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 OPEN

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
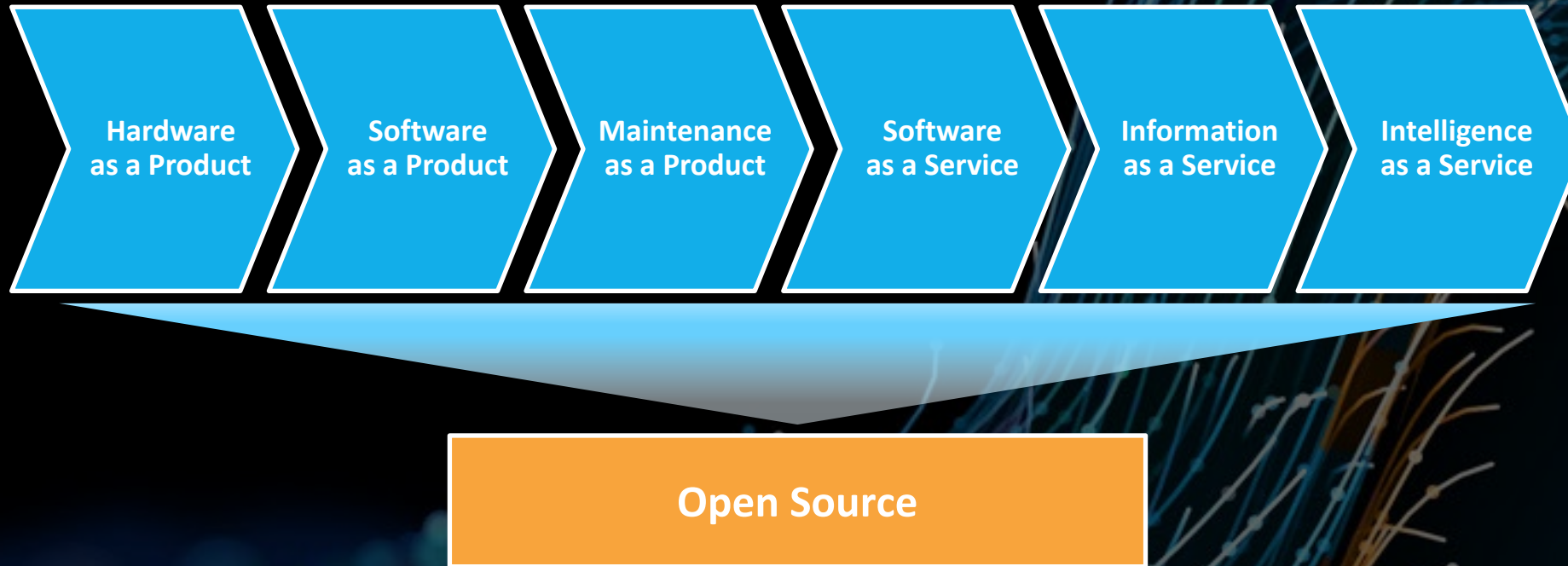
Training & Development

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

| Hardware as a Product | Software as a Product | Maintenance as a Product | Software as a Service | Information as a Service | Intelligence as a Service |

Open Source

Open Source Addressing Multiple Market Development Platforms

"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 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…"

https://www.benzinga.com/pressreleases/23/09/34277935/open-source-software-market-size-2023-booming-worldwide-by-2031

"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. "

https://www.benzinga.com/pressreleases/23/09/34277935/open-source-software-market-size-2023-booming-worldwide-by-2031

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.**"

https://www.dynatrace.com/news/blog/open-source-software-and-open-standards/

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

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

GRAND VIEW RESEARCH

17.1%
U.S. Market CAGR, 2023 - 2030

$3.8B $4.2B

2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030

● Integration & Deployment   ● Training & Consulting
  Managed Services   Support & Maintenance

Source: www.grandviewresearch.com

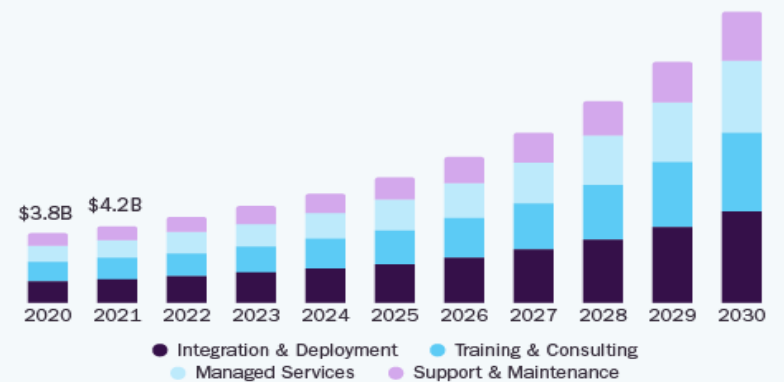https://www.grandviewresearch.com/industry-analysis/open-source-services-market-report

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)

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

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IEEE SA OPEN SOURCE EVOLUTION

IEEE SA OPEN SOURCE INDUSTRY PARTNERSHIP EVOLUTION: A CONTINUING JOURNEY

2016

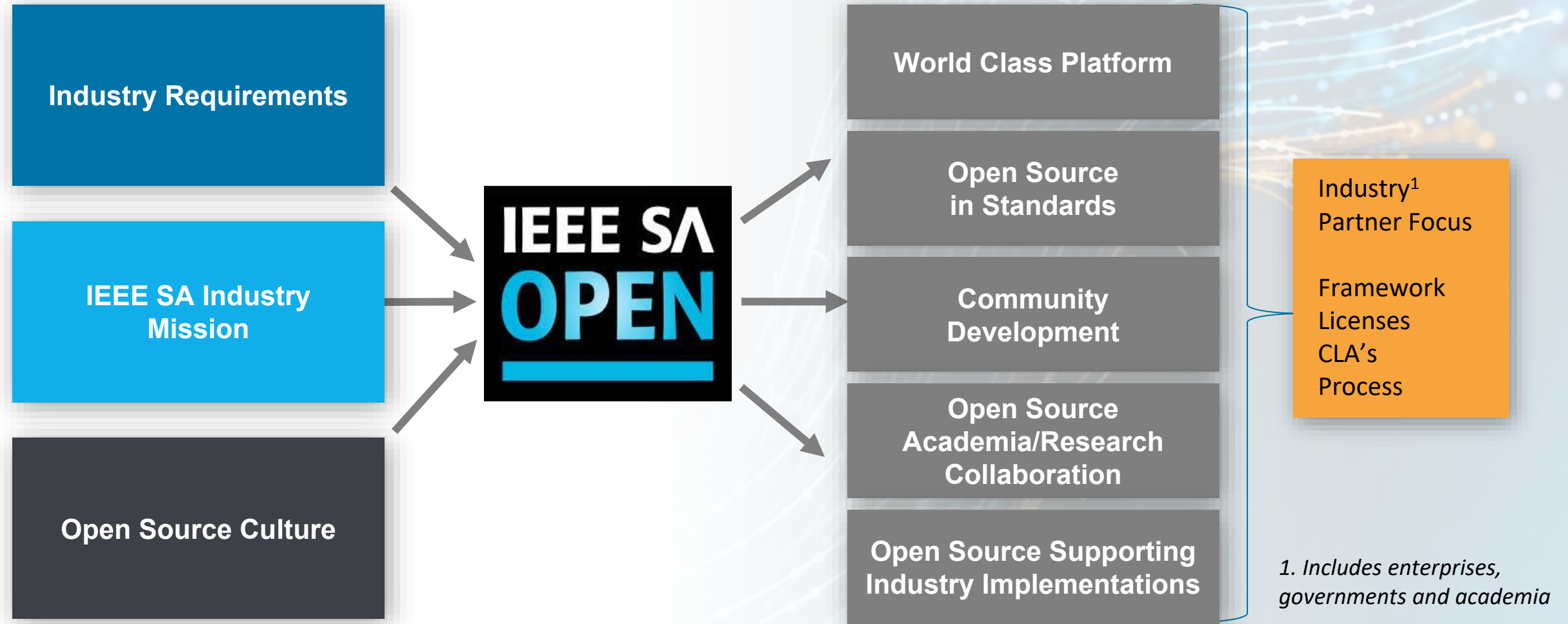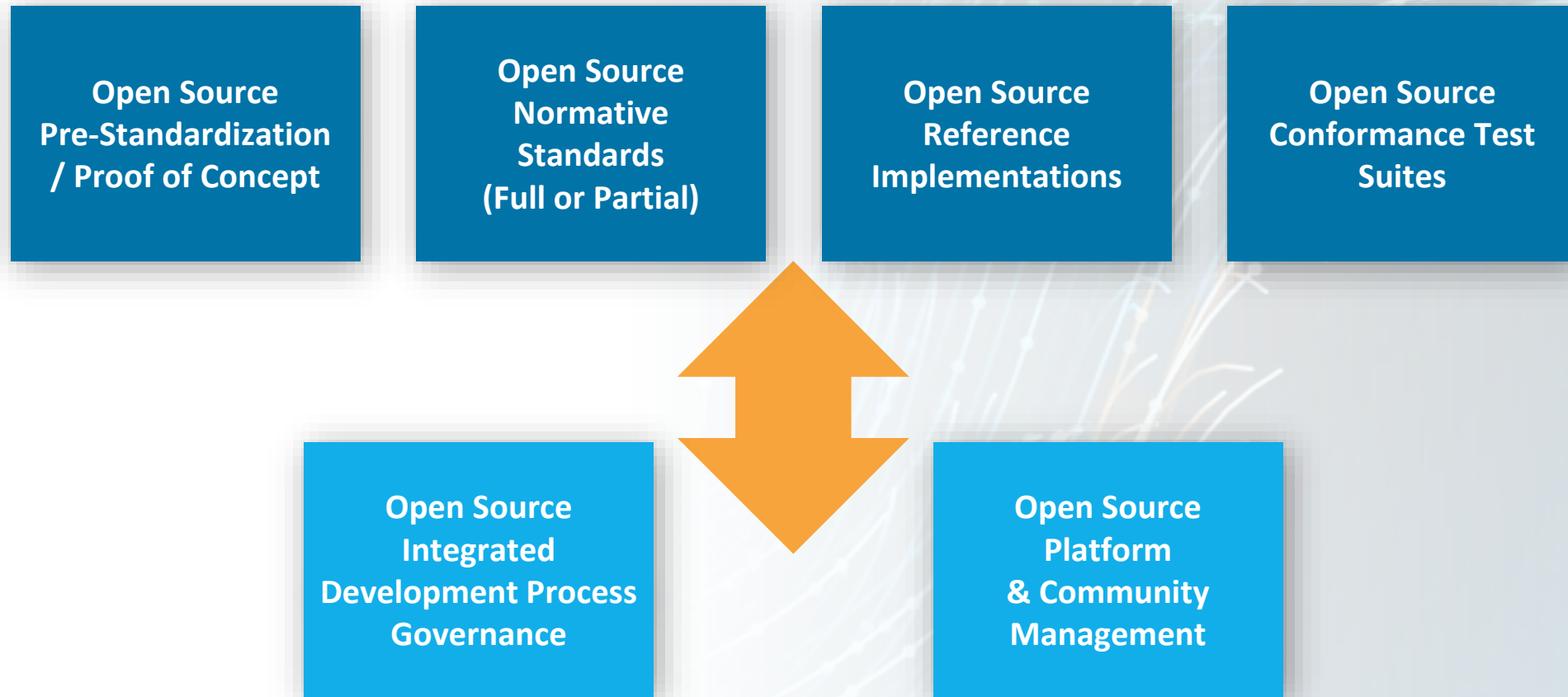Industry members initiated Open Source business assessment with premise of complementary Standards / Open Source business development parameters

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…

GENESIS OF IEEE SA OPEN

Industry Requirements

IEEE SA Industry Mission

Open Source Culture

IEEE SA OPEN

World Class Platform

Open Source in Standards

Community Development

Open Source Academia/Research Collaboration

Open Source Supporting Industry Implementations

Industry[1] Partner Focus

Framework Licenses CLA's Process

1. Includes enterprises, governments and academia

IEEE SA OPEN

IEEE SA OPEN SOURCE PLATFORM

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**

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

IEEE SA OPEN SOURCE
GLOBAL ALIGNMENT

IEEE SA OPEN

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 |

THANK YOU

FOR MORE INFORMATION:

- standards.ieee.org/initiatives/opensource

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

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