



AMERICA'S DATAHUB
CONSORTIUM

Foreign-Born Scientists and Engineers and the U.S. Workforce

Vipin Arora

National Center for Science and Engineering Statistics (NCSES) Deputy Director

October 27, 2021





AMERICA'S DATAHUB
CONSORTIUM

“As more countries offer their students reasons to stay in their own country for their education or to return home after earning a degree, the U.S. could face a shortage in a critical segment of its workforce.”
(National Science Board, 2020)



AMERICA'S DATAHUB
CONSORTIUM

Who is NCSES and What is ADC?



At NCSES we provide critical information on the scientific progress that drives American well-being



**AMERICA'S DATAHUB
CONSORTIUM**

Research and Development Statistics



S&E Education and S&E Workforce Statistics



America's DataHub will be an enduring national asset where people and data securely come together to benefit us all



AMERICA'S DATAHUB
CONSORTIUM

Statistical Agency with Legal Authority



Activities

- Expand public access to federal survey data
- Acquire and integrate administrative and other non-traditional data sources
- Provide data-linkage capabilities
- Ensure privacy protection protocols are followed
- Foster working relationships among all levels of government and non-government
- Analyze data and produce new and improved data products
- Expand information dissemination through new media



Outcomes



Modernized data infrastructure



Increased innovation



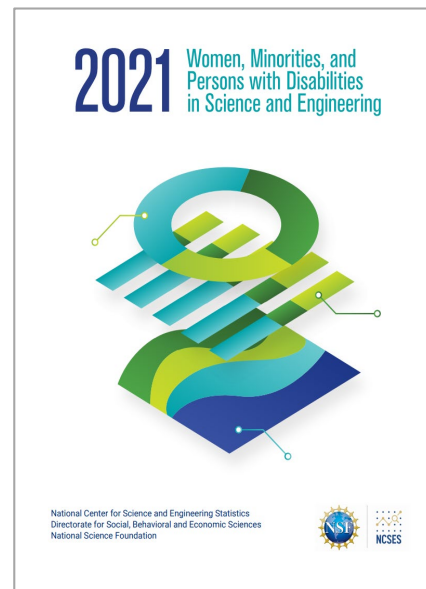
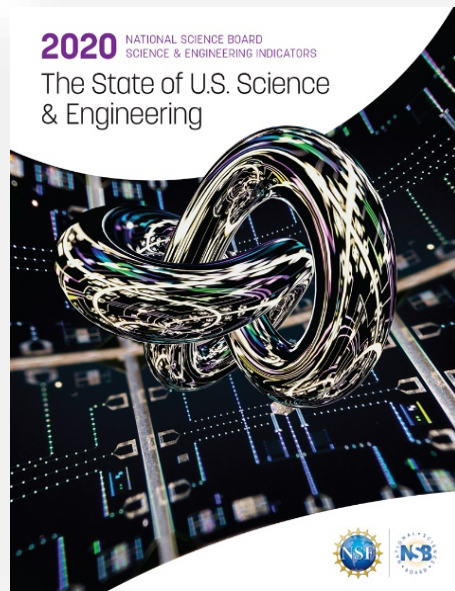
Expanded partnerships

We formed ADC to advance our work and support government-wide needs

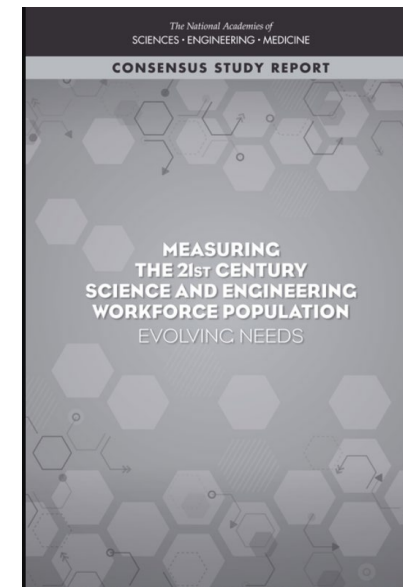


AMERICA'S DATAHUB
CONSORTIUM

Congressionally Mandated Reports



External Recommendations



Collaborative partnerships are the key



AMERICA'S DATAHUB
CONSORTIUM



Project Requestor
Organization or individual that submits a Topic/Question to be addressed by ADC members.



Government PMO
Lead agency, Agreements Officer (AO) and AO Representative

ADC Technical Advisory Committee
ADC member elected body to represent consortium constituency (to be formed)



Advisory Board
Governance body that provides guidance and oversight of ADC operations (to be formed)



AMERICA'S DATAHUB CONSORTIUM
Industry leaders, nontraditionals, and academic organizations conduct the research projects.



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



Project Solutions

We are taking a phased approach



AMERICA'S DATAHUB
CONSORTIUM

	PHASE 1 0-12 Months	PHASE 2 12-24 Months	PHASE 3 24-36 Months	PHASE 4 36 Months +
Priority Considerations	Technology	Legal Barriers Legislation Technology	Governance Sustainability Legal Barriers	Resources Sustainability
Focus Areas	Data Linkage Data Security and Privacy	Data Access Data Linkage Data Security and Privacy	Data Infrastructure Data Access	Data Infrastructure Data Access
Project Requestor	NCSES/NSF	Other Agencies	Individual decision and policy-makers and researchers	Broad public with evidence- based needs

Informs...
NSDS



AMERICA'S DATAHUB
CONSORTIUM

Foreign-Born Scientists and Engineers (FBSEs) and the U.S. Workforce



Key Issue



AMERICA'S DATAHUB
CONSORTIUM

Evidence building to understand the availability and demand for global science and engineering training and talent

ADC will bridge the knowledge gap



AMERICA'S DATAHUB
CONSORTIUM

INFORMATION GAPS AND DISPARATE DATA...

about global science and
engineering talent



AMERICA'S DATAHUB
CONSORTIUM

POLICY-RELEVANT EVIDENCE...

about global science and
engineering talent

Return on investment

Privacy

Presumption of

Data access and linking

accessibility

Permanent

Models

KNOWLEDGE GAP

residency and
citizenship

Key evidence building considerations range from return on investment to data accessibility



AMERICA'S DATAHUB
CONSORTIUM

- What is the ROI on U.S. training of FBSEs?
- How many FBSEs go on to gain permanent resident status in the U.S. or become U.S. citizens?
- Do FBSEs return to their country of citizenship and what contributions do they make to the global science and engineering enterprise after they complete their education?
- What are key challenges with accessing, linking, and using information on FBSEs?
- What are the successful approaches to using the presumption of accessibility in the Evidence Act?
- What privacy preserving techniques can be used to protect confidentiality?
- What models and estimation methods are best suited to fill information gaps?
- Are the resulting data and models fit to use to inform policy discussions?

There are many informational gaps on FBSEs



AMERICA'S DATAHUB
CONSORTIUM

- We lack comprehensive information on:
 - FBSEs who come to the U.S. after their training
 - FBSEs who earn associate's, bachelor's, and master's degrees in the U.S. (but not doctorates)
 - FBSEs at all levels in terms of their patterns for staying in the U.S. after their education/training and their international mobility patterns

Filling those gaps will require working with disparate data sources



AMERICA'S DATAHUB
CONSORTIUM

- Existing data and analyses on FBSEs are spread across government agencies, academic institutions, and non-profit entities
- Bringing together such information will require:
 - Obtaining access to traditional and organic data sources
 - Securely linking that data
 - Working with co-mingled information
 - Evaluating the fitness for use of the resulting information



AMERICA'S DATAHUB
CONSORTIUM

Next Steps



Timeline



AMERICA'S DATAHUB
CONSORTIUM

	Date Estimate
Request for Solutions Release	Nov 5
FBSE Webinar	Nov 9
Whitepaper Deadline	Nov 19
Whitepaper Feedback	Nov 30
Proposal Deadline	Dec 17
Offeror Notifications	Dec 21
Award Projects	Dec 23

Visit the ADC Website



AMERICA'S DATAHUB
CONSORTIUM



<https://www.americasdatahub.org/>

Events, Solicitations, Project Awards, News, Members and more will be posted here



AMERICA'S DATAHUB
CONSORTIUM

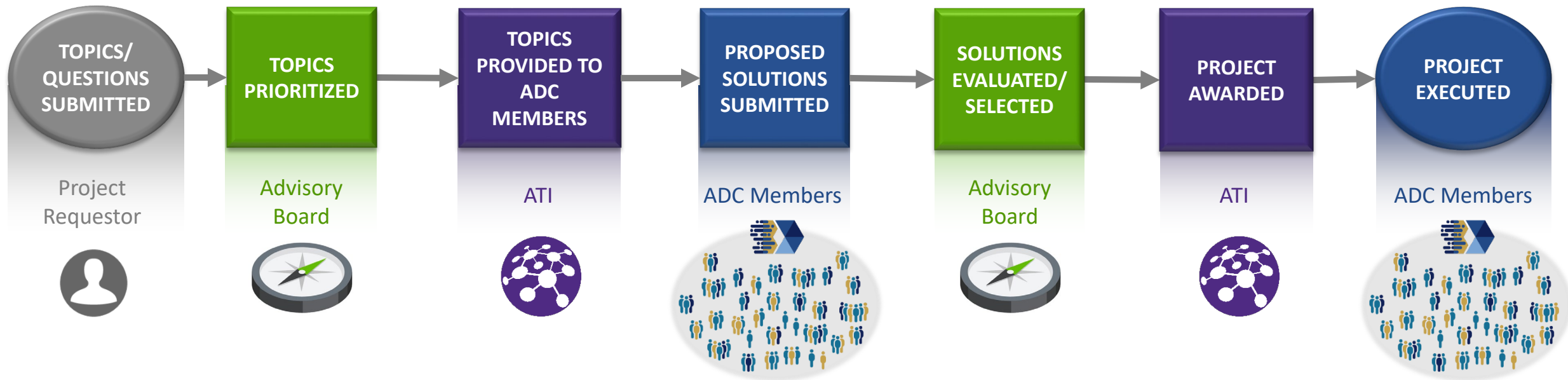
Stay Engaged

- **Industry/Academia:** [Join ADC](#) if you have not already
 - Membership not required to submit a whitepaper but you are encouraged to do so
- **Government:** Get on the [mailing list](#) for announcements
- Questions? Email adc@ati.org

How to use the ADC



AMERICA'S DATAHUB
CONSORTIUM



Project Award Announcements will be posted on ADC website