

# America's DataHub Consortium: Building Capacity for the Future

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Dr. May Aydin, National Center for Science and Engineering Statistics (NCSES) – America's  
DataHub Consortium (ADC) as an Enduring National Asset

Dr. Heather Madray, NCSES – National Secure Data Service Demonstration (NSDS-D) Project

Mr. Mike Atkinson, ATI – Opportunities to Engage in ADC/NSDS-D Activities



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CONSORTIUM





# America's DataHub Consortium as an Enduring National Asset

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May Aydin, Science Advisor

NATIONAL CENTER FOR SCIENCE AND ENGINEERING STATISTICS  
NATIONAL SCIENCE FOUNDATION

# National Center for Science and Engineering Statistics

Measuring America's progress in science, technology, and innovation

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## National Science Foundation's Statistical Agency

*Located within the Directorate for Social,  
Behavioral, and Economic Sciences (SBE)*



## One of 13 principal federal statistical agencies

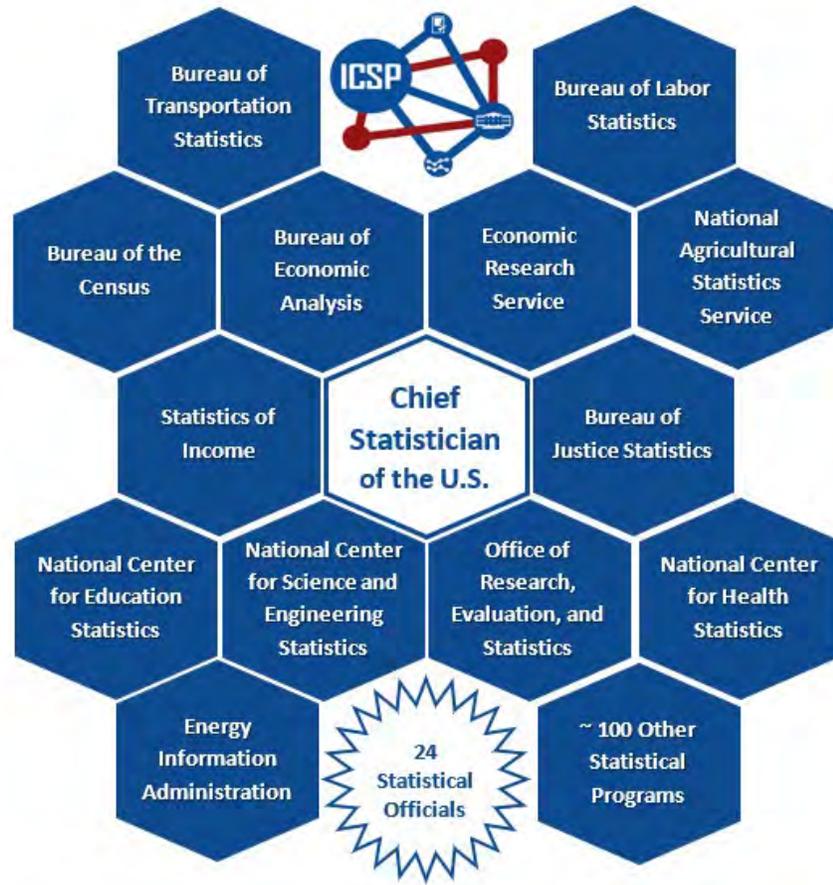
*Overseen by the U.S. Chief Statistician within  
the White House Office of Management and  
Budget (OMB)*

## MISSION

Produce policy relevant, policy neutral  
**statistical information** on the **U.S.**  
**science and engineering enterprise:**

- Research and development
- Science and engineering workforce
- U.S. competitiveness in STEM
- STEM education in the United States

# Located within NSF's Social, Behavioral, and Economic Directorate, NCSES is one of 13 principal federal statistical agencies



- Governed by legal and policy standards and directives to ensure data are:
  - ✓ Accurate
  - ✓ Objective
  - ✓ Timely
  - ✓ Relevant
  - ✓ Confidential
  - ✓ Accessible
- Close collaboration across the Federal Statistical System

# NCSES's areas of interest

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Science and  
engineering  
workforce



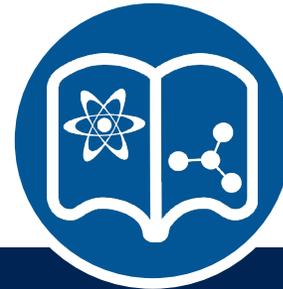
Research and  
development



Higher  
Education  
R&D



Government  
R&D funding

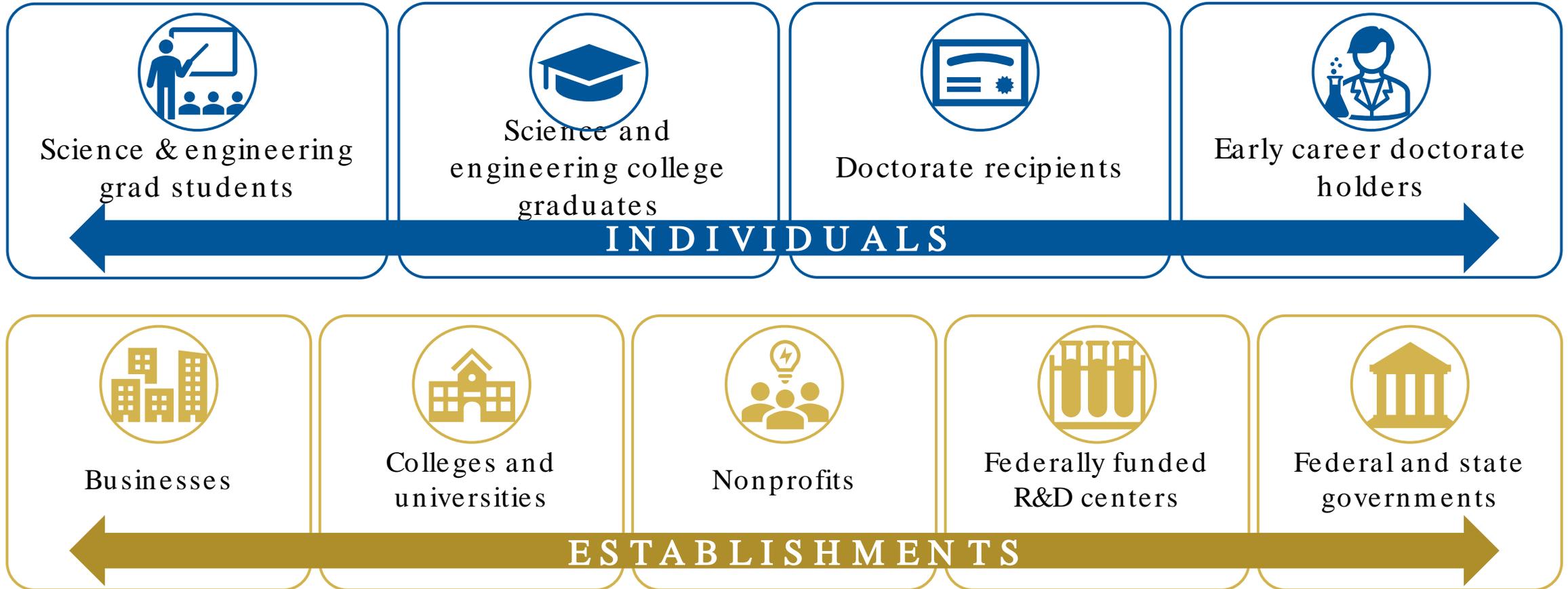


STEM  
Education



Innovation and  
competitiveness

# NCSES collects information from people and organizations



# The idea of a transformational NSDS to coordinate data linking, secure access, and support innovation has a distinguished lineage



## The pathway to the **NATIONAL SECURE DATA SERVICE**

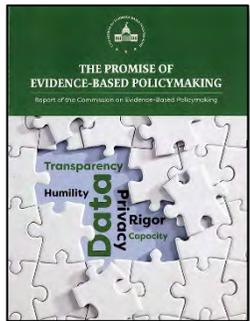
2016

2018

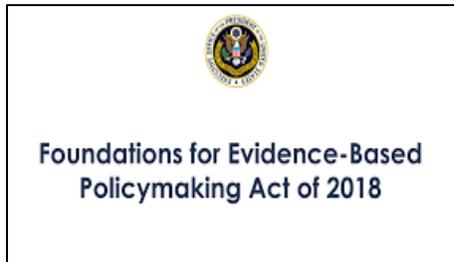
2020

2021

2022

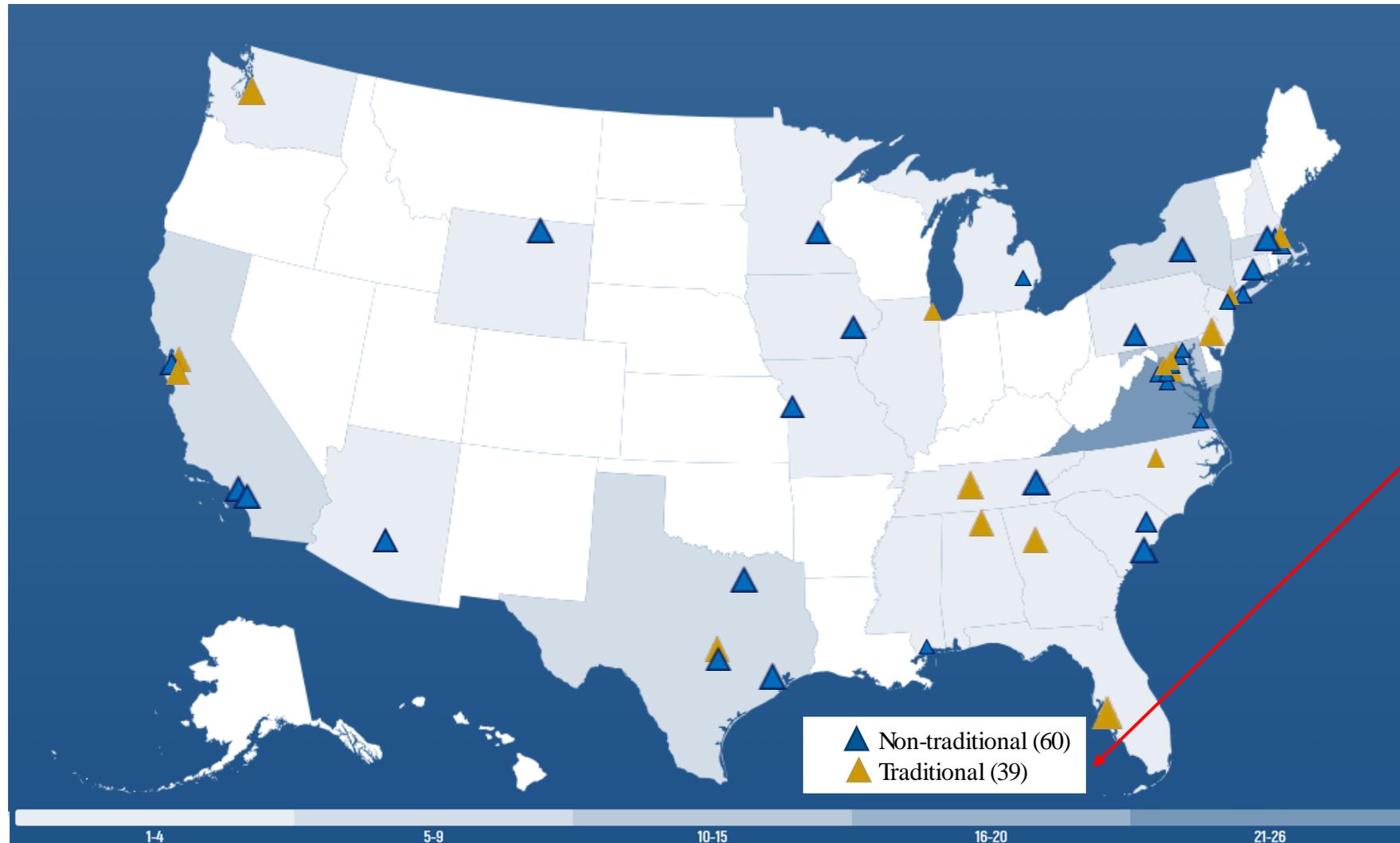


**Commission on  
Evidence-Based  
Policymaking**



**National Secure Data  
Service Demonstration  
Project**

# ADC Members – Access to Innovators Across U.S.

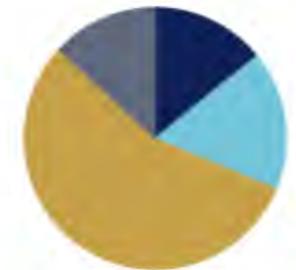


99 Members  
25 States



60% Non-traditional

40% Traditional



14 Academic

17 Large

55 Small

13 Non-profit

# America's DataHub Consortium (ADC) provides experiences to inform the development of the NSDS Demonstration (NSDS-D) Activities



## NSDS DEMONSTRATION PROJECT



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- Test NSDS features/functions
- NSDS-D Website
- Validate shared-service model

- Flexible acquisition process & mechanisms for delivering services
- Broadened engagement and opportunities for innovation
- Agility to address emerging research topics

**CHIPS Act:** Establish a demo project to develop, refine, and test models to inform the full implementation for a government-wide data linkage and access infrastructure for statistical activities conducted for statistical purposes.

**NSF Strategic Objective 4.1: Strengthen at Speed and Scale**  
Pursue innovative strategies to strengthen and expand the agency's capacity and capabilities.

ADC established August 2021

CHIPS Act authorizes 5-yr NSDS Demo

Report due to Congress

End of demo



# The Idea Bank needs your voices...

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## Calling all ideas! Help us shape a data-driven future.

We are inviting all members of the public to join us in  
contributing insights to our new

### **IDEA BANK**

By sharing YOUR ideas, you can directly inform  
future project solicitations and activities conducted  
by ADC, and shape a potential National Secure Data  
Service.

[Submit Ideas Here](#)



May Aydin: [maydin@nsf.gov](mailto:maydin@nsf.gov)

National Secure Data Service Demo: <https://nces.nsf.gov/nsds>

America's Data Hub: <https://www.americasdatahub.org/>

Idea Bank: <https://www.americasdatahub.org/idea-bank-form/>



# National Secure Data Service Demonstration Project

Heather Madray, Ph.D.

Program Director for Data Access, Confidentiality, and Quality Assessment

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National Center for Science and Engineering Statistics

Social, Behavioral and Economic Sciences

National Science Foundation

# NSDS-D Authorizing Legislation

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**Section 10375 of the Chips and Science Act calls for the establishment of a demonstration project for a National Secure Data Service**



**Bi-partisan effort by Congress**



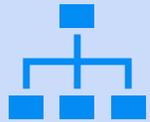
**Per the legislation, the data service shall be:**

Aligned with the principles, best practices, and priority actions recommended by the Advisory Committee on Data for Evidence Building (ACDEB), to the extent feasible; and

Operated directly by or via a contract that is managed by the National Center for Science and Engineering Statistics

# Scope of the NSDS-D

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NCSES is serving as the Project Management Office (PMO) for the NSDS-D



To pilot potential services, technologies, techniques, and shared services that could be utilized within a potential NSDS



Focus is on novel research collaborations, data linkage methodologies, and privacy preserving technologies and techniques

# Overarching Goal of an NSDS

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*To facilitate the use of federal data for evidence-building by fostering an overall data ecosystem of shared services whereby federal agencies function as a unified evidence-building system to support informed decision-making.*

# Key Aspects of an NSDS

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Collaboration with federal, state, local, and tribal governments as well as other stakeholders



Foster a strong culture of data protection, ensuring that all data is used in ways that uphold privacy and confidentiality requirements and assurances made to the public



Promote the linking and streamlined use of data assets across federal agencies and, where possible, with non-federal data through the creation of a shared infrastructure

# Why a Demonstration Project?

Ultimately informs whether an NSDS will be established

Informs potential overall architecture for an NSDS

- What shared services should be offered?
- What is the overall architecture?
- What are the IT Security concerns and how do we protect the data?
- What Legal concerns exist and is new data sharing legislation needed?
- How do we provide customer service for the NSDS? Concierge service?
- What kind of communications and outreach is needed?

# The Path to an NSDS-D

The idea of a transformational NSDS to coordinate data linking, secure access, and support innovation everywhere has a distinguished lineage

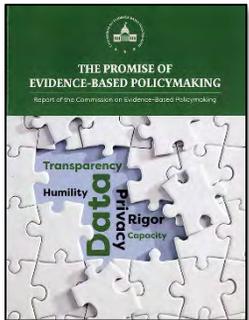
2016

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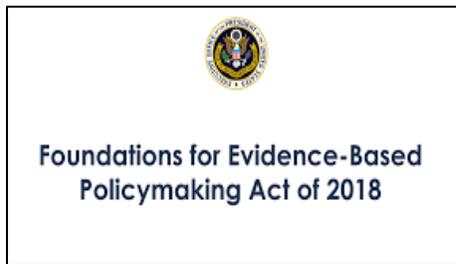
2020

2021

2022



**Commission on Evidence-Based Policymaking**



**National Secure Data Service Demonstration Project**

# Additional stakeholder engagement touch points to support the NSDS-D

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State Agencies



Federal Statistical Research  
Data Centers



Federally Funded Research and  
Development Centers



Private Sector

# What the NSDS-D is Not

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The NSDS-D is not a data warehouse

Data will not be collected and housed under the demonstration project  
We will have a compute environment where data can be linked and analyzed



Participation in the NSDS-D by federal agencies is not mandatory

# NSDS-D Governance and Oversight

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## NSDS-D Executive Committee

Co-chaired by Karin Orvis, Chief Statistician of the U.S., and Emilda Rivers, Director of NCSES.  
Provide overall guidance for the demonstration project.



## S-NSDS

Subcommittee of the Interagency Council on Statistical Policy (ICSP)  
Develops projects to explore potential NSDS capabilities  
Provides feedback on NSDS-D projects.

# NSDS-D Timeline

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**Congress  
Authorizes NSDS-D**

**August 2022**

**NSDS-D  
Activities Begin**

**January 2023**

**Report Due to  
Congress**

**August 2024**

**NSDS-D Ends**

**August 2027**



# Demonstration Projects

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An environmental scan of privacy preserving technologies and techniques.



Utilizing Privacy Preserving Record Linkage to Link Data from Two Federal Statistical Agencies (NCSES/NCHS)



Utilizing Privacy Preserving Record Linkage with Parent Agency Data and Statistical Agency to Inform Programs and Policies (NCSES/NSF)



A tiered data access framework to broaden data access opportunities, including the use of synthetic data and data disclosure protections such as noise infusion.

# NSDS-D Projects, Continued

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A use case analysis of the Federal Committee on Statistical Methodology Data Protection Toolkit.



Exploration of a data concierge service to help users refine research questions, discover relevant data, and acquire access to data.



The establishment of a secure compute environment to serve as a sandbox to test innovative technologies and conduct data analysis and an environmental scan of existing compute environments.



Creating and Validating Synthetic Data (NCSES/Census, Annual Business Survey)

# NSDS-D Projects, Continued

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Exploration of potential options for the development of a future publicly accessible platform that provides information on federal statistical data usage and publications that result from the use of the data.



Exploring strategies to address equity issues within the Federal Statistical Research Data Centers.

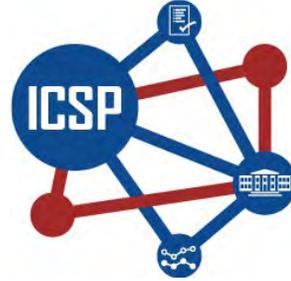


Explore interoperability of vital statistics data (NCHS/NCSES).



Evaluation of Noise Infusion for Large-Scale Demographic Sample Survey (Survey of Doctorate Recipients)

# Organizations Collaborating on FY23 NSDS-D Projects



Clinovations Government + Health

Duality Technologies

HealthVerity, Inc.

ICPSR - University of Michigan

Knexus Research Corp.

Mathematica, Inc.

NORC at the University of Chicago

RTI International

The Urban Institute



# Stay up to Speed on Projects

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Visit the NCSES National Secure Data Service  
Demonstration Project webpage

[nces.nsf.gov/nsds](https://nces.nsf.gov/nsds)



Visit America's DataHub Consortium's Award page

[americasdatahub.org/awards/](https://americasdatahub.org/awards/)





Thank you!  
Questions? Contact [hmadray@nsf.gov](mailto:hmadray@nsf.gov)

# Opportunities to Engage in ADC/NSDS-D activities

Mr. Mike Atkinson, Vice President, Manufacturing and Information Management Division  
Advanced Technology International



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# Collaborative Public-Private Partnership

## Government (Public)



### Government PMO

Lead agency, Agreements  
Officer (AO) and AO  
Representative

Federal Statistical Agencies  
Other Federal Agencies  
State/Local Agencies  
Tribal Governments  
Other Public Stakeholders



## “The Bridge”

Overarching  
Other Arrangement

## Consortium (Private)



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Industry leaders, **nontraditionals**, and **academic organizations** conduct the research projects.



Consortium Management Firm, facilitates ADC collaborative activities, contractual and financial administration of research projects.



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# What does ADC offer?



## Expanded Access & Collaboration

- ✓ Recruitment of **60** nontraditional\* innovators
- ✓ **12** collaboration events (topic briefs, matchmaking)



## Communication & Transparency

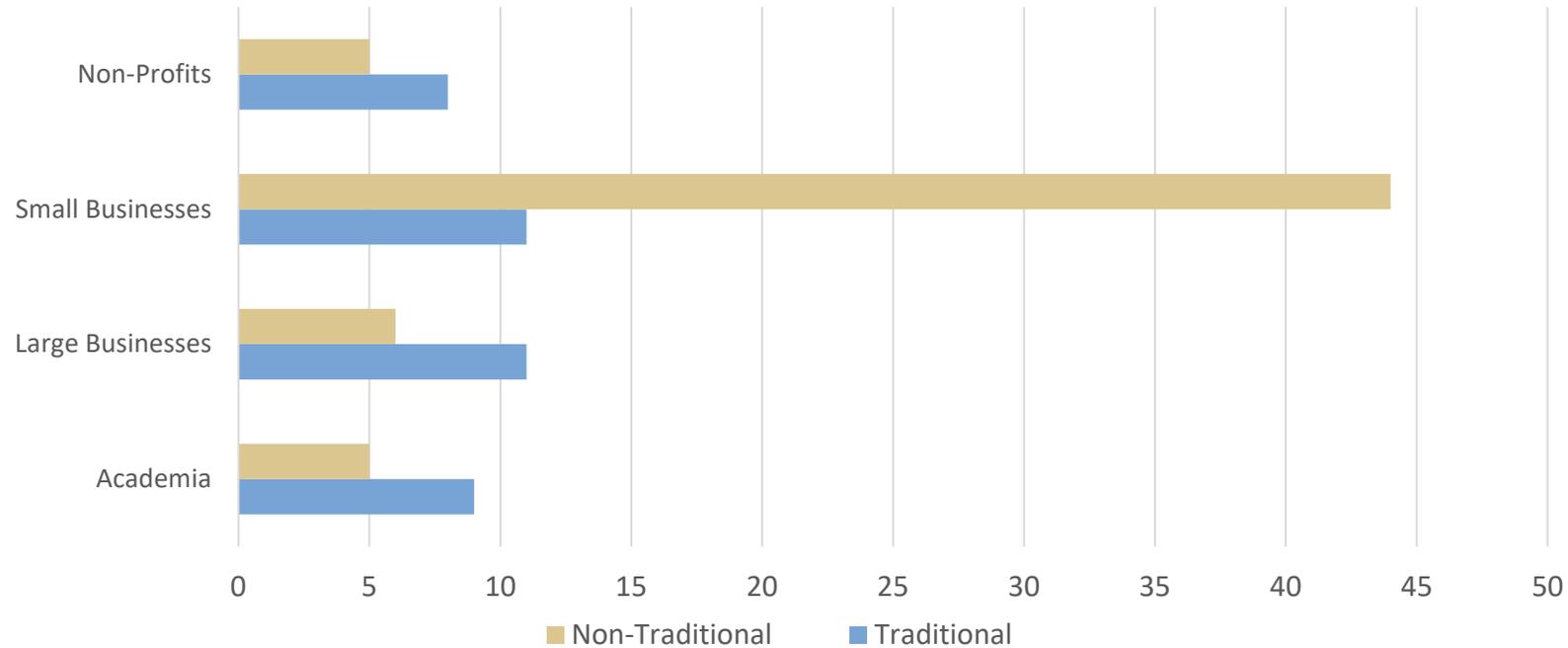
- ✓ **13** project opportunities broadly advertised
- ✓ Press Releases for new awards shared on media outlets with **64M** visitors per month



## Fast, Flexible, & Seamless Execution

- ✓ Streamlined acquisition instrument (not FAR-based)
- ✓ Rapid contracting support (**89** avg. days to award)

# ADC Membership



**Non-traditional\*: 60**

**Traditional: 39**

**Total Members: 99**

(\*Have not had a contract with NSF in 3 years)

Membership Data as of October 16, 2023

<https://www.americasdatahub.org/current-members/>

**ADC membership is not required to respond to a solicitation, but if selected, the must join if not already a member.**



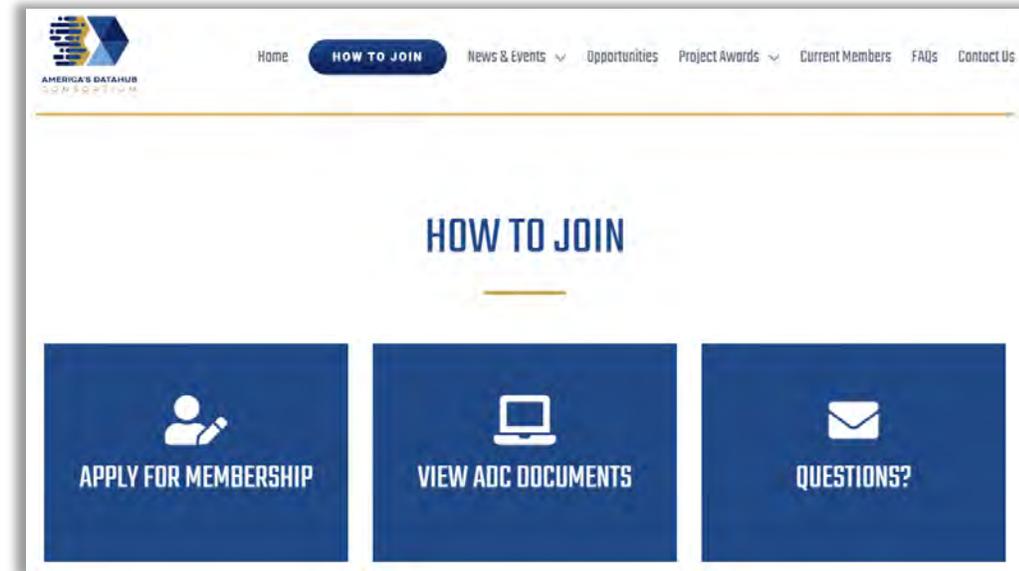
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# How to Join

- Apply for membership at <http://www.americasdatahub.org>
- Complete the online application
- Membership dues are waived

# Who Can Join

- Non-profit entities
- Small businesses
- Large businesses
- Academic organizations



<https://www.americasdatahub.org/how-to-join/>

# In support of Transparency for the NSDS-D

- Project Opportunities
- Project Awards
- NSDS Fact Sheet
- Press Releases
- Events and Webinars
- Latest News and Blog

National Center for Science and Engineering Statistics (NCSES)

## National Secure Data Service Demonstration Project: What You Need to Know

The recent signing of the CHIPS and Science Act of 2022 has inspired interest in the National Secure Data Service through piloting a demonstration project. Below you'll find answers to common questions about the project.

### What did the CHIPS and Science Act of 2022 authorize for the NSDS-D?

On August 9, 2022, President Joe Biden signed the CHIPS and Science Act of 2022 into law. The legislation authorized the National Science Foundation (NSF) to establish a National Secure Data Service Demonstration Project, or NSDS-D, operated directly or via a contract by the National Center for Science and Engineering Statistics (NCSES). Per Section 10375, the NSDS-D must:

- Consult with the OMB and the National Artificial Intelligence Initiative Act of 2020 Interagency Committee.
- Align with recommendations from the Advisory Committee on Data for Evidence Building (ACDEB).
- Engage with Federal, state, local, and tribal government agencies in support of evidence building.
- Use processes, systems, and technologies to protect restricted data, statistical products, privacy, and confidentiality under the Confidential Information Protection and Statistical Efficiency Act (CIPSEA) of 2018.
- Ensure transparency to the American public.

### What is the vision for the National Secure Data Service (NSDS)?

An NSDS would provide a platform of shared services to streamline and innovate data access, data linkage, and privacy-protections to support expanded data use. Collaboration with all levels of government – including state, local, and tribal governments, as well as non-government stakeholders – will be critical in developing this data ecosystem. The ultimate goal of an NSDS is to support decision-making through the use of data, with particular emphasis on decisions about public programs and policy.

To support this vision, investments to enhance innovations for data linking, data protection, and streamlining processes across the federal government will be critical. The five-year demonstration project (NSDS-D) will inform decisions about whether an NSDS is established and the form it will take, determining what shared services are needed and are most effective, as well as what innovations can support an NSDS.



# Stay Engaged

✉ Solicitation and Contract Related Questions: [ADC-Contracts@ati.org](mailto:ADC-Contracts@ati.org)

✉ General/Membership Questions: [adc@ati.org](mailto:adc@ati.org)

✉ Join the ADC Mailing List: <https://www.americasdatahub.org/adc-mailing-request-form/>

## Visit the ADC Website

Stay in the loop with ADC events, solicitations, project awards, news, members, and more!

[www.americasdatahub.org](http://www.americasdatahub.org)



# Reminder: Submit to the Idea Bank

## Calling all ideas! Help us shape a data-driven future.

We are inviting all members of the public to join us in  
contributing insights to our new

### IDEA BANK

By sharing YOUR ideas, you can directly inform  
future project solicitations and activities conducted  
by ADC, and shape a potential National Secure Data  
Service.

[Submit Ideas Here](#)



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# Listening Session

- What project topic areas would be of most interest to you?
  - Privacy Preserving Technologies (PPT)
  - Data collection, access, linkage, and standards
  - Statistical and other quantitative analyses
  - Other (furthering ACDEB Year 2 Report NSDS recommendations)
  - Legal frameworks
  - User Tools
  - Stakeholder Engagement
  - Artificial Intelligence
- What other activities would you like ADC to undertake?
- What type of engagement opportunities are of most interest? (e.g., project updates, networking, one-on-ones, virtual/in-person, etc.)
- What process improvements can we make?
- How can we better serve you?

