IMPACT OF OPEN SOURCE ON STANDARDS DEVELOPMENT

SYNERGIES AND SHARED INTERESTS IN STANDARDS
WORLD STANDARDS WEEK 2023
Wednesday, October 11, 2023
INTRODUCTION TO IEEE SA
IEEE - WORLD’S LARGEST TECHNICAL PROFESSIONAL ORGANIZATION

ABOUT IEEE

• 400,000+ members in more than 160 countries
• 46 Technical Societies and Technical Councils
• 5+ million document library / 15+ million monthly downloads
• 1,900+ conferences and events annually in 96 countries
IEEE SA - GLOBAL STANDARDS DEVELOPMENT ORGANIZATION

ABOUT THE IEEE STANDARDS ASSOCIATION

• 1,000+ active standards / 900+ projects in development
• 40 open source standards activities
• 400 entity* members of the IEEE Standards Association
• 10000+ individual members

* Industry & Industry Organizations, Government, Academia
IEEE SA PORTFOLIO OF PROGRAMS

Industry Connections
Exploring and incubating new technology and its use

Standardization
Creating markets and protecting public safety through standards development

Membership
Getting connected to experts and resources and enabling advanced participation options

Conformity Assessment & Certification
Providing confidence and assurance and accelerating market adoption

Open Source
Providing a platform to support industry-focused open source projects

Alliance Management Services
Providing program support to alliances and trade associations

Registries
Providing and administering unique identifiers for electronic equipment to support global interoperability

Industry Affiliate Network
Assisting industry organizations in accelerating development and adoption of global standards

Training & Development
Empowering volunteers with the knowledge they need to help ensure their success.

Policy Engagement
Working with government bodies and policy makers on standards, policy & regulation matters
- IEEE Government Engagement Program on Standards (GEPS)
- IEEE SA Standards Fellowship Program
Open Source pervasiveness

“Open Source is a digital work for which the human-readable source code is available—in the preferred form for making modifications—for use, study, re-use, modification, enhancement, and re-distribution by the users. Open Source applies to software, hardware, and other artifacts, which may include computer code, hardware designs, data, documentation, documents, and other digital objects.”

Open Source Committee
Operations Manual

Open Source Addressing Multiple Market Development Platforms
OPEN SOURCE GROWTH & STANDARDS SYNERGY

GROWTH & UTILIZATION
“Global Open Source Software market size was valued at USD 27728.89 million in 2022 and is expected to expand at a CAGR of 18.09% during the forecast period, reaching USD 75209.66 million by 2028...”

“Today, 96% of all code bases incorporate open-source software. GitHub, the biggest platform for the open-source community, is used by more than 100 million developers worldwide.”

SYNERGY
“Open standards are measures and norms developed, approved, and maintained for the public by a governing body and qualified contributors using a collaborative and consensus-driven process. Open standards enable interoperability and data exchange among different products or services so technologies can be widely adopted. These standards provide a clear and neutral foundation for OSS contributors to collaborate.”
OPEN SOURCE ALIGNMENT WITH INDUSTRY MARKET DEVELOPMENT STRATEGIES

Top 10 advantages of open-source software

1. Absolute transparency
2. Flexibility
3. Agility
4. Enhanced security
5. Cost-efficiency
6. Starting out small
7. Powering the digital transformation
8. The open-source community
9. Attracting talent
10. No vendor lock-in

https://www.rocket.chat/blog/open-source-software-advantages

Open Source Driver Opportunities

• Digital Transformation
• AI / Machine Learning
• Cloud Computing
• Quantum
• Next Gen Telecommunications

Gartner: 70% of enterprises will increase IT spending on open source software through 2026 (Aug 2022)

https://www.grandviewresearch.com/industry-analysis/open-source-services-market-report

U.S. Open Source Services Market
Size, by Services, 2020 - 2030 (USD Billion)

Industry Attractiveness Towards Open Source

• Developmental Speed and Cost (Time to Market)
• Resource Utilization / Availability
• License IPR Visibility

• Open Source / Proprietary Alignments
• Service / Maintenance Opportunities
• Customer Acceptance

https://www.grandviewresearch.com/industry-analysis/open-source-services-market-report
IEEE SA OPEN SOURCE EVOLUTION
IEEE SA OPEN SOURCE INDUSTRY PARTNERSHIP EVOLUTION: A CONTINUING JOURNEY

2016
Industry members initiated Open Source business assessment with premise of complementary Standards / Open Source business development parameters

2016 – 2019
Opportunity assessment, proof of concept trials, framework development, platform / repository definition, license and CLA assessments, community framework structures, IPR alignments, operation integrated Standards/Open Source process management, resource support, etc.

2020
Board of Governors authorizes deployment of standards / research & humanitarian / community programs / industry program operating structure

2020 – 2023
Platform deployed, community management implemented, integrated standards (and pre-standards) open source operational, Open Source Committee oversight coordination

2023
Assessment of Industry Programs and Consortia Model, expanded Industry Steering support

FUTURE
Branding, Compliance Assessments, Hardware...

WORLD STANDARDS WEEK, 2023
GENESIS OF IEEE SA OPEN

Industry Requirements
IEEE SA Industry Mission
Open Source Culture

World Class Platform
Open Source in Standards
Community Development
Open Source Academia/Research Collaboration
Open Source Supporting Industry Implementations

Industry Partner Focus
Framework Licenses CLA’s Process

1. Includes enterprises, governments and academia
OPEN SOURCE STANDARDS MODEL

- Open Source Pre-Standardization / Proof of Concept
- Open Source Normative Standards (Full or Partial)
- Open Source Reference Implementations
- Open Source Conformance Test Suites
- Open Source Integrated Development Process Governance
- Open Source Platform & Community Management
PLATFORM & SUPPORT STRUCTURE
Designed for SA Open Source from the ground up.

Core functionality includes:

• Project planning and management features
• Source code management
• Testing, code quality, and continuous integration features
• Application release and delivery features
• Collaboration tools included
• Support for standards development
• A safe open space with an enforced code of conduct
• Recognized License and CLA structures

IEEE SA Open is a self-hosted GitLab combined with Mattermost and Pages allowing for a trusted toolchain that will adapt and grow to meet the needs of our open source communities.
IEEE SA OPEN – STANDARDS / COMMUNITY PARTICIPATION

IEEE SA Open participation is:

• Available at no cost for community or project needs

• IEEE SA Standards Committees and Working Groups have access at no incremental cost

• SA developed and enabled for IEEE’s global network of members
IEEE SA OPEN SOURCE
GLOBAL ALIGNMENT
IEEE SA OPEN SOURCE COMMUNITY FOCUS

• Global awareness

• Multiple and cross technology support

• Global SSO coordination

• Alignment with Open Source community and organizations

• Venue for industry to pursue integrated Standards / Open Source market development programs

• Broad academic and research integration

• Potential for recognized Open Source branding and integrated Standards/Open Source market testing & validation

• Industry involvement in continuous evolution

IEEE SA Open Today

• 40 Standards Working Groups
• 700 Projects
• 10000+ users
SSO FUTURE DIRECTIONS – SEAMLESS ALIGNMENT: GLOBAL STANDARDS & OPEN SOURCE COMMUNITIES
# IEEE – Industry, Academia, Government and Collaborative Open Source

**IEEE**
Facilitating technological research, advancement and change for decades

Grounded in principles of openness, transparency, consensus and inclusion

A diverse community of thousands across many technical disciplines and fields

Strong industry ties through standardization

Established and trusted governance processes and policies

Dedicated to collaborative solutions that make a difference in the world

**Open Source**
Transparent

Fast and secure

Reliable

Cost effective

Scalable

Community-based

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**THE JOURNEY CONTINUES**
THANK YOU

FOR MORE INFORMATION:

• standards.ieee.org/initiatives/opensource

linkedin.com/company/ieee-sa-ieee-standards-association
twitter.com/ieeesa

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