IEEE SA STANDARDS ASSOCIATION

The role of standards for advancing environmental sustainability

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IEEE

Sustainability and Standards: increasingly interdependent

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- Green Digital Transformation
- From linear to circular models
- Transformation = Transition
- Increased digitization = increased environmental impact (ICT as a horizontal)
- Regulation and compliance (eg AI Act, CSRD, DPP); financing/funding, procurement
- Impact on industry/market/global value chains
- OECD Global Scenarios 2035 - Global Digital Ecosystems Fragmentations → global standards

Emerging Trends in ICT and Evolving Standards

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- **Green Data Centers -** leveraging renewable energy and advanced cooling technologies for reduced carbon footprint.
- **Blockchain for Transparency** in sustainability reporting and supply chain management
- **AI and Automation for Efficiency:** AI and machine learning will play a key role in automating sustainability metrics including tracking and optimizing energy use in various sectors.
- Metrics standards on energy efficiency and environmental impact
- Different aspects of ICT ecosystem and lifecycle; metrics, processes and recommended practices
- Technical and socio-technical standards

Sustainable Innovation in times of Climate Change:
The role of standards

- Harmonized language and commonly agreed terminology in global markets and value chains
- Digital solutions design with interoperability, security, and sustainability in mind, reducing waste and enhancing efficiency
- Effective exchange of information in markets and various supply chain stakeholders
- Scalability of operations without integration issues
- Implementation of circular economy and sustainability principles by design – value-based engineering
- Technical implementation of regulation; green procurement and funding
- Increased transparency and trust

Sustainability, Technology Standards: increasingly interdependent …. Reflected also on IEEE SA

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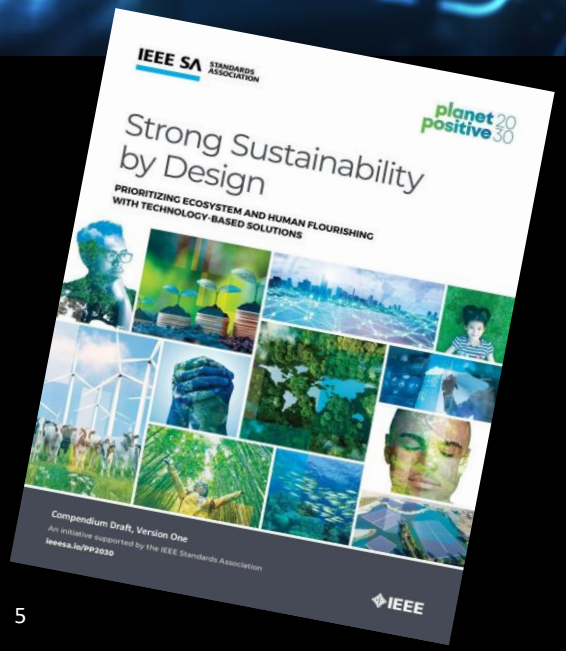
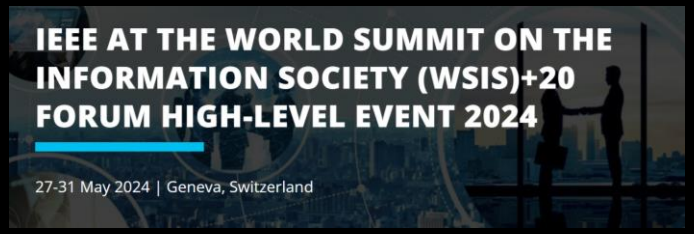
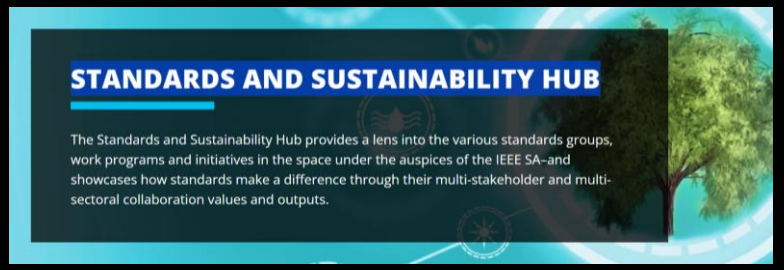


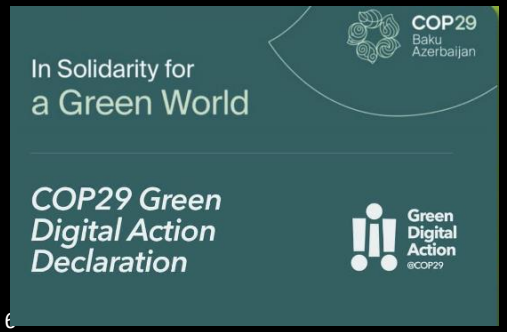
- Incorporation of Sustainability, Environmental, and Circular Economy Considerations in standards development “by design”
- IEEE Position Statement: IEEE Standards Development Principles (Nov 2023):
- “Technical standards provide people and organizations with a basis for mutual understanding and are instruments to facilitate communication, measurement, commerce, and manufacturing. They help ensure safety and reliability; enable innovation, and open new market opportunities to their users by allowing interoperability of products, services, and processes; they create ecosystems that promote economies of scale and healthy competition; **and help developers and users provide leadership in sociotechnical areas, such as environmental sustainability and ethical values-based design**. These attributes are essential to help ensure that markets remain open, allowing consumers to have choice and allowing new entrants to successfully enter markets.”

IEEE SA related activities





IEEE SA - Sustainable Development



- WSIS+20 Forum: IEEE Thematic Workshop: AI for Energy Innovation and Sustainability
- Standards and Sustainability Hub: an overview of sustainability-related standardization work
- Supporting partner of the EGDC
- Endorsing the Green Digital Action Declaration at COP29, including "Deploy assessment methodologies to estimate the net climate impact of green digital solutions, implement effective systems to accurately track and standardize climate-related data and energy usage and effectively monitor regulatory adherence and data quality and integrity.
- IEEE SA P7100 work in partnership with the OECD AI Compute and Climate Expert Group; French Government – Global Standardization Roadmap on environmental Impact of AI

Join the dialogue!

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