FOSTERING STANDARDS DEVELOPMENT FOR CRITICAL AND EMERGING TECHNOLOGY

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NIST | NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
U.S. DEPARTMENT OF COMMERCE

NIST is known for its technical excellence, integrity, perseverance, and uncompromising rigor

Credit: NIST

NIST MISSION

TO PROMOTE INNOVATION AND U.S. INDUSTRIAL COMPETITIVENESS BY ADVANCING MEASUREMENT SCIENCE, STANDARDS, AND TECHNOLOGY IN WAYS THAT ENHANCE ECONOMIC SECURITY AND IMPROVE OUR QUALITY OF LIFE.

WORLD-LEADING SCIENTIFIC AND ENGINEERING RESEARCH

ADVANCED MANUFACTURING NATIONAL PROGRAMS

TECHNOLOGY TRANSFER AND INNOVATION

CRITICAL & EMERGING TECHNOLOGY AT NIST

NIST IS ESSENTIAL IN THE DEVELOPMENT, MANUFACTURING, AND ADOPTION OF TECHNOLOGIES CRITICAL TODAY AND THOSE YET TO BE IMAGINED

NIST WORKS ACROSS THE CONTINUUM FROM BASIC AND APPLIED RESEARCH TO MANUFACTURING TO STANDARDS

Credit: J. Stoughton/NIST

NIST INTERNATIONAL AFFAIRS OFFICE

Credit: Unsplash

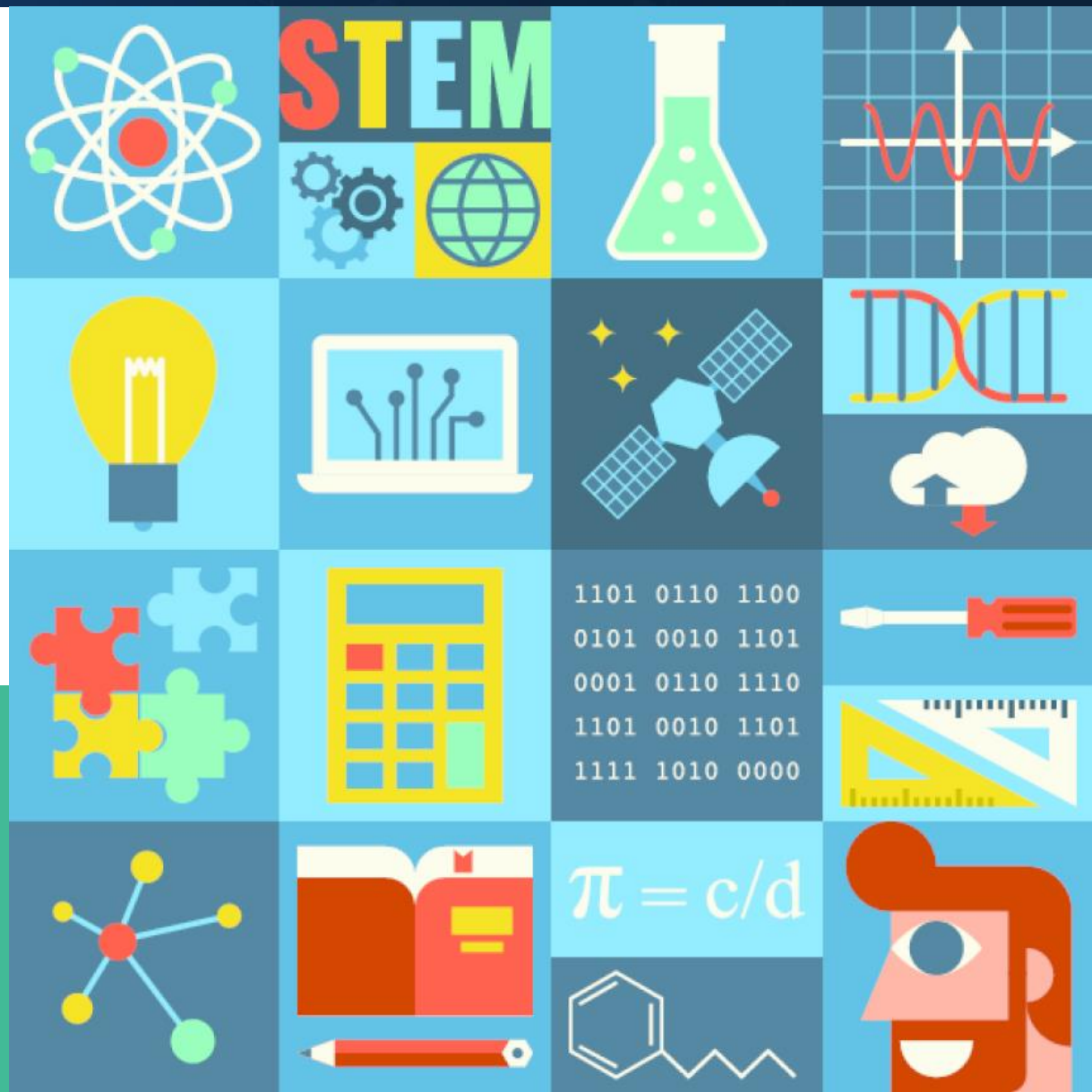
To foster mutually beneficial international collaboration in support of the NIST Mission while protecting the integrity of the US research ecosystem.

- Foster and promote international collaboration to support NIST's mission
- Enable international cooperation to address global measurement challenges
- Balance engagement in mutually beneficial international research with protecting the integrity of our research enterprise
- Provide global leadership in measurement science as a foundation for emerging technologies
- Enhance measurement and standards infrastructures that enable global market access for U.S. products
- Promote harmonized standards and transparent regulatory regimes
- Support administration priorities and US Foreign Policy Objectives
- Enhance the innovation ecosystem

NIST ACADEMIC AFFAIRS OFFICE

To develop a diverse, world-class pool of scientists and engineers to support NIST's mission in measurement science and standards research, and to support the development of a general population that understands and appreciates measurement science and standards.

The development and support of highly-skilled, talented people is an integral component of U.S. economic strength



MULTILATERAL ENGAGEMENT FOR CET

U.S.-EU Trade and Technology Council

U.S. ● European Commission

OECD

OECD.AI Policy Observatory

U.S. ● Australia ● Austria Canada Denmark ● Finland France ● Germany Hungary ● Japan ● Korea ● Mexico Netherlands ● New Zealand ● Poland Russia ● Singapore Slovak Republic Slovenia ● Sweden Switzerland ● Turkey UAE ● UK ● European Commission

Five Eyes

U.S. ● Australia ● Canada New Zealand ● UK

Quad

U.S. ● Australia ● India ● Japan

IPEF

U.S. ● Australia ● Brunei ● India ● Indonesia ● Japan Korea ● Malaysia New Zealand ● Philippines ● Singapore Thailand ● Vietnam

G7

U.S. ● Canada ● France ● Germany ● Italy ● Japan ● UK

USG NSSCET: LEADERSHIP IN STANDARDS

The U.S. Government National Standards Strategy for Critical and Emerging Technology supports the development of federal standards policy to ensure continued U.S. global economy competitiveness and technology leadership

Working with other Departments and Agencies, **NIST leads the implementation of the Strategy**

USG NSSCET: OBJECTIVES AND LINES OF EFFORT

GREATER **INVESTMENT** IN PRE-STANDARDIZATION RESEARCH

- Increase R&D funding for CETs
- Support development of standards that address risk, security, and resilience

1

PARTICIPATION IN STANDARDS DEVELOPMENT

- Remove and prevent barriers to private sector participation
- Improve communication between public and private sector
- Enhance USG and like-minded nations' representation and influence in international standards governance and leadership

2

WORKFORCE DEVELOPMENT

- Educate and empower the new standards workforce

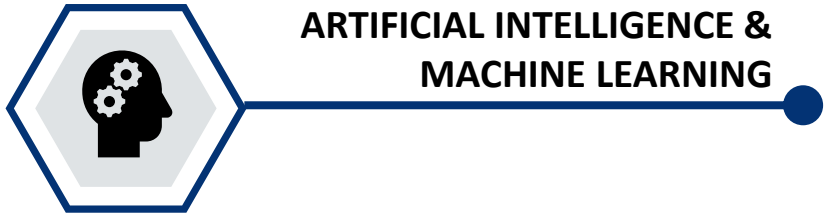
3

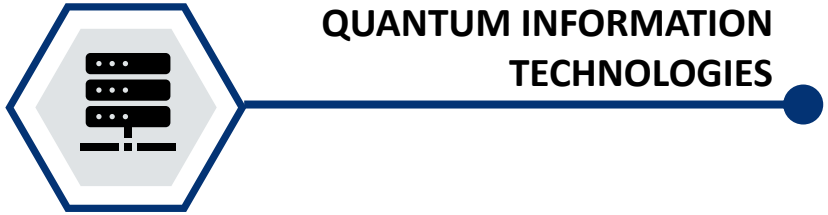
INTEGRITY AND INCLUSIVITY IN STANDARDS DEVELOPMENT

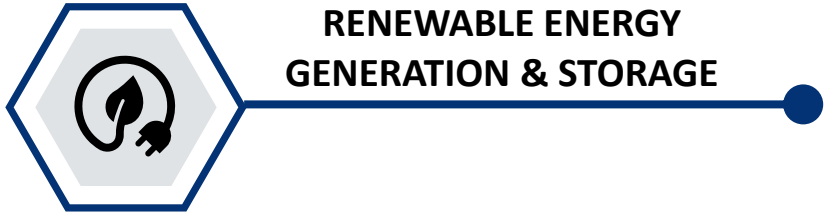
- Deepen standards cooperation with allies and partners to support a robust standards governance process
- Facilitate broad representation in standards development

4

USG NSSCET: CRITICAL & EMERGING TECHNOLOGY

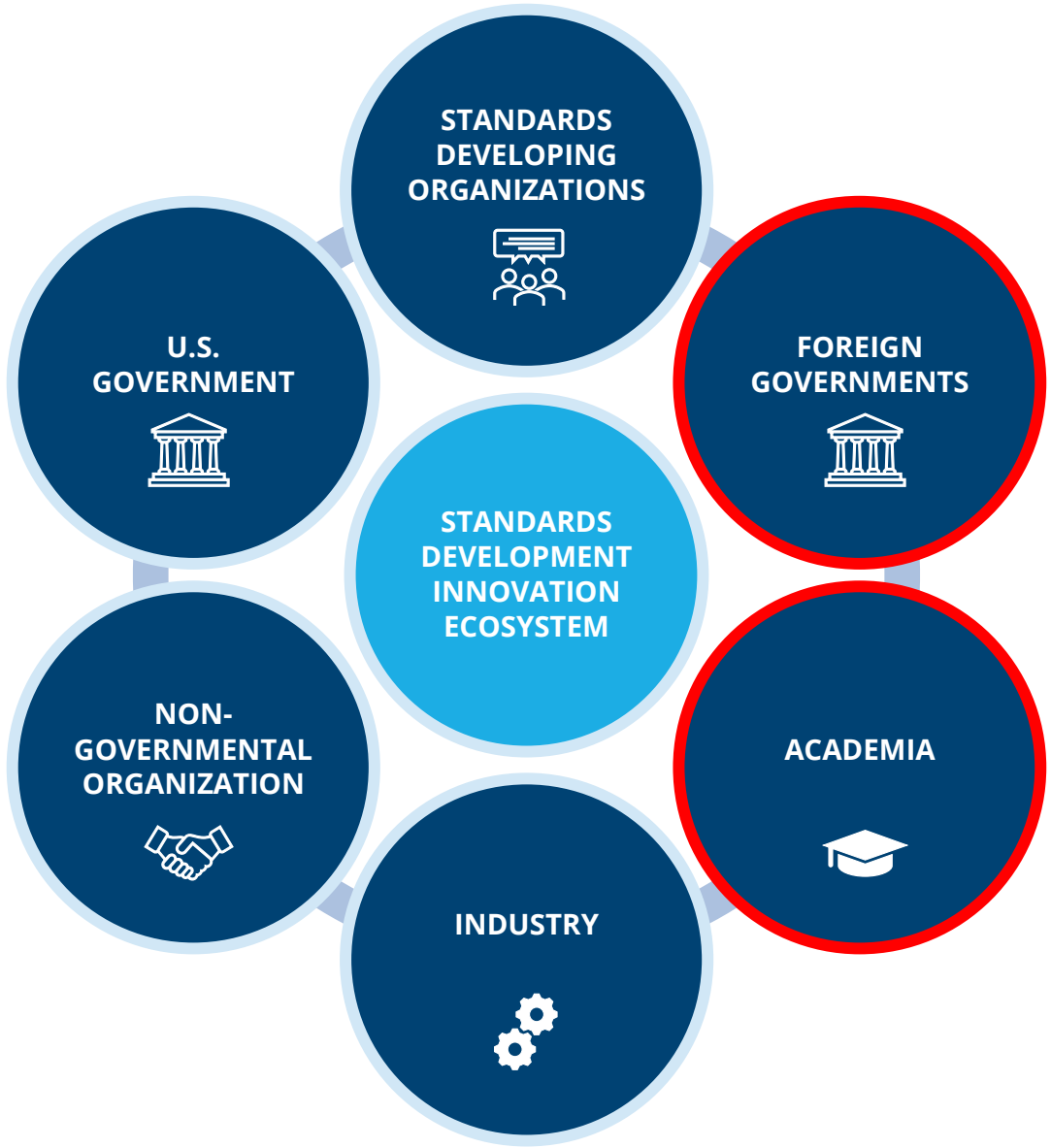






USG NSSCET: INNOVATION STAKEHOLDERS

U.S. leadership in the U.S. innovation ecosystem requires collaboration among a diverse set of participants.



IMPLEMENTATION: REQUEST FOR INFORMATION

NOTE: THE RFI WILL CLOSE ON 06 NOV 2023

- **Broad questions**: Benefits, risks, and challenges faced by small- and medium-sized enterprises
- **Investment:** Policies, R&D and pre-standardization budget to support standards development and encourage USG adoption of standards and demonstrated CETs.
- **Participation:** Support coordination, communication, collaboration with private-sector, civil society and state and local government in participation in CET standards development
- **Workforce:** Tools, resources, curricula, activities to encourage engagement and awards for increased recognition for participation in CET standards development
- **Integrity and Inclusivity:** Support coordination, communication, and collaboration with partners and allies to reinforce TBT principles

IMPLEMENTATION: WWW.STANDARDS.GOV

WE ARE HERE TO LISTEN …

The Standards Information Center provides a gateway to navigating the dynamic U.S. and international standards landscape

The USA Enquiry Point for the World Trade Organization (WTO)

www.standards.gov

Department for
Science, Innovation
& Technology

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Our Story so far

We will deliver on government's ambition to be a global science, research, and technology powerhouse.

Our mission is to:

- position the UK at the forefront of global scientific and technological advancement
- drive innovation that changes lives and sustain economic growth
- deliver talent programmes, physical and digital infrastructure and regulation to support our economy, security and public services
- Optimise public R&D investment to support areas of relative UK strength and increase the level of private R&D to make our economy the most innovative in the world.

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DSIT Overview

Critical Technologies

- Artificial Intelligence (AI)
- Quantum
- Future networks
- Semiconductors
- [Engineering Biology]

Priority Technologies

- Internet protocols
- Cybersecurity
- Internet of Things (IoT)
- Private and secure communications
- Metrology

Our aim is to cement the UK's place as a Science and Technology Superpower

ETSI	**ITU**	**IETF**	**ISO/IEC**	
BSI	**3GPP**	**W3C**		**IEEE SA**

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Digital Standards – why they matter

- Compliment to policy and regulation
- Economic growth
- Supporting innovation and collaboration
- Leading the next generation of technology

An estimated **23% of all GDP growth** since 2000 is attributable to the **impact of standards**.

ITU Pelipotentiary – Bucharest 2022

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Digital Standards – our approach

Uphold integrity, accelerate innovation

- **Lower barriers** to participation and increase diversity of participants at SDOs
- Ensure digital standards are better incorporated into the **innovation lifecycle**
- Grow our **global network** of partners
- **Strengthen our cooperation** with national quality infrastructure and relevant regulators

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Digital Standards – our work

Reinforcing the UK as a leader in digital standards

AI Standards Hub

- Alan Turing Institute, British Standards Institution and National Physical Laboratory
- The Hub offers E-learning materials and in-person training events

Leading roles in SDOs

- ITU Council Seat (2022)
- ETSI Board member
- IETF policy expert draft

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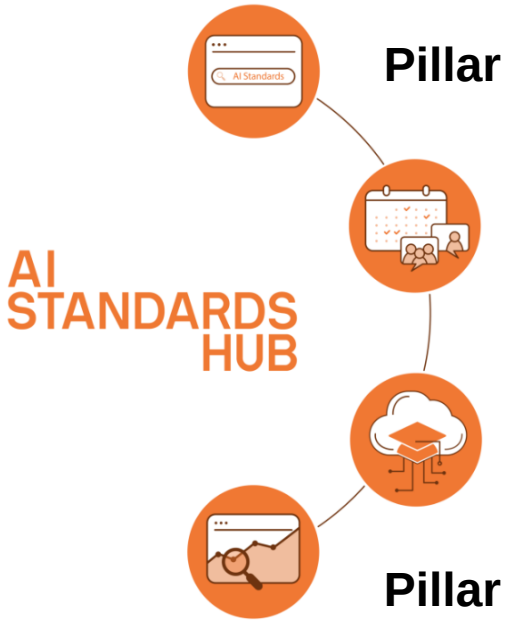
Digital Standards – AI Standards Hub

The Hub Mission
Empower stakeholders to navigate the international AI standardisation landscape and become actively involved in it, through:

- Participation in the development of standards
- Informed use/assessment of published standards

Multi-stakeholder approach
- Industry
- Regulators
- Consumers/civil society
- Academia



Pillar 1: Tracking AI standards - Observatory

Pillar 2: Community and collaboration

Pillar 3: Knowledge and training

Pillar 4: Research and analysis

To find out more visit:
aistandardshub.org

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Digital Standards – our work

Strengthening international collaboration

AI Standards Hub – NIST collaboration

- Joint webinars – AI Risk Management Framework
- Joint research

Fostering collaboration and coordination

Developing new exciting opportunities for UK industry, SME and researchers to engage with international partners

- Telecommunications
- Quantum
- AI

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Digital Standards – our work

Improving coordination and building capacity

Stakeholder engagement

- Ministerial Roundtable at London Tech Week
- UIDP London Forum 2023
- Watch this space...

UK Stakeholder groups

- Coordinate and collaborate in SDOs
- Build capacity among stakeholders
- Networking and knowledge sharing

Department for Science, Innovation & Technology

Ways to Stay Connected

Department for Science, Innovation & Technology

https://www.gov.uk/government/organisations/department-for-science-innovation-and-technology

https://twitter.com/sciTechgovuk

https://www.linkedin.com/company/scitechgovuk/