

BIG DATA REGIONAL INNOVATION HUBS & SPOKES

Program Briefing

Fen Zhao

April 17, 2017

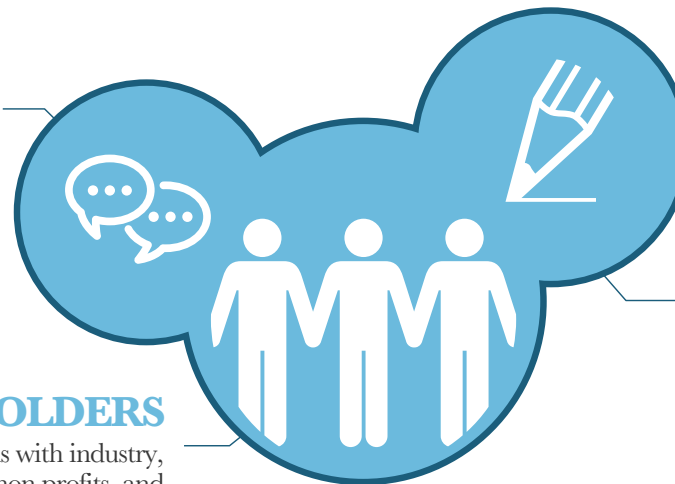
KEY TAKEAWAYS

01 THE PROGRAM

Brings together domain scientists, computer scientists, and end users to use data to solve challenges

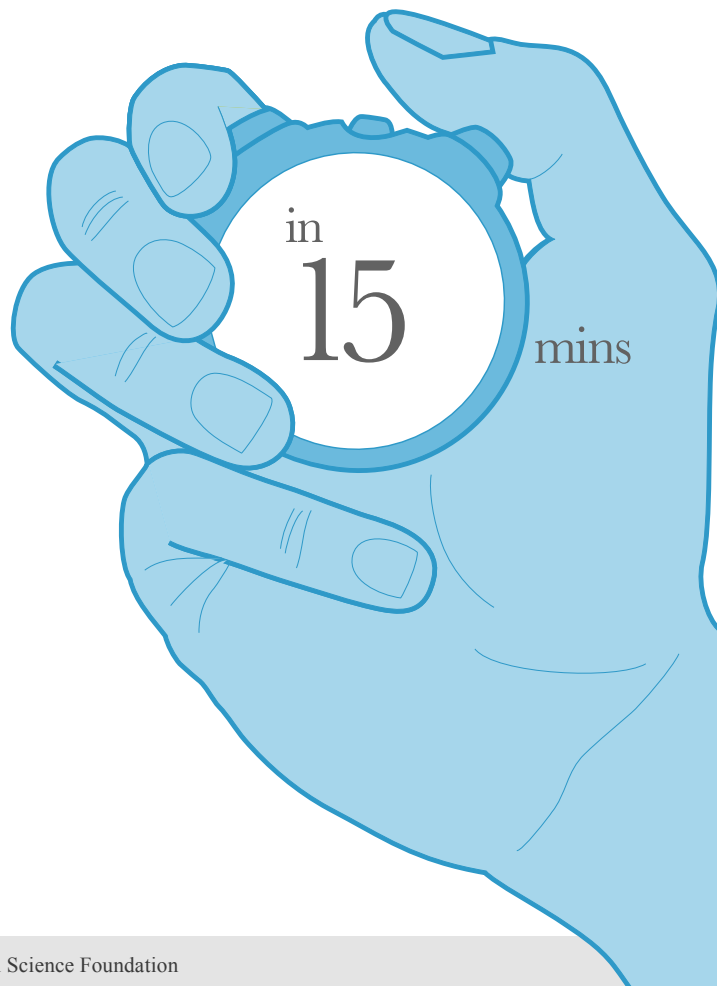
02 THE STAKEHOLDERS

Encourages collaborations with industry, state & local governments, non profits, and others that are not typical NSF participants



03 PARTICIPATION

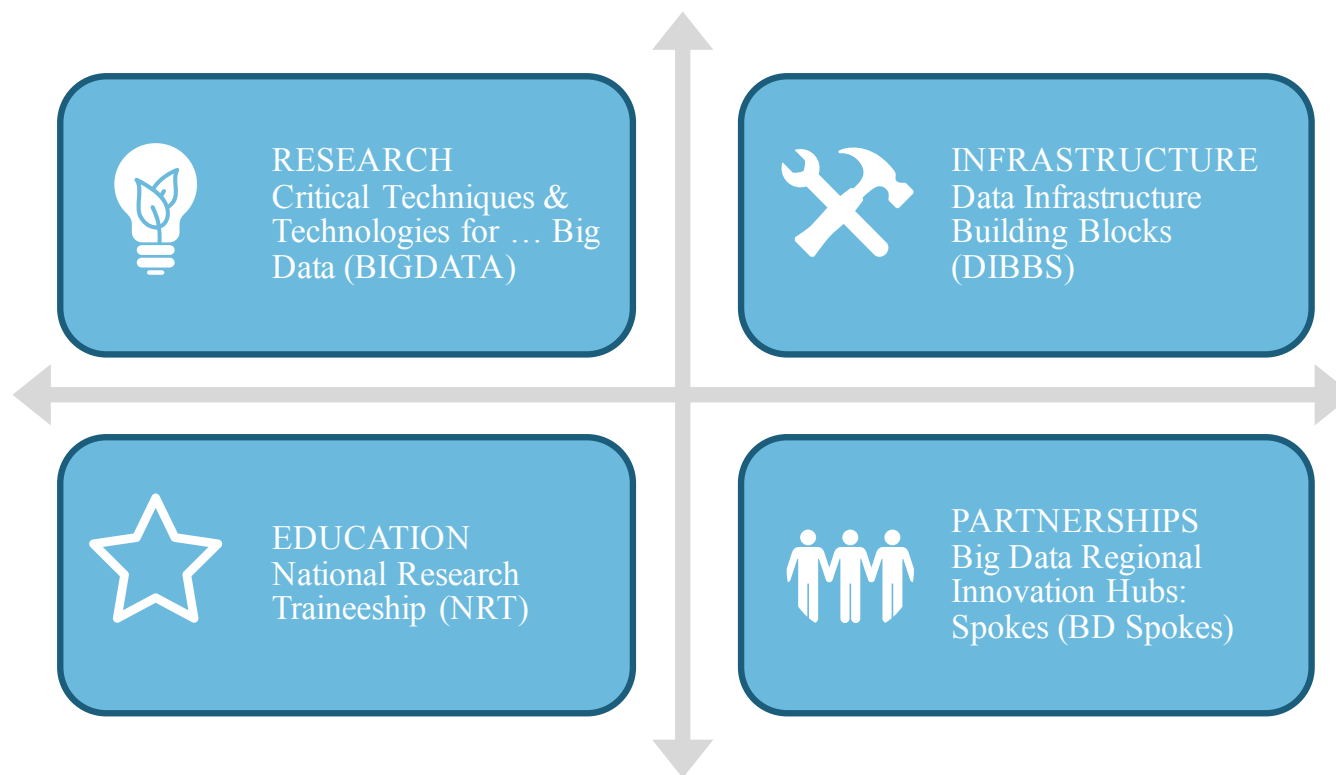
Opportunity the I2 community to participate!



vision of the BDHubs program
activities of funded Hubs
spokes awarded
opportunities for participation

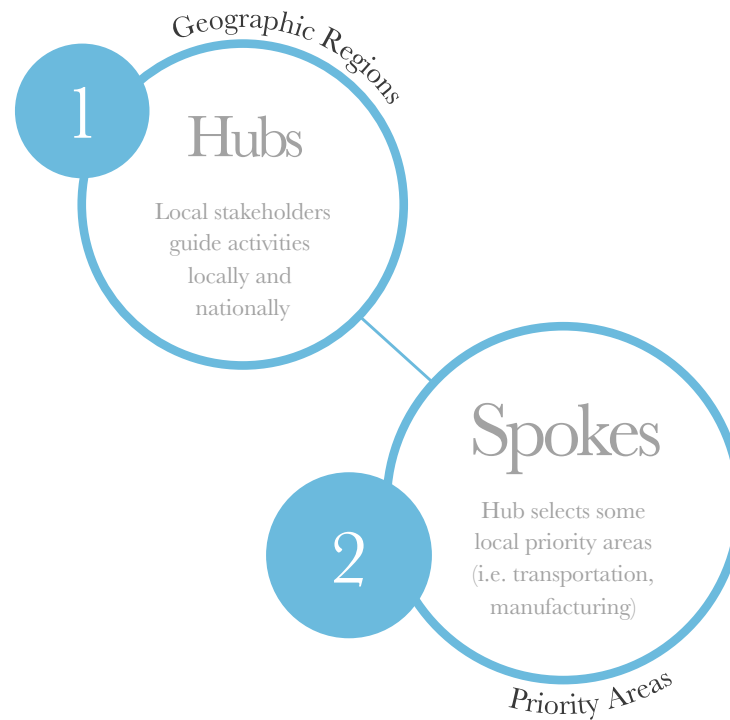
WITHIN THE BIG DATA PORTFOLIO OF PROGRAMS

Within the broader portfolio, BD Hubs and BD Spokes
focuses on building partnerships around Big Data



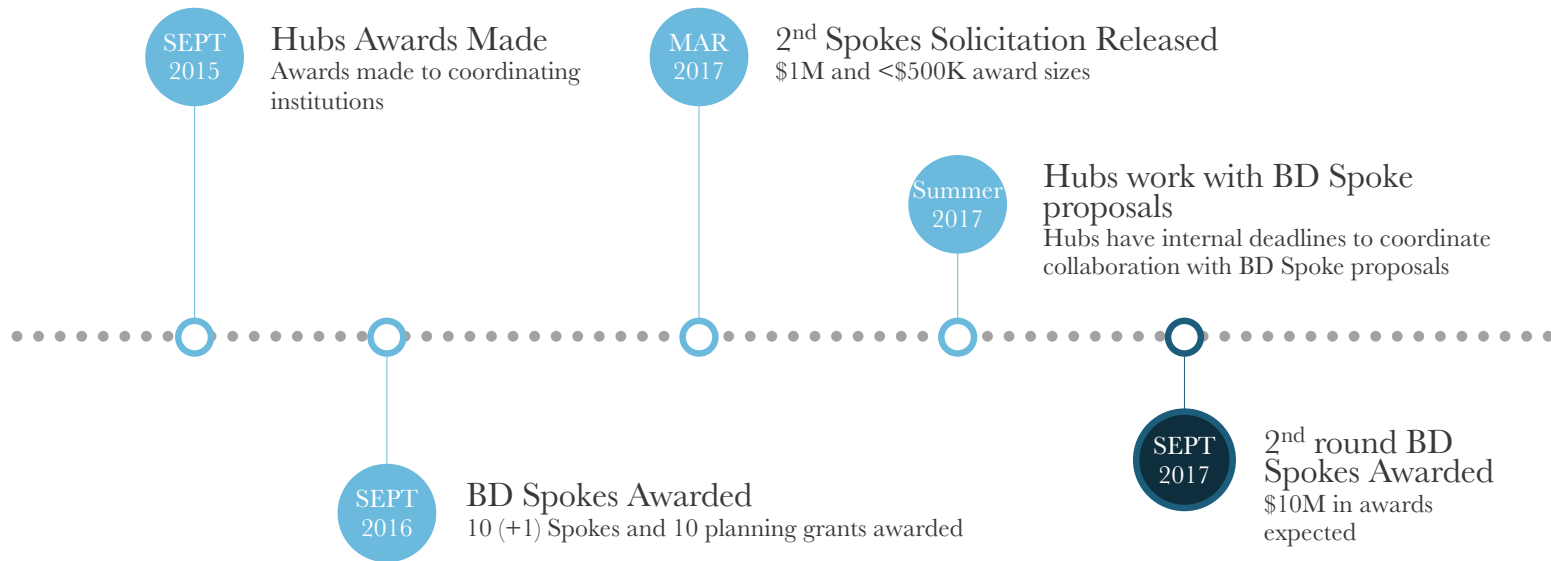
WHAT IS THE BDHUBS NETWORK?

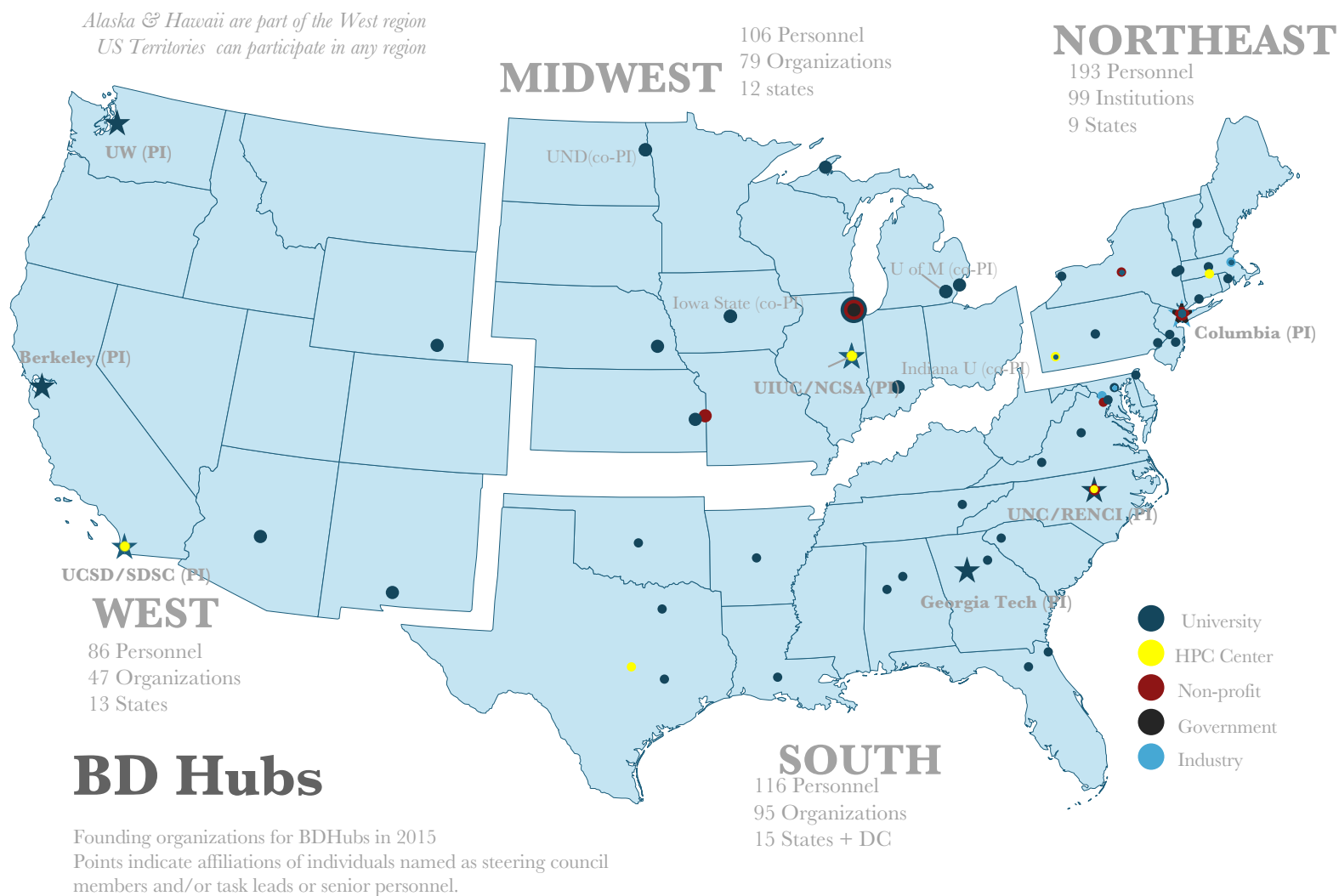
“Hub and Spoke”– A Nation-Wide Network for Data Innovation



THE BD HUBS & SPOKES TIMELINE

Currently





Big Data Hubs and Spokes Ecosystem



Each BD Hub works with multi-institutional and multi-sector teams, or BD Spokes, to organize and coordinate projects to use data to address regional priorities.

\$12M Awarded in FY2016-17:

11 Spokes Grants (\$1M over 3 years); **10 Planning Grants** (\$100K for 1 year)

Themes:

- Improve **data sharing**,
- **Automate** the big data lifecycle, and
- Use data to address societal **grand challenges**

Midwest midwestbigdatahub.org	Northeast nebigdatahub.org	South southbigdatahub.org	West westbigdatahub.org
Neuroscience Network	Licensing Model and Ecosystem for Data Sharing	Medical Informatics	Reproducibility in Scientific Computation
Digital Agriculture	Data-Driven Education	Smart Grids	MetroInsight
Integrative Materials Design	Observational Health Research	Big Data for Environmental Sustainability	Policing in the Western US
Bridge Health	Big Data Literacy	Rare Disease Observatory	Poteogenomics Applications of Genetic Data
Cyberinfrastructure for Sensor Originated Big Data	Big Data Cyber Attack Awareness		
Networked Resilience of Communities	Privacy and Security in Big Data		
	Energy Cycle Innovation		

Spoke Grant
Planning Grant

HUB ACTIVITIES

Hubs ideate and coordinate Spokes, but also host a variety of activities for the community



Microsoft awards
Hubs \$3M in cloud
computing credits

Massive regional
All-Hands with
hundred of attendees

Early career
researcher
programs
with CCC

3 years
sociotechnical
study of Hubs



The strategy behind BD SPOKES

BD Spokes are
not your typical R&D project
nor are they mini Hubs

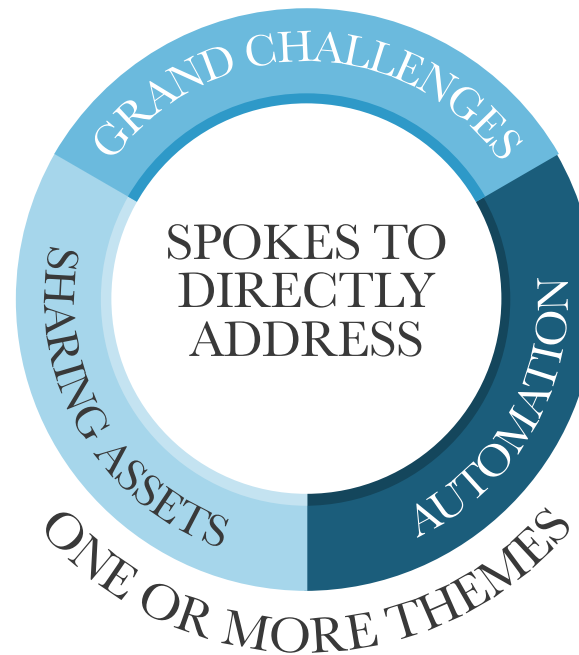
MISSION DRIVEN SPOKES

BD Spokes proposals must articulate a clear focus within a specific Big Data topic or application area, while highlighting their Big Data Innovation theme.

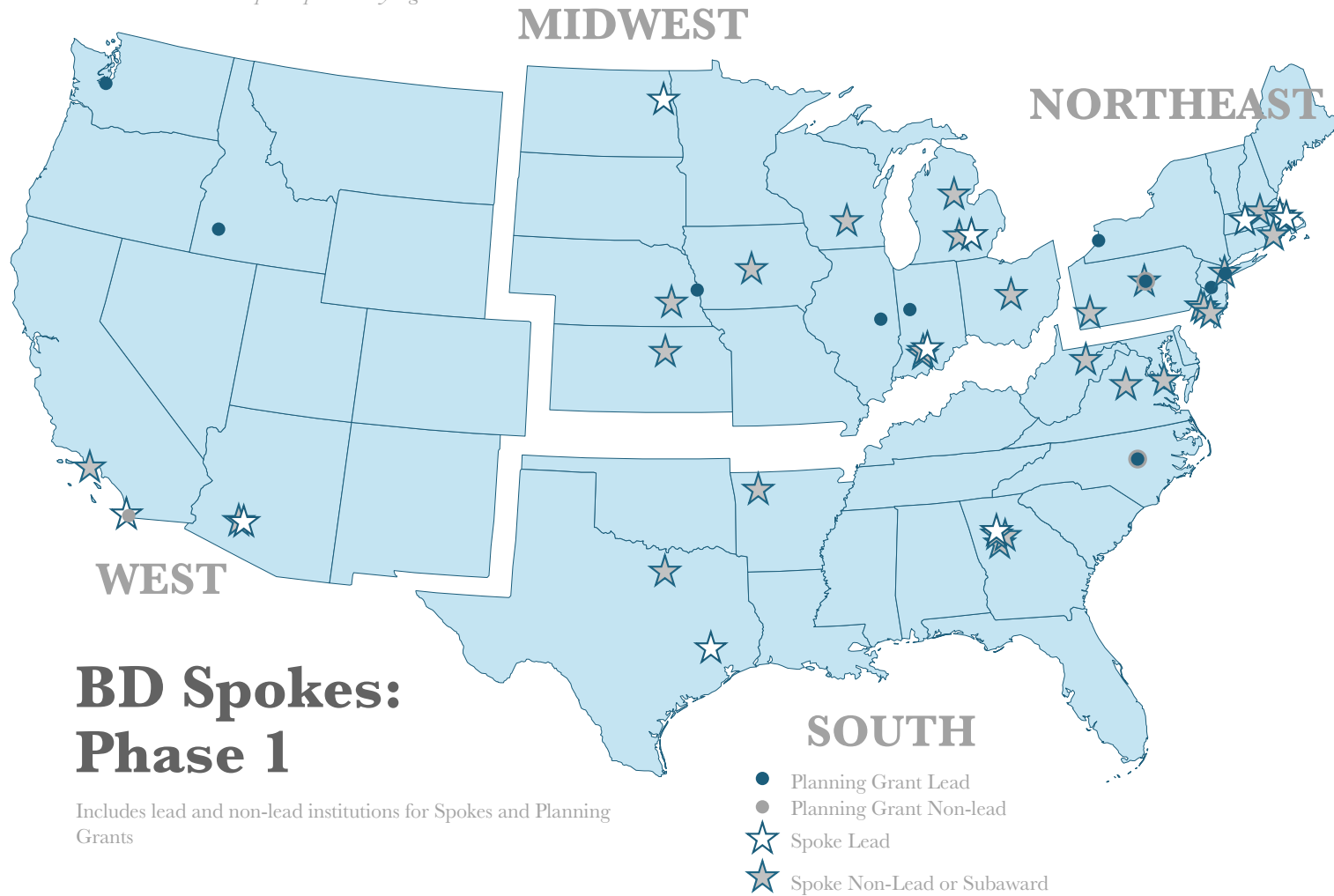
All BD Spokes must have clearly defined mission statements with goals and corresponding metrics of success.

SPOKES MAJOR THEMES

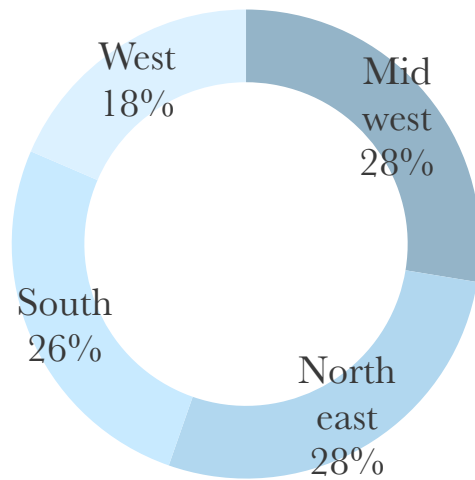
Three different ways of slicing
the Big Data Innovation
problem



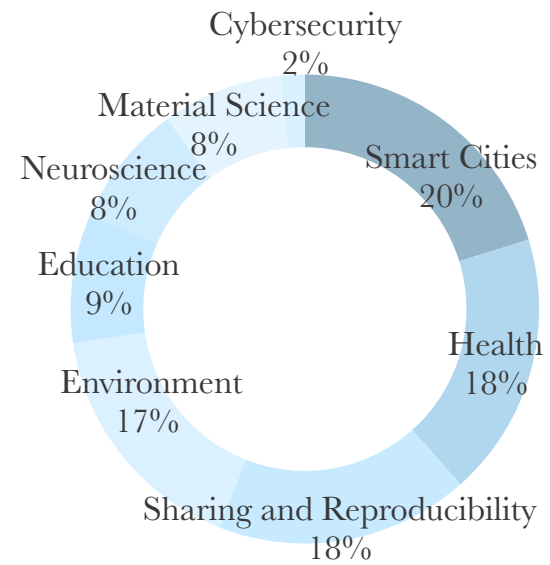
*Alaska & Hawaii are part of the West region
US Territories can participate in any region*



Percent funding per region



Percent funding per topic area

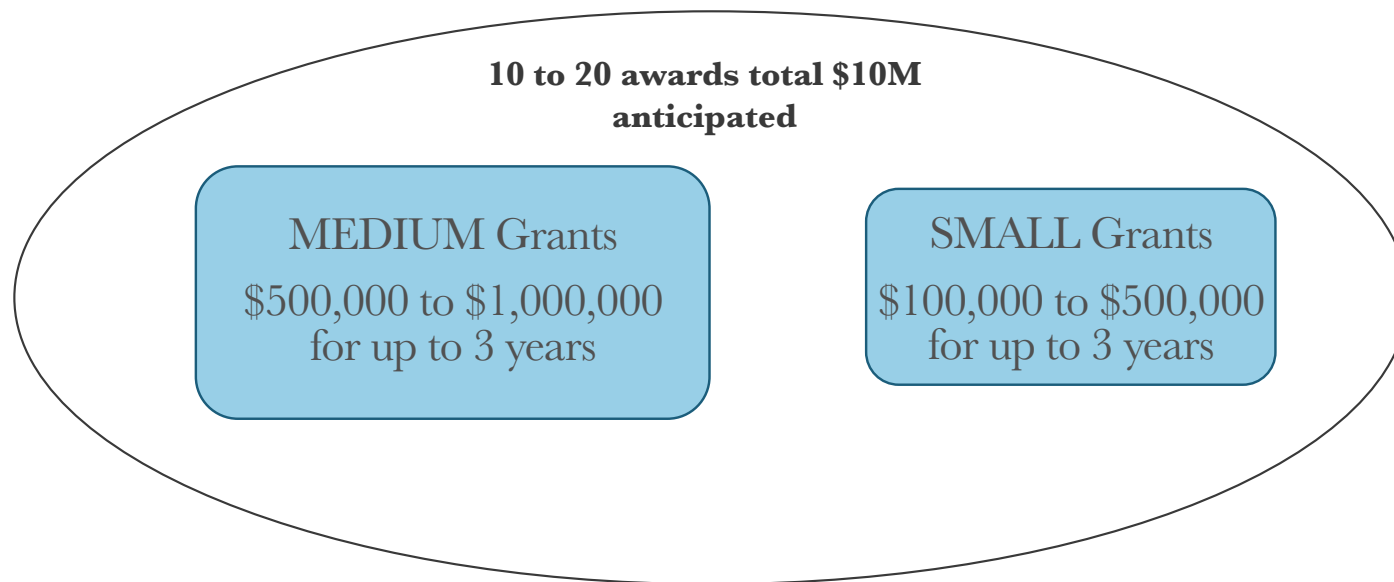


Total Spokes ~\$12M in first round



Big Spokes Solicitation (17-546)

Same 3 Themes: Data Sharing, Automation, Grand challenges



Proposal submission deadline: 9/18/2017
No Letters of Intent

TANGIBLE OUTCOMES

Medium proposals are expected to articulate tangible outcomes:

- **Explicit results** from data-enabled or data-facilitated inquiry in a scientific or engineering field or other domain area, including social science and education research; must explicitly define the field- or domain-specific questions addressed and which specific researchers would be conducting the research to answer these questions
- A **prototype** or proof of concept for a technology platform, data product, data standards, or other data infrastructure
- An innovative **education or workforce development program** with a plan for evaluating the effectiveness of the program. The program could be virtual-, classroom-, or workplace-based and should engage underrepresented groups.



AREAS OF EMPHASIS FY 17

Some NSF priority areas include



NEUROSCIENCE



REPLICABILITY &
REPRODUCIBILITY
IN DATA SCIENCE



DATA DRIVEN
RESEARCH IN
CHEMISTRY



EDUCATION



DATA INTENSIVE
RESEARCH IN THE
SOCIAL,
BEHAVIORAL, &
ECONOMIC
SCIENCES



DATA ANALYTICS
FOR SECURITY



Specifications & Limits

LIMITED COMPETITION

An organization may participate as submitting organization (or, in the case of collaborative proposals, as the lead organization) for at most one proposal responsive to this solicitation.

No limit is placed on an institution submitting a non-lead proposal in a collaborative proposal.

Proposal submissions are limited to maintain a balanced geographic representation of the Regional Hubs and Spokes program and to increase diversity of participating institutions

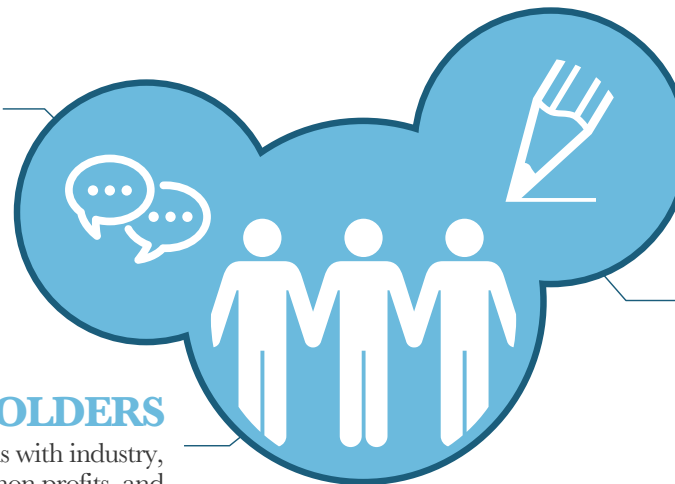
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FOR FURTHER QUESTIONS CONTACT

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