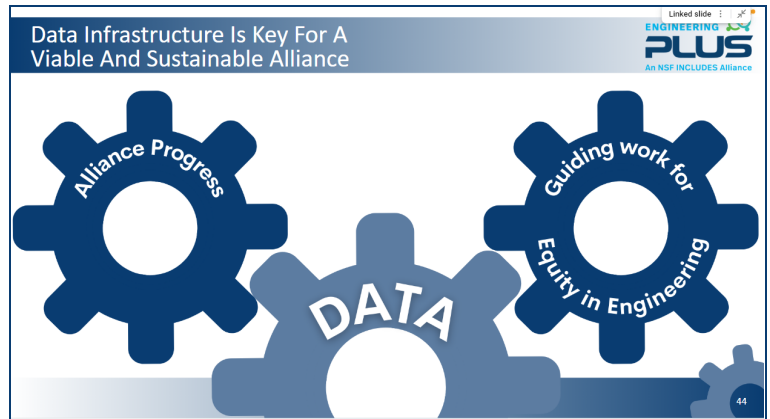# Continuous Improvement - Data - Evaluation - Research (CIDER)

Engineering PLUS is unique among the INCLUDES Alliances in that we have a CIDER team baked right into the Alliance infrastructure! This KPS is a significant resource to Engineering PLUS, but you may not know how to use us. This handout will give you a brief overview of our plans for year 3. **All of our work depends on a partnership with the greater Engineering PLUS community to ensure that it is relevant and useful.** We're here for the continuous improvement of the Alliance and to have a positive impact on improving engineering education and are building an infrastructure with a long-term vision.

Data Infrastructure Is Key For A Viable And Sustainable Alliance

CIDER Team:

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Alan Peterfreund (CIDER Lead)
Rebecca Zarch (CIDER General Contact / Research Team)
Tyler Clark (**Hubs Liaison** / Research Team)
Talia Goldwasser (Data Team)
Mike Chery-Winder (Data Team)
Jordan Esiason (Data Team)
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Kayla Maxey (Research Team)
Amy Slaton (Research Team)

Goals and Objectives:

Sphere of influence	Infrastructure Element	Purpose
Alliance Progress	Evaluation and Research	Continuous improvement
Alliance Progress	Understanding the Engineering Population	Track progress towards closing the gap
Alliance Progress	Eng+ Participation	• Understand our partners / participants • Facilitate recruitment and prospecting • Report to NSF's Eddie Bernice Johnson INCLUDES National Network
Engineering Education	Understanding the context	• Identify the priority problems of practice through data • Analyzing and displaying data to inform strategies • Understand local, regional and national factors
Engineering Education	Landscape analysis	• Organize data sources for understanding context • Guide Alliance strategies • Support partners in individual change efforts • Guide the work of HUBs and PEERs
Engineering Education	Tools, Resources, Publications and Workshops	• Support the work of Alliance members • Build capacity for using data for systemic change

Specific Data Collection in Year 3:

Activity	Purpose	Timeframe	KPS'	CIDER
Participant Survey	To better understand the participant experience in the Engineering Plus alliance including PEERs and Hubs Members. This includes perceived value of the community as a resource	Winter	PEERs Hubs	CI E R
Focus Groups	In-depth understanding of the participant experience			
Ad-hoc Surveys	In some cases, CIDER will run short surveys in support of workshops or other events; for example, prior to the CIDER workshop with the PEERs we ran a brief survey to understand the PEER need	TBD	TBD	TBD
Alliance Surveys	This survey is run with the Engineering PLUS collaborators on an annual basis to monitor how the collaborators feel about their place in the alliance and their assessment of Alliance progress. Findings may inform future research activities.	Spring	All	CI E
Institutional Survey	This survey provides an opportunity for each member institution to self-assess the assets on campus and surface opportunities for shared learning across the Hubs.	On Going	Hubs	CI D R
Landscape Tool	The landscape tool includes a set of interactive dashboards drawing from publicly available data to assist the community in understanding the trends in engineering education at the local, regional and national level	On going	All	D R
Research	The research team is exploring how the Engineering Plus uses data and the social networks to advance the scaling of high impact practices against a historic operative system of sexism and racism in engineering education. See our handout for details.	On going	Hubs, PEERs	CI R

We're not operating alone! There is much more information being collected in Engineering PLUS that we're coordinating with. Examples of other data sets we're connecting to include:

- Participation and membership database
- Event agendas and notes
- Event surveys

- Newsletter information
- Annual reports
- The INCLUDES National Network Survey

- Prospecting information
- Participant artifacts
- Publication

In Year 3 we're going to be developing our infrastructure to be highly coordinated and usable with care and attention to privacy and confidentiality. Below is a draft concept map for our infrastructure.

In addition to working with the data, we support the Alliance through workshops and presentations. We work with PEERs and Hubs in particular to build the capacity of Engineering PLUS participants to work with data. We also present at national conferences to further support the work of the engineering education community.