



National Institute of Standards and Technology (NIST)

NIST, founded in 1901, is the National Metrology Institute for the United States, with a mission 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.

Open Data¹

[Public Law 115-435, Foundations for Evidence-Based Policymaking Act of 2018 \(The Evidence Act\)](#), requires that federal agencies make strategic data assets accessible to the public in machine-readable formats and discoverable through a single, government-wide catalog. The Office of Science and Technology Policy (OSTP) had previously identified research data as a high-value federal asset, and NIST's efforts to make data public began with research data, as discussed below. NIST generates and collects other mission-related data assets and makes them available for discovery through <https://data.gov>.

NIST, known as the National Bureau of Standards (NBS) until 1988, has worked with *The Internet Archive* under an arrangement with the Library of Congress to digitize nearly 25,000 technical reports the agency has published since it was established in 1901. As the publications are digitized, they are made accessible to the public through appropriate sources:

- GPO *govinfo*, <https://www.govinfo.gov/collection/nist>
- WorldCat, <https://www.worldcat.org/>
- *The Internet Archive*, <https://archive.org/details/NISTresearchlibrary>.

Photographs and other materials portraying NBS/NIST history are made available to the public through the NIST Digital Archives, <https://www.nist.gov/digitalarchives>. Information about and

¹ Certain commercial products are identified here, but such identification is not intended to imply recommendation or endorsement by the National Institute of Standards and Technology, nor is it intended to imply that the products are necessarily the best available for the purpose.

images of the scientific instruments and other artifacts in the NIST Museum collections are also accessible to the public through this site.

Privacy

NIST follows departmental guidance from the Office of Privacy and Open Government. NIST's privacy program is described at <https://www.nist.gov/privacy>, and Privacy Impact Assessments are available at <http://www.osec.doc.gov/opog/privacy/NIST-pias.html>.

Whistleblower Protection

NIST follows departmental guidance from the Office of Inspector General.

Websites

NIST uses Drupal, an open-source content management system (CMS), in which content is “tagged” by topic, enabling the public to subscribe to receive new information posted on the website on specific topics of interest such as nanotechnology or energy-related research. Currently, there are more than 395,000 subscribers who receive information on approximately 115 different topics. The NIST website also includes several blogs that allow members of the public to comment or ask questions about posted articles, and the CMS includes icons to easily share content from the NIST site with social media websites. A mechanism has been added to allow users to report accessibility concerns. NIST also has a number of social media sites including YouTube, Facebook, Twitter, LinkedIn, Instagram, Reddit, and Giphy. To ensure that as many people as possible benefit from NIST's work, news of major research results posted on the NIST website is routinely announced through these additional social media sites.

Transparency

NIST strives to be consistently open and transparent in its interactions with the public and news media. Information from and about NIST is available on analytics.usa.gov, challenge.gov, data.gov, grants.gov, ITdashboard.gov, labs.data.gov/dashboard, usa.gov, USAspending.gov as well as on the [NIST website](http://www.nist.gov) and social media, and in news releases, publications, and reports. In some cases, NIST information is embedded in Department of Commerce information.

NIST follows the [Department of Commerce Public Communications Policy](#), which includes explicit approval for research staff to talk with the news media and the public directly – without prior permission from the Public Affairs Office – about the results of their peer-reviewed research.

NIST's Public Affairs Office regularly offers communications training to NIST research staff, including describing this portion of the policy, to ensure that they are committed to broadly

disseminating NIST results to a wide variety of audiences. Plain language training is available online and through mentoring and in-person training of NIST employees.

NIST provides a dedicated referral service for phone and email public inquiries during all business hours to ensure that any member of the public may request assistance in locating specialized technical reports or experts or in resolving customer service concerns they may have. The NIST website “Contact Us” page includes several different ways for the public to obtain help with many different types of inquiries. The Public Affairs Office strives to answer general NIST inquiries within 48 hours.

Public Notice

NIST follows departmental guidance from the Office of Public Affairs.

Records Management

NIST manages its records in accordance with the National Archives and Records Administration (NARA) and Department of Commerce regulations, ensuring that records are economically and effectively created to meet business needs, kept long enough to protect rights and assure accountability, and preserved and available for future generations. Records are retained in accordance with NARA-approved records schedules. NIST’s records management directives are clear and concise, conveying records management requirements and responsibilities to all NIST staff.

Freedom of Information Act (FOIA) Requests

NIST responds to Freedom of Information Act requests in accordance with Department of Commerce regulations and Department of Justice guidance. NIST emphasizes the importance of transparency of its operations and regularly performs discretionary releases of documents and information that could qualify for exemption from release, but for which there is no foreseeable harm. The NIST FOIA Office works collaboratively with NIST Operating Units to obtain information in response to requests in a timely manner and to encourage proactive disclosure of information.

Proactive Disclosure

To the extent feasible and consistent with law, agency mission, resource constraints, U.S. national, homeland, and economic security, NIST promotes the availability of results of federally funded research in publicly accessible repositories.

NIST has begun an initiative to make NIST directives of significant public interest available on our website.

Congressional Requests

NIST follows Department of Commerce guidance from the Office of Legislative and Intergovernmental Affairs.

Declassification

NIST follows Department of Commerce guidance from the Office of the Secretary.

Public Participation

NIST has a rich history of connecting our technological advances to the American economy through interactions with stakeholders and the public, some of which are described in an [annual report on technology transfer](#). [Technology transfer](#) plays an important role in the Department of Commerce's mission to promote job creation, economic growth, sustainable development, and improved standards of living for all Americans. NIST works in partnership with academia, businesses, state and local governments, other federal agencies, and communities to promote innovation and improve the nation's overall competitiveness in the global economy. NIST typically hosts as many as 100 conferences, workshops, symposia, and other meetings annually. Many are co-sponsored with other federal agencies, academic institutions, professional societies, or industry groups.

To increase citizen involvement in the development of standards to address new technological challenges, NIST reaches out to stakeholder communities to convene workshops at locations around the country, organize diverse stakeholder groups, and work to develop consensus. This strategy has been used for developing frameworks and guides for [artificial intelligence](#), [privacy](#), the [smart grid sector](#), [critical infrastructure cybersecurity](#), [disaster resilience](#), [forensic standards](#), and [protecting sensitive information](#). NIST frequently convenes stakeholders to identify challenges in sectors from advanced communications and materials discovery to the circular economy and biopharmaceutical development. Visit the [NIST website](#) to learn more about these topics.

Collaborations

To meet its mission in the face of rapidly evolving priority areas and a widening stakeholder base, NIST is increasingly partnering with academic, industrial, and governmental institutions. National priorities require the united efforts of diverse participants, and NIST has the unique convening power and technical independence to bring those participants together. Each year, NIST hosts about 2,700 associates and facility users who collaborate with its scientists. NIST works with over 1,300 manufacturing specialists around the country to help small and medium-sized manufacturers improve and grow. NIST has two user facilities available for proprietary and non-proprietary research. In addition, NIST jointly operates research organizations explicitly established to

promote the kind of cross-disciplinary collaborations that accelerate research results. And through a Partnership Intermediary Agreement, [NIST and the Maryland Technology Development Corporation \(TEDCO\)](#) work with researchers to turn promising NIST technologies and know-how into high-tech businesses.

NIST also collaborates in partnership facilities with academic institutions and other federal agencies.

[Brookhaven National Laboratory](#)

Brookhaven National Laboratory is a multipurpose research institution located on Long Island, New York. In partnership with Brookhaven, NIST develops and disseminates synchrotron measurement science and technology needed by U.S. industry to measure nanoscale electronic, chemical, and spatial structure of advanced materials.

[Hollings Marine Laboratory](#)

The Hollings Marine Laboratory (HML) is a joint research facility among NOAA's National Ocean Service, the South Carolina Department of Natural Resources, the College of Charleston, the Medical University of South Carolina, and NIST, with a mission to provide science and biotechnology applications to sustain, protect, and restore coastal ecosystems, with emphasis on links between environmental conditions and the health of marine organisms and humans.

[Institute for Bioscience and Biotechnology Research](#)

IBBR exists to foster integrated, cross-disciplinary team approaches to scientific discovery, translational development, and education, and to create commercialization relationships and initiatives that serve the expanding economic base of biosciences and technology in the state of Maryland and across the country.

[Joint Center for Quantum Information and Computer Science](#)

QuICS is a partnership between the University of Maryland and NIST to advance research and education in quantum computer science and quantum information theory.

[JILA](#)

JILA is a joint physics institute of the University of Colorado at Boulder and NIST. (The institute was previously known as the Joint Institute for Laboratory Astrophysics, but its current research now spans a wide range of physics topic areas).

[Joint Quantum Institute](#)

JQI is a joint institute of the University of Maryland, NIST, and the Laboratory for Physical Sciences in College Park, MD.

National Advanced Spectrum and Communications Test Network

NASTCN is a partnership among NIST, the National Telecommunications and Information Administration (NTIA), NOAA, NSF, NASA, and the Department of Defense, and is organizing a national network of federal, academic, and commercial test facilities that will provide the testing, modeling, and analyses needed to develop and deploy spectrum-sharing facilities.

Advanced Manufacturing National Program Office

NIST provides leadership and coordination across federal agencies with programs in advanced manufacturing – including the Departments of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, and Labor, NASA, and NSF – by leading the interagency Advanced Manufacturing National Program Office (AMNPO). The AMNPO oversees the planning, management, and coordination of Manufacturing USA[®], which brings together public and private investments to improve the competitiveness and productivity of U.S. manufacturing through a robust network of manufacturing innovation institutes. Each of the 14 Manufacturing USA institutes is a public-private partnership focusing on a specific, promising area of advanced manufacturing technology.

The AMNPO provides information to the public about Manufacturing USA through a variety of means – especially through the website, www.ManufacturingUSA.com. The website includes [news about the institutes](#), media exposure, announcements of [upcoming events](#), information about [program funding opportunities](#), videos, an archive of [reports and policy papers](#), and guidance about how to engage with the institutes. The AMNPO also releases an [annual report on the program's performance](#) and a [triennial strategic plan](#). The AMNPO maintains Twitter and LinkedIn accounts to communicate advanced manufacturing news and successes about Manufacturing USA to the public. Additionally, the AMNPO maintains the Manufacturing.gov website, which contains links to information about U.S. government programs that support advanced manufacturing.

NIST Technology Transfer

NIST regularly works with multiple other organizations through Cooperative Research and Development Agreements. These agreements allow NIST to work directly with other parties through a public-private partnership to achieve specific scientific outcomes. In addition, NIST patents and licenses new technologies developed in our laboratories. NIST regularly organizes technology showcase events to bring together innovative technologies, licensable inventions, research and engineering facilities, small business support resources at the federal and state levels, and sources of funding, all under one roof. NIST also hosts “listening sessions” to hear

from local communities about how federal labs can contribute to economic development. Information on NIST technologies available for licensing is on data.gov in a machine-readable format for other parties to use.

NIST regularly conducts economic assessments on the results of our research programs. NIST economic reports and assessments are available [on the NIST website](#). [Technology Transfer partnership activities across Commerce](#) are described in an annual report. A selection of NIST activities with impacts in industry is [also available](#).

Small Business Innovation Research

Small Business Innovation Research (SBIR) is a highly competitive federal grant program that opens opportunities and encourages U.S. owned and controlled small- and mid-sized businesses to engage in Research and Development (R&D) with commercialization potential.

Manufacturing Extension Partnership (MEP)

The MEP Program is a unique, public-private partnership that delivers comprehensive, proven solutions to U.S. manufacturers, fueling growth and advancing U.S. manufacturing. The MEP Centers in all 50 states and Puerto Rico, which are part of the MEP National Network™, work with U.S. manufacturers to develop new products and adopt new technologies. MEP National Network services can evolve with the maturity of a technology as well as help strengthen the business side of a company and can play a pivotal role in helping manufacturers move from concept to market through services in areas such as product design, manufacturing engineering, product concept testing, quality control/management, supplier scouting, and certification

Open Innovation Methods

NIST uses prize competitions and challenges to stimulate engagement to solve ambitious problems in support of the NIST mission. Many long-standing NIST programs have created challenges by leveraging NIST authorities (e.g., the NIST Organic Act and Federal Information Security Management Act) to bring people together to advance research by providing an evaluation infrastructure; others have a winner who receives public recognition. NIST's [Text Retrieval Conference \(TREC\)](#) is one such ongoing challenge.

NIST prize competitions, involving the award of cash prizes to winners under Prize Competition Authority (15 U.S.C. 3719, as amended), are managed through NIST's Program Coordination Office. Prize competitions are announced on challenge.gov and program websites. Prize competitions recently completed or in progress include:

[2024 First Responder UAS Wireless Data Gatherer Challenge](#)

2023 First Responder UAS 3D Mapping Challenge

2022 CommanDING Tech Challenge

[First Responder Smart Tracking Challenge](#)

[First Responder UAS Triple Challenge 3.1: FastFind - UAS Search Optimized](#)

[First Responder UAS Triple Challenge 3.2: Lifelink - UAS Data Relay](#)

[First Responder UAS Triple Challenge 3.3: Shields Up! Securing UAS Navigation and Control](#)

[The Mobile Fingerprinting Innovation Technology \(mFIT\) Challenge](#)

[PerfLoc Prize Competition](#)

[Mask Innovation Challenge: Phase 2](#)

[UK-US Privacy Enhancing Technology Challenges](#)

Access to Scientific Data and Publications

NIST developed a Public Access Plan in response to a February 22, 2013 memorandum from the Executive Office of the President on increasing access to the results of federally funded scientific research. The Plan was approved by the Office of Science and Technology Policy (OSTP) and the Office of Management and Budget (OMB) in December 2014. NIST staff are required to provide public access to the results of federally funded research under a set of NIST directives that went into effect in 2015. Language requiring provision of public access to scientific research results is included in agreements for research supported by NIST through grants, contracts, cooperative agreements, or other awards, including research conducted at joint institutes and federally funded research and development centers, as they come up for renewal. The plan and public comments are available as [NISTIR 8084](#). NIST's Public Access Policy, which was derived from the plan, is available at <https://www.nist.gov/open>. NIST continues to operate under this policy, although OSTP released a [new public access memo](#) in 2022. In response, [NIST's public access plan was updated](#), and changes to the policy are in progress.

NIST has partnered with the National Institutes of Health (NIH) to use the [PubMed Central \(PMC\)](#) repository system to provide public access to full-text peer-reviewed scholarly publications authored by NIST staff, leveraging the well-established search, archival, and dissemination features of PMC. Publications are available within 12 months of publication. NIST Technical Series publications are available through the Government Publishing Office's (GPO's) [govinfo](#). NIST also has a participation agreement with CHORUS, facilitating access to published papers.

NIST provides public access to scientific data through a data portal on NIST's website, <https://data.nist.gov>, as well as through <https://data.gov>. Restricted access is provided to some data.

Institutional membership in CrossRef, DataCite, and ORCID allows NIST to use/access DOIs for authors, NIST Technical Series publications, and datasets, taking advantage of the evolving ecosystem of persistent identifiers that can link funders, authors, and research products (papers, data, and code).

Spending Information

NIST spending information is available at <https://www.nist.gov/about-nist/our-organization/budget-planning> and is embedded in Department of Commerce information on USAspending.gov.

Open Source Software

Public source code is discoverable through the [NIST data portal](https://data.nist.gov) and data.gov as well as through <https://code.nist.gov>. Most programming code written at NIST is developed as part of our research programs and is developed to address specific and unique mission-related research problems. We openly share this software through [public Github repositories](#) for potential re-use by our stakeholders, including other researchers, and so that our research processes are fully open and transparent.

APPENDIX A. NIST OPEN GOVERNMENT INITIATIVES

The table below shows a list of initiatives with the following status:

- in progress – the initiative is still in the development phase;
- completed – the initiative has been completed;
- ongoing/continuous – the initiative is in a continual lifecycle management and will have changes and updates that enhance the Open Government posture of the bureau or operating unit;
- live/operational – the initiative has been completed and moved to the live/operational area for a BOU; there are no additional Open Government enhancements planned.

Operating Unit	Project	Status	Estimated Completion
NIST	Develop Process Maps for Forensic Science Investigations	Ongoing/Continuous	
NIST	Make Directives of Public Interest Available on NIST's Website	Est. Completion by FY26	9/30/2024
NIST	Make Authors Responsible for Accessibility of Manuscripts Submitted to Publishers	Est. Completion by FY26	12/31/2024
NIST	Develop METIS, a Metrology Exchange to Innovate in Semiconductors	Est. Completion by FY26	9/30/2024
NIST	Develop a Research Data Management Framework (RDaF)	Completed	2/1/2024
NIST	NIST Additive Manufacturing Benchmark Test Series Data (AM Bench) Available via SciServer, https://www.sciserver.org/datasets/ambench/	Completed	5/1/2023

NIST	Launch iEdison	Completed	9/22/2023
NIST	Release of e-Commerce Site, https://shop.nist.gov/ , for Acquisition of NIST Measurement Services	Completed	10/4/2022