerging and evolving technologies. Some of the world’s greatest minds convene within these spaces to drive the development of market-relevant open standards.

Our suite of programs covers the entire standards development ecosystem. Wherever your skills, resources, time, and interests lie, there is an opportunity for you to inform and shape future technology solutions and their implementation. Let’s advance technology to better serve everyone – our businesses, society, and the whole of humanity.

## Optimize technology’s impact

We empower forward-thinking professional collaboration. Our volunteers are focused on issues and solutions that touch everyone. Working together, you can help accelerate answers to our world’s most pressing needs – whether those needs relate to global crisis, climate change, or the brilliance of industry unlocking new worlds.



# Explore the IEEE SA Ecosystem

However you choose to help shape the future of technology, IEEE SA offers a robust suite of products and programs to propel your work forward. Participate in standards development, explore your own tech innovations in our open source platform, join the IEEE SA membership program, or engage in dialogue at the leading-edge of advancing technology.

- **Standards Development:** Create, accelerate, and deploy technology standards for your industry.
- **IEEE Conformity Assessment Program (ICAP):** Accelerate market adoption and streamline the implementation of your solutions by ensuring your products and services conform to IEEE standards requirements.
  - **Industry Connections:** Discover and advance new and emerging technologies and concepts. Present your ideas to peer experts in a safe harbor accelerator.
  - **IEEE SA Open:** Build and expand your project from the ground up with leading minds and cutting-edge technology in a vendor-neutral, open source platform.
  - **Industry Affiliate Network:** Rapidly evolve your industry standards or specifications into global IEEE SA standards to help broaden visibility, reach, and market adoption.
  - **Alliance Management Services:** Form alliances and consortia seamlessly with legal, strategic, and operational support.
  - **Registration Authority:** Secure unique identifiers to ensure your devices work and operate seamlessly with one another.
  - **Membership:** Take advantage of membership programs for individuals or organizations that afford unlimited balloting on standards projects, eligibility for leadership roles, and networking opportunities.
  - **Training and Development:** Gain the knowledge you need to have an impact in the standards development process through quality, relevant, and timely education, and resources.



# Develop world-class standards

As a contributor to the standards development process, you can help inform and shape new technologies.

**Standards Development:** Collaborate with diverse stakeholders in an open, neutral environment, to create global standards effectively and efficiently. The IEEE standards development process is rooted in consensus and due process, using a time-tested and effective six-stage life cycle.

Standards can help fuel market growth, expand consumer choice, prioritize sustainability, and protect public health. It takes innovators like you to develop technology solutions that serve society, industry, and innovation.

**IEEE Conformity Assessment Program (ICAP):** Consumers, manufacturers, and providers expect the products they buy and sell to be reliable, efficient, and interoperable. ICAP works with industry experts, standards development working groups, certified test labs, and other key stakeholders to ensure technology solutions meet IEEE standards and industry benchmarks.

ICAP program support includes:

- Technical and logistical support services to industry groups
- Full oversight for testing and certification activities
- Certificate issuance to establish confidence amongst stakeholders
- Development and management of test plans, test suites, and certification schemes
- Certified products registry with up-to-date product information
- Test laboratory assessment and authorization
- Development of customized programs



**TRUSTED  
COLLABORATION  
& RESOURCES**

## AI ethics applied to the City of Vienna

Artificial Intelligence (AI) has tremendous potential. Yet, autonomous intelligent systems (AIS) may also come with specific risks to individuals and society. Austria's Wiener Stadtwerke provides services for two million people in Vienna. Ready to incorporate AI, it engaged the IEEE CertifiAIEd risk and conformity assessment procedure. Wiener Stadtwerke's process underwent 43 rigorous ethical criteria.

[Learn more](#)

# INDUSTRY FOCUSED

## Advance your most dynamic solutions

As the landscape of innovation continues to change, incubation environments and industry alliances play vital roles in advancing ideas and bringing solutions to market faster.

**Industry Connections (IC):** As industry and technology evolve, collaborating with other individuals and organizations empowers groundbreaking ideas. The Industry Connections program is a safe-harbor accelerator that connects you with other thought leaders to help incubate new standards and related products and services. In a collaborative, efficient, and economical environment, participants hone and refine their thinking to build consensus. The IC program offers an array of resources designed to help you develop content and deliverables that can influence the future of your industry.

- Proposals for standards
- White papers, peer-reviewed guides, and position papers
- Conferences, workshops, and other events
- Databases and registration services
- Software, tools, web services, and more

**IEEE SA Open:** Deeply rooted in open source innovation is the potential to accelerate technological advancements that improve our professional and personal lives. These goals are vital to you as a developer and to IEEE SA Open, a comprehensive open-source development platform. IEEE SA Open is open to all and facilitates the incubation, creation, and adoption of technical solutions. Build and expand your work, learn from peers, and contribute to compelling technical projects.

Integrated capabilities include:

- A secure, easy-to-navigate platform with familiar open source tools – Gitlab, Mattermost, Pages, and more
- Multiple models based on user, community, and project needs
- Use cases for standards and non-standards projects including open hardware, open software, and open data
- Guidance and support from Open-Source Community Managers, helpdesk, and community members
- Access to IEEE’s global network of Members, Societies, Standards Committees, and Working Groups



### How standards make smart cities a reality

India’s urban population will nearly double its 2011 level by 2031. Creating smart cities will help deliver prosperous, sustainable, and inclusive value to these 600 million urbanites. To do so means integrating physical, digital, and human systems effectively. IEEE SA standards can help enable a brighter future for the cities of tomorrow. Intrigued by simplifying complex ecosystems?

[Learn more](#)

# Accelerate innovation

Broader collaboration can help accelerate innovation, paving the way for technological advancement. Take advantage of these IEEE SA programs to help you achieve your goals.

**Industry Affiliate Network (IAN):** Build scale and brand value by formalizing your technical standards with IEEE SA. The Industry Affiliate Network (IAN) provides your organization with rapid integration of the IEEE standards development process and deploys your solution to the global market. IAN supports collaborations among consortia, industry alliances, and other industry organizations to advance standards development in as short as 6 months. You can receive:

- A framework to accelerate and facilitate the path from specification to standard
- Access to other offerings including Alliance Management Services and the IEEE SA Open, open source platform
- A collaboration package to meet your goals
- The IEEE brand, policy, process, and global distribution to provide visibility and brand recognition

**Alliance Management Services (AMS):** Delivered through IEEE Industry Standards and Technology Organization (ISTO), AMS offers robust, turnkey legal and operations support services for industry alliances, consortia, and trade groups. AMS services are designed to help industry groups establish themselves as legal, operating not-for-profit entities and then manage their day-to-day operational needs. Services include strategic guidance, legal infrastructure, IT support tools, setup and launch assistance, program management, financial management, event and marketing support, certification and test programs, executive leadership, tech evangelism, and more.

IEEE ISTO is a federation of leading industry groups and consortia dedicated to the advancement of standardized technologies for the benefit of industry.

**Registration Authority:** In the age of the Internet of Things (IoT), billions of devices will need to recognize and communicate with one another. The IEEE Registration Authority assigns devices unique identifiers to ensure your products operate seamlessly with one another and with technology solutions around the world.



# Never accept the status quo

As an innovator you want to be at the leading edge of your industry with the knowledge, network, and tools you need to deliver solutions to global and local challenges. IEEE SA volunteers are at the forefront of emerging and evolving technologies, leading open and transparent dialogue and collaborations that help advance markets.

IEEE SA strategic focus areas offer engagement opportunities in key industry and technology spaces. They facilitate advancement of ideas, technological progress, and consensus-based solutions that foster deep collaboration, accelerate innovation, and drive impact, while providing ways to access the unique portfolio of IEEE SA programs and services.

Engaging in an IEEE SA strategic focus area brings:

- Open, inclusive collaboration
- Focused Workstreams
- Engagement with globally diverse experts from industry, academia, and NGOs
- Regional connection with National Standards Bodies (NSBs) and other Standards bodies
- Access to trusted resources
- Paths to the full IEEE standards ecosystem– from ideation and incubation to standardization and open source to conformity assessment and more
- Dedicated point of contact – the right centralized resource to obtain information about and access to the IEEE SA ecosystem





# Strategic Focus Areas

- **Autonomous Intelligence Systems:** Centering human values and ethical considerations as we discover and explore new frontiers of technical intelligence in our workplaces, homes, cities, and vehicles.
- **Connectivity & Telecom:** Making internet connection equitable across the globe, connecting the under-connected, and meeting the mounting worldwide demand of data needs.
- **Energy:** Convening multidisciplinary experts to examine and develop solutions for critical energy and sustainability issues that include energy distribution, infrastructure modernization, smart cities, and challenges presented by climate change.
- **Foundational Technologies:** Standardizing seamless connectivity that is the foundation of all connected technologies and helping to address issues of Trust, Identity, Privacy, Protection, Security, and Safety (TIPPSS).
- **Healthcare and Life Sciences:** Helping people receive the healthcare they need, wherever they live. Contributors focus on three critical branches of the technical healthcare ecosystem: Bio/Pharma, Clinical Health, and Wellness.
- **Mobility:** Facilitating candid cross-industry dialogue and healthy debate around standards at the intersection of transportation and digital technology, striking the balance between the needs of business and society.



**INNOVATIVE  
SOLUTIONS**

## Creating sustainable agriculture and food security

Conventional farming practices deplete soil health, rob crops and people of vital nutrients, and account for a vast majority of freshwater use today. Digital technologies, from equipment sensors to improved transportation systems, will improve productivity, and reduce waste. IEEE SA contributors develop global standards to advance interoperability in agriculture. Learn how farmers around the world are applying climate-smart technologies for more sustainable agriculture.

[Learn more](#)

## Help ensure that technology serves people

You are designing technology that will eventually make it into workplaces, schools, communities, and homes. IEEE SA offers developers and designers the tools – standards, reports, case studies, etc. – that are resources for responsible innovation. This helps you create technology that serves people.

**Ethically Aligned Design (EAD):** As artificial intelligence (AI) and autonomous intelligent systems (AIS) become integrated into the fabric of our life, it is imperative that these technologies benefit humanity. The IEEE Global Initiative

on Ethics of Autonomous and Intelligent Systems was formed to ensure every stakeholder involved in the design and development of autonomous and intelligent systems is educated, trained, and empowered to prioritize ethical considerations in the creation and implementation of AI/AS.

**IEEE CertifAIEd:** Your organization wants to deliver products that instill and deserve user trust. IEEE CertifAIEd provides a risk-based framework for training, evaluation, and certification aligned to AI ethics criteria custom fit to your organization's specific needs – whatever your role with AI products, services, and systems. The IEEE CertifAIEd mark conveys your commitment to human values, transparency, and accountability and enhances public confidence.

**Children's Data Governance:** Children are exposed to and actively use technology for education, social interaction, entertainment, medical care, and more. IEEE SA's Children's Data Governance convenes its global community to assemble insightful, actionable information to improve the interactions between technology, policy, society, and children's lives. By embedding privacy principles into the creation and design of standards, technology, and services, you can protect children's privacy, safety, and identity.



### Children deserve positive and inclusive online experiences

Technology is permanently intertwined with children's lives – from smart baby monitors to voice activated assistants and online education. While technology provides many benefits, especially in underserved communities, increased exposure also brings risk to children's safety and information security. As part of our commitment to fostering safe online experiences for children, the IEEE SA released the Applied Case Studies for Children's Data Governance.

[Learn more](#)

# Building a bridge between policymakers, governments, and national standards bodies

Government officials, policymakers, and national standards bodies around the world recognize the transformative impact of technology and standards, and how it affects the creation and expansion of markets as well as the protection of public health and safety.

IEEE SA catalyzes and supports international discussions at the intersection of technology, standards, policy, and regulation. We help government officials and national standards bodies stay current on the latest developments in global standardization.

**Global Engagement Program on Standards (GEPS):** Currently, over 50 participants from 34 countries take part in the IEEE SA Government Engagement Program on Standards (GEPS). GEPS provides a unique opportunity for vital policy influencers to hear about future standards, interact with IEEE standards leadership and technical standards experts, and exchange experiences with fellow GEPS representatives navigating similar issues at the intersection of technology, standards, policy, and regulation. GEPS is open, free, and requires no obligations.

**IEEE SA Standards Fellowship Program:** Every year, colleagues from National and Regional standards bodies and affiliated government ministries participate in the IEEE SA Standards Fellowship Program. Program participants observe the development process, learn about technical areas of interest, and network with IEEE experts in customized program sessions during Standards Board meetings. This is an excellent opportunity to contribute to working groups and explore cooperative activities with your peers. There is an annual application process that prioritizes professional and geographical diversity.



# Drive sustainable solutions

Technology is designed to enhance the lives of people everywhere – not just for our lifetime, but for generations to come. IEEE SA helps address the need for sustainability and human impact considerations in product, service and systems designs from the very beginning.

## Connectivity: The fourth basic human need

Volunteers working on [Connectivity and Telecom](#) strive to create equitable access to the internet and address mounting global needs in data, innovation, and economy. Your participation in this work area can help transform businesses, communities, and lives around the world through robust, responsible, and affordable connectivity.



- **Rural Communications:** Rural connectivity seeks to provide equitable and inexpensive access to businesses and communities in unconnected and under-connected regions around the world
- **Consumer Communications:** Today’s data intensive applications demand faster, more secure, and more reliable connectivity. IEEE SA helps you define new technologies and meet the expectations of the modern consumer.
- **Industrial Communications:** Industrial Communications ensures patients, users, providers, and policymakers can access and trust the use of time-critical, data-sensitive, and sometimes life-saving technology.

## Energy: Sustainably powering the world

Governments and companies have set bold and necessary energy goals. Acknowledging nuances like location and industry, energy standards and solutions focus on strategic energy generation, transmission, and distribution.

IEEE SA [Energy](#) work is addressing:

- **Smart Energy:** The way we generate, transmit, and distribute energy across the globe is continuously evolving. Sustainable, low-carbon energy solutions need to keep pace.
- **Energy Efficiency:** Where, how, and who consumes energy is a key factor in the next-generation grid. IEEE plays a role in supporting the increasing energy consumption needs, policies, and initiatives of consumers and governments.
- **Energy Infrastructure:** Evolving and accelerating grid modernizations is essential to assuring safe, reliable, and available energy to global customers.

# Transform the way people live, work, and communicate

Your collaboration with IEEE SA reaches far beyond technology standards and related products and services. By engaging with the IEEE SA community of global thought and innovation leaders, you have the ability to influence the ways in which technology, society, and humanity progress for the betterment of all.

## Digital Inclusion, Identity, Trust, and Agency (DIITA):

Cyberspace is a key domain of human endeavor and thus should be inclusive to all human beings who wish to participate in the activities that occur there. DIITA, an Industry Connections program, seeks to identify standards and solutions that can eliminate causes for exclusion – such as discrimination, affordability, availability, and concern for safety. DIITA contributors pursue requirements for health and wellbeing of all cyberspace users – especially members of vulnerable groups.

## Social Impact Measurement (SIM):

Whether you're an engineer, project leader, policymaker, nonprofit, or simply care about our planet, the United Nations 17 Sustainable Development Goals (SDGs) are interwoven with your future goals. These include ending poverty and hunger, promoting peaceful and inclusive societies, and aggressive climate targets – by 2030. These audacious goals stand to change life for all of us as well as influence the trajectory of industry, academia, and technology.

Meeting these SDGs hinges upon improved technical mechanisms for collaboration and coordination, including teamwork, intelligence gathering, and accelerating scientific breakthroughs. By joining this Industry Connections program, you will collaborate with other SIM contributors in an open, neutral environment to develop a citation system for data, algorithms, and data usage that will help us reach the UN's SDGs.



## Accelerating Africa's digital transformation

Many African countries have less than 20% broadband Internet penetration. Smart Africa Alliance is a grouping of 30+ countries, private sector members, and development partners who are committed to hastening the fourth industrial revolution in Africa. Lacina Kone, Director General/CEO of Smart Africa, spoke with IEEE SA about the social economic transformation that African Heads of State and Government are working towards through Information and Communication Technologies (ICTs).

[Learn more](#)

## Join us in raising the world's standards

**IEEE SA Membership:** IEEE SA offers membership programs for individuals and organizations. Each program affords participants a voice in the standardization ecosystem and the world marketplace. Create, use, iterate on standards and build consensus with contributors from more than 175 countries. Membership is not required to participate in IEEE SA activities but does provide the eligibility for leadership roles in standards working groups and to ballot on standards.

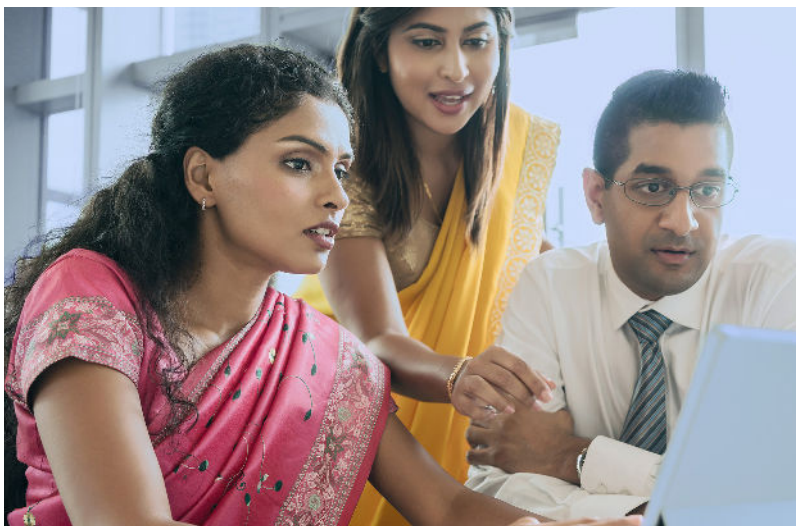
- 8,100+ individual members
- 400+ company and organization members

If standards are central to the way your company or organization develops products or conducts research, IEEE SA membership for organizations, also known as Entity Membership, enables you to bring your organization's interests to the table.

**Training + Development:** IEEE SA empowers volunteers to create the most impact by providing high-quality, relevant, and timely educational content that fosters individual and organizational effectiveness. Learn best practices for standards development and immerse yourself in the information that will sharpen your skills as a volunteer. Whatever your discipline, IEEE's Learning Network (ILN) prepares you with a full list of courses developed for your role.

### Be part of our global recognition for standards leaders

Every year, the [IEEE SA Awards Program](#) recognizes outstanding standards development participation from around the world. Awardees – both individuals and working groups – are recognized for their knowledge, expertise, and dedication to bringing the best solutions to market. Awards include Standards Medallion, Emerging Technology Award, Lifetime Achievement Award, and others.



### Giving users control and consent with health wearables

Should patients have the right to consent as to how their healthcare data is shared or accessed? To address this question, a Lab session entitled "Giving People Control and Consent over their Health Wearable Data: How to Enable a Paradigm Shift" was conducted. Discussion centered on pragmatic approaches to this complex issue. Are your wearable devices providing clear and actionable patient control and consent?

[Learn more](#)

## Influence worldwide technology solutions

Join our global community of technologists, policymakers, environmentalists, academics, and thought leaders from diverse disciplines and geographic points of origin. IEEE SA creates a neutral and open space that transcends competition. We catalyze conversations and support collaborations that advance technology standards and solutions in established, emerging, and evolving industries. Whether you are an individual or represent an organization, your voice will be a valued addition.

Participate in activities across the full standards development lifecycle from incubation to deployment and beyond. Exchange ideas and information with other IEEE SA volunteers, develop standards that influence the future of technology, and create solutions alongside individuals, organizations, consortia, and others. IEEE SA supports your efforts through a wide array of offerings and always works with you to help you realize your goals.

Technology is rapidly evolving. IEEE SA contributors are at the leading edge – exploring, iterating on, and bringing to market solutions that serve their industries as well as regional, national, and global economies. At the center of IEEE SA's global ecosystem is a mutual goal to safeguard human interests and protect the environment for generations to come.

Become part of the IEEE SA community of thought leaders and technology experts to make your mark.



**FOR INDUSTRY,  
SOCIETY, AND  
HUMANITY**

### Bridging the digital divide in Mexico






Mexico, like so many countries, is facing an increasing digital divide between rural and urban areas. This gap creates disparities in education, job training, and economic success. Mexico's government is urgently responding through public-private partnerships, more affordable infrastructure, and digital literacy training. IEEE SA interviewed Paula Cicero, Mexico's Chief of Staff for the Federal Institute of Telecommunications, (IFT), about the challenges the government is facing.

[See the interview](#)

Learn more about IEEE SA at:  
[standards.ieee.org](https://standards.ieee.org)



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