

# MAKING THE IMPOSSIBLE POSSIBLE

Combining Artificial and Collective Intelligence  
to Solve Our Hardest Problems



**IMPACT STUDIOS: SMARTER CROWDSOURCING**



# WICKED PROBLEMS



**N** The Burnes Center  
for Social Change  
Northeastern University

**THEGOVLAB**

The world is beset by wicked problems. We are pushing the boundaries of artificial intelligence to design new approaches to solving them more rapidly.

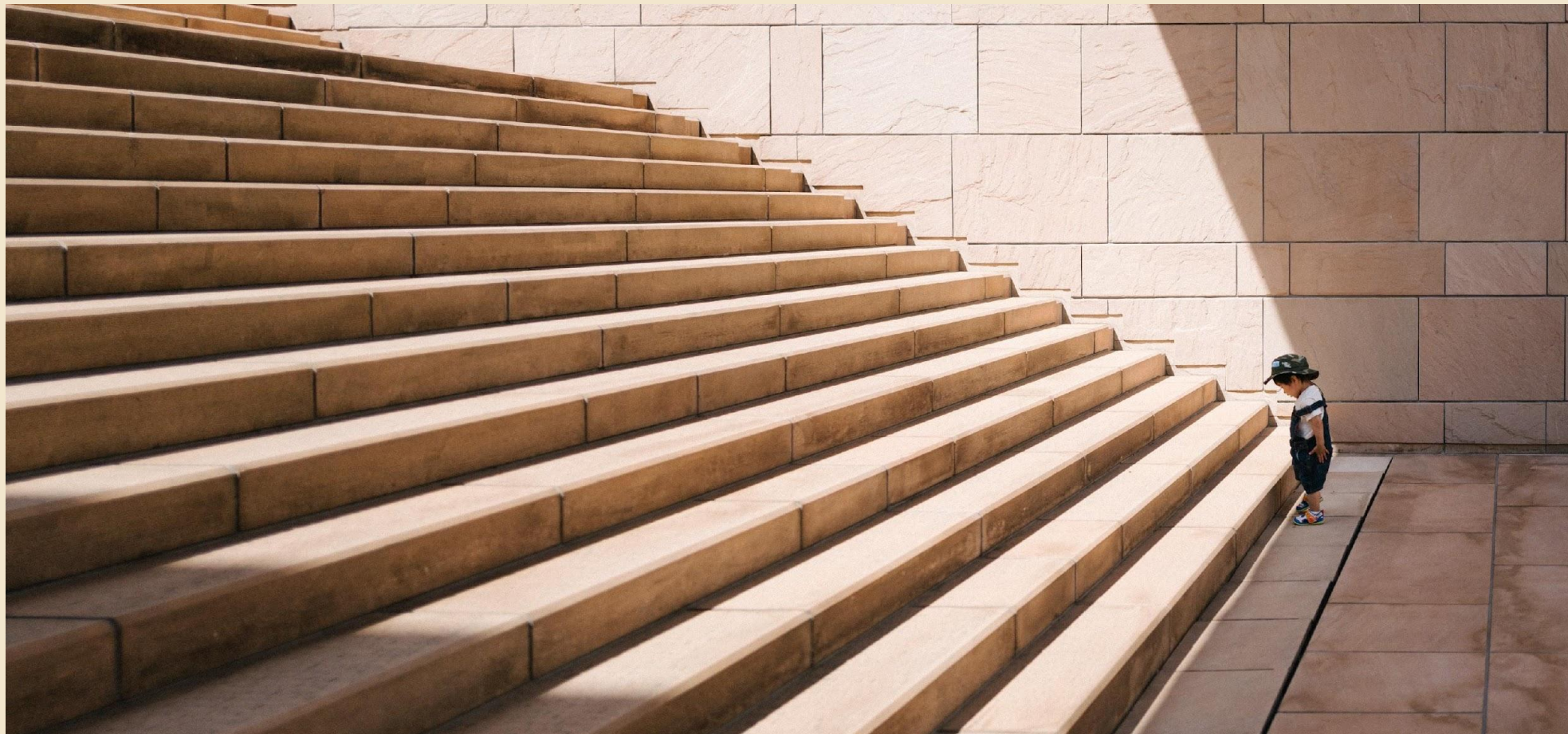




# Tapping Collective and Artificial Intelligence to Tackle Our Hardest Problems

Impact Studios: Smarter Crowdsourcing uses AI to engage community and domain expertise at scale to enable participatory problem-solving that is more legitimate and more effective.





## WHY IMPACT STUDIOS?

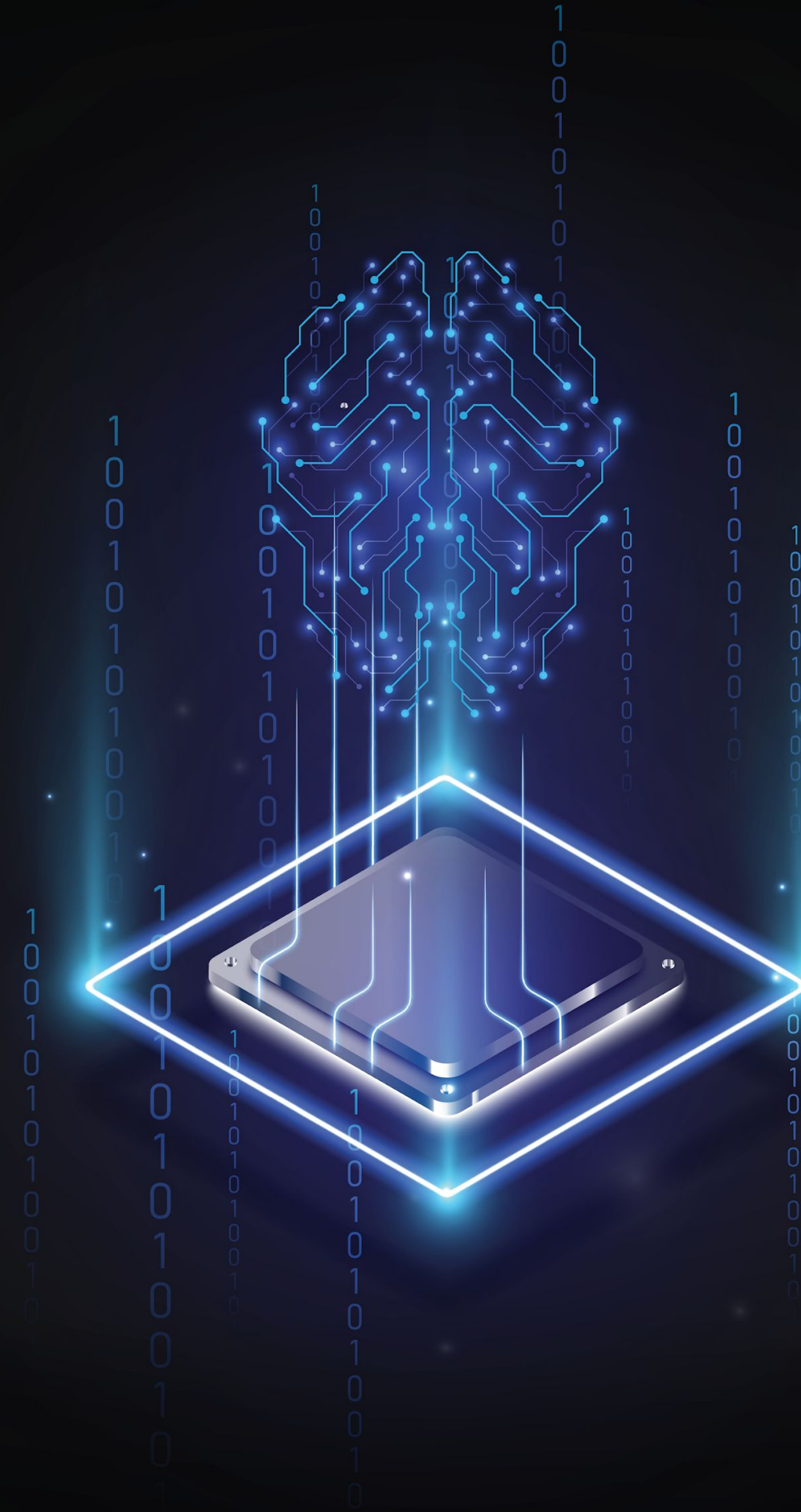
Participatory problem solving in the age of AI

- Institutions need agile, innovative and actionable expertise.
- Universities historically have not been oriented toward real-world impact.
- Effective solutions are not limited to one discipline yet think tanks rarely combine policy with technology, science with psychology.
- Institutions lack the means to tap the intelligence and expertise of a broad array of experts both specialists and communities.
- Artificial intelligence allows us to more efficiently and effectively engage experts.



## Smarter Crowdsourcing: Pushing AI Boundaries to Make Expertise Searchable

The Burnes Center and the Institute for Experiential AI leverage experimental machine learning and natural language processing techniques to identify and source the most relevant experts with practical know how across domains. Our biggest asset are our networks and we leverage them, complemented by technology, for problem solving.



## HOW WE USE AI AT EACH STAGE

### SELECTING AND DEFINING THE PROBLEM

Select the topic and then  
break down the larger  
challenge into smaller, more  
actionable problems.

We use the latest engagement  
platforms to enable us to define the  
problem with affected communities.

### IDENTIFYING EXPERTISE

Identify the smartest people  
globally across domains and  
sectors working on practical  
and innovative solutions to  
the identified challenges.

We use NLP to mine the corpus of  
published articles to help us find  
experts quickly.

### CONVENING THE STUDIO

Bring people together to  
deliberate on solutions and  
uncover what works.

We use AI-driven, real-time  
translation and transcription to  
enable global dialogues.

## HOW WE USE AI AT EACH STAGE

### CONVERTING INSIGHTS INTO ACTION

Transform what we learn into implementation plans and blueprints.

We combine generative AI and human intelligence to turn insight into action.

### FUNDING DEEP DEMONSTRATIONS

Fund implementation of pilot projects to put solutions into practice.

We use the latest collaboration tools to enable social auditing.

### MEASURING IMPACT

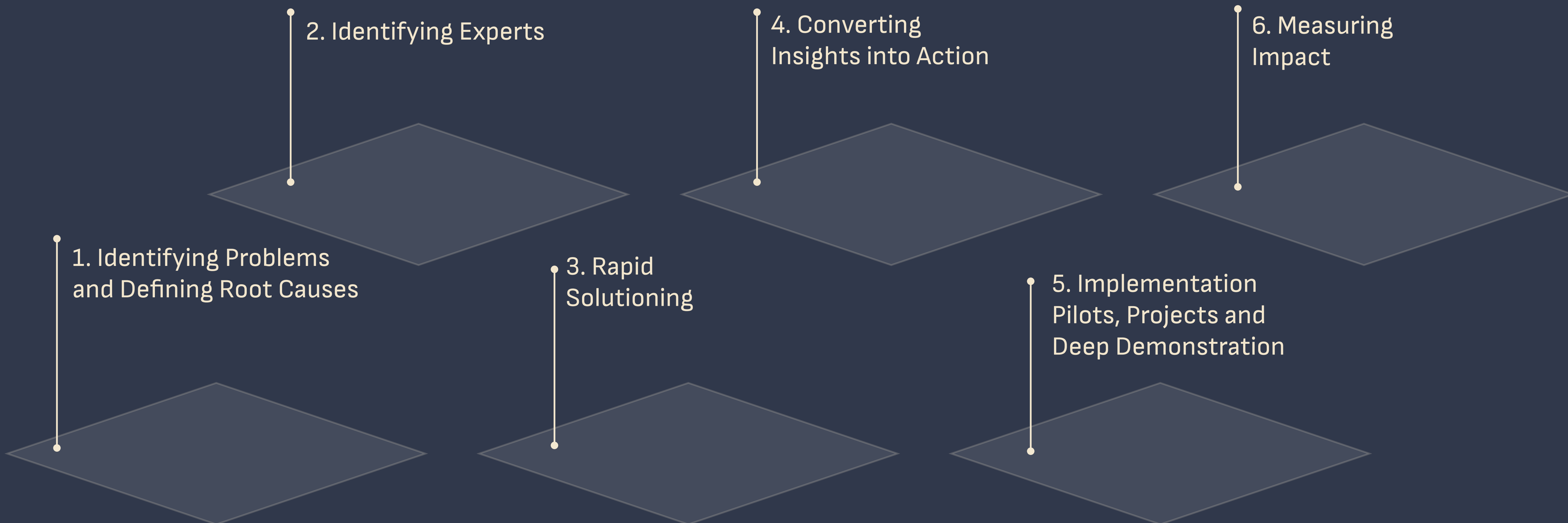
Measure the success of implemented projects in collaboration with the communities most affected.

We create data-driven metrics collaboratively.



# Impact-Oriented Problem Solving

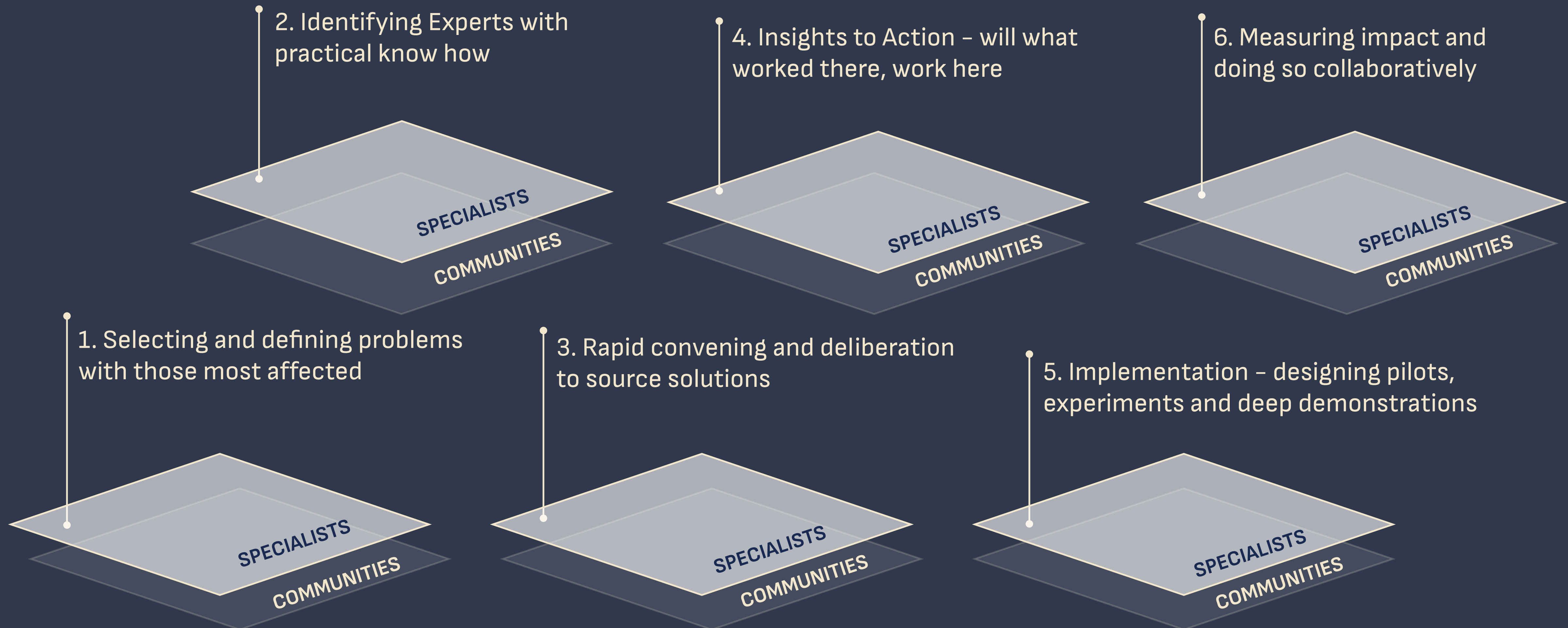
Our participatory problem solving processes go beyond ideation and focus on implementing measurable change and driving real-world impact.





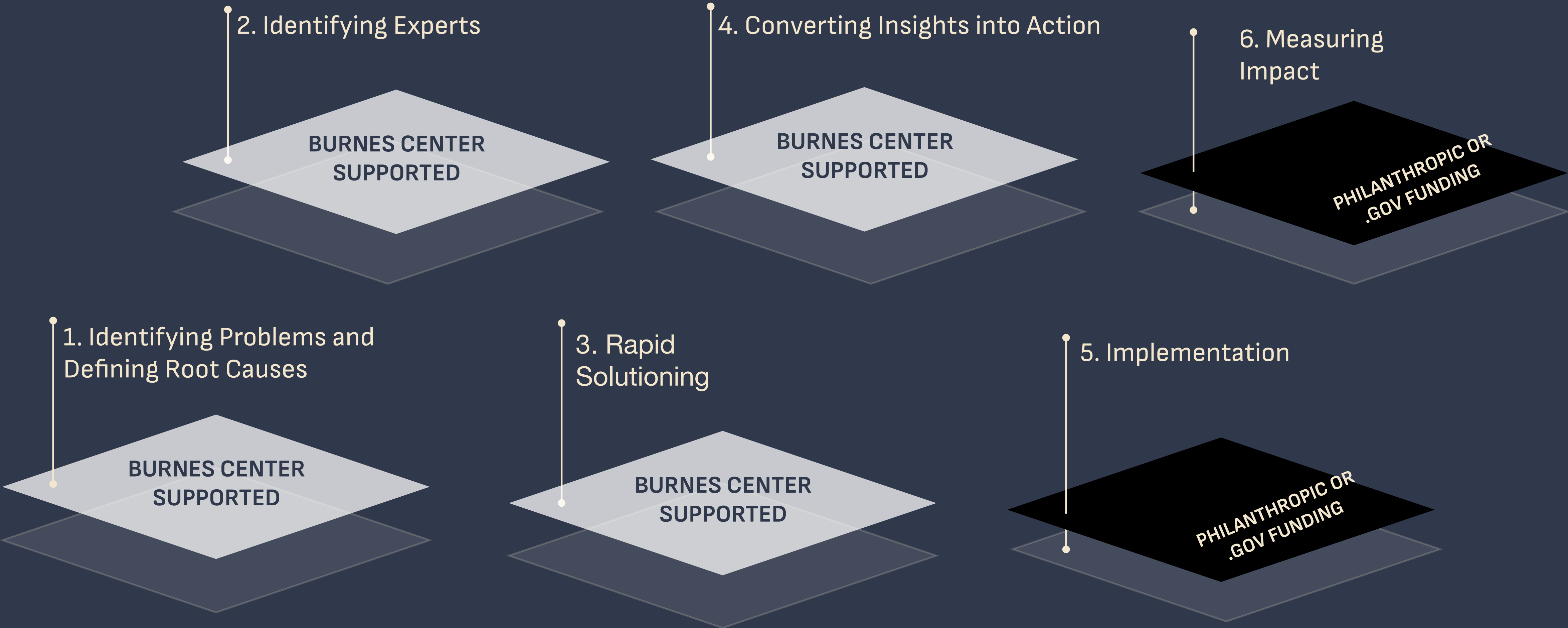
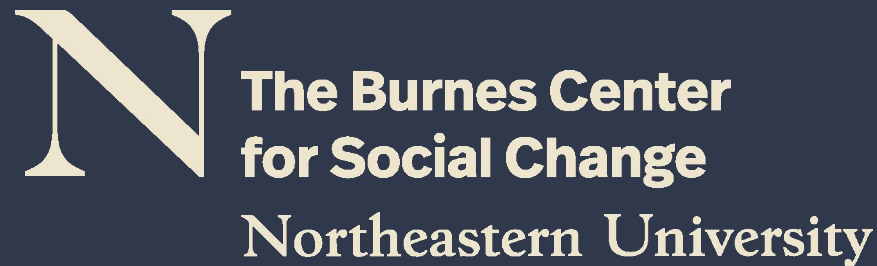
# Participants

We tap the intelligence and expertise of experts: credentialed specialists AND communities to solve problems effectively and legitimately.

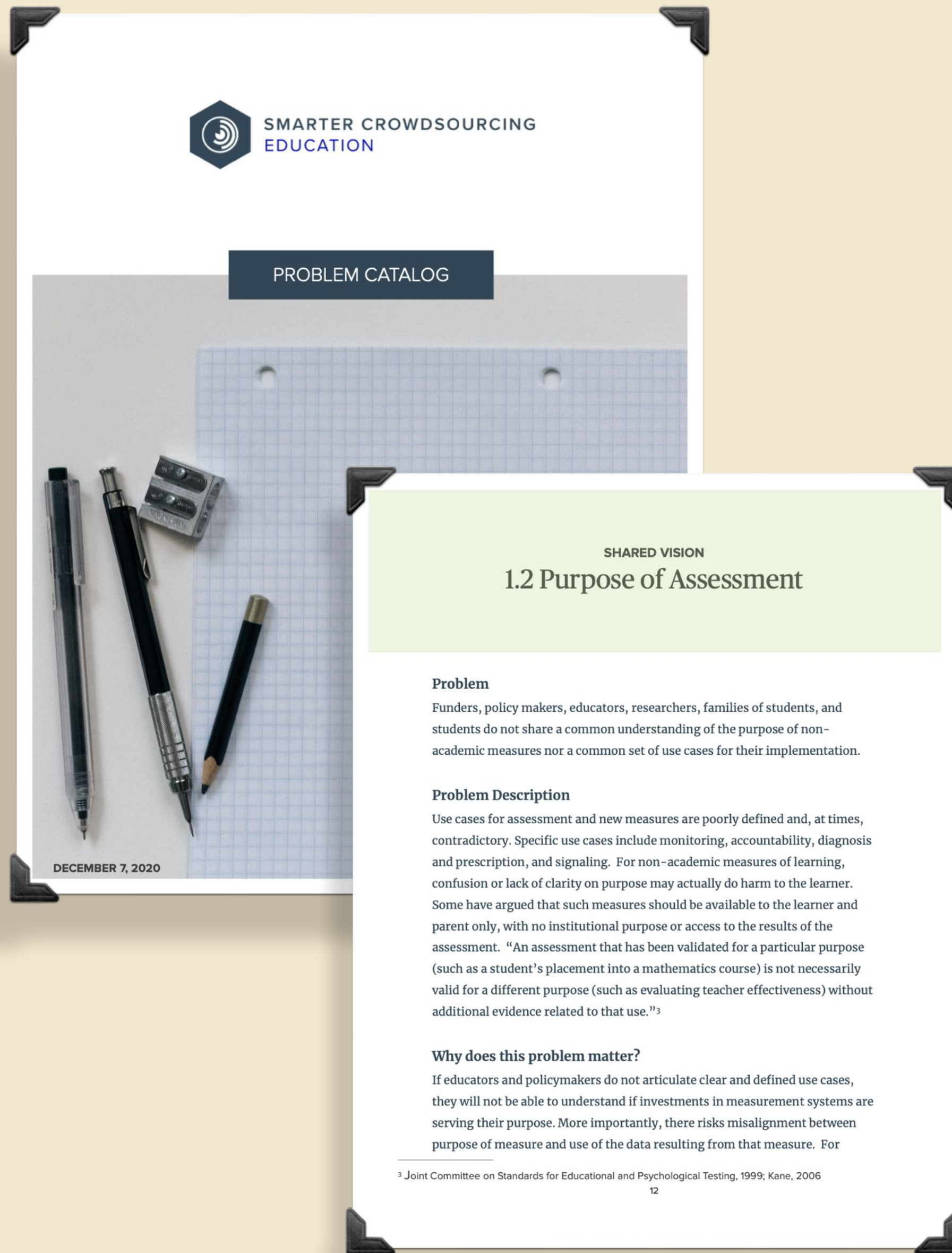


# Funding: An Innovation Ecosystem for Impact

The Burnes Center works with partners to fund implementation







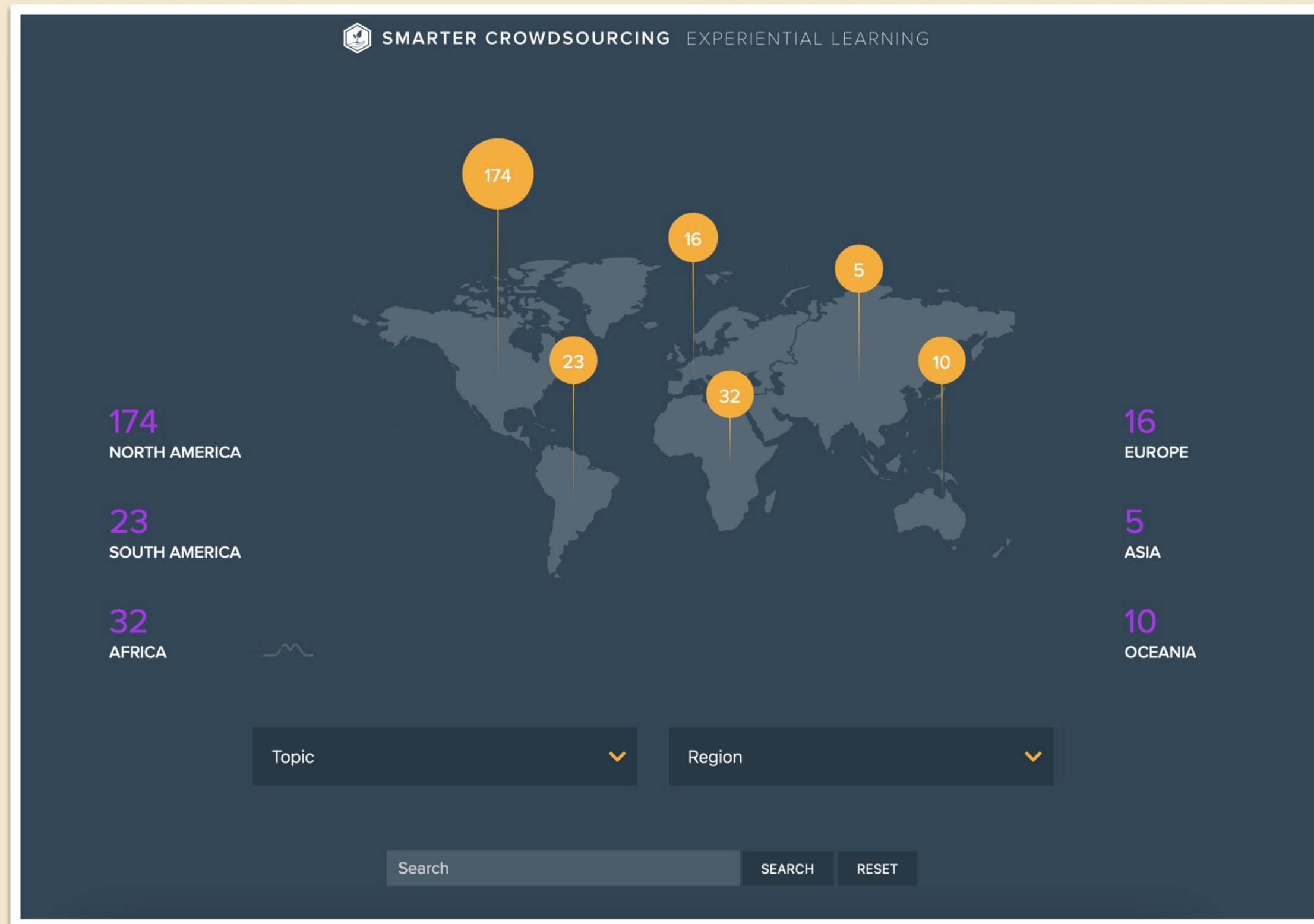
**N** The Burnes Center  
for Social Change  
Northeastern University

 **THEGOVLAB**

# OUTPUTS OF THE PROCESS

## The Problem Catalog

We break down a larger challenge into smaller, more actionable problems and their root causes.

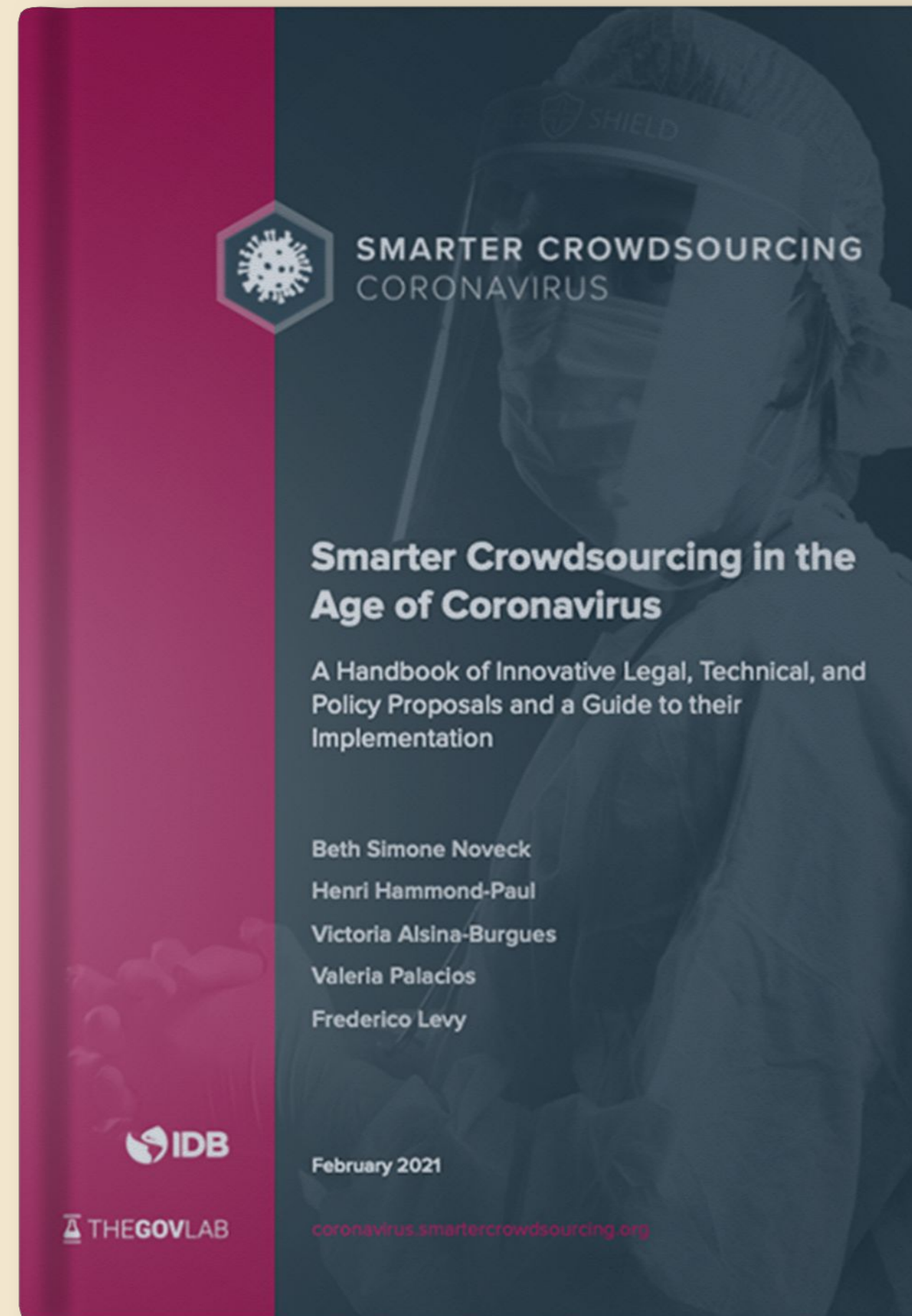


## OUTPUTS OF THE PROCESS

### The Expert Map

We create and share a map of global experts with relevant know how.





**N** The Burnes Center  
for Social Change  
Northeastern University

 **THEGOVLAB**

## OUTPUTS OF THE PROCESS

### Actionable Solutions and Recommendations

We craft recommendations in the form most useful to those in the best position to take action.



## OUTPUTS OF THE PROCESS

### Deep Demonstrations

We work with funders to implement solutions in practice.





## MODERNIZATION

In 2021, in support of the US House Select Committee on the Modernization of Congress, The GovLab is organizing two online advisory sessions to inform the Committee's process of developing recommendations on evidence-based lawmaking.



## EXPERIENTIAL LEARNING

In 2021, at the behest of Northeastern University, the GovLab convened a series of conversations on innovations in experiential learning and the future of the university.



## EDUCATION

In 2020, At the behest of the Walton Family Foundation, the GovLab convened a series of six online deliberations with multidisciplinary experts to address the challenge of equitably identifying and measuring the non-academic skills young people need to succeed



## CORONAVIRUS

In 2020, The GovLab collaborated with the Inter-American Development Bank and its client governments in Latin America and the Caribbean to source innovative solutions to key problems arising from the COVID-19 pandemic.



## THE 100 QUESTIONS

The 100 Questions Initiative seeks to map the world's 100 most pressing, high-impact questions that could be answered if relevant datasets were leveraged in a responsible manner.



## ANTI-CORRUPTION

Worked with the Mexican government, civil society and over 100 global experts in the summer of 2017 to devise specific, workable and impactful solutions to the problem of corruption in Mexico.



## ZIKA

Explored innovative and practical ways to address the causes of mosquito-borne diseases in 4 Latin American countries in 2016.



## COTOPAXI

In 2015, the GovLab convened 65 experts to help government officials in Quito, Ecuador prepare for the imminent eruption of the Cotopaxi Volcano.





## WORKS IN PROGRESS

### Impact Studio: Countering Election Subversion

- This studio will inform Democracy Fund Voice's Resilient Elections grantmaking program.
- Surfacing solutions to safeguard the integrity of election administration in the United States.
- Identifying strategies to guard against election sabotage and election denial narratives that cast doubt on the legitimacy of free and fair elections.





## WHY US?

Northeastern is redesigning the university to solve real-world problems

Burnes and IEAI are university-wide, cross-disciplinary programs with high impact faculty committed to real-world impact.

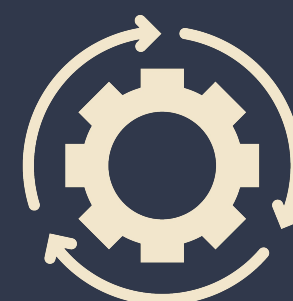


# RESEARCH QUESTIONS

IMPACT STUDIOS HELP US TO ANSWER IMPORTANT QUESTIONS IN COMPUTER AND SOCIAL SCIENCES



HOW DO WE USE ARTIFICIAL  
INTELLIGENCE TO MAKE EXPERTISE  
SEARCHABLE?



HOW DO WE ENHANCE  
LEARNING IN INSTITUTIONS?



HOW DO WE ENABLE MORE  
LEGITIMATE FORMS OF  
PROBLEM SOLVING THAT ARE  
ALSO MORE EFFECTIVE?



## Faculty with a Track Record of Social Impact

- **Jill Abramson** – Professor and Burnes Center Senior Fellow, former Editor in Chief, The New York Times.
- **Kenneth Church** – Professor and former Baidu, IBM and Chief Scientist of the Human Language Technology Center of Excellence at the Johns Hopkins University.
- **Usama Fayyad** – Professor and Executive Director of the Institute for Experiential AI; former former head, Microsoft Research, Chief Data Officer and EVP Yahoo!, Barclays.
- **Beth Simone Noveck** – Professor and Director of the Burnes Center and the GovLab, ex-White House Open Government Initiative and Advisor 10 Downing Street and Angela Merkel Digital Council.
- **Anirudh Dinesh and Dane Gambrell** – Project Coordinators.





# About the Burnes Center for Social Change

Burnes Center for Social Change advances real-world impact by teaching individuals and institutions the skills needed to design and implement innovative and equitable solutions to our hardest problems. In the process, we are building a new field of social impact that leverages data, technology and community wisdom, and the power of institutions to enable systems-level change in practice.



## About the Governance Lab

The Governance Lab's mission is to improve people's lives by changing the way we govern. Our goal is to strengthen the ability of institutions — including but not limited to governments — and people to work more openly, collaboratively, effectively, and legitimately to make better decisions and solve public problems. We believe that increased availability and use of data, new ways to leverage the capacity, intelligence, and expertise of people in the problem-solving process, combined with new advances in technology and science, can transform governance.





## About the Institute for Experiential AI

IEAI is a global leading research institute focused on the fusion of human and machine intelligence committed to augmenting the best of machine algorithms with the intelligence that humans uniquely bring to bear.



# Impact Studios at a Glance

An agile, experimental, and participatory problem-solving process that uses AI to help institutions learn.

