

NIST Programmatic Updates

Visiting Committee on Advanced Technology

Dr. Laurie E. Locascio

Under Secretary of Commerce for Standards and
Technology and NIST Director

New VCAT Leadership



Chair

Dr. Mehmood Khan

Chief Executive Officer,
Hevolution Foundation



Vice Chair

Keoki Jackson

Senior Vice President &
General Manager, MITRE
National Security Sector

Session I: NIST Programmatic Updates

- NIST Update and Agenda Review
- Reentry and Safety Update
- NIST Center for Neutron Research (NCNR) Update
- Surfside Investigation Update
- Budget Overview

Session II: NIST Director's Vision

- NIST's Efforts to Support America's Competitiveness in the Global Economy

Session III: Planning Session

- Advancing NIST's Mission and Improving Visibility and Awareness of NIST
- NIST's Role in Workforce Development
- Alignment of NIST Labs, the Manufacturing Extension Partnership (MEP), and Manufacturing USA

Session IV: Working Session

NIST Update



Dr. Seshia Joi Moon

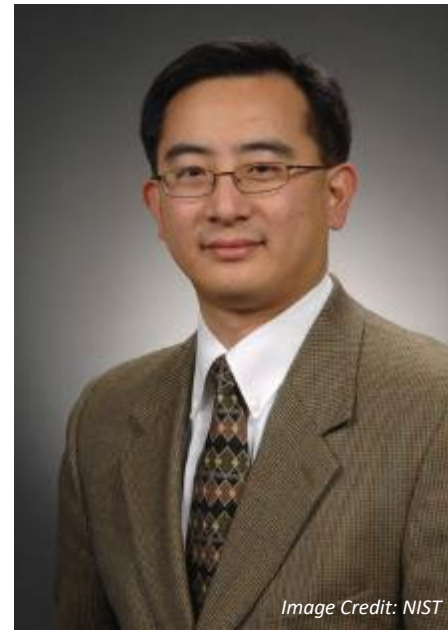
Director, Office of Diversity,
Equity, and Inclusion

NIST Leadership Changes



Dr. James Olthoff

Associate Director for
Laboratory Programs



Dr. Eric Lin

Director, Material
Measurement Laboratory

NIST Leadership Changes



Dr. Jason Boehm

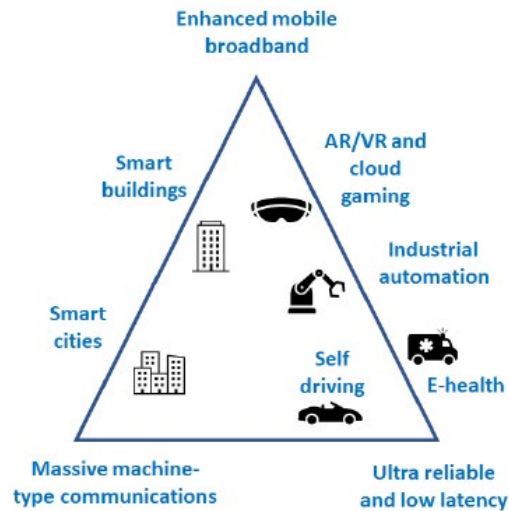
Chief of Staff

pending OPM final approval

5G Supply Chain

Released [NIST SP1278 "5G Hardware Supply Chain Security Through Physical Measurements"](#) (May 2022)

Addresses new vulnerabilities that 5G presents to U.S. communications infrastructure

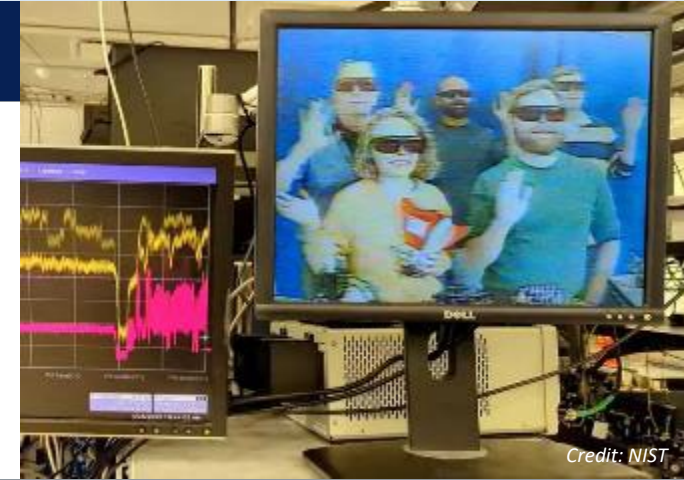


5G communications network hardware, cell phones, and IoT devices pose a new set of attack surfaces

Atoms used to Stream Live Video

Using Rydberg Atoms as a receiver, NIST staff streamed live color video and video games

Atomic system could be used to make small and versatile communications devices that don't rely on electronics

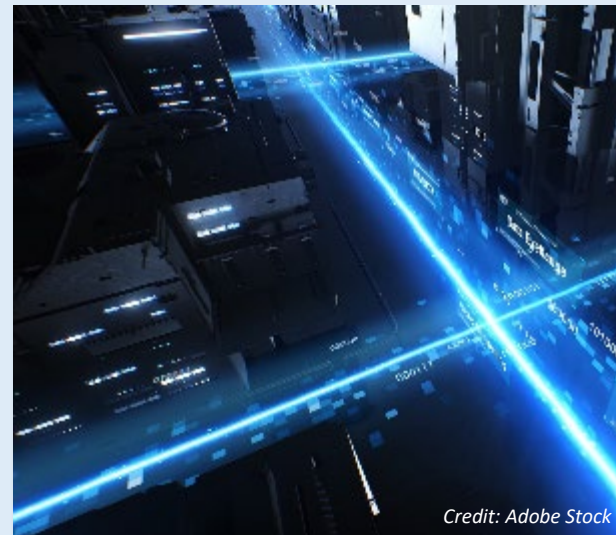


Credit: NIST

Resilient & Intelligent NextG Systems (RINGS) Awards

\$43M awarded to 25 awardees in public/private partnerships through NSF/NIST RINGS Grants

Used to accelerate the security and resilience of NextG Technologies



Credit: Adobe Stock

Artificial Intelligence (AI) Update



1st AI Risk Management Framework draft & Workshop #2

Identifying and Managing Bias in AI publication

AI and the Economy: Charting a Path for Responsible and Inclusive AI Symposium

Inaugural National AI Advisory Committee (NAIAC) meeting

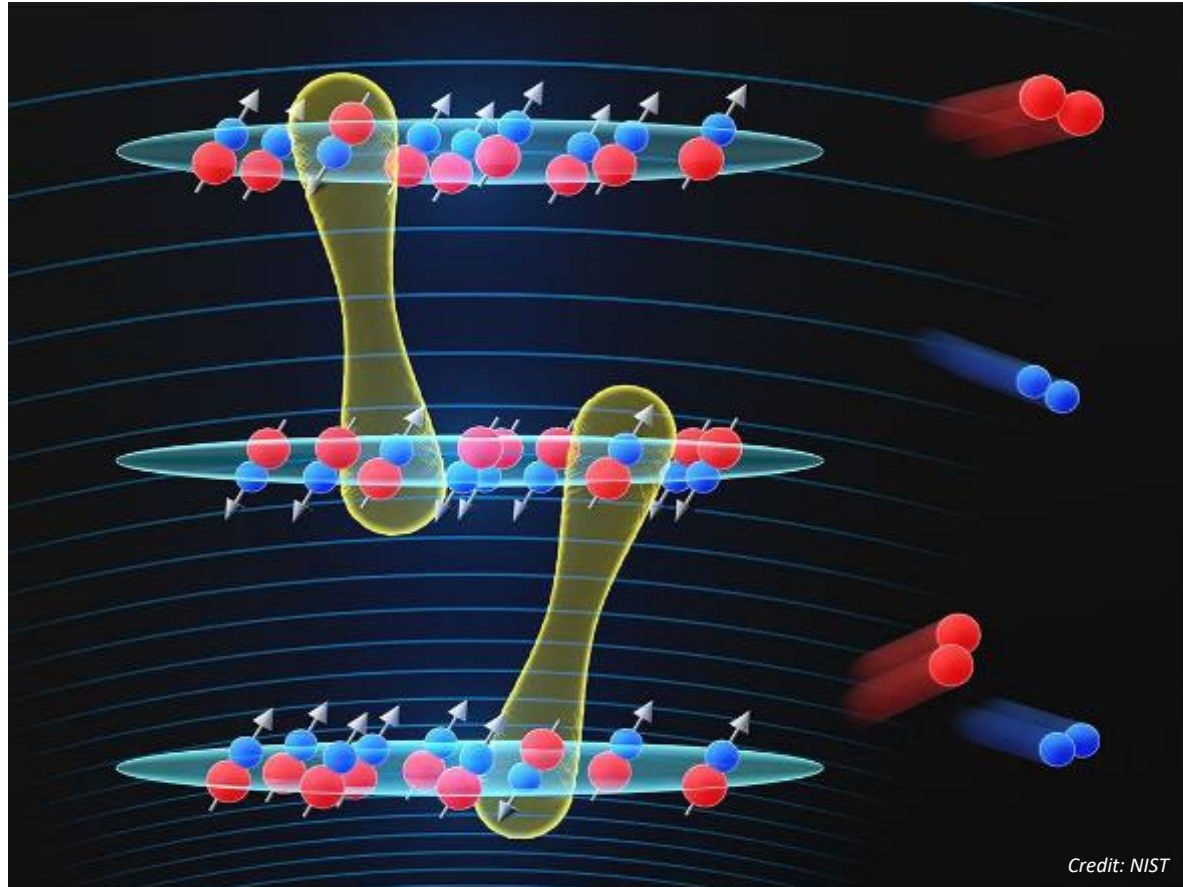
Cybersecurity Framework 2.0

- Request for Information closed
- Comments summary released

Executive Order 14028, Improving the Nation's Cybersecurity

- Final reports delivered
- House hearing





NIST physicists have developed a new way to control two-dimensional gaseous layers of molecules. This could lead to new ways to explore molecular interactions in quantum systems. *Science*, 17 Mar 2022 Vol 375, Issue 6586 pp.1299-1303

Presidential Directive Advancing Quantum Technologies (NSM-10)

- Directs NIST's migration to post-quantum cryptography project at the National Cybersecurity Center of Excellence (NCCoE) (04 MAY 2022)

Quantum Economic Development Consortium (QED-C)

- QED-C Quantum Computing Industry Study (06 MAY 2022)
- QED-C Control Electronics Report (30 MAR 2022)

CHIPS Act Update

Conference on House and Senate CHIPS Act Bills

- Awaiting congressional action on House and Senate CHIPS Act bills—America COMPETES Act and United States Innovation and Competition Act (USICA)

Industrial Advisory Committee (IAC)

- DOC and NIST solicited nominations to a newly established IAC
- Awaiting final selection by the Secretary

Request for Information (RFI)

- DOC and NIST received over 200 unique responses to a CHIP Act RFI issued earlier this year
- DCC and NIST are currently reviewing the responses and will issue a report

Planning for Implementation

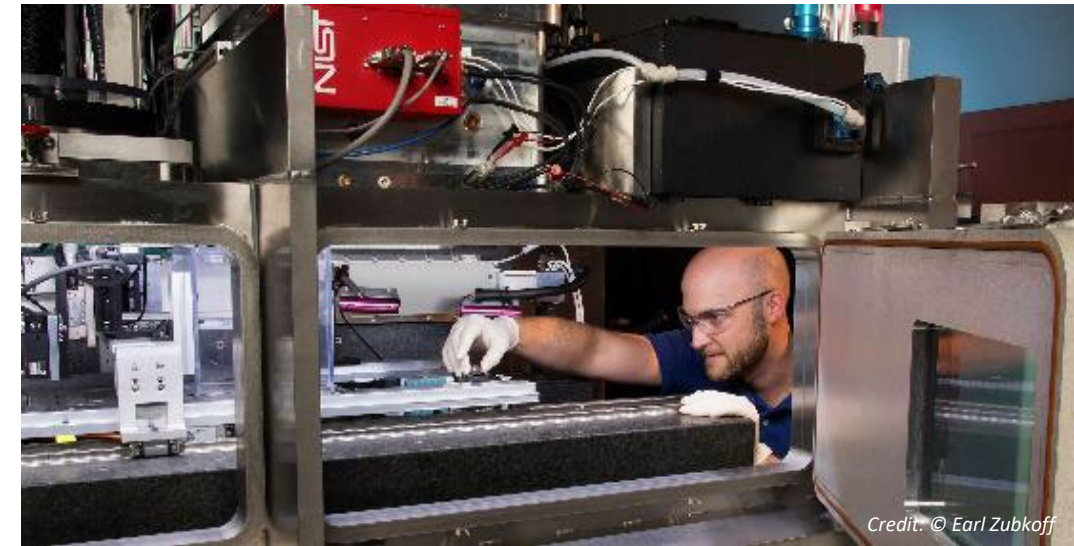
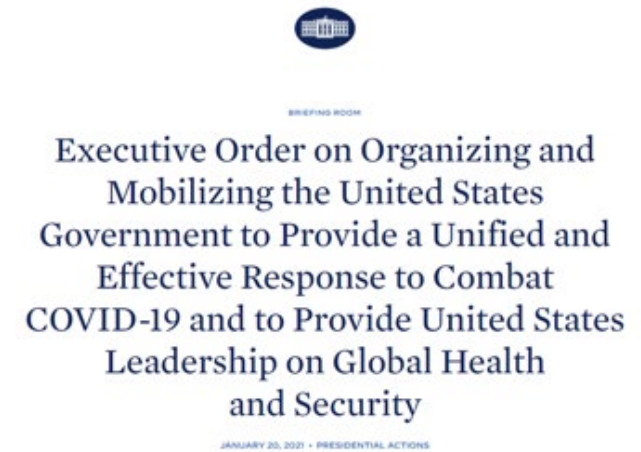
- DOC has appointed a Special Advisor to help setup the CHIP Act program office
- A startup team is in place to support DOC semiconductor initiatives

Biomanufacturing - Executive Order 13987 on Combatting COVID-19 and Future Pandemic Threats

- Built Environment Working Group addressing Indoor air quality, ventilation standards, and innovation for pathogen suppression in built environment

Additive Manufacturing - (AM) Forward

- NIST to conduct measurement science research to overcome key barriers to widespread use of metals-based additive manufacturing
- Metals-based Additive Manufacturing Grant Program (MBAMGP)-\$5M to help facilitate measurements and standards that will enable dramatic advances in the additive manufacturing field- awardees announced soon



Manufacturing Update: MEP

MEP National Network Map and Sample of Services NIST



MEP National Network™ Strategic Plan for FY23-28 in development

- Supply chain
- Workforce
- Innovation and Technology Development

President's FY2023 request (+ \$117M)

- Fund awards in supply chain, workforce, and innovation and technology development

FY2021 Accomplishments

Supported over 34,300 U.S. manufacturers (+6,700)
\$14.4B in new and retained sales (+\$1.4B)
126,000 jobs created (+20K)
\$5.2B in total investment and \$1.5B in cost savings



Credit: DOD CTO

**President Biden visits Advanced Robotics
MFG USA Institute**

New Roadmaps to Strengthen Advanced Manufacturing

- Awarded \$3.9M to 13 organizations to lead roadmapping efforts

Meeting with White House and Agencies

- WH National Economic Council discussed administration's priorities and opportunities for MFG USA

Manufacturing USA Pandemic Response Awards Announced

- \$54M in awards under the NIST Rapid Assistance for Coronavirus Economic Response (RACER) competition
- 13 projects at 8 institutes with more than 80 partner organizations

Bioeconomy Update



NIST recently established the NIST Microbial Strain Collection (NMSC) program



NIST developing the Standards for Wastewater Surveillance (SWWS) program

National Standards Strategy and DOC Action Plan

Aligned with USG National Standards Strategy for CET (in development) and ANSI United States Standards Strategy

Outlines key actions to ensure U.S. leadership in international standards development

1. Strengthen USG participation in international standards for CET
2. Support industry, academia, research organizations, associations, consumers, and civil society in international standards
3. Accelerate R&D for CET
4. Strategically cooperate with like-minded partners and allies
5. Make the U.S. a welcoming location for convening standards meetings



Standards Update: International Engagement

TTC

Credit: © European Union

U.S. • European Commission

Quad

Credit: White House Photo by A. Schultz

U.S. • Australia • India • Japan

G7

Credit: ODNI

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

Ottawa 5

Credit: ODNI

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

OECD

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

IPEF

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

[U.S.-EU Ministerial Joint Statement](#)
(16 MAY)

[Quad Leaders Summit Joint Statement](#)
(24 MAY)

Dr. Locascio represent U.S. at G7 Digital Minister meeting (MAY)

Lisa Carnahan, ITL represents the U.S. in O5 Digital Standards sub-group

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

NIST proving input to scoping paper currently in development

Announced Strategic Standardization Information (SSI)

Announced International Standards Cooperation Network

Coordinating on global standards issues for digital technical standards discussed and included in a [Ministerial Declaration](#) (11 MAY)

UK presentation of 'New IP' research

- UK has identified key elements of proposals and associated taxonomy
- UK developed a tool to identify proposals and a tracker for use across SDOs which can be used by the group

Elham Tabassi, ITL to serve as Vice Chair of Working Party on AI Governance (AIGO) and will oversee

- OECD.AI
- Expert groups on AI classification, risk, and incidents
- Tools and accountability
- Measuring AI compute and climate

Defining scope for recycling of materials, digital identity, and IoT

New contact groups for AI and Advanced Communications

High level political multi-stakeholder standards event scheduled for SEP

Increase transparency and incorporate SMEs

Quad met at ITU WTSA meeting (MAR) to discuss ITU standards priorities, elections, and how best to coordinate

Next Ministerial located in the U.S. (NOV)

DEIA Update

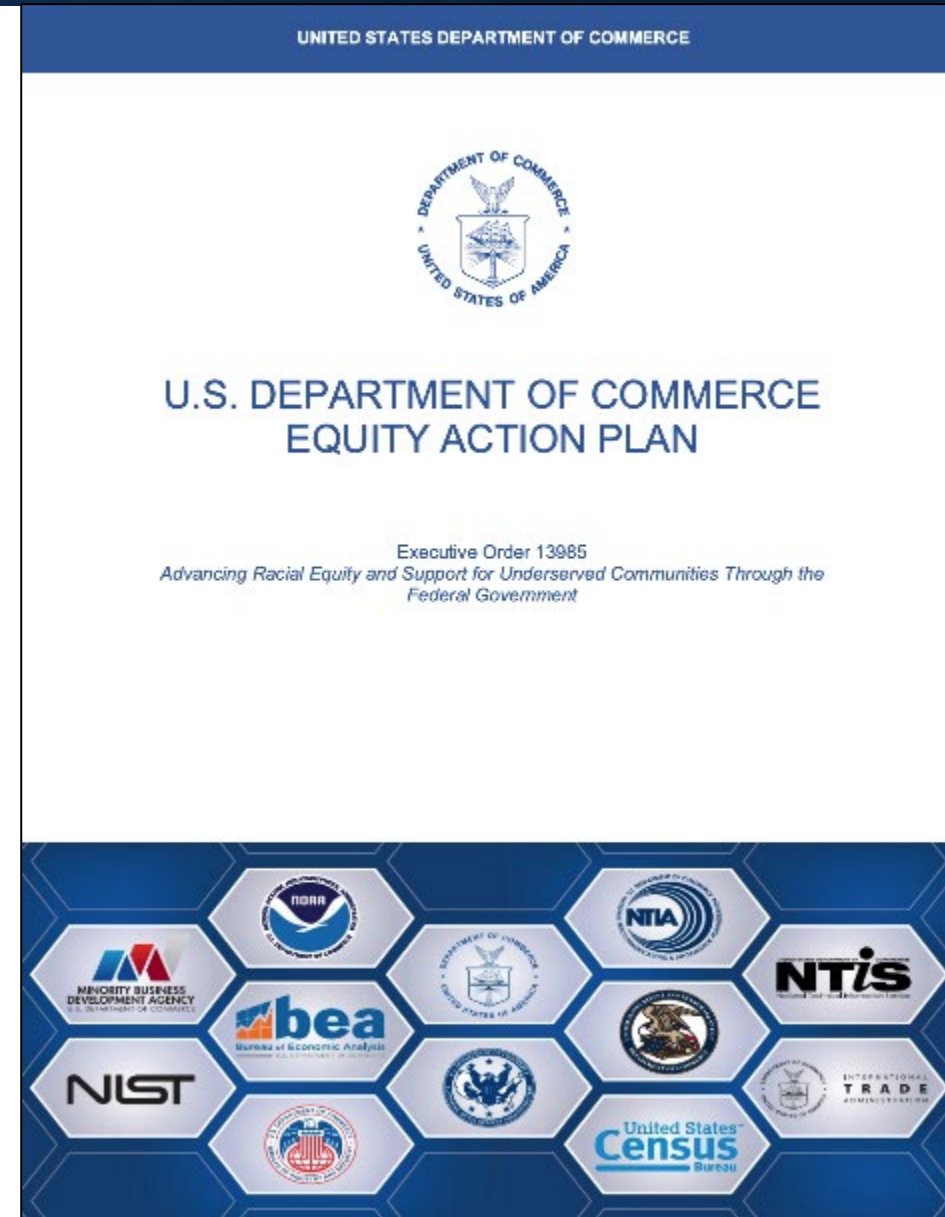


Department of Commerce Equity Action Plan

- Released April 2022
- Department-wide efforts to advance inclusive economy through equitable external service delivery

NIST DEIA Strategic Plan FY 22-24

- Preparing to deploy at start of FY 23
- Diversity, Equity, Inclusion, Accessibility, and Inclusive Economy



To promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life

DISCUSSION

The background features a dark blue gradient with a complex network of interconnected nodes and lines in shades of blue, green, and orange. Faint, semi-transparent architectural drawings, including a large dome-like structure and various geometric shapes, are overlaid on the network.